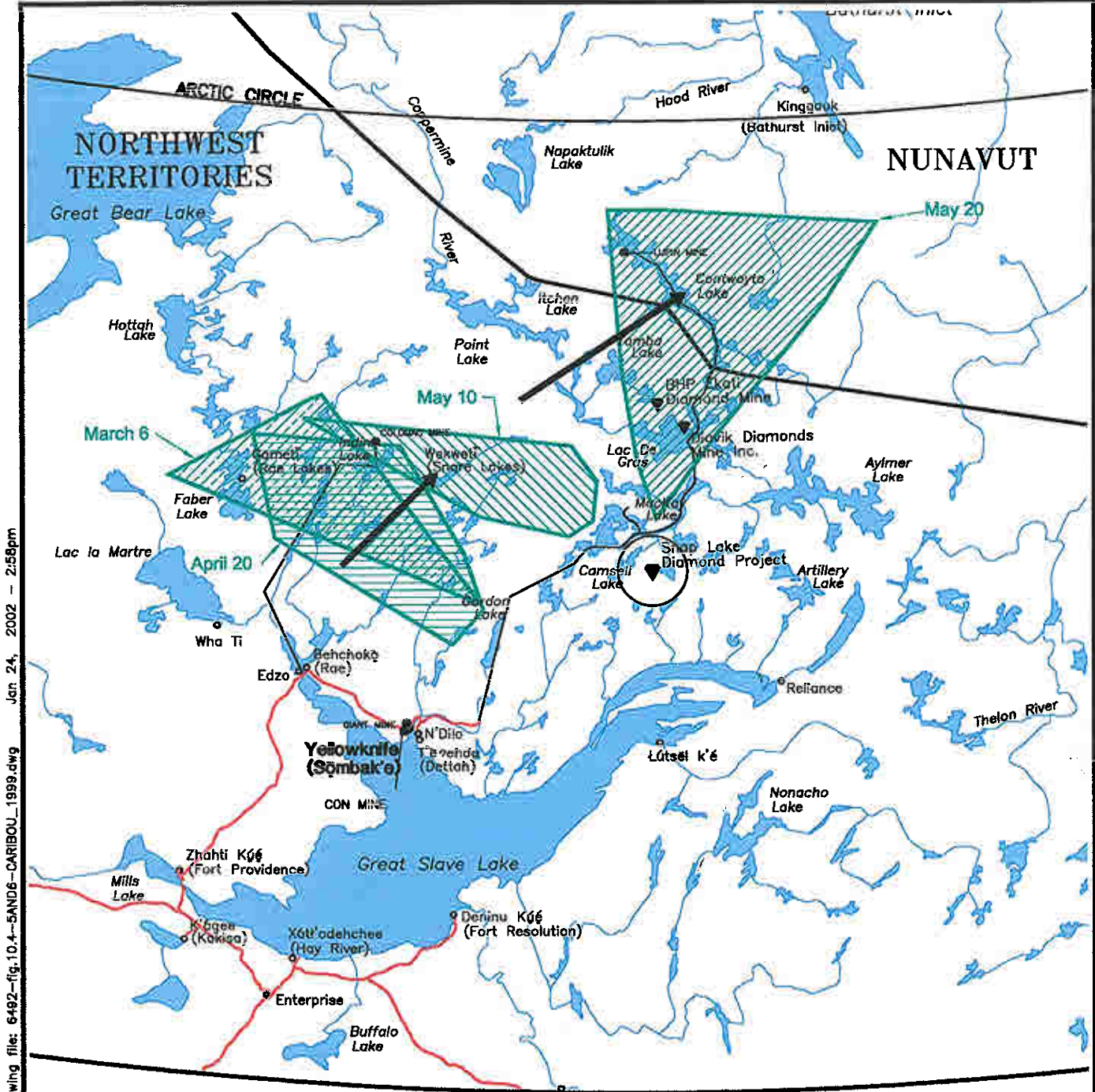


APPENDIX A

EA REFERENCE FIGURES



N:\Active\6400\012-6492\CAD\SECTION 10 WILDLIFE\ Drawing file: 6492-fig.10.4-5-SANDS-CARIBOU_1999.dwg Jan 24, 2002 - 2:58pm

LEGEND

- ALL-WEATHER HIGHWAYS
- WINTER ROADS
- COMMUNITY
- DIAMOND MINE/EXPLORATION
- GOLD MINE
- REGIONAL STUDY AREA
- DIRECTION OF MIGRATION
- NORTHERN MIGRATION

REFERENCE

SELECTED MINERAL DEPOSITS OF THE NORTHWEST TERRITORIES, DEPARTMENT OF ENERGY, MINES AND RESOURCES, MINERAL INITIATIVES 1991 TO 1996
 REVISED OCTOBER, 1996



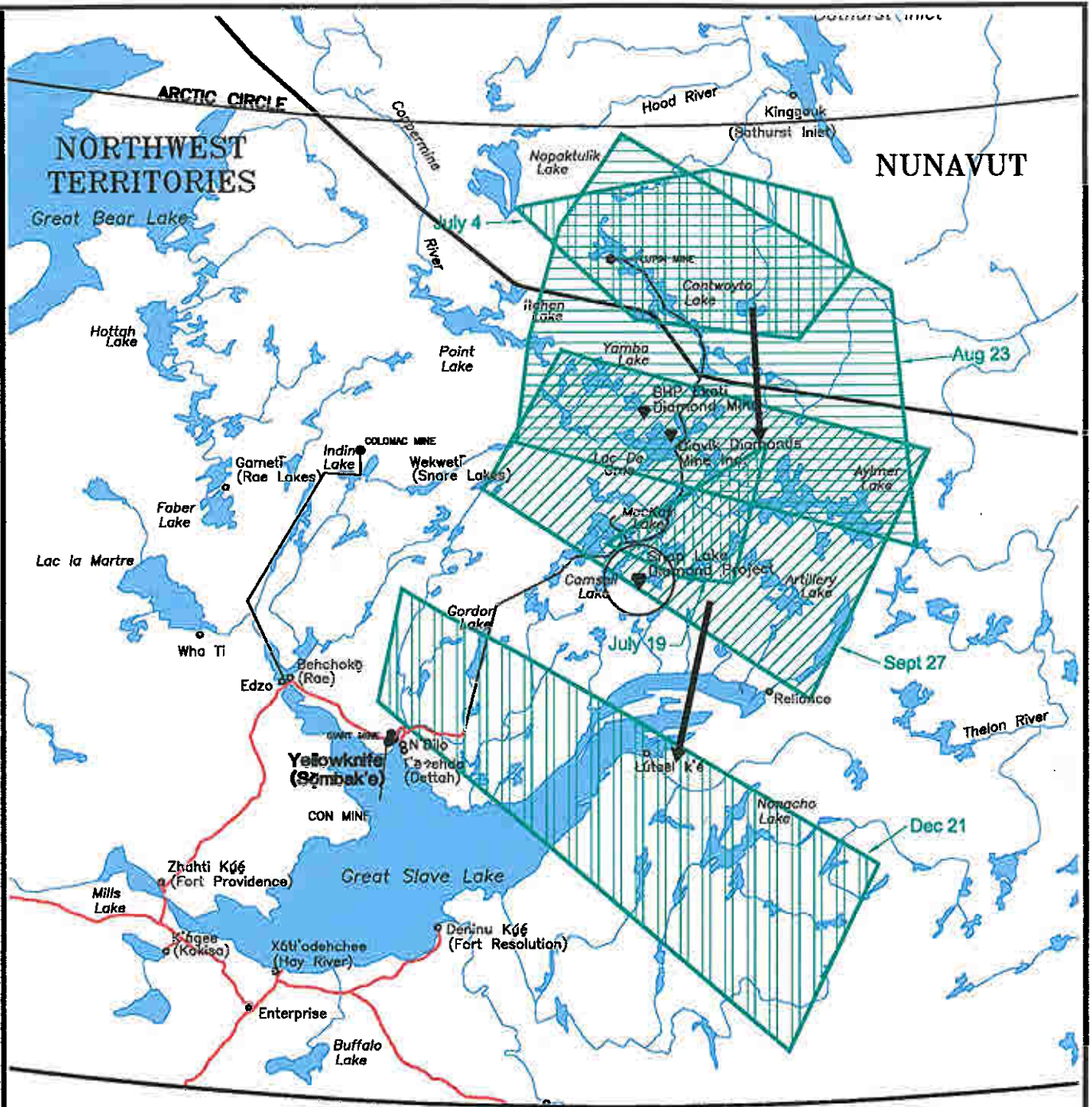
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PROJECT			
DE BEERS			
TITLE			
DISTRIBUTION OF SATELLITE-COLLARED CARIBOU DURING THE NORTHERN MIGRATION, 1999			
PROJECT No. 012-6492.5300		FILE No.	
DESIGN		SCALE	AS SHOWN REV. 0
CADD	SIB	27/11/01	
CHECK			
REVIEW			

FIGURE:
10.4-5



N:\Active\6400\012-6492\CAD\SECTION 10 WILDLIFE\Drawing file: 6492-fig.10.4-SANDS-CARIBOU_1999.dwg Jan 24, 2002 - 3:01 pm

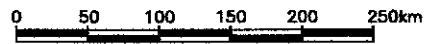


LEGEND

- ALL-WEATHER HIGHWAYS
- WINTER ROADS
- COMMUNITY
- DIAMOND MINE/EXPLORATION
- GOLD MINE
- REGIONAL STUDY AREA
- DIRECTION OF MIGRATION
- SOUTHERN MIGRATION

REFERENCE

SELECTED MINERAL DEPOSITS OF THE NORTHWEST TERRITORIES, DEPARTMENT OF ENERGY, MINES AND RESOURCES, MINERAL INITIATIVES 1991 TO 1996
REVISED OCTOBER, 1996



SCALE 1:5,000,000

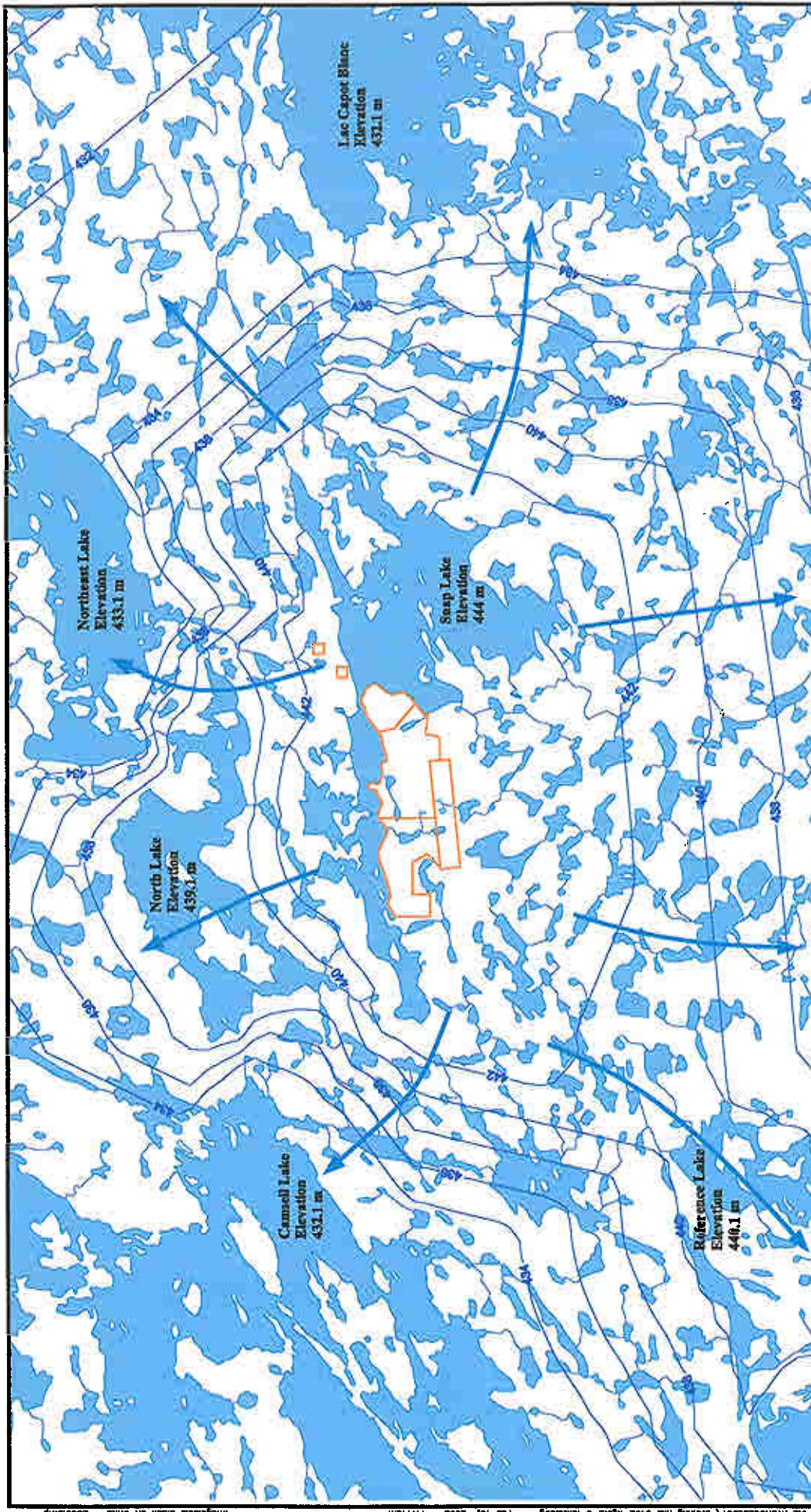
PROJECT

DE BEERS

TITLE **DISTRIBUTION OF SATELLITE-COLLARED CARIBOU DURING THE SOUTHERN MIGRATION, 1999**

<p>Golder Associates Saskatoon, Saskatchewan</p>	PROJECT No. 012-6492.5300	FILE No.	
	DESIGN	SCALE AS SHOWN	REV. 0
	CADD	SIB	27/11/01
	CHECK		
REVIEW			

FIGURE: 10.4-6



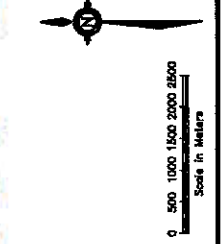
DE BEERS

**LAKE ELEVATIONS AND INFERRED
BASELINE GROUNDWATER
FLOW DIRECTIONS**

PROJECT	PROJECT NO.	012-0482	FILE NO.	
	DATE	25/12/01	SCALE	AS SHOWN (REV. 0)
	DRAWN BY	WB	CHECKED	
	DATE		DATE	
	BY		BY	

**FIGURE:
9-2-3**

**ColMax
Associates**
Professional Services

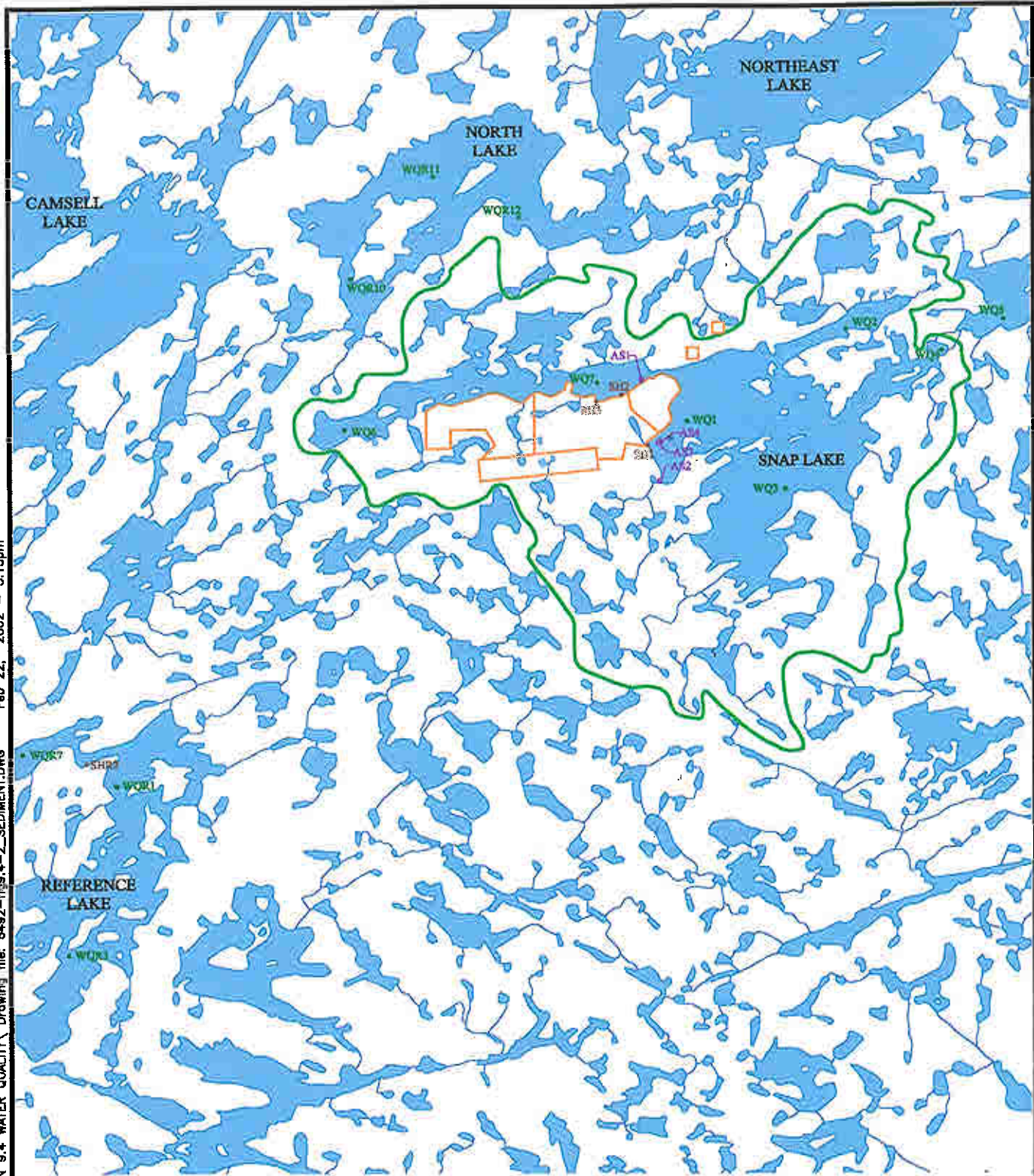


LEGEND

- Project Footprint
- Inferred Groundwater Contours
- Inferred Groundwater Flow Directions

442


N:\Active\6400\012-6492\CAD\SECTION 9.4 WATER QUALITY Drawing file: 6492-fig9.4-2-SEDIMENT.DWG Feb 22, 2002 - 3:15pm



LEGEND

- WQ1-7 and WQ9,1,3,7,10-12 Water Quality Sampling Sites (1998-2001) (Benthic Invertebrate at WQ3)
- AS1-4 Water Quality Stations (2001)
- SH1-3 Sediment Quality Sampling Sites (1999)
- Watershed Boundary
- Project Footprint

SCALE 1:100,000

PROJECT				<h1>DE BEERS</h1>			
TITLE				WATER SEDIMENT AND BENTHIC SAMPLING LOCATIONS FOR SNAP LAKE, NORTH LAKE AND REFERENCE LAKE (1998-2001)			
DESIGN		CADD		CHECK		REVIEW	
		SIB		19/02/02			
PROJECT No. 012-6482.5400				FILE No.			
SCALE AS SHOWN				REV. 0			
 Golder Associates Saskatoon, Saskatchewan				FIGURE: 9.4-2			

APPENDIX B
COST ESTIMATE DETAILS
Base Case: Burial in North Pile

AMEC
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 Tel(604)664-3300 Fax(604)664-3301

DE BEERS CANADA MINING INC.

Sorted By: 1st Level of Area
 Estimated by JS
 C:\Documents and Settings\grant.grabe
 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1000 MINING	6,229	467,150	8,500	40,000	0	515,650
2000 SITE DEVELOPMENT	7,463	559,722	0	1,147,615	1,350,000	3,057,337
3000 PROCESS FACILITIES	53,706	4,027,941	0	1,560,521	0	5,588,462
4000 UTILITIES	35,707	2,678,040	0	33,930	0	2,711,970
5000 ANCILLARY BUILDINGS	46,458	3,484,323	0	38,592	0	3,522,915
6000 WMP & WATER/WASTE MANAGEMENT	8,595	644,662	0	11,390	0	656,052
7000 OFF-SITE FACILITIES	0	0	0	0	0	0
8000 OWNER'S COSTS	0	0	0	0	0	0
9000 INDIRECTS	0	0	1,998,000	13,544,964	13,004,651	28,547,615
TOTAL PROJECT COST	158,158	11,861,838	2,006,500	16,377,011	14,354,651	44,600,000

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 Estimated by JS
 C:\Documents and Settings\grant.grabe
 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1200 MINE PREPRODUCTION	150	11,250	4,500	0	0	15,750
1310 MOBILE MINING EQUIPMENT	0	0	0	0	0	0
1320 U/G CONCRETE EQUIPMENT	0	0	0	0	0	0
1410 ORE HANDLING	0	0	0	0	0	0
1420 U/G VENTILATION	986	73,921	4,000	0	0	77,921
1431 MAINTENANCE BAYS	498	37,379	0	0	0	37,379
1432 WASH BAY	72	5,423	0	0	0	5,423
1433 FUELING BAY	48	3,623	0	0	0	3,623
1434 ACCESS DOORS	0	0	0	0	0	0
1435 OFFICE	15	1,148	0	0	0	1,148
1436 SUPPLIES STORAGE	23	1,733	0	0	0	1,733
1441 REFUGE STATION	182	13,680	0	0	0	13,680
1442 LOCAL SUMP	41	3,038	0	0	0	3,038
1444 HEALTH, SAFETY, EMERGENCY	40	3,000	0	4,000	0	7,000
1451 PUMP STATIONS	306	22,987	0	0	0	22,987
1452 PASTE FILL DISTRIBUTION	43	3,218	0	0	0	3,218
1453 U/G COMPRESSED AIR DISTRIBUTION	0	0	0	0	0	0
1454 U/G FRESH WATER DISTRIBUTION	0	0	0	0	0	0
1455 MISCELLANEOUS U/G EQUIPMENT	140	10,500	0	0	0	10,500
1460 TECHNICAL SERVICES	40	3,000	0	0	0	3,000
1471 EXPLOSIVES STORAGE U/G	60	4,500	0	0	0	4,500



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1480 MONITORING, CONTROL, COMMUNICATIONS	50	3,713	0	0	0	3,713
1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION	384	28,784	0	0	0	28,784
1610 HEATING & VENTILATION FACILITIES	2,235	167,645	0	36,000	0	203,645
1620 COMPRESSOR FACILITIES	915	68,611	0	0	0	68,611
2100 GENERAL SITE DEVELOPMENT & LAYOUT	3,640	272,969	0	807,585	0	1,080,554
2200 ACCESS ROADS	508	38,068	0	86,350	1,350,000	1,474,418
2300 AIR STRIP	3,316	248,684	0	253,680	0	502,364
3110 PRIMARY CRUSHING & CONVEYING	2,671	200,307	0	1	0	200,308
3120 COARSE ORE STORAGE	6,224	466,767	0	3,400	0	470,167
3210 PRIMARY SCRUBBING AND SCREENING	2,578	193,322	0	0	0	193,322
3220 SECONDARY CRUSHING	3,172	237,865	0	0	0	237,865
3230 SECONDARY SCRUBBING AND SCREENING	296	22,222	0	0	0	22,222
3300 DMS	3,572	267,872	0	0	0	267,872
3400 RECOVERY PLANT	1,660	124,481	0	0	0	124,481
3500 THICKENING & DEGRIT	1,874	140,568	0	0	0	140,568
3600 WATER & AIR SYSTEMS	865	64,839	0	0	0	64,839
3700 PASTE FILL PLANT	3,252	243,883	0	0	0	243,883
3810 PROCESS INSTRUMENTATION	1,640	123,000	0	0	0	123,000
3820 PLANT CONTROL SYSTEM	726	54,450	0	0	0	54,450
3900 PROCESS BUILDING	25,178	1,888,363	0	7,120	0	1,895,483
3910 BULK SAMPLE PLANT	0	0	0	1,550,000	0	1,550,000
4100 POWER PLANT & DISTRIBUTION	15,571	1,167,797	0	7,430	0	1,175,227
4110 STANDBY GENERATORS	619	46,401	0	0	0	46,401
4120 POWER DISTRIBUTION	2,235	167,590	0	0	0	167,590



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
4200 FUEL STORAGE & DISTRIBUTION	7,518	563,840	0	7,500	0	571,340
4300 GLYCOL SYSTEM	3,169	237,690	0	0	0	237,690
4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM	912	68,383	0	16,500	0	84,883
4500 SEWAGE SYSTEM	453	33,975	0	0	0	33,975
4600 BUILDING - STP, PWTP, BOILER, INCINERATOR	3,422	256,677	0	2,500	0	259,177
4800 WASTE DISPOSAL	136	10,204	0	0	0	10,204
4900 COMMUNICATIONS	1,673	125,483	0	0	0	125,483
5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE	15,537	1,165,309	0	23,390	0	1,188,699
5200 CAMP ACCOMMODATION & FACILITIES	20,387	1,529,011	0	0	0	1,529,011
5300 SECURITY SYSTEMS	825	61,875	0	0	0	61,875
5400 LABORATORY FACILITIES	69	5,198	0	0	0	5,198
5500 UTILIDORS	4,500	337,525	0	5,420	0	342,945
5610 COLD STORAGE	377	28,246	0	0	0	28,246
5620 CEMENT STORAGE	2,354	176,545	0	6,000	0	182,545
5630 CORE SHACK	24	1,782	0	2	0	1,784
5710 BATCH PLANT	694	52,068	0	1,120	0	53,188
5750 AGGREGATE PLANT	741	55,578	0	420	0	55,998
5800 PLANT MOBILE & UTILITY EQUIPMENT	255	19,125	0	0	0	19,125
5910 AN STORAGE BUILDING	426	31,986	0	420	0	32,406
5920 EMULSION PLANT	268	20,076	0	1,820	0	21,896
6100 NORTH PILE	669	50,199	0	4,500	0	54,699
6300 WATER MANAGEMENT & TREATMENT	7,459	559,425	0	6,890	0	566,315
6400 DIFFUSER	467	35,038	0	0	0	35,038
7100 YK SORTING FACILITY	0	0	0	0	0	0



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
8100 OWNER'S COSTS	0	0	0	0	0	0
9100 EPCM	0	0	0	160,000	2,800,000	2,960,000
9150 INTERIM CARE & MAINTENANCE PHASE	0	0	0	0	3,575,000	3,575,000
9160 ENVIRONMENTAL MONITORING	0	0	0	0	823,000	823,000
9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT	0	0	1,998,000	1,676,064	0	3,674,064
9400 CONSTRUCTION CAMP AND CATERING	0	0	0	3,275,625	0	3,275,625
9600 COMMISSIONING AND STARTUP	0	0	0	0	0	0
9700 SPARES AND FIRST FILLS	0	0	0	0	0	0
9800 FREIGHT AND TAXES	0	0	0	8,433,275	0	8,433,275
9900 CONTINGENCY	0	0	0	0	5,806,651	5,806,651
TOTAL PROJECT COST	158,158	11,861,838	2,006,500	16,377,011	14,354,651	44,600,000

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SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL CAPITAL COST ESTIMATE

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 1200 MINE PREPRODUCTION												
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Concrete Enclosure for 2 Portals	15	M3	10	150	11,250	300.00	4,500	0.00	0	0.00	0	15,750
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				150	11,250		4,500		0		0	15,750
COMM 30 MINING												
Preproduction development - Phase I 2003	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase I 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2005	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - mine air heaters for contractor, 6 diesel units	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING				0	0		0		0		0	0
AREA 1200 MINE PREPRODUCTION				150	11,250		4,500		0		0	15,750

AREA 1300 MOBILE MINING EQUIPMENT

COMM 30 MINING												
Footwall development and remuck: Drilling - two boom jumbo for 5m x 5m headings	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Mucking - 5.4 m3 (7 cy) LHD	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Footwall development and remuck: Bolting - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Blasting - Emulsion loader w/basket	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - two boom jumbo for 3.2m x 4m headings - use one boom drill	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - one boom jumbo for 3.2m x 4m headings	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - 3m2 (4 cy) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - Remote for 3m2 (4yd) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - 75kW Dozer, modified height for U/G	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Slusher/Scrapper assembly	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - track hydraulic excavator w/ 914mm digging bucket and 1524mm cleanup bucket	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Remote cameras for above systems	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Blasting - Emulsion loader w/scissor deck	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Bolting - Hydraulic Bolter	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Development waste and stoping ore haulage: Haulage - 40t haul truck	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Delivery Crew - crane truck	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Mechanic's - mechanics pickup vehicle w/ flat deck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Fuel/lube - fuel/lube vehicle	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - pickup truck w/scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - Forklift/Cable reeler	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Maintenance - mechanics pickup truck w/ flat deck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Grading - low profile U/G Motor Grader, 93kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Utility/personnel vehicles: Personnel - Mancarrier - 16 person	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Engineering - pickup w/scissor lift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Eng/Geo - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Rescue - van	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Crew leaders - pickup truck crew cab	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Super - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Geology - pickup truck crew cab	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Pool - pickup truck/van	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Gopher - Tractor mounted, small diameter drill	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: NQ Drill - NQ drill for cover holes, delineation	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Directional - Directional drill	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Survey - Downhole survey equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Consumables - Core drill accessories	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Lined Borehole, 25.5m	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Loading Station 440m	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete truck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete pump, mobile	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - 3m3 (4 yd) LHD w/quick attach blade	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - Remote for 3m3 (4yd) LHD	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Pipe installing - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING			0	0		0		0		0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
U/G Concrete Piping - CS 127mm (5") sch 80, including couplings & bends	4120 M	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Pipe Hangers	824 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING			0	0		0		0		0	0
AREA 1310 MOBILE MINING EQUIPMENT			0	0		0		0		0	0

AREA 1400 FIXED MINING EQUIPMENT

COMM 10 CIVIL											
Maintenance Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Wash Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	16 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Refuge Stations 3 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Fill for Slab	105 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			0	0		0		0		0	0
COMM 20 STRUCTURAL AND ARCHITECTURAL											
LHD ore pass dump grizzly - Concrete Collar, for 7 dumps	196 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
LHD ore pass dump grizzly - Rock Bolts 25mm x 2.5m , for 7 dumps	840 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Concrete Slabs and Beam, for 7 dumps	91 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - Rock Dowels 20M x 1800mm, for 7 dumps	896 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Embedded Face Steel Plates, for 7 dumps	43 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly, for 7 dumps	140 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly Wear Plates, for 7 dumps	50 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - In-line Chute, for 7 dumps	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Liners, for 7 dumps	107 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Embedded Steel & Rails, for 7 dumps	31 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Chain Support Beam, for 7 dumps	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	60 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar Raise Concrete Collar	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Foundations Fans	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Remove Concrete Raise Collar	24 M3	5	120	9,000	0.00	0	0.00	0	0.00	0	9,000
(Airlock) Access Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Safety Fence 3M High	42 LM	0.105	4	331	0.00	0	0.00	0	0.00	0	331
Allowance for Fill to Collar	400 M3	0.21	84	6,300	0.00	0	0.00	0	0.00	0	6,300
Cap Ventilation Raise	10 M3	8.4	84	6,300	400.00	4,000	0.00	0	0.00	0	10,300
Concrete Slab On Grade	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Piers C/W Csp Cover	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bollards Dowelled To Rock	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Misc. Concrete Bases	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Shotcrete Walls 200mm Thick	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Metals	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Steel Medium	20 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Structural Steel Light	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Asce 60Lb/Yd Rail	2.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Handrail	20 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Grating	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Ladder	12 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Gantrex Rail Clips	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Column And Beam Tie Back Rock Anchors	128 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bollard Facing Plate C/W Nelson Studs	5.6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving Allowance Storage Room	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Wall	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Door 4M x 4m No. 1 & 2 Drift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	5 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Office Equipment and Furniture Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: >AD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Warehouse Shelving	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	180 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Microwave	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Refrigerator	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tables	24 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Chairs	120 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Cooler	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Heater	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sink	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
First Aid Kit	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Stretcher	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving	3 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	36 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Walkway	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Sumps 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	300 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Dams	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	28 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Pumpbases	24 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	3 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Ladders 3M High	18 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			292	21,931		4,000		0		0	25,931
COMM 30 MINING											
Equip emergency egress system - ladders, equipment, etc., excluding rock excavation	140 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Egress raise concrete cap	4 M2	0	0	0	0.00	0	1,000.00	4,000	0.00	0	4,000
Portable refuge station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Latrine	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine rescue equipment	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aux pumps - air powered	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Aux pumps - electric	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Mine lamp recharger - surface	4 EA	10	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine cap lamps - surface	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Self Rescuer	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Geology - MRM - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Survey - Survey equipment	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - hand-held air quality monitors	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Gem Com System, to monitor ore body and progress, including Gem Com hardware, desktop solution, enterprise solution for mine production tracking, cabling	1 LS	40	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Geomechanics Datalogging System - monitoring shaft stability, including dataloggers, enclosure, software, computers, extensometers, sensors, cable, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
UG Cap Magazines , including door shelving, lighting, heater, etc.	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Powder Magazines , including door shelving, lighting, heater, etc.	2 EA	10	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Subtotal 30 MINING			280	21,000		0		4,000		0	25,000
COMM 40 MECHANICAL											
Primary exhaust ventilation fan	2 EA	191.25	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Secondary ventilation fan - 18 kw	16 EA	10.2	163	12,240	0.00	0	0.00	0	0.00	0	12,240
Secondary ventilation fan - 22 kw	8 EA	10.2	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Secondary ventilation fan - 37 kw	3 EA	15.3	46	3,443	0.00	0	0.00	0	0.00	0	3,443
Ventilation airlock doors	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Ventilation roll down doors	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ventilation regulators	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1219mm (48") X 610mm (24") Oval Duct Galv. 18Ga	52 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbow	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
610mm (24") X 1219mm (48") Vert Elbow	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Reducer 1219mm (48") X 914mm (36")	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct Galv. 18Ga	80 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Outlet Cone	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
914mm (36") Inlet Bell	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") X 914mm (36") Damper	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-01B	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Fan Eq 19-101-01A	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
254mm (10") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	16 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
178mm (7") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	22 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq19-106-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Exhaust Arms Eq19-106-01A,B,C,D	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
10T Overhead Crane	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825
2 Ton Rope Pull Winch	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Submersible Sump Pump	2 EA	8.16	16	1,224	0.00	0	0.00	0	0.00	0	1,224
Shop Tool Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Hose Reels	8 EA	1.02	8	612	0.00	0	0.00	0	0.00	0	612
Dispensing Pump	4 EA	5.1	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Waste Oil Transfer Pump	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	Total Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Waste Oil Sink	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Portable Steam Washer	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Oil Separator and Sump	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Fueling Cubes	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
H.V.A.C. Allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
H.V.A.C. Allowance	3 LS	38.25	115	8,606	0.00	0	0.00	0	0.00	0	8,606
1T Wall Mounted Pneumatic Hoist	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Submersible Sump Pump	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
1T Trolley Chain Hoist	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Dewatering Transfer Pumps - Pump Station PS-190N - 102mm (4") x 102mm (4"), 550usgmp, 20m (65ft) head, 19kW, including control cabinet	2 EA	12.75	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Dewatering Pumps - Pump Station PS+190S - 76mm (3") x 102mm (4"), 500usgmp, 314m (1030ft) head, 186kW, 1 VFD, including control cabinet	3 EA	56.1	168	12,623	0.00	0	0.00	0	0.00	0	12,623
Subtotal 40 MECHANICAL			1,282	96,122		0		0		0	96,122
COMM 50 PIPING											
25mm Dia F.P. Piping	200 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
40mm Dia F.P. Piping	32 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
75mm Dia F.P. Piping	30 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
100mm Dia. F.P. Piping	50 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Fittings Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	132 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sprinkler Heads	102 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Valve Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. C.A. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. C.A. Piping	84 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. S.W. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. S.W. Piping	84 LF	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pressure Reducing Valve	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Fountain & Filter	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Eye Wash Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
150mm Dia. C.S. Drain Pipe	100 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fitting Allowance	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
19mm S.S. Lube Piping	290 LM	0.05445	16	1,184	0.00	0	0.00	0	0.00	0	1,184
19mm (3/4") Waste Oil Piping	50 LM	0.05445	3	204	0.00	0	0.00	0	0.00	0	204
Hangers/Supports	220 EA	0.165	36	2,723	0.00	0	0.00	0	0.00	0	2,723
Fitting Allowance	2 LS	1.65	3	248	0.00	0	0.00	0	0.00	0	248
Fire Protection Allowance	1 EA	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
H.V.A.C. Allowance	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Piping Allowance	3 LS	13.2	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Piping Allowance	1 LS	4.95	5	371	0.00	0	0.00	0	0.00	0	371
Pump Station PS+190N - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	1006 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190N - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	7315 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Paste Backfill Distribution Piping - CS 152mm (6") sch 80, including couplings & bends, induction hardened pipe	7140 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Distribution Piping - CS 152mm (6") sch 20, including couplings & bends	7600 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Line Hangers	1428 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 200mm (8") sch 40 victaulic, including pipe, fittings, valves, etc.	3700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 100mm (4") sch 40 victaulic, including pipe, fittings, valves, etc.	3300 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 50mm (2") sch 40 victaulic, including pipe, fittings, valves, etc.	250 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 150mm (6") dia, CS sch 40 victaulic, including pipe, fittings, etc.	250 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 100mm (4") dia, CS sch 40 victaulic, including pipe, fittings, etc.	2700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING			129	9,680		0		0		0	9,680
COMM 60 ELECTRICAL											
Instrumentation Allowance	1 LS	20	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Electrical Allowance	2 LS	123.75	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Electrical Allowance	2 LS	13.2	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Electrical Allowance	1 EA	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Electrical Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Electrical Allowance	1 LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Electrical Heaters	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Lighting - Allowance for Refuge Station	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Electrical Outlets and Receptacles - Allowance for Refuge stations	1 LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619
Electrical Allowance	1 LS	4.95	5	371	0.00	0	0.00	0	0.00	0	371
VFD 186kW - dewatering pumps	1 EA	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Dewatering Pumps - Low Voltage Electrical Allowance, 15% of mechanical equipment	1 LS	45.375	45	3,403	0.00	0	0.00	0	0.00	0	3,403



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting - Allowance for Pumping Station	2 LS	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Electrical Outlets and Receptacles - Allowance for Pumping stations	1 LS	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Subtotal 60 ELECTRICAL			436	32,722		0		0		0	32,722
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance, 10% of mechanical equipment	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
End of Line Video Monitoring	1 LS	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Pressure Transducer	2 EA	13.2	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Ventilation monitoring system	1 LS	24.75	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Ore storage monitoring system	1 LS	24.75	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Leaky Feeder Communication System - cable and basic hardware for system diagnostics	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Mine Equipment Communication System - includes fleet/crew management software and equipment communication hardware	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Central Blasting System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 70 INSTRUMENTATION AND CONTROLS			125	9,405		0		0		0	9,405
AREA 1431 MAINTENANCE BAYS			2,545	190,860		4,000		4,000		0	198,860

AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION

COMM 10 CIVIL

Main Power Distribution Cables - Trench for: Install Buried Duct (duct only) for initial 100 m in duct and sand, 100mm W x 120mm D	200 M	0	0	0	0.00	0	0.00	0	0.00	0	0
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**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Main Power Distribution Cables - Sand for: Install Buried Duct (duct only) for initial 100 m in duct and sand.	2.5 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			0	0		0		0		0	0
COMM 60 ELECTRICAL											
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable (Power house to Mine transformer Feeders) 2 runs to 2 transformers.	240 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable terminations (Power house to Mine transformer Feeders)	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south)	3500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder cables for Intake vent raise section	750 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV Junction Box, 4 way bus links.	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0 AWG Termination Kits and connectors	25 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Messenger/Hanger/Brackets for 15kV 3c 3/0 AWG cable down north and south ramp	4500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Install Buried Duct (duct only) for initial 100 m in duct and sand. 15 kV 3c 3/0AWG Verti-Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south), 20 ft lengths of PVC conduit 6"	200 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Transformers - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor	2 EA	33	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Transformers - Control wiring for above transformer including cables and ducting	2 LS	13.2	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Breakers and Disconnects - Skid Mounted 15 kV Fused Disconnect for Production & Development Substation feeds	2 EA	1.65	3	248	0.00	0	0.00	0	0.00	0	248



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Motor Control - Allowance for Underground Vent Fan Starters	27 EA	1.32	36	2,673	0.00	0	0.00	0	0.00	0	2,673
Motor Control - Allowance for Crusher and miscellaneous 600V starters	10 EA	1.32	13	990	0.00	0	0.00	0	0.00	0	990
Packaged Substations - Production 750 kVA 13.8kV/600V Skid mounted Substations	2 EA	33	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Packaged Substations - Development 750 kVA 13.8kV/600V Skid mounted Substations	2 EA	33	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Packaged Substations - Paste Booster 750 kVA 13.8kV/600V Skid mounted Substations	1 EA	41.25	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Packaged Substations - +280N and +220N Pumping and Exhaust Ventilation, 750 kVA 13.8kV/4.16IV Skid mounted Substations	2 EA	33	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Distribution Cable Messenger Systems - Messenger/hanger/brackets for cables for production equipment: 8 panels operating and 2 development areas. Allowance for 10 x 500m each. All subsequent messenger cables will be part of operations budget.	1500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - 4/0 AWG bare copper grounding cables from main power house and bonded at each level to JB and to each Unit substation.	8500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - Miscellaneous grounding/bonding material	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Medium Voltage Cables - 15 kV 3c #1AWG Teck 133% Insulation for Production and Development substations	1500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Develop Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 2 drills @ 500m	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Prod. Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 8 drills @ 500m	2000 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 25HP Aux Fan for Development drifts , 3c #1/0AWG Verti-Teck rated cable, allowance for initial period only, 8 areas @ 500m to local starters	1000 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 30HP Aux Fans , 3c #1/0AWG Teck rated cable, allowance for initial period only, allowance only	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 75HP Aux Fans , 3c #2/0AWG Verti-Teck rated cable, allowance for initial period only, allowance only	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Low Voltage Cables - Cable allowance for refuge stations	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Cable allowance for Maintenance shop	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Terminations - Allowance for all cable terminations	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Cable Reels - Allowance for all cable reels	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Switches and Push Buttons - Allowance for Vent Fan and Misc PB stations for local stop start	27 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL			384	28,784		0		0		0	28,784
AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION			384	28,784		0		0		0	28,784

AREA 1600 SURFACE FACILITIES

COMM 10 CIVIL

Structural Fill	2500 M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Trench Rock Excavation	400 M3	0.0297	12	891	0.00	0	0.00	0	0.00	0	891
Sand Bedding	25 M3	0.014256	0	27	0.00	0	0.00	0	0.00	0	27
Trench Backfill	350 M3	0.014256	5	374	0.00	0	0.00	0	0.00	0	374
Safety Fence - around collars	60 M	0.0594	4	267	0.00	0	0.00	0	0.00	0	267
Structural Fill	2500 M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Subtotal 10 CIVIL			56	4,232		0		0		0	4,232

COMM 20 STRUCTURAL AND ARCHITECTURAL

Concrete Caps for 4 Vent Raises	36 M2	0	0	0	0.00	0	1,000.00	36,000	0.00	0	36,000
Concrete Foundations	22 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	15 M3	4.785	72	5,383	0.00	0	0.00	0	0.00	0	5,383
Concrete Slab On Grade	42 M3	1.386	58	4,366	0.00	0	0.00	0	0.00	0	4,366



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CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Equipment Foundations	105 M3	2.409	253	18,971	0.00	0	0.00	0	0.00	0	18,971
Anchor Bolts	1200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	42 T	4.62	194	14,553	0.00	0	0.00	0	0.00	0	14,553
Steel - Platforms	6 T	6.006	36	2,703	0.00	0	0.00	0	0.00	0	2,703
Steel - Handrails c/w kick plate	50 M	0.2772	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Steel - Ladders	50 M	0.5082	25	1,906	0.00	0	0.00	0	0.00	0	1,906
Personnel Doors	2 EA	2.772	6	416	0.00	0	0.00	0	0.00	0	416
Equipment Doors	3 EA	4.62	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Insulated Roof Cladding	380 EA	0.15015	57	4,279	0.00	0	0.00	0	0.00	0	4,279
Insulated Wall Cladding	655 EA	0.15015	98	7,376	0.00	0	0.00	0	0.00	0	7,376
Air Intake Louvres	4 EA	4.62	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Concrete Foundations	20 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	10 M3	4.785	48	3,589	0.00	0	0.00	0	0.00	0	3,589
Concrete Slab On Grade	40 M3	1.386	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Anchor Bolts	720 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	14 T	4.62	65	4,851	0.00	0	0.00	0	0.00	0	4,851
Steel - Platforms	2 T	6.006	12	901	0.00	0	0.00	0	0.00	0	901
Steel - Handrails c/w kick plate	15 M	0.2772	4	312	0.00	0	0.00	0	0.00	0	312
Steel - Ladders	4 M	0.5082	2	152	0.00	0	0.00	0	0.00	0	152
Personnel Doors	2 EA	2.772	6	416	0.00	0	0.00	0	0.00	0	416
Equipment Doors	3 EA	4.62	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Insulated Roof Cladding	165 EA	0.15015	25	1,858	0.00	0	0.00	0	0.00	0	1,858
Insulated Wall Cladding	320 EA	0.15015	48	3,604	0.00	0	0.00	0	0.00	0	3,604
Air Intake Louvres	4 EA	4.62	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			1,142	85,684		0		36,000		0	121,684
COMM 40 MECHANICAL											
Primary intake ventilation fan	2 EA	127.5	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks 50,000L Cap.	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
120-HF-01 Mine Air Heater, Shaft No. 1	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
120-HF-02 Mine Air Heater, Shaft No. 2	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
H.V.A.C. Allowance	364 M2	0.255	93	6,962	0.00	0	0.00	0	0.00	0	6,962
H.V.A.C. Allowance	162 M2	0.255	41	3,098	0.00	0	0.00	0	0.00	0	3,098
Compressors - 5542m3/hr (3260cfm), 125 psig, 522kW (700hp)	3 EA	76.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL			1,078	80,822		0		0		0	80,822
COMM 50 PIPING											
Piping Allowance, 5% of mechanical equipment	1 LS	187.5	188	14,063	0.00	0	0.00	0	0.00	0	14,063
Fuel Supply Line 75mm C.S. Sch 80 Contained in 150mm C.S. Pipe	400 LM	0.4125	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Valve and Fitting Allowance	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Leak Detection Sump	2 EA	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Fire Protection Allowance	364 M2	0.02475	9	676	0.00	0	0.00	0	0.00	0	676
Piping Allowance - 20% of mechanical equipment	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Subtotal 50 PIPING			540	40,478		0		0		0	40,478
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Building Lighting Allowance	364 M2	0.1155	42	3,153	0.00	0	0.00	0	0.00	0	3,153
Building Grounding Allowance	364 M2	0.033	12	901	0.00	0	0.00	0	0.00	0	901
Electrical Allowance - 15% of mechanical equipment	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Building Lighting Allowance	162 M2	0.1155	19	1,403	0.00	0	0.00	0	0.00	0	1,403
Building Grounding Allowance	162 M2	0.033	5	401	0.00	0	0.00	0	0.00	0	401
Subtotal 60 ELECTRICAL			260	19,471		0		0		0	19,471
COMM 70 INSTRUMENTATION AND CONTROLS											



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance, 5% of mechanical equipment	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Instrumentation Allowance - 5% of mechanical equipment	1 LS	41.25	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Subtotal 70 INSTRUMENTATION AND CONTROLS			74	5,569		0		0		0	5,569
AREA 1610 HEATING & VENTILATION FACILITIES			3,150	236,256		0		36,000		0	272,256

AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT

COMM 10 CIVIL

Plantsite Soil Reclamation/Stockpiling	16.3 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Speard 1m fill on site for reclamation all areas	80650 M3	0.03	2,420	181,463	0.00	0	5.00	403,250	0.00	0	584,713
Camp Soil Reclamation/Stockpiling	0.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Storage Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Soil Reclamation/Stockpiling	2.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Soil Reclamation/Stockpiling	4.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Soil Reclamation/Stockpiling	22.4 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Soil Reclamation/Stockpiling	0.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Winter Truck Parking - Soil Reclamation/Stockpiling, 2HA - not required	0 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Heating & Ventilation Surface Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressor Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Explosive Magazine Area Soil Reclamation/Stockpiling	0.8 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
AN Soil Reclamation/Stockpiling	1.1 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Soil Reclamation/Stockpiling	1.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Excavation - rock	74000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Container Storage Excavation - rock	200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Excavation - rock	6000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Excavation - rock	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Excavation - rock	200 M3	0.02376	5	356	0.00	0	0.00	0	0.00	0	356
AN Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Develop Fill Shortfall - quarry costs	564140 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite General Rockfill/Spreading	91335 M3	0.00297	271	20,345	0.00	0	1.00	91,335	0.00	0	111,680
Camp General Rockfill/Spreading	9300 M3	0.00297	28	2,072	0.00	0	1.00	9,300	0.00	0	11,372
Service Complex General Rockfill/Spreading	51200 M3	0.00297	152	11,405	0.00	0	1.00	51,200	0.00	0	62,605
Container Storage General Rockfill/Spreading	23000 M3	0.00297	68	5,123	0.00	0	1.00	23,000	0.00	0	28,123
Fuel Storage Area General Rockfill/Spreading	31000 M3	0.00297	92	6,905	0.00	0	1.00	31,000	0.00	0	37,905
Laydown Area - Cement Storage General Rockfill/Spreading	40000 M3	0.00297	119	8,910	0.00	0	1.00	40,000	0.00	0	48,910
Laydown Area - General Rockfill/Spreading	140000 M3	0.00297	416	31,185	0.00	0	1.00	140,000	0.00	0	171,185
Freshwater Intake General Rockfill/Spreading	500 M3	0.00297	1	111	0.00	0	1.00	500	0.00	0	611
Explosive Magazine Area General Rockfill/Spreading	2000 M3	0.00297	6	446	0.00	0	1.00	2,000	0.00	0	2,446
AN General Rockfill/Spreading	7000 M3	0.003	21	1,575	0.00	0	1.00	7,000	0.00	0	8,575
Emulsion Plant General Rockfill/Spreading	9000 M3	0.00297	27	2,005	0.00	0	1.00	9,000	0.00	0	11,005
Plantsite Select Fill -25mm, 150mm thick	6200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Select Fill -25mm, 150mm thick	400 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Select Fill -25mm, 150mm thick	1600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Select Fill -25mm, 900mm thick	7600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Engineered Fill 500mm thick	20700 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Engineered Fill 500mm thick	1300 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Engineered Fill 500mm thick	20200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Unsuitable Material Excavation	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Kimberlite - existing on site to coarse ore stockpile	19000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Metavolcanic Waste - existing on site to north pile	105000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fencing - around intake and exhaust raises	240 M	0.0594	14	1,069	0.00	0	0.00	0	0.00	0	1,069



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Project Number: U638C
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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 10 CIVIL				3,640	272,969		0		807,585		0	1,080,554
AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT				3,640	272,969		0		807,585		0	1,080,554

AREA 2200 ACCESS ROADS

COMM 10 CIVIL												
Winter Access Road Year 1	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 2	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 3	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Road to Esker Year 1 - 2003	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road 7m wide x 1020m	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road Regrade for Closure	3060	M3	0.03	92	6,885	0.00	0	5.00	15,300	0.00	0	22,185
Main Access Road Soil Reclamation/Stockpiling, 1.6HA- not required	0	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road General Rockfill	12100	M3	0.00297	36	2,695	0.00	0	1.00	12,100	0.00	0	14,795
Main Access Road Culvert 600mm dia x 75m	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Service Roads - to BEP & AN Storage, 6m wide x 3930m	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads - Regrade for Closure	11790	M3	0.03	354	26,528	0.00	0	5.00	58,950	0.00	0	85,478
Service Roads Soil Reclamation/Stockpiling, 5.8HA - not required	0	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads General Rockfill	40700	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads Culvert 600mm dia x 100m	1	LS	14.256	14	1,069	0.00	0	0.00	0	0.00	0	1,069
Subtotal 10 CIVIL				508	38,068		0		86,350		1,350,000	1,474,418



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AREA 2200 ACCESS ROADS				508	38,068		0		86,350		1,350,000	1,474,418
<hr/>												
AREA 2300 AIR STRIP												
<hr/>												
COMM 10 CIVIL												
Airstrip 1525m x 45m wide	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Regrade for Closure	88680	M3	0.03	2,660	199,530	0.00	0	1.00	88,680	0.00	0	288,210
Airstrip Soil Reclamation/Stockpiling	20	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Excavation - rock	143000	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Select Fill -25mm, 300mm thick	12400	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip General Rockfill	165000	M3	0.00297	490	36,754	0.00	0	1.00	165,000	0.00	0	201,754
Airstrip Culvert 1000mm dia x 160m	1	LS	42.768	43	3,208	0.00	0	0.00	0	0.00	0	3,208
Airstrip Trenching for lighting system	3800	M	0.00594	23	1,693	0.00	0	0.00	0	0.00	0	1,693
Subtotal 10 CIVIL				3,216	241,184		0		253,680		0	494,864
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COMM 20 STRUCTURAL AND ARCHITECTURAL												
Waiting Building - not required	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
<hr/>												
COMM 60 ELECTRICAL												
Air Strip Lighting System - includes lighting, non directional beacon, approach path indicator system, wind direction indicator, field electric centre unit	1	LS	100	100	7,500	0.00	0	0.00	0	0.00	0	7,500
Subtotal 60 ELECTRICAL				100	7,500		0		0		0	7,500



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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 2300 AIR STRIP				3,316	248,684		0		253,680		0	502,364

AREA 3100 PRIMARY ORE HANDLING

COMM 10 CIVIL

Dump Ore Pass Dump Pocket - granular A	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - granular A	176	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors on surface for 311-CV-02	110	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Backfill after Foundation Removal	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	6006	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavate to Expose Foundations	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Rock Anchors	1000	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL				68	5,100		0		3,400		0	8,500

COMM 20 STRUCTURAL AND ARCHITECTURAL

Dump Ore Pass Chute - concrete bottom and two sides	15	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - AR plate on chute sides	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rails 85lb cast into chute concrete	4	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - liner support frames	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rock bolts/dowels	60	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - approach slab	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - grizzly collar	20	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rock breaker found. & working slab	3	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rails 85lb cast into chute concrete	1	MT	0	0	0	0.00	0	0.00	0	0.00	0	0



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Dump Ore Pass Dump Pocket - rock bolts/dowels	100 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - anchor bolts	0.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - embedments	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - elevated slab	66 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - rock bolts/dowels	540 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - anchor bolts	1.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - embedments	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - column foundations	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - CV take up slab	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - stair pad	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - slab on compacted structural fill	35 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Lean Mix	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Footings	27 M3	1.782	48	3,609	0.00	0	0.00	0	0.00	0	3,609
Concrete on surface for 311-CV-02 - Anchor Bolts	123 KG	0.0132	2	122	0.00	0	0.00	1	0.00	0	122
Dump Ore Pass Dump Pocket - grizzly	25 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - rock bolts/dowels	25 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - structural steel	26 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - structural steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - structural steel, heavy	28 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - rails	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - ladder	12 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



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Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Feeder Support Platform - grating	120 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - handrail	46 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - Magnet Support Steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
MCC room for crusher - allowance	1 LS	34.65	35	2,599	0.00	0	0.00	0	0.00	0	2,599
Coarse Ore Storage Building 72m x 64m x 27m high (4608m2), with 22m x 9m x 27m high annex (198m2) --> total 4806m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	178 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	284 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	61 M3	4.29	262	19,627	0.00	0	0.00	0	0.00	0	19,627
Concrete - Grade Beams	19 M3	4.785	91	6,819	0.00	0	0.00	0	0.00	0	6,819
Concrete - Retaining Walls	304 M3	4.95	1,505	112,860	0.00	0	0.00	0	0.00	0	112,860
Concrete - Misc & Equipment Pads	3 M3	4.092	12	921	0.00	0	0.00	0	0.00	0	921
Concrete - Anchor Bolts	1726 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	53 T	6.006	318	23,874	0.00	0	0.00	0	0.00	0	23,874
Steel - Structural Medium	22 T	5.082	112	8,385	0.00	0	0.00	0	0.00	0	8,385
Steel - Structural Heavy	19 T	4.62	88	6,584	0.00	0	0.00	0	0.00	0	6,584
Steel - Floor Grating	632 M2	0.3465	219	16,424	0.00	0	0.00	0	0.00	0	16,424
Steel - Stairs c/w handrail	39 M	0.5082	20	1,486	0.00	0	0.00	0	0.00	0	1,486
Steel - Handrails c/w kick plate	217 M	0.2772	60	4,511	0.00	0	0.00	0	0.00	0	4,511
Steel - Grout, for structural steel columns	2 M3	24.5	49	3,675	-0.00	0	0.00	0	0.00	0	3,675
Coarse Ore Storage Building, engineered structure	1 LS	2009.7	2,010	150,728	0.00	0	0.00	0	0.00	0	150,728
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			4,830	362,222		0		1		0	362,223
COMM 40 MECHANICAL											
311-BX-01 Platework - tramp iron tote box	1160 KG	0.0102	12	887	0.00	0	0.00	0	0.00	0	887
311-CH-01 Platework - apron feeder spillage/fines chute	5250 KG	0.0102	54	4,016	0.00	0	0.00	0	0.00	0	4,016
311-CH-02 Platework - apron feeder fixed grizzly	1200 KG	0.0102	12	918	0.00	0	0.00	0	0.00	0	918
311-CH-03 Platework - jaw crusher discharge liners	1950 KG	0.0102	20	1,492	0.00	0	0.00	0	0.00	0	1,492



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311-CH-03 Platework - jaw crusher discharge chute	2300 KG	0.0102	23	1,760	0.00	0	0.00	0	0.00	0	1,760
311-CH-04 Platework - conveyor transfer chute	2720 KG	0.0102	28	2,081	0.00	0	0.00	0	0.00	0	2,081
311-CH-05 Platework - primary crusher feed chute/apron feeder skirt, incl liners	5000 KG	0.0102	51	3,825	0.00	0	0.00	0	0.00	0	3,825
311-CH-06 Platework - primary crusher feed chute/apron feeder head chute, incl liners	3260 KG	0.0102	33	2,494	0.00	0	0.00	0	0.00	0	2,494
311-CH-07 Platework - tramp iron discharge chute	2000 KG	0.0102	20	1,530	0.00	0	0.00	0	0.00	0	1,530
311-CH-08 Platework - skirting, conveyor, incl liners	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
311-CH-09 Head Chute for 311-CV-02, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
311-CH-09 Metal Liners	4460 KG	0.0102	45	3,412	0.00	0	0.00	0	0.00	0	3,412
Air Receiver, 1m3	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Air Receiver, 3m3	1 EA	13.26	13	995	0.00	0	0.00	0	0.00	0	995
Belt Scale	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-RB-01 Hydraulic Hammer At Underground Surge Bin, 50kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-BI-01 Underground Ore Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-04 Underground Waste Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-MD-01 Metal Detector - Take-Away Conveyor, For 1372 mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-MS-01 Self Cleaning Magnet - Take-Away Conveyor, For 1372 mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-CV-01 Primary Crusher Take-Away Conveyor, 1372mm Wide x 18m L, 15kW, includes idlers, pulleys, drive, belting, steel	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-CV-02 Inclined Conveyor to Surface, 1067mm Wide x 300m, 2 x 600kW	1 EA	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
311-FE-01 Primary Crushing Apron Feeder, 1524mm x 6000mm w/hydraulic VFD, 11kW	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
311-CK-01 Crane, 25 tonne, 5.5kW - Primary Crusher	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CK-02 ROM Orepass O/H Crane, 5 tonne, 2.2kW - Chain Gate	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-XX-01 Chain Curtain with Hydraulic Cylinder, 1500mm x 3000mm, 1.1kW, discharge chute w/extra heavy liners and chains, press gate w/air cylinders, air receiver, etc.	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CR-01 Primary Crusher , Single Toggle Jaw Crusher,940 x 1240mm, 225kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
311-GZ-01 Primary Crushing Vibrating Grizzly, 150mm Opening, 1448mm x 4270mm Single Step, VFD 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance - not required, building not heated	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Stockpile Reclaim Hopper	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-01 Stockpile Reclaim Apron Feeder Spillage Chutes , Unlined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-02 Mineral Sizer Feed Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Stockpile Reclaim Mineral Sizer Discharge Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-04 Head Chute for 312-CV-02, metal lined	2740 KG	0.0102	28	2,096	0.00	0	0.00	0	0.00	0	2,096
312-CH-04 Metal Liners	4460 KG	0.00765	34	2,559	0.00	0	0.00	0	0.00	0	2,559
312-CH-05 Head Chute for 312-CV-03, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
312-CH-05 Metal Liners	3365 KG	0.00765	26	1,931	0.00	0	0.00	0	0.00	0	1,931
312-CV-02 Crushed Ore Stockpile Feed Tripper Conveyor, 1067mm Wide x 92m, 30kW	1 EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
312-TR-01 Tripper, stockpile feed, 15kW, included with 312-CV-02	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CV-03 Stockpile Reclaim Conveyor, 1067mm Wide x 44m, 37kW	1 EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
312-FE-01 Stockpile Reclaim Apron Feeder, 1372mm x 6000mm w/hydraulic VFD, 11kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-MB-01 Reclaim Front End Loader 224kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CR-01 Reclaim System - Fixed Plant, including dump hopper, sizer, apron feeder, structure, chutes, operating system, complete electrical system, 4 weeks installation and startup assistance	1 PKG	561	561	42,075	0.00	0	0.00	0	0.00	0	42,075
312-CR-01 Stockpile Reclaim Mineral Sizer, 500mm Centres, 4 Tooth Rotor, 150kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 40 MECHANICAL				3,318	248,861		0		0		0	248,861
COMM 50 PIPING												
Piping Allowance - U/G and Conveying	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for 311-CV-02, including piping, sprinklers, hose reels, pressure reducing station, etc.	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for all above ground conveyors, including piping, sprinklers, etc.	1	LS	189.915	190	14,244	0.00	0	0.00	0	0.00	0	14,244
Piping Allowance	1	LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Fire Suppression - including piping, sprinklers, hose reels, extinguishers, etc.	1	LS	110.88	111	8,316	0.00	0	0.00	0	0.00	0	8,316
Subtotal 50 PIPING				350	26,272		0		0		0	26,272
COMM 60 ELECTRICAL												
VFD 11kW	1	EA	10	10	750	0.00	0	0.00	0	0.00	0	750
Packaged Substations - CRUSHER & +190S Pumping Duel 1250 kVA 13.8kV/4.16kV Skid mounted Substation	1	EA	50	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Low Voltage Cables - Cable allowance for Underground Crusher misc cables	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Lighting - Allowance for Crusher	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Electrical Allowance	1	LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Lighting allowance	4686	M2	0.0495	232	17,397	0.00	0	0.00	0	0.00	0	17,397
Grounding allowance	4686	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
VFD 11kW	1	EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Subtotal 60 ELECTRICAL				328	24,619		0		0		0	24,619



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3110 PRIMARY CRUSHING & CONVEYING				8,894	667,075		0		3,401		0	670,475

AREA 3200 FEED PREPARATION

COMM 40 MECHANICAL

Ductwork allowance	1	LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-SB-02 Primary Scrubber Dust Control Scrubber, 17,000m3/hr fan, 22kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
321-CH-02 Primary Scalping Screen Oversize Chute, Metal Lined	820	KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
321-CH-02 Metal Liners	1420	KG	0.00765	11	815	0.00	0	0.00	0	0.00	0	815
321-CH-03 Transfer Chute from 312-CV-02, metal lined	1590	KG	0.0102	16	1,216	0.00	0	0.00	0	0.00	0	1,216
321-CH-03 Metal Liners	4490	KG	0.00765	34	2,576	0.00	0	0.00	0	0.00	0	2,576
321-CH-04 Head Chute for 321-CV-01, metal lined	1900	KG	0.0102	19	1,454	0.00	0	0.00	0	0.00	0	1,454
321-CH-04 Metal Liners	1100	KG	0.00765	8	631	0.00	0	0.00	0	0.00	0	631
321-CH-05 Head Chute for 321-CV-02, metal lined	1575	KG	0.0102	16	1,205	0.00	0	0.00	0	0.00	0	1,205
321-CH-05 Metal Liners	1960	KG	0.00765	15	1,125	0.00	0	0.00	0	0.00	0	1,125
321-CH-06 Banana Screen Oversize Chute, metal lined	5755	KG	0.0102	59	4,403	0.00	0	0.00	0	0.00	0	4,403
321-CH-06 Metal Liners	7315	KG	0.00765	56	4,197	0.00	0	0.00	0	0.00	0	4,197
321-CH-XX Movable Trolley, metal lined	1620	KG	0.0102	17	1,239	0.00	0	0.00	0	0.00	0	1,239
321-CH-XX Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-CH-YY Scrubber Discharge Chute, metal lined	3580	KG	0.0102	37	2,739	0.00	0	0.00	0	0.00	0	2,739
321-CH-YY Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-SU-01 Scrubber Discharge Screen Underpan, Rubber Lined	2555	KG	0.0102	26	1,955	0.00	0	0.00	0	0.00	0	1,955
321-SU-01 Rubber Lining	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SU-02 Banana Screen Underflow Pump Box, Rubber Lined	7115	KG	0.0102	73	5,443	0.00	0	0.00	0	0.00	0	5,443



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
321-SU-02 Rubber Lining	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-PU-01 Primary Scrubber Discharge Screen U/F Pump, 350 x 300 mm Heavy Duty Horizontal Slurry Pump, 55kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
321-PU-03 Primary Scrubber Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
321-PU-04 Primary Scrubber Dust Control Pump, 100 x 75 mm heavy duty centrifugal pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-MD-01 Metal Detector - Scrubber Feed Conv., For 1067mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-MS-01 Self Cleaning Electromagnet - Scrubber Feed Conv., For 1067mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-CV-01 Primary/Secondary Scrubber Feed Conveyor, 1067mm Wide x 111m, 75kW	1 EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
321-CV-02 Primary/Secondary Scrubber Oversize Conveyor 1, 914mm Wide x 56m, 30kW	1 EA	117.3	117	8,798	0.00	0	0.00	0	0.00	0	8,798
321-CV-03 Primary/Secondary Scrubber Oversize Conveyor 2, 914mm Wide x 31m, 19kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
321-SC-01 Beltscale Scrubber Feed Conveyor, Double idler (4 cell), 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-CK-01 Scrubbing & Crushing Section Overhead Crane, 50 tonnes, 22kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
321-SB-01 Primary Scrubber, 4000mm Dia x 7400mm Long, Rubber Lined, 600kW	1 EA	765	765	57,375	0.00	0	0.00	0	0.00	0	57,375
321-XX-01 Primary Scrubber Inching Drive, 7.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-XX-02 Primary Scrubber Jacking System, air actuated	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SN-01 Scrubber Discharge Scalping Screen, Horizontal Vibrating Single Deck Screen, 2400w x 4200mm L, 50mm Cut, PU, 18.5kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
321-SN-02 Scrubber Discharge Screen, DBHG24/73 Banana Screen, D. Deck, 32mm Cut Top, 1.5mm Cut Bottom, PU, 45kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Ductwork allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-BH-01 HPRC Dust Collector, 44m2 area	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-FA-01 HPRC Dust Collector Fan, 4500 m3/hr, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-BI-01 Sec. Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-BI-02 HPRC Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-01 HPRC Surge Bin Feed Conveyor 2, high angle, 1372mm wide x 70.7m 18.8m lift, 93kW & 112kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-02 HPRC Surge Bin Feed Conveyor 1, 914mm wide x 27m, 30kW	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-BI-01 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-BI-02 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-CH-01 Sec. Crusher Bin Feed Chute, Metal Lined	1635 KG	0.0102	17	1,251	0.00	0	0.00	0	0.00	0	1,251
322-CH-01 Metal Liners	2070 KG	0.00765	16	1,188	0.00	0	0.00	0	0.00	0	1,188
322-CH-02 Sec. Crusher Bin Discharge Chute, Metal Lined	3400 KG	0.0102	35	2,601	0.00	0	0.00	0	0.00	0	2,601
322-CH-02 Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-03 Secondary Crusher Feed Chute, Metal Lined	715 KG	0.0153	11	820	0.00	0	0.00	0	0.00	0	820
322-CH-03 Metal Liners	470 KG	0.00765	4	270	0.00	0	0.00	0	0.00	0	270
322-CH-04 Sec. Crusher Discharge Chute, Metal Lined, included in crusher	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CH-05 Head Chute for 322-CV-01, metal lined	1100 KG	0.0102	11	842	0.00	0	0.00	0	0.00	0	842
322-CH-05 Metal Liners	565 KG	0.00765	4	324	0.00	0	0.00	0	0.00	0	324
322-CH-06 Feeder Head Chute for 322-FE-02, metal lined	1360 KG	0.0102	14	1,040	0.00	0	0.00	0	0.00	0	1,040
322-CH-06 Metal Liners	755 KG	0.00765	6	433	0.00	0	0.00	0	0.00	0	433
322-CH-08 Head Chute for 322-CV-02, metal lined	2815 KG	0.0102	29	2,153	0.00	0	0.00	0	0.00	0	2,153
322-CH-08 Metal Liners	1510 KG	0.00765	12	866	0.00	0	0.00	0	0.00	0	866
322-CH-09 Feeder Head Chute for 322-FE-01, metal lined	670 KG	0.0153	10	769	0.00	0	0.00	0	0.00	0	769
322-CH-09 Metal Liners	375 KG	0.00765	3	215	0.00	0	0.00	0	0.00	0	215
322-CH-XX HPRC Crusher Bin Discharge Chute, metal lined	3400 KG	0.0153	52	3,902	0.00	0	0.00	0	0.00	0	3,902
322-CH-XX Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-YY Secondary Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-YY Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-CH-ZZ HPRC Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-ZZ Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607
322-PU-01 Crushing Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
322-MD-01 Metal Detector - Crusher Feed Conv., For 914mm wide belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MD-02 Metal Detector, For 914mm Belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-01 Self Cleaning Belt Magnet - Secondary Crusher Feed Conv., For 914mm wide belt, 3kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-02 Self Cleaning Belt Magnet - HPRC Feed Conv., For 760mm Belt, 2.2kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-LU-01 Secondary Crusher Lube Unit, 5.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FE-01 Belt Feeder to Secondary Crusher, 914mm wide x 15m, 11kW, VFD	1 EA	45.9	46	3,443	0.00	0	0.00	0	0.00	0	3,443
322-FE-02 HPRC Crusher Belt Feeder, 914mm wide x 22m long, 11kW, VFD	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-SC-01 Belt Scale - Crusher Feed Conveyor, For 914mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-SC-02 Belt Scale - HPRC Feed Conveyor, For 760mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-CR-01 Secondary Crusher , 1676mm Standard Cone Crusher, Coarse Liners c/w Hydroset, 50mm Setting, 225kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
322-HY-01 Hydraulic Unit, Cone Crusher Hydroset, 1.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CR-02 Recrush Crusher, High Pressure Rolls Crusher - 2m Dia. X 1m wide, VFD included, 2 x 600kW	1 EA	1071	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
322-HY-02 Hydraulic Unit, High Pressure Rolls Crusher, 37.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-XX-05 Auxiliary Drive HPRC	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FD-01 Rotary Distributor, Cone Crusher Feed, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
323-CH-03 Head Chute for 323-CV-01, metal lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
323-CH-03 Metal Liners	1365 KG	0.00765	10	783	0.00	0	0.00	0	0.00	0	783



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
323-CV-01 Sec. Scrubber Feed Conveyor, high angle, 1372mm W x 39.1m L x 14.5m lift, 2x75kW	1 EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL			4,935	370,125		0		0		0	370,125
COMM 50 PIPING											
Piping Allowance - 10% of mechanical equipment	1 LS	346.5	347	25,988	0.00	0	0.00	0	0.00	0	25,988
Piping Allowance - 2% of mechanical equipment	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Subtotal 50 PIPING			479	35,888		0		0		0	35,888
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance	1 LS	247.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Low Voltage Electrical Allowance	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
VFD 11W	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Low Voltage Electrical Allowance - 10% of mechanical equipment	1 LS	41.25	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Subtotal 60 ELECTRICAL			632	47,396		0		0		0	47,396
AREA 3210 PRIMARY SCRUBBING AND SCREENING			6,045	453,409		0		0		0	453,409

AREA 3300 DMS

COMM 40 MECHANICAL

330-BI-01 DMS Feed Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-BI-01 Metal Liners	36 T	7.65	275	20,655	0.00	0	0.00	0	0.00	0	20,655
330-BI-03 Coarse DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5 T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-BI-05 Fines DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5 T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-CH-17 Coarse DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-CH-18 Fines DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-BX-01 Coarse DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-01 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-03 Fines DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-03 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-05 Coarse DMS DM Cyclone Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-05 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-07 Fines DMS DM Cyclones Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-07 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-09 Coarse DMS DM Cyclone U/Flow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-11 Fines DMS DM Cyclones U/Flow Box, Rubber Lined	1180 KG	0.0102	12	903	0.00	0	0.00	0	0.00	0	903
330-BX-13 Coarse DMS DM Cyclone O/Flow Box, Rubber Lined	1800 KG	0.0102	18	1,377	0.00	0	0.00	0	0.00	0	1,377
330-BX-15 Fines DMS DM Cyclones O/Flow Box, Rubber Lined	2155 KG	0.0102	22	1,649	0.00	0	0.00	0	0.00	0	1,649
330-BX-21 Coarse DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-23 Fines DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-25 Coarse DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-BX-27 Fines DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-CH-01 Feed Prep Screen Feed Chute for 330-FE-03, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-CH-01 Metal Liners	810 KG	0.00765	6	465	0.00	0	0.00	0	0.00	0	465



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CH-03 Feed Prep Screen Oversize Chute, Metal Lined	1935 KG	0.0102	20	1,480	0.00	0	0.00	0	0.00	0	1,480
330-CH-03 Metal Liners	1765 KG	0.00765	14	1,013	0.00	0	0.00	0	0.00	0	1,013
330-CH-05 Oversize Chute for 330-SN-11, Rubber Lined	4185 KG	0.0102	43	3,202	0.00	0	0.00	0	0.00	0	3,202
330-CH-05 Rubber Lining	53 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-07 Oversize Chute for 330-SN-13, Rubber Lined	300 KG	0.0102	3	230	0.00	0	0.00	0	0.00	0	230
330-CH-07 Rubber Lining	5.2 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-09 Coarse DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-09 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-11 Fines DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-11 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-13 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-15 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-17 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-18 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-21 PK Coarse Conveyor Transfer Chute, Metal Lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-21 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-22 Head Chute for 330-CV-02, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-22 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-24 Head Chute for 330-CV-04, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-24 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-26 Head Chute for 330-CV-07, metal lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-26 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-32 Chutework for 330-MS-01 & 02	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-32 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-33 Chutework for 330-MS-03 & 04	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-33 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-SU-01 Underflow Chute for 330-SN-01, Rubber Lined	1130 KG	0.0102	12	864	0.00	0	0.00	0	0.00	0	864
330-SU-01 Rubber Lining	16 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-03 Underpan for 330-SN-11, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-03 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-05 Underpan for 330-SN-13, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-05 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-09 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-11 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-13 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-15 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-17 Coarse DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-17 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-19 Fines DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-19 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-21 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-23 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-25 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-27 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-07 Coarse DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-07 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-09 Fines DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-09 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-17 Fines DMS Dilute Medium Sump, 2.5m Dia. 4.5m High - 9m3	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-17 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-19 Recovery Tails Discharge Sump	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-19 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-TK-01 Coarse DMS FeSi Mixing Tank, 2m3 Rubber Lined	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-TK-02 Fines DMS FeSi Mixing Tank, 2m3 Rubber Lined	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-01 Feed Preparation Screen U/Flow Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-03 Feed Prep Screen Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-04 Coarse DMS Area Sump Pump, 65mm V/Spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-06 Fines DMS Area Sump Pump, 65mm V/Spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-08 Coarse DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-10 Fines DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 90kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
330-PU-12 Coarse DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 150kW VFD	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-14 Fines DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW VFD	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-16 Coarse DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 45kW	1 EA	17.85	18	1,339	0.00	0	0.00	0	0.00	0	1,339
330-PU-18 Fines DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
330-PU-20 Coarse DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-21 Fines DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-22 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-23 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-24 DMS Concentrate Spillage Sump Pump, 65mm V/spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-AG-01 Coarse DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-AG-02 Fines DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-DM-01 Coarse DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-DM-03 Fines DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-01 Coarse DMS Nuclear Density Recorder & Controller	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-03 Fines DMS Nuclear Density Recorder & Controller	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CV-01 DMS Surge Bin Feed Conveyor, high angle, 1372mm W x 36.6m L x 14m lift, 56kW & 75kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-02 Coarse DMS Feed Conveyor, high angle, 1067mm W x 35.5m L x 14m lift, 22kW & 30kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-04 Fines DMS Feed Conveyor, high angle, 1067mm W x 33m L x 14m lift, 22kW & 30kW	1 EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
330-CV-06 PK Coarse Conveyor 1, 914mm Wide x 16m L, 7.5kW	1 EA	58.65	59	4,399	0.00	0	0.00	0	0.00	0	4,399
330-CV-07 PK Coarse Conveyor 2, 914mm Wide x 127m L, 75kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-08 Coarse DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-CV-09 Fines DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-FE-01 DMS Feed Prep Screen Belt Feeder, 914mm Wide x 12m, VFD, 19kW	1 EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
330-FE-03 Recovery Tails Vibrating Feeder, 2.2kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SC-01 Coarse DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-03 Fines DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-05 PK Coarse Conveyor Beltscale, For 760mm Wide Belt, Single idler, 1.1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CK-01 Coarse DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CK-02 Fines DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-SN-01 Feed Preparation Screen, 2400 wide x 3600 mm Long, D. Deck, 10mm Cut Top, 1.5mm Cut Bottom, PU, 11kW	1 EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
330-SN-03 Coarse DMS Cyclone U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-03 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-05 Fines DMS Cyclones U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-05 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-07 Coarse DMS Cyclone O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-09 Fines DMS Cyclones O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-11 Coarse DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-13 Fines DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-15 Coarse DMS Floats D & R Screen, 3050 x 4800mm Long Single Deck, 1.5mm Cut Point, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-17 Fines DMS Floats D & R Screen, 3050 x 4800mm Long D. Deck, 6mm Top Deck, 1.5mm Bottom Deck, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-19 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SN-20 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-01 Coarse DMS DM Cyclone, 610mm Diameter, High Chrome	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-03 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-04 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-05 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CY-09 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-10 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-13 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-14 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-FD-01 Fines DMS Cyclone Feed Distributor	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-MS-01 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-02 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-03 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-04 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Subtotal 40 MECHANICAL				2,862	214,660		0		0		0	214,660
COMM 50 PIPING												
Piping Allowance - 10% of mechanical equipment	1	LS	363	363	27,225	0.00	0	0.00	0	0.00	0	27,225
Subtotal 50 PIPING				363	27,225		0		0		0	27,225
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance - 15% of mechanical equipment	1	LS	313.5	314	23,513	0.00	0	0.00	0	0.00	0	23,513
VFD 2.2kW	2	EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
VFD 18kW	1	EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
VFD 110kW	1	EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
VFD 150kW	1	EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Subtotal 60 ELECTRICAL				347	25,988		0		0		0	25,988



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3300 DMS				3,572	267,872		0		0		0	267,872

AREA 3400 RECOVERY PLANT

COMM 20 STRUCTURAL AND ARCHITECTURAL

Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Structural, installed into modules in Edmonton	50	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Cladding, installed into modules in Edmonton	1300	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Platework, installed into modules in Edmonton	6	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Piping, installed into modules in Edmonton	3	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase Structural Steel, installed into modules in Edmonton	23	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase c/w treads, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Structural Steel, installed into modules in Edmonton	12	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Staircase c/w treads, flooring, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Dust Extraction - Structural Steel, installed into modules in Edmonton	3.5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Structural Steel, installed into modules in Edmonton	8	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Platework, installed into modules in Edmonton	5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Flooring, installed into modules in Edmonton	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Recovery Support for Screen Feeders - Stairs c/w treads, rail, etc., installed into modules in Edmonton	80 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			0	0		0		0		0	0
COMM 40 MECHANICAL											
Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - disassemble in Edmonton and prepare for packing	14 MOD	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - install at site	1 LS	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
SPS & SFD Support System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
X-Ray Support System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
DOLFIN	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Note: Transportation to Yellowknife, SADAS, Tesing, Post Commissioning Support and Audit, PIMS are distributed in the above direct costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM A - AIR CONDITIONING	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-AC-01 Air Conditioner 1, 120kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM B - DUST EXTRACTION 1	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-01 Dust Scrubber 1, 2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-02 Dust Scrubber 2, 2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-02 Dust Blower 1, 40kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-01 Dust Stack 1	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM C - DUST EXTRACTION 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-04 Dust Blower 2, 40kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-02 Dust Stack 2	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PU-03 Dust Scrubber Sump Pump 2, V/Spindle, 2.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-02 Dust Extraction Sump 2	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 1	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-BI-01 Coarse Pneumodryer Batch Bin 1, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-03 Coarse Pneumodryer Batch Bin 2, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-09 Coarse Pneumodryer Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-23 Recovery Tailings Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM E - VACUUM SPILLAGE UNIT	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-02 Spillage Vacuum Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-05 Fines Pneumodryer Batch Bin 1, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-06 Fines Pneumodryer Batch Bin 2, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-07 Fines Pneumodryer Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM G - VACUUM RECYCLE UNIT	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-04 Reconcenrate Recycle Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-08 Oversize Waste Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-10 Fines X-Ray Concentrate Batch Bin 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-12 Fines/Middles X-Ray Concentrate Batch Bin 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-14 Coarse/Middles X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-15 Coarse X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-18 Fines/Middles X-Ray Audit Concentrate Batch Bin 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-20 Coarse X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-21 Coarse X-Ray Tails Audit Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-24 Reconcenrate Recycle Audit Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-01 Fines Dust Cascade Chute 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-02 Fines Dust Cascade Chute 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-04 Coarse Dust Cascade Chute 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-05 Coarse Dust Cascade Chute 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-06 Coarse Dust Cascade Chute 3	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FD-01 Fines Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-02 Reconcentrate Recycle Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-03 Fines/Middles Three-Way Rotary Distributor, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-04 Coarse/Middles Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-05 Coarse/Middles Two-Way Rotary Distributor 2, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-06 Coarse/Middles Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-10 Reconcentrate Recycle Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-12 Fines/Middles X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-14 Coarse X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VL-01 Vault	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-01 Coarse Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-02 Fines Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-01 Water Chiller 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-02 Water Chiller 2, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM J - DUST EXTRACTION SLURRY DISPOSAL 1	1 SYS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
340-PU-02 Dust Scrubber Sump Pump 1, V/Spindle, 2.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-01 Dust Extraction Sump 1	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM K - DUST EXTRACTION SLURRY DISPOSAL 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-TK-01 Receiver	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-05 Spillage Vacuum Blower, 22kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-03 Fines Pneumodryer Blower, 75kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-07 CATS Blower, 7.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-01 Coarse Pneumodryer Blower, 75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BU-01 Recovery Area Incinerator, 0.7kW, 50kg/hr	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM I - VENTILATION	1 SYS	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
340-FA-01 Ventilation Fan 1, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FA-02 Ventilation Fan 2, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-03 Ventilation Fan 3, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-04 Ventilation Fan 4, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-05 Ventilation Fan 5, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-06 Ventilation Fan 6, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-07 Ventilation Fan 7, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-08 Ventilation Fan 8, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-09 Ventilation Fan 9, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-01 Coarse Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-02 Fines Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-07 Fines 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-08 Fines/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-10 Coarse/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-11 Fines X-Ray Concentrate Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-12 Fines X-Ray Concentrate Tubular Conveyor 2, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-13 Coarse/Middles Concentrate Distributor Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-14 Fines Weigh Bin Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-15 Coarse/Middles Concentrate X-Ray Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-16 Fines X-ray Tailings Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-17 Coarse/Middles Concentrate X-Ray Tubular Conveyor 2, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-18 Coarse/Middles Belt Weigh Feeder Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-19 Coarse X-Ray Tails Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-20 Recovery Tails Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-CV-21 Coarse Pneumo-Drier 2 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-22 Coarse Pneumo-Drier 3 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-23 Fines Pneumo-Drier 2 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-24 Fines Pneumo-Drier 3 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-02 Coarse Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-01 Fines Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-04 Fines Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-03 Coarse Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM H - CATS	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-01 Fines CATS Loading Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-02 Coarse CATS Loading Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-03 CATS Discharge Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-16 SPS Fines Weigh Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-17 SPS Coarse Weigh Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-03 Fines X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-04 Fines/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-05 Coarse/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-06 Coarse X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CK-01 Recovery Hoist, 5 tonne capacity, 10kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-07 SFD, 8kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-01 Coarse Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-SN-02 Coarse Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-03 Fines Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-04 Fines Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-05 Fines Sizing Screen, 5,000 kg/h Capacity, 1200 X 3600MM, 19kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-06 Coarse Sizing Screen, 5,000 kg/h Capacity, 900 X 1800MM, 5.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PG-01 Canning Machine, 6kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-02 Vacuum Moisturised Valve - Spillage, 0.2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-01 Vacuum Moisturised Valve - Recycle, 0.2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-01 Fines SPS Raven, 2.2kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-02 Coarse SPS Raven, 2.2kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-01 Fines First Pass CDX1132CL LARA, 4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-02 Fines Second Pass CDX1132CL LARA 1, 4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-04 Fines/Middles First Pass CDX1132CL LARA 1, 4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-06 Coarse/Middles First Pass CDX1132CL LARA , 4kW	1	EA	0	0	0	-0.00	0	0.00	0	0.00	0	0
340-XR-07 Coarse/Middles Second Pass CDX1132CL LARA , 4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-08 Fines/Middles Second Pass CDX1132CL LARA 1, 4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-10 Coarse/Middles First Pass CDX113C , 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-11 Coarse/Middles Second Pass CDX113C , 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-12 Coarse First Pass CDX113C , 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-13 Coarse Second Pass CDX113C , 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-XR-14 Fines Reconcentrate CDXST116C 1, 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-16 Coarse Reconcentrate CDXST113C , 1.4kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL				1,313	98,494		0		0		0	98,494
COMM 50 PIPING												
Piping Allowance - 3% of mechanical equipment, excluding x-ray machines	1	LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Subtotal 50 PIPING				132	9,900		0		0		0	9,900
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance - 3% of mechanical equipment cost (as per Debtech & adjusted for NA productivity)	1	LS	214.5	215	16,088	0.00	0	0.00	0	0.00	0	16,088
Subtotal 60 ELECTRICAL				215	16,088		0		0		0	16,088
AREA 3400 RECOVERY PLANT				1,660	124,481		0		0		0	124,481

AREA 3500 THICKENING & DEGRIT

COMM 40 MECHANICAL

350-CH-01 Oversize Chute for 350-SN-01, Metal Lined	1480	KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-01 Metal Lining	600	KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-02 Oversize Chute for 350-SN-02, Metal Lined	1480	KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-02 Metal Lining	600	KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-04 Underpan for 350-SN-01, Rubber Lined	1830	KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-04 Rubber Lining	27	M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
350-CH-05 Underpan for 350-SN-02, Rubber Lined	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-05 Rubber Lining	27 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-01, Rubber Lined	1415 KG	0.0102	14	1,082	0.00	0	0.00	0	0.00	0	1,082
350-LAUNDER-01 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-02, Rubber Lined	2830 KG	0.0102	29	2,165	0.00	0	0.00	0	0.00	0	2,165
350-LAUNDER-02 Rubber Lining	50 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-SU-01 Degrit Cyclone Feed Sump, 7m Dia x 10m High, 60 deg Cone, 200m3, Rubber Lined	12160 KG	0.0102	124	9,302	0.00	0	0.00	0	0.00	0	9,302
350-SU-01 Rubber Lining	112 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-PU-01 Degrit Cyclone Feed Pump, 300 x 250 mm Heavy Duty Horizontal Slurry Pump, 225kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-03 Thickener Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-04 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-05 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-06 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-07 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-13 Degrit Area Sump Pump, 65mm V/spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-14 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-PU-15 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-BL-01 Flocculant Mixing, 1.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-IN-03 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-IN-04 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-AG-01 Flocculant Mixing, 3.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
350-IN-01 Nuclear Density Gauge, 150mm Dia.	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-IN-02 Nuclear Density Gauge, 150mm Dia.	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-FE-01 Flocculant Mixing Screw Conveyor, 0.4kW VFD	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-CK-01 Flocculant Hoist, 2 tonne capacity, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CK-02 Degrit Cyclone Overhead Crane, 25 tonne capacity, 11kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
350-FO-01 Flocculant Mixing & Dosing System, Automated Make -up, 5.5kW	1	EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
350-SN-01 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-02 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-03 Thickener Tramp Screen, 6mm mesh	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-01 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-02 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-TH-01 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1	EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
350-TH-02 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1	EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
Subtotal 40 MECHANICAL				1,310	98,245		0		0		0	98,245
COMM 50 PIPING												
Piping Allowance - 20% of mechanical equipment	1	LS	445.5	446	33,413	0.00	0	0.00	0	0.00	0	33,413
Subtotal 50 PIPING				446	33,413		0		0		0	33,413
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance	1	LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
VFD 0.4kW	1	EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
VFD 2.2kW	2	EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL				119	8,910		0		0		0	8,910
AREA 3500 THICKENING & DEGRIT				1,874	140,568		0		0		0	140,568

AREA 3600 WATER & AIR SYSTEMS

COMM 40 MECHANICAL

360-TK-01 Clarified Water Tank, 9m Dia., 10m High, 550m3 Capacity, Unlined	22500	KG	0.00765	172	12,909	0.00	0	0.00	0	0.00	0	12,909
360-TK-02 Fresh Water Storage Tank., 6m Dia., 10m High, 250m3 Capacity, Unlined	14000	KG	0.00765	107	8,033	0.00	0	0.00	0	0.00	0	8,033
360-HX-01 Primary Scrubber Process Fired Water Heat Exchanger, 3156kJ water 42l/s glycol 451l/s, 5.5kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
360-PU-01 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-02 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-03 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU Fire Water Pump Module - c/w one diesel, one electric, one jockey pump and enclosure	1	MOD	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-PU-04 Fire Water Pump, 450 m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-05 Fire Water Pump, Diesel fired, 450m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-06 Fire Water Jockey Pump, Air Driven 50mm 450m3/h 100 psi, 50mm - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-07 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
360-PU-08 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
360-PU-09 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-10 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-12 Water Management Pond Supply Pump, 41 m3/h, 75kW	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
360-CO-01 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-CO-02 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-AD-01 Instrument Air Dryer, 1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
360-AD-02 Instrument Air Oil Filter	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Subtotal 40 MECHANICAL				601	45,039		0		0		0	45,039
COMM 50 PIPING												
Piping Allowance - 20% of mechanical equipment	1	LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Subtotal 50 PIPING				165	12,375		0		0		0	12,375
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance - 15% of mechanical equipment	1	LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 60 ELECTRICAL				99	7,425		0		0		0	7,425
AREA 3600 WATER & AIR SYSTEMS				865	64,839		0		0		0	64,839

AREA 3700 PASTE FILL PLANT

COMM 40 MECHANICAL



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-XX-01 Pig Insertion Valve, including hydraulic power pack, 7.5kW - not required	0 EA	15.3	0	0	0.00	0	0.00	0	0.00	0	0
370-XX-02 Diversion Valve, for changing lines from material to water cleaning, including hydraulic power pack, 7.5kW	2 EA	15.3	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Ductwork Allowance	1 LS	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
370-BH-01 Paste Plant Dust Collector, 44m2 Area, 2.2/1.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FA-01 Paste Plant Dust Collector Fan, 3500m3/h, 3.8kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-TK-01 Air Receiver, 1.22m Dia x 3.66m High	1000 KG	0.00765	8	574	0.00	0	0.00	0	0.00	0	574
370-BI-01 Floats & Grit Bin, 1000 tonnes	100 T	10.2	1,020	76,500	0.00	0	0.00	0	0.00	0	76,500
370-BI-02 Cement Dump Hopper , 20 tonnes - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-BI-03 Weigh Feeder Feed Bin	50 T	10.2	510	38,250	0.00	0	0.00	0	0.00	0	38,250
370-SO-01 Cement Silo, 3.66m Dia. X 16.42m High with Baghouse & Fan, 37/2.2kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
370-CH-01 Head Chute for 370-CV-01, Rubber Lined	1630 KG	0.0102	17	1,247	0.00	0	0.00	0	0.00	0	1,247
370-CH-01 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-02 Head Chute for 370-CV-02, Rubber Lined	1515 KG	0.0102	15	1,159	0.00	0	0.00	0	0.00	0	1,159
370-CH-02 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-03 Head Chute for 370-FE-01, Rubber Lined	3530 KG	0.0102	36	2,700	0.00	0	0.00	0	0.00	0	2,700
370-CH-03 Rubber Lining	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-04 Head Chute for 370-FE-04, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-04 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-05 Head Chute for 370-FE-05, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-05 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-SU-01 Slimes By-Pass Tank	1610 KG	0.0102	16	1,232	0.00	0	0.00	0	0.00	0	1,232
370-PU-01 Emergency Slimes Disposal Pump - Stage 1, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-PU-02 Vertical Floor Wash Sump Pump, 76mm, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
370-PU-03 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-PU-04 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
370-PU-08 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-09 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-05 Paste Line Flush PD Pump, 36m3/hr, concrete cylinders 180 x 1000mm	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-PU-07 Emergency Slimes Disposal Pump - Stage 2, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-CO-01 Air Compressor, 500m3/h @ 800 kPa For Blowing Paste Line, 45kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-BL-01 Cement Blow-in System Blower	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-MX-01 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-02 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-03 Colloidal Mixer, Vendor Package	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
370-CV-01 Floats and Grits Conveyor, 914mm Wide x 42m Long, 30kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
370-CV-02 Floats and Grits Conveyor, 914mm Wide x 25m Long, 22kW	1 EA	89.25	89	6,694	0.00	0	0.00	0	0.00	0	6,694
370-CV-04 Cement Feed Screw Conveyor, 305mm dia x 10.0m Long, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-RV-02 Cement Dust Star Feeder, 0.37kW, included with BL-01	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-FE-01 Belt Feeder, 914mm Wide x 4.7m Long, 5.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FE-04 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-FE-05 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-SC-02 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-SC-03 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-HY-02 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-03	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-HY-03 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-04	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-HY-01 Paste Line Flush Pump Hydraulic Pack, 75kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL			2,499	187,453		0		0		0	187,453
COMM 50 PIPING											
Piping Allowance - 15% of mechanical equipment	1 LS	627	627	47,025	0.00	0	0.00	0	0.00	0	47,025
Subtotal 50 PIPING			627	47,025		0		0		0	47,025
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
VFD 7.5kW	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Subtotal 60 ELECTRICAL			125	9,405		0		0		0	9,405
AREA 3700 PASTE FILL PLANT			3,252	243,883		0		0		0	243,883

AREA 3800 PLANT SERVICES

COMM 70 INSTRUMENTATION AND CONTROLS

Instrumentation allowance for all process areas	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Instrumentation Allowance, 15% of mechanical equipment, with the exception of 4.9% for the recovery area (as per Debtech)	1 LS	1640	1,640	123,000	0.00	0	0.00	0	0.00	0	123,000
Plant Control System - includes process controllers, I/O cards and cabinets, HMI consoles/software, communication ethernet hubs for plant network	1 LS	726	726	54,450	0.00	0	0.00	0	0.00	0	54,450



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 70 INSTRUMENTATION AND CONTROLS			2,366	177,450		0		0		0	177,450
AREA 3810 PROCESS INSTRUMENTATION			2,366	177,450		0		0		0	177,450

AREA 3900 PROCESS BUILDING

COMM 10 CIVIL

Backfill after Foundation Removal	712 M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Excavate to Expose Foundations	712 M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Détail Excavation	712 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	10888 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	4278 M	0.19008	813	60,987	0.00	0	0.00	0	0.00	0	60,987
Subtotal 10 CIVIL			956	71,667		0		7,120		0	78,787

COMM 20 STRUCTURAL AND ARCHITECTURAL

Process Building 144m x 48m x 24.3m high --> 6912m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	696 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	963 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	174 M3	4.29	746	55,985	0.00	0	0.00	0	0.00	0	55,985
Concrete - Pedestals	183 M3	4.29	785	58,880	0.00	0	0.00	0	0.00	0	58,880
Concrete - Grade Beams	116 M3	4.785	555	41,630	0.00	0	0.00	0	0.00	0	41,630
Concrete - Walls	415 M3	4.884	2,027	152,015	0.00	0	0.00	0	0.00	0	152,015
Concrete - Columns	90 M3	5.082	457	34,304	0.00	0	0.00	0	0.00	0	34,304
Concrete - Beams	16 M3	7.524	120	9,029	0.00	0	0.00	0	0.00	0	9,029
Concrete - Slab on Grade	1069 M3	1.386	1,482	111,123	0.00	0	0.00	0	0.00	0	111,123



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	665 M3	2.211	1,470	110,274	0.00	0	0.00	0	0.00	0	110,274
Concrete - Misc & Equipment Pads	224 M3	2.409	540	40,471	0.00	0	0.00	0	0.00	0	40,471
Concrete - Embedded Metal	2210 KG	0.0132	29	2,188	0.00	0	0.00	0	0.00	0	2,188
Concrete - Anchor Bolts	7528 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	7260 M2	0.0495	359	26,953	0.00	0	0.00	0	0.00	0	26,953
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	483 M2	0.0495	24	1,793	0.00	0	0.00	0	0.00	0	1,793
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	404 M2	0.0495	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Steel - Structural Light	105 T	6.006	631	47,297	0.00	0	0.00	0	0.00	0	47,297
Steel - Structural Medium	300 T	5.082	1,525	114,345	0.00	0	0.00	0	0.00	0	114,345
Steel - Structural Heavy	294 T	4.62	1,358	101,871	0.00	0	0.00	0	0.00	0	101,871
Steel - Floor Grating	4411 M2	0.3465	1,528	114,631	0.00	0	0.00	0	0.00	0	114,631
Steel - Stairs c/w handrail	236 M	0.5082	120	8,995	0.00	0	0.00	0	0.00	0	8,995
Steel - Handrails c/w kick plate	1624 M	0.2772	450	33,763	0.00	0	0.00	0	0.00	0	33,763
Steel - Grout, for structural steel columns	11 M3	8.085	89	6,670	0.00	0	0.00	0	0.00	0	6,670
Process Building, engineered structure	1 LS	5359.2	5,359	401,940	0.00	0	0.00	0	0.00	0	401,940
Process - Overhead rolling steel doors - exterior insulated 4m x 4m	2 EA	46.2	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Process - Manddoors - exterior insulated 0.9m x 2.1m	11 EA	2.772	30	2,287	0.00	0	0.00	0	0.00	0	2,287
Process - Double doors - exterior insulated 1.2m x 2.4m	5 EA	4.62	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Process - Manddoors - interior 0.9m x 2.1m	24 EA	2.31	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Process - Windows - exterior insulated	4 EA	3.465	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Process - Windows - interior	4 EA	1.848	7	554	0.00	0	0.00	0	0.00	0	554
Process - Concrete Block Wall, fire wall	150 M2	0.3465	52	3,898	0.00	0	0.00	0	0.00	0	3,898
Process - 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1400 M2	0.595	833	62,475	0.00	0	0.00	0	0.00	0	62,475
Process - Lockers c/w aluminum bench	120 EA	0.7	84	6,300	0.00	0	0.00	0	0.00	0	6,300
Process - Privacy showers w/ drying cubicle	4 EA	7	28	2,100	0.00	0	0.00	0	0.00	0	2,100
Process - Washroom facilities	1 LS	21	21	1,575	0.00	0	0.00	0	0.00	0	1,575



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Process - Lunchroom counter w/ sink	1 LS	10.5	11	788	0.00	0	0.00	0	0.00	0	788
Process - Office Furniture for 6 offices	1 LS	28	28	2,100	0.00	0	0.00	0	0.00	0	2,100
Process - Office vinyl flooring	2100 M2	0.07	147	11,025	0.00	0	0.00	0	0.00	0	11,025
Process - Office ceiling tile	2100 M2	0.175	368	27,563	0.00	0	0.00	0	0.00	0	27,563
Security - Mandoors - exterior insulated 0.9m x 2.1m	2 EA	2.772	6	416	0.00	0	0.00	0	0.00	0	416
Security - Double doors - exterior insulated 1.2m x 2.4m	2 EA	4.62	9	693	0.00	0	0.00	0	0.00	0	693
Security - Mandoors - interior 0.9m x 2.1m	35 EA	2.31	81	6,064	0.00	0	0.00	0	0.00	0	6,064
Security - Windows - exterior insulated	10 EA	3.465	35	2,599	0.00	0	0.00	0	0.00	0	2,599
Security - Windows - interior	2 EA	1.848	4	277	0.00	0	0.00	0	0.00	0	277
Security - Concrete Block Wall, fire wall	100 M2	0.3465	35	2,599	0.00	0	0.00	0	0.00	0	2,599
Security - Stud wall, 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1000 M2	0.2975	298	22,313	0.00	0	0.00	0	0.00	0	22,313
Security - Office Furniture for 6 offices	1 LS	6.0984	6	457	0.00	0	0.00	0	0.00	0	457
Security - Office flooring	460 M2	0.0924	43	3,188	0.00	0	0.00	0	0.00	0	3,188
Security - Ceiling, suspended t-bar, 1" thick acoustical tiles	460 M2	0.1155	53	3,985	0.00	0	0.00	0	0.00	0	3,985
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			22,037	1,652,769		0		0		0	1,652,769
COMM 40 MECHANICAL											
HVAC allowance	6912 M2	0.0612	423	31,726	0.00	0	0.00	0	0.00	0	31,726
390-CK-01 Overhead Crane DMS Section, 15 Tonne 18kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Removal of Bulk Sample Plant	1 LS	0	0	0	0.00	0 1,550,000.00	1,550,000	0.00	0	0	1,550,000
Subtotal 40 MECHANICAL			459	34,404		0		1,550,000		0	1,584,404
COMM 50 PIPING											
Fire Suppression - including piping, alarm valves, sprinklers, hose reels, wall hydrants, FM200 system, etc.	1 LS	244.365	244	18,327	0.00	0	0.00	0	0.00	0	18,327



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				244	18,327		0		0		0	18,327
COMM 60 ELECTRICAL												
Lighting allowance	6912	M2	0.165	1,140	85,536	0.00	0	0.00	0	0.00	0	85,536
Electrical Services allowance, for HVAC, welding outlets, etc.	6912	M2	0.0495	342	25,661	0.00	0	0.00	0	0.00	0	25,661
Grounding allowance	6912	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL				1,483	111,197		0		0		0	111,197
AREA 3900 PROCESS BUILDING				25,178	1,888,363		0		1,557,120		0	3,445,483

AREA 4100 POWER PLANT & DISTRIBUTION

COMM 10 CIVIL												
Excavate to Expose Foundations	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Backfill after Foundation Removal	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Detail Excavation	743	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	261	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Piling, 168mm dia sch 80, approx 5.5m long, 2.5m above grade, 3m embedment, 26 piles	143	M	0.0891	13	956	0.00	0	0.00	0	0.00	0	956
Airport...WMP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Airport...WMP Feeder - Sand for: Install Buried Duct for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
WTP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
WTP Feeder - Sand for: Install Buried Duct (duct only) for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Service Bldg/Exist Accom - Trench for: Install Buried Duct for initial 100 m, 5 kV 3c 500MCM Teck feeder	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Service Bldg/Exist Accom - Sand for: Install Buried Duct for initial 100 m	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Service Bldg/Exist Accom - Allowance for Trench for: Install Buried Duct for all 600V services	600 M	0.018	11	810	0.00	0	0.00	0	0.00	0	810
Service Bldg/Exist Accom - Allowance for Sand for: Install Buried Duct for all 600V services	7.5 M3	0.0432	0	24	0.00	0	0.00	0	0.00	0	24
Intake Fan / Batch Plant Power Distribution: - Trench for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Intake Fan / Batch Plant Power Distribution: - Sand for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Intake Fan / Batch Plant Power Distribution: - Trench for:#2/0 5kV cable from power plant to #1 Intake fan	100 M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Intake Fan / Batch Plant Power Distribution: - Sand for:#2/0 5kV cable from power plant to #1 Intake fan	2 M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
Airport...WMP Feeder - Allocation for providing fill over cables in sensitive areas for 3c 3/0 AWG Verti-Teck Cable, to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			186	13,916		0		7,430		0	21,346
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Power Plant Building 54m x 36m x 12m high --> 1944m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Concrete - Lean Mix	116 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	109 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	270 M3	4.29	1,158	86,873	0.00	0	0.00	0	0.00	0	86,873
Concrete - Pedestals	33 M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Grade Beams	75 M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Concrete - Slab on Grade	461 M3	1.386	639	47,921	0.00	0	0.00	0	0.00	0	47,921



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	111 M3	2.211	245	18,407	0.00	0	0.00	0	0.00	0	18,407
Concrete - Misc & Equipment Pads	16 M3	2.409	39	2,891	0.00	0	0.00	0	0.00	0	2,891
Concrete - Embedded Metal	1800 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	3360 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	1950 M2	0.0495	97	7,239	0.00	0	0.00	0	0.00	0	7,239
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	216 M2	0.0495	11	802	0.00	0	0.00	0	0.00	0	802
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	180 M2	0.0495	9	668	0.00	0	0.00	0	0.00	0	668
Steel - Structural Light	48 T	6.006	288	21,622	0.00	0	0.00	0	0.00	0	21,622
Steel - Structural Medium	181 T	5.082	920	68,988	0.00	0	0.00	0	0.00	0	68,988
Steel - Structural Heavy	61 T	4.62	282	21,137	0.00	0	0.00	0	0.00	0	21,137
Steel - Crane Rails	2.5 T	4.62	12	866	0.00	0	0.00	0	0.00	0	866
Steel - Floor Grating	372 M2	0.3465	129	9,667	0.00	0	0.00	0	0.00	0	9,667
Steel - Stairs c/w handrail	30 M	0.5082	15	1,143	0.00	0	0.00	0	0.00	0	1,143
Steel - Ladders	10 M	0.5082	5	381	0.00	0	0.00	0	0.00	0	381
Steel - Handrails c/w kick plate	264 M	0.2772	73	5,489	0.00	0	0.00	0	0.00	0	5,489
Steel - Grout, for structural steel columns	6 M3	8.085	49	3,638	0.00	0	0.00	0	0.00	0	3,638
Cladding - Wall, insulated 65mm	2600 M2	0.15015	390	29,279	0.00	0	0.00	0	0.00	0	29,279
Cladding - Roof, insulated 65mm	2000 M2	0.15015	300	22,523	0.00	0	0.00	0	0.00	0	22,523
Overhead sectional doors - exterior insulated 6m x 5m	1 EA	92.4	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Overhead sectional steel doors - exterior insulated 3m x 3m	1 EA	23.1	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Mandoors - exterior insulated 0.9m x 2.1m	5 EA	2.772	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Double doors - exterior insulated 1.2m x 2.4m	4 EA	4.62	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Mandoors - interior 0.9m x 2.1m	10 EA	2.31	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Double doors - interior 1.2m x 2.4m	2 EA	4.62	9	693	0.00	0	0.00	0	0.00	0	693
Acoustical Metal doors - interior 0.9m x 2.1m	2 EA	2.772	6	416	0.00	0	0.00	0	0.00	0	416
Windows - interior, acoustical double glazed, 1.2 x 1.2m	3 EA	2.31	7	520	0.00	0	0.00	0	0.00	0	520
Ceiling, suspended t-bar, 1" thick acoustical tiles	90 M2	0.1155	10	780	0.00	0	0.00	0	0.00	0	780



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	756 M2	0.2975	225	16,868	0.00	0	0.00	0	0.00	0	16,868
Stud walls 92mm studs, 1 layer 16mm gwb, sealed and painted	210 M2	0.28	59	4,410	0.00	0	0.00	0	0.00	0	4,410
Allowance for Standby Generators and Switchgear Enclosure and Stack Foundations	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Steel frame on steel piles for generator support	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	1 T	6.006	6	450	0.00	0	0.00	0	0.00	0	450
Steel - Structural Medium	5 T	5.082	25	1,906	0.00	0	0.00	0	0.00	0	1,906
Steel - Stairs c/w handrail	6 M	0.5082	3	229	0.00	0	0.00	0	0.00	0	229
Airport...WMP Feeder - Small foundation and steel frame for 5 kV Junction Box, 3 Way with tap links. Allocation only. Verti-Teck feeder to Airstrip and others	7 EA	1.848	13	970	0.00	0	0.00	0	0.00	0	970
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			5,867	439,999		0		0		0	439,999
COMM 40 MECHANICAL											
Power Plant - Allowance for Air Handling Units	3 LS	336.6	1,010	75,735	0.00	0	0.00	0	0.00	0	75,735
Power Plant - Allowance for Glycol Pumps	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
410-CK-01 Power Plant Crane, 20 tonne	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
HVAC allowance	1944 M2	0.255	496	37,179	0.00	0	0.00	0	0.00	0	37,179
Power Plant - Main Power Diesel Generators;, industrial diesel engines with 4.4MW, 4.16kV, 60hz, 3ph, 0.8pf continuously rated generators, including design, site training, quality assurance services, transportation to YK	5 EA	765	3,825	286,875	0.00	0	0.00	0	0.00	0	286,875
Power Plant - Heat Recovery Modules, including heat recovery units, heat exchangers, radiators, booster pumps, control vales, complete with interconnection piping	5 LS	76.5	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Power Plant - Black Start Generator, 250kVA, 600V, complete with 400A circuit breaker, skid mounted, pre-assembled ready for site installation.	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
Allowance for Stack Installation	1 LS	50.49	50	3,787	0.00	0	0.00	0	0.00	0	3,787
Subtotal 40 MECHANICAL			5,858	439,340		0		0		0	439,340



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
Power Plant - Allowance for Piping, Fittings and connections	5 EA	330	1,650	123,750	0.00	0	0.00	0	0.00	0	123,750
Power Plant - Allowance for fuel line supply to daily tanks within the power plant	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Power Plant - Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, FM 200 system, etc.	1 LS	247.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Allowance for fuel line connections to fuel day tanks	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 50 PIPING			2,079	155,925		0		0		0	155,925
COMM 60 ELECTRICAL											
Power Plant - Stacks, free standing, 36 meters exhaust stacks including through wall connections.,	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
Power Plant - Combustion Air Tempering System c/w PLC controlled louvers and PID programs	5 LS	41.25	206	15,469	0.00	0	0.00	0	0.00	0	15,469
Power Plant - Ancillary tank system : oil storage tank (new), waste oil storage tank, glycol tank (new), used glycol tank and fuel day tank system.	1 LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Power Plant - Switchgear; 4.16kV, 1200A, 250MVA, 60hz, 3ph complete with six generators circuit breakers (one spare) with generators relay protection and metering, sixteen feeder circuit breakers with protection and metering	1 LS	148.5	149	11,138	0.00	0	0.00	0	0.00	0	11,138
Power Plant - Motor Control Centres; 600V, 3ph, 1200A, with six sections back to back, assembled and pre-wired for field installation	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Power Plant - Grounding Zig-Zag Transformer, 100kVA, 4.16kV, 60hz, Zig-Zag transformer complete with 2.4kV, 2.4kV, 96 ohm neutral grounding resistor	2 LS	33	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Power Plant - Unit Substations; 600A, 4.16kV load break switch, 1500kVA, 4.16kV-600 Volt transformer complete with 5A, 347V, 69 ohm neutral grounding resistor, 600V switchgear complete, completely assembled and shipped in sections for field installation.	1 LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 12" Cable tray Allowance for 5kV feeder 3X 3c 500 MCM from Generators junction box to 13.8kV switchgear located on the ground floor in power plant to Unit substation and 5MVA transformer for underground mine	600 M	0.12375	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Power Plant - 12" Cable tray Allowance for 1kV feeders from Motor Control Centres to various motors and loads	500 M	0.12375	62	4,641	0.00	0	0.00	0	0.00	0	4,641
Power Plant - 12" Cable tray Allowance for 1kV feeders from process plant Unit Substation to Power Plant Unit substation	150 M	0.12375	19	1,392	0.00	0	0.00	0	0.00	0	1,392
Power Plant - Running 2 inch conduit for communications and fiber optics cables within the power plant	200 M	0.0925	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Power Plant - Allowance for two 3x3C 500MCM, 1kV cable from power plant unit substation to two Motor Control Centres	200 M	0.165	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Power Plant - Allowance for 3C 4/0 AWG, 1kV cable from power plant unit substation to process plant unit substation along the utilidor (standby/emergency feeder)	150 M	0.0825	12	928	0.00	0	0.00	0	0.00	0	928
Power Plant - Allowance for power and control cables, for providing connections between generators, switchgear and unit substations.	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Power Plant - 3 x 3c 500MCM 5kV Teck Cable, from generators junction boxes 13.8kV switchgear located at ground floor.	400 M	0.165	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to unit substation within power plant - material by genset supplier	100 M	0.165	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Power Plant - Allowance for two 2 X 3c 500MCM, 5kV Teck Cables from power plant 4.16kV switchgear to 5MVA, 4.16-13.8kV Transformers	150 M	0.165	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to Grounding Zig-Zag Transformers and NGR - material by genset supplier	100 M	0.165	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Power Plant - Allowance for control cable installation and terminations	1 LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 500MCM, 5kV Teck Cable terminations kit for Power Plant Feeders	30 EA	1.32	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Power Plant - Generator control panels including generator governors, synchronization units, synchroscope, metering and PLC/DCS pre-assembled and pre-wired for field installation.	5 LS	41.25	206	15,469	0.00	0	0.00	0	0.00	0	15,469
Power Plant - Allowance for heat tracing the fuel distribution lines	1 LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Standby/Emergency Generators; three 1250 kW, 4.16kV	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
300mm (12") Cable tray Allowance for 5kV feeder 3c 250 MCM to from Generators junction box to 4.16kV switchgear located inside switchgear enclosure	50 M	0.12375	6	464	0.00	0	0.00	0	0.00	0	464
Allowance for generator enclosure and switchgear wiring interconnections	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Allowance for supply of power cables and communications for connection between three generators enclosures and one switchgear enclosure, complete and pre-connected prior to shipment.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for re-connection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes at generators enclosure to 4.16kV switchgear inside switchgear enclosure	120 M	0.66	79	5,940	0.00	0	0.00	0	0.00	0	5,940
3C-250MCM, 1kv, teck cable from 600V auto transfer switch inside switchgear enclosure to power plant 600V switchgear.	200 M	0.0495	10	743	0.00	0	0.00	0	0.00	0	743
500MCM, 5kV Teck Cable termination kits for Power Plant Feeders	10 EA	1.32	13	990	0.00	0	0.00	0	0.00	0	990
Emergency Generators - 75kW, 120/208V Mobile Emergency Generator for Emulsion Plant and remote areas	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Emergency Generators - 50kW, 120/208V Emergency Generator, for security system	1 LS	4.125	4	309	0.00	0	0.00	0	0.00	0	309
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 2 x 3c 3/0 AWG Teck Cable, WTP Feeder: 250m Tray from power plant, 100m in buried duct in sand	700	M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to WTP, 20 ft lengths of PVC conduit 6"	100	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Accommodation Complex: - 2 x 3c 250MCM 5kV Teck Cable, accommodation complex Feeder from power plant in cable tray within Utilidor	700	M	0.0825	58	4,331	0.00	0	0.00	0	0.00	0	4,331
Service Bldg/Exist Accom - 1 x 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder: 550m Tray from power plant to service complex and 200m in buried duct to existing Camp new unit sub	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - 5 kV Junction Box, 3 Way with tap links. Service Complex/Mine Dry/Existing accommodation complex Feeder.	1	EA	3.96	4	297	0.00	0	0.00	0	0.00	0	297
Service Bldg/Exist Accom - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 500MCM Teck feeder to Existing Accommodation complex, 20 ft lengths of PVC conduit 150mm (6")	200	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 500MCM 5kV Teck Cable, #2 Intake Fan and Batch Plant Feeder: 100m Buried from power plant to edge of grade and 100m buried along traffic area.	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 2/0AWG 5kV Teck Cable, #1 Intake Fan Feeder: 100m Buried from power plant to edge of grade	400	M	0.0825	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Intake Fan / Batch Plant Power Distribution: - 5 kV Junction Box, 3 Way with tap links. #2 Intake Fan/Batch Plant Tap.	1	EA	3.96	4	297	0.00	0	0.00	0	0.00	0	297
Process Plant Main Power Distribution: - 2 runs of 5 x 3c 500MCM 5kV Teck Cable, Process Plant Main 5 kV Switchgear Feed. Cable run in Tray from Power Plant.	3000	M	0.0825	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 300MCM 5kV Teck Cable, for each Process Plant 3MVA Transformer incoming cables	120	M	0.0825	10	743	0.00	0	0.00	0	0.00	0	743
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 4/0AWG 5kV Teck Cable, Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	800	M	0.0825	66	4,950	0.00	0	0.00	0	0.00	0	4,950



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Process Plant Main Power Distribution: - 1 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt EMCC to power plant transfer switch	300 M	0.0825	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Process Plant Main Power Distribution: - 10 runs of 3 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt switchgear to plant MCC's	1500 M	0.0825	124	9,281	0.00	0	0.00	0	0.00	0	9,281
Process Plant Main Power Distribution: - Process Plant Unit Substations	1 EA	74.25	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Process Plant Main Power Distribution: - Process Plant Main 4.16 kV Power Distribution Centre / Motor Control Centre lineup	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Process Plant Main Power Distribution: - Process Plant HPRC Variable Speed Dual Drive Package complete with one isolation transformer - included with mechanical equipment 322-CR-02 HPRC	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Battery and UPS System: - Process Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup. 1 unit of 200ah Battery bank and 80 Amp charger.	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Site Battery and UPS System: - Power Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup.	2 LS	9.9	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Site Battery and UPS System: - Process Plant Control System UPS. 1 units of 200ah Battery bank and 80 Amp charger.	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Site Battery and UPS System: - Power Plant Control System UPS. 1 unit of 200ah Battery bank and 80 Amp charger.	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Site Battery and UPS System: - Security 30kW 120/208V UPS. 1 unit of 800ah Battery bank and 100 Amp charger.	1 LS	26.4	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Airport...WMP Feeder - WMP Sump Pump 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Airport...WMP Feeder - Reclaim 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - Explosives Storage 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Airport...WMP Feeder - Emulsion Plant 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Airport...WMP Feeder - Airstrip/Laydown Lighting 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	9.9	10	743	0.00	0	0.00	0	0.00	0	743
WTP Feeder - WTP Unit Substations	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Accommodation Complex: - Accommodation Complex Unit Substation	1 EA	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Service Bldg/Exist Accom - Service Complex/Mine Dry complex 1500 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Dry Type Transformer, Secondary Switchgear	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Service Bldg/Exist Accom - Existing accommodation 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Intake Fan / Batch Plant Power Distribution: - Batch Plant/Aggregate Plant 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Intake Fan / Batch Plant Power Distribution: - #2 Intake Fan Heater controls 100kVA Unit Sub laid directly on rough grade (will require minimal leveling)	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Intake Fan / Batch Plant Power Distribution: - Intake Fan starters 522kW (700HP), installed and pre-wired shipped for site installations.	2 LS	66	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Airport...WMP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to Airport and other. Located from Powerhouse, along Utilidor and through main process plant	300 M	0.5	150	11,250	0.00	0	0.00	0	0.00	0	11,250



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to WTP. Located from Powerhouse, along Utilidor and through main process plant	250	M	0.0825	21	1,547	0.00	0	0.00	0	0.00	0	1,547
Accommodation Complex: - 300mm (12") Cable tray Allowance for 5kV feeder 2 x 3c 250 MCM to Accommodation complex from power plant to Accommodation complex in cable tray within Utilidor	350	M	0.12375	43	3,248	0.00	0	0.00	0	0.00	0	3,248
Accommodation Complex: - 2 x 300mm (12") Cable tray Allowance for 1kV feeder 3c 500 MCM from Accommodation complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water, inside Utilidor	250	M	0.12375	31	2,320	0.00	0	0.00	0	0.00	0	2,320
Service Bldg/Exist Accom - 300mm (12") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder. Located from Powerhouse, along Utilidor	550	M	0.0825	45	3,403	0.00	0	0.00	0	0.00	0	3,403
Process Plant Main Power Distribution: - 2 runs - 914mm (36") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Process Plant Main Power feed from Power Plant.	600	M	0.0825	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Process Plant Main Power Distribution: - 2 runs - 300mm (12") Cable tray Allowance for 5kV feeder 3c 4/0 Teck Cable, Emergency Generator to Process Plant 4.16kV Switchgear	400	M	0.0825	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Process Plant Main Power Distribution: - 10 runs - 300mm (12") Cable tray Allowance for 1kV feeder 3c 500mcm Teck Cable Process Plant 600V Switchgear to plant MCC's	500	M	0.0825	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 5kV feeders 3c 300MCM Teck Cable, Process Plant 3MVA Incoming Cable feeder tray	60	M	0.0825	5	371	0.00	0	0.00	0	0.00	0	371
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 1kV feeder 3c 500MCM Teck Cable, Process Plant 600V EMCC to Power Plant Transfer switch	300	M	0.0825	25	1,856	0.00	0	0.00	0	0.00	0	1,856
WTP Feeder - Allowance for 600 Volt cables 3x3C500MCM from 600V switchgear in unit substation to motor control centre	50	M	0.12375	6	464	0.00	0	0.00	0	0.00	0	464



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Accommodation Complex: - Allowance for four 3C-500MCM, 1kV cable from 600V switchgear in unit substation inside Accommodation Complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water	500	M	0.12375	62	4,641	0.00	0	0.00	0	0.00	0	4,641
Process Plant Main Power Distribution: - Bus Trunking System, connection from Process Plant Switchgear to Recovery plant MCC's at each level.	1	LS	52.8	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to WMP Sump Pump Units/Explosives Storage/Reclaim. 1 kV 3c #1AWG Teck Cable	100	M	0.0825	8	619	0.00	0	0.00	0	0.00	0	619
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to Airstrip/Emulsion. 1 kV 3c 350MCM Teck Cable	40	M	0.0825	3	248	0.00	0	0.00	0	0.00	0	248
Service Bldg/Exist Accommm - 600 Volt feeder cables from Existing accommodation complex unit substation to Existing Accommodation Main Bus. 2 x1 kV 3c 350MCM Teck Cable. Laid directly on ground in this location	60	M	0.0825	5	371	0.00	0	0.00	0	0.00	0	371
Service Bldg/Exist Accommm - Allowance to reconnect Existing pilot plant to new service complex electrical room. Re-Use 350MCM cable and add 100 M new cable. Required to be buried in duct in sand	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to reconnect Existing cold storage building to new service complex electrical room. Re-Use existing cable and add 100 M new cable. Required to be buried in duct in sand.	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to feed new fuel station to new service complex electrical room and re-feed existing fuel station. Required to be buried in duct in sand.	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to feed new freshwater pump station to new service complex electrical room and re-feed existing freshwater pump system station. Required to be buried in duct in sand.	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance for cable duct man holes for long runs for 600 Volt services	10	EA	6.6	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Intake Fan / Batch Plant Power Distribution: - Allowance for #1/#2 Intake Fan Controls LV Cable and terminations	1	LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - Allowance for Batch Plant/Aggregate Plant 600V Cable and terminations. For Main power connection to unit sub only	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.825	7	557	0.00	0	0.00	0	0.00	0	557
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.825	7	557	0.00	0	0.00	0	0.00	0	557
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.825	7	557	0.00	0	0.00	0	0.00	0	557
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.495	2	186	0.00	0	0.00	0	0.00	0	186
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.495	2	186	0.00	0	0.00	0	0.00	0	186
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.825	2	124	0.00	0	0.00	0	0.00	0	124
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.825	2	124	0.00	0	0.00	0	0.00	0	124
U/G Air Compressors - 1 x 3c 250MCM 5kV Teck Cable, from power plant along the utilidor and 500m buried from end of utilidor to the air compressor package	800 M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - 5kV 3c 3/0 Teck Cable terminations for WTP Feeder.	4 EA	0.99	4	297	0.00	0	0.00	0	0.00	0	297
Accommodation Complex: - 5kV 3c 250MCM Teck Cable terminations for Accommodation Feeder	4 EA	1.32	5	396	0.00	0	0.00	0	0.00	0	396
Service Bldg/Exist Accom - 1kV 3c 350MCM Teck Cable terminations for Existing accommodations complex Feeder.	4 EA	0.825	3	248	0.00	0	0.00	0	0.00	0	248
Service Bldg/Exist Accom - 5kV 3c 500MCM Teck Cable terminations for Service Complex/Mine Dry/Existing accommodations complex Feeder.	6 EA	1.32	8	594	0.00	0	0.00	0	0.00	0	594
Intake Fan / Batch Plant Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for #2 Intake Fan/Batch Plant Feeder	8 EA	1.32	11	792	0.00	0	0.00	0	0.00	0	792



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - 5kV 3c #2/0AWG Teck Cable terminations for #1 Intake Fan Feeder	4	EA	0.825	3	248	0.00	0	0.00	0	0.00	0	248
Process Plant Main Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for Process Plant Main Power feed from Power Plant.	20	EA	1.32	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Process Plant Main Power Distribution: - 5kV 3c 300MCM Teck Cable terminations for Process Plant 3MVA Transformer Incoming Cables	8	EA	1.32	11	792	0.00	0	0.00	0	0.00	0	792
Process Plant Main Power Distribution: - 5kV 3c 4/0 Teck Cable terminations for Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	8	EA	0.825	7	495	0.00	0	0.00	0	0.00	0	495
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt EMCC to power plant transfer switch feeder	2	EA	0.99	2	149	0.00	0	0.00	0	0.00	0	149
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt Switchgear to plant MCC's	60	EA	0.99	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Fire Detection System - Power Plant Fire Detection System complete with Fire Alarm Control Panel, Smoke Detectors, Bells, Sirens, and warning lights.	1	LS	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Fire Detection System - Process Plant, Fire Detection System complete with four Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	41.25	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Fire Detection System - Accommodation Complex Fire Detection System complete with five Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Fire Detection System - Mine Services Complex Fire Detection System complete with one Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Fire Detection System - Sewage Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Fire Detection System - Water Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619
Fire Detection System - Boiler House Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619
Fire Detection System - Potable Water Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619
Fire Detection System - Utilidor Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1	LS	8.25	8	619	0.00	0	0.00	0	0.00	0	619
Fire Detection System - Allowance for Plant Fire Detection Systems Ineterconnection	1	LS	41.25	41	3,094	0.00	0	0.00	0	0.00	0	3,094
Subtotal 60 ELECTRICAL				4,435	332,610		0		0		0	332,610
AREA 4100 POWER PLANT & DISTRIBUTION				18,424	1,381,789		0		7,430		0	1,389,219

AREA 4200 FUEL STORAGE & DISTRIBUTION

COMM 10 CIVIL

Fuel Storage HDPE Liner 60 mil	12900	M2	0.01188	153	11,494	0.00	0	0.00	0	0.00	0	11,494
Fuel Storage geotextile liner, above and beneath HDPE liner, non-woven 340 gram weight	38900	M2	0.0019008	74	5,546	0.00	0	0.00	0	0.00	0	5,546
Fuel Storage Crushed Sand, above and beneath geotextiles, 150mm thick	3900	M3	0.014256	56	4,170	0.00	0	0.00	0	0.00	0	4,170
Fuel Pipe Trench Excavation	750	M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Fuel Pipe Trench Backfill	750	M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Subtotal 10 CIVIL				433	32,459		0		7,500		0	39,959



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Concrete - Slab on Grade	72 M3	1.386	100	7,484	0.00	0	0.00	0	0.00	0	7,484
Concrete - Misc & Equipment Pads	2 M3	4.092	8	614	0.00	0	0.00	0	0.00	0	614
Concrete - Embedded Metal	300 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	30 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Leak-detecting manholes	6 EA	9.9	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			167	12,553		0		0		0	12,553
COMM 40 MECHANICAL											
Fuel Storage Tanks - 3 x 12.5 million litres, design, supply, erect	1 LS	6222	6,222	466,650	0.00	0	0.00	0	0.00	0	466,650
Fuel Unloading/Distribution pumping & Dispensing modules, skid mounted	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks - 4 x 35,000 L	4 EA	15.3	61	4,590	0.00	0	0.00	0	0.00	0	4,590
Subtotal 40 MECHANICAL			6,538	490,365		0		0		0	490,365
COMM 50 PIPING											
Fuel Pipe 76mm (3") CS sch 40, encased in 150mm (6") sch 40 pipes, buried in trenches approx 1.3m deep - from fuel tanks to plant	750 M	0.429	322	24,131	0.00	0	0.00	0	0.00	0	24,131
Subtotal 50 PIPING			322	24,131		0		0		0	24,131
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Subtotal 60 ELECTRICAL			33	2,475		0		0		0	2,475
COMM 70 INSTRUMENTATION AND CONTROLS											



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance	1 LS	24.75	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Subtotal 70 INSTRUMENTATION AND CONTROLS			25	1,856		0		0		0	1,856
AREA 4200 FUEL STORAGE & DISTRIBUTION			7,518	563,840		0		7,500		0	571,340

AREA 4300 GLYCOL SYSTEM

COMM 40 MECHANICAL

430-BR-01 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-02 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-03 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-HX-01 Mine Air Shaft No. 1 Pre-heat Coil	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
430-PU-01 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-02 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-03 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-04 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-05 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
Miscellaneous equipment - expansion tanks, strainers, etc	1 LS	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Glycol - Utilidors	70000 L	0.0153	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
Glycol - Powerhouse to Mine Intake	35000 L	0.0153	536	40,163	0.00	0	0.00	0	0.00	0	40,163
Subtotal 40 MECHANICAL			2,088	156,634		0		0		0	156,634



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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING												
Glycol Distribution Piping in Utilidors - 300mm dia (12") CS sch 40, 100mm (4") insulation, aluminum wrapped	500	M	0.495	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Glycol Distribution Piping in Utilidors - 250mm dia (10") CS sch 40, 100mm (4") insulation, aluminum wrapped	200	M	0.4125	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Glycol Distribution Piping in Utilidors - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped	500	M	0.363	182	13,613	0.00	0	0.00	0	0.00	0	13,613
Glycol Distribution Piping from Powerhouse to Mine Intake - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped, heat traced, installed on surface	1100	M	0.4125	454	34,031	0.00	0	0.00	0	0.00	0	34,031
Subtotal 50 PIPING				965	72,394		0		0		0	72,394
COMM 60 ELECTRICAL												
Electrical Allowance	1	LS	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Subtotal 60 ELECTRICAL				83	6,188		0		0		0	6,188
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance	1	LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Subtotal 70 INSTRUMENTATION AND CONTROLS				33	2,475		0		0		0	2,475
AREA 4300 GLYCOL SYSTEM				3,169	237,690		0		0		0	237,690

AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM

COMM 10 CIVIL



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Freshwater Intake Washed -600mm Rock Embankment	3300 M3	0.05	165	12,375	0.00	0	5.00	16,500	0.00	0	28,875
Freshwater Intake Pipebed, -150mm crushed gravel subgrade	50 M3	0.015444	1	58	0.00	0	0.00	0	0.00	0	58
Freshwater Intake Pipebed, -200mm crushed gravel bedding	20 M3	0.015444	0	23	0.00	0	0.00	0	0.00	0	23
Subtotal 10 CIVIL			166	12,456		0		16,500		0	28,956
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Steel Well, perforated, 1m dia x 7m long, allowance	3 EA	9.24	28	2,079	0.00	0	0.00	0	0.00	0	2,079
Water Pumphouse Building 4m x 6m, insulated and heated, allowance	1 LS	115.5	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			143	10,742		0		0		0	10,742
COMM 40 MECHANICAL											
Water Storage Tank, 200m3, 5m Dia., 10m High	11500 KG	0.00765	88	6,598	0.00	0	0.00	0	0.00	0	6,598
Fresh Water Intake Pumps, turbine, 3 pumps, 12m3/hr, 42m, 3.73kW, on skid	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Potable Water Treatment Skid, filtration/chlorination, package	1 LS	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Subtotal 40 MECHANICAL			190	14,248		0		0		0	14,248
COMM 50 PIPING											
Piping Fresh Water Intake 100mm (4") HDPE heat traced and insulated, on surface - from intake to process plant	400 M	0.099	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Piping Fresh Water Intake 100mm (4") CS sch 40, with anti-sweat insulation, in utilidor & buildings	800 M	0.198	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Valve and Fitting Allowance Water Fire/Fresh Water Pumphouse	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900



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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				330	24,750		0		0		0	24,750
COMM 60 ELECTRICAL												
Electrical Allowance	1	LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Subtotal 60 ELECTRICAL				33	2,475		0		0		0	2,475
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance	1	LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 70 INSTRUMENTATION AND CONTROLS				50	3,713		0		0		0	3,713
AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM				912	68,383		0		16,500		0	84,883

AREA 4500 SEWAGE SYSTEM

COMM 40 MECHANICAL												
Sewage Treatment Plant	1	LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Subtotal 40 MECHANICAL				255	19,125		0		0		0	19,125
COMM 50 PIPING												
Piping Allowance	1	LS	115.5	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Subtotal 50 PIPING				116	8,663		0		0		0	8,663
COMM 60 ELECTRICAL												



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Electrical Allowance	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 60 ELECTRICAL			50	3,713		0		0		0	3,713
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Subtotal 70 INSTRUMENTATION AND CONTROLS			33	2,475		0		0		0	2,475
AREA 4500 SEWAGE SYSTEM			453	33,975		0		0		0	33,975

AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR

COMM 10 CIVIL											
Excavation to Expose Foundations	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Backfill after Foundation Removal	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Piling, 168mm dia sch 80, approx 9m long, 1.5m above ground	720 M	0.0891	64	4,811	0.00	0	0.00	0	0.00	0	4,811
Subtotal 10 CIVIL			114	8,561		0		2,500		0	11,061
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Building - STP, PWTP, Boiler, Incinerator 80m x 20m x 6m high --> 1600m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Elevated Slab	320 M3	2.211	708	53,064	0.00	0	0.00	0	0.00	0	53,064
Concrete - Misc & Equipment Pads	15 M3	2.409	36	2,710	0.00	0	0.00	0	0.00	0	2,710
Building Steel - Structural Light	42 T	6.006	252	18,919	0.00	0	0.00	0	0.00	0	18,919
Building Steel - Structural Medium	18 T	5.082	91	6,861	0.00	0	0.00	0	0.00	0	6,861



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Building Steel - Structural Heavy	38 T	4.62	176	13,167	0.00	0	0.00	0	0.00	0	13,167
Internal Floor Steel - Structural Medium	18 T	5.082	91	6,861	0.00	0	0.00	0	0.00	0	6,861
Internal Floor Steel - Structural Heavy	31 T	4.62	143	10,742	0.00	0	0.00	0	0.00	0	10,742
Steel - Stairs c/w handrail	8 M	0.5082	4	305	0.00	0	0.00	0	0.00	0	305
Cladding - Wall, insulated 65mm	1265 M2	0.15015	190	14,245	0.00	0	0.00	0	0.00	0	14,245
Cladding - Roof, insulated 65mm	1680 M2	0.15015	252	18,919	0.00	0	0.00	0	0.00	0	18,919
Cladding - single skin 26ga liner to soffit	1600 M2	0.1155	185	13,860	0.00	0	0.00	0	0.00	0	13,860
Exterior: fiberglass insulation R-30 c/w reinforced vapour barrier	2500 M2	0.02772	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Personnel Manddoors - exterior insulated 0.9m x 2.1m	11 EA	2.772	30	2,287	0.00	0	0.00	0	0.00	0	2,287
Double doors - exterior insulated 1.2m x 2.1m	2 EA	4.62	9	693	0.00	0	0.00	0	0.00	0	693
Overhead doors - exterior insulated 3m x 3m	3 EA	23.1	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Overhead doors - exterior insulated 6m x 3m	1 EA	57.75	58	4,331	0.00	0	0.00	0	0.00	0	4,331
Concrete Block Wall, fire wall	390 M2	0.3465	135	10,135	0.00	0	0.00	0	0.00	0	10,135
Interior Finishes, allowance	1 LS	69.3	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			2,591	194,300		0		0		0	194,300
COMM 40 MECHANICAL											
HVAC allowance	1600 M2	0.255	408	30,600	0.00	0	0.00	0	0.00	0	30,600
Subtotal 40 MECHANICAL			408	30,600		0		0		0	30,600
COMM 50 PIPING											
Fire Suppression - including piping, hoses, wall hydrants, etc.	1 LS	45.54	46	3,416	0.00	0	0.00	0	0.00	0	3,416
Subtotal 50 PIPING			46	3,416		0		0		0	3,416
COMM 60 ELECTRICAL											
Electrical Services allowance, for HVAC, welding outlets, etc.	1600 M2	0.0495	79	5,940	0.00	0	0.00	0	0.00	0	5,940



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting allowance	1600	M2	0.0825	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Grounding allowance	1600	M2	0.033	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Subtotal 60 ELECTRICAL				264	19,800		0		0		0	19,800
AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR				3,422	256,677		0		2,500		0	259,177

AREA 4800 WASTE DISPOSAL

COMM 40 MECHANICAL

Waste Disposal Incinerator 75 - 100 kg/hr	2	EA	40.8	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL				82	6,120		0		0		0	6,120

COMM 50 PIPING

Piping Allowance	1	LS	24.75	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Subtotal 50 PIPING				25	1,856		0		0		0	1,856

COMM 60 ELECTRICAL

Electrical Allowance	1	LS	16.5	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Subtotal 60 ELECTRICAL				17	1,238		0		0		0	1,238

COMM 70 INSTRUMENTATION AND CONTROLS

Instrumentation Allowance	1	LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Subtotal 70 INSTRUMENTATION AND CONTROLS				13	990		0		0		0	990



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 4800 WASTE DISPOSAL				136	10,204		0		0		0	10,204

AREA 4900 COMMUNICATIONS

COMM 70 INSTRUMENTATION AND CONTROLS

Fibre Optic Cable System - includes trunk hybrid aerial cable, armoured cable, rack mount enclosure for main trunk breakout and hardware, connector, patch cords	1	LS	138.6	139	10,395	0.00	0	0.00	0	0.00	0	10,395
Telecommunications - Satellite, telephone, emergency radio system, cable TV, internet access, video conferencing	1	LS	1237.5	1,238	92,813	0.00	0	0.00	0	0.00	0	92,813
Information Technology (IT) - hardware and application software	1	LS	297	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Subtotal 70 INSTRUMENTATION AND CONTROLS				1,673	125,483		0		0		0	125,483

AREA 4900 COMMUNICATIONS				1,673	125,483		0		0		0	125,483
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AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE

COMM 10 CIVIL

Backfill after Foundation Removal	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Excavation to Expose Foundations	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Backfill after Foundation Removal	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Excavation to Expose Foundations	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Detail Excavation	1343	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1990	M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Piling, 168mm dia sch 80, approx 10.6m long, penetrating 2m into bedrock	1780 M	0.0891	159	11,895	0.00	0	0.00	0	0.00	0	11,895
Subtotal 10 CIVIL			626	46,980		0		23,390		0	70,370
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Mine Service Complex 110m x 43m x 12m high --> 4730m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	18 ea	3.3	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Concrete - Footings, Pile Caps	112 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	35 M3	4.29	150	11,261	0.00	0	0.00	0	0.00	0	11,261
Concrete - Grade Beams	135 M3	4.785	646	48,448	0.00	0	0.00	0	0.00	0	48,448
Concrete - Walls	12 M3	4.884	59	4,396	0.00	0	0.00	0	0.00	0	4,396
Concrete - Slab on Grade	1235 M3	1.386	1,712	128,378	0.00	0	0.00	0	0.00	0	128,378
Concrete - Elevated Slab	502 M3	2.211	1,110	83,244	0.00	0	0.00	0	0.00	0	83,244
Concrete - Misc & Equipment Pads	98 M3	2.409	236	17,706	0.00	0	0.00	0	0.00	0	17,706
Concrete - Embedded Metal	2000 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	2200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	4730 M2	0.0495	234	17,560	0.00	0	0.00	0	0.00	0	17,560
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	370 M2	0.0495	18	1,374	0.00	0	0.00	0	0.00	0	1,374
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	310 M2	0.0495	15	1,151	-0.00	0	0.00	0	0.00	0	1,151
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	5680 M2	0.0495	281	21,087	0.00	0	0.00	0	0.00	0	21,087
Internal Steel - Structural Light	8 T	6.006	48	3,604	0.00	0	0.00	0	0.00	0	3,604
Internal Steel - Structural Medium	436 T	5.082	2,216	166,181	0.00	0	0.00	0	0.00	0	166,181
Internal Steel - Structural Heavy	12 T	4.62	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Internal Steel - Crane Rails	8 T	4.62	37	2,772	0.00	0	0.00	0	0.00	0	2,772
Internal Steel - Floor Grating	3 M2	0.3465	1	78	0.00	0	0.00	0	0.00	0	78
Internal Steel - Stairs c/w handrail	18 M	0.5082	9	686	0.00	0	0.00	0	0.00	0	686
Internal Steel - Handrails c/w kick plate	5 M	0.2772	1	104	0.00	0	0.00	0	0.00	0	104



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Grout, for structural Internal Steel columns	2 M3	8.085	16	1,213	0.00	0	0.00	0	0.00	0	1,213
Trench & Sump Covers, heavy duty grating	50 M2	0.462	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Mine Service Complex, engineered structure	1 LS	1824.9	1,825	136,868	0.00	0	0.00	0	0.00	0	136,868
Grnd Flr - Interior block walls	1705 M2	0.3465	591	44,309	0.00	0	0.00	0	0.00	0	44,309
Grnd Flr - Interior framed wall: 150mm steel studs & 16mm thk type'x' gwb both sides	3130 M2	0.2975	931	69,838	0.00	0	0.00	0	0.00	0	69,838
Grnd Flr - Painted epoxy floor finish	360 M2	0.0693	25	1,871	0.00	0	0.00	0	0.00	0	1,871
Grnd Flr - vinyl sheet flooring	245 M2	0.0462	11	849	0.00	0	0.00	0	0.00	0	849
Grnd Flr - Suspended T-bar ceiling system c/w all accessories	700 M2	0.1155	81	6,064	0.00	0	0.00	0	0.00	0	6,064
Grnd Flr - Sectional Overhead Doors - interior, c/w electric operator and all accessories, 3.6m x 3.6m	3 EA	23.1	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Grnd Flr - Single Personnel Mandoors with frame and hardware - exterior, insulated including attachments, 0.9m x 2.1m	13 EA	2.772	36	2,703	0.00	0	0.00	0	0.00	0	2,703
Grnd Flr - Double Personnel Mandoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	10 EA	4.62	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Grnd Flr - Single Personnel Mandoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	22 EA	2.31	51	3,812	0.00	0	0.00	0	0.00	0	3,812
Grnd Flr - Double glazed Windows -exterior c/w Aluminum frame and attachments, 1.8m x 1.2m	13 EA	2.31	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Grnd Flr - Modular offices - complete with floor, walls, roof, door and window assembly	3 EA	18.48	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Grnd Flr - Washroom facilities	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Grnd Flr - Warehouse shelving	1 LS	115.5	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Grnd Flr - Offices - furniture (desk, swivel chair, side chair & file cabinet)	6 EA	0.0924	1	42	0.00	0	0.00	0	0.00	0	42
Grnd Flr - Meeting rooms (tables- 2 and chairs-16)	2 EA	2.31	5	347	0.00	0	0.00	0	0.00	0	347
2nd Flr - Interior 2-hr fire rated framed wall: 150mm steel studs & 16mm thk type 'x' gwb both sides	980 M2	0.2975	292	21,866	0.00	0	0.00	0	0.00	0	21,866
2nd Flr - Interior framed wall: 92mm steel studs & 16mm thick gwb both sides & insulation	1238 M2	0.28	347	25,998	0.00	0	0.00	0	0.00	0	25,998
2nd Flr - vinyl sheet flooring in Dry	1140 M2	0.0462	53	3,950	0.00	0	0.00	0	0.00	0	3,950
2nd Flr - vinyl sheet flooring in Offices	1305 M2	0.0462	60	4,522	0.00	0	0.00	0	0.00	0	4,522



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Dry	1140 M2	0.1155	132	9,875	0.00	0	0.00	0	0.00	0	9,875
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Offices	1305 M2	0.1155	151	11,305	0.00	0	0.00	0	0.00	0	11,305
2nd Flr - Painted epoxy floor finish	60 M2	0.0693	4	312	0.00	0	0.00	0	0.00	0	312
2nd Flr - Double Mandoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	1 EA	4.62	5	347	0.00	0	0.00	0	0.00	0	347
2nd Flr - Single Mandoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	55 EA	2.31	127	9,529	0.00	0	0.00	0	0.00	0	9,529
2nd Flr - Double glazed Windows-exterior c/w Aluminum frame and attachments	23 EA	2.31	53	3,985	0.00	0	0.00	0	0.00	0	3,985
2nd Flr - Hanging baskets c/w suspension system, metal lockers, aluminum bench, 440 ea	1 LS	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
2nd Flr - HD washing machine	3 EA	2.31	7	520	0.00	0	0.00	0	0.00	0	520
2nd Flr - HD dryer	3 EA	2.31	7	520	0.00	0	0.00	0	0.00	0	520
2nd Flr - Washroom & shower facilities	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
2nd Flr - Lunch room table	6 EA	0.462	3	208	0.00	0	0.00	0	0.00	0	208
2nd Flr - Lunch room chairs	26 EA	0.0462	1	90	0.00	0	0.00	0	0.00	0	90
2nd Flr - Full size lunch room fridge	1 EA	0.924	1	69	0.00	0	0.00	0	0.00	0	69
2nd Flr - Lunch/coffee room counters	8 M	1.648	15	1,109	0.00	0	0.00	0	0.00	0	1,109
2nd Flr - Office equipment (copiers-3;fax machines-2;plotters-1;printers-3)	1 LS	9.24	9	693	0.00	0	0.00	0	0.00	0	693
2nd Flr - Conference & training room tables	3 EA	0.0462	0	10	0.00	0	0.00	0	0.00	0	10
2nd Flr - Conference & training room chairs	30 EA	0.0462	1	104	0.00	0	0.00	0	0.00	0	104
2nd Flr - Offices-desks and chairs (41 desks, 42 swivel chairs and 41 side chairs)	41 EA	0.0924	4	284	0.00	0	0.00	0	0.00	0	284
2nd Flr - Offices-vertical, 4-drawer file cabinet (50) and lateral file cabinet (25)	75 EA	0.0462	3	260	0.00	0	0.00	0	0.00	0	260
2nd Flr - Offices/library bookshelves	70 EA	0.0231	2	121	0.00	0	0.00	0	0.00	0	121
2nd Flr - Conference/training room whiteboard	3 EA	0.462	1	104	0.00	0	0.00	0	0.00	0	104
2nd Flr - Allowance - office cubicles, reference tables, drawing stick files	1 LS	4.62	5	347	0.00	0	0.00	0	0.00	0	347



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				12,405	930,406		0		0		0	930,406
COMM 40 MECHANICAL												
510-CK-01 Shop Crane, 10 tonne	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
510-CK-02 Heavy Vehicle Shop Crane, 20/5 tonne	1	EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
510-CK-03 Electrical Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-04 Welding Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-05 Machine Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Lube Tanks, 10,000L	4	EA	10.2	41	3,060	0.00	0	0.00	0	0.00	0	3,060
Shop Tools	1	LS	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance	4730	M2	0.255	1,206	90,461	0.00	0	0.00	0	0.00	0	90,461
Subtotal 40 MECHANICAL				1,446	108,439		0		0		0	108,439
COMM 50 PIPING												
Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, etc.	1	LS	279.345	279	20,951	0.00	0	0.00	0	0.00	0	20,951
Subtotal 50 PIPING				279	20,951		0		0		0	20,951
COMM 60 ELECTRICAL												
Lighting allowance	4730	M2	0.1155	546	40,974	0.00	0	0.00	0	0.00	0	40,974
Electrical Services allowance, for HVAC, welding outlets, etc.	4730	M2	0.0495	234	17,560	0.00	0	0.00	0	0.00	0	17,560
Subtotal 60 ELECTRICAL				780	58,534		0		0		0	58,534



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE				15,537	1,165,309		0		23,390		0	1,188,699

AREA 5200 CAMP ACCOMMODATION & FACILITIES

COMM 10 CIVIL

Permanent Camp Dorms - Piling, 168mm dia L5, approx 4m long, 1.5m above grade, 2m into bedrock	1824	M	0.0891	163	12,189	0.00	0	0.00	0	0.00	0	12,189
Permanent Camp Core - Piling, 168mm dia L5, approx 9m long, 1.5m above grade, 3m into bedrock	1350	M	0.0891	120	9,021	0.00	0	0.00	0	0.00	0	9,021
Subtotal 10 CIVIL				283	21,210		0		0		0	21,210

COMM 20 STRUCTURAL AND ARCHITECTURAL

Permanent Camp Dorms - Accommodation Modules for 264 rooms	1	LS	5320	5,320	399,000	0.00	0	0.00	0	0.00	0	399,000
Permanent Camp Dorms Steel - Structural Light	6	T	6.006	36	2,703	0.00	0	0.00	0	0.00	0	2,703
Permanent Camp Dorms Steel - Structural Medium	15	T	5.082	76	5,717	0.00	0	0.00	0	0.00	0	5,717
Permanent Camp Dorms Steel - Structural Heavy	112	T	4.62	517	38,808	0.00	0	0.00	0	0.00	0	38,808
Permanent Camp Dorms Steel - Stairs c/w handrail	6	M	0.5082	3	229	0.00	0	0.00	0	0.00	0	229
Permanent Camp Core Steel - Structural Light	15	T	6.006	90	6,757	0.00	0	0.00	0	0.00	0	6,757
Permanent Camp Core Steel - Structural Medium	80	T	5.082	407	30,492	0.00	0	0.00	0	0.00	0	30,492
Permanent Camp Core Steel - Structural Heavy	32	T	4.62	148	11,088	0.00	0	0.00	0	0.00	0	11,088
Permanent Camp Core Steel - Structural HSS Light	5	T	6.006	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Permanent Camp Core Steel - Stairs c/w handrail	15	M	0.5082	8	572	0.00	0	0.00	0	0.00	0	572
Permanent Camp Core Timber - Plywood 19mm, construction type	9969	M2	0.0462	461	34,543	0.00	0	0.00	0	0.00	0	34,543
Permanent Camp Core Timber - Plywood 16mm, construction type	3323	M2	0.0462	154	11,514	0.00	0	0.00	0	0.00	0	11,514
Permanent Camp Core Timber - Plywood 13mm, G1S	1300	M2	0.0462	60	4,505	0.00	0	0.00	0	0.00	0	4,505



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Permanent Camp Core Timber - Plywood 10mm, construction type	6646 M2	0.0462	307	23,028	0.00	0	0.00	0	0.00	0	23,028
Permanent Camp Core Timber - Plywood 13mm, construction type, internal load bearing walls	3400 M2	0.0462	157	11,781	0.00	0	0.00	0	0.00	0	11,781
Permanent Camp Core Timber - Wood Trusses	1 LS	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
Permanent Camp Core Timber - Wood Truss #1 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss #2 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 48m span, 23 ea	23 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 34m span, 20ea	20 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Misc Timber, allow 12000 board feet of 2x6	1 LS	115.5	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Permanent Camp Core Timber - Joists, Parallam Beams, TimberStrain LSL	1 LS	2079	2,079	155,925	0.00	0	0.00	0	0.00	0	155,925
Permanent Camp Core Timber - TJI Joist TJI/H90 x 356, 1570m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TJI Joist TJI/L65 x 302, 15,722m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 610, 144m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 559, 196m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 178 x 660, 21m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 302, 800m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 356, 200m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Exterior: insulated standing seam roof system (Vicwest Marquis 3000) c/w insulation, clips etc. - roof	2500 M2	0.1155	289	21,656	0.00	0	0.00	0	0.00	0	21,656
Exterior: fiberglass insulation R-30 c/w reinforced vapour barrier	2500 M2	0.02772	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Exterior: metal wall cladding (Vicwest -AD 300) c/w concealed fastener	1755 M2	0.1155	203	15,203	0.00	0	0.00	0	0.00	0	15,203



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Exterior: Perimeter expanded metal skirting on horizontal & vert. supports	293 M2	0.15015	44	3,300	0.00	0	0.00	0	0.00	0	3,300
Exterior: framed wall: 38x140 studs, 10mm thick ply sheathing & 38x38 strapping both sides	1755 M2	0.2079	365	27,365	0.00	0	0.00	0	0.00	0	27,365
Exterior: framed wall- exterior face "Tyvek" air barrier over strapping	1755 M2	0.00693	12	912	0.00	0	0.00	0	0.00	0	912
Exterior: framed wall- interior face:16mm thick gwb , painted or vinyl wall covering	1755 M2	0.06006	105	7,905	0.00	0	0.00	0	0.00	0	7,905
Exterior: framed wall- R-22 fiberglass batt insulation	1755 M2	0.02772	49	3,649	0.00	0	0.00	0	0.00	0	3,649
Exterior: framed wall- interior face: poly Vapour barrier over ply sheathing	1755 M2	0.00693	12	912	0.00	0	0.00	0	0.00	0	912
Exterior: framed wall- exterior face; 19mm thick fiberglass insulation between strapping	1755 M2	0.02772	49	3,649	0.00	0	0.00	0	0.00	0	3,649
Exterior: soffit fiberglass insulation (R-30) and 10mm treated exterior grade plywood soffit	2465 M2	0.1155	285	21,353	0.00	0	0.00	0	0.00	0	21,353
Exterior: fiberglass thermally efficient double glazed windows with Low-E (2Mx 1.5M)	34 EA	3.465	118	8,836	0.00	0	0.00	0	0.00	0	8,836
Exterior: insulated sectional overhead door c/w all accessories (3.1M x 3.6M)	1 EA	30.03	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Exterior: insulated main entrance doors - hollow metal/ glass c/w ps frame and hardware	3 EA	6.93	21	1,559	0.00	0	0.00	0	0.00	0	1,559
Exterior: double glazed main entrance curtain wall c/w alum or struct steel tube framing	207 M2	0.693	143	10,759	0.00	0	0.00	0	0.00	0	10,759
Exterior: insulated doors c/w ps frame and hardware	3 EA	2.772	8	624	0.00	0	0.00	0	0.00	0	624
Exterior: insulated double door c/w ps frame & hardware	2 EA	4.62	9	693	0.00	0	0.00	0	0.00	0	693
Interior: framed wall- 38x89 studs, insulation, & 16mm thick gwb painted each side	425 M2	0.19635	83	6,259	0.00	0	0.00	0	0.00	0	6,259
Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	170 M2	0.2975	51	3,793	0.00	0	0.00	0	0.00	0	3,793
Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	1105 M2	0.2975	329	24,655	0.00	0	0.00	0	0.00	0	24,655
Flooring: carpet over underlay	1800 M2	0.0462	83	6,237	0.00	0	0.00	0	0.00	0	6,237
Flooring: seamless vinyl sheet with all joint sealed	410 M2	0.0462	19	1,421	0.00	0	0.00	0	0.00	0	1,421
Flooring: galvanized checckered plate floor in food storage	130 M2	0.2772	36	2,703	0.00	0	0.00	0	0.00	0	2,703
Flooring : cushion vinyl sheet flooring	465 M2	0.0693	32	2,417	0.00	0	0.00	0	0.00	0	2,417



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Flooring: ceramic tiles(washrooms)	50 M2	0.3003	15	1,126	0.00	0	0.00	0	0.00	0	1,126
Ceiling: 16mm thick gwb painted	340 M2	1.1375	387	29,006	0.00	0	0.00	0	0.00	0	29,006
Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2100 M2	0.1155	243	18,191	0.00	0	0.00	0	0.00	0	18,191
Interior: solid core swing door c/w ps frame and hardware	22 EA	2.31	51	3,812	0.00	0	0.00	0	0.00	0	3,812
Interior: solid core swing double door c/w ps frame and hardware	2 EA	4.62	9	693	0.00	0	0.00	0	0.00	0	693
Elevator: 3000lbs capacity, hydraulic freight (sized for emergency ambulance stretcher)	1 EA	69.3	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Main stairs: Steel fabricated with carpeted thread / riser and metal / wood railing	1 EA	13.86	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Dining Room: round tables - wood/metal	19 EA	0.462	9	658	0.00	0	0.00	0	0.00	0	658
Dining Room: chairs - wood/metal	1 SET	9.24	9	693	0.00	0	0.00	0	0.00	0	693
Check-in - Office: furniture (desk, swivel chair, side chair & file cabinet)	4 EA	2.31	9	693	0.00	0	0.00	0	0.00	0	693
Washroom facilities	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Storage lockers for employees offsite 600w x 600d x1830h	250 EA	0.462	116	8,663	0.00	0	0.00	0	0.00	0	8,663
First Aid: Hospital beds-2, chairs-6, cabinet-1, accessories	1 LS	4.62	5	347	0.00	0	0.00	0	0.00	0	347
Serving Area	1 LS	115.5	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Dishwasher Area	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Food Preparation Area	1 LS	92.4	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Bakery Area	1 LS	92.4	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Coolers and Freezers	1 LS	173.25	173	12,994	0.00	0	0.00	0	0.00	0	12,994
Butcher Shop	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Pot Washing Area	1 LS	23.1	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Kitchen	1 LS	50.82	51	3,812	0.00	0	0.00	0	0.00	0	3,812
Lunch Make-up Counter and Dry Food Storage	1 LS	184.8	185	13,860	0.00	0	0.00	0	0.00	0	13,860
Housekeeping	1 LS	4.62	5	347	0.00	0	0.00	0	0.00	0	347
Secondary stairs w/ intermediate landing : SII fabricated with carpeted thread / riser and metal / wood railing	1 EA	13.86	14	1,040	0.00	0	0.00	0	0.00	0	1,040



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security Office - desk(2); upholstered chair(4); Lateral file cabinet (2);file cabinet (2)	1 SET	4.62	5	347	0.00	0	0.00	0	0.00	0	347
X-Ray equipment in baggage handling.	1 LS	4.62	5	347	0.00	0	0.00	0	0.00	0	347
Storage lockers in baggage handling.	1 LS	4.62	5	347	0.00	0	0.00	0	0.00	0	347
Second Floor Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	1445 M2	0.2975	430	32,242	0.00	0	0.00	0	0.00	0	32,242
Second Floor Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	361 M2	0.2975	107	8,055	0.00	0	0.00	0	0.00	0	8,055
Second Floor Flooring: carpet over underlay	1630 M2	0.0462	75	5,648	0.00	0	0.00	0	0.00	0	5,648
Second Floor Flooring: seamless vinyl sheet with all joint sealed	430 M2	0.0462	20	1,490	0.00	0	0.00	0	0.00	0	1,490
Second Floor Flooring: ceramic tiles(washrooms)	170 M2	0.3003	51	3,829	0.00	0	0.00	0	0.00	0	3,829
Second Floor Ceiling: 16mm thick gwb painted	200 M2	1.1375	228	17,063	0.00	0	0.00	0	0.00	0	17,063
Second Floor Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2700 M2	0.1155	312	23,389	0.00	0	0.00	0	0.00	0	23,389
Second Floor Interior: solid core swing single door c/w ps frame and hardware	22 EA	2.31	51	3,812	0.00	0	0.00	0	0.00	0	3,812
Second Floor Interior: solid core swing double door c/w ps frame and hardware	4 EA	4.62	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	62 EA	3.465	215	16,112	0.00	0	0.00	0	0.00	0	16,112
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	2 EA	3.465	7	520	0.00	0	0.00	0	0.00	0	520
Changerooms	1 LS	138.6	139	10,395	0.00	0	0.00	0	0.00	0	10,395
TV Rooms & Open Lounge Area	1 LS	27.72	28	2,079	0.00	0	0.00	0	0.00	0	2,079
Games Room	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Exercise Room & Change Rooms	1 LS	36.96	37	2,772	0.00	0	0.00	0	0.00	0	2,772
Mail Boxes	1 LS	27.72	28	2,079	0.00	0	0.00	0	0.00	0	2,079
Orientation Room	1 LS	23.1	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Library - Learning Centre	1 LS	46.2	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			16,341	1,225,599		0		0		0	1,225,599



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COMM 40 MECHANICAL												
Mechanical and HVAC, allowance	4930	M2	0.51	2,514	188,573	0.00	0	0.00	0	0.00	0	188,573
Subtotal 40 MECHANICAL				2,514	188,573		0		0		0	188,573
COMM 50 PIPING												
Fire Suppression for Core - including piping, sprinklers in every bedroom, hose reels, extinguishers, etc.	1	LS	272.25	272	20,419	0.00	0	0.00	0	0.00	0	20,419
Subtotal 50 PIPING				272	20,419		0		0		0	20,419
COMM 60 ELECTRICAL												
Electrical allowance	4930	M2	0.198	976	73,211	0.00	0	0.00	0	0.00	0	73,211
Subtotal 60 ELECTRICAL				976	73,211		0		0		0	73,211
AREA 5200 CAMP ACCOMMODATION & FACILITIES				20,387	1,529,011		0		0		0	1,529,011

AREA 5300 SECURITY SYSTEMS

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Security Building included at end of Process Building, in Area 3900	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
COMM 70 INSTRUMENTATION AND CONTROLS												



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security System - includes digital cameras, monitors, card readers, cable, monitoring hardware in YK, baggage X-ray system	1 LS	825	825	61,875	0.00	0	0.00	0	0.00	0	61,875
Subtotal 70 INSTRUMENTATION AND CONTROLS			825	61,875		0		0		0	61,875
AREA 5300 SECURITY SYSTEMS			825	61,875		0		0		0	61,875

AREA 5400 LABORATORY FACILITIES

COMM 20 STRUCTURAL AND ARCHITECTURAL											
Laboratory Facilities - located in Process Building, in Area 3900	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Laboratory Equipment only, allowance	1 LS	69.3	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			69	5,198		0		0		0	5,198
AREA 5400 LABORATORY FACILITIES			69	5,198		0		0		0	5,198

AREA 5500 UTILIDORS

COMM 10 CIVIL											
Backfill after Foundation Removal	542 M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Excavation to Expose Foundations	542 M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Detail Excavation - rock	384 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Detail Excavation - soil	158 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	227 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



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Subtotal 10 CIVIL			108	8,130		0		5,420		0	13,550
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Utilidors 3.67m x 3.0m high, 547m length	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	73	M3	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	205	M3	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	37	M3	4.29	159	11,905	0.00	0	0.00	0	0	11,905
Concrete - Anchor Bolts	1472	KG	0	0	0.00	0	0.00	0	0.00	0	0
Steel - HSS Bridge Trusses and Bents	326	T	5.082	1,657	124,255	0.00	0	0.00	0	0	124,255
Steel - Floor Checker Plate	2188	M2	0.231	505	37,907	0.00	0	0.00	0	0	37,907
Steel - Stairs c/w handrail	42	M	0.5082	21	1,601	0.00	0	0.00	0	0	1,601
Cladding - Roof, insulated 65mm	2020	M2	0.15015	303	22,748	0.00	0	0.00	0	0	22,748
Cladding - Wall, exterior, insulated 65mm	5380	M2	0.15015	808	60,586	0.00	0	0.00	0	0	60,586
Mandoor, exterior insulated 0.9m x 2.1m	3	EA	2.772	8	624	0.00	0	0.00	0	0	624
Windows, insulated 1.6m x 1.2m	112	EA	2.31	259	19,404	0.00	0	0.00	0	0	19,404
Fire Doors, Escape Doors, Stairs - allowance	1	LS	115.5	116	8,663	0.00	0	0.00	0	0	8,663
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			3,836	287,691		0		0		0	287,691
COMM 50 PIPING											
Fire Suppression - on site and in utilidors, including piping, monitors, extinguishers, etc.	1	LS	226.05	226	16,954	0.00	0	0.00	0	0	16,954
Subtotal 50 PIPING			226	16,954		0		0		0	16,954
COMM 60 ELECTRICAL											
Lighting allowance	1	LS	330	330	24,750	0.00	0	0.00	0	0	24,750
Subtotal 60 ELECTRICAL			330	24,750		0		0		0	24,750



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AREA 5500 UTILIDORS				4,500	337,525		0		5,420		0	342,945

AREA 5600 COLD STORAGE (INCL CEMENT STORAGE)

COMM 10 CIVIL

Excavation to Expose Foundations	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Backfill after Foundation Removal	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Rock Anchors	140	M	0.19008	27	1,996	0.00	0	0.00	0	0.00	0	1,996
Detail Excavation	600	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1909	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Core Shack - use existing facilities and build lean-to as required, allowance	1	LS	23.76	24	1,782	0.00	0	1.65	2	0.00	0	1,784
Subtotal 10 CIVIL				170	12,778		0		6,002		0	18,779

COMM 20 STRUCTURAL AND ARCHITECTURAL

Relocate Existing Cold Storage Building - allowance	1	LS	350	350	26,250	0.00	0	0.00	0	0.00	0	26,250
Cement Storage Building 100m x 50m x 10m high --> 5000m2 each for two buildings	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Precast Concrete Giant block	8	ea	3.3	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Cement Storage - Concrete - Lean Mix	41	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Spread Footings	108	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Pedestals	34	M3	4.29	146	10,940	0.00	0	0.00	0	0.00	0	10,940
Cement Storage - Concrete - Grade Beams	75	M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Cement Storage - Concrete - Slab on Grade - not required, use gravel floor	0	M3	1.386	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Anchor Bolts	870	KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage Building, engineered structure - 2 buildings	1	LS	1455.3	1,455	109,148	0.00	0	0.00	0	0.00	0	109,148



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				2,336	175,233		0		0		0	175,233
COMM 60 ELECTRICAL												
Lighting allowance	5000	M2	0.0495	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Subtotal 60 ELECTRICAL				248	18,563		0		0		0	18,563
AREA 5620 CEMENT STORAGE				2,754	206,573		0		6,002		0	212,575

AREA 5700 BATCH & AGGREGATE PLANTS

COMM 10 CIVIL												
Excavation to Expose Foundations	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Backfill after Foundation Removal	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Backfill after Foundation Removal	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Excavation to Expose Foundations	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Detail Excavation	112	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	12	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	552	M	0.19008	105	7,869	0.00	0	0.00	0	0.00	0	7,869
Detail Excavation	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	456	M	0.19008	87	6,501	0.00	0	0.00	0	0.00	0	6,501
Subtotal 10 CIVIL				222	16,680		0		1,540		0	18,220

COMM 20 STRUCTURAL AND ARCHITECTURAL



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Batch Plant - engineered building, insulated 15.25m x 15.25m x 19.2m H	1 LS	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
Concrete - Lean Mix	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	49 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	11 M3	4.29	47	3,539	0.00	0	0.00	0	0.00	0	3,539
Concrete - Anchor Bolts	570 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Grout, for structural steel columns	0.6 M3	11.55	7	520	0.00	0	0.00	0	0.00	0	520
Aggregate Crushing Plant - building, 40m x 70m x 15m H	1 EA	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
Aggregate Crushing Plant - Steel - Structural Medium	13 T	5.082	66	4,955	0.00	0	0.00	0	0.00	0	4,955
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			582	43,664		0		0		0	43,664
 COMM 40 MECHANICAL											
Concrete Batch Plant - batch plant equipment, includes receiving hopper, charge conveyor, 225t aggregate storage bin, 75t cement silo, 75t fly ash silo, mixer, control room	1 EA	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Aggregate Crushing Plant - equipment listed below	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Jaw Crushing Plant - mobile plant c/w trailer, wheel mounted, 700mm (28") x 1067mm (42") single toggle jaw crusher, 1170mm (46") x 6.1m (20') grizzly feeder, 1067mm (42") x 10m (33') discharge conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 30m (100ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Cone/Screen Plant - mobile plant c/w trailer, HP200 cone crusher, 1.8m (6') x 6.1m (20') screen, 1524mm (60") under screen conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Mobile Wash Screen - feed hopper, grizzly feeder, belt feeder, screen feed conveyor, double 1.2m x 2.4m double deck screen, hydraulic radial discharge stacking conveyor 0.75m x 12.2m	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Screw Washer - 610mm (24") dia x 7.6m (25') long	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 18.3m (60ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-BI-02 Surface Crushing Surge Bin with Static Grizzly 400 mm, 900 tonnes - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-03 Surface Crushing Transfer Hopper - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CH-04 Crushed Stockpile Shuttle Chute, Metal Lined, 0.5kW - not required	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Skirt & Head Chute for 312-FE-03, metal lined - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Metal Liners - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CV-04 Surface Crusher Take-Away Conveyor, 1067mm Wide, 11kW - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CR-02 Surface Crusher , Single Toggle Jaw Crusher - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-GZ-02 Surface Crushing Vibrating Grizzly, 150mm Opening, 1500mm x 3600mm Single Step, VFD 30kW - Included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			281	21,038		0		0		0	21,038
COMM 60 ELECTRICAL											
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	232	M2	0.1155	27	2,010	0.00	0	0.00	0	0.00	2,010
Control Tower - trailer package, electrical system	1	INCL	0	0	0	0.00	0	0.00	0	0.00	0
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	2800	M2	0.1155	323	24,255	0.00	0	0.00	0	0.00	24,255
Subtotal 60 ELECTRICAL			350	26,265		0		0		0	26,265
AREA 5710 BATCH PLANT			1,435	107,646		0		1,540		0	109,186

AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 40 MECHANICAL												
Wheel Loader w/integrated tool carrier , 175kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Integrated Tool Carrier, 149kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavator, 96kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bobcat, for general site use and process plant	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Grader, 123kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dozer, 123kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pick-up Trucks 3/4ton crew cab	8	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Boom truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tractor and flat deck trailer	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Truck 5000 gallon	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Vacuum truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bus - USED (new bus \$140,500 each)	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Truck c/w Plow	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
2T Forklift	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
5T Forklift w/extendable forks	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Snow Machine	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase	100	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
24m manlift	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Crane - 40-50 ton	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ambulance	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Light Plant	3	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aircraft de-icing equipment	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diesel fuel truck 5000 gallon	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1T Mech. Truck c/w Welder	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Roll compactor	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Drill rig	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Surface haul/quarry truck 40 tonnes	3	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Wheel Loader, 224kW - included in Area 3120	0	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Prep. Vehicles for Removal	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Forklift 30t - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			255	19,125		0		0		0	19,125
AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT			255	19,125		0		0		0	19,125

AREA 5900 EXPLOSIVE STORAGE

COMM 10 CIVIL

Backfill after Foundation Removal	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Excavation to Expose Foundations	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Excavation to Expose Foundations	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Detail Excavation	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	640 M	0.19008	122	9,124	0.00	0	0.00	0	0.00	0	9,124
Detail Excavation	182 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	196 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	192 M	0.19008	36	2,737	0.00	0	0.00	0	0.00	0	2,737
Subtotal 10 CIVIL			203	15,221		0		2,240		0	17,461

COMM 20 STRUCTURAL AND ARCHITECTURAL

AN Storage Building 40m x 20m x 6m high --> 800m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Pedestals	7 M3	4.29	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Concrete - Anchor Bolts	260 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Pre-fab Building, including cladding, manddoors, overhead doors, etc.	1 LS	138.6	139	10,395	0.00	0	0.00	0	0.00	0	10,395
Building Steel - Structural Light, 22T - not required	0 T	6.006	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Medium, 8T - not required	0 T	5.082	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Heavy, 33T - not required	0 T	4.62	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Grout, for structural steel columns, 0.3m2 - not required	0 M3	8.085	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - wall, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings & ss fasteners, 720M2 - not required	0 M2	0.231	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - roof, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings ss fasteners, 800M2 - not required	0 M2	0.231	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Overhead doors, uninsulated, sectional c/w motor operator, 4m x 4m, 3ea - not required	0 EA	57.75	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Manddoors, uninsulated, .09m x 2.1m, 2 ea - not required	0 EA	2.772	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building 18m x 18m x 6m high --> 324m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	17 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	5 M3	4.29	21	1,609	-0.00	0	0.00	0	0.00	0	1,609
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Slab on Grade	80 M3	1.386	111	8,316	0.00	0	0.00	0	0.00	0	8,316
Concrete - Anchor Bolts	220 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	4 ea	3.3	13	990	0.00	0	0.00	0	0.00	0	990
Grout, for structural steel columns	0.2 M3	11.55	2	173	0.00	0	0.00	0	0.00	0	173
Foundation Insulation - rigid insulation under slab, 50mm thick	341 M2	0.0495	17	1,266	0.00	0	0.00	0	0.00	0	1,266
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	95 M2	0.0495	5	353	0.00	0	0.00	0	0.00	0	353



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	79 M2	0.0495	4	293	0.00	0	0.00	0	0.00	0	293
Emulsion Plant Building - supply and erection included in operating costs, no capital costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			370	27,751		0		0		0	27,751
COMM 40 MECHANICAL											
30t Powder magazines	16 EA	5.1	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL			82	6,120		0		0		0	6,120
COMM 60 ELECTRICAL											
Lighting allowance	800 M2	0.0495	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 60 ELECTRICAL			40	2,970		0		0		0	2,970
AREA 5920 EMULSION PLANT			694	52,062		0		2,240		0	54,302

AREA 6100 NORTH PILE

COMM 10 CIVIL

North Pile - clearing containment dyke area	2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - rock fill/spreading and compact for embankment, from mine waste	120000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - Internal Dyke - filter zone fill, fine gravel	7500 M3	0.015444	116	8,687	0.00	0	0.00	0	0.00	0	8,687
North Pile - filter zone non-woven heavy duty geotextile	6000 M2	0.0019008	11	855	0.00	0	0.00	0	0.00	0	855
Gravity Ditch #1 - ditching along embankment, 750m	1500 M3	0.0297	45	3,341	0.00	0	0.00	0	0.00	0	3,341

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**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Gravity Ditch #1 - GCL liner for ditch 750m x 4m width	3375 M2	0.004752	16	1,203	0.00	0	0.00	0	0.00	0	1,203
Gravity Ditch #1 - fill for ditch, downstream side, 750m	2000 M3	0.014256	29	2,138	0.00	0	0.00	0	0.00	0	2,138
Culvert for ditch, 914mm (36") x 80m	1 LS	21.384	21	1,604	0.00	0	0.00	0	0.00	0	1,604
Service Road - North Pile to service pumps, 5m wide, 1500m long, general rock fill/spreading, 8000m3 - Existing, not required	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Road - Regrade for Closure	4500 M3	0.03	135	10,125	0.00	0	1.00	4,500	0.00	0	14,625
Fencing - around water management pond	1300 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			373	27,954		0		4,500		0	32,454
COMM 40 MECHANICAL											
Pump - Sedimentation Pond #2, 54 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Temporary Pond #2, 1000 gpm, 60kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #1, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #2, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			0	0		0		0		0	0
COMM 50 PIPING											
Pipe for runoff collection and pumps - 100mm (4") HDPE	700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pipe for runoff collection and pumps, Temp Pond #2 to WTP - 150mm (6") HDPE	900 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Tailings Pipe, from Process Plant to North Pile - 3 lines for a total of 5800m, 127mm CS sch 80, heat traced and 102mm insulation, on surface	5800 M	0.05	290	21,750	0.00	0	0.00	0	0.00	0	21,750
Subtotal 50 PIPING			290	21,750		0		0		0	21,750
COMM 60 ELECTRICAL											
Electrical allowance	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL				7	495		0		0		0	495
AREA 6100 NORTH PILE				669	50,199		0		4,500		0	54,699

AREA 6300 WATER MANAGEMENT & TREATMENT

COMM 10 CIVIL

Excavation to Expose Foundations	689	M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Backfill after Foundation Removal	689	M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Detail Excavation	698	M3	0.01188	8	622	0.00	0	0.00	0	0.00	0	622
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	636	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	1696	M	0.19008	322	24,178	0.00	0	0.00	0	0.00	0	24,178
Subtotal 10 CIVIL				468	35,135		0		6,890		0	42,025

COMM 20 STRUCTURAL AND ARCHITECTURAL

Water Treatment Building 55m x 15m x 16m high --> 825m2	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	64	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	74	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	33	M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Curbs	15	M3	4.29	64	4,826	0.00	0	0.00	0	0.00	0	4,826
Concrete - Slab on Grade	300	M3	1.386	416	31,185	0.00	0	0.00	0	0.00	0	31,185
Concrete - Elevated Slab	15	M3	2.211	33	2,487	0.00	0	0.00	0	0.00	0	2,487
Concrete - Sumps	8	M3	4.29	34	2,574	0.00	0	0.00	0	0.00	0	2,574
Concrete - Misc & Equipment Pads	62	M3	2.409	149	11,202	0.00	0	0.00	0	0.00	0	11,202
Concrete - Anchor Bolts	1380	KG	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	1700 M2	0.0495	84	6,311	0.00	0	0.00	0	0.00	0	6,311
Steel - Floor Grating for platforms	60 M2	0.3465	21	1,559	0.00	0	0.00	0	0.00	0	1,559
Steel - Checkerplate	45 M2	0.231	10	780	0.00	0	0.00	0	0.00	0	780
Steel - Stairs c/w handrail	15 M	0.5082	8	572	0.00	0	0.00	0	0.00	0	572
Steel - Handrails c/w kick plate	100 M	0.2772	28	2,079	0.00	0	0.00	0	0.00	0	2,079
Steel - Grout, for structural steel columns	1.3 M3	8.085	11	788	0.00	0	0.00	0	0.00	0	788
Water Treatment Building, engineered structure	1 LS	1432.2	1,432	107,415	0.00	0	0.00	0	0.00	0	107,415
Thickener Cladding, insulated	1255 M2	0.15015	188	14,133	0.00	0	0.00	0	0.00	0	14,133
Clarifier Cladding, insulated	970 M2	0.15015	146	10,923	0.00	0	0.00	0	0.00	0	10,923
Overhead sectional door - exterior insulated 4.5m x 4.5m	1 EA	69.3	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Double doors - exterior insulated 1.2m x 2.4m	3 EA	4.62	14	1,040	0.00	0	0.00	0	0.00	0	1,040
Mandoors - exterior insulated 0.9m x 2.1m	8 EA	2.772	22	1,663	0.00	0	0.00	0	0.00	0	1,663
Mandoors - interior 0.9m x 2.1m	3 EA	2.31	7	520	0.00	0	0.00	0	0.00	0	520
Double doors - interior 1.2m x 2.4m	1 EA	4.62	5	347	0.00	0	0.00	0	0.00	0	347
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	64 M2	0.2975	19	1,428	0.00	0	0.00	0	0.00	0	1,428
Windows - interior, acoustical double glazed, 1.5 x 1.2m	2 EA	2.31	5	347	0.00	0	0.00	0	0.00	0	347
Ceiling, suspended t-bar, 1" thick acoustical tiles	18 M2	0.1155	2	156	0.00	0	0.00	0	0.00	0	156
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			2,909	218,150		0		0		0	218,150
COMM 40 MECHANICAL											
Lime Preparation Package	1 PKG	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
630-AG-07 Agitator, Lime Mix Tank, 0.5 m dia , 0.75kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-01 Feeder, Lime Screw, 0.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-PU-14 Pump, Lime Mix Tank Discharge, 2.2kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SB-01 Scrubber, Lime Area Dust	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SL-01 Slaker, Lime Slaker, 3 tonne/day capacity	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-HO-02 Hopper, Lime Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-07 Tank, Lime Mix, 1.5 m dia x 2 m h	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Flocculant Preparation Package	1 PKG	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
630-AG-11 Agitator, Flocculant Mix Tank, 0.8 m dia , 2.238kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-BL-01 Blower, Flocculant Air	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-02 Feeder, Flocculant, 50 kg/day	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-HO-01 Hopper, Flocculant	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-11 Tank, Flocculant Mix	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-12 Tank, Flocculant Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-AG-01 Agitator, Reactor Tank #1, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-03 Agitator, Reactor Tank #2, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-05 Agitator, Filter Feed Tank #1, 1.7 m dia , 1.5kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-08 Agitator, Lime Holding Tank, 1 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-09 Agitator, Ferric Sulphate Mix Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-10 Agitator, Ferric Sulphate Holding Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AH-01 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-AH-02 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-CK-01 Hoist, Reagent Area, 2 tonne	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-CL-01 Clarifier, #1 HDS, 21 m dia , covered, 3kW	1 EA	408	408	30,600	0.00	0	0.00	0	0.00	0	30,600
630-CL-01 Clarifier Dome	1 EA	178.5	179	13,388	0.00	0	0.00	0	0.00	0	13,388
630-CL-01 Clarifier Insulation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
630-FA-01 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-02 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-FA-03 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-04 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-05 Dome Exhaust Fan, 20,000 m3/hr FSP = 12mmWC, c/w 3hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-06 Dome Exhaust Fan, 11,000 m3/hr FSP = 12mmWC, c/w 1.5hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FL-01 Filter, Polishing, 6 x3 m dia, 7.1 m2 filter area , multi media, pressure type, 11kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
630-HE-01 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-02 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-03 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-04 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-05 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-06 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-07 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-08 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-09 Dome Radiant Heater, 3.8kW	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-MX-01 Mixer, In-Line	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-03 Mixer, In-Line	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-05 Mixer, In-Line	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01A Pump, Thickener U/F Recycle Duty, 19 m3/h , 65 mm hose pump, 3kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01B Pump, Thickener U/F Recycle Standby, 19 m3/h , 65 mm hose pump, 3kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-05A Pump, Clarifier U/F Recycle Duty, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-05B Pump, Clarifier U/F Recycle Standby, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-07A Pump, Filter Feed Duty, 500 m3/h , Warman 300L, 30kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-PU-07B Pump, Filter Feed Standby, 500 m3/h , Warman 300L, 30kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-PU-11 Pump, HDS Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-15A Pump, Lime Loop Distribution Duty, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-15B Pump, Lime Loop Distribution Standby, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-16 Pump, Lime Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-17 Pump, Ferric Sulphate Mix Tank Discharge, 12 m3/h , Centrifugal 11/2x1, 316SS, 0.75kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19A Pump, Ferric Sulphate Metering Duty, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19B Pump, Ferric Sulphate Metering Standby, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-20 Pump, Ferric Sulphate Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-21 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-22 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23A Pump, Flocculant Distribution Duty, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23B Pump, Flocculant Distribution Standby, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-24 Pump, Flocculant Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-25 Pump, Thickener U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-27 Pump, Clarifier U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-SN-01 Screen, Feed Water Safety, 850 m3/h @ 0.4wt% solids - DELETED	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-01 Tank, #1 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-02 Tank, #3 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-05 Tank, #1 Filter Feed, 5 m dia x 5 m h , Carbon Steel	6400 KG	0.00765	49	3,672	0.00	0	0.00	0	0.00	0	3,672



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-TK-08 Tank, Lime Holding, 3 m dia x 3 m h , Carbon Steel	2300	KG	0.00765	18	1,320	0.00	0	0.00	0	0.00	0	1,320
630-TK-09 Tank, Ferric Sulphate Mix, 2.5 m dia x 2.5 m h , 316 SS	1600	KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TK-10 Tank, Ferric Sulphate Holding, 2.5 m dia x 2.5 m h , 316 SS	1600	KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TH-01 Thickener, #1 Feed Water, 15 m dia , covered, 2.2kW	1	EA	357	357	26,775	0.00	0	0.00	0	0.00	0	26,775
630-TH-01 Thickener Dome	1	EA	127.5	128	9,563	0.00	0	0.00	0	0.00	0	9,563
630-TH-01 Thickener Insulation	1	EA	71.4	71	5,355	0.00	0	0.00	0	0.00	0	5,355
630-XX-01 Bag Breaker, Ferric Sulphate	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL				2,186	163,920		0		0		0	163,920
COMM 50 PIPING												
Piping & Valve Allowance - inside water treatment plant, allow 25% of mech equipment	1	LS	660	660	49,500	0.00	0	0.00	0	0.00	0	49,500
Fire Suppression - allowance for extinguishers	1	LS	3.3	3	248	0.00	0	0.00	0	0.00	0	248
Yard Piping - U/G water from Portal to Process Plant, in utilidor, 300mm CS, insulated	260	M	0.0085	210	15,766	0.00	0	0.00	0	0.00	0	15,766
Yard Piping - U/G water from Process Plant to MWTP, in piperack, 300mm CS, heat traced and insulated	60	M	0.0075	54	4,084	0.00	0	0.00	0	0.00	0	4,084
Yard Piping - Mine water from WMP to MWTP, on ground, 150mm HDPE, heat traced and insulated	240	M	0.0135	75	5,643	0.00	0	0.00	0	0.00	0	5,643
Yard Piping - Thickener U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100	M	0.0462	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Yard Piping - Clarifier U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100	M	0.0462	46	3,465	0.00	0	0.00	0	0.00	0	3,465
Yard Piping - Emergency Overflow from MWTP to WMP, on ground, 300mm HDPE, heat traced and insulated	200	M	0.04785	96	7,177	0.00	0	0.00	0	0.00	0	7,178
Subtotal 50 PIPING				1,191	89,348		0		0		0	89,348



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 60 ELECTRICAL												
Heat Tracing Panels 630-CL-01	1	LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Heat Tracing Panels 630-TH-01	1	LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Low Voltage Electrical Allowance, allow 15% of mech equipment	1	LS	379.5	380	28,463	0.00	0	0.00	0	0.00	0	28,463
Building Lighting allowance	825	M2	0.1155	95	7,147	0.00	0	0.00	0	0.00	0	7,147
Clarifier Enclosure Lighting Allowance	450	M2	0.0825	37	2,784	0.00	0	0.00	0	0.00	0	2,784
Thickener Enclosure Lighting Allowance	250	M2	0.0825	21	1,547	0.00	0	0.00	0	0.00	0	1,547
Grounding allowance	825	M2	0.033	27	2,042	0.00	0	0.00	0	0.00	0	2,042
Subtotal 60 ELECTRICAL				583	43,715		0		0		0	43,715
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance, allow 6% of mech equipment	1	LS	122.1	122	9,158	0.00	0	0.00	0	0.00	0	9,158
Subtotal 70 INSTRUMENTATION AND CONTROLS				122	9,158		0		0		0	9,158
AREA 6300 WATER MANAGEMENT & TREATMENT				7,459	559,425		0		6,890		0	566,315

AREA 6400 DIFFUSER

COMM 10 CIVIL												
Site Excavation	150	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Native Fill	150	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Rock Excavation	50	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bedding Sand	100	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
C.S.P. Culvert 500mm dia. X 6m long	5	EA	0.4752	2	178	0.00	0	0.00	0	0.00	0	178
Silt Fence 8mil Material c/w Posts 40m long x 2m high	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Earth Excavation	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bank Stabilization - Geotextile and lagging	200 M2	0.009504	2	143	0.00	0	0.00	0	0.00	0	143
Drain Rock	40 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
General Fill	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			9	677		0		0		0	677
COMM 50 PIPING											
600mm HDPE Stub End Discharge Pipe	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
600mm ASA 125# Flange Back Up Ring C.S. Discharge Pipe	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
Galvanized Bolts Nuts and Washers Discharge Pipe	20 SET	1.4025	28	2,104	0.00	0	0.00	0	0.00	0	2,104
600mm ASA 125# Flange Back Up Ring 304SS Discharge Pipe	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
Bolts Nuts and Washers 304SS Discharge Pipe	20 SET	1.4025	28	2,104	0.00	0	0.00	0	0.00	0	2,104
600mm HDPE DR17 Piping Discharge Pipe	1100 LM	0.1155	127	9,529	0.00	0	0.00	0	0.00	0	9,529
Concrete Weights Discharge Pipe	20 EA	1.65	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Temporary Blind Flange 12mm C.S. Discharge Pipe	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
Galvanized Bolts Nuts and Washers	20 SET	1.4025	28	2,104	0.00	0	0.00	0	0.00	0	2,104
600mm ASA 125# Flange Back Up Ring 304SS Diffuser	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.4025	28	2,104	0.00	0	0.00	0	0.00	0	2,104
600mm HDPE DR17 Piping Diffuser	70 LM	0.1155	8	606	0.00	0	0.00	0	0.00	0	606
Concrete Weights Diffuser	20 EA	1.65	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Nozzle Pipe 150mm dia. HDPE DR11 x 200mm long Diffuser	8 EA	0.33	3	198	0.00	0	0.00	0	0.00	0	198
150mm HDPE Cap c/w 200mm nipple	8 EA	1.155	9	693	0.00	0	0.00	0	0.00	0	693
150mm Victaulic Coupling	8 EA	0.363	3	218	0.00	0	0.00	0	0.00	0	218
Blind Flange 12mm C.S. Diffuser	1 EA	0.33	0	25	0.00	0	0.00	0	0.00	0	25
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.4025	28	2,104	0.00	0	0.00	0	0.00	0	2,104
Marine Installation Diffuser and Skiff Rental	1 LS	100	100	7,500	0.00	0	0.00	0	0.00	0	7,500



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				458	34,361		0		0		0	34,361
AREA 6400 DIFFUSER				467	35,038		0		0		0	35,038

AREA 7100 YK SORTING FACILITY

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Yellowknife Sorting Facility - estimate by DeBeers	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
AREA 7100 YK SORTING FACILITY				0	0		0		0		0	0

AREA 8100 OWNER'S COSTS

COMM 90 INDIRECTS												
Yellowknife Accommodations - not included	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS				0	0		0		0		0	0
AREA 8100 OWNER'S COSTS				0	0		0		0		0	0

AREA 9100 EPCM



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 90 INDIRECTS											
Engineering, Procurement and Construction Management (home office) prior to Demolition	1 LS	0	0	0	0.00	0	0.00	0	1,200,000.00	1,200,000	1,200,000
Environmental Monitoring Year 1 & 2	1 LS	0	0	0	0.00	0	0.00	0	823,000.00	823,000	823,000
Construction Management Demolition Year	1 LS	0	0	0	0.00	0	0.00	0	1,600,000.00	1,600,000	1,600,000
Office Supplies and Communications	16 Mos	0	0	0	0.00	0	10,000.00	160,000	0.00	0	160,000
Maintenance Staff Demolition Year	1 LS	0	0	0	0.00	0	0.00	0	400,000.00	400,000	400,000
Year 2 staff	1 LS	0	0	0	0.00	0	0.00	0	1,100,000.00	1,100,000	1,100,000
Site Operations Staff	1 LS	0	0	0	0.00	0	0.00	0	1,500,000.00	1,500,000	1,500,000
Maintenance Staff	1 LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
On-call maintenance staff	1 LS	0	0	0	0.00	0	0.00	0	125,000.00	125,000	125,000
Subtotal 90 INDIRECTS			0	0		0		160,000		7,198,000	7,358,000
AREA 9100 EPCM			0	0		0		160,000		7,198,000	7,358,000

AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT

COMM 90 INDIRECTS											
Contractor Temporary Facilities included in Labour Cost	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Mob-Demob Closure Contractor	1 LS	0	0	0	0.00	0	500,000.00	500,000	0.00	0	500,000
CM/Owner Temporary Facilities - Construction Office	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
CM/Owner Temporary Facilities - Construction Office Supplies	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Three Standby/Emergency Generators will be used during construction, price for generators have been included in area 4110	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Allowance for supply of power cables and communications for connection between two generators enclosures and one switchgear enclosures complete and pre-connected prior to shipment, cost has been included in area 4110	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for reconnection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes to switchgear enclosure, cost has been included in area 4110	0	M	4	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Unit Substation; 600A	0	EA	200	0	0	150,000.00	0	0.00	0	0.00	0	0
Construction Power - Intake Fan 700HP VFD complete with Isolation transformer inside E-House, installed and pre-wired shipped for site installations, cost has been included in area 4120	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 2-3c250MCM, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to construction unit substation	0	M	4	0	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor for feeding underground Mine during development and production stages	0	EA	100	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder Temporary cables	0	M	0.8	0	0	85.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 4/0 AWG, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to Vent Fans Isolation Transformers (this for construction only)	0	M	0.85	0	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 3X3C-500MCM, 1kv, teck cable from 600V feeder breakers inside construction unit substation to construction power distribution panel	0	M	0.5	0	0	33.46	0	0.00	0	0.00	0	0
Construction Power - Teck Cable terminations kit for 5kV Construction/Standby power generators, cost has been included in area 4110	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Poles, 40 feet in culvert for construction power overhead lines, from construction unit substation located next to Standby/Construction Generators to Power distribution centres	0	EA	10	0	0	350.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Neutral Supported Cables, Type NSF-2, 4/0 AWG, quadplex, 600V for overhead line installation	0	M	0.6	0	0	10.61	0	0.00	0	0.00	0	0
Construction Power - Construction 600V Distribution Panels, with 400A incoming circuit breakers and six 200A outgoing circuit breakers, suitable for outdoor installation on H-Frame Supports	0	EA	8	0	0	5,000.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for generators' enclosure and switchgear's wiring interconnections , cost has been included in arera 4110	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Standby Generators and Switchgear Enclosure's Foundations and installations	0	LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Construction 600V Unit Substation's Foundations and Installations	0	LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Laydown Area Lighting	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Overhauling Gensets	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Reconfigure cables to final emergency location	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel storage of 3M litres existing on site	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Fuel Storage during Construction, for 3M litres	0	LS	1200	0	0	650,000.00	0	0.00	0	0.00	0	0
Allowance for Snow Clearing and Temporary Heating and Hoarding during construction	0	LS	1000	0	0	0.00	0	0.00	0	0.00	0	0
Small Tools and Consumables included in Labour Cost	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Turn-Around and Personnel Travel included in Labour Cost	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase - included in Area 5800	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Equipment Rental	147008	LS	0	0	0	0.00	0	8.00	1,176,064	0.00	0	1,176,064
D9 Rental and Operator	0	LS	0	0	0	0.00	0	200,000.00	0	0.00	0	0
Construction Equipment Rental - 200t crane	0	MO	0	0	0	0.00	0	30,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete trucks 2 x 5m3	0	MO	0	0	0	0.00	0	43,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete pump	0	MO	0	0	0	0.00	0	14,000.00	0	0.00	0	0
Construction Equipment - 2 operators for U/G concrete trucks	0	MO	200	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Equipment - 1 operator for U/G concrete pump	0 MO	200	0	0	0.00	0	0.00	0	0.00	0	0
Credit for remaining fuel	-4E+06 L	0	0	0	0.54	-2,160,000	0.00	0	0.00	0	-2,160,000
Construction fuel Year 1 Dismantling	6500000 L	0	0	0	0.54	3,510,000	0.00	0	0.00	0	3,510,000
Construction fuel Year 2 Dismantling	1200000 L	0	0	0	0.54	648,000	0.00	0	0.00	0	648,000
Subtotal 90 INDIRECTS			0	0		1,998,000		1,676,064		0	3,674,064
AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT			0	0		1,998,000		1,676,064		0	3,674,064

AREA 9400 CONSTRUCTION CAMP AND CATERING

COMM 90 INDIRECTS

Expanding existing construction camp, from 85 to 185 person	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Camp	24 mo	0	0	0	0.00	0	35,000.00	840,000	0.00	0	840,000
Sewage Treatment Plant - expand existing STP adjacent to the construction camp an additional 100-person capacity	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Catering Direct Cost Activities	15882 MD	0	0	0	0.00	0	62.50	992,625	0.00	0	992,625
Catering for Emulsion Plant Building erection - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Indirect Cost Activities	3971 MD	0	0	0	0.00	0	62.50	248,188	0.00	0	248,188
Catering Preproduction Underground Mining Activities - Phase I 2003	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase I 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase II 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase II 2005	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Catering Construction Mgmt & Maint Year 1	4015	MD	0	0	0	0.00	0	62.50	250,938	0.00	0	250,938
Catering Care & Maintenance	6325	MD	0	0	0	0.00	0	125.00	790,625	0.00	0	790,625
Catering Visitors, allowance	100	MD	0	0	0	0.00	0	62.50	6,250	0.00	0	6,250
Catering Commissioning Engineers	0	MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Camp Maintenance	420	DAY	0	0	0	0.00	0	350.00	147,000	0.00	0	147,000
Subtotal 90 INDIRECTS				0	0		0		3,275,625		0	3,275,625
AREA 9400 CONSTRUCTION CAMP AND CATERING				0	0		0		3,275,625		0	3,275,625

AREA 9600 COMMISSIONING AND STARTUP

COMM 90 INDIRECTS												
Start-Up and Commissioning - allowance for contractors, 8 people for 3 months	0	LS	7200	0	0	0.00	0	0.00	0	0.00	0	0
Start-Up and Commissioning - allowance for 10 engineers for 3 months	0	LS	0	0	0	0.00	0	690,000.00	0	0.00	0	0
Subtotal 90 INDIRECTS				0	0		0		0		0	0
AREA 9600 COMMISSIONING AND STARTUP				0	0		0		0		0	0

AREA 9700 SPARES AND FIRST FILLS

COMM 90 INDIRECTS												
Mining Spares - Mobile Equipment	0	LS	0	0	0	3,100,000.00	0	0.00	0	0.00	0	0
Mining Spares - Other	0	LS	0	0	0	500,000.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Electrical and Instrumentation Spares - allowance	0 LS	0	0	0	2,500,000.00	0	0.00	0	0.00	0	0
Power Plant - Special Tools and anticipated Spares	0 lot	0	0	0	602,300.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		0		0	0
AREA 9700 SPARES AND FIRST FILLS			0	0		0		0		0	0

AREA 9800 FREIGHT AND TAXES

COMM 90 INDIRECTS

Freight to Yellowknife - included in direct costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Freight from Site to Edmonton Equipment	600 LDS	0	0	0	0.00	0	5,750.00	3,450,000	0.00	0	3,450,000
Freight from Site to Edmonton Potentially Hazardous and Recycleable Materials	200 LDS	0	0	0	0.00	0	6,900.00	1,380,000	0.00	0	1,380,000
Winter Road Royalty, \$0.10/tonne/km for 222km	20000 MT	0	0	0	0.00	0	22.20	444,000	0.00	0	444,000
Disposal Fee's Equipment	15000 MT	0	0	0	0.00	0	42.00	630,000	0.00	0	630,000
Disposal Fee's Waste Oil	20835 DRM	0	0	0	0.00	0	65.00	1,354,275	0.00	0	1,354,275
Disposal Fee's Glycol	5000 DRM	0	0	0	0.00	0	170.00	850,000	0.00	0	850,000
Disposal Fee's Misc. Other	1250 DRM	0	0	0	0.00	0	100.00	125,000	0.00	0	125,000
Air Freight Allowance to Site	1 LS	0	0	0	0.00	0	200,000.00	200,000	0.00	0	200,000
Hercules airplane from Yellowknife \$15,000/trip	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties on equipment from South Africa - if equipment cannot be manufactured in Canada, duties are 0%. If equipment can be manufactured in Canada, duties are approximately 15-20%	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties - recovery equipment sourced from South Africa is expected not to have duties applied, due to its specialized nature	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		8,433,275		0	8,433,275



SNAP LAKE CLOSURE BASE CASE: NORTH PILE BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 9800 FREIGHT AND TAXES				0	0		0		8,433,275		0	8,433,275
AREA 9900 CONTINGENCY												
COMM 90 INDIRECTS												
Contingency	1	LS	0	0	0	0.00	0	0.00	0	5,806,650.76	5,806,651	5,806,651
Subtotal 90 INDIRECTS				0	0		0		0		5,806,651	5,806,651
AREA 9900 CONTINGENCY				0	0		0		0		5,806,651	5,806,651
TOTAL PROJECT COST				158,158	11,861,838		2,006,500		16,377,011		14,354,651	44,600,000

APPENDIX B
COST ESTIMATE DETAILS
Alternative: Underground Disposal

AMEC
 111 Dunsmuir Street - Suite 400
 Vancouver B.C. Canada V6B 5W3
 Tel(604)664-3300 Fax(604)664-3301

DE BEERS CANADA MINING INC.

Sorted By: 1st Level of Area
 Estimated by JS
 C:\Documents and Settings\grant.grabe
 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1000 MINING	6,973	523,006	8,500	40,000	0	571,506
2000 SITE DEVELOPMENT	7,483	561,222	0	1,147,615	1,350,000	3,058,837
3000 PROCESS FACILITIES	62,397	4,679,788	0	1,560,521	0	6,240,309
4000 UTILITIES	39,960	2,996,988	0	33,930	0	3,030,918
5000 ANCILLARY BUILDINGS	60,272	4,520,364	0	38,592	0	4,558,956
6000 WMP & WATER/WASTE MANAGEMENT	9,977	748,261	0	11,390	0	759,651
7000 OFF-SITE FACILITIES	0	0	0	0	0	0
8000 OWNER'S COSTS	0	0	0	0	0	0
9000 INDIRECTS	1,000	75,000	4,408,000	14,002,167	13,594,657	32,079,824
TOTAL PROJECT COST	188,062	14,104,629	4,416,500	16,834,214	14,944,657	50,300,000

AMEC
 111 Dunsmuir Street - Suite 400
 Vancouver B.C. Canada V6B 5W3
 Tel(604)664-3300 Fax(604)664-3301

DE BEERS CANADA MINING INC.

Sorted By: 4th Level of Area
 Estimated by JS
 C:\Documents and Settings\grant.grabe
 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1200 MINE PREPRODUCTION	150	11,250	4,500	0	0	15,750
1310 MOBILE MINING EQUIPMENT	0	0	0	0	0	0
1320 U/G CONCRETE EQUIPMENT	0	0	0	0	0	0
1410 ORE HANDLING	0	0	0	0	0	0
1420 U/G VENTILATION	1,064	79,763	4,000	0	0	83,763
1431 MAINTENANCE BAYS	560	41,964	0	0	0	41,964
1432 WASH BAY	78	5,819	0	0	0	5,819
1433 FUELING BAY	55	4,118	0	0	0	4,118
1434 ACCESS DOORS	0	0	0	0	0	0
1435 OFFICE	15	1,148	0	0	0	1,148
1436 SUPPLIES STORAGE	28	2,079	0	0	0	2,079
1441 REFUGE STATION	196	14,695	0	0	0	14,695
1442 LOCAL SUMP	42	3,186	0	0	0	3,186
1444 HEALTH, SAFETY, EMERGENCY	40	3,000	0	4,000	0	7,000
1451 PUMP STATIONS	329	24,678	0	0	0	24,678
1452 PASTE FILL DISTRIBUTION	51	3,861	0	0	0	3,861
1453 U/G COMPRESSED AIR DISTRIBUTION	0	0	0	0	0	0
1454 U/G FRESH WATER DISTRIBUTION	0	0	0	0	0	0
1455 MISCELLANEOUS U/G EQUIPMENT	140	10,500	0	0	0	10,500
1460 TECHNICAL SERVICES	40	3,000	0	0	0	3,000
1471 EXPLOSIVES STORAGE U/G	60	4,500	0	0	0	4,500



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1480 MONITORING, CONTROL, COMMUNICATIONS	59	4,455	0	0	0	4,455
1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION	461	34,541	0	0	0	34,541
1610 HEATING & VENTILATION FACILITIES	2,542	190,679	0	36,000	0	226,679
1620 COMPRESSOR FACILITIES	1,064	79,773	0	0	0	79,773
2100 GENERAL SITE DEVELOPMENT & LAYOUT	3,640	272,969	0	807,585	0	1,080,554
2200 ACCESS ROADS	508	38,068	0	86,350	1,350,000	1,474,418
2300 AIR STRIP	3,336	250,184	0	253,680	0	503,864
3110 PRIMARY CRUSHING & CONVEYING	2,724	204,282	0	1	0	204,283
3120 COARSE ORE STORAGE	7,542	565,626	0	3,400	0	569,026
3210 PRIMARY SCRUBBING AND SCREENING	2,696	202,232	0	0	0	202,232
3220 SECONDARY CRUSHING	3,267	244,993	0	0	0	244,993
3230 SECONDARY SCRUBBING AND SCREENING	305	22,840	0	0	0	22,840
3300 DMS	3,714	278,515	0	0	0	278,515
3400 RECOVERY PLANT	1,729	129,679	0	0	0	129,679
3500 THICKENING & DEGRIT	1,987	149,032	0	0	0	149,032
3600 WATER & AIR SYSTEMS	917	68,799	0	0	0	68,799
3700 PASTE FILL PLANT	3,402	255,169	0	0	0	255,169
3810 PROCESS INSTRUMENTATION	1,968	147,600	0	0	0	147,600
3820 PLANT CONTROL SYSTEM	871	65,340	0	0	0	65,340
3900 PROCESS BUILDING	31,276	2,345,680	0	7,120	0	2,352,800
3910 BULK SAMPLE PLANT	0	0	0	1,550,000	0	1,550,000
4100 POWER PLANT & DISTRIBUTION	17,627	1,322,021	0	7,430	0	1,329,451
4110 STANDBY GENERATORS	705	52,849	0	0	0	52,849
4120 POWER DISTRIBUTION	2,680	200,967	0	0	0	200,967



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
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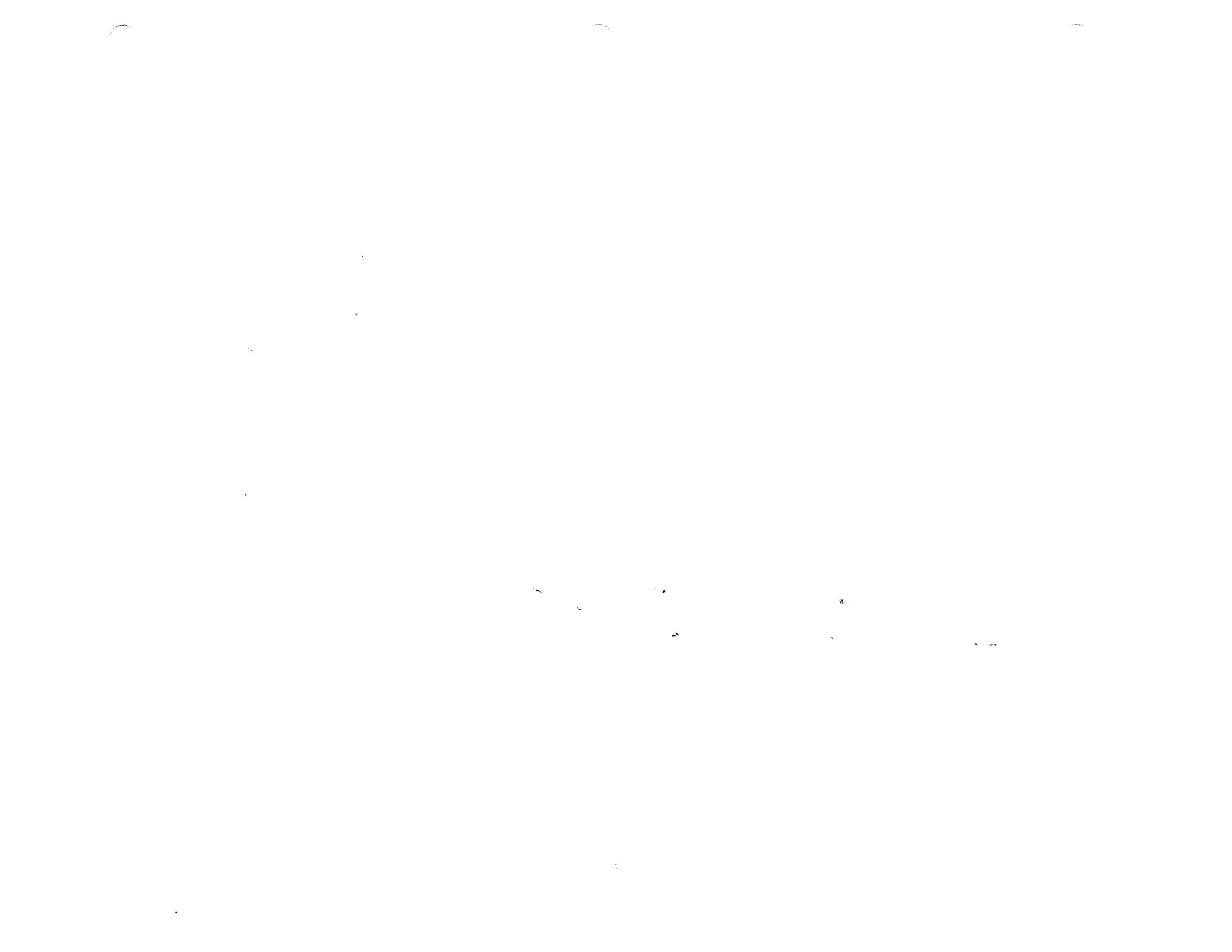
Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
4200 FUEL STORAGE & DISTRIBUTION	7,594	569,533	0	7,500	0	577,033
4300 GLYCOL SYSTEM	3,385	253,901	0	0	0	253,901
4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM	1,056	79,174	0	16,500	0	95,674
4500 SEWAGE SYSTEM	493	36,945	0	0	0	36,945
4600 BUILDING - STP, PWTP, BOILER, INCINERATOR	4,267	319,998	0	2,500	0	322,498
4800 WASTE DISPOSAL	147	11,021	0	0	0	11,021
4900 COMMUNICATIONS	2,008	150,579	0	0	0	150,579
5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE	19,129	1,434,639	0	23,390	0	1,458,029
5200 CAMP ACCOMMODATION & FACILITIES	27,640	2,072,994	0	0	0	2,072,994
5300 SECURITY SYSTEMS	990	74,250	0	0	0	74,250
5400 LABORATORY FACILITIES	99	7,425	0	0	0	7,425
5500 UTILIDORS	6,187	464,060	0	5,420	0	469,480
5610 COLD STORAGE	527	39,496	0	0	0	39,496
5620 CEMENT STORAGE	3,027	227,035	0	6,000	0	233,035
5630 CORE SHACK	24	1,782	0	2	0	1,784
5710 BATCH PLANT	700	52,470	0	1,120	0	53,590
5750 AGGREGATE PLANT	933	69,978	0	420	0	70,398
5800 PLANT MOBILE & UTILITY EQUIPMENT	255	19,125	0	0	0	19,125
5910 AN STORAGE BUILDING	494	37,035	0	420	0	37,455
5920 EMULSION PLANT	268	20,076	0	1,820	0	21,896
6100 NORTH PILE	729	54,648	0	4,500	0	59,148
6300 WATER MANAGEMENT & TREATMENT	8,689	651,703	0	6,890	0	658,593
6400 DIFFUSER	559	41,911	0	0	0	41,911
7100 YK SORTING FACILITY	0	0	0	0	0	0



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE

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Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
8100 OWNER'S COSTS	0	0	0	0	0	0
9100 EPCM	0	0	0	160,000	2,800,000	2,960,000
9150 INTERIM CARE & MAINTENANCE PHASE	0	0	0	0	3,575,000	3,575,000
9160 ENVIRONMENTAL MONITORING	0	0	0	0	823,000	823,000
9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT	1,000	75,000	4,408,000	1,907,392	0	6,390,392
9400 CONSTRUCTION CAMP AND CATERING	0	0	0	3,501,500	0	3,501,500
9600 COMMISSIONING AND STARTUP	0	0	0	0	0	0
9700 SPARES AND FIRST FILLS	0	0	0	0	0	0
9800 FREIGHT AND TAXES	0	0	0	8,433,275	0	8,433,275
9900 CONTINGENCY	0	0	0	0	6,396,657	6,396,657
TOTAL PROJECT COST	188,062	14,104,629	4,416,500	16,834,214	14,944,657	50,300,000



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DE BEERS CANADA MINING INC.

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 2nd Area / 1st Commodity / Detail
 Estimated by JS
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 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL CAPITAL COST ESTIMATE

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 1200 MINE PREPRODUCTION												
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Concrete Enclosure for 2 Portals	15	M3	10	150	11,250	300.00	4,500	0.00	0	0.00	0	15,750
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				150	11,250		4,500		0		0	15,750
COMM 30 MINING												
Preproduction development - Phase I 2003	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase I 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2005	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - mine air heaters for contractor, 6 diesel units	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING				0	0		0		0		0	0
AREA 1200 MINE PREPRODUCTION												
				150	11,250		4,500		0		0	15,750

AREA 1300 MOBILE MINING EQUIPMENT

COMM 30 MINING												
Footwall development and remuck: Drilling - two boom jumbo for 5m x 5m headings	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Mucking - 5.4 m3 (7 cy) LHD	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Footwall development and remuck: Bolting - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Blasting - Emulsion loader w/basket	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - two boom jumbo for 3.2m x 4m headings - use one boom drill	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - one boom jumbo for 3.2m x 4m headings	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - 3m2 (4 cy) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - Remote for 3m2 (4yd) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - 75kW Dozer, modified height for U/G	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Slusher/Scraper assembly	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - track hydraulic excavator w/ 914mm digging bucket and 1524mm cleanup bucket	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Remote cameras for above systems	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Blasting - Emulsion loader w/scissor deck	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Bolting - Hydraulic Bolter	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Development waste and stoping ore haulage: Haulage - 40t haul truck	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Delivery Crew - crane truck	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Mechanic's - mechanics pickup vehicle w/ flat deck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Fuel/lube - fuel/lube vehicle	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - pickup truck w/scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - Forklift/Cable reeler	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Maintenance - mechanics pickup truck w/ flat deck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Grading - low profile U/G Motor Grader, 93kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Utility/personnel vehicles: Personnel - Mancarrier - 16 person	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Engineering - pickup w/scissor lift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Eng/Geo - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Rescue - van	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Crew leaders - pickup truck crew cab	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Super - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Geology - pickup truck crew cab	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Pool - pickup truck/van	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Gopher - Tractor mounted, small diameter drill	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: NQ Drill - NQ drill for cover holes, delineation	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Directional - Directional drill	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Survey - Downhole survey equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Consumables - Core drill accessories	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Lined Borehole, 25.5m	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Loading Station 440m	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete truck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete pump, mobile	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - 3m3 (4 yd) LHD w/quick attach blade	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - Remote for 3m3 (4yd) LHD	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Pipe installing - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING			0	0		0		0		0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
U/G Concrete Piping - CS 127mm (5") sch 80, including couplings & bends	4120 M	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Pipe Hangers	824 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING			0	0		0		0		0	0
AREA 1310 MOBILE MINING EQUIPMENT			0	0		0		0		0	0

AREA 1400 FIXED MINING EQUIPMENT

COMM 10 CIVIL											
Maintenance Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Wash Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	16 EA	0	0	0	-0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Refuge Stations 3 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Fill for Slab	105 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			0	0		0		0		0	0
COMM 20 STRUCTURAL AND ARCHITECTURAL											
LHD ore pass dump grizzly - Concrete Collar, for 7 dumps	196 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
LHD ore pass dump grizzly - Rock Bolts 25mm x 2.5m , for 7 dumps	840 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Concrete Slabs and Beam, for 7 dumps	91 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - Rock Dowels 20M x 1800mm, for 7 dumps	896 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Embedded Face Steel Plates, for 7 dumps	43 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly, for 7 dumps	140 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly Wear Plates, for 7 dumps	50 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - In-line Chute, for 7 dumps	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Liners, for 7 dumps	107 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Embedded Steel & Rails, for 7 dumps	31 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Chain Support Beam, for 7 dumps	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	60 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar Raise Concrete Collar	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Foundations Fans	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Remove Concrete Raise Collar	24 M3	5	120	9,000	0.00	0	0.00	0	0.00	0	9,000
(Airlock) Access Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Safety Fence 3M High	42 LM	0.15	6	473	0.00	0	0.00	0	0.00	0	473
Allowance for Fill to Collar	400 M3	0.3	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Cap Ventilation Raise	10 M3	12	120	9,000	400.00	4,000	0.00	0	0.00	0	13,000
Concrete Slab On Grade	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Piers C/W Csp Cover	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bollards Dowelled To Rock	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Misc. Concrete Bases	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Shotcrete Walls 200mm Thick	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Metals	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Steel Medium	20 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Structural Steel Light	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Asce 60Lb/Yd Rail	2.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Handrail	20 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Grating	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Ladder	12 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Gantrex Rail Clips	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Column And Beam Tie Back Rock Anchors	128 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bollard Facing Plate C/W Nelson Studs	5.6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving Allowance Storage Room	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Wall	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Door 4M x 4m No. 1 & 2 Drift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	5 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Office Equipment and Furniture Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Warehouse Shelving	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	180 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Microwave	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Refrigerator	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tables	24 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Chairs	120 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Cooler	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Heater	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sink	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
First Aid Kit	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Stretcher	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving	3 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	36 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Walkway	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Sumps 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	300 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Dams	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	28 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Pumpbases	24 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	3 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Ladders 3M High	18 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			366	27,473		4,000		0		0	31,473
COMM 30 MINING											
Equip emergency egress system - ladders, equipment, etc., excluding rock excavation	140 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Egress raise concrete cap	4 M2	0	0	0	0.00	0	1,000.00	4,000	0.00	0	4,000
Portable refuge station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Latrine	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine rescue equipment	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aux pumps - air powered	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Aux pumps - electric	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Mine lamp recharger - surface	4 EA	10	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine cap lamps - surface	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Self Rescuer	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Geology - MRM - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Survey - Survey equipment	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - hand-held air quality monitors	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Gem Com System, to monitor ore body and progress, including Gem Com hardware, desktop solution, enterprise solution for mine production tracking, cabling	1 LS	40	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Geomechanics Datalogging System - monitoring shaft stability, including dataloggers, enclosure, software, computers, extensometers, sensors, cable, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
UG Cap Magazines , including door shelving, lighting, heater, etc.	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Powder Magazines , including door shelving, lighting, heater, etc.	2 EA	10	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Subtotal 30 MINING			280	21,000		0		4,000		0	25,000
COMM 40 MECHANICAL											
Primary exhaust ventilation fan	2 EA	191.25	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Secondary ventilation fan - 18 kw	16 EA	10.2	163	12,240	0.00	0	0.00	0	0.00	0	12,240
Secondary ventilation fan - 22 kw	8 EA	10.2	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Secondary ventilation fan - 37 kw	3 EA	15.3	46	3,443	0.00	0	0.00	0	0.00	0	3,443
Ventilation airlock doors	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Ventilation roll down doors	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ventilation regulators	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1219mm (48") X 610mm (24") Oval Duct Galv. 18Ga	52 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbow	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
610mm (24") X 1219mm (48") Vert Elbow	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Reducer 1219mm (48") X 914mm (36")	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct Galv. 18Ga	80 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Outlet Cone	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
914mm (36") Inlet Bell	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") X 914mm (36") Damper	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-01B	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Fan Eq 19-101-01A	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
254mm (10") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	16 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
178mm (7") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	22 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq19-106-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Exhaust Arms Eq19-106-01A,B,C,D	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
10T Overhead Crane	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825
2 Ton Rope Pull Winch	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Submersible Sump Pump	2 EA	8.16	16	1,224	0.00	0	0.00	0	0.00	0	1,224
Shop Tool Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Hose Reels	8 EA	1.02	8	612	0.00	0	0.00	0	0.00	0	612
Dispensing Pump	4 EA	5.1	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Waste Oil Transfer Pump	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Waste Oil Sink	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Portable Steam Washer	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Oil Separator and Sump	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Fueling Cubes	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
H.V.A.C. Allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
H.V.A.C. Allowance	3 LS	38.25	115	8,606	0.00	0	0.00	0	0.00	0	8,606
1T Wall Mounted Pneumatic Hoist	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Submersible Sump Pump	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
1T Trolley Chain Hoist	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Dewatering Transfer Pumps - Pump Station PS-190N - 102mm (4") x 102mm (4"), 550usgmp, 20m (65ft) head, 19kW, including control cabinet	2 EA	12.75	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Dewatering Pumps - Pump Station PS+190S - 76mm (3") x 102mm (4"), 500usgmp, 314m (1030ft) head, 186kW, 1 VFD, including control cabinet	3 EA	56.1	168	12,623	0.00	0	0.00	0	0.00	0	12,623
Subtotal 40 MECHANICAL			1,282	96,122		0		0		0	96,122
COMM 50 PIPING											
25mm Dia F.P. Piping	200 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
40mm Dia F.P. Piping	32 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
75mm Dia F.P. Piping	30 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
100mm Dia. F.P. Piping	50 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Fittings Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	132 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sprinkler Heads	102 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Valve Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. C.A. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. C.A. Piping	84 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. S.W. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. S.W. Piping	84 LF	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pressure Reducing Valve	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Fountain & Filter	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Eye Wash Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
150mm Dia. C.S. Drain Pipe	100 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fitting Allowance	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
19mm S.S. Lube Piping	290 LM	0.06534	19	1,421	0.00	0	0.00	0	0.00	0	1,421
19mm (3/4") Waste Oil Piping	50 LM	0.06534	3	245	0.00	0	0.00	0	0.00	0	245
Hangers/Supports	220 EA	0.198	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Fitting Allowance	2 LS	1.98	4	297	0.00	0	0.00	0	0.00	0	297
Fire Protection Allowance	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
H.V.A.C. Allowance	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Piping Allowance	3 LS	15.84	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Piping Allowance	1 LS	5.94	6	446	0.00	0	0.00	0	0.00	0	446
Pump Station PS+190N - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	1006 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190N - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	7315 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Paste Backfill Distribution Piping - CS 152mm (6") sch 80, including couplings & bends, induction hardened pipe	7140 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Distribution Piping - CS 152mm (6") sch 20, including couplings & bends	7600 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Line Hangers	1428 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 200mm (8") sch 40 victaulic, including pipe, fittings, valves, etc.	3700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 100mm (4") sch 40 victaulic, including pipe, fittings, valves, etc.	3300 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 50mm (2") sch 40 victaulic, including pipe, fittings, valves, etc.	250 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 150mm (6") dia, CS sch 40 victaulic, including pipe, fittings, etc.	250 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 100mm (4") dia, CS sch 40 victaulic, including pipe, fittings, etc.	2700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING			155	11,616		0		0		0	11,616
COMM 60 ELECTRICAL											
Instrumentation Allowance	1 LS	24	24	1,800	0.00	0	0.00	0	0.00	0	1,800
Electrical Allowance	2 LS	148.5	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Electrical Allowance	2 LS	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Electrical Allowance	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Electrical Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Electrical Allowance	1 LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Electrical Heaters	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Lighting - Allowance for Refuge Station	3 EA	7.92	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Electrical Outlets and Receptacles - Allowance for Refuge stations	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Electrical Allowance	1 LS	5.94	6	446	0.00	0	0.00	0	0.00	0	446
VFD 186kW - dewatering pumps	1 EA	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Dewatering Pumps - Low Voltage Electrical Allowance, 15% of mechanical equipment	1 LS	54.45	54	4,084	0.00	0	0.00	0	0.00	0	4,084



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting - Allowance for Pumping Station	2	LS	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Electrical Outlets and Receptacles - Allowance for Pumping stations	1	LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Subtotal 60 ELECTRICAL				524	39,267		0		0		0	39,267
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance, 10% of mechanical equipment	1	LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
End of Line Video Monitoring	1	LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Pressure Transducer	2	EA	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Ventilation monitoring system	1	LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Ore storage monitoring system	1	LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Leaky Feeder Communication System - cable and basic hardware for system diagnostics	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Mine Equipment Communication System - includes fleet/crew management software and equipment communication hardware	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Central Blasting System	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 70 INSTRUMENTATION AND CONTROLS				150	11,286		0		0		0	11,286
AREA 1431 MAINTENANCE BAYS				2,757	206,763		4,000		4,000		0	214,763

AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION

COMM 10 CIVIL

Main Power Distribution Cables - Trench for: Install Buried Duct (duct only) for initial 100 m in duct and sand, 100mm W x 120mm D	200	M	0	0	0	0.00	0	0.00	0	0.00	0	0
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**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Main Power Distribution Cables - Sand for: Install Buried Duct (duct only) for initial 100 m in duct and sand.	2.5 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			0	0		0		0		0	0
COMM 60 ELECTRICAL											
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable (Power house to Mine transformer Feeders) 2 runs to 2 transformers.	240 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable terminations (Power house to Mine transformer Feeders)	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south)	3500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder cables for Intake vent raise section	750 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV Junction Box, 4 way bus links.	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0 AWG Termination Kits and connectors	25 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Messenger/Hanger/Brackets for 15kV 3c 3/0 AWG cable down north and south ramp	4500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Install Buried Duct (duct only) for initial 100 m in duct and sand. 15 kV 3c 3/0AWG Verti-Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south), 20 ft lengths of PVC conduit 6"	200 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Transformers - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor	2 EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Transformers - Control wiring for above transformer including cables and ducting	2 LS	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Breakers and Disconnects - Skid Mounted 15 kV Fused Disconnect for Production & Development Substation feeds	2 EA	1.98	4	297	0.00	0	0.00	0	0.00	0	297



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Motor Control - Allowance for Underground Vent Fan Starters	27	EA	1.584	43	3,208	0.00	0	0.00	0	0.00	0	3,208
Motor Control - Allowance for Crusher and miscellaneous 600V starters	10	EA	1.584	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Packaged Substations - Production 750 kVA 13.8kV/600V Skid mounted Substations	2	EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Packaged Substations - Development 750 kVA 13.8kV/600V Skid mounted Substations	2	EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Packaged Substations - Paste Booster 750 kVA 13.8kV/600V Skid mounted Substations	1	EA	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Packaged Substations - +280N and +220N Pumping and Exhaust Ventilation, 750 kVA 13.8kV/4.16IV Skid mounted Substations	2	EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Distribution Cable Messenger Systems - Messenger/hanger/brackets for cables for production equipment: 8 panels operating and 2 development areas. Allowance for 10 x 500m each. All subsequent messenger cables will be part of operations budget.	1500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - 4/0 AWG bare copper grounding cables from main power house and bonded at each level to JB and to each Unit substation.	8500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - Miscellaneous grounding/bonding material	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Medium Voltage Cables - 15 kV 3c #1AWG Teck 133% Insulation for Production and Development substations	1500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Develop Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 2 drills @ 500m	500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Prod. Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 8 drills @ 500m	2000	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 25HP Aux Fan for Development drifts , 3c #1/0AWG Verti-Teck rated cable, allowance for initial period only, 8 areas @ 500m to local starters	1000	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 30HP Aux Fans , 3c #1/0AWG Teck rated cable, allowance for initial period only, allowance only	500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 75HP Aux Fans , 3c #2/0AWG Verti-Teck rated cable, allowance for initial period only, allowance only	500	M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Low Voltage Cables - Cable allowance for refuge stations	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Cable allowance for Maintenance shop	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Terminations - Allowance for all cable terminations	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Cable Reels - Allowance for all cable reels	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Switches and Push Buttons - Allowance for Vent Fan and Misc PB stations for local stop start	27	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL				461	34,541		0		0		0	34,541
AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION				461	34,541		0		0		0	34,541

AREA 1600 SURFACE FACILITIES

COMM 10 CIVIL

Structural Fill	2500	M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Trench Rock Excavation	400	M3	0.0297	12	891	0.00	0	0.00	0	0.00	0	891
Sand Bedding	25	M3	0.014256	0	27	0.00	0	0.00	0	0.00	0	27
Trench Backfill	350	M3	0.014256	5	374	0.00	0	0.00	0	0.00	0	374
Safety Fence - around collars	60	M	0.0594	4	267	0.00	0	0.00	0	0.00	0	267
Structural Fill	2500	M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Subtotal 10 CIVIL				56	4,232		0		0		0	4,232

COMM 20 STRUCTURAL AND ARCHITECTURAL

Concrete Caps for 4 Vent Raises	36	M2	0	0	0	0.00	0	1,000.00	36,000	0.00	0	36,000
Concrete Foundations	22	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	15	M3	4.785	72	5,383	0.00	0	0.00	0	0.00	0	5,383
Concrete Slab On Grade	42	M3	1.386	58	4,366	0.00	0	0.00	0	0.00	0	4,366



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Equipment Foundations	105 M3	2.409	253	18,971	0.00	0	0.00	0	0.00	0	18,971
Anchor Bolts	1200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	42 T	6.6	277	20,790	0.00	0	0.00	0	0.00	0	20,790
Steel - Platforms	6 T	8.58	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Steel - Handrails c/w kick plate	50 M	0.396	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Steel - Ladders	50 M	0.726	36	2,723	0.00	0	0.00	0	0.00	0	2,723
Personnel Doors	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Equipment Doors	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Insulated Roof Cladding	380 EA	0.2145	82	6,113	0.00	0	0.00	0	0.00	0	6,113
Insulated Wall Cladding	655 EA	0.2145	140	10,537	0.00	0	0.00	0	0.00	0	10,537
Air Intake Louvres	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Concrete Foundations	20 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	10 M3	4.785	48	3,589	0.00	0	0.00	0	0.00	0	3,589
Concrete Slab On Grade	40 M3	1.386	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Anchor Bolts	720 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	14 T	6.6	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Steel - Platforms	2 T	8.58	17	1,287	0.00	0	0.00	0	0.00	0	1,287
Steel - Handrails c/w kick plate	15 M	0.396	6	446	0.00	0	0.00	0	0.00	0	446
Steel - Ladders	4 M	0.726	3	218	0.00	0	0.00	0	0.00	0	218
Personnel Doors	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Equipment Doors	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Insulated Roof Cladding	165 EA	0.2145	35	2,654	0.00	0	0.00	0	0.00	0	2,654
Insulated Wall Cladding	320 EA	0.2145	69	5,148	0.00	0	0.00	0	0.00	0	5,148
Air Intake Louvres	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			1,424	106,776		0		36,000		0	142,776
COMM 40 MECHANICAL											
Primary intake ventilation fan	2 EA	127.5	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks 50,000L Cap.	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
120-HF-01 Mine Air Heater, Shaft No. 1	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
120-HF-02 Mine Air Heater, Shaft No. 2	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
H.V.A.C. Allowance	364 M2	0.255	93	6,962	0.00	0	0.00	0	0.00	0	6,962
H.V.A.C. Allowance	162 M2	0.255	41	3,098	0.00	0	0.00	0	0.00	0	3,098
Compressors - 5542m3/hr (3260cfm), 125 psig, 522kW (700hp)	3 EA	76.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL			1,078	80,822		0		0		0	80,822
COMM 50 PIPING											
Piping Allowance, 5% of mechanical equipment	1 LS	225	225	16,875	0.00	0	0.00	0	0.00	0	16,875
Fuel Supply Line 75mm C.S. Sch 80 Contained in 150mm C.S. Pipe	400 LM	0.495	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Valve and Fitting Allowance	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Leak Detection Sump	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Fire Protection Allowance	364 M2	0.0297	11	811	0.00	0	0.00	0	0.00	0	811
Piping Allowance - 20% of mechanical equipment	1 LS	199	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Subtotal 50 PIPING			648	48,574		0		0		0	48,574
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Building Lighting Allowance	364 M2	0.1386	50	3,784	0.00	0	0.00	0	0.00	0	3,784
Building Grounding Allowance	364 M2	0.0396	14	1,081	0.00	0	0.00	0	0.00	0	1,081
Electrical Allowance - 15% of mechanical equipment	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Building Lighting Allowance	162 M2	0.1386	22	1,684	0.00	0	0.00	0	0.00	0	1,684
Building Grounding Allowance	162 M2	0.0396	6	481	0.00	0	0.00	0	0.00	0	481
Subtotal 60 ELECTRICAL			312	23,365		0		0		0	23,365
COMM 70 INSTRUMENTATION AND CONTROLS											



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance, 5% of mechanical equipment	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Instrumentation Allowance - 5% of mechanical equipment	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 70 INSTRUMENTATION AND CONTROLS			89	6,683		0		0		0	6,683
AREA 1610 HEATING & VENTILATION FACILITIES			3,606	270,452		0		36,000		0	306,452

AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT

COMM 10 CIVIL

Plantsite Soil Reclamation/Stockpiling	16.3 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Speard 1m fill on site for reclamation all areas	80650 M3	0.03	2,420	181,463	0.00	0	5.00	403,250	0.00	0	584,713
Camp Soil Reclamation/Stockpiling	0.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Storage Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Soil Reclamation/Stockpiling	2.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Soil Reclamation/Stockpiling	4.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Soil Reclamation/Stockpiling	22.4 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Soil Reclamation/Stockpiling	0.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Winter Truck Parking - Soil Reclamation/Stockpiling, 2HA - not required	0 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Heating & Ventilation Surface Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressor Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Explosive Magazine Area Soil Reclamation/Stockpiling	0.8 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
AN Soil Reclamation/Stockpiling	1.1 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Soil Reclamation/Stockpiling	1.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Excavation - rock	74000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Container Storage Excavation - rock	200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Excavation - rock	6000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Excavation - rock	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Excavation - rock	200 M3	0.02376	5	356	0.00	0	0.00	0	0.00	0	356
AN Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Develop Fill Shortfall - quarry costs	564140 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite General Rockfill/Spreading	91335 M3	0.00297	271	20,345	0.00	0	1.00	91,335	0.00	0	111,680
Camp General Rockfill/Spreading	9300 M3	0.00297	28	2,072	0.00	0	1.00	9,300	0.00	0	11,372
Service Complex General Rockfill/Spreading	51200 M3	0.00297	152	11,405	0.00	0	1.00	51,200	0.00	0	62,605
Container Storage General Rockfill/Spreading	23000 M3	0.00297	68	5,123	0.00	0	1.00	23,000	0.00	0	28,123
Fuel Storage Area General Rockfill/Spreading	31000 M3	0.00297	92	6,905	0.00	0	1.00	31,000	0.00	0	37,905
Laydown Area - Cement Storage General Rockfill/Spreading	40000 M3	0.00297	119	8,910	0.00	0	1.00	40,000	0.00	0	48,910
Laydown Area - General Rockfill/Spreading	140000 M3	0.00297	416	31,185	0.00	0	1.00	140,000	0.00	0	171,185
Freshwater Intake General Rockfill/Spreading	500 M3	0.00297	1	111	0.00	0	1.00	500	0.00	0	611
Explosive Magazine Area General Rockfill/Spreading	2000 M3	0.00297	6	446	0.00	0	1.00	2,000	0.00	0	2,446
AN General Rockfill/Spreading	7000 M3	0.003	21	1,575	0.00	0	1.00	7,000	0.00	0	8,575
Emulsion Plant General Rockfill/Spreading	9000 M3	0.00297	27	2,005	0.00	0	1.00	9,000	0.00	0	11,005
Plantsite Select Fill -25mm, 150mm thick	6200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Select Fill -25mm, 150mm thick	400 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Select Fill -25mm, 150mm thick	1600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Select Fill -25mm, 900mm thick	7600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Engineered Fill 500mm thick	20700 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Engineered Fill 500mm thick	1300 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Engineered Fill 500mm thick	20200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Unsuitable Material Excavation	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Kimberlite - existing on site to coarse ore stockpile	19000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Metavolcanic Waste - existing on site to north pile	105000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fencing - around intake and exhaust raises	240 M	0.0594	14	1,069	0.00	0	0.00	0	0.00	0	1,069



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Total	TotalDirect	Unit	Total	Unit	Total	Unit	Total	Total
		Direct Hr	Direct Hr	Lab Cost	Mat	Mat Cost	Sub	Sub Cost	Other	Other Cost	Cost
Subtotal 10 CIVIL			3,640	272,969		0		807,585		0	1,080,554
AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT			3,640	272,969		0		807,585		0	1,080,554

AREA 2200 ACCESS ROADS

COMM 10 CIVIL											
Winter Access Road Year 1	1	LS	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 2	1	LS	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 3	1	LS	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Road to Esker Year 1 - 2003	0	LS	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road 7m wide x 1020m	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road Regrade for Closure	3060	M3	0.03	92	6,885	0	5.00	15,300	0.00	0	22,185
Main Access Road Soil Reclamation/Stockpiling, 1.6HA- not required	0	HA	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road General Rockfill	12100	M3	0.00297	36	2,695	0	1.00	12,100	0.00	0	14,795
Main Access Road Culvert 600mm dia x 75m	1	LS	11.88	12	891	0	0.00	0	0.00	0	891
Service Roads - to BEP & AN Storage, 6m wide x 3930m	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads - Regrade for Closure	11790	M3	0.03	354	26,528	0	5.00	58,950	0.00	0	85,478
Service Roads Soil Reclamation/Stockpiling, 5.8HA - not required	0	HA	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads General Rockfill	40700	M3	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads Culvert 600mm dia x 100m	1	LS	14.256	14	1,069	0	0.00	0	0.00	0	1,069
Subtotal 10 CIVIL			508	38,068		0		86,350		1,350,000	1,474,418



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 2200 ACCESS ROADS				508	38,068		0		86,350		1,350,000	1,474,418
AREA 2300 AIR STRIP												
COMM 10 CIVIL												
Airstrip 1525m x 45m wide	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Regrade for Closure	88680	M3	0.03	2,660	199,530	0.00	0	1.00	88,680	0.00	0	288,210
Airstrip Soil Reclamation/Stockpiling	20	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Excavation - rock	143000	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Select Fill -25mm, 300mm thick	12400	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip General Rockfill	165000	M3	0.00297	490	36,754	0.00	0	1.00	165,000	0.00	0	201,754
Airstrip Culvert 1000mm dia x 160m	1	LS	42.768	43	3,208	0.00	0	0.00	0	0.00	0	3,208
Airstrip Trenching for lighting system	3800	M	0.00594	23	1,693	0.00	0	0.00	0	0.00	0	1,693
Subtotal 10 CIVIL				3,216	241,184		0		253,680		0	494,864
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Waiting Building - not required	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
COMM 60 ELECTRICAL												
Air Strip Lighting System - includes lighting, non directional beacon, approach path indicator system, wind direction indicator, field electric centre unit	1	LS	120	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Subtotal 60 ELECTRICAL				120	9,000		0		0		0	9,000



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 2300 AIR STRIP				3,336	250,184		0		253,680		0	503,864

AREA 3100 PRIMARY ORE HANDLING

COMM 10 CIVIL

Dump Ore Pass Dump Pocket - granular A	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - granular A	176	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors on surface for 311-CV-02	110	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Backfill after Foundation Removal	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	6006	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavate to Expose Foundations	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Rock Anchors	1000	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL				68	5,100		0		3,400		0	8,500

COMM 20 STRUCTURAL AND ARCHITECTURAL

Dump Ore Pass Chute - concrete bottom and two sides	15	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - AR plate on chute sides	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rails 85lb cast into chute concrete	4	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - liner support frames	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rock bolts/dowels	60	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - approach slab	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - grizzly collar	20	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rock breaker found. & working slab	3	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rails 85lb cast into chute concrete	1	MT	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Dump Ore Pass Dump Pocket - rock bolts/dowels	100 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - anchor bolts	0.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - embedments	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - elevated slab	66 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - rock bolts/dowels	540 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - anchor bolts	1.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - embedments	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - column foundations	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - CV take up slab	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - stair pad	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - slab on compacted structural fill	35 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Lean Mix	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Footings	27 M3	1.782	48	3,609	0.00	0	0.00	0	0.00	0	3,609
Concrete on surface for 311-CV-02 - Anchor Bolts	123 KG	0.0132	2	122	0.00	0	0.00	1	0.00	0	122
Dump Ore Pass Dump Pocket - grizzly	25 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - rock bolts/dowels	25 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - structural steel	26 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - structural steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - structural steel, heavy	28 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - rails	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - ladder	12 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Feeder Support Platform - grating	120 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - handrail	46 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - Magnet Support Steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
MCC room for crusher - allowance	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Coarse Ore Storage Building 72m x 64m x 27m high (4608m2), with 22m x 9m x 27m high annex (198m2) --> total 4806m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	178 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	284 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	61 M3	4.29	262	19,627	0.00	0	0.00	0	0.00	0	19,627
Concrete - Grade Beams	19 M3	4.785	91	6,819	0.00	0	0.00	0	0.00	0	6,819
Concrete - Retaining Walls	304 M3	4.95	1,505	112,860	0.00	0	0.00	0	0.00	0	112,860
Concrete - Misc & Equipment Pads	3 M3	4.092	12	921	0.00	0	0.00	0	0.00	0	921
Concrete - Anchor Bolts	1726 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	53 T	8.58	455	34,106	0.00	0	0.00	0	0.00	0	34,106
Steel - Structural Medium	22 T	7.26	160	11,979	0.00	0	0.00	0	0.00	0	11,979
Steel - Structural Heavy	19 T	6.6	125	9,405	0.00	0	0.00	0	0.00	0	9,405
Steel - Floor Grating	632 M2	0.495	313	23,463	0.00	0	0.00	0	0.00	0	23,463
Steel - Stairs c/w handrail	39 M	0.726	28	2,124	0.00	0	0.00	0	0.00	0	2,124
Steel - Handrails c/w kick plate	217 M	0.396	86	6,445	0.00	0	0.00	0	0.00	0	6,445
Steel - Grout, for structural steel columns	2 M3	35	70	5,250	0.00	0	0.00	0	0.00	0	5,250
Coarse Ore Storage Building, engineered structure	1 LS	2871	2,871	215,325	0.00	0	0.00	0	0.00	0	215,325
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			6,077	455,765		0		1		0	455,765
COMM 40 MECHANICAL											
311-BX-01 Platework - tramp iron tote box	1160 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
311-CH-01 Platework - apron feeder spillage/fines chute	5250 KG	0.0102	54	4,016	0.00	0	0.00	0	0.00	0	4,016
311-CH-02 Platework - apron feeder fixed grizzly	1200 KG	0.0102	12	918	0.00	0	0.00	0	0.00	0	918
311-CH-03 Platework - jaw crusher discharge liners	1950 KG	0.0102	20	1,492	0.00	0	0.00	0	0.00	0	1,492



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-CH-03 Platework - jaw crusher discharge chute	2300 KG	0.0102	23	1,760	0.00	0	0.00	0	0.00	0	1,760
311-CH-04 Platework - conveyor transfer chute	2720 KG	0.0102	28	2,081	0.00	0	0.00	0	0.00	0	2,081
311-CH-05 Platework - primary crusher feed chute/apron feeder skirt, incl liners	5000 KG	0.0102	51	3,825	0.00	0	0.00	0	0.00	0	3,825
311-CH-06 Platework - primary crusher feed chute/apron feeder head chute, incl liners	3260 KG	0.0102	33	2,494	0.00	0	0.00	0	0.00	0	2,494
311-CH-07 Platework - tramp iron discharge chute	2000 KG	0.0102	20	1,530	0.00	0	0.00	0	0.00	0	1,530
311-CH-08 Platework - skirting, conveyor, incl liners	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
311-CH-09 Head Chute for 311-CV-02, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
311-CH-09 Metal Liners	4460 KG	0.0102	45	3,412	0.00	0	0.00	0	0.00	0	3,412
Air Receiver, 1m3	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Air Receiver, 3m3	1 EA	13.26	13	995	0.00	0	0.00	0	0.00	0	995
Belt Scale	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-RB-01 Hydraulic Hammer At Underground Surge Bin, 50kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-BI-01 Underground Ore Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-04 Underground Waste Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-MD-01 Metal Detector - Take-Away Conveyor, For 1372 mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-MS-01 Self Cleaning Magnet - Take-Away Conveyor, For 1372 mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-CV-01 Primary Crusher Take-Away Conveyor, 1372mm Wide x 18m L, 15kW, includes idlers, pulleys, drive, belting, steel	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-CV-02 Inclined Conveyor to Surface, 1067mm Wide x 300m, 2 x 600kW	1 EA	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
311-FE-01 Primary Crushing Apron Feeder, 1524mm x 6000mm w/hydraulic VFD, 11kW	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
311-CK-01 Crane, 25 tonne, 5.5kW - Primary Crusher	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CK-02 ROM Orepass O/H Crane, 5 tonne, 2.2kW - Chain Gate	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-XX-01 Chain Curtain with Hydraulic Cylinder, 1500mm x 3000mm, 1.1kW, discharge chute w/extra heavy liners and chains, press gate w/air cylinders, air receiver, etc.	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CR-01 Primary Crusher , Single Toggle Jaw Crusher,940 x 1240mm, 225kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
311-GZ-01 Primary Crushing Vibrating Grizzly, 150mm Opening, 1448mm x 4270mm Single Step, VFD 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance - not required, building not heated	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Stockpile Reclaim Hopper	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-01 Stockpile Reclaim Apron Feeder Spillage Chutes , Unlined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-02 Mineral Sizer Feed Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Stockpile Reclaim Mineral Sizer Discharge Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-04 Head Chute for 312-CV-02, metal lined	2740 KG	0.0102	28	2,096	0.00	0	0.00	0	0.00	0	2,096
312-CH-04 Metal Liners	4460 KG	0.00765	34	2,559	0.00	0	0.00	0	0.00	0	2,559
312-CH-05 Head Chute for 312-CV-03, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
312-CH-05 Metal Liners	3365 KG	0.00765	26	1,931	0.00	0	0.00	0	0.00	0	1,931
312-CV-02 Crushed Ore Stockpile Feed Tripper Conveyor, 1067mm Wide x 92m, 30kW	1 EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
312-TR-01 Tripper, stockpile feed, 15kW, included with 312-CV-02	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CV-03 Stockpile Reclaim Conveyor, 1067mm Wide x 44m, 37kW	1 EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
312-FE-01 Stockpile Reclaim Apron Feeder, 1372mm x 6000mm w/hydraulic VFD, 11kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-MB-01 Reclaim Front End Loader 224kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CR-01 Reclaim System - Fixed Plant, including dump hopper, sizer, apron feeder, structure, chutes, operating system, complete electrical system, 4 weeks installation and startup assistance	1 PKG	561	561	42,075	0.00	0	0.00	0	0.00	0	42,075
312-CR-01 Stockpile Reclaim Mineral Sizer, 500mm Centres, 4 Tooth Rotor, 150kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 40 MECHANICAL				3,306	247,974		0		0		0	247,974
COMM 50 PIPING												
Piping Allowance - U/G and Conveying	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for 311-CV-02, including piping, sprinklers, hose reels, pressure reducing station, etc.	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for all above ground conveyors, including piping, sprinklers, etc.	1	LS	227.898	228	17,092	0.00	0	0.00	0	0.00	0	17,092
Piping Allowance	1	LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Fire Suppression - including piping, sprinklers, hose reels, extinguishers, etc.	1	LS	133.056	133	9,979	0.00	0	0.00	0	0.00	0	9,979
Subtotal 50 PIPING				420	31,527		0		0		0	31,527
COMM 60 ELECTRICAL												
VFD 11kW	1	EA	12	12	900	0.00	0	0.00	0	0.00	0	900
Packaged Substations - CRUSHER & +190S Pumping Duel 1250 kVA 13.8kV/4.16kV Skid mounted Substation	1	EA	60	60	4,500	0.00	0	0.00	0	0.00	0	4,500
Low Voltage Cables - Cable allowance for Underground Crusher misc cables	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Lighting - Allowance for Crusher	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Electrical Allowance	1	LS	35.64	36	2,673	0.00	0	0.00	0	0.00	0	2,673
Lighting allowance	4686	M2	0.0594	278	20,876	0.00	0	0.00	0	0.00	0	20,876
Grounding allowance	4686	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
VFD 11kW	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Subtotal 60 ELECTRICAL				394	29,543		0		0		0	29,543



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3110 PRIMARY CRUSHING & CONVEYING				10,265	769,908		0		3,401		0	773,309

AREA 3200 FEED PREPARATION

COMM 40 MECHANICAL

Ductwork allowance	1	LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-SB-02 Primary Scrubber Dust Control Scrubber, 17,000m3/hr fan, 22kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
321-CH-02 Primary Scalping Screen Oversize Chute, Metal Lined	820	KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
321-CH-02 Metal Liners	1420	KG	0.00765	11	815	0.00	0	0.00	0	0.00	0	815
321-CH-03 Transfer Chute from 312-CV-02, metal lined	1590	KG	0.0102	16	1,216	0.00	0	0.00	0	0.00	0	1,216
321-CH-03 Metal Liners	4490	KG	0.00765	34	2,576	0.00	0	0.00	0	0.00	0	2,576
321-CH-04 Head Chute for 321-CV-01, metal lined	1900	KG	0.0102	19	1,454	0.00	0	0.00	0	0.00	0	1,454
321-CH-04 Metal Liners	1100	KG	0.00765	8	631	0.00	0	0.00	0	0.00	0	631
321-CH-05 Head Chute for 321-CV-02, metal lined	1575	KG	0.0102	16	1,205	0.00	0	0.00	0	0.00	0	1,205
321-CH-05 Metal Liners	1960	KG	0.00765	15	1,125	0.00	0	0.00	0	0.00	0	1,125
321-CH-06 Banana Screen Oversize Chute, metal lined	5755	KG	0.0102	59	4,403	0.00	0	0.00	0	0.00	0	4,403
321-CH-06 Metal Liners	7315	KG	0.00765	56	4,197	0.00	0	0.00	0	0.00	0	4,197
321-CH-XX Movable Trolley, metal lined	1620	KG	0.0102	17	1,239	0.00	0	0.00	0	0.00	0	1,239
321-CH-XX Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-CH-YY Scrubber Discharge Chute, metal lined	3580	KG	0.0102	37	2,739	0.00	0	0.00	0	0.00	0	2,739
321-CH-YY Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-SU-01 Scrubber Discharge Screen Underpan, Rubber Lined	2555	KG	0.0102	26	1,955	0.00	0	0.00	0	0.00	0	1,955
321-SU-01 Rubber Lining	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SU-02 Banana Screen Underflow Pump Box, Rubber Lined	7115	KG	0.0102	73	5,443	0.00	0	0.00	0	0.00	0	5,443



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
321-SU-02 Rubber Lining	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-PU-01 Primary Scrubber Discharge Screen U/F Pump, 350 x 300 mm Heavy Duty Horizontal Slurry Pump, 55kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
321-PU-03 Primary Scrubber Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
321-PU-04 Primary Scrubber Dust Control Pump, 100 x 75 mm heavy duty centrifugal pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-MD-01 Metal Detector - Scrubber Feed Conv., For 1067mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-MS-01 Self Cleaning Electromagnet - Scrubber Feed Conv., For 1067mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-CV-01 Primary/Secondary Scrubber Feed Conveyor, 1067mm Wide x 111m, 75kW	1 EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
321-CV-02 Primary/Secondary Scrubber Oversize Conveyor 1, 914mm Wide x 56m, 30kW	1 EA	117.3	117	8,798	0.00	0	0.00	0	0.00	0	8,798
321-CV-03 Primary/Secondary Scrubber Oversize Conveyor 2, 914mm Wide x 31m, 19kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
321-SC-01 Beltscale Scrubber Feed Conveyor, Double idler (4 cell), 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-CK-01 Scrubbing & Crushing Section Overhead Crane, 50 tonnes, 22kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
321-SB-01 Primary Scrubber, 4000mm Dia x 7400mm Long, Rubber Lined, 600kW	1 EA	765	765	57,375	0.00	0	0.00	0	0.00	0	57,375
321-XX-01 Primary Scrubber Inching Drive, 7.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-XX-02 Primary Scrubber Jacking System, air actuated	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SN-01 Scrubber Discharge Scalping Screen, Horizontal Vibrating Single Deck Screen, 2400w x 4200mm L, 50mm Cut, PU, 18.5kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
321-SN-02 Scrubber Discharge Screen, DBHG24/73 Banana Screen, D. Deck, 32mm Cut Top, 1.5mm Cut Bottom, PU, 45kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Ductwork allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-BH-01 HPRC Dust Collector, 44m2 area	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-FA-01 HPRC Dust Collector Fan, 4500 m3/hr, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-BI-01 Sec. Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-BI-02 HPRC Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-01 HPRC Surge Bin Feed Conveyor 2, high angle, 1372mm wide x 70.7m 18.8m lift, 93kW & 112kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-02 HPRC Surge Bin Feed Conveyor 1, 914mm wide x 27m, 30kW	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-BI-01 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-BI-02 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-CH-01 Sec. Crusher Bin Feed Chute, Metal Lined	1635 KG	0.0102	17	1,251	0.00	0	0.00	0	0.00	0	1,251
322-CH-01 Metal Liners	2070 KG	0.00765	16	1,188	0.00	0	0.00	0	0.00	0	1,188
322-CH-02 Sec. Crusher Bin Discharge Chute, Metal Lined	3400 KG	0.0102	35	2,601	0.00	0	0.00	0	0.00	0	2,601
322-CH-02 Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-03 Secondary Crusher Feed Chute, Metal Lined	715 KG	0.0153	11	820	0.00	0	0.00	0	0.00	0	820
322-CH-03 Metal Liners	470 KG	0.00765	4	270	0.00	0	0.00	0	0.00	0	270
322-CH-04 Sec. Crusher Discharge Chute, Metal Lined, included in crusher	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CH-05 Head Chute for 322-CV-01, metal lined	1100 KG	0.0102	11	842	0.00	0	0.00	0	0.00	0	842
322-CH-05 Metal Liners	565 KG	0.00765	4	324	0.00	0	0.00	0	0.00	0	324
322-CH-06 Feeder Head Chute for 322-FE-02, metal lined	1360 KG	0.0102	14	1,040	0.00	0	0.00	0	0.00	0	1,040
322-CH-06 Metal Liners	755 KG	0.00765	6	433	0.00	0	0.00	0	0.00	0	433
322-CH-08 Head Chute for 322-CV-02, metal lined	2815 KG	0.0102	29	2,153	0.00	0	0.00	0	0.00	0	2,153
322-CH-08 Metal Liners	1510 KG	0.00765	12	866	0.00	0	0.00	0	0.00	0	866
322-CH-09 Feeder Head Chute for 322-FE-01, metal lined	670 KG	0.0153	10	769	0.00	0	0.00	0	0.00	0	769
322-CH-09 Metal Liners	375 KG	0.00765	3	215	0.00	0	0.00	0	0.00	0	215
322-CH-XX HPRC Crusher Bin Discharge Chute, metal lined	3400 KG	0.0153	52	3,902	0.00	0	0.00	0	0.00	0	3,902
322-CH-XX Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-YY Secondary Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-YY Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-CH-ZZ HPRC Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-ZZ Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607
322-PU-01 Crushing Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
322-MD-01 Metal Detector - Crusher Feed Conv., For 914mm wide belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MD-02 Metal Detector, For 914mm Belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-01 Self Cleaning Belt Magnet - Secondary Crusher Feed Conv., For 914mm wide belt, 3kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-02 Self Cleaning Belt Magnet - HPRC Feed Conv., For 760mm Belt, 2.2kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-LU-01 Secondary Crusher Lube Unit, 5.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FE-01 Belt Feeder to Secondary Crusher, 914mm wide x 15m, 11kW, VFD	1 EA	45.9	46	3,443	0.00	0	0.00	0	0.00	0	3,443
322-FE-02 HPRC Crusher Belt Feeder, 914mm wide x 22m long, 11kW, VFD	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-SC-01 Belt Scale - Crusher Feed Conveyor, For 914mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-SC-02 Belt Scale - HPRC Feed Conveyor, For 760mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-CR-01 Secondary Crusher , 1676mm Standard Cone Crusher, Coarse Liners c/w Hydroset, 50mm Setting, 225kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
322-HY-01 Hydraulic Unit, Cone Crusher Hydroset, 1.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CR-02 Recrush Crusher, High Pressure Rolls Crusher - 2m Dia. X 1m wide, VFD included, 2 x 600kW	1 EA	1071	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
322-HY-02 Hydraulic Unit, High Pressure Rolls Crusher, 37.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-XX-05 Auxiliary Drive HPRC	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FD-01 Rotary Distributor, Cone Crusher Feed, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
323-CH-03 Head Chute for 323-CV-01, metal lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
323-CH-03 Metal Liners	1365 KG	0.00765	10	783	0.00	0	0.00	0	0.00	0	783



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
323-CV-01 Sec. Scrubber Feed Conveyor, high angle, 1372mm W x 39.1m L x 14.5m lift, 2x75kW	1	EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL				4,935	370,125		0		0		0	370,125
COMM 50 PIPING												
Piping Allowance - 10% of mechanical equipment	1	LS	415.8	416	31,185	0.00	0	0.00	0	0.00	0	31,185
Piping Allowance - 2% of mechanical equipment	1	LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Subtotal 50 PIPING				574	43,065		0		0		0	43,065
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance	1	LS	297	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Low Voltage Electrical Allowance	1	LS	396	396	29,700	0.00	0	0.00	0	0.00	0	29,700
VFD 11W	2	EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Low Voltage Electrical Allowance - 10% of mechanical equipment	1	LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 60 ELECTRICAL				758	56,876		0		0		0	56,876
AREA 3210 PRIMARY SCRUBBING AND SCREENING				6,268	470,066		0		0		0	470,066

AREA 3300 DMS

COMM 40 MECHANICAL												
330-BI-01 DMS Feed Surge Bin, 100 tonnes	20	T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-BI-01 Metal Liners	36	T	7.65	275	20,655	0.00	0	0.00	0	0.00	0	20,655
330-BI-03 Coarse DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5	T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-BI-05 Fines DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5 T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-CH-17 Coarse DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-CH-18 Fines DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-BX-01 Coarse DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-01 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-03 Fines DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-03 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-05 Coarse DMS DM Cyclone Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-05 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-07 Fines DMS DM Cyclones Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-07 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-09 Coarse DMS DM Cyclone U/Flow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-11 Fines DMS DM Cyclones U/Flow Box, Rubber Lined	1180 KG	0.0102	12	903	0.00	0	0.00	0	0.00	0	903
330-BX-13 Coarse DMS DM Cyclone O/Flow Box, Rubber Lined	1800 KG	0.0102	18	1,377	0.00	0	0.00	0	0.00	0	1,377
330-BX-15 Fines DMS DM Cyclones O/Flow Box, Rubber Lined	2155 KG	0.0102	22	1,649	0.00	0	0.00	0	0.00	0	1,649
330-BX-21 Coarse DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-23 Fines DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-25 Coarse DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-BX-27 Fines DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-CH-01 Feed Prep Screen Feed Chute for 330-FE-03, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-CH-01 Metal Liners	810 KG	0.00765	6	465	0.00	0	0.00	0	0.00	0	465



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CH-03 Feed Prep Screen Oversize Chute, Metal Lined	1935 KG	0.0102	20	1,480	0.00	0	0.00	0	0.00	0	1,480
330-CH-03 Metal Liners	1765 KG	0.00765	14	1,013	0.00	0	0.00	0	0.00	0	1,013
330-CH-05 Oversize Chute for 330-SN-11, Rubber Lined	4185 KG	0.0102	43	3,202	0.00	0	0.00	0	0.00	0	3,202
330-CH-05 Rubber Lining	53 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-07 Oversize Chute for 330-SN-13, Rubber Lined	300 KG	0.0102	3	230	0.00	0	0.00	0	0.00	0	230
330-CH-07 Rubber Lining	5.2 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-09 Coarse DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-09 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-11 Fines DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-11 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-13 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-15 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-17 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-18 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-21 PK Coarse Conveyor Transfer Chute, Metal Lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-21 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-22 Head Chute for 330-CV-02, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-22 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-24 Head Chute for 330-CV-04, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-24 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-26 Head Chute for 330-CV-07, metal lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-26 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-32 Chutework for 330-MS-01 & 02	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-32 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-33 Chutework for 330-MS-03 & 04	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-33 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-SU-01 Underflow Chute for 330-SN-01, Rubber Lined	1130 KG	0.0102	12	864	0.00	0	0.00	0	0.00	0	864
330-SU-01 Rubber Lining	16 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-03 Underpan for 330-SN-11, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-03 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-05 Underpan for 330-SN-13, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-05 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-09 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-11 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-13 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-15 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-17 Coarse DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-17 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-19 Fines DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-19 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-21 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-23 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-25 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-27 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-07 Coarse DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-07 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-09 Fines DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-09 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-17 Fines DMS Dilute Medium Sump, 2.5m Dia. 4.5m High - 9m3	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-17 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-19 Recovery Tails Discharge Sump	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-19 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-TK-01 Coarse DMS FeSi Mixing Tank, 2m3 Rubber Lined	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-TK-02 Fines DMS FeSi Mixing Tank, 2m3 Rubber Lined	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-01 Feed Preparation Screen U/Flow Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-03 Feed Prep Screen Area Sump Pump, 65mm V/Spindle, 18.5kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-04 Coarse DMS Area Sump Pump, 65mm V/Spindle, 22kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-06 Fines DMS Area Sump Pump, 65mm V/Spindle, 22kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-08 Coarse DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-10 Fines DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 90kW	1	EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
330-PU-12 Coarse DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 150kW VFD	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-14 Fines DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW VFD	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-16 Coarse DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 45kW	1	EA	17.85	18	1,339	0.00	0	0.00	0	0.00	0	1,339
330-PU-18 Fines DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 55kW	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
330-PU-20 Coarse DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-21 Fines DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-22 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-23 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-24 DMS Concentrate Spillage Sump Pump, 65mm V/spindle, 22kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-AG-01 Coarse DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-AG-02 Fines DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-DM-01 Coarse DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-DM-03 Fines DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-01 Coarse DMS Nuclear Density Recorder & Controller	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-03 Fines DMS Nuclear Density Recorder & Controller	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CV-01 DMS Surge Bin Feed Conveyor, high angle, 1372mm W x 36.6m L x 14m lift, 56kW & 75kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-02 Coarse DMS Feed Conveyor, high angle, 1067mm W x 35.5m L x 14m lift, 22kW & 30kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-04 Fines DMS Feed Conveyor, high angle, 1067mm W x 33m L x 14m lift, 22kW & 30kW	1	EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
330-CV-06 PK Coarse Conveyor 1, 914mm Wide x 16m L, 7.5kW	1	EA	59.65	59	4,399	0.00	0	0.00	0	0.00	0	4,399
330-CV-07 PK Coarse Conveyor 2, 914mm Wide x 127m L, 75kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-08 Coarse DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-CV-09 Fines DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-FE-01 DMS Feed Prep Screen Belt Feeder, 914mm Wide x 12m, VFD, 19kW	1	EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
330-FE-03 Recovery Tails Vibrating Feeder, 2.2kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SC-01 Coarse DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-03 Fines DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-05 PK Coarse Conveyor Beltscale, For 760mm Wide Belt, Single idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CK-01 Coarse DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CK-02 Fines DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-SN-01 Feed Preparation Screen, 2400 wide x 3600 mm Long, D. Deck, 10mm Cut Top, 1.5mm Cut Bottom, PU, 11kW	1 EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
330-SN-03 Coarse DMS Cyclone U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-03 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-05 Fines DMS Cyclones U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-05 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-07 Coarse DMS Cyclone O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-09 Fines DMS Cyclones O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-11 Coarse DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-13 Fines DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-15 Coarse DMS Floats D & R Screen, 3050 x 4800mm Long Single Deck, 1.5mm Cut Point, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-17 Fines DMS Floats D & R Screen, 3050 x 4800mm Long D. Deck, 6mm Top Deck, 1.5mm Bottom Deck, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-19 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SN-20 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-01 Coarse DMS DM Cyclone, 610mm Diameter, High Chrome	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-03 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-04 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-05 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CY-09 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-10 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-13 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-14 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-FD-01 Fines DMS Cyclone Feed Distributor	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-MS-01 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-02 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-03 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-04 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Subtotal 40 MECHANICAL				2,862	214,660		0		0		0	214,660
COMM 50 PIPING												
Piping Allowance - 10% of mechanical equipment	1	LS	435.6	436	32,670	0.00	0	0.00	0	0.00	0	32,670
Subtotal 50 PIPING				436	32,670		0		0		0	32,670
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance - 15% of mechanical equipment	1	LS	376.2	376	28,215	0.00	0	0.00	0	0.00	0	28,215
VFD 2.2kW	2	EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188
VFD 18kW	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 110kW	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 150kW	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Subtotal 60 ELECTRICAL				416	31,185		0		0		0	31,185



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3300 DMS				3,714	278,515		0		0		0	278,515

AREA 3400 RECOVERY PLANT

COMM 20 STRUCTURAL AND ARCHITECTURAL

Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Structural, installed into modules in Edmonton	50	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Cladding, installed into modules in Edmonton	1300	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Platework, installed into modules in Edmonton	6	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Piping, installed into modules in Edmonton	3	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase Structural Steel, installed into modules in Edmonton	23	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase c/w treads, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Structural Steel, installed into modules in Edmonton	12	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Staircase c/w treads, flooring, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Dust Extraction - Structural Steel, installed into modules in Edmonton	3.5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Structural Steel, installed into modules in Edmonton	8	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Platework, installed into modules in Edmonton	5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Flooring, installed into modules in Edmonton	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Recovery Support for Screen Feeders - Stairs c/w treads, rail, etc., installed into modules in Edmonton	80 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			0	0		0		0		0	0
COMM 40 MECHANICAL											
Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - disassemble in Edmonton and prepare for packing	14 MOD	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - install at site	1 LS	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
SPS & SFD Support System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
X-Ray Support System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
DOLFIN	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Note: transportation to Yellowknife, SADAS, Tesing, Post Commissioning Support and Audit, PIMS are distributed in the above direct costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM A - AIR CONDITIONING	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-AC-01 Air Conditioner 1, 120kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM B - DUST EXTRACTION 1	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-01 Dust Scrubber 1, 2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-02 Dust Scrubber 2, 2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-02 Dust Blower 1, 40kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-01 Dust Stack 1	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM C - DUST EXTRACTION 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-04 Dust Blower 2, 40kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-02 Dust Stack 2	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PU-03 Dust Scrubber Sump Pump 2, V/Spindle, 2.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-02 Dust Extraction Sump 2	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 1	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-BI-01 Coarse Pneumodryer Batch Bin 1, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-03 Coarse Pneumodryer Batch Bin 2, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-09 Coarse Pneumodryer Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-23 Recovery Tailings Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM E - VACUUM SPILLAGE UNIT	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-02 Spillage Vacuum Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-05 Fines Pneumodryer Batch Bin 1, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-06 Fines Pneumodryer Batch Bin 2, Rubber Lined Stainless Steel	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-07 Fines Pneumodryer Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM G - VACUUM RECYCLE UNIT	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-04 Reconcentrate Recycle Knock-Out Bin	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-08 Oversize Waste Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-10 Fines X-Ray Concentrate Batch Bin 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-12 Fines/Middles X-Ray Concentrate Batch Bin 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-14 Coarse/Middles X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-15 Coarse X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-18 Fines/Middles X-Ray Audit Concentrate Batch Bin 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-20 Coarse X-Ray Concentrate Batch Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-21 Coarse X-Ray Tails Audit Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-24 Reconcentrate Recycle Audit Rocker Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-01 Fines Dust Cascade Chute 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-02 Fines Dust Cascade Chute 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-04 Coarse Dust Cascade Chute 1	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-05 Coarse Dust Cascade Chute 2	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-06 Coarse Dust Cascade Chute 3	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FD-01 Fines Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-02 Reconcentrate Recycle Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-03 Fines/Middles Three-Way Rotary Distributor, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-04 Coarse/Middles Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-05 Coarse/Middles Two-Way Rotary Distributor 2, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-06 Coarse/Middles Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-10 Reconcentrate Recycle Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-12 Fines/Middles X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-14 Coarse X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VL-01 Vault	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-01 Coarse Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-02 Fines Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-01 Water Chiller 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-02 Water Chiller 2, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM J - DUST EXTRACTION SLURRY DISPOSAL 1	1 SYS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
340-PU-02 Dust Scrubber Sump Pump 1, V/Spindle, 2.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-01 Dust Extraction Sump 1	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM K - DUST EXTRACTION SLURRY DISPOSAL 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-TK-01 Receiver	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-05 Spillage Vacuum Blower, 22kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-03 Fines Pneumodryer Blower, 75kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-07 CATS Blower, 7.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-01 Coarse Pneumodryer Blower, 75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BU-01 Recovery Area Incinerator, 0.7kW, 50kg/hr	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM I - VENTILATION	1 SYS	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
340-FA-01 Ventilation Fan 1, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FA-02 Ventilation Fan 2, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-03 Ventilation Fan 3, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-04 Ventilation Fan 4, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-05 Ventilation Fan 5, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-06 Ventilation Fan 6, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-07 Ventilation Fan 7, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-08 Ventilation Fan 8, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-09 Ventilation Fan 9, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-01 Coarse Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-02 Fines Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-07 Fines 1st Pass X-Ray Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-08 Fines/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-10 Coarse/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-11 Fines X-Ray Concentrate Tubular Conveyor 1, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-12 Fines X-Ray Concentrate Tubular Conveyor 2, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-13 Coarse/Middles Concentrate Distributor Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-14 Fines Weigh Bin Tubular Conveyor 1, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-15 Coarse/Middles Concentrate X-Ray Tubular Conveyor 1, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-16 Fines X-ray Tailings Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-17 Coarse/Middles Concentrate X-Ray Tubular Conveyor 2, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-18 Coarse/Middles Belt Weigh Feeder Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-19 Coarse X-Ray Tails Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-20 Recovery Tails Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-CV-21 Coarse Pneumo-Drier 2 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-22 Coarse Pneumo-Drier 3 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-23 Fines Pneumo-Drier 2 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-24 Fines Pneumo-Drier 3 Tubular Conveyor, 1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-02 Coarse Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-01 Fines Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-04 Fines Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-03 Coarse Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM H - CATS	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-01 Fines CATS Loading Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-02 Coarse CATS Loading Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-03 CATS Discharge Station	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-16 SPS Fines Weigh Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-17 SPS Coarse Weigh Bin	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-03 Fines X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-04 Fines/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	-0.00	0	0.00	0	0.00	0	0
340-FE-05 Coarse/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-06 Coarse X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CK-01 Recovery Hoist, 5 tonne capacity, 10kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-07 SFD, 8kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-01 Coarse Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-SN-02 Coarse Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-03 Fines Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-04 Fines Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-05 Fines Sizing Screen, 5,000 kg/h Capacity, 1200 X 3600MM, 19kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-06 Coarse Sizing Screen, 5,000 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PG-01 Canning Machine, 6kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-02 Vacuum Moisturised Valve - Spillage, 0.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-01 Vacuum Moisturised Valve - Recycle, 0.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-01 Fines SPS Raven, 2.2kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-02 Coarse SPS Raven, 2.2kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-01 Fines First Pass CDX1132CL LARA, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-02 Fines Second Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-04 Fines/Middles First Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-06 Coarse/Middles First Pass CDX1132CL LARA , 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-07 Coarse/Middles Second Pass CDX1132CL LARA , 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-08 Fines/Middles Second Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-10 Coarse/Middles First Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-11 Coarse/Middles Second Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-12 Coarse First Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-13 Coarse Second Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-XR-14 Fines Reconcentrate CDXST116C 1, 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-16 Coarse Reconcentrate CDXST113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			1,313	98,494		0		0		0	98,494
COMM 50 PIPING											
Piping Allowance - 3% of mechanical equipment, excluding x-ray machines	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Subtotal 50 PIPING			158	11,880		0		0		0	11,880
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance - 3% of mechanical equipment cost (as per Debtech & adjusted for NA productivity)	1 LS	257.4	257	19,305	0.00	0	0.00	0	0.00	0	19,305
Subtotal 60 ELECTRICAL			257	19,305		0		0		0	19,305
AREA 3400 RECOVERY PLANT			1,729	129,679		0		0		0	129,679

AREA 3500 THICKENING & DEGRIT

COMM 40 MECHANICAL

350-CH-01 Oversize Chute for 350-SN-01, Metal Lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-01 Metal Lining	600 KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-02 Oversize Chute for 350-SN-02, Metal Lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-02 Metal Lining	600 KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-04 Underpan for 350-SN-01, Rubber Lined	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-04 Rubber Lining	27 M2	0	0	0	0.00	0	0.00	0	0.00	0	0

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**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
350-CH-05 Underpan for 350-SN-02, Rubber Lined	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-05 Rubber Lining	27 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-01, Rubber Lined	1415 KG	0.0102	14	1,082	0.00	0	0.00	0	0.00	0	1,082
350-LAUNDER-01 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-02, Rubber Lined	2830 KG	0.0102	29	2,165	0.00	0	0.00	0	0.00	0	2,165
350-LAUNDER-02 Rubber Lining	50 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-SU-01 Degrit Cyclone Feed Sump, 7m Dia x 10m High, 60 deg Cone, 200m3, Rubber Lined	12160 KG	0.0102	124	9,302	0.00	0	0.00	0	0.00	0	9,302
350-SU-01 Rubber Lining	112 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-PU-01 Degrit Cyclone Feed Pump, 300 x 250 mm Heavy Duty Horizontal Slurry Pump, 225kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-03 Thickener Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-04 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-05 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-06 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-07 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-13 Degrit Area Sump Pump, 65mm V/spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-14 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-PU-15 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-BL-01 Flocculant Mixing, 1.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-IN-03 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-IN-04 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-AG-01 Flocculant Mixing, 3.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
350-IN-01 Nuclear Density Gauge, 150mm Dia.	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-IN-02 Nuclear Density Gauge, 150mm Dia.	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-FE-01 Flocculant Mixing Screw Conveyor, 0.4kW VFD	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-CK-01 Flocculant Hoist, 2 tonne capacity, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CK-02 Degrit Cyclone Overhead Crane, 25 tonne capacity, 11kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
350-FO-01 Flocculant Mixing & Dosing System, Automated Make-up, 5.5kW	1 EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
350-SN-01 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-02 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-03 Thickener Tramp Screen, 6mm mesh	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-01 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-02 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-TH-01 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1 EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
350-TH-02 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1 EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
Subtotal 40 MECHANICAL			1,310	98,245		0		0		0	98,245
COMM 50 PIPING											
Piping Allowance - 20% of mechanical equipment	1 LS	534.6	535	40,095	0.00	0	0.00	0	0.00	0	40,095
Subtotal 50 PIPING			535	40,095		0		0		0	40,095
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
VFD 0.4kW	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 2.2kW	2 EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL				143	10,692		0		0		0	10,692
AREA 3500 THICKENING & DEGRIT				1,987	149,032		0		0		0	149,032

AREA 3600 WATER & AIR SYSTEMS

COMM 40 MECHANICAL

360-TK-01 Clarified Water Tank, 9m Dia., 10m High, 550m3 Capacity, Unlined	22500	KG	0.00765	172	12,909	0.00	0	0.00	0	0.00	0	12,909
360-TK-02 Fresh Water Storage Tank., 6m Dia., 10m High, 250m3 Capacity, Unlined	14000	KG	0.00765	107	8,033	0.00	0	0.00	0	0.00	0	8,033
360-HX-01 Primary Scrubber Process Fired Water Heat Exchanger, 3156kJ water 42l/s glycol 451l/s, 5.5kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
360-PU-01 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-02 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-03 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU Fire Water Pump Module - c/w one diesel, one electric, one jockey pump and enclosure	1	MOD	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-PU-04 Fire Water Pump, 450 m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-05 Fire Water Pump, Diesel fired, 450m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-06 Fire Water Jockey Pump, Air Driven 50mm 450m3/h 100 psi, 50mm - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-07 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
360-PU-08 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
360-PU-09 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-10 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-12 Water Management Pond Supply Pump, 41 m3/h, 75kW	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
360-CO-01 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-CO-02 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-AD-01 Instrument Air Dryer, 1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
360-AD-02 Instrument Air Oil Filter	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Subtotal 40 MECHANICAL				601	45,039		0		0		0	45,039
COMM 50 PIPING												
Piping Allowance - 20% of mechanical equipment	1	LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Subtotal 50 PIPING				198	14,850		0		0		0	14,850
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance - 15% of mechanical equipment	1	LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Subtotal 60 ELECTRICAL				119	8,910		0		0		0	8,910
AREA 3600 WATER & AIR SYSTEMS				917	68,799		0		0		0	68,799

AREA 3700 PASTE FILL PLANT

COMM 40 MECHANICAL



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-XX-01 Pig Insertion Valve, including hydraulic power pack, 7.5kW - not required	0 EA	15.3	0	0	0.00	0	0.00	0	0.00	0	0
370-XX-02 Diversion Valve, for changing lines from material to water cleaning, including hydraulic power pack, 7.5kW	2 EA	15.3	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Ductwork Allowance	1 LS	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
370-BH-01 Paste Plant Dust Collector, 44m2 Area, 2.2/1.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FA-01 Paste Plant Dust Collector Fan, 3500m3/h, 3.8kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-TK-01 Air Receiver, 1.22m Dia x 3.66m High	1000 KG	0.00765	8	574	0.00	0	0.00	0	0.00	0	574
370-BI-01 Floats & Grit Bin, 1000 tonnes	100 T	10.2	1,020	76,500	0.00	0	0.00	0	0.00	0	76,500
370-BI-02 Cement Dump Hopper , 20 tonnes - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-BI-03 Weigh Feeder Feed Bin	50 T	10.2	510	38,250	0.00	0	0.00	0	0.00	0	38,250
370-SO-01 Cement Silo, 3.66m Dia. X 16.42m High with Baghouse & Fan, 37/2.2kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
370-CH-01 Head Chute for 370-CV-01, Rubber Lined	1630 KG	0.0102	17	1,247	0.00	0	0.00	0	0.00	0	1,247
370-CH-01 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-02 Head Chute for 370-CV-02, Rubber Lined	1515 KG	0.0102	15	1,159	0.00	0	0.00	0	0.00	0	1,159
370-CH-02 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-03 Head Chute for 370-FE-01, Rubber Lined	3530 KG	0.0102	36	2,700	0.00	0	0.00	0	0.00	0	2,700
370-CH-03 Rubber Lining	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-04 Head Chute for 370-FE-04, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-04 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-05 Head Chute for 370-FE-05, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-05 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-SU-01 Slimes By-Pass Tank	1610 KG	0.0102	16	1,232	0.00	0	0.00	0	0.00	0	1,232
370-PU-01 Emergency Slimes Disposal Pump - Stage 1, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-PU-02 Vertical Floor Wash Sump Pump, 76mm, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
370-PU-03 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-PU-04 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
370-PU-08 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-09 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-05 Paste Line Flush PD Pump, 36m3/hr, concrete cylinders 180 x 1000mm	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-PU-07 Emergency Slimes Disposal Pump - Stage 2, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-CO-01 Air Compressor, 500m3/h @ 800 kPa For Blowing Paste Line, 45kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-BL-01 Cement Blow-in System Blower	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-MX-01 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-02 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-03 Colloidal Mixer, Vendor Package	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
370-CV-01 Floats and Grits Conveyor, 914mm Wide x 42m Long, 30kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
370-CV-02 Floats and Grits Conveyor, 914mm Wide x 25m Long, 22kW	1 EA	89.25	89	6,694	0.00	0	0.00	0	0.00	0	6,694
370-CV-04 Cement Feed Screw Conveyor, 305mm dia x 10.0m Long, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-RV-02 Cement Dust Star Feeder , 0.37kW, included with BL-01	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-FE-01 Belt Feeder, 914mm Wide x 4.7m Long, 5.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FE-04 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-FE-05 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-SC-02 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-SC-03 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-HY-02 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-03	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: DAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-HY-03 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-04	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-HY-01 Paste Line Flush Pump Hydraulic Pack, 75kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL			2,499	187,453		0		0		0	187,453
COMM 50 PIPING											
Piping Allowance - 15% of mechanical equipment	1 LS	752.4	752	56,430	0.00	0	0.00	0	0.00	0	56,430
Subtotal 50 PIPING			752	56,430		0		0		0	56,430
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
VFD 7.5kW	4 EA	7.92	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Subtotal 60 ELECTRICAL			150	11,286		0		0		0	11,286
AREA 3700 PASTE FILL PLANT			3,402	255,169		0		0		0	255,169

AREA 3800 PLANT SERVICES

COMM 70 INSTRUMENTATION AND CONTROLS

Instrumentation allowance for all process areas	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Instrumentation Allowance, 15% of mechanical equipment, with the exception of 4.9% for the recovery area (as per Debtech)	1 LS	1968	1,968	147,600	0.00	0	0.00	0	0.00	0	147,600
Plant Control System - includes process controllers, I/O cards and cabinets, HMI consoles/software, communication ethernet hubs for plant network	1 LS	871.2	871	65,340	0.00	0	0.00	0	0.00	0	65,340



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 70 INSTRUMENTATION AND CONTROLS				2,839	212,940		0		0		0	212,940
AREA 3810 PROCESS INSTRUMENTATION				2,839	212,940		0		0		0	212,940

AREA 3900 PROCESS BUILDING

COMM 10 CIVIL

Backfill after Foundation Removal	712	M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Excavate to Expose Foundations	712	M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Detail Excavation	712	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	10888	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	4278	M	0.19008	813	60,987	0.00	0	0.00	0	0.00	0	60,987
Subtotal 10 CIVIL				956	71,667		0		7,120		0	78,787

COMM 20 STRUCTURAL AND ARCHITECTURAL

Process Building 144m x 48m x 24.3m high --> 6912m2	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	696	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	963	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	174	M3	4.29	746	55,985	0.00	0	0.00	0	0.00	0	55,985
Concrete - Pedestals	183	M3	4.29	785	58,880	0.00	0	0.00	0	0.00	0	58,880
Concrete - Grade Beams	116	M3	4.785	555	41,630	0.00	0	0.00	0	0.00	0	41,630
Concrete - Walls	415	M3	4.884	2,027	152,015	0.00	0	0.00	0	0.00	0	152,015
Concrete - Columns	90	M3	5.082	457	34,304	0.00	0	0.00	0	0.00	0	34,304
Concrete - Beams	16	M3	7.524	120	9,029	0.00	0	0.00	0	0.00	0	9,029
Concrete - Slab on Grade	1069	M3	1.386	1,482	111,123	0.00	0	0.00	0	0.00	0	111,123



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	665 M3	2.211	1,470	110,274	0.00	0	0.00	0	0.00	0	110,274
Concrete - Misc & Equipment Pads	224 M3	2.409	540	40,471	0.00	0	0.00	0	0.00	0	40,471
Concrete - Embedded Metal	2210 KG	0.0132	29	2,188	0.00	0	0.00	0	0.00	0	2,188
Concrete - Anchor Bolts	7528 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	7260 M2	0.0495	359	26,953	0.00	0	0.00	0	0.00	0	26,953
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	483 M2	0.0495	24	1,793	0.00	0	0.00	0	0.00	0	1,793
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	404 M2	0.0495	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Steel - Structural Light	105 T	8.58	901	67,568	0.00	0	0.00	0	0.00	0	67,568
Steel - Structural Medium	300 T	7.26	2,178	163,350	0.00	0	0.00	0	0.00	0	163,350
Steel - Structural Heavy	294 T	6.6	1,940	145,530	0.00	0	0.00	0	0.00	0	145,530
Steel - Floor Grating	4411 M2	0.495	2,183	163,758	0.00	0	0.00	0	0.00	0	163,758
Steel - Stairs c/w handrail	236 M	0.726	171	12,850	0.00	0	0.00	0	0.00	0	12,850
Steel - Handrails c/w kick plate	1624 M	0.396	643	48,233	0.00	0	0.00	0	0.00	0	48,233
Steel - Grout, for structural steel columns	11 M3	11.55	127	9,529	0.00	0	0.00	0	0.00	0	9,529
Process Building, engineered structure	1 LS	7656	7,656	574,200	0.00	0	0.00	0	0.00	0	574,200
Process - Overhead rolling steel doors - exterior insulated 4m x 4m	2 EA	66	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Process - Mandors - exterior insulated 0.9m x 2.1m	11 EA	3.96	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Process - Double doors - exterior insulated 1.2m x 2.4m	5 EA	6.6	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Process - Mandors - interior 0.9m x 2.1m	24 EA	3.3	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Process - Windows - exterior insulated	4 EA	4.95	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Process - Windows - interior	4 EA	2.64	11	792	0.00	0	0.00	0	0.00	0	792
Process - Concrete Block Wall, fire wall	150 M2	0.495	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Process - 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1400 M2	0.85	1,190	89,250	0.00	0	0.00	0	0.00	0	89,250
Process - Lockers c/w aluminum bench	120 EA	1	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Process - Privacy showers w/ drying cubicle	4 EA	10	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Process - Washroom facilities	1 LS	30	30	2,250	0.00	0	0.00	0	0.00	0	2,250



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Process - Lunchroom counter w/ sink	1 LS	15	15	1,125	0.00	0	0.00	0	0.00	0	1,125
Process - Office Furniture for 6 offices	1 LS	40	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Process - Office vinyl flooring	2100 M2	0.1	210	15,750	0.00	0	0.00	0	0.00	0	15,750
Process - Office ceiling tile	2100 M2	0.25	525	39,375	0.00	0	0.00	0	0.00	0	39,375
Security - Manddoors - exterior insulated 0.9m x 2.1m	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Security - Double doors - exterior insulated 1.2m x 2.4m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Security - Manddoors - interior 0.9m x 2.1m	35 EA	3.3	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Security - Windows - exterior insulated	10 EA	4.95	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Security - Windows - interior	2 EA	2.64	5	396	0.00	0	0.00	0	0.00	0	396
Security - Concrete Block Wall, fire wall	100 M2	0.495	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Security - Stud wall, 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1000 M2	0.425	425	31,875	0.00	0	0.00	0	0.00	0	31,875
Security - Office Furniture for 6 offices	1 LS	8.712	9	653	0.00	0	0.00	0	0.00	0	653
Security - Office flooring	460 M2	0.132	61	4,554	0.00	0	0.00	0	0.00	0	4,554
Security - Ceiling, suspended t-bar, 1" thick acoustical tiles	460 M2	0.165	76	5,693	0.00	0	0.00	0	0.00	0	5,693
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			27,789	2,084,180		0		0		0	2,084,180
COMM 40 MECHANICAL											
HVAC allowance	6912 M2	0.0612	423	31,726	0.00	0	0.00	0	0.00	0	31,726
390-CK-01 Overhead Crane DMS Section, 15 Tonne 18kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Removal of Bulk Sample Plant	1 LS	0	0	0	0.00	0 1,550,000.00	1,550,000	0.00	0	0	1,550,000
Subtotal 40 MECHANICAL			459	34,404		0		1,550,000		0	1,584,404
COMM 50 PIPING											
Fire Suppression - including piping, alarm valves, sprinklers, hose reels, wall hydrants, FM200 system, etc.	1 LS	293.238	293	21,993	0.00	0	0.00	0	0.00	0	21,993



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				293	21,993		0		0		0	21,993
COMM 60 ELECTRICAL												
Lighting allowance	6912	M2	0.198	1,369	102,643	0.00	0	0.00	0	0.00	0	102,643
Electrical Services allowance, for HVAC, welding outlets, etc.	6912	M2	0.0594	411	30,793	0.00	0	0.00	0	0.00	0	30,793
Grounding allowance	6912	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL				1,779	133,436		0		0		0	133,436
AREA 3900 PROCESS BUILDING				31,276	2,345,680		0		1,557,120		0	3,902,800

AREA 4100 POWER PLANT & DISTRIBUTION

COMM 10 CIVIL												
Excavate to Expose Foundations	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Backfill after Foundation Removal	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Detail Excavation	743	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	261	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Piling, 168mm dia sch 80, approx 5.5m long, 2.5m above grade, 3m embedment, 26 piles	143	M	0.0891	13	956	0.00	0	0.00	0	0.00	0	956
Airport...WMP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Airport...WMP Feeder - Sand for: Install Buried Duct for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
WTP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
WTP Feeder - Sand for: Install Buried Duct (duct only) for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Service Bldg/Exist Accom - Trench for: Install Buried Duct for initial 100 m, 5 kV 3c 500MCM Teck feeder	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Service Bldg/Exist Accom - Sand for: Install Buried Duct for initial 100 m	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Service Bldg/Exist Accom - Allowance for Trench for: Install Buried Duct for all 600V services	600 M	0.018	11	810	0.00	0	0.00	0	0.00	0	810
Service Bldg/Exist Accom - Allowance for Sand for: Install Buried Duct for all 600V services	7.5 M3	0.0432	0	24	0.00	0	0.00	0	0.00	0	24
Intake Fan / Batch Plant Power Distribution: - Trench for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Intake Fan / Batch Plant Power Distribution: - Sand for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Intake Fan / Batch Plant Power Distribution: - Trench for:#2/0 5kV cable from power plant to #1 Intake fan	100 M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Intake Fan / Batch Plant Power Distribution: - Sand for:#2/0 5kV cable from power plant to #1 Intake fan	2 M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
Airport...WMP Feeder - Allocation for providing fill over cables in sensitive areas for 3c 3/0 AWG Verti-Teck Cable, to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			186	13,916		0		7,430		0	21,346
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Power Plant Building 54m x 36m x 12m high --> 1944m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Concrete - Lean Mix	116 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	109 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	270 M3	4.29	1,158	86,873	0.00	0	0.00	0	0.00	0	86,873
Concrete - Pedestals	33 M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Grade Beams	75 M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Concrete - Slab on Grade	461 M3	1.386	639	47,921	0.00	0	0.00	0	0.00	0	47,921



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	111 M3	2.211	245	18,407	0.00	0	0.00	0	0.00	0	18,407
Concrete - Misc & Equipment Pads	16 M3	2.409	39	2,891	0.00	0	0.00	0	0.00	0	2,891
Concrete - Embedded Metal	1800 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	3360 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	1950 M2	0.0495	97	7,239	0.00	0	0.00	0	0.00	0	7,239
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	216 M2	0.0495	11	802	0.00	0	0.00	0	0.00	0	802
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	180 M2	0.0495	9	668	0.00	0	0.00	0	0.00	0	668
Steel - Structural Light	48 T	8.58	412	30,888	0.00	0	0.00	0	0.00	0	30,888
Steel - Structural Medium	181 T	7.26	1,314	98,555	0.00	0	0.00	0	0.00	0	98,555
Steel - Structural Heavy	61 T	6.6	403	30,195	0.00	0	0.00	0	0.00	0	30,195
Steel - Crane Rails	2.5 T	6.6	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Steel - Floor Grating	372 M2	0.495	184	13,811	0.00	0	0.00	0	0.00	0	13,810
Steel - Stairs c/w handrail	30 M	0.726	22	1,634	0.00	0	0.00	0	0.00	0	1,634
Steel - Ladders	10 M	0.726	7	545	0.00	0	0.00	0	0.00	0	545
Steel - Handrails c/w kick plate	264 M	0.396	105	7,841	0.00	0	0.00	0	0.00	0	7,841
Steel - Grout, for structural steel columns	6 M3	11.55	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Cladding - Wall, insulated 65mm	2600 M2	0.2145	558	41,828	0.00	0	0.00	0	0.00	0	41,828
Cladding - Roof, insulated 65mm	2000 M2	0.2145	429	32,175	0.00	0	0.00	0	0.00	0	32,175
Overhead sectional doors - exterior insulated 6m x 5m	1 EA	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Overhead sectional steel doors - exterior insulated 3m x 3m	1 EA	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Mandoors - exterior insulated 0.9m x 2.1m	5 EA	3.96	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Double doors - exterior insulated 1.2m x 2.4m	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Mandoors - interior 0.9m x 2.1m	10 EA	3.3	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Double doors - interior 1.2m x 2.4m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Acoustical Metal doors - interior 0.9m x 2.1m	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Windows - interior, acoustical double glazed, 1.2 x 1.2m	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
Ceiling, suspended t-bar, 1" thick acoustical tiles	90 M2	0.165	15	1,114	0.00	0	0.00	0	0.00	0	1,114



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	756 M2	0.425	321	24,098	0.00	0	0.00	0	0.00	0	24,098
Stud walls 92mm studs, 1 layer 16mm gwb, sealed and painted	210 M2	0.4	84	6,300	0.00	0	0.00	0	0.00	0	6,300
Allowance for Standby Generators and Switchgear Enclosure and Stack Foundations	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Steel frame on steel piles for generator support	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	1 T	8.58	9	644	0.00	0	0.00	0	0.00	0	644
Steel - Structural Medium	5 T	7.26	36	2,723	0.00	0	0.00	0	0.00	0	2,723
Steel - Stairs c/w handrail	6 M	0.726	4	327	0.00	0	0.00	0	0.00	0	327
Airport...WMP Feeder - Small foundation and steel frame for 5 kV Junction Box, 3 Way with tap links. Allocation only. Verti-Teck feeder to Airstrip and others	7 EA	2.64	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			7,151	536,339		0		0		0	536,339
COMM 40 MECHANICAL											
Power Plant - Allowance for Air Handling Units	3 LS	336.6	1,010	75,735	0.00	0	0.00	0	0.00	0	75,735
Power Plant - Allowance for Glycol Pumps	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
410-CK-01 Power Plant Crane, 20 tonne	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
HVAC allowance	1944 M2	0.255	496	37,179	0.00	0	0.00	0	0.00	0	37,179
Power Plant - Main Power Diesel Generators;, industrial diesel engines with 4.4MW, 4.16kV, 60hz, 3ph, 0.8pf continuously rated generators, including design, site training, quality assurance services, transportation to YK	5 EA	765	3,825	286,875	0.00	0	0.00	0	0.00	0	286,875
Power Plant - Heat Recovery Modules, including heat recovery units, heat exchangers, radiators, booster pumps, control vales, complete with interconnection piping	5 LS	76.5	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Power Plant - Black Start Generator, 250kVA, 600V, complete with 400A circuit breaker, skid mounted, pre-assembled ready for site installation.	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
Allowance for Stack Installation	1 LS	50.49	50	3,787	0.00	0	0.00	0	0.00	0	3,787
Subtotal 40 MECHANICAL			5,858	439,340		0		0		0	439,340



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
Power Plant - Allowance for Piping, Fittings and connections	5 EA	396	1,980	148,500	0.00	0	0.00	0	0.00	0	148,500
Power Plant - Allowance for fuel line supply to daily tanks within the power plant	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Power Plant - Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, FM 200 system, etc.	1 LS	297	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Allowance for fuel line connections to fuel day tanks	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 50 PIPING			2,495	187,110		0		0		0	187,110
COMM 60 ELECTRICAL											
Power Plant - Stacks, free standing, 36 meters exhaust stacks including through wall connections.,	1 LS	396	396	29,700	0.00	0	0.00	0	0.00	0	29,700
Power Plant - Combustion Air Tempering System c/w PLC controlled louvers and PID programs	5 LS	49.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Power Plant - Ancillary tank system : oil storage tank (new), waste oil storage tank, glycol tank (new), used glycol tank and fuel day tank system.	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Power Plant - Switchgear; 4.16kV, 1200A, 250MVA, 60hz, 3ph complete with six generators circuit breakers (one spare) with generators relay protection and metering, sixteen feeder circuit breakers with protection and metering	1 LS	178.2	178	13,365	0.00	0	0.00	0	0.00	0	13,365
Power Plant - Motor Control Centres; 600V, 3ph, 1200A, with six sections back to back, assembled and pre-wired for field installation	1 LS	79.2	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Grounding Zig-Zag Transformer, 100kVA, 4.16kV, 60hz, Zig-Zag transformer complete with 2.4kV, 2.4kV, 96 ohm neutral grounding resistor	2 LS	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Unit Substations; 600A, 4.16kV load break switch, 1500kVA, 4.16kV-600 Volt transformer complete with 5A, 347V, 69 ohm neutral grounding resistor, 600V switchgear complete, completely assembled and shipped in sections for field installation.	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 12" Cable tray Allowance for 5kV feeder 3X 3c 500 MCM from Generators junction box to 13.8kV switchgear located on the ground floor in power plant to Unit substation and 5MVA transformer for underground mine	600 M	0.1485	89	6,683	0.00	0	0.00	0	0.00	0	6,683
Power Plant - 12" Cable tray Allowance for 1kV feeders from Motor Control Centres to various motors and loads	500 M	0.1485	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Power Plant - 12" Cable tray Allowance for 1kV feeders from process plant Unit Substation to Power Plant Unit substation	150 M	0.1485	22	1,671	0.00	0	0.00	0	0.00	0	1,671
Power Plant - Running 2 inch conduit for communications and fiber optics cables within the power plant	200 M	0.099	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for two 3x3C 500MCM, 1kV cable from power plant unit substation to two Motor Control Centres	200 M	0.198	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Power Plant - Allowance for 3C 4/0 AWG, 1kV cable from power plant unit substation to process plant unit substation along the utilidor (standby/emergency feeder)	150 M	0.099	15	1,114	0.00	0	0.00	0	0.00	0	1,114
Power Plant - Allowance for power and control cables, for providing connections between generators, switchgear and unit substations.	1 LS	237.6	238	17,820	0.00	0	0.00	0	0.00	0	17,820
Power Plant - 3 x 3c 500MCM 5kV Teck Cable, from generators junction boxes 13.8kV switchgear located at ground floor.	400 M	0.198	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to unit substation within power plant - material by genset supplier	100 M	0.198	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for two 2 X 3c 500MCM, 5kV Teck Cables from power plant 4.16kV switchgear to 5MVA, 4.16-13.8kV Transformers	150 M	0.198	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to Grounding Zig-Zag Transformers and NGR - material by genset supplier	100 M	0.198	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for control cable installation and terminations	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 500MCM, 5kV Teck Cable terminations kit for Power Plant Feeders	30 EA	1.584	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Power Plant - Generator control panels including generator governors, synchronization units, synchroscope, metering and PLC/DCS pre-assembled and pre-wired for field installation.	5 LS	49.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Power Plant - Allowance for heat tracing the fuel distribution lines	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Standby/Emergency Generators; three 1250 kW, 4.16kV	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
300mm (12") Cable tray Allowance for 5kV feeder 3c 250 MCM to from Generators junction box to 4.16kV switchgear located inside switchgear enclosure	50 M	0.1485	7	557	0.00	0	0.00	0	0.00	0	557
Allowance for generator enclosure and switchgear wiring interconnections	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Allowance for supply of power cables and communications for connection between three generators enclosures and one switchgear enclosure, complete and pre-connected prior to shipment.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for re-connection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes at generators enclosure to 4.16kV switchgear inside switchgear enclosure	120 M	0.792	95	7,128	0.00	0	0.00	0	0.00	0	7,128
3C-250MCM, 1kv, teck cable from 600V auto transfer switch inside switchgear enclosure to power plant 600V switchgear.	200 M	0.0594	12	891	0.00	0	0.00	0	0.00	0	891
500MCM, 5kV Teck Cable termination kits for Power Plant Feeders	10 EA	1.584	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Emergency Generators - 75kW, 120/208V Mobile Emergency Generator for Emulsion Plant and remote areas	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Emergency Generators - 50kW, 120/208V Emergency Generator, for security system	1 LS	4.95	5	371	0.00	0	0.00	0	0.00	0	371
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	-0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 2 x 3c 3/0 AWG Teck Cable, WTP Feeder: 250m Tray from power plant, 100m in buried duct in sand	700	M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to WTP, 20 ft lengths of PVC conduit 6"	100	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Accommodation Complex: - 2 x 3c 250MCM 5kV Teck Cable, accommodation complex Feeder from power plant in cable tray within Utilidor	700	M	0.099	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Service Bldg/Exist Accom - 1 x 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder: 550m Tray from power plant to service complex and 200m in buried duct to existing Camp new unit sub	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - 5 kV Junction Box, 3 Way with tap links. Service Complex/Mine Dry/Existing accommodation complex Feeder.	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356
Service Bldg/Exist Accom - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 500MCM Teck feeder to Existing Accommodation complex, 20 ft lengths of PVC conduit 150mm (6")	200	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 500MCM 5kV Teck Cable, #2 Intake Fan and Batch Plant Feeder: 100m Buried from power plant to edge of grade and 100m buried along traffic area.	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 2/0AWG 5kV Teck Cable, #1 Intake Fan Feeder: 100m Buried from power plant to edge of grade	400	M	0.099	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Intake Fan / Batch Plant Power Distribution: - 5 kV Junction Box, 3 Way with tap links. #2 Intake Fan/Batch Plant Tap.	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356
Process Plant Main Power Distribution: - 2 runs of 5 x 3c 500MCM 5kV Teck Cable, Process Plant Main 5 kV Switchgear Feed. Cable run in Tray from Power Plant.	3000	M	0.099	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 300MCM 5kV Teck Cable, for each Process Plant 3MVA Transformer incoming cables	120	M	0.099	12	891	0.00	0	0.00	0	0.00	0	891
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 4/0AWG 5kV Teck Cable, Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	800	M	0.099	79	5,940	0.00	0	0.00	0	0.00	0	5,940



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit	Total	TotalDirect	Unit	Total	Unit	Total	Unit	Total	Total
			Direct Hr	Direct Hr	Lab Cost	Mat	Mat Cost	Sub	Sub Cost	Other	Other Cost	Cost
Process Plant Main Power Distribution: - 1 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt EMCC to power plant transfer switch	300	M	0.099	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Process Plant Main Power Distribution: - 10 runs of 3 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt switchgear to plant MCC's	1500	M	0.099	149	11,138	0.00	0	0.00	0	0.00	0	11,138
Process Plant Main Power Distribution: - Process Plant Unit Substations	1	EA	89.1	89	6,683	0.00	0	0.00	0	0.00	0	6,683
Process Plant Main Power Distribution: - Process Plant Main 4.16 kV Power Distribution Centre / Motor Control Centre lineup	1	LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Process Plant Main Power Distribution: - Process Plant HPRC Variable Speed Dual Drive Package complete with one isolation transformer - included with mechanical equipment 322-CR-02 HPRC	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Battery and UPS System: - Process Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup. 1 unit of 200ah Battery bank and 80 Amp charger.	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Power Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup.	2	LS	11.88	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Site Battery and UPS System: - Process Plant Control System UPS. 1 units of 200ah Battery bank and 80 Amp charger.	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Power Plant Control System UPS. 1 unit of 200ah Battery bank and 80 Amp charger.	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Security 30kW 120/208V UPS. 1 unit of 800ah Battery bank and 100 Amp charger.	1	LS	31.68	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Airport...WMP Feeder - WMP Sump Pump 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	3	EA	7.92	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Airport...WMP Feeder - Reclaim 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - Explosives Storage 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - Emulsion Plant 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - Airstrip/Laydown Lighting 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	11.88	12	891	0.00	0	0.00	0	0.00	0	891
WTP Feeder - WTP Unit Substations	1 EA	23.76	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Accommodation Complex: - Accommodation Complex Unit Substation	1 EA	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Service Bldg/Exist Accom - Service Complex/Mine Dry complex 1500 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Dry Type Transformer, Secondary Switchgear	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Service Bldg/Exist Accom - Existing accommodation 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Intake Fan / Batch Plant Power Distribution: - Batch Plant/Aggregate Plant 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Intake Fan / Batch Plant Power Distribution: - #2 Intake Fan Heater controls 100kVA Unit Sub laid directly on rough grade (will require minimal leveling)	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Intake Fan / Batch Plant Power Distribution: - Intake Fan starters 522kW (700HP), installed and pre-wired shipped for site installations.	2 LS	79.2	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Airport...WMP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to Airport and other. Located from Powerhouse, along Utilidor and through main process plant	300 M	0.6	180	13,500	0.00	0	0.00	0	0.00	0	13,500



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to WTP. Located from Powerhouse, along Utilidor and through main process plant	250 M	0.099	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Accommodation Complex: - 300mm (12") Cable tray Allowance for 5kV feeder 2 x 3c 250 MCM to Accommodation complex from power plant to Accommodation complex in cable tray within Utilidor	350 M	0.1485	52	3,898	0.00	0	0.00	0	0.00	0	3,898
Accommodation Complex: - 2 x 300mm (12") Cable tray Allowance for 1kV feeder 3c 500 MCM from Accommodation complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water, inside Utilidor	250 M	0.1485	37	2,784	0.00	0	0.00	0	0.00	0	2,784
Service Bldg/Exist Accom - 300mm (12") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder. Located from Powerhouse, along Utilidor	550 M	0.099	54	4,084	0.00	0	0.00	0	0.00	0	4,084
Process Plant Main Power Distribution: - 2 runs - 914mm (36") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Process Plant Main Power feed from Power Plant.	600 M	0.099	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Process Plant Main Power Distribution: - 2 runs - 300mm (12") Cable tray Allowance for 5kV feeder 3c 4/0 Teck Cable, Emergency Generator to Process Plant 4.16kV Switchgear	400 M	0.099	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Process Plant Main Power Distribution: - 10 runs - 300mm (12") Cable tray Allowance for 1kV feeder 3c 500mcm Teck Cable Process Plant 600V Switchgear to plant MCC's	500 M	0.099	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 5kV feeders 3c 300MCM Teck Cable, Process Plant 3MVA Incoming Cable feeder tray	60 M	0.099	6	446	0.00	0	0.00	0	0.00	0	446
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 1kV feeder 3c 500MCM Teck Cable, Process Plant 600V EMCC to Power Plant Transfer switch	300 M	0.099	30	2,228	0.00	0	0.00	0	0.00	0	2,228
WTP Feeder - Allowance for 600 Volt cables 3x3C500MCM from 600V switchgear in unit substation to motor control centre	50 M	0.1485	7	557	0.00	0	0.00	0	0.00	0	557



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Accommodation Complex: - Allowance for four 3C-500MCM, 1kV cable from 600V switchgear in unit substation inside Accommodation Complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water	500 M	0.1485	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Process Plant Main Power Distribution: - Bus Trunking System, connection from Process Plant Switchgear to Recovery plant MCC's at each level.	1 LS	63.36	63	4,752	0.00	0	0.00	0	0.00	0	4,752
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to WMP Sump Pump Units/Explosives Storage/Reclaim..1 kV 3c #1AWG Teck Cable	100 M	0.099	10	743	0.00	0	0.00	0	0.00	0	743
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to Airstrip/Emulsion. 1 kV 3c 350MCM Teck Cable	40 M	0.099	4	297	0.00	0	0.00	0	0.00	0	297
Service Bldg/Exist Accommm - 600 Volt feeder cables from Existing accommodation complex unit substation to Existing Accommodation Main Bus. 2 x1 kV 3c 350MCM Teck Cable. Laid directly on ground in this location	60 M	0.099	6	446	0.00	0	0.00	0	0.00	0	446
Service Bldg/Exist Accommm - Allowance to reconnect Existing pilot plant to new service complex electrical room. Re-Use 350MCM cable and add 100 M new cable. Required to be buried in duct in sand	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to reconnect Existing cold storage building to new service complex electrical room. Re-Use existing cable and add 100 M new cable. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to feed new fuel station to new service complex electrical room and re-feed existing fuel station. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance to feed new freshwater pump station to new service complex electrical room and re-feed existing freshwater pump system station. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accommm - Allowance for cable duct man holes for long runs for 600 Volt services	10 EA	7.92	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Intake Fan / Batch Plant Power Distribution: - Allowance for #1/#2 Intake Fan Controls LV Cable and terminations	1 LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - Allowance for Batch Plant/Aggregate Plant 600V Cable and terminations. For Main power connection to unit sub only	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.594	3	223	0.00	0	0.00	0	0.00	0	223
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.594	3	223	0.00	0	0.00	0	0.00	0	223
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.99	2	149	0.00	0	0.00	0	0.00	0	149
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.99	2	149	0.00	0	0.00	0	0.00	0	149
U/G Air Compressors - 1 x 3c 250MCM 5kV Teck Cable, from power plant along the utilidor and 500m buried from end of utilidor to the air compressor package	800 M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - 5kV 3c 3/0 Teck Cable terminations for WTP Feeder.	4 EA	1.188	5	356	0.00	0	0.00	0	0.00	0	356
Accommodation Complex: - 5kV 3c 250MCM Teck Cable terminations for Accommodation Feeder	4 EA	1.584	6	475	0.00	0	0.00	0	0.00	0	475
Service Bldg/Exist Accom - 1kV 3c 350MCM Teck Cable terminations for Existing accommodations complex Feeder.	4 EA	0.99	4	297	0.00	0	0.00	0	0.00	0	297
Service Bldg/Exist Accom - 5kV 3c 500MCM Teck Cable terminations for Service Complex/Mine Dry/Existing accommodations complex Feeder.	6 EA	1.584	10	713	0.00	0	0.00	0	0.00	0	713
Intake Fan / Batch Plant Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for #2 Intake Fan/Batch Plant Feeder	8 EA	1.584	13	950	0.00	0	0.00	0	0.00	0	950



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - 5kV 3c #2/0AWG Teck Cable terminations for #1 Intake Fan Feeder	4 EA	0.99	4	297	0.00	0	0.00	0	0.00	0	297
Process Plant Main Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for Process Plant Main Power feed from Power Plant.	20 EA	1.584	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Process Plant Main Power Distribution: - 5kV 3c 300MCM Teck Cable terminations for Process Plant 3MVA Transformer Incoming Cables	8 EA	1.584	13	950	0.00	0	0.00	0	0.00	0	950
Process Plant Main Power Distribution: - 5kV 3c 4/0 Teck Cable terminations for Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	8 EA	0.99	8	594	0.00	0	0.00	0	0.00	0	594
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt EMCC to power plant transfer switch feeder	2 EA	1.188	2	178	0.00	0	0.00	0	0.00	0	178
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt Switchgear to plant MCC's	60 EA	1.188	71	5,346	0.00	0	0.00	0	0.00	0	5,346
Fire Detection System - Power Plant Fire Detection System complete with Fire Alarm Control Panel, Smoke Detectors, Bells, Sirens, and warning lights.	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Fire Detection System - Process Plant, Fire Detection System complete with four Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Fire Detection System - Accommodation Complex Fire Detection System complete with five Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Fire Detection System - Mine Services Complex Fire Detection System complete with one Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Fire Detection System - Sewage Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Fire Detection System - Water Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Boiler House Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Potable Water Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Utilidor Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Allowance for Plant Fire Detection Systems Ineterconnection	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 60 ELECTRICAL			5,322	399,132		0		0		0	399,132
AREA 4100 POWER PLANT & DISTRIBUTION			21,011	1,575,837		0		7,430		0	1,583,267

AREA 4200 FUEL STORAGE & DISTRIBUTION

COMM 10 CIVIL

Fuel Storage HDPE Liner 60 mil	12900 M2	0.01188	153	11,494	0.00	0	0.00	0	0.00	0	11,494
Fuel Storage geotextile liner, above and beneath HDPE liner, non-woven 340 gram weight	38900 M2	0.0019008	74	5,546	0.00	0	0.00	0	0.00	0	5,546
Fuel Storage Crushed Sand, above and beneath geotextiles, 150mm thick	3900 M3	0.014256	56	4,170	0.00	0	0.00	0	0.00	0	4,170
Fuel Pipe Trench Excavation	750 M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Fuel Pipe Trench Backfill	750 M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Subtotal 10 CIVIL			433	32,459		0		7,500		0	39,959



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Concrete - Slab on Grade	72 M3	1.386	100	7,484	0.00	0	0.00	0	0.00	0	7,484
Concrete - Misc & Equipment Pads	2 M3	4.092	8	614	0.00	0	0.00	0	0.00	0	614
Concrete - Embedded Metal	300 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	30 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Leak-detecting manholes	6 EA	9.9	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			167	12,553		0		0		0	12,553
COMM 40 MECHANICAL											
Fuel Storage Tanks - 3 x 12.5 million litres, design, supply, erect	1 LS	6222	6,222	466,650	0.00	0	0.00	0	0.00	0	466,650
Fuel Unloading/Distribution pumping & Dispensing modules, skid mounted	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks - 4 x 35,000 L	4 EA	15.3	61	4,590	0.00	0	0.00	0	0.00	0	4,590
Subtotal 40 MECHANICAL			6,538	490,365		0		0		0	490,365
COMM 50 PIPING											
Fuel Pipe 76mm (3") CS sch 40, encased in 150mm (6") sch 40 pipes, buried in trenches approx 1.3m deep - from fuel tanks to plant	750 M	0.5148	386	28,958	0.00	0	0.00	0	0.00	0	28,958
Subtotal 50 PIPING			386	28,958		0		0		0	28,958
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 60 ELECTRICAL			40	2,970		0		0		0	2,970
COMM 70 INSTRUMENTATION AND CONTROLS											



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance	1 LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Subtotal 70 INSTRUMENTATION AND CONTROLS			30	2,228		0		0		0	2,228
AREA 4200 FUEL STORAGE & DISTRIBUTION			7,594	569,533		0		7,500		0	577,033

AREA 4300 GLYCOL SYSTEM

COMM 40 MECHANICAL

430-BR-01 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-02 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-03 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-HX-01 Mine Air Shaft No. 1 Pre-heat Coil	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
430-PU-01 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-02 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-03 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-04 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-05 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
Miscellaneous equipment - expansion tanks, strainers, etc	1 LS	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Glycol - Utilidors	70000 L	0.0153	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
Glycol - Powerhouse to Mine Intake	35000 L	0.0153	536	40,163	0.00	0	0.00	0	0.00	0	40,163
Subtotal 40 MECHANICAL			2,088	156,634		0		0		0	156,634



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING												
Glycol Distribution Piping in Utilidors - 300mm dia (12") CS sch 40, 100mm (4") insulation, aluminum wrapped	500	M	0.594	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Glycol Distribution Piping in Utilidors - 250mm dia (10") CS sch 40, 100mm (4") insulation, aluminum wrapped	200	M	0.495	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Glycol Distribution Piping in Utilidors - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped	500	M	0.4356	218	16,335	0.00	0	0.00	0	0.00	0	16,335
Glycol Distribution Piping from Powerhouse to Mine Intake - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped, heat traced, installed on surface	1100	M	0.495	545	40,838	0.00	0	0.00	0	0.00	0	40,838
Subtotal 50 PIPING				1,158	86,873		0		0		0	86,873
COMM 60 ELECTRICAL												
Electrical Allowance	1	LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 60 ELECTRICAL				99	7,425		0		0		0	7,425
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance	1	LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 70 INSTRUMENTATION AND CONTROLS				40	2,970		0		0		0	2,970
AREA 4300 GLYCOL SYSTEM				3,385	253,901		0		0		0	253,901

AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM

COMM 10 CIVIL



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Freshwater Intake Washed -600mm Rock Embankment	3300 M3	0.05	165	12,375	0.00	0	5.00	16,500	0.00	0	28,875
Freshwater Intake Pipebed, -150mm crushed gravel subgrade	50 M3	0.015444	1	58	0.00	0	0.00	0	0.00	0	58
Freshwater Intake Pipebed, -200mm crushed gravel bedding	20 M3	0.015444	0	23	0.00	0	0.00	0	0.00	0	23
Subtotal 10 CIVIL			166	12,456		0		16,500		0	28,956
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Steel Well, perforated, 1m dia x 7m long, allowance	3 EA	13.2	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Water Pumphouse Building 4m x 6m, insulated and heated, allowance	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			205	15,345		0		0		0	15,345
COMM 40 MECHANICAL											
Water Storage Tank, 200m3, 5m Dia., 10m High	11500 KG	0.00765	88	6,598	0.00	0	0.00	0	0.00	0	6,598
Fresh Water Intake Pumps, turbine, 3 pumps, 12m3/hr, 42m, 3.73kW, on skid	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Potable Water Treatment Skid, filtration/chlorination, package	1 LS	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Subtotal 40 MECHANICAL			190	14,248		0		0		0	14,248
COMM 50 PIPING											
Piping Fresh Water Intake 100mm (4") HDPE heat traced and insulated, on surface - from intake to process plant	400 M	0.1188	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Piping Fresh Water Intake 100mm (4") CS sch 40, with anti-sweat insulation, in utilidor & buildings	800 M	0.2376	190	14,256	0.00	0	0.00	0	0.00	0	14,256
Valve and Fitting Allowance Water Fire/Fresh Water Pumphouse	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				396	29,700		0		0		0	29,700
COMM 60 ELECTRICAL												
Electrical Allowance	1	LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 60 ELECTRICAL				40	2,970		0		0		0	2,970
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance	1	LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 70 INSTRUMENTATION AND CONTROLS				59	4,455		0		0		0	4,455
AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM				1,056	79,174		0		16,500		0	95,674

AREA 4500 SEWAGE SYSTEM

COMM 40 MECHANICAL												
Sewage Treatment Plant	1	LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Subtotal 40 MECHANICAL				255	19,125		0		0		0	19,125
COMM 50 PIPING												
Piping Allowance	1	LS	138.6	139	10,395	0.00	0	0.00	0	0.00	0	10,395
Subtotal 50 PIPING				139	10,395		0		0		0	10,395
COMM 60 ELECTRICAL												



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Electrical Allowance	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 60 ELECTRICAL			59	4,455		0		0		0	4,455
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 70 INSTRUMENTATION AND CONTROLS			40	2,970		0		0		0	2,970
AREA 4500 SEWAGE SYSTEM			493	36,945		0		0		0	36,945

AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR

COMM 10 CIVIL											
Excavation to Expose Foundations	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Backfill after Foundation Removal	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Piling, 168mm dia sch 80, approx 9m long, 1.5m above ground	720 M	0.0891	64	4,811	0.00	0	0.00	0	0.00	0	4,811
Subtotal 10 CIVIL			114	8,561		0		2,500		0	11,061
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Building - STP, PWTP, Boiler, Incinerator 80m x 20m x 6m high --> 1600m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Elevated Slab	320 M3	2.211	708	53,064	0.00	0	0.00	0	0.00	0	53,064
Concrete - Misc & Equipment Pads	15 M3	2.409	36	2,710	0.00	0	0.00	0	0.00	0	2,710
Building Steel - Structural Light	42 T	8.58	360	27,027	0.00	0	0.00	0	0.00	0	27,027
Building Steel - Structural Medium	18 T	7.26	131	9,801	0.00	0	0.00	0	0.00	0	9,801



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Building Steel - Structural Heavy	38 T	6.6	251	18,810	0.00	0	0.00	0	0.00	0	18,810
Internal Floor Steel - Structural Medium	18 T	7.26	131	9,801	0.00	0	0.00	0	0.00	0	9,801
Internal Floor Steel - Structural Heavy	31 T	6.6	205	15,345	0.00	0	0.00	0	0.00	0	15,345
Steel - Stairs c/w handrail	8 M	0.726	6	436	0.00	0	0.00	0	0.00	0	436
Cladding - Wall, insulated 65mm	1265 M2	0.2145	271	20,351	0.00	0	0.00	0	0.00	0	20,351
Cladding - Roof, insulated 65mm	1680 M2	0.2145	360	27,027	0.00	0	0.00	0	0.00	0	27,027
Cladding - single skin 26ga liner to soffit	1600 M2	0.165	264	19,800	0.00	0	0.00	0	0.00	0	19,800
Exterior: fiberglass insulation R-30 c/w reinforced vapour barrier	2500 M2	0.0396	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Personnel Mandors - exterior insulated 0.9m x 2.1m	11 EA	3.96	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Double doors - exterior insulated 1.2m x 2.1m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Overhead doors - exterior insulated 3m x 3m	3 EA	33	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Overhead doors - exterior insulated 6m x 3m	1 EA	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Concrete Block Wall, fire wall	390 M2	0.495	193	14,479	0.00	0	0.00	0	0.00	0	14,479
Interior Finishes, allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			3,373	252,978		0		0		0	252,978
COMM 40 MECHANICAL											
HVAC allowance	1600 M2	0.255	408	30,600	0.00	0	0.00	0	0.00	0	30,600
Subtotal 40 MECHANICAL			408	30,600		0		0		0	30,600
COMM 50 PIPING											
Fire Suppression - including piping, hoses, wall hydrants, etc.	1 LS	54.648	55	4,099	0.00	0	0.00	0	0.00	0	4,099
Subtotal 50 PIPING			55	4,099		0		0		0	4,099
COMM 60 ELECTRICAL											
Electrical Services allowance, for HVAC, welding outlets, etc.	1600 M2	0.0594	95	7,128	0.00	0	0.00	0	0.00	0	7,128



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting allowance	1600	M2	0.099	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Grounding allowance	1600	M2	0.0396	63	4,752	0.00	0	0.00	0	0.00	0	4,752
Subtotal 60 ELECTRICAL				317	23,760		0		0		0	23,760
AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR				4,267	319,998		0		2,500		0	322,498

AREA 4800 WASTE DISPOSAL

COMM 40 MECHANICAL

Waste Disposal Incinerator 75 - 100 kg/hr	2	EA	40.8	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL				82	6,120		0		0		0	6,120

COMM 50 PIPING

Piping Allowance	1	LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Subtotal 50 PIPING				30	2,228		0		0		0	2,228

COMM 60 ELECTRICAL

Electrical Allowance	1	LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Subtotal 60 ELECTRICAL				20	1,485		0		0		0	1,485

COMM 70 INSTRUMENTATION AND CONTROLS

Instrumentation Allowance	1	LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Subtotal 70 INSTRUMENTATION AND CONTROLS				16	1,188		0		0		0	1,188



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 4800 WASTE DISPOSAL				147	11,021		0		0		0	11,021

AREA 4900 COMMUNICATIONS

COMM 70 INSTRUMENTATION AND CONTROLS

Fibre Optic Cable System - includes trunk hybrid aerial cable, armoured cable, rack mount enclosure for main trunk breakout and hardware, connector, patch cords	1	LS	166.32	166	12,474	0.00	0	0.00	0	0.00	0	12,474
Telecommunications - Satellite, telephone, emergency radio system, cable TV, internet access, video conferencing	1	LS	1485	1,485	111,375	0.00	0	0.00	0	0.00	0	111,375
Information Technology (IT) - hardware and application software	1	LS	356.4	356	26,730	0.00	0	0.00	0	0.00	0	26,730
Subtotal 70 INSTRUMENTATION AND CONTROLS				2,008	150,579		0		0		0	150,579

AREA 4900 COMMUNICATIONS				2,008	150,579		0		0		0	150,579
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AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE

COMM 10 CIVIL

Excavation to Expose Foundations	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Excavation to Expose Foundations	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Backfill after Foundation Removal	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Backfill after Foundation Removal	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Detail Excavation	1343	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1990	M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Piling, 168mm dia sch 80, approx 10.6m long, penetrating 2m into bedrock	1780 M	0.0891	159	11,895	0.00	0	0.00	0	0.00	0	11,895
Subtotal 10 CIVIL			626	46,980		0		23,390		0	70,370
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Mine Service Complex 110m x 43m x 12m high --> 4730m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	18 ea	3.3	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Concrete - Footings, Pile Caps	112 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	35 M3	4.29	150	11,261	0.00	0	0.00	0	0.00	0	11,261
Concrete - Grade Beams	135 M3	4.785	646	48,448	0.00	0	0.00	0	0.00	0	48,448
Concrete - Walls	12 M3	4.884	59	4,396	0.00	0	0.00	0	0.00	0	4,396
Concrete - Slab on Grade	1235 M3	1.386	1,712	128,378	0.00	0	0.00	0	0.00	0	128,378
Concrete - Elevated Slab	502 M3	2.211	1,110	83,244	0.00	0	0.00	0	0.00	0	83,244
Concrete - Misc & Equipment Pads	98 M3	2.409	236	17,706	0.00	0	0.00	0	0.00	0	17,706
Concrete - Embedded Metal	2000 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	2200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	4730 M2	0.0495	234	17,560	0.00	0	0.00	0	0.00	0	17,560
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	370 M2	0.0495	18	1,374	0.00	0	0.00	0	0.00	0	1,374
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	310 M2	0.0495	15	1,151	-0.00	0	0.00	0	0.00	0	1,151
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	5680 M2	0.0495	281	21,087	0.00	0	0.00	0	0.00	0	21,087
Internal Steel - Structural Light	8 T	8.58	69	5,148	0.00	0	0.00	0	0.00	0	5,148
Internal Steel - Structural Medium	436 T	7.26	3,165	237,402	0.00	0	0.00	0	0.00	0	237,402
Internal Steel - Structural Heavy	12 T	6.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Internal Steel - Crane Rails	8 T	6.6	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Internal Steel - Floor Grating	3 M2	0.495	1	111	0.00	0	0.00	0	0.00	0	111
Internal Steel - Stairs c/w handrail	18 M	0.726	13	980	0.00	0	0.00	0	0.00	0	980
Internal Steel - Handrails c/w kick plate	5 M	0.396	2	149	0.00	0	0.00	0	0.00	0	149



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Grout, for structural Internal Steel columns	2 M3	11.55	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Trench & Sump Covers, heavy duty grating	50 M2	0.66	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Mine Service Complex, engineered structure	1 LS	2607	2,607	195,525	0.00	0	0.00	0	0.00	0	195,525
Grnd Flr - Interior block walls	1705 M2	0.495	844	63,298	0.00	0	0.00	0	0.00	0	63,298
Grnd Flr - Interior framed wall: 150mm steel studs & 16mm thk type'x' gwb both sides	3130 M2	0.425	1,330	99,769	0.00	0	0.00	0	0.00	0	99,769
Grnd Flr - Painted epoxy floor finish	360 M2	0.099	36	2,673	0.00	0	0.00	0	0.00	0	2,673
Grnd Flr - vinyl sheet flooring	245 M2	0.066	16	1,213	0.00	0	0.00	0	0.00	0	1,213
Grnd Flr - Suspended T-bar ceiling system c/w all accessories	700 M2	0.165	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Grnd Flr - Sectional Overhead Doors - interior, c/w electric operator and all accessories, 3.6m x 3.6m	3 EA	33	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Grnd Flr - Single Personnel Manddoors with frame and hardware - exterior, insulated including attachments, 0.9m x 2.1m	13 EA	3.96	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Grnd Flr - Double Personnel Manddoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	10 EA	6.6	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Grnd Flr - Single Personnel Manddoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Grnd Flr - Double glazed Windows -exterior c/w Aluminum frame and attachments, 1.8m x 1.2m	13 EA	3.3	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Grnd Flr - Modular offices - complete with floor, walls, roof, door and window assembly	3 EA	26.4	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Grnd Flr - Washroom facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Grnd Flr - Warehouse shelving	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Grnd Flr - Offices - furniture (desk, swivel chair, side chair & file cabinet)	6 EA	0.132	1	59	0.00	0	0.00	0	0.00	0	59
Grnd Flr - Meeting rooms (tables- 2 and chairs-16)	2 EA	3.3	7	495	0.00	0	0.00	0	0.00	0	495
2nd Flr - Interior 2-hr fire rated framed wall: 150mm steel studs & 16mm thk type 'x' gwb both sides	980 M2	0.425	417	31,238	0.00	0	0.00	0	0.00	0	31,238
2nd Flr - Interior framed wall: 92mm steel studs & 16mm thick gwb both sides & insulation	1238 M2	0.4	495	37,140	0.00	0	0.00	0	0.00	0	37,140
2nd Flr - vinyl sheet flooring in Dry	1140 M2	0.066	75	5,643	0.00	0	0.00	0	0.00	0	5,643
2nd Flr - vinyl sheet flooring in Offices	1305 M2	0.066	86	6,460	0.00	0	0.00	0	0.00	0	6,460



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Dry	1140 M2	0.165	188	14,108	0.00	0	0.00	0	0.00	0	14,108
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Offices	1305 M2	0.165	215	16,149	0.00	0	0.00	0	0.00	0	16,149
2nd Flr - Painted epoxy floor finish	60 M2	0.099	6	446	0.00	0	0.00	0	0.00	0	446
2nd Flr - Double Mandoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
2nd Flr - Single Mandoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	55 EA	3.3	182	13,613	0.00	0	0.00	0	0.00	0	13,613
2nd Flr - Double glazed Windows-exterior c/w Aluminum frame and attachments	23 EA	3.3	76	5,693	0.00	0	0.00	0	0.00	0	5,693
2nd Flr - Hanging baskets c/w suspension system, metal lockers, aluminum bench, 440 ea	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
2nd Flr - HD washing machine	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
2nd Flr - HD dryer	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
2nd Flr - Washroom & shower facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
2nd Flr - Lunch room table	6 EA	0.66	4	297	0.00	0	0.00	0	0.00	0	297
2nd Flr - Lunch room chairs	26 EA	0.066	2	129	0.00	0	0.00	0	0.00	0	129
2nd Flr - Full size lunch room fridge	1 EA	1.32	1	99	0.00	0	0.00	0	0.00	0	99
2nd Flr - Lunch/coffee room counters	8 M	2.64	21	1,584	0.00	0	0.00	0	0.00	0	1,584
2nd Flr - Office equipment (copiers-3;fax machines-2;plotters-1;printers-3)	1 LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990
2nd Flr - Conference & training room tables	3 EA	0.066	0	15	0.00	0	0.00	0	0.00	0	15
2nd Flr - Conference & training room chairs	30 EA	0.066	2	149	0.00	0	0.00	0	0.00	0	149
2nd Flr - Offices-desks and chairs (41 desks, 42 swivel chairs and 41 side chairs)	41 EA	0.132	5	406	0.00	0	0.00	0	0.00	0	406
2nd Flr - Offices-vertical, 4-drawer file cabinet (50) and lateral file cabinet (25)	75 EA	0.066	5	371	0.00	0	0.00	0	0.00	0	371
2nd Flr - Offices/library bookshelves	70 EA	0.033	2	173	0.00	0	0.00	0	0.00	0	173
2nd Flr - Conference/training room whiteboard	3 EA	0.66	2	149	0.00	0	0.00	0	0.00	0	149
2nd Flr - Allowance - office cubicles, reference tables, drawing stick files	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				15,785	1,183,839		0		0		0	1,183,839
COMM 40 MECHANICAL												
510-CK-01 Shop Crane, 10 tonne	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
510-CK-02 Heavy Vehicle Shop Crane, 20/5 tonne	1	EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
510-CK-03 Electrical Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-04 Welding Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-05 Machine Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Lube Tanks, 10,000L	4	EA	10.2	41	3,060	0.00	0	0.00	0	0.00	0	3,060
Shop Tools	1	LS	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance	4730	M2	0.255	1,206	90,461	0.00	0	0.00	0	0.00	0	90,461
Subtotal 40 MECHANICAL				1,446	108,439		0		0		0	108,439
COMM 50 PIPING												
Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, etc.	1	LS	335.214	335	25,141	0.00	0	0.00	0	0.00	0	25,141
Subtotal 50 PIPING				335	25,141		0		0		0	25,141
COMM 60 ELECTRICAL												
Lighting allowance	4730	M2	0.1386	656	49,168	0.00	0	0.00	0	0.00	0	49,168
Electrical Services allowance, for HVAC, welding outlets, etc.	4730	M2	0.0594	281	21,072	0.00	0	0.00	0	0.00	0	21,072
Subtotal 60 ELECTRICAL				937	70,241		0		0		0	70,240



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE				19,129	1,434,639		0		23,390		0	1,458,029

AREA 5200 CAMP ACCOMMODATION & FACILITIES

COMM 10 CIVIL

Permanent Camp Dorms - Piling, 168mm dia L5, approx 4m long, 1.5m above grade, 2m into bedrock	1824	M	0.0891	163	12,189	0.00	0	0.00	0	0.00	0	12,189
Permanent Camp Core - Piling, 168mm dia L5, approx 9m long, 1.5m above grade, 3m into bedrock	1350	M	0.0891	120	9,021	0.00	0	0.00	0	0.00	0	9,021
Subtotal 10 CIVIL				283	21,210		0		0		0	21,210

COMM 20 STRUCTURAL AND ARCHITECTURAL

Permanent Camp Dorms - Accommodation Modules for 264 rooms	1	LS	7600	7,600	570,000	0.00	0	0.00	0	0.00	0	570,000
Permanent Camp Dorms Steel - Structural Light	6	T	8.58	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Permanent Camp Dorms Steel - Structural Medium	15	T	7.26	109	8,168	0.00	0	0.00	0	0.00	0	8,168
Permanent Camp Dorms Steel - Structural Heavy	112	T	6.6	739	55,440	0.00	0	0.00	0	0.00	0	55,440
Permanent Camp Dorms Steel - Stairs c/w handrail	6	M	0.726	4	327	0.00	0	0.00	0	0.00	0	327
Permanent Camp Core Steel - Structural Light	15	T	8.58	129	9,653	0.00	0	0.00	0	0.00	0	9,653
Permanent Camp Core Steel - Structural Medium	80	T	7.26	581	43,560	0.00	0	0.00	0	0.00	0	43,560
Permanent Camp Core Steel - Structural Heavy	32	T	6.6	211	15,840	0.00	0	0.00	0	0.00	0	15,840
Permanent Camp Core Steel - Structural HSS Light	5	T	8.58	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Permanent Camp Core Steel - Stairs c/w handrail	15	M	0.726	11	817	0.00	0	0.00	0	0.00	0	817
Permanent Camp Core Timber - Plywood 19mm, construction type	9969	M2	0.066	658	49,347	0.00	0	0.00	0	0.00	0	49,347
Permanent Camp Core Timber - Plywood 16mm, construction type	3323	M2	0.066	219	16,449	0.00	0	0.00	0	0.00	0	16,449
Permanent Camp Core Timber - Plywood 13mm, G1S	1300	M2	0.066	86	6,435	0.00	0	0.00	0	0.00	0	6,435



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Permanent Camp Core Timber - Plywood 10mm, construction type	6646 M2	0.066	439	32,898	0.00	0	0.00	0	0.00	0	32,898
Permanent Camp Core Timber - Plywood 13mm, construction type, internal load bearing walls	3400 M2	0.066	224	16,830	0.00	0	0.00	0	0.00	0	16,830
Permanent Camp Core Timber - Wood Trusses	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
Permanent Camp Core Timber - Wood Truss #1 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss #2 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 48m span, 23 ea	23 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 34m span, 20ea	20 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Misc Timber, allow 12000 board feet of 2x6	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Permanent Camp Core Timber - Joists, Parallam Beams, TimberStrain LSL	1 LS	2970	2,970	222,750	0.00	0	0.00	0	0.00	0	222,750
Permanent Camp Core Timber - TJI Joist TJI/H90 x 356, 1570m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TJI Joist TJI/L65 x 302, 15,722m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 610, 144m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 559, 196m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 178 x 660, 21m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 302, 800m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 356, 200m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Exterior: insulated standing seam roof system (Vicwest Marquis 3000) c/w insulation, clips etc. - roof	2500 M2	0.165	413	30,938	0.00	0	0.00	0	0.00	0	30,938
Exterior: fiberglass insulation R-30 c/w reinforced vapour barrier	2500 M2	0.0396	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Exterior: metal wall cladding (Vicwest -AD 300) c/w concealed fastener	1755 M2	0.165	290	21,718	0.00	0	0.00	0	0.00	0	21,718



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Exterior: Perimeter expanded metal skirting on horizontal & vert. supports	293 M2	0.2145	63	4,714	0.00	0	0.00	0	0.00	0	4,714
Exterior: framed wall: 38x140 studs, 10mm thick ply sheathing & 38x38 strapping both sides	1755 M2	0.297	521	39,093	0.00	0	0.00	0	0.00	0	39,093
Exterior: framed wall- exterior face "Tyvek" air barrier over strapping	1755 M2	0.0099	17	1,303	0.00	0	0.00	0	0.00	0	1,303
Exterior: framed wall- interior face:16mm thick gwb , painted or vinyl wall covering	1755 M2	0.0858	151	11,293	0.00	0	0.00	0	0.00	0	11,293
Exterior: framed wall- R-22 fiberglass batt insulation	1755 M2	0.0396	69	5,212	0.00	0	0.00	0	0.00	0	5,212
Exterior: framed wall- interior face: poly Vapour barrier over ply sheathing	1755 M2	0.0099	17	1,303	0.00	0	0.00	0	0.00	0	1,303
Exterior: framed wall- exterior face; 19mm thick fiberglass insulation between strapping	1755 M2	0.0396	69	5,212	0.00	0	0.00	0	0.00	0	5,212
Exterior: soffit fiberglass insulation (R-30) and 10mm treated exterior grade plywood soffit	2465 M2	0.165	407	30,504	0.00	0	0.00	0	0.00	0	30,504
Exterior: fiberglass thermally efficient double glazed windows with Low-E (2Mx 1.5M)	34 EA	4.95	168	12,623	0.00	0	0.00	0	0.00	0	12,623
Exterior: insulated sectional overhead door c/w all accessories (3.1M x 3.6M)	1 EA	42.9	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Exterior: insulated main entrance doors - hollow metal/ glass c/w ps frame and hardware	3 EA	9.9	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Exterior: double glazed main entrance curtain wall c/w alum or struct steel tube framing	207 M2	0.99	205	15,370	0.00	0	0.00	0	0.00	0	15,370
Exterior: insulated doors c/w ps frame and hardware	3 EA	3.96	12	891	0.00	0	0.00	0	0.00	0	891
Exterior: insulated double door c/w ps frame & hardware	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Interior: framed wall- 38x89 studs, insulation, & 16mm thick gwb painted each side	425 M2	0.2805	119	8,941	0.00	0	0.00	0	0.00	0	8,941
Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	170 M2	0.425	72	5,419	0.00	0	0.00	0	0.00	0	5,419
Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	1105 M2	0.425	470	35,222	0.00	0	0.00	0	0.00	0	35,222
Flooring: carpet over underlay	1800 M2	0.066	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Flooring: seamless vinyl sheet with all joint sealed	410 M2	0.066	27	2,030	0.00	0	0.00	0	0.00	0	2,030
Flooring: galvanized checkered plate floor in food storage	130 M2	0.396	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Flooring : cushion vinyl sheet flooring	465 M2	0.099	46	3,453	0.00	0	0.00	0	0.00	0	3,453



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Flooring: ceramic tiles(washrooms)	50 M2	0.429	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Ceiling: 16mm thick gwb painted	340 M2	1.625	553	41,438	0.00	0	0.00	0	0.00	0	41,438
Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2100 M2	0.165	347	25,988	0.00	0	0.00	0	0.00	0	25,988
Interior: solid core swing door c/w ps frame and hardware	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Interior: solid core swing double door c/w ps frame and hardware	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Elevator: 3000lbs capacity, hydraulic freight (sized for emergency ambulance stretcher)	1 EA	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Main stairs: Steel fabricated with carpeted thread / riser and metal / wood railing	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Dining Room: round tables - wood/metal	19 EA	0.66	13	941	0.00	0	0.00	0	0.00	0	941
Dining Room: chairs - wood/metal	1 SET	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Check-in - Office: furniture (desk, swivel chair, side chair & file cabinet)	4 EA	3.3	13	990	0.00	0	0.00	0	0.00	0	990
Washroom facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Storage lockers for employees offsite 600w x 600d x1830h	250 EA	0.66	165	12,375	0.00	0	0.00	0	0.00	0	12,375
First Aid: Hospital beds-2, chairs-6, cabinet-1, accessories	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Serving Area	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Dishwasher Area	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Food Preparation Area	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Bakery Area	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Coolers and Freezers	1 LS	247.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Butcher Shop	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Pot Washing Area	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Kitchen	1 LS	72.6	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Lunch Make-up Counter and Dry Food Storage	1 LS	264	264	19,800	0.00	0	0.00	0	0.00	0	19,800
Housekeeping	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Secondary stairs w/ intermediate landing : Stl fabricated with carpeted thread / riser and metal / wood railing	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security Office - desk(2); upholstered chair(4); Lateral file cabinet (2);file cabinet (2)	1 SET	6.6	7	495	0.00	0	0.00	0	0.00	0	495
X-Ray equipment in baggage handling.	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Storage lockers in baggage handling.	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Second Floor Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	1445 M2	0.425	614	46,059	0.00	0	0.00	0	0.00	0	46,059
Second Floor Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	361 M2	0.425	153	11,507	0.00	0	0.00	0	0.00	0	11,507
Second Floor Flooring: carpet over underlay	1630 M2	0.066	108	8,069	0.00	0	0.00	0	0.00	0	8,069
Second Floor Flooring: seamless vinyl sheet with all joint sealed	430 M2	0.066	28	2,129	0.00	0	0.00	0	0.00	0	2,129
Second Floor Flooring: ceramic tiles(washrooms)	170 M2	0.429	73	5,470	0.00	0	0.00	0	0.00	0	5,470
Second Floor Ceiling: 16mm thick gwb painted	200 M2	1.625	325	24,375	0.00	0	0.00	0	0.00	0	24,375
Second Floor Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2700 M2	0.165	446	33,413	0.00	0	0.00	0	0.00	0	33,413
Second Floor Interior: solid core swing single door c/w ps frame and hardware	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Second Floor Interior: solid core swing double door c/w ps frame and hardware	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	62 EA	4.95	307	23,018	0.00	0	0.00	0	0.00	0	23,018
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	2 EA	4.95	10	743	0.00	0	0.00	0	0.00	0	743
Changerooms	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
TV Rooms & Open Lounge Area	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Games Room	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Exercise Room & Change Rooms	1 LS	52.8	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Mail Boxes	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Orientation Room	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Library - Learning Centre	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			23,345	1,750,856		0		0		0	1,750,856



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 40 MECHANICAL												
Mechanical and HVAC, allowance	4930	M2	0.51	2,514	188,573	0.00	0	0.00	0	0.00	0	188,573
Subtotal 40 MECHANICAL				2,514	188,573		0		0		0	188,573
COMM 50 PIPING												
Fire Suppression for Core - including piping, sprinklers in every bedroom, hose reels, extinguishers, etc.	1	LS	326.7	327	24,503	0.00	0	0.00	0	0.00	0	24,503
Subtotal 50 PIPING				327	24,503		0		0		0	24,503
COMM 60 ELECTRICAL												
Electrical allowance	4930	M2	0.2376	1,171	87,853	0.00	0	0.00	0	0.00	0	87,853
Subtotal 60 ELECTRICAL				1,171	87,853		0		0		0	87,853
AREA 5200 CAMP ACCOMMODATION & FACILITIES				27,640	2,072,994		0		0		0	2,072,994

AREA 5300 SECURITY SYSTEMS

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Security Building included at end of Process Building, in Area 3900	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
COMM 70 INSTRUMENTATION AND CONTROLS												



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security System - includes digital cameras, monitors, card readers, cable, monitoring hardware in YK, baggage X-ray system	1	LS	990	990	74,250	0.00	0	0.00	0	0.00	0	74,250
Subtotal 70 INSTRUMENTATION AND CONTROLS				990	74,250		0		0		0	74,250
AREA 5300 SECURITY SYSTEMS				990	74,250		0		0		0	74,250

AREA 5400 LABORATORY FACILITIES

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Laboratory Facilities - located in Process Building, in Area 3900	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Laboratory Equipment only, allowance	1	LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				99	7,425		0		0		0	7,425
AREA 5400 LABORATORY FACILITIES				99	7,425		0		0		0	7,425

AREA 5500 UTILIDORS

COMM 10 CIVIL												
Excavation to Expose Foundations	542	M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Backfill after Foundation Removal	542	M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Detail Excavation - rock	384	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Detail Excavation - soil	158	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	227	M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 10 CIVIL				108	8,130		0		5,420		0	13,550
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Utilidors 3.67m x 3.0m high, 547m length	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	73	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	205	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	37	M3	4.29	159	11,905	0.00	0	0.00	0	0.00	0	11,905
Concrete - Anchor Bolts	1472	KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - HSS Bridge Trusses and Bents	326	T	7.26	2,367	177,507	0.00	0	0.00	0	0.00	0	177,507
Steel - Floor Checker Plate	2188	M2	0.33	722	54,153	0.00	0	0.00	0	0.00	0	54,153
Steel - Stairs c/w handrail	42	M	0.726	30	2,287	0.00	0	0.00	0	0.00	0	2,287
Cladding - Roof, insulated 65mm	2020	M2	0.2145	433	32,497	0.00	0	0.00	0	0.00	0	32,497
Cladding - Wall, exterior, insulated 65mm	5380	M2	0.2145	1,154	86,551	0.00	0	0.00	0	0.00	0	86,551
Mandoor, exterior insulated 0.9m x 2.1m	3	EA	3.96	12	891	0.00	0	0.00	0	0.00	0	891
Windows, insulated 1.6m x 1.2m	112	EA	3.3	370	27,720	0.00	0	0.00	0	0.00	0	27,720
Fire Doors, Escape Doors, Stairs - allowance	1	LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				5,412	405,885		0		0		0	405,885
COMM 50 PIPING												
Fire Suppression - on site and in utilidors, including piping, monitors, extinguishers, etc.	1	LS	271.26	271	20,345	0.00	0	0.00	0	0.00	0	20,345
Subtotal 50 PIPING				271	20,345		0		0		0	20,345
COMM 60 ELECTRICAL												
Lighting allowance	1	LS	396	396	29,700	0.00	0	0.00	0	0.00	0	29,700
Subtotal 60 ELECTRICAL				396	29,700		0		0		0	29,700



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 5500 UTILIDORS				6,187	464,060		0		5,420		0	469,480

AREA 5600 COLD STORAGE (INCL CEMENT STORAGE)

COMM 10 CIVIL

Backfill after Foundation Removal	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Excavation to Expose Foundations	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Rock Anchors	140	M	0.19008	27	1,996	0.00	0	0.00	0	0.00	0	1,996
Detail Excavation	600	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1909	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Core Shack - use existing facilities and build lean-to as required, allowance	1	LS	23.76	24	1,782	0.00	0	1.65	2	0.00	0	1,784
Subtotal 10 CIVIL				170	12,778		0		6,002		0	18,779

COMM 20 STRUCTURAL AND ARCHITECTURAL

Relocate Existing Cold Storage Building - allowance	1	LS	500	500	37,500	0.00	0	0.00 *	0	0.00	0	37,500
Cement Storage Building 100m x 50m x 10m high --> 5000m2 each for two buildings	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Precast Concrete Giant block	8	ea	3.3	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Cement Storage - Concrete - Lean-Mix	41	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Spread Footings	108	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Pedestals	34	M3	4.29	146	10,940	0.00	0	0.00	0	0.00	0	10,940
Cement Storage - Concrete - Grade Beams	75	M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Cement Storage - Concrete - Slab on Grade - not required, use gravel floor	0	M3	1.386	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Anchor Bolts	870	KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage Building, engineered structure - 2 buildings	1	LS	2079	2,079	155,925	0.00	0	0.00	0	0.00	0	155,925



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				3,110	233,260		0		0		0	233,260
COMM 60 ELECTRICAL												
Lighting allowance	5000	M2	0.0594	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Subtotal 60 ELECTRICAL				297	22,275		0		0		0	22,275
AREA 5620 CEMENT STORAGE				3,578	268,313		0		6,002		0	274,315

AREA 5700 BATCH & AGGREGATE PLANTS

COMM 10 CIVIL												
Backfill after Foundation Removal	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Excavation to Expose Foundations	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Excavation to Expose Foundations	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Detail Excavation	112	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	12	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	552	M	0.19008	105	7,869	0.00	0	0.00	0	0.00	0	7,869
Detail Excavation	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	456	M	0.19008	87	6,501	0.00	0	0.00	0	0.00	0	6,501
Subtotal 10 CIVIL				222	16,680		0		1,540		0	18,220

COMM 20 STRUCTURAL AND ARCHITECTURAL



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Batch Plant - engineered building, insulated 15.25m x 15.25m x 19.2m H	1 LS	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
Concrete - Lean Mix	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	49 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	11 M3	4.29	47	3,539	0.00	0	0.00	0	0.00	0	3,539
Concrete - Anchor Bolts	570 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Grout, for structural steel columns	0.6 M3	11.55	7	520	0.00	0	0.00	0	0.00	0	520
Aggregate Crushing Plant - building, 40m x 70m x 15m H	1 EA	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
Aggregate Crushing Plant - Steel - Structural Medium	13 T	7.26	94	7,079	0.00	0	0.00	0	0.00	0	7,079
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			710	53,213		0		0		0	53,213
 COMM 40 MECHANICAL											
Concrete Batch Plant - batch plant equipment, includes receiving hopper, charge conveyor, 225t aggregate storage bin, 75t cement silo, 75t fly ash silo, mixer, control room	1 EA	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Aggregate Crushing Plant - equipment listed below	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Jaw Crushing Plant - mobile plant c/w trailer, wheel mounted, 700mm (28") x 1067mm (42") single toggle jaw crusher, 1170mm (46") x 6.1m (20') grizzly feeder, 1067mm (42") x 10m (33') discharge conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 30m (100ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Cone/Screen Plant - mobile plant c/w trailer, HP200 cone crusher, 1.8m (6') x 6.1m (20') screen, 1524mm (60") under screen conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Mobile Wash Screen - feed hopper, grizzly feeder, belt feeder, screen feed conveyor, double 1.2m x 2.4m double deck screen, hydraulic radial discharge stacking conveyor 0.75m x 12.2m	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Screw Washer - 610mm (24") dia x 7.6m (25') long	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 18.3m (60ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-BI-02 Surface Crushing Surge Bin with Static Grizzly 400 mm, 900 tonnes - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-03 Surface Crushing Transfer Hopper - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CH-04 Crushed Stockpile Shuttle Chute, Metal Lined, 0.5kW - not required	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Skirt & Head Chute for 312-FE-03, metal lined - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Metal Liners - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CV-04 Surface Crusher Take-Away Conveyor, 1067mm Wide, 11kW - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CR-02 Surface Crusher , Single Toggle Jaw Crusher - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-GZ-02 Surface Crushing Vibrating Grizzly, 150mm Opening, 1500mm x 3600mm Single Step, VFD 30kW - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			281	21,038		0		0		0	21,038
COMM 60 ELECTRICAL											
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	232	M2	0.1386	32	2,412	0.00	0	0.00	0	0.00	2,412
Control Tower - trailer package, electrical system	1	INCL	0	0	0	0.00	0	0.00	0	0.00	0
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	2800	M2	0.1386	388	29,106	0.00	0	0.00	0	0.00	29,106
Subtotal 60 ELECTRICAL			420	31,518		0		0		0	31,518
AREA 5710 BATCH PLANT			1,633	122,448		0		1,540		0	123,988

AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 40 MECHANICAL											
Wheel Loader w/integrated tool carrier , 175kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Integrated Tool Carrier, 149kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavator, 96kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bobcat, for general site use and process plant	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Grader, 123kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dozer, 123kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pick-up Trucks 3/4ton crew cab	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Boom truck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tractor and flat deck trailer	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Truck 5000 gallon	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Truck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Vacuum truck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bus - USED (new bus \$140,500 each)	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Truck c/w Plow	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
2T Forklift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
5T Forklift w/extendable forks	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Snow Machine	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase	100 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
24m manlift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Crane - 40-50 ton	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ambulance	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Light Plant	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aircraft de-icing equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diesel fuel truck 5000 gallon	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1T Mech. Truck c/w Welder	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Roll compactor	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Drill rig	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Surface haul/quarry truck 40 tonnes	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Wheel Loader, 224kW - included in Area 3120	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Forklift 30t - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Prep. Vehicles for Removal	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Subtotal 40 MECHANICAL			255	19,125		0		0		0	19,125
AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT			255	19,125		0		0		0	19,125

AREA 5900 EXPLOSIVE STORAGE

COMM 10 CIVIL

Backfill after Foundation Removal	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Excavation to Expose Foundations	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Excavation to Expose Foundations	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Detail Excavation	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	640 M	0.19008	122	9,124	0.00	0	0.00	0	0.00	0	9,124
Detail Excavation	182 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	196 M3	0	0	0	-0.00	0	0.00	0	0.00	0	0
Rock Anchors	192 M	0.19008	36	2,737	0.00	0	0.00	0	0.00	0	2,737
Subtotal 10 CIVIL			203	15,221		0		2,240		0	17,461

COMM 20 STRUCTURAL AND ARCHITECTURAL

AN Storage Building 40m x 20m x 6m high --> 800m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Pedestals	7 M3	4.29	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Concrete - Anchor Bolts	260 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Pre-fab Building, including cladding, manddoors, overhead doors, etc.	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Building Steel - Structural Light, 22T - not required	0 T	8.58	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Medium, 8T - not required	0 T	7.26	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Heavy, 33T - not required	0 T	6.6	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Grout, for structural steel columns, 0.3m2 - not required	0 M3	11.55	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - wall, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings & ss fasteners, 720M2 - not required	0 M2	0.33	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - roof, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings ss fasteners, 800M2 - not required	0 M2	0.33	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Overhead doors, uninsulated, sectional c/w motor operator, 4m x 4m, 3ea - not required	0 EA	82.5	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Manddoors, uninsulated, .09m x 2.1m, 2 ea - not required	0 EA	3.96	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building 18m x 18m x 6m high --> 324m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	17 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Slab on Grade	80 M3	1.386	111	8,316	0.00	0	0.00	0	0.00	0	8,316
Concrete - Anchor Bolts	220 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	4 ea	3.3	13	990	0.00	0	0.00	0	0.00	0	990
Grout, for structural steel columns	0.2 M3	11.55	2	173	0.00	0	0.00	0	0.00	0	173
Foundation Insulation - rigid insulation under slab, 50mm thick	341 M2	0.0495	17	1,266	0.00	0	0.00	0	0.00	0	1,266
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	95 M2	0.0495	5	353	0.00	0	0.00	0	0.00	0	353



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	79 M2	0.0495	4	293	0.00	0	0.00	0	0.00	0	293
Emulsion Plant Building - supply and erection included in operating costs, no capital costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			429	32,206		0		0		0	32,206
COMM 40 MECHANICAL											
30t Powder magazines	16 EA	5.1	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL			82	6,120		0		0		0	6,120
COMM 60 ELECTRICAL											
Lighting allowance	800 M2	0.0594	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Subtotal 60 ELECTRICAL			48	3,564		0		0		0	3,564
AREA 5910 AN STORAGE BUILDING			761	57,111		0		2,240		0	59,351

AREA 6100 NORTH PILE

COMM 10 CIVIL											
North Pile - clearing containment dyke area	2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - rock fill/spreading and compact for embankment, from mine waste	120000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - Internal Dyke - filter zone fill, fine gravel	7500 M3	0.015444	116	8,687	0.00	0	0.00	0	0.00	0	8,687
North Pile - filter zone non-woven heavy duty geotextile	6000 M2	0.0019008	11	855	0.00	0	0.00	0	0.00	0	855
Gravity Ditch #1 - ditching along embankment, 750m	1500 M3	0.0297	45	3,341	0.00	0	0.00	0	0.00	0	3,341

(The last lines on this page are in area: 6100)



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Gravity Ditch #1 - GCL liner for ditch 750m x 4m width	3375 M2	0.004752	16	1,203	0.00	0	0.00	0	0.00	0	1,203
Gravity Ditch #1 - fill for ditch, downstream side, 750m	2000 M3	0.014256	29	2,138	0.00	0	0.00	0	0.00	0	2,138
Culvert for ditch, 914mm (36") x 80m	1 LS	21.384	21	1,604	0.00	0	0.00	0	0.00	0	1,604
Service Road - North Pile to service pumps, 5m wide, 1500m long, general rock fill/spreading, 8000m3 - Existing, not required	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Road - Regrade for Closure	4500 M3	0.03	135	10,125	0.00	0	1.00	4,500	0.00	0	14,625
Fencing - around water management pond	1300 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			373	27,954		0		4,500		0	32,454
COMM 40 MECHANICAL											
Pump - Sedimentation Pond #2, 54 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Temporary Pond #2, 1000 gpm, 60kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #1, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #2, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			0	0		0		0		0	0
COMM 50 PIPING											
Pipe for runoff collection and pumps - 100mm (4") HDPE	700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pipe for runoff collection and pumps, Temp Pond #2 to WTP - 150mm (6") HDPE	900 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Tailings Pipe, from Process Plant to North Pile - 3 lines for a total of 5800m, 127mm CS sch 80, heat traced and 102mm insulation, on surface	5800 M	0.06	348	26,100	0.00	0	0.00	0	0.00	0	26,100
Subtotal 50 PIPING			348	26,100		0		0		0	26,100
COMM 60 ELECTRICAL											
Electrical allowance	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL				8	594		0		0		0	594
AREA 6100 NORTH PILE				729	54,648		0		4,500		0	59,148

AREA 6300 WATER MANAGEMENT & TREATMENT

COMM 10 CIVIL

Excavation to Expose Foundations	689	M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Backfill after Foundation Removal	689	M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Detail Excavation	698	M3	0.01188	8	622	0.00	0	0.00	0	0.00	0	622
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	636	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	1696	M	0.19008	322	24,178	0.00	0	0.00	0	0.00	0	24,178
Subtotal 10 CIVIL				468	35,135		0		6,890		0	42,025

COMM 20 STRUCTURAL AND ARCHITECTURAL

Water Treatment Building 55m x 15m x 16m high --> 825m2	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	64	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	74	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	33	M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Curbs	15	M3	4.29	64	4,826	0.00	0	0.00	0	0.00	0	4,826
Concrete - Slab on Grade	300	M3	1.386	416	31,185	0.00	0	0.00	0	0.00	0	31,185
Concrete - Elevated Slab	15	M3	2.211	33	2,487	0.00	0	0.00	0	0.00	0	2,487
Concrete - Sumps	8	M3	4.29	34	2,574	0.00	0	0.00	0	0.00	0	2,574
Concrete - Misc & Equipment Pads	62	M3	2.409	149	11,202	0.00	0	0.00	0	0.00	0	11,202
Concrete - Anchor Bolts	1380	KG	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	1700 M2	0.0495	84	6,311	0.00	0	0.00	0	0.00	0	6,311
Steel - Floor Grating for platforms	60 M2	0.495	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Steel - Checkerplate	45 M2	0.33	15	1,114	0.00	0	0.00	0	0.00	0	1,114
Steel - Stairs c/w handrail	15 M	0.726	11	817	0.00	0	0.00	0	0.00	0	817
Steel - Handrails c/w kick plate	100 M	0.396	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Steel - Grout, for structural steel columns	1.3 M3	11.55	15	1,126	0.00	0	0.00	0	0.00	0	1,126
Water Treatment Building, engineered structure	1 LS	2046	2,046	153,450	0.00	0	0.00	0	0.00	0	153,450
Thickener Cladding, insulated	1255 M2	0.2145	269	20,190	0.00	0	0.00	0	0.00	0	20,190
Clarifier Cladding, insulated	970 M2	0.2145	208	15,605	0.00	0	0.00	0	0.00	0	15,605
Overhead sectional door - exterior insulated 4.5m x 4.5m	1 EA	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Double doors - exterior insulated 1.2m x 2.4m	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Mandoors - exterior insulated 0.9m x 2.1m	8 EA	3.96	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Mandoors - interior 0.9m x 2.1m	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
Double doors - interior 1.2m x 2.4m	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	64 M2	0.425	27	2,040	0.00	0	0.00	0	0.00	0	2,040
Windows - interior, acoustical double glazed, 1.5 x 1.2m	2 EA	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Ceiling, suspended t-bar, 1" thick acoustical tiles	18 M2	0.165	3	223	0.00	0	0.00	0	0.00	0	223
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			3,760	281,984		0		0		0	281,984
COMM 40 MECHANICAL											
Lime Preparation Package	1 PKG	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
630-AG-07 Agitator, Lime Mix Tank, 0.5 m dia , 0.75kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-01 Feeder, Lime Screw, 0.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-PU-14 Pump, Lime Mix Tank Discharge, 2.2kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SB-01 Scrubber, Lime Area Dust	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SL-01 Slaker, Lime Slaker, 3 tonne/day capacity	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-HO-02 Hopper, Lime Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-07 Tank, Lime Mix, 1.5 m dia x 2 m h	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Flocculant Preparation Package	1 PKG	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
630-AG-11 Agitator, Flocculant Mix Tank, 0.8 m dia , 2.238kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-BL-01 Blower, Flocculant Air	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-02 Feeder, Flocculant, 50 kg/day	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-HO-01 Hopper, Flocculant	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-11 Tank, Flocculant Mix	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-12 Tank, Flocculant Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-AG-01 Agitator, Reactor Tank #1, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-03 Agitator, Reactor Tank #2, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-05 Agitator, Filter Feed Tank #1, 1.7 m dia , 1.5kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-08 Agitator, Lime Holding Tank, 1 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-09 Agitator, Ferric Sulphate Mix Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-10 Agitator, Ferric Sulphate Holding Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AH-01 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-AH-02 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-CK-01 Hoist, Reagent Area, 2 tonne	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-CL-01 Clarifier, #1 HDS, 21 m dia , covered, 3kW	1 EA	408	408	30,600	0.00	0	0.00	0	0.00	0	30,600
630-CL-01 Clarifier Dome	1 EA	178.5	179	13,388	0.00	0	0.00	0	0.00	0	13,388
630-CL-01 Clarifier Insulation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
630-FA-01 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-02 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-FA-03 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-04 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-05 Dome Exhaust Fan, 20,000 m3/hr FSP = 12mmWC, c/w 3hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-06 Dome Exhaust Fan, 11,000 m3/hr FSP = 12mmWC, c/w 1.5hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FL-01 Filter, Polishing, 6 x3 m dia, 7.1 m2 filter area , multi media, pressure type, 11kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
630-HE-01 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-02 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-03 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-04 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-05 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-06 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-07 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-08 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-09 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-MX-01 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-03 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-05 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01A Pump, Thickener U/F Recycle Duty, 19 m3/h , 65 mm hose pump, 3kW	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01B Pump, Thickener U/F Recycle Standby, 19 m3/h , 65 mm hose pump, 3kW	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-05A Pump, Clarifier U/F Recycle Duty, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-05B Pump, Clarifier U/F Recycle Standby, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-07A Pump, Filter Feed Duty, 500 m3/h , Warman 300L, 30kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-PU-07B Pump, Filter Feed Standby, 500 m3/h , Warman 300L, 30kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-PU-11 Pump, HDS Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-15A Pump, Lime Loop Distribution Duty, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-15B Pump, Lime Loop Distribution Standby, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-16 Pump, Lime Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-17 Pump, Ferric Sulphate Mix Tank Discharge, 12 m3/h , Centrifugal 11/2x1, 316SS, 0.75kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19A Pump, Ferric Sulphate Metering Duty, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19B Pump, Ferric Sulphate Metering Standby, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-20 Pump, Ferric Sulphate Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-21 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-22 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23A Pump, Flocculant Distribution Duty, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23B Pump, Flocculant Distribution Standby, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-24 Pump, Flocculant Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-25 Pump, Thickener U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-27 Pump, Clarifier U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-SN-01 Screen, Feed Water Safety, 850 m3/h @ 0.4wt% solids - DELETED	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-01 Tank, #1 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-02 Tank, #3 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-05 Tank, #1 Filter Feed, 5 m dia x 5 m h , Carbon Steel	6400 KG	0.00765	49	3,672	0.00	0	0.00	0	0.00	0	3,672



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-TK-08 Tank, Lime Holding, 3 m dia x 3 m h , Carbon Steel	2300	KG	0.00765	18	1,320	0.00	0	0.00	0	0.00	0	1,320
630-TK-09 Tank, Ferric Sulphate Mix, 2.5 m dia x 2.5 m h , 316 SS	1600	KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TK-10 Tank, Ferric Sulphate Holding, 2.5 m dia x 2.5 m h , 316 SS	1600	KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TH-01 Thickener, #1 Feed Water, 15 m dia , covered, 2.2kW	1	EA	357	357	26,775	0.00	0	0.00	0	0.00	0	26,775
630-TH-01 Thickener Dome	1	EA	127.5	128	9,563	0.00	0	0.00	0	0.00	0	9,563
630-TH-01 Thickener Insulation	1	EA	71.4	71	5,355	0.00	0	0.00	0	0.00	0	5,355
630-XX-01 Bag Breaker, Ferric Sulphate	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL				2,186	163,920		0		0		0	163,920
COMM 50 PIPING												
Piping & Valve Allowance - inside water treatment plant, allow 25% of mech equipment	1	LS	792	792	59,400	0.00	0	0.00	0	0.00	0	59,400
Fire Suppression - allowance for extinguishers	1	LS	3.96	4	297	0.00	0	0.00	0	0.00	0	297
Yard Piping - U/G water from Portal to Process Plant, in utilidor, 300mm CS, insulated	260	M	0.9702	252	18,919	0.00	0	0.00	0	0.00	0	18,919
Yard Piping - U/G water from Process Plant to MWTP, in piperack, 300mm CS, heat traced and insulated	60	M	1.089	65	4,901	0.00	0	0.00	0	0.00	0	4,900
Yard Piping - Mine water from WMP to MWTP, on ground, 150mm HDPE, heat traced and insulated	240	M	0.3762	90	6,772	0.00	0	0.00	0	0.00	0	6,772
Yard Piping - Thickener U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100	M	0.5544	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Yard Piping - Clarifier U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100	M	0.5544	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Yard Piping - Emergency Overflow from MWTP to WMP, on ground, 300mm HDPE, heat traced and insulated	200	M	0.5742	115	8,613	0.00	0	0.00	0	0.00	0	8,613
Subtotal 50 PIPING				1,430	107,217		0		0		0	107,217



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 60 ELECTRICAL												
Heat Tracing Panels 630-CL-01	1	LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Heat Tracing Panels 630-TH-01	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Low Voltage Electrical Allowance, allow 15% of mech equipment	1	LS	455.4	455	34,155	0.00	0	0.00	0	0.00	0	34,155
Building Lighting allowance	825	M2	0.1386	114	8,576	0.00	0	0.00	0	0.00	0	8,576
Clarifier Enclosure Lighting Allowance	450	M2	0.099	45	3,341	0.00	0	0.00	0	0.00	0	3,341
Thickener Enclosure Lighting Allowance	250	M2	0.099	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Grounding allowance	825	M2	0.0396	33	2,450	0.00	0	0.00	0	0.00	0	2,450
Subtotal 60 ELECTRICAL				699	52,458		0		0		0	52,458
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance, allow 6% of mech equipment	1	LS	146.52	147	10,989	0.00	0	0.00	0	0.00	0	10,989
Subtotal 70 INSTRUMENTATION AND CONTROLS				147	10,989		0		0		0	10,989
AREA 6300 WATER MANAGEMENT & TREATMENT				8,689	651,703		0		6,890		0	658,593

AREA 6400 DIFFUSER

COMM 10 CIVIL												
Site Excavation	150	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Native Fill	150	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Rock Excavation	50	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bedding Sand	100	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
C.S.P. Culvert 500mm dia. X 6m long	5	EA	0.4752	2	178	0.00	0	0.00	0	0.00	0	178
Silt Fence 8mil Material c/w Posts 40m long x 2m high	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Earth Excavation	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bank Stabilization - Geotextile and lagging	200 M2	0.009504	2	143	0.00	0	0.00	0	0.00	0	143
Drain Rock	40 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
General Fill	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			9	677		0		0		0	677
COMM 50 PIPING											
600mm HDPE Stub End Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
600mm ASA 125# Flange Back Up Ring C.S. Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Galvanized Bolts Nuts and Washers Discharge Pipe	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm ASA 125# Flange Back Up Ring 304SS Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Discharge Pipe	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm HDPE DR17 Piping Discharge Pipe	1100 LM	0.1386	152	11,435	0.00	0	0.00	0	0.00	0	11,434
Concrete Weights Discharge Pipe	20 EA	1.98	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Temporary Blind Flange 12mm C.S. Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Galvanized Bolts Nuts and Washers	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm ASA 125# Flange Back Up Ring 304SS Diffuser	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm HDPE DR17 Piping Diffuser	70 LM	0.1386	10	728	0.00	0	0.00	0	0.00	0	728
Concrete Weights Diffuser	20 EA	1.98	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Nozzle Pipe 150mm dia. HDPE DR11 x 200mm long Diffuser	8 EA	0.396	3	238	0.00	0	0.00	0	0.00	0	238
150mm HDPE Cap c/w 200mm nipple	8 EA	1.386	11	832	0.00	0	0.00	0	0.00	0	832
150mm Victaulic Coupling	8 EA	0.4356	3	261	0.00	0	0.00	0	0.00	0	261
Blind Flange 12mm C.S. Diffuser	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
Marine Installation Diffuser and Skiff Rental	1 LS	120	120	9,000	0.00	0	0.00	0	0.00	0	9,000



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				550	41,233		0		0		0	41,233
AREA 6400 DIFFUSER				559	41,911		0		0		0	41,911

AREA 7100 YK SORTING FACILITY

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Yellowknife Sorting Facility - estimate by DeBeers	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
AREA 7100 YK SORTING FACILITY				0	0		0		0		0	0

AREA 8100 OWNER'S COSTS

COMM 90 INDIRECTS												
Yellowknife Accommodations - not included	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS				0	0		0		0		0	0
AREA 8100 OWNER'S COSTS				0	0		0		0		0	0

AREA 9100 EPCM



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

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Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 90 INDIRECTS											
Engineering, Procurement and Construction Management (home office) prior to Demolition	1 LS	0	0	0	0.00	0	0.00	0	1,200,000.00	1,200,000	1,200,000
Office Supplies and Communications	16 Mos	0	0	0	0.00	0	10,000.00	160,000	0.00	0	160,000
Maintenance Staff Demolition Year	1 LS	0	0	0	0.00	0	0.00	0	400,000.00	400,000	400,000
Year 2 staff	1 LS	0	0	0	0.00	0	0.00	0	1,100,000.00	1,100,000	1,100,000
Site Operations Staff	1 LS	0	0	0	0.00	0	0.00	0	1,500,000.00	1,500,000	1,500,000
Maintenance Staff	1 LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
On-call maintenance staff	1 LS	0	0	0	0.00	0	0.00	0	125,000.00	125,000	125,000
Environmental Monitoring Year 1 & 2	1 LS	0	0	0	0.00	0	0.00	0	823,000.00	823,000	823,000
Construction Management Demolition Year	1 LS	0	0	0	0.00	0	0.00	0	1,600,000.00	1,600,000	1,600,000
Subtotal 90 INDIRECTS			0	0		0		160,000		7,198,000	7,358,000
AREA 9100 EPCM			0	0		0		160,000		7,198,000	7,358,000

AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT

COMM 90 INDIRECTS											
Mob-Demob Closure Contractor	1 LS	0	0	0	0.00	0	500,000.00	500,000	0.00	0	500,000
Contractor Temporary Facilities included in Labour Cost	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
CM/Owner Temporary Facilities - Construction Office	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
CM/Owner Temporary Facilities - Construction Office Supplies	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Three Standby/Emergency Generators will be used during construction, price for generators have been included in area 4110	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Allowance for supply of power cables and communications for connection between two generators enclosures and one switchgear enclosures complete and pre-connected prior to shipment, cost has been included in area 4110	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for reconnection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes to switchgear enclosure, cost has been included in area 4110	0	M	4	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Unit Substation; 600A	0	EA	200	0	150,000.00	0	0.00	0	0.00	0	0
Construction Power - Intake Fan 700HP VFD complete with Isolation transformer inside E-House, installed and pre-wired shipped for site installations, cost has been included in area 4120	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 2-3c250MCM, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to construction unit substation	0	M	4	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor for feeding underground Mine during development and production stages	0	EA	100	0	0.00	0	0.00	0	0.00	0	0
Construction Power - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder Temporary cables	0	M	0.8	0	85.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 4/0 AWG, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to Vent Fans Isolation Transformers (this for construction only)	0	M	0.85	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 3X3C-500MCM, 1kv, teck cable from 600V feeder breakers inside construction unit substation to construction power distribution panel	0	M	0.5	0	33.45	0	0.00	0	0.00	0	0
Construction Power - Teck Cable terminations kit for 5kV Construction/Standby power generators, cost has been included in area 4110	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Poles, 40 feet in culvert for construction power overhead lines, from construction unit substation located next to Standby/Construction Generators to Power distribution centres	0	EA	10	0	350.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Neutral Supported Cables, Type NSF-2, 4/0 AWG, quadplex, 600V for overhead line installation	0 M	0.6	0	0	10.61	0	0.00	0	0.00	0	0
Construction Power - Construction 600V Distribution Panels, with 400A incoming circuit breakers and six 200A outgoing circuit breakers, suitable for outdoor installation on H-Frame Supports	0 EA	8	0	0	5,000.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for generators' enclosure and switchgear's wiring interconnections , cost has been included in arera 4110	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Standby Generators and Switchgear Enclosure's Foundations and installations	0 LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Construction 600V Unit Substation's Foundations and Installations	0 LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Laydown Area Lighting	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Overhauling Gensets	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Reconfigure cables to final emergency location	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel storage of 3M litres existing on site	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Fuel Storage during Construction, for 3M litres	0 LS	1200	0	0	650,000.00	0	0.00	0	0.00	0	0
Allowance for Snow Clearing and Temporary Heating and Hoarding during construction	0 LS	1000	0	0	0.00	0	0.00	0	0.00	0	0
Small Tools and Consumables included in Labour Cost	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Turn-Around and Personnel Travel included in Labour Cost	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase - included in Area 5800	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Equipment Rental	175924 LS	0	0	0	0.00	0	8.00	1,407,392	0.00	0	1,407,392
D9 Rental and Operator	0 LS	0	0	0	0.00	0	200,000.00	0	0.00	0	0
Construction Equipment Rental - 200t crane	0 MO	0	0	0	0.00	0	30,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete trucks 2 x 5m3	0 MO	0	0	0	0.00	0	43,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete pump	0 MO	0	0	0	0.00	0	14,000.00	0	0.00	0	0
Construction Equipment - 2 operators for U/G concrete trucks	0 MO	200	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Equipment - 1 operator for U/G concrete pump	0 MO	200	0	0	0.00	0	0.00	0	0.00	0	0
Construction fuel Year 2 Dismantling	1200000 L	0	0	0	0.54	648,000	0.00	0	0.00	0	648,000
Credit for remaining fuel	-4E+06 L	0	0	0	0.54	-2,160,000	0.00	0	0.00	0	-2,160,000
Construction fuel Year 1 Dismantling	1.1E+07 L	0	0	0	0.54	5,670,000	0.00	0	0.00	0	5,670,000
Temporary Fabric Type Structure for Dismantling Including Erection and Disamantling	1 LS	1000	1,000	75,000	250,000.00	250,000	0.00	0	0.00	0	325,000
Subtotal 90 INDIRECTS			1,000	75,000		4,408,000		1,907,392		0	6,390,392
AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT			1,000	75,000		4,408,000		1,907,392		0	6,390,392

AREA 9400 CONSTRUCTION CAMP AND CATERING

COMM 90 INDIRECTS

Expanding existing construction camp, from 85 to 185 person	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Camp	24 mo	0	0	0	0.00	0	35,000.00	840,000	0.00	0	840,000
Sewage Treatment Plant - expand existing STP adjacent to the construction camp an additional 100-person capacity	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Catering Direct Cost Activities	18773 MD	0	0	0	0.00	0	62.50	1,173,313	0.00	0	1,173,313
Catering for Emulsion Plant Building erection - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Indirect Cost Activities	4694 MD	0	0	0	0.00	0	62.50	293,375	0.00	0	293,375
Catering Preproduction Underground Mining Activities - Phase I 2003	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase I 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase II 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Catering Preproduction Underground Mining Activities - Phase II 2005	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Construction Mgmt & Maint Year 1	4015 MD	0	0	0	0.00	0	62.50	250,938	0.00	0	250,938
Catering Care & Maintenance	6325 MD	0	0	0	0.00	0	125.00	790,625	0.00	0	790,625
Catering Visitors, allowance	100 MD	0	0	0	0.00	0	62.50	6,250	0.00	0	6,250
Catering Commissioning Engineers	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Camp Maintenance	420 DAY	0	0	0	0.00	0	350.00	147,000	0.00	0	147,000
Subtotal 90 INDIRECTS			0	0		0		3,501,500		0	3,501,500
AREA 9400 CONSTRUCTION CAMP AND CATERING			0	0		0		3,501,500		0	3,501,500

AREA 9600 COMMISSIONING AND STARTUP

COMM 90 INDIRECTS											
Start-Up and Commissioning - allowance for contractors, 8 people for 3 months	0 LS	7200	0	0	0.00	0	0.00	0	0.00	0	0
Start-Up and Commissioning - allowance for 10 engineers for 3 months	0 LS	0	0	0	0.00	0	690,000.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		0		0	0
AREA 9600 COMMISSIONING AND STARTUP			0	0		0		0		0	0

AREA 9700 SPARES AND FIRST FILLS

COMM 90 INDIRECTS											
Mining Spares - Mobile Equipment	0 LS	0	0	0	3,100,000.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Mining Spares - Other	0 LS	0	0	0	500,000.00	0	0.00	0	0.00	0	0
Electrical and Instrumentation Spares - allowance	0 LS	0	0	0	2,500,000.00	0	0.00	0	0.00	0	0
Power Plant - Special Tools and anticipated Spares	0 lot	0	0	0	602,300.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		0		0	0
AREA 9700 SPARES AND FIRST FILLS			0	0		0		0		0	0

AREA 9800 FREIGHT AND TAXES

COMM 90 INDIRECTS

Freight to Yellowknife - included in direct costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Freight from Site to Edmonton Equipment	600 LDS	0	0	0	0.00	0	5,750.00	3,450,000	0.00	0	3,450,000
Freight from Site to Edmonton Potentially Hazardous and Recycleable Materials	200 LDS	0	0	0	0.00	0	6,900.00	1,380,000	0.00	0	1,380,000
Winter Road Royalty, \$0.10/tonne/km for 222km	20000 MT	0	0	0	0.00	0	22.20	444,000	0.00	0	444,000
Disposal Fee's Equipment	15000 MT	0	0	0	0.00	0	42.00	630,000	0.00	0	630,000
Disposal Fee's Waste Oil	20835 DRM	0	0	0	0.00	0	65.00	1,354,275	0.00	0	1,354,275
Disposal Fee's Glycol	5000 DRM	0	0	0	0.00	0	170.00	850,000	0.00	0	850,000
Disposal Fee's Misc. Other	1250 DRM	0	0	0	0.00	0	100.00	125,000	0.00	0	125,000
Air Freight Allowance to Site	1 LS	0	0	0	0.00	0	200,000.00	200,000	0.00	0	200,000
Hercules airplane from Yellowknife \$15,000/trip	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties on equipment from South Africa - if equipment cannot be manufactured in Canada, duties are 0%. If equipment can be manufactured in Canada, duties are approximately 15-20%	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties - recovery equipment sourced from South Africa is expected not to have duties applied, due to its specialized nature	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		8,433,275		0	8,433,275



SNAP LAKE CLOSURE ALT. 1 UNDERGROUND BURIAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 9800 FREIGHT AND TAXES				0	0		0		8,433,275		0	8,433,275
<hr/>												
AREA 9900 CONTINGENCY												
COMM 90 INDIRECTS												
Contingency	1	LS	0	0	0	0.00	0	0.00	0	6,396,656.66	6,396,657	6,396,657
Subtotal 90 INDIRECTS				0	0		0		0		6,396,657	6,396,657
<hr/>												
AREA 9900 CONTINGENCY				0	0		0		0		6,396,657	6,396,657
<hr/>												
<hr/>												
TOTAL PROJECT COST				188,062	14,104,629		4,416,500		16,834,214		14,944,657	50,300,000

APPENDIX B
COST ESTIMATE DETAILS
Alternative: 100% Off-site Disposal

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 Tel(604)664-3300 Fax(604)664-3301

DE BEERS CANADA MINING INC.

Sorted By: 1st Level of Area
 Estimated by JS
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 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1000 MINING	6,973	523,006	8,500	40,000	0	571,506
2000 SITE DEVELOPMENT	7,483	561,222	0	1,147,615	1,350,000	3,058,837
3000 PROCESS FACILITIES	62,409	4,680,675	0	1,560,521	0	6,241,196
4000 UTILITIES	39,960	2,996,988	0	33,930	0	3,030,918
5000 ANCILLARY BUILDINGS	60,272	4,520,364	0	38,592	0	4,558,956
6000 WMP & WATER/WASTE MANAGEMENT	9,977	748,261	0	11,390	0	759,651
7000 OFF-SITE FACILITIES	0	0	0	0	0	0
8000 OWNER'S COSTS	0	0	0	0	0	0
9000 INDIRECTS	0	0	1,998,000	37,290,167	16,890,769	56,178,936
TOTAL PROJECT COST	187,074	14,030,517	2,006,500	40,122,214	18,240,769	74,400,000



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 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL CAPITAL COST ESTIMATE

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1200 MINE PREPRODUCTION	150	11,250	4,500	0	0	15,750
1310 MOBILE MINING EQUIPMENT	0	0	0	0	0	0
1320 U/G CONCRETE EQUIPMENT	0	0	0	0	0	0
1410 ORE HANDLING	0	0	0	0	0	0
1420 U/G VENTILATION	1,064	79,763	4,000	0	0	83,763
1431 MAINTENANCE BAYS	560	41,964	0	0	0	41,964
1432 WASH BAY	78	5,819	0	0	0	5,819
1433 FUELING BAY	55	4,118	0	0	0	4,118
1434 ACCESS DOORS	0	0	0	0	0	0
1435 OFFICE	15	1,148	0	0	0	1,148
1436 SUPPLIES STORAGE	28	2,079	0	0	0	2,079
1441 REFUGE STATION	196	14,695	0	0	0	14,695
1442 LOCAL SUMP	42	3,186	0	0	0	3,186
1444 HEALTH, SAFETY, EMERGENCY	40	3,000	0	4,000	0	7,000
1451 PUMP STATIONS	329	24,678	0	0	0	24,678
1452 PASTE FILL DISTRIBUTION	51	3,861	0	0	0	3,861
1453 U/G COMPRESSED AIR DISTRIBUTION	0	0	0	0	0	0
1454 U/G FRESH WATER DISTRIBUTION	0	0	0	0	0	0
1455 MISCELLANEOUS U/G EQUIPMENT	140	10,500	0	0	0	10,500
1460 TECHNICAL SERVICES	40	3,000	0	0	0	3,000
1471 EXPLOSIVES STORAGE U/G	60	4,500	0	0	0	4,500



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
1480 MONITORING, CONTROL, COMMUNICATIONS	59	4,455	0	0	0	4,455
1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION	461	34,541	0	0	0	34,541
1610 HEATING & VENTILATION FACILITIES	2,542	190,679	0	36,000	0	226,679
1620 COMPRESSOR FACILITIES	1,064	79,773	0	0	0	79,773
2100 GENERAL SITE DEVELOPMENT & LAYOUT	3,640	272,969	0	807,585	0	1,080,554
2200 ACCESS ROADS	508	38,068	0	86,350	1,350,000	1,474,418
2300 AIR STRIP	3,336	250,184	0	253,680	0	503,864
3110 PRIMARY CRUSHING & CONVEYING	2,736	205,170	0	1	0	205,170
3120 COARSE ORE STORAGE	7,542	565,626	0	3,400	0	569,026
3210 PRIMARY SCRUBBING AND SCREENING	2,696	202,232	0	0	0	202,232
3220 SECONDARY CRUSHING	3,267	244,993	0	0	0	244,993
3230 SECONDARY SCRUBBING AND SCREENING	305	22,840	0	0	0	22,840
3300 DMS	3,714	278,515	0	0	0	278,515
3400 RECOVERY PLANT	1,729	129,679	0	0	0	129,679
3500 THICKENING & DEGRIT	1,987	149,032	0	0	0	149,032
3600 WATER & AIR SYSTEMS	917	68,799	0	0	0	68,799
3700 PASTE FILL PLANT	3,402	255,169	0	0	0	255,169
3810 PROCESS INSTRUMENTATION	1,968	147,600	0	0	0	147,600
3820 PLANT CONTROL SYSTEM	871	65,340	0	0	0	65,340
3900 PROCESS BUILDING	31,276	2,345,680	0	7,120	0	2,352,800
3910 BULK SAMPLE PLANT	0	0	0	1,550,000	0	1,550,000
4100 POWER PLANT & DISTRIBUTION	17,627	1,322,021	0	7,430	0	1,329,451
4110 STANDBY GENERATORS	705	52,849	0	0	0	52,849
4120 POWER DISTRIBUTION	2,680	200,967	0	0	0	200,967



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	Total Direct Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
4200 FUEL STORAGE & DISTRIBUTION	7,594	569,533	0	7,500	0	577,033
4300 GLYCOL SYSTEM	3,385	253,901	0	0	0	253,901
4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM	1,056	79,174	0	16,500	0	95,674
4500 SEWAGE SYSTEM	493	36,945	0	0	0	36,945
4600 BUILDING - STP, PWTP, BOILER, INCINERATOR	4,267	319,998	0	2,500	0	322,498
4800 WASTE DISPOSAL	147	11,021	0	0	0	11,021
4900 COMMUNICATIONS	2,008	150,579	0	0	0	150,579
5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE	19,129	1,434,639	0	23,390	0	1,458,029
5200 CAMP ACCOMMODATION & FACILITIES	27,640	2,072,994	0	0	0	2,072,994
5300 SECURITY SYSTEMS	990	74,250	0	0	0	74,250
5400 LABORATORY FACILITIES	99	7,425	0	0	0	7,425
5500 UTILIDORS	6,187	464,060	0	5,420	0	469,480
5610 COLD STORAGE	527	39,496	0	0	0	39,496
5620 CEMENT STORAGE	3,027	227,035	0	6,000	0	233,035
5630 CORE SHACK	24	1,782	0	2	0	1,784
5710 BATCH PLANT	700	52,470	0	1,120	0	53,590
5750 AGGREGATE PLANT	933	69,978	0	420	0	70,398
5800 PLANT MOBILE & UTILITY EQUIPMENT	255	19,125	0	0	0	19,125
5910 AN STORAGE BUILDING	494	37,035	0	420	0	37,455
5920 EMULSION PLANT	268	20,076	0	1,820	0	21,896
6100 NORTH PILE	729	54,648	0	4,500	0	59,148
6300 WATER MANAGEMENT & TREATMENT	8,689	651,703	0	6,890	0	658,593
6400 DIFFUSER	559	41,911	0	0	0	41,911
7100 YK SORTING FACILITY	0	0	0	0	0	0



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Total Direct Hr	TotalDirect Lab Cost	Total Mat Cost	Total Sub Cost	Total Other Cost	Total Cost
8100 OWNER'S COSTS	0	0	0	0	0	0
9100 EPCM	0	0	0	160,000	2,800,000	2,960,000
9150 INTERIM CARE & MAINTENANCE PHASE	0	0	0	0	3,575,000	3,575,000
9160 ENVIRONMENTAL MONITORING	0	0	0	0	823,000	823,000
9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT	0	0	1,998,000	1,907,392	0	3,905,392
9400 CONSTRUCTION CAMP AND CATERING	0	0	0	3,501,500	0	3,501,500
9600 COMMISSIONING AND STARTUP	0	0	0	0	0	0
9700 SPARES AND FIRST FILLS	0	0	0	0	0	0
9800 FREIGHT AND TAXES	0	0	0	31,721,275	0	31,721,275
9900 CONTINGENCY	0	0	0	0	9,692,769	9,692,769
TOTAL PROJECT COST	187,074	14,030,517	2,006,500	40,122,214	18,240,769	74,400,000



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 Project Number: U638C
 Currency: CAD 4TH Q2002



SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL CAPITAL COST ESTIMATE

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 1200 MINE PREPRODUCTION												
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Concrete Enclosure for 2 Portals	15	M3	10	150	11,250	300.00	4,500	0.00	0	0.00	0	15,750
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				150	11,250		4,500		0		0	15,750
COMM 30 MINING												
Preproduction development - Phase I 2003	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase I 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2004	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - Phase II 2005	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Preproduction development - mine air heaters for contractor, 6 diesel units	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING				0	0		0		0		0	0
AREA 1200 MINE PREPRODUCTION												
				150	11,250		4,500		0		0	15,750

AREA 1300 MOBILE MINING EQUIPMENT

COMM 30 MINING												
Footwall development and remuck: Drilling - two boom jumbo for 5m x 5m headings	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Mucking - 5.4 m3 (7 cy) LHD	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Footwall development and remuck: Bolting - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Footwall development and remuck: Blasting - Emulsion loader w/basket	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - two boom jumbo for 3.2m x 4m headings - use one boom drill	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Drilling - one boom jumbo for 3.2m x 4m headings	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - 3m2 (4 cy) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Mucking - Remote for 3m2 (4yd) LHD	11 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - 75kW Dozer, modified height for U/G	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Slusher/Scraper assembly	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - track hydraulic excavator w/ 914mm digging bucket and 1524mm cleanup bucket	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Clean up - Remote cameras for above systems	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Blasting - Emulsion loader w/scissor deck	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore development/Stoping: Bolting - Hydraulic Bolter	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Development waste and stoping ore haulage: Haulage - 40t haul truck	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Delivery Crew - crane truck	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Mechanic's - mechanics pickup vehicle w/ flat deck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Fuel/lube - fuel/lube vehicle	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - pickup truck w/scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Electrician - Forklift/Cable reeler	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Maintenance - mechanics pickup truck w/ flat deck	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service vehicles: Grading - low profile U/G Motor Grader, 93kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Utility/personnel vehicles: Personnel - Mancarrier - 16 person	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Engineering - pickup w/scissor lift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Eng/Geo - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Rescue - van	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Crew leaders - pickup truck crew cab	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Mine Super - pickup truck crew cab	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Geology - pickup truck crew cab	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Utility/personnel vehicles: Pool - pickup truck/van	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Gopher - Tractor mounted, small diameter drill	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: NQ Drill - NQ drill for cover holes, delineation	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Directional - Directional drill	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Survey - Downhole survey equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diamond drills: Consumables - Core drill accessories	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Lined Borehole, 25.5m	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Loading Station 440m	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete truck	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete placement: Concrete filling - Concrete pump, mobile	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - 3m3 (4 yd) LHD w/quick attach blade	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Construction - Remote for 3m3 (4yd) LHD	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill/Concrete placement: Pipe installing - Scissor lift	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 30 MINING			0	0		0		0		0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
U/G Concrete Piping - CS 127mm (5") sch 80, including couplings & bends	4120 M	0	0	0	0.00	0	0.00	0	0.00	0	0
U/G Concrete Pipe Hangers	824 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING			0	0		0		0		0	0
AREA 1310 MOBILE MINING EQUIPMENT			0	0		0		0		0	0

AREA 1400 FIXED MINING EQUIPMENT

COMM 10 CIVIL											
Maintenance Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Wash Bay 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	120 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	16 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
-150mm Sub-Base Compacted	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Granular "A" Base Compacted	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Refuge Stations 3 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Fill for Slab	105 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			0	0		0		0		0	0
COMM 20 STRUCTURAL AND ARCHITECTURAL											
LHD ore pass dump grizzly - Concrete Collar, for 7 dumps	196 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



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LHD ore pass dump grizzly - Rock Bolts 25mm x 2.5m , for 7 dumps	840 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Concrete Slabs and Beam, for 7 dumps	91 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - Rock Dowels 20M x 1800mm, for 7 dumps	896 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Embedded Face Steel Plates, for 7 dumps	43 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly, for 7 dumps	140 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
LHD ore pass dump grizzly - Steel Grizzly Wear Plates, for 7 dumps	50 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore Pass Chute - In-line Chute, for 7 dumps	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Liners, for 7 dumps	107 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Embedded Steel & Rails, for 7 dumps	31 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Ore pass chute - Chain Support Beam, for 7 dumps	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	60 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar Raise Concrete Collar	12 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Foundations Fans	8 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Remove Concrete Raise Collar	24 M3	5	120	9,000	0.00	0	0.00	0	0.00	0	9,000
(Airlock) Access Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Safety Fence 3M High	42 LM	0.15	6	473	0.00	0	0.00	0	0.00	0	473
Allowance for Fill to Collar	400 M3	0.3	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Cap Ventilation Raise	10 M3	12	120	9,000	400.00	4,000	0.00	0	0.00	0	13,000
Concrete Slab On Grade	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Piers C/W Csp Cover	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bollards Dowelled To Rock	14 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Misc. Concrete Bases	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Shotcrete Walls 200mm Thick	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Metals	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Steel Medium	20 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Structural Steel Light	4 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Asce 60Lb/Yd Rail	2.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Handrail	20 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Grating	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Ladder	12 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Gantrex Rail Clips	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Column And Beam Tie Back Rock Anchors	128 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bollard Facing Plate C/W Nelson Studs	5.6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving Allowance Storage Room	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	6 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Slab On Grade	15 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Wall	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
900mm X 2135mm High Steel Man Door C/W Channel Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
4M x 4M Steel Roll-Up Door C/W Channel Frame	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Door 4M x 4m No. 1 & 2 Drift	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	5 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Office Equipment and Furniture Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Warehouse Shelving	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Floor Slab	60 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Embedded Steel Door Frame	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Partition Walls 200mm Thick Shotcrete	180 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel Door	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Microwave	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Refrigerator	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tables	24 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Chairs	120 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Cooler	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Heater	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sink	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
First Aid Kit	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Stretcher	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Shelving	3 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	36 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Walkway	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Sumps 2 Req'd	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Dowels 20M Bar	300 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Dams	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Bulkheads	28 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Pumpbases	24 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Platform Steel	3 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Access Ladders 3M High	18 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			366	27,473		4,000		0		0	31,473
COMM 30 MINING											
Equip emergency egress system - ladders, equipment, etc., excluding rock excavation	140 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Egress raise concrete cap	4 M2	0	0	0	0.00	0	1,000.00	4,000	0.00	0	4,000
Portable refuge station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Latrine	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine rescue equipment	20 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aux pumps - air powered	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Aux pumps - electric	10 EA	5	50	3,750	0.00	0	0.00	0	0.00	0	3,750
Mine lamp recharger - surface	4 EA	10	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Mine cap lamps - surface	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Self Rescuer	240 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Geology - MRM - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - Office Equipment	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Survey - Survey equipment	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Mining Engineering - hand-held air quality monitors	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Gem Com System, to monitor ore body and progress, including Gem Com hardware, desktop solution, enterprise solution for mine production tracking, cabling	1 LS	40	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Geomechanics Datalogging System - monitoring shaft stability, including dataloggers, enclosure, software, computers, extensometers, sensors, cable, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
UG Cap Magazines , including door shelving, lighting, heater, etc.	2 EA	20	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Powder Magazines , including door shelving, lighting, heater, etc.	2 EA	10	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Subtotal 30 MINING			280	21,000		0		4,000		0	25,000
COMM 40 MECHANICAL											
Primary exhaust ventilation fan	2 EA	191.25	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Secondary ventilation fan - 18 kw	16 EA	10.2	163	12,240	0.00	0	0.00	0	0.00	0	12,240
Secondary ventilation fan - 22 kw	8 EA	10.2	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Secondary ventilation fan - 37 kw	3 EA	15.3	46	3,443	0.00	0	0.00	0	0.00	0	3,443
Ventilation airlock doors	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



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Ventilation roll down doors	5 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ventilation regulators	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1219mm (48") X 610mm (24") Oval Duct Galv. 18Ga	52 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbow	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
610mm (24") X 1219mm (48") Vert Elbow	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Reducer 1219mm (48") X 914mm (36")	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct Galv. 18Ga	80 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	6 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	4 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Outlet Cone	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
914mm (36") Inlet Bell	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Silencer	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") Round Duct	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
914mm (36") X 914mm (36") Damper	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq 19-101-01B	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Fan Eq 19-101-01A	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
254mm (10") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	16 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
178mm (7") Dia Welding Fume Exhaust	70 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Elbows	22 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fan Eq19-106-02	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765
Exhaust Arms Eq19-106-01A,B,C,D	8 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
10T Overhead Crane	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825
2 Ton Rope Pull Winch	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Submersible Sump Pump	2 EA	8.16	16	1,224	0.00	0	0.00	0	0.00	0	1,224
Shop Tool Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Hose Reels	8 EA	1.02	8	612	0.00	0	0.00	0	0.00	0	612
Dispensing Pump	4 EA	5.1	20	1,530	0.00	0	0.00	0	0.00	0	1,530
Waste Oil Transfer Pump	2 EA	5.1	10	765	0.00	0	0.00	0	0.00	0	765



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Waste Oil Sink	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Portable Steam Washer	2 EA	2.55	5	383	0.00	0	0.00	0	0.00	0	383
Oil Separator and Sump	2 EA	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	2 LS	10.2	20	1,530	0.00	0	0.00	0	0.00	0	1,530
H.V.A.C. Allowance	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Fueling Cubes	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
H.V.A.C. Allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
H.V.A.C. Allowance	3 LS	38.25	115	8,606	0.00	0	0.00	0	0.00	0	8,606
1T Wall Mounted Pneumatic Hoist	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Submersible Sump Pump	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
1T Trolley Chain Hoist	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Dewatering Transfer Pumps - Pump Station PS-190N - 102mm (4") x 102mm (4"), 550usgmp, 20m (65ft) head, 19kW, including control cabinet	2 EA	12.75	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Dewatering Pumps - Pump Station PS+190S - 76mm (3") x 102mm (4"), 500usgmp, 314m (1030ft) head, 186kW, 1 VFD, including control cabinet	3 EA	56.1	168	12,623	0.00	0	0.00	0	0.00	0	12,623
Subtotal 40 MECHANICAL			1,282	96,122		0		0		0	96,122
COMM 50 PIPING											
25mm Dia F.P. Piping	200 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
40mm Dia F.P. Piping	32 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
75mm Dia F.P. Piping	30 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
100mm Dia. F.P. Piping	50 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Fittings Allowance	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	132 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Sprinkler Heads	102 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Valve Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. C.A. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. C.A. Piping	84 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
50mm Dia. C.S. S.W. Piping	180 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Dia. C.S. S.W. Piping	84 LF	0	0	0	0.00	0	0.00	0	0.00	0	0
25mm Ball Valves	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Hose Connections	18 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tie-In @ Main Header	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	180 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pressure Reducing Valve	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Fountain & Filter	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Eye Wash Station	2 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
150mm Dia. C.S. Drain Pipe	100 LM	0	0	0	0.00	0	0.00	0	0.00	0	0
Hangers/Supports	32 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fitting Allowance	2 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
19mm S.S. Lube Piping	290 LM	0.06534	19	1,421	0.00	0	0.00	0	0.00	0	1,421
19mm (3/4") Waste Oil Piping	50 LM	0.06534	3	245	0.00	0	0.00	0	0.00	0	245
Hangers/Supports	220 EA	0.198	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Fitting Allowance	2 LS	1.98	4	297	0.00	0	0.00	0	0.00	0	297
Fire Protection Allowance	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
H.V.A.C. Allowance	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Piping Allowance	3 LS	15.84	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Piping Allowance	1 LS	5.94	6	446	0.00	0	0.00	0	0.00	0	446
Pump Station PS+190N - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	1006 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190N - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Distribution Piping, 152mm (6") CS sch 40 with victaulic couplings	7315 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump Station PS+190S - Pump Station Piping, including piping, fittings, valves, etc.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Paste Backfill Distribution Piping - CS 152mm (6") sch 80, including couplings & bends, induction hardened pipe	7140	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Distribution Piping - CS 152mm (6") sch 20, including couplings & bends	7600	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Paste Backfill Line Hangers	1428	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 200mm (8") sch 40 victaulic, including pipe, fittings, valves, etc.	3700	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 100mm (4") sch 40 victaulic, including pipe, fittings, valves, etc.	3300	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressed Air Piping - 50mm (2") sch 40 victaulic, including pipe, fittings, valves, etc.	250	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 150mm (6") dia, CS sch 40 victaulic, including pipe, fittings, etc.	250	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Fresh Water Pipelines 100mm (4") dia, CS sch 40 victaulic, including pipe, fittings, etc.	2700	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 50 PIPING				155	11,616		0		0		0	11,616
COMM 60 ELECTRICAL												
Instrumentation Allowance	1	LS	24	24	1,800	0.00	0	0.00	0	0.00	0	1,800
Electrical Allowance	2	LS	148.5	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Electrical Allowance	2	LS	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Electrical Allowance	1	EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Electrical Allowance	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Electrical Allowance	1	LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Electrical Heaters	6	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Lighting - Allowance for Refuge Station	3	EA	7.92	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Electrical Outlets and Receptacles - Allowance for Refuge stations	1	LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Electrical Allowance	1	LS	5.94	6	446	0.00	0	0.00	0	0.00	0	446
VFD 186kW - dewatering pumps	1	EA	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Dewatering Pumps - Low Voltage Electrical Allowance, 15% of mechanical equipment	1	LS	54.45	54	4,084	0.00	0	0.00	0	0.00	0	4,084



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting - Allowance for Pumping Station	2 LS	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Electrical Outlets and Receptacles - Allowance for Pumping stations	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Subtotal 60 ELECTRICAL			524	39,267		0		0		0	39,267
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance, 10% of mechanical equipment	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
End of Line Video Monitoring	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Pressure Transducer	2 EA	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Ventilation monitoring system	1 LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Ore storage monitoring system	1 LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Leaky Feeder Communication System - cable and basic hardware for system diagnostics	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Mine Equipment Communication System - includes fleet/crew management software and equipment communication hardware	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Central Blasting System	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 70 INSTRUMENTATION AND CONTROLS			150	11,286		0		0		0	11,286
AREA 1431 MAINTENANCE BAYS			2,757	206,763		4,000		4,000		0	214,763

AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION

COMM 10 CIVIL

Main Power Distribution Cables - Trench for: Install Buried Duct (duct only) for initial 100 m in duct and sand, 100mm W x 120mm D	200 M	0	0	0	0.00	0	0.00	0	0.00	0	0
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**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Main Power Distribution Cables - Sand for: Install Buried Duct (duct only) for initial 100 m in duct and sand.	2.5	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL				0	0		0		0		0	0
COMM 60 ELECTRICAL												
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable (Power house to Mine transformer Feeders) 2 runs to 2 transformers.	240	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 5 kV 3 X 300MCM Teck Cable terminations (Power house to Mine transformer Feeders)	12	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south)	3500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder cables for Intake vent raise section	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV Junction Box, 4 way bus links.	8	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - 15 kV 3c 3/0 AWG Termination Kits and connectors	25	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Messenger/Hanger/Brackets for 15kV 3c 3/0 AWG cable down north and south ramp	4500	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Power Distribution Cables - Install Buried Duct (duct only) for initial 100 m in duct and sand. 15 kV 3c 3/0AWG Verti-Teck 133% Insulation Cable Main Mine Feeder cables for Mine ramps (north and south), 20 ft lengths of PVC conduit 6"	200	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Transformers - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor	2	EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Transformers - Control wiring for above transformer including cables and ducting	2	LS	15.84	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Breakers and Disconnects - Skid Mounted 15 kV Fused Disconnect for Production & Development Substation feeds	2	EA	1.98	4	297	0.00	0	0.00	0	0.00	0	297



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Motor Control - Allowance for Underground Vent Fan Starters	27 EA	1.584	43	3,208	0.00	0	0.00	0	0.00	0	3,208
Motor Control - Allowance for Crusher and miscellaneous 600V starters	10 EA	1.584	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Packaged Substations - Production 750 kVA 13.8kV/600V Skid mounted Substations	2 EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Packaged Substations - Development 750 kVA 13.8kV/600V Skid mounted Substations	2 EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Packaged Substations - Paste Booster 750 kVA 13.8kV/600V Skid mounted Substations	1 EA	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Packaged Substations - +280N and +220N Pumping and Exhaust Ventilation, 750 kVA 13.8kV/4.16IV Skid mounted Substations	2 EA	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Distribution Cable Messenger Systems - Messenger/hanger/brackets for cables for production equipment: 8 panels operating and 2 development areas. Allowance for 10 x 500m each. All subsequent messenger cables will be part of operations budget.	1500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - 4/0 AWG bare copper grounding cables from main power house and bonded at each level to JB and to each Unit substation.	8500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Grounding - Miscellaneous grounding/bonding material	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Medium Voltage Cables - 15 kV 3c #1AWG Teck 133% Insulation for Production and Development substations	1500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Develop Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 2 drills @ 500m	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Prod. Drill Feeders, 3c 3/0AWG SHG-GC 2kV rated cable, allowance for initial period only, 8 drills @ 500m	2000 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 25HP Aux Fan for Development drifts , 3c #1/0AWG Verti-Teck rated cable, allowance for initial period only, 8 areas @ 500m to local starters	1000 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 30HP Aux Fans , 3c #1/0AWG Teck rated cable, allowance for initial period only, allowance only	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - 75HP Aux Fans , 3c #2/0AWG Verti-Teck rated cable, allowance for initial period only, allowance only	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Low Voltage Cables - Cable allowance for refuge stations	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Low Voltage Cables - Cable allowance for Maintenance shop	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Terminations - Allowance for all cable terminations	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Cable Reels - Allowance for all cable reels	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Switches and Push Buttons - Allowance for Vent Fan and Misc PB stations for local stop start	27 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL			461	34,541		0		0		0	34,541
AREA 1500 ELECTRICAL POWER SUPPLY & DISTRIBUTION			461	34,541		0		0		0	34,541

AREA 1600 SURFACE FACILITIES

COMM 10 CIVIL											
Structural Fill	2500 M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Trench Rock Excavation	400 M3	0.0297	12	891	0.00	0	0.00	0	0.00	0	891
Sand Bedding	25 M3	0.014256	0	27	0.00	0	0.00	0	0.00	0	27
Trench Backfill	350 M3	0.014256	5	374	0.00	0	0.00	0	0.00	0	374
Safety Fence - around collars	60 M	0.0594	4	267	0.00	0	0.00	0	0.00	0	267
Structural Fill	2500 M3	0.007128	18	1,337	0.00	0	0.00	0	0.00	0	1,337
Subtotal 10 CIVIL			56	4,232		0		0		0	4,232
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Concrete Caps for 4 Vent Raises	36 M2	0	0	0	0.00	0	1,000.00	36,000	0.00	0	36,000
Concrete Foundations	22 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	15 M3	4.785	72	5,383	0.00	0	0.00	0	0.00	0	5,383
Concrete Slab On Grade	42 M3	1.386	58	4,366	0.00	0	0.00	0	0.00	0	4,366



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Equipment Foundations	105 M3	2.409	253	18,971	0.00	0	0.00	0	0.00	0	18,971
Anchor Bolts	1200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	42 T	6.6	277	20,790	0.00	0	0.00	0	0.00	0	20,790
Steel - Platforms	6 T	8.58	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Steel - Handrails c/w kick plate	50 M	0.396	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Steel - Ladders	50 M	0.726	36	2,723	0.00	0	0.00	0	0.00	0	2,723
Personnel Doors	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Equipment Doors	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Insulated Roof Cladding	380 EA	0.2145	82	6,113	0.00	0	0.00	0	0.00	0	6,113
Insulated Wall Cladding	655 EA	0.2145	140	10,537	0.00	0	0.00	0	0.00	0	10,537
Air Intake Louvres	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Concrete Foundations	20 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete Grade Beams	10 M3	4.785	48	3,589	0.00	0	0.00	0	0.00	0	3,589
Concrete Slab On Grade	40 M3	1.386	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Anchor Bolts	720 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Heavy - building frame	14 T	6.6	92	6,930	0.00	0	0.00	0	0.00	0	6,930
Steel - Platforms	2 T	8.58	17	1,287	0.00	0	0.00	0	0.00	0	1,287
Steel - Handrails c/w kick plate	15 M	0.396	6	446	0.00	0	0.00	0	0.00	0	446
Steel - Ladders	4 M	0.726	3	218	0.00	0	0.00	0	0.00	0	218
Personnel Doors	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Equipment Doors	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Insulated Roof Cladding	165 EA	0.2145	35	2,654	0.00	0	0.00	0	0.00	0	2,654
Insulated Wall Cladding	320 EA	0.2145	69	5,148	0.00	0	0.00	0	0.00	0	5,148
Air Intake Louvres	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			1,424	106,776		0		36,000		0	142,776
COMM 40 MECHANICAL											
Primary intake ventilation fan	2 EA	127.5	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks 50,000L Cap.	2 EA	25.5	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
120-HF-01 Mine Air Heater, Shaft No. 1	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
120-HF-02 Mine Air Heater, Shaft No. 2	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
H.V.A.C. Allowance	364 M2	0.255	93	6,962	0.00	0	0.00	0	0.00	0	6,962
H.V.A.C. Allowance	162 M2	0.255	41	3,098	0.00	0	0.00	0	0.00	0	3,098
Compressors - 5542m3/hr (3260cfm), 125 psig, 522kW (700hp)	3 EA	76.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL			1,078	80,822		0		0		0	80,822
COMM 50 PIPING											
Piping Allowance, 5% of mechanical equipment	1 LS	225	225	16,875	0.00	0	0.00	0	0.00	0	16,875
Fuel Supply Line 75mm C.S. Sch 80 Contained in 150mm C.S. Pipe	400 LM	0.495	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Valve and Fitting Allowance	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Leak Detection Sump	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Fire Protection Allowance	364 M2	0.0297	11	811	0.00	0	0.00	0	0.00	0	811
Piping Allowance - 20% of mechanical equipment	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Subtotal 50 PIPING			648	48,574		0		0		0	48,574
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Building Lighting Allowance	364 M2	0.1386	50	3,784	0.00	0	0.00	0	0.00	0	3,784
Building Grounding Allowance	364 M2	0.0396	14	1,081	0.00	0	0.00	0	0.00	0	1,081
Electrical Allowance - 15% of mechanical equipment	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Building Lighting Allowance	162 M2	0.1386	22	1,684	0.00	0	0.00	0	0.00	0	1,684
Building Grounding Allowance	162 M2	0.0396	6	481	0.00	0	0.00	0	0.00	0	481
Subtotal 60 ELECTRICAL			312	23,365		0		0		0	23,365
COMM 70 INSTRUMENTATION AND CONTROLS											



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance, 5% of mechanical equipment	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Instrumentation Allowance - 5% of mechanical equipment	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 70 INSTRUMENTATION AND CONTROLS			89	6,683		0		0		0	6,683
AREA 1610 HEATING & VENTILATION FACILITIES			3,606	270,452		0		36,000		0	306,452

AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT

COMM 10 CIVIL

Plantsite Soil Reclamation/Stockpiling	16.3 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Speard 1m fill on site for reclamation all areas	80650 M3	0.03	2,420	181,463	0.00	0	5.00	403,250	0.00	0	584,713
Camp Soil Reclamation/Stockpiling	0.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Storage Soil Reclamation/Stockpiling	1.9 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Soil Reclamation/Stockpiling	2.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Soil Reclamation/Stockpiling	4.5 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Soil Reclamation/Stockpiling	22.4 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Soil Reclamation/Stockpiling	0.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Winter Truck Parking - Soil Reclamation/Stockpiling, 2HA - not required	0 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Heating & Ventilation Surface Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Compressor Facilities - Soil Reclamation/Stockpiling	0.25 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Explosive Magazine Area Soil Reclamation/Stockpiling	0.8 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
AN Soil Reclamation/Stockpiling	1.1 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Soil Reclamation/Stockpiling	1.2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Excavation - rock	74000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Container Storage Excavation - rock	200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Excavation - rock	6000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Laydown Area - Cement Storage Excavation - rock	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Freshwater Intake Excavation - rock	200 M3	0.02376	5	356	0.00	0	0.00	0	0.00	0	356
AN Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Excavation - rock	1000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Develop Fill Shortfall - quarry costs	564140 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite General Rockfill/Spreading	91335 M3	0.00297	271	20,345	0.00	0	1.00	91,335	0.00	0	111,680
Camp General Rockfill/Spreading	9300 M3	0.00297	28	2,072	0.00	0	1.00	9,300	0.00	0	11,372
Service Complex General Rockfill/Spreading	51200 M3	0.00297	152	11,405	0.00	0	1.00	51,200	0.00	0	62,605
Container Storage General Rockfill/Spreading	23000 M3	0.00297	68	5,123	0.00	0	1.00	23,000	0.00	0	28,123
Fuel Storage Area General Rockfill/Spreading	31000 M3	0.00297	92	6,905	0.00	0	1.00	31,000	0.00	0	37,905
Laydown Area - Cement Storage General Rockfill/Spreading	40000 M3	0.00297	119	8,910	0.00	0	1.00	40,000	0.00	0	48,910
Laydown Area - General Rockfill/Spreading	140000 M3	0.00297	416	31,185	0.00	0	1.00	140,000	0.00	0	171,185
Freshwater Intake General Rockfill/Spreading	500 M3	0.00297	1	111	0.00	0	1.00	500	0.00	0	611
Explosive Magazine Area General Rockfill/Spreading	2000 M3	0.00297	6	446	0.00	0	1.00	2,000	0.00	0	2,446
AN General Rockfill/Spreading	7000 M3	0.003	21	1,575	0.00	0	1.00	7,000	0.00	0	8,575
Emulsion Plant General Rockfill/Spreading	9000 M3	0.00297	27	2,005	0.00	0	1.00	9,000	0.00	0	11,005
Plantsite Select Fill -25mm, 150mm thick	6200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Select Fill -25mm, 150mm thick	400 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Select Fill -25mm, 150mm thick	1600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel Storage Area Select Fill -25mm, 900mm thick	7600 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Plantsite Engineered Fill 500mm thick	20700 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Camp Engineered Fill 500mm thick	1300 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Engineered Fill 500mm thick	20200 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Complex Unsuitable Material Excavation	5000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Kimberlite - existing on site to coarse ore stockpile	19000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Relocate Metavolcanic Waste - existing on site to north pile	105000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Fencing - around intake and exhaust raises	240 M	0.0594	14	1,069	0.00	0	0.00	0	0.00	0	1,069



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 10 CIVIL				3,640	272,969		0		807,585		0	1,080,554
AREA 2100 GENERAL SITE DEVELOPMENT & LAYOUT				3,640	272,969		0		807,585		0	1,080,554

AREA 2200 ACCESS ROADS

COMM 10 CIVIL												
Winter Access Road Year 1	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 2	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Access Road Year 3	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
Winter Road to Esker Year 1 - 2003	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road 7m wide x 1020m	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road Regrade for Closure	3060	M3	0.03	92	6,885	0.00	0	5.00	15,300	0.00	0	22,185
Main Access Road Soil Reclamation/Stockpiling, 1.6HA- not required	0	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Main Access Road General Rockfill	12100	M3	0.00297	36	2,695	0.00	0	1.00	12,100	0.00	0	14,795
Main Access Road Culvert 600mm dia x 75m	1	LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Service Roads - to BEP & AN Storage, 6m wide x 3930m	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads - Regrade for Closure	11790	M3	0.03	354	26,528	0.00	0	5.00	58,950	0.00	0	85,478
Service Roads Soil Reclamation/Stockpiling, 5.8HA - not required	0	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads General Rockfill	40700	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Roads Culvert 600mm dia x 100m	1	LS	14.256	14	1,069	0.00	0	0.00	0	0.00	0	1,069
Subtotal 10 CIVIL				508	38,068		0		86,350		1,350,000	1,474,418



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 2200 ACCESS ROADS				508	38,068		0		86,350		1,350,000	1,474,418
<hr/>												
AREA 2300 AIR STRIP												
<hr/>												
COMM 10 CIVIL												
Airstrip 1525m x 45m wide	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Regrade for Closure	88680	M3	0.03	2,660	199,530	0.00	0	1.00	88,680	0.00	0	288,210
Airstrip Soil Reclamation/Stockpiling	20	HA	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Excavation - rock	143000	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip Select Fill -25mm, 300mm thick	12400	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Airstrip General Rockfill	165000	M3	0.00297	490	36,754	0.00	0	1.00	165,000	0.00	0	201,754
Airstrip Culvert 1000mm dia x 160m	1	LS	42.768	43	3,208	0.00	0	0.00	0	0.00	0	3,208
Airstrip Trenching for lighting system	3800	M	0.00594	23	1,693	0.00	0	0.00	0	0.00	0	1,693
Subtotal 10 CIVIL				3,216	241,184		0		253,680		0	494,864
<hr/>												
COMM 20 STRUCTURAL AND ARCHITECTURAL												
Waiting Building - not required	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
<hr/>												
COMM 60 ELECTRICAL												
Air Strip Lighting System - includes lighting, non directional beacon, approach path indicator system, wind direction indicator, field electric centre unit	1	LS	120	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Subtotal 60 ELECTRICAL				120	9,000		0		0		0	9,000



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 2300 AIR STRIP				3,336	250,184		0		253,680		0	503,864

AREA 3100 PRIMARY ORE HANDLING

COMM 10 CIVIL

Dump Ore Pass Dump Pocket - granular A	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - granular A	176	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors on surface for 311-CV-02	110	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Backfill after Foundation Removal	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	6006	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavate to Expose Foundations	340	M3	0.1	34	2,550	0.00	0	5.00	1,700	0.00	0	4,250
Rock Anchors	1000	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL				68	5,100		0		3,400		0	8,500

COMM 20 STRUCTURAL AND ARCHITECTURAL

Dump Ore Pass Chute - concrete bottom and two sides	15	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - AR plate on chute sides	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rails 85lb cast into chute concrete	4	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - liner support frames	3	MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Chute - rock bolts/dowels	60	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - approach slab	11	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - grizzly collar	20	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rock breaker found. & working slab	3	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - rails 85lb cast into chute concrete	1	MT	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Dump Ore Pass Dump Pocket - rock bolts/dowels	100 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - anchor bolts	0.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Ore Pass Dump Pocket - embedments	1 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - elevated slab	66 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - rock bolts/dowels	540 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - anchor bolts	1.5 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crusher Foundation - embedments	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - column foundations	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - CV take up slab	6 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - stair pad	1 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - slab on compacted structural fill	35 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Lean Mix	10 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete on surface for 311-CV-02 - Footings	27 M3	1.782	48	3,609	0.00	0	0.00	0	0.00	0	3,609
Concrete on surface for 311-CV-02 - Anchor Bolts	123 KG	0.0132	2	122	0.00	0	0.00	1	0.00	0	122
Dump Ore Pass Dump Pocket - grizzly	25 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Elev - rock bolts/dowels	25 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - structural steel	26 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - grating	176 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - handrail	60 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Operating Floor Crusher - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Crushing Chamber Floor - structural steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - structural steel, heavy	28 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - rails	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
Bridge Crane & Support Structure - ladder	12 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - structural steel	18 MT	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Feeder Support Platform - grating	120 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - handrail	46 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - stairs	3 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Feeder Support Platform - Magnet Support Steel	2 MT	0	0	0	0.00	0	0.00	0	0.00	0	0
MCC room for crusher - allowance	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Coarse Ore Storage Building 72m x 64m x 27m high (4608m2), with 22m x 9m x 27m high annex (198m2) --> total 4806m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	178 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	284 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	61 M3	4.29	262	19,627	0.00	0	0.00	0	0.00	0	19,627
Concrete - Grade Beams	19 M3	4.785	91	6,819	0.00	0	0.00	0	0.00	0	6,819
Concrete - Retaining Walls	304 M3	4.95	1,505	112,860	0.00	0	0.00	0	0.00	0	112,860
Concrete - Misc & Equipment Pads	3 M3	4.092	12	921	0.00	0	0.00	0	0.00	0	921
Concrete - Anchor Bolts	1726 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	53 T	8.58	455	34,106	0.00	0	0.00	0	0.00	0	34,106
Steel - Structural Medium	22 T	7.26	160	11,979	0.00	0	0.00	0	0.00	0	11,979
Steel - Structural Heavy	19 T	6.6	125	9,405	0.00	0	0.00	0	0.00	0	9,405
Steel - Floor Grating	632 M2	0.495	313	23,463	0.00	0	0.00	0	0.00	0	23,463
Steel - Stairs c/w handrail	39 M	0.726	28	2,124	0.00	0	0.00	0	0.00	0	2,124
Steel - Handrails c/w kick plate	217 M	0.396	86	6,445	0.00	0	0.00	0	0.00	0	6,445
Steel - Grout, for structural steel columns	2 M3	35	70	5,250	-0.00	0	0.00	0	0.00	0	5,250
Coarse Ore Storage Building, engineered structure	1 LS	2871	2,871	215,325	0.00	0	0.00	0	0.00	0	215,325
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			6,077	455,765		0		1		0	455,765
COMM 40 MECHANICAL											
311-BX-01 Platework - tramp iron tote box	1160 KG	0.0102	12	887	0.00	0	0.00	0	0.00	0	887
311-CH-01 Platework - apron feeder spillage/fines chute	5250 KG	0.0102	54	4,016	0.00	0	0.00	0	0.00	0	4,016
311-CH-02 Platework - apron feeder fixed grizzly	1200 KG	0.0102	12	918	0.00	0	0.00	0	0.00	0	918
311-CH-03 Platework - jaw crusher discharge liners	1950 KG	0.0102	20	1,492	0.00	0	0.00	0	0.00	0	1,492



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-CH-03 Platework - jaw crusher discharge chute	2300 KG	0.0102	23	1,760	0.00	0	0.00	0	0.00	0	1,760
311-CH-04 Platework - conveyor transfer chute	2720 KG	0.0102	28	2,081	0.00	0	0.00	0	0.00	0	2,081
311-CH-05 Platework - primary crusher feed chute/apron feeder skirt, incl liners	5000 KG	0.0102	51	3,825	0.00	0	0.00	0	0.00	0	3,825
311-CH-06 Platework - primary crusher feed chute/apron feeder head chute, incl liners	3260 KG	0.0102	33	2,494	0.00	0	0.00	0	0.00	0	2,494
311-CH-07 Platework - tramp iron discharge chute	2000 KG	0.0102	20	1,530	0.00	0	0.00	0	0.00	0	1,530
311-CH-08 Platework - skirting, conveyor, incl liners	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
311-CH-09 Head Chute for 311-CV-02, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
311-CH-09 Metal Liners	4460 KG	0.0102	45	3,412	0.00	0	0.00	0	0.00	0	3,412
Air Receiver, 1m3	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
Air Receiver, 3m3	1 EA	13.26	13	995	0.00	0	0.00	0	0.00	0	995
Belt Scale	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-RB-01 Hydraulic Hammer At Underground Surge Bin, 50kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-BI-01 Underground Ore Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-04 Underground Waste Surge Bin with Static Grizzly 400mm, 900 tonnes - included with 311-XX-01	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
311-MD-01 Metal Detector - Take-Away Conveyor, For 1372 mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-MS-01 Self Cleaning Magnet - Take-Away Conveyor, For 1372 mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
311-CV-01 Primary Crusher Take-Away Conveyor, 1372mm Wide x 18m L, 15kW, includes idlers, pulleys, drive, belting, steel	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
311-CV-02 Inclined Conveyor to Surface, 1067mm Wide x 300m, 2 x 60kW	1 EA	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
311-FE-01 Primary Crushing Apron Feeder, 1524mm x 6000mm w/hydraulic VFD, 11kW	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
311-CK-01 Crane, 25 tonne, 5.5kW - Primary Crusher	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CK-02 ROM Orepass O/H Crane, 5 tonne, 2.2kW - Chain Gate	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-XX-01 Chain Curtain with Hydraulic Cylinder, 1500mm x 3000mm, 1.1kW, discharge chute w/extra heavy liners and chains, press gate w/air cylinders, air receiver, etc.	1 EA	61.2	61	4,590	0.00	0	0.00	0	0.00	0	4,590
311-CR-01 Primary Crusher , Single Toggle Jaw Crusher,940 x 1240mm, 225kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
311-GZ-01 Primary Crushing Vibrating Grizzly, 150mm Opening, 1448mm x 4270mm Single Step, VFD 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance - not required, building not heated	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Stockpile Reclaim Hopper	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-BI-01 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-01 Stockpile Reclaim Apron Feeder Spillage Chutes , Unlined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-02 Mineral Sizer Feed Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Stockpile Reclaim Mineral Sizer Discharge Chute, Metal Lined	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-03 Metal Liners	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-04 Head Chute for 312-CV-02, metal lined	2740 KG	0.0102	28	2,096	0.00	0	0.00	0	0.00	0	2,096
312-CH-04 Metal Liners	4460 KG	0.00765	34	2,559	0.00	0	0.00	0	0.00	0	2,559
312-CH-05 Head Chute for 312-CV-03, metal lined	2635 KG	0.0102	27	2,016	0.00	0	0.00	0	0.00	0	2,016
312-CH-05 Metal Liners	3365 KG	0.00765	26	1,931	0.00	0	0.00	0	0.00	0	1,931
312-CV-02 Crushed Ore Stockpile Feed Tripper Conveyor, 1067mm Wide x 92m, 30kW	1 EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
312-TR-01 Tripper, stockpile feed, 15kW, included with 312-CV-02	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CV-03 Stockpile Reclaim Conveyor, 1067mm Wide x 44m, 37kW	1 EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
312-FE-01 Stockpile Reclaim Apron Feeder, 1372mm x 6000mm w/hydraulic VFD, 11kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
312-MB-01 Reclaim Front End Loader 224kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
312-CR-01 Reclaim System - Fixed Plant, including dump hopper, sizer, apron feeder, structure, chutes, operating system, complete electrical system, 4 weeks installation and startup assistance	1 PKG	561	561	42,075	0.00	0	0.00	0	0.00	0	42,075
312-CR-01 Stockpile Reclaim Mineral Sizer, 500mm Centres, 4 Tooth Rotor, 150kW	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Total	TotalDirect	Unit	Total	Unit	Total	Unit	Total	Total
		Direct Hr	Direct Hr	Lab Cost	Mat	Mat Cost	Sub	Sub Cost	Other	Other Cost	Cost
Subtotal 40 MECHANICAL			3,318	248,861		0		0		0	248,861
COMM 50 PIPING											
Piping Allowance - U/G and Conveying	1	LS	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for 311-CV-02, including piping, sprinklers, hose reels, pressure reducing station, etc.	1	LS	0	0	0.00	0	0.00	0	0.00	0	0
Fire Suppression - for all above ground conveyors, including piping, sprinklers, etc.	1	LS	227.898	228	17,092	0	0.00	0	0.00	0	17,092
Piping Allowance	1	LS	59.4	59	4,455	0	0.00	0	0.00	0	4,455
Fire Suppression - including piping, sprinklers, hose reels, extinguishers, etc.	1	LS	133.056	133	9,979	0	0.00	0	0.00	0	9,979
Subtotal 50 PIPING			420	31,527		0		0		0	31,527
COMM 60 ELECTRICAL											
VFD 11kW	1	EA	12	12	900	0	0.00	0	0.00	0	900
Packaged Substations - CRUSHER & +190S Pumping Duel 1250 kVA 13.8kV/4.16kV Skid mounted Substation	1	EA	60	60	4,500	0	0.00	0	0.00	0	4,500
Low Voltage Cables - Cable allowance for Underground Crusher misc cables	1	LS	0	0	0	0	0.00	0	0.00	0	0
Lighting - Allowance for Crusher	1	LS	0	0	0	0	0.00	0	0.00	0	0
Low Voltage Electrical Allowance	1	LS	35.64	36	2,673	0	0.00	0	0.00	0	2,673
Lighting allowance	4686	M2	0.0594	278	20,876	0	0.00	0	0.00	0	20,876
Grounding allowance	4686	M2	0	0	0	0	0.00	0	0.00	0	0
VFD 11kW	1	EA	7.92	8	594	0	0.00	0	0.00	0	594
Subtotal 60 ELECTRICAL			394	29,543		0		0		0	29,543



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3110 PRIMARY CRUSHING & CONVEYING				10,277	770,796		0		3,401		0	774,196

AREA 3200 FEED PREPARATION

COMM 40 MECHANICAL

Ductwork allowance	1	LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-SB-02 Primary Scrubber Dust Control Scrubber, 17,000m3/hr fan, 22kW	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
321-CH-02 Primary Scalping Screen Oversize Chute, Metal Lined	820	KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
321-CH-02 Metal Liners	1420	KG	0.00765	11	815	0.00	0	0.00	0	0.00	0	815
321-CH-03 Transfer Chute from 312-CV-02, metal lined	1590	KG	0.0102	16	1,216	0.00	0	0.00	0	0.00	0	1,216
321-CH-03 Metal Liners	4490	KG	0.00765	34	2,576	0.00	0	0.00	0	0.00	0	2,576
321-CH-04 Head Chute for 321-CV-01, metal lined	1900	KG	0.0102	19	1,454	0.00	0	0.00	0	0.00	0	1,454
321-CH-04 Metal Liners	1100	KG	0.00765	8	631	0.00	0	0.00	0	0.00	0	631
321-CH-05 Head Chute for 321-CV-02, metal lined	1575	KG	0.0102	16	1,205	0.00	0	0.00	0	0.00	0	1,205
321-CH-05 Metal Liners	1960	KG	0.00765	15	1,125	0.00	0	0.00	0	0.00	0	1,125
321-CH-06 Banana Screen Oversize Chute, metal lined	5755	KG	0.0102	59	4,403	0.00	0	0.00	0	0.00	0	4,403
321-CH-06 Metal Liners	7315	KG	0.00765	56	4,197	0.00	0	0.00	0	0.00	0	4,197
321-CH-XX Movable Trolley, metal lined	1620	KG	0.0102	17	1,239	0.00	0	0.00	0	0.00	0	1,239
321-CH-XX Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-CH-YY Scrubber Discharge Chute, metal lined	3580	KG	0.0102	37	2,739	0.00	0	0.00	0	0.00	0	2,739
321-CH-YY Metal Liners	5000	KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
321-SU-01 Scrubber Discharge Screen Underpan, Rubber Lined	2555	KG	0.0102	26	1,955	0.00	0	0.00	0	0.00	0	1,955
321-SU-01 Rubber Lining	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SU-02 Banana Screen Underflow Pump Box, Rubber Lined	7115	KG	0.0102	73	5,443	0.00	0	0.00	0	0.00	0	5,443



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Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
321-SU-02 Rubber Lining	80 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
321-PU-01 Primary Scrubber Discharge Screen U/F Pump, 350 x 300 mm Heavy Duty Horizontal Slurry Pump, 55kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
321-PU-03 Primary Scrubber Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
321-PU-04 Primary Scrubber Dust Control Pump, 100 x 75 mm heavy duty centrifugal pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-MD-01 Metal Detector - Scrubber Feed Conv., For 1067mm wide belt, 1kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-MS-01 Self Cleaning Electromagnet - Scrubber Feed Conv., For 1067mm wide belt, 3kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
321-CV-01 Primary/Secondary Scrubber Feed Conveyor, 1067mm Wide x 111m, 75kW	1 EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
321-CV-02 Primary/Secondary Scrubber Oversize Conveyor 1, 914mm Wide x 56m, 30kW	1 EA	117.3	117	8,798	0.00	0	0.00	0	0.00	0	8,798
321-CV-03 Primary/Secondary Scrubber Oversize Conveyor 2, 914mm Wide x 31m, 19kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
321-SC-01 Beltscale Scrubber Feed Conveyor, Double idler (4 cell), 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
321-CK-01 Scrubbing & Crushing Section Overhead Crane, 50 tonnes, 22kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
321-SB-01 Primary Scrubber, 4000mm Dia x 7400mm Long, Rubber Lined, 600kW	1 EA	765	765	57,375	0.00	0	0.00	0	0.00	0	57,375
321-XX-01 Primary Scrubber Inching Drive, 7.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-XX-02 Primary Scrubber Jacking System, air actuated	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
321-SN-01 Scrubber Discharge Scalping Screen, Horizontal Vibrating Single Deck Screen, 2400w x 4200mm L, 50mm Cut, PU, 18.5kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
321-SN-02 Scrubber Discharge Screen, DBHG24/73 Banana Screen, D. Deck, 32mm Cut Top, 1.5mm Cut Bottom, PU, 45kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Ductwork allowance	1 LS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-BH-01 HPRC Dust Collector, 44m2 area	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
322-FA-01 HPRC Dust Collector Fan, 4500 m3/hr, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-BI-01 Sec. Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-BI-02 HPRC Crusher Surge Bin, 100 tonnes	20 T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-01 HPRC Surge Bin Feed Conveyor 2, high angle, 1372mm wide x 70.7m 18.8m lift, 93kW & 112kW	1 EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
322-CV-02 HPRC Surge Bin Feed Conveyor 1, 914mm wide x 27m, 30kW	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-BI-01 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-BI-02 Metal Liners	13 T	7.65	99	7,459	0.00	0	0.00	0	0.00	0	7,459
322-CH-01 Sec. Crusher Bin Feed Chute, Metal Lined	1635 KG	0.0102	17	1,251	0.00	0	0.00	0	0.00	0	1,251
322-CH-01 Metal Liners	2070 KG	0.00765	16	1,188	0.00	0	0.00	0	0.00	0	1,188
322-CH-02 Sec. Crusher Bin Discharge Chute, Metal Lined	3400 KG	0.0102	35	2,601	0.00	0	0.00	0	0.00	0	2,601
322-CH-02 Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-03 Secondary Crusher Feed Chute, Metal Lined	715 KG	0.0153	11	820	0.00	0	0.00	0	0.00	0	820
322-CH-03 Metal Liners	470 KG	0.00765	4	270	0.00	0	0.00	0	0.00	0	270
322-CH-04 Sec. Crusher Discharge Chute, Metal Lined, included in crusher	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CH-05 Head Chute for 322-CV-01, metal lined	1100 KG	0.0102	11	842	0.00	0	0.00	0	0.00	0	842
322-CH-05 Metal Liners	565 KG	0.00765	4	324	0.00	0	0.00	0	0.00	0	324
322-CH-06 Feeder Head Chute for 322-FE-02, metal lined	1360 KG	0.0102	14	1,040	0.00	0	0.00	0	0.00	0	1,040
322-CH-06 Metal Liners	755 KG	0.00765	6	433	0.00	0	0.00	0	0.00	0	433
322-CH-08 Head Chute for 322-CV-02, metal lined	2815 KG	0.0102	29	2,153	0.00	0	0.00	0	0.00	0	2,153
322-CH-08 Metal Liners	1510 KG	0.00765	12	866	0.00	0	0.00	0	0.00	0	866
322-CH-09 Feeder Head Chute for 322-FE-01, metal lined	670 KG	0.0153	10	769	0.00	0	0.00	0	0.00	0	769
322-CH-09 Metal Liners	375 KG	0.00765	3	215	0.00	0	0.00	0	0.00	0	215
322-CH-XX HPRC Crusher Bin Discharge Chute, metal lined	3400 KG	0.0153	52	3,902	0.00	0	0.00	0	0.00	0	3,902
322-CH-XX Metal Liners	5000 KG	0.00765	38	2,869	0.00	0	0.00	0	0.00	0	2,869
322-CH-YY Secondary Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-YY Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
322-CH-ZZ HPRC Crusher Discharge Chute, metal lined	2200 KG	0.0153	34	2,525	0.00	0	0.00	0	0.00	0	2,525
322-CH-ZZ Metal Liners	2800 KG	0.00765	21	1,607	0.00	0	0.00	0	0.00	0	1,607
322-PU-01 Crushing Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
322-MD-01 Metal Detector - Crusher Feed Conv., For 914mm wide belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MD-02 Metal Detector, For 914mm Belt, 1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-01 Self Cleaning Belt Magnet - Secondary Crusher Feed Conv., For 914mm wide belt, 3kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-MS-02 Self Cleaning Belt Magnet - HPRC Feed Conv., For 760mm Belt, 2.2kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-LU-01 Secondary Crusher Lube Unit, 5.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FE-01 Belt Feeder to Secondary Crusher, 914mm wide x 15m, 11kW, VFD	1 EA	45.9	46	3,443	0.00	0	0.00	0	0.00	0	3,443
322-FE-02 HPRC Crusher Belt Feeder, 914mm wide x 22m long, 11kW, VFD	1 EA	66.3	66	4,973	0.00	0	0.00	0	0.00	0	4,973
322-SC-01 Belt Scale - Crusher Feed Conveyor, For 914mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-SC-02 Belt Scale - HPRC Feed Conveyor, For 760mm wide belt, Single Idler, 1.1kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
322-CR-01 Secondary Crusher , 1676mm Standard Cone Crusher, Coarse Liners c/w Hydrosset, 50mm Setting, 225kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
322-HY-01 Hydraulic Unit, Cone Crusher Hydrosset, 1.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-CR-02 Recrush Crusher, High Pressure Rolls Crusher - 2m Dia. X 1m wide, VFD included, 2 x 600kW	1 EA	1071	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
322-HY-02 Hydraulic Unit, High Pressure Rolls Crusher, 37.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-XX-05 Auxiliary Drive HPRC	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
322-FD-01 Rotary Distributor, Cone Crusher Feed, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
323-CH-03 Head Chute for 323-CV-01, metal lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
323-CH-03 Metal Liners	1365 KG	0.00765	10	783	0.00	0	0.00	0	0.00	0	783



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
323-CV-01 Sec. Scrubber Feed Conveyor, high angle, 1372mm W x 39.1m L x 14.5m lift, 2x75kW	1	EA	229.5	230	17,213	0.00	0	0.00	0	0.00	0	17,213
Subtotal 40 MECHANICAL				4,935	370,125		0		0		0	370,125
COMM 50 PIPING												
Piping Allowance - 10% of mechanical equipment	1	LS	415.8	416	31,185	0.00	0	0.00	0	0.00	0	31,185
Piping Allowance - 2% of mechanical equipment	1	LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Subtotal 50 PIPING				574	43,065		0		0		0	43,065
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance	1	LS	297	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Low Voltage Electrical Allowance	1	LS	396	396	29,700	0.00	0	0.00	0	0.00	0	29,700
VFD 11W	2	EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Low Voltage Electrical Allowance - 10% of mechanical equipment	1	LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 60 ELECTRICAL				758	56,876		0		0		0	56,876
AREA 3210 PRIMARY SCRUBBING AND SCREENING				6,268	470,066		0		0		0	470,066

AREA 3300 DMS

COMM 40 MECHANICAL

330-BI-01 DMS Feed Surge Bin, 100 tonnes	20	T	10.2	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-BI-01 Metal Liners	36	T	7.65	275	20,655	0.00	0	0.00	0	0.00	0	20,655
330-BI-03 Coarse DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5	T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-BI-05 Fines DMS Concentrate Surge Bin - Stream 1, 30 tonnes	5 T	10.2	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-CH-17 Coarse DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-CH-18 Fines DMS Dry FeSi Hopper, 1m3 Rubber Lined	500 KG	0.0102	5	383	0.00	0	0.00	0	0.00	0	383
330-BX-01 Coarse DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-01 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-03 Fines DMS Circulating Medium Header Box, Rubber Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-03 Rubber Lining	9.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-05 Coarse DMS DM Cyclone Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-05 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-07 Fines DMS DM Cyclones Mixing Box, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-BX-07 Metal Lining	1200 KG	0.00765	9	689	0.00	0	0.00	0	0.00	0	689
330-BX-09 Coarse DMS DM Cyclone U/Flow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-11 Fines DMS DM Cyclones U/Flow Box, Rubber Lined	1180 KG	0.0102	12	903	0.00	0	0.00	0	0.00	0	903
330-BX-13 Coarse DMS DM Cyclone O/Flow Box, Rubber Lined	1800 KG	0.0102	18	1,377	0.00	0	0.00	0	0.00	0	1,377
330-BX-15 Fines DMS DM Cyclones O/Flow Box, Rubber Lined	2155 KG	0.0102	22	1,649	0.00	0	0.00	0	0.00	0	1,649
330-BX-21 Coarse DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-23 Fines DMS Densifying Cyclones Underflow Box, Rubber Lined	705 KG	0.0102	7	539	0.00	0	0.00	0	0.00	0	539
330-BX-25 Coarse DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-BX-27 Fines DMS Densifying Cyclones O/F Splitter Box, Actuated	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-CH-01 Feed Prep Screen Feed Chute for 330-FE-03, Metal Lined	1000 KG	0.0102	10	765	0.00	0	0.00	0	0.00	0	765
330-CH-01 Metal Liners	810 KG	0.00765	6	465	0.00	0	0.00	0	0.00	0	465



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CH-03 Feed Prep Screen Oversize Chute, Metal Lined	1935 KG	0.0102	20	1,480	0.00	0	0.00	0	0.00	0	1,480
330-CH-03 Metal Liners	1765 KG	0.00765	14	1,013	0.00	0	0.00	0	0.00	0	1,013
330-CH-05 Oversize Chute for 330-SN-11, Rubber Lined	4185 KG	0.0102	43	3,202	0.00	0	0.00	0	0.00	0	3,202
330-CH-05 Rubber Lining	53 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-07 Oversize Chute for 330-SN-13, Rubber Lined	300 KG	0.0102	3	230	0.00	0	0.00	0	0.00	0	230
330-CH-07 Rubber Lining	5.2 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-09 Coarse DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-09 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-11 Fines DMS Floats D & R Screen Discharge Chute, Metal Lined	800 KG	0.0102	8	612	0.00	0	0.00	0	0.00	0	612
330-CH-11 Metal Liners	500 KG	0.00765	4	287	0.00	0	0.00	0	0.00	0	287
330-CH-13 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-15 Sieve Bend - Discharge Chute, Metal Lined, included in sieve band	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-17 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-18 Rubber Lining	8.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-21 PK Coarse Conveyor Transfer Chute, Metal Lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-21 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-22 Head Chute for 330-CV-02, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-22 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-24 Head Chute for 330-CV-04, metal lined	1120 KG	0.0102	11	857	0.00	0	0.00	0	0.00	0	857
330-CH-24 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-26 Head Chute for 330-CV-07, metal lined	1285 KG	0.0102	13	983	0.00	0	0.00	0	0.00	0	983
330-CH-26 Metal Liners	1090 KG	0.00765	8	625	0.00	0	0.00	0	0.00	0	625
330-CH-32 Chutework for 330-MS-01 & 02	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-32 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-CH-33 Chutework for 330-MS-03 & 04	1050 KG	0.0102	11	803	0.00	0	0.00	0	0.00	0	803
330-CH-33 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-SU-01 Underflow Chute for 330-SN-01, Rubber Lined	1130 KG	0.0102	12	864	0.00	0	0.00	0	0.00	0	864
330-SU-01 Rubber Lining	16 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-03 Underpan for 330-SN-11, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-03 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-05 Underpan for 330-SN-13, Rubber Lined	830 KG	0.0102	8	635	0.00	0	0.00	0	0.00	0	635
330-SU-05 Rubber Lining	15.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-09 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-11 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-13 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-15 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-17 Coarse DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-17 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-19 Fines DMS Dilute Medium Header Tank, 2m3 Rubber Lined	950 KG	0.0102	10	727	0.00	0	0.00	0	0.00	0	727
330-BX-19 Rubber Lining	6 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-21 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-23 Rubber Lining	9 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-25 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-BX-27 Rubber Lining	2.3 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-07 Coarse DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-07 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-09 Fines DMS Circulating Medium Sump, Rubber Lined, 3.5m Dia., 4.5m high. - 20m3	2680 KG	0.0102	27	2,050	0.00	0	0.00	0	0.00	0	2,050
330-SU-09 Rubber Lining	25 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-17 Fines DMS Dilute Medium Sump, 2.5m Dia. 4.5m High - 9m3	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-17 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SU-19 Recovery Tails Discharge Sump	820 KG	0.0102	8	627	0.00	0	0.00	0	0.00	0	627
330-SU-19 Rubber Lining	7.5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-TK-01 Coarse DMS FeSi Mixing Tank, 2m3 Rubber Lined	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-TK-02 Fines DMS FeSi Mixing Tank, 2m3 Rubber Lined	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-01 Feed Preparation Screen U/Flow Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-03 Feed Prep Screen Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-04 Coarse DMS Area Sump Pump, 65mm V/Spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-06 Fines DMS Area Sump Pump, 65mm V/Spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
330-PU-08 Coarse DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-10 Fines DMS Circulating Medium Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 90kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
330-PU-12 Coarse DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 150kW VFD	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-14 Fines DMS DM Cyclone Feed Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW VFD	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
330-PU-16 Coarse DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 45kW	1 EA	17.85	18	1,339	0.00	0	0.00	0	0.00	0	1,339
330-PU-18 Fines DMS Dilute Medium Pump, 150 x 100 mm Heavy Duty Horizontal Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
330-PU-20 Coarse DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-21 Fines DMS FeSi Mixing Pump, 100 x 75 mm Heavy Duty Slurry Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-22 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-23 Recovery Tails Discharge Pump, 100 x 75 Heavy Duty Slurry Pump, 11kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-PU-24 DMS Concentrate Spillage Sump Pump, 65mm V/spindle, 22kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-AG-01 Coarse DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-AG-02 Fines DMS FeSi Tank Agitator, Rubber Lined, 3.7kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-DM-01 Coarse DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-DM-03 Fines DMS Demagnetizing Coil, 100mm Dia. - 2.530 kVa single phase, 0.135kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-01 Coarse DMS Nuclear Density Recorder & Controller	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-IN-03 Fines DMS Nuclear Density Recorder & Controller	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CV-01 DMS Surge Bin Feed Conveyor, high angle, 1372mm W x 36.6m L x 14m lift, 56kW & 75kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-02 Coarse DMS Feed Conveyor, high angle, 1067mm W x 35.5m L x 14m lift, 22kW & 30kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-04 Fines DMS Feed Conveyor, high angle, 1067mm W x 33m L x 14m lift, 22kW & 30kW	1	EA	191.25	191	14,344	0.00	0	0.00	0	0.00	0	14,344
330-CV-06 PK Coarse Conveyor 1, 914mm Wide x 16m L, 7.5kW	1	EA	58.65	59	4,399	0.00	0	0.00	0	0.00	0	4,399
330-CV-07 PK Coarse Conveyor 2, 914mm Wide x 127m L, 75kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
330-CV-08 Coarse DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-CV-09 Fines DMS FeSi Screw Conveyor, 50mm Screw, Stainless Steel, VFD, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-FE-01 DMS Feed Prep Screen Belt Feeder, 914mm Wide x 12m, VFD, 19kW	1	EA	114.75	115	8,606	0.00	0	0.00	0	0.00	0	8,606
330-FE-03 Recovery Tails Vibrating Feeder, 2.2kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SC-01 Coarse DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-03 Fines DMS Feed Conveyor Belt Scale , For 760mm Wide Belt, Single Idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-SC-05 PK Coarse Conveyor Beltscale, For 760mm Wide Belt, Single idler, 1.1kW	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CK-01 Coarse DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CK-02 Fines DMS FeSi Hoist, 1 tonne capacity, 2.2kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
330-SN-01 Feed Preparation Screen, 2400 wide x 3600 mm Long, D. Deck, 10mm Cut Top, 1.5mm Cut Bottom, PU, 11kW	1 EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
330-SN-03 Coarse DMS Cyclone U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-03 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-05 Fines DMS Cyclones U/Flow Drain Panel, Rubber Lined, 1.5mm Cut, PU	785 KG	0.0102	8	601	0.00	0	0.00	0	0.00	0	601
330-SN-05 Rubber Lining	5 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
330-SN-07 Coarse DMS Cyclone O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-09 Fines DMS Cyclones O/Flow Drain Panel, Metal Lined, 1.5mm Cut, PU	360 KG	0.0153	6	413	0.00	0	0.00	0	0.00	0	413
330-SN-11 Coarse DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-13 Fines DMS Sinks Drain & Rinse Screen, 600 x 3600mm Long, 1.5mm Cut, PU, 2 x 2.2kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-SN-15 Coarse DMS Floats D & R Screen, 3050 x 4800mm Long Single Deck, 1.5mm Cut Point, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-17 Fines DMS Floats D & R Screen, 3050 x 4800mm Long D. Deck, 6mm Top Deck, 1.5mm Bottom Deck, PU, 30kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
330-SN-19 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-SN-20 Sieve Bend - Wet X-Ray Rejects, 1240 wide x 800mm long, 1.5mm Cut, Wedge Wire	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-01 Coarse DMS DM Cyclone, 610mm Diameter, High Chrome	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-CY-03 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-04 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
330-CY-05 Fines DMS DM Cyclone, 360mm Diameter, High Chrome	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
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Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
330-CY-09 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-10 Coarse DMS Densifying Cyclone, 165mm Diameter, High Chrome	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-13 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-CY-14 Fines DMS Densifying Cyclone, 165mm Diameter, High Chrome	1 EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
330-FD-01 Fines DMS Cyclone Feed Distributor	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
330-MS-01 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-02 Coarse DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-03 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
330-MS-04 Fines DMS Magnetic Separator - Primary, Co-current, 914 x 2400mm, 3kW	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Subtotal 40 MECHANICAL			2,862	214,660		0		0		0	214,660
COMM 50 PIPING											
Piping Allowance - 10% of mechanical equipment	1 LS	435.6	436	32,670	0.00	0	0.00	0	0.00	0	32,670
Subtotal 50 PIPING			436	32,670		0		0		0	32,670
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance - 15% of mechanical equipment	1 LS	376.2	376	28,215	0.00	0	0.00	0	0.00	0	28,215
VFD 2.2kW	2 EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188
VFD 18kW	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 110kW	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 150kW	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Subtotal 60 ELECTRICAL			416	31,185		0		0		0	31,185



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 3300 DMS				3,714	278,515		0		0		0	278,515

AREA 3400 RECOVERY PLANT

COMM 20 STRUCTURAL AND ARCHITECTURAL

Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Structural, installed into modules in Edmonton	50	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Cladding, installed into modules in Edmonton	1300	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Platework, installed into modules in Edmonton	6	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Bldg Steel - Piping, installed into modules in Edmonton	3	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase Structural Steel, installed into modules in Edmonton	23	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Main Access Staircase c/w treads, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Structural Steel, installed into modules in Edmonton	12	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Fire Escape Staircase c/w treads, flooring, rail, etc., installed into modules in Edmonton	20	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Dust Extraction - Structural Steel, installed into modules in Edmonton	3.5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Structural Steel, installed into modules in Edmonton	8	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Platework, installed into modules in Edmonton	5	T	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Support for Screen Feeders - Flooring, installed into modules in Edmonton	32	M2	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Recovery Support for Screen Feeders - Stairs c/w treads, rail, etc., installed into modules in Edmonton	80	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
COMM 40 MECHANICAL												
Note: Recovery equipment is shipped to Edmonton where it is installed into modules. Those modules are shipped to site and installed. Material cost includes equipment and module fabrication in Edmonton, installation hours are for work on site only.	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - disassemble in Edmonton and prepare for packing	14	MOD	0	0	0	0.00	0	0.00	0	0.00	0	0
Recovery Modules - install at site	1	LS	1275	1,275	95,625	0.00	0	0.00	0	0.00	0	95,625
SPS & SFD Support System	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
X-Ray Support System	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
DOLFIN	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Note: tranporation to Yellowknife, SADAS, Tesing, Post Commissioning Support and Audit, PIMS are distributed in the above direct costs	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM A - AIR CONDITIONING	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-AC-01 Air Conditioner 1, 120kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM B - DUST EXTRACTION 1	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-01 Dust Scrubber 1, 2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BH-02 Dust Scrubber 2, 2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-02 Dust Blower 1, 40kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-01 Dust Stack 1	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM C - DUST EXTRACTION 2	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-04 Dust Blower 2, 40kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-ST-02 Dust Stack 2	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PU-03 Dust Scrubber Sump Pump 2, V/Spindle, 2.5kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-02 Dust Extraction Sump 2	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 1	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost	
340-BI-01 Coarse Pneumodyrer Batch Bin 1, Rubber Lined Stainless Steel	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-03 Coarse Pneumodyrer Batch Bin 2, Rubber Lined Stainless Steel	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-09 Coarse Pneumodyrer Knock-Out Bin	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-23 Recovery Tailings Bin	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM E - VACUUM SPILLAGE UNIT	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-02 Spillage Vacuum Knock-Out Bin	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM D - PNEUMO DRIER 2	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-05 Fines Pneumodyrer Batch Bin 1, Rubber Lined Stainless Steel	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-06 Fines Pneumodyrer Batch Bin 2, Rubber Lined Stainless Steel	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-07 Fines Pneumodyrer Knock-Out Bin	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM G - VACUUM RECYCLE UNIT	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-04 Reconcentrate Recycle Knock-Out Bin	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-08 Oversize Waste Rocker Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-10 Fines X-Ray Concentrate Batch Bin 1	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-12 Fines/Middles X-Ray Concentrate Batch Bin 1	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-14 Coarse/Middles X-Ray Concentrate Batch Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-15 Coarse X-Ray Concentrate Batch Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-18 Fines/Middles X-Ray Audit Concentrate Batch Bin 2	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-20 Coarse X-Ray Concentrate Batch Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-21 Coarse X-Ray Tails Audit Rocker Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-24 Reconcentrate Recycle Audit Rocker Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-01 Fines Dust Cascade Chute 1	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-02 Fines Dust Cascade Chute 2	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-04 Coarse Dust Cascade Chute 1	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-05 Coarse Dust Cascade Chute 2	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CH-06 Coarse Dust Cascade Chute 3	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FD-01 Fines Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-02 Reconcentrate Recycle Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-03 Fines/Middles Three-Way Rotary Distributor, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-04 Coarse/Middles Two-Way Rotary Distributor 1, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-05 Coarse/Middles Two-Way Rotary Distributor 2, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-06 Coarse/Middles Diverter	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-10 Reconcentrate Recycle Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-12 Fines/Middles X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FD-14 Coarse X-Ray Tails Audit Diverter, 0.1kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VL-01 Vault	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-01 Coarse Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-HE-02 Fines Pneumodryer Heater, 360kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-01 Water Chiller 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-WT-02 Water Chiller 2, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM J - DUST EXTRACTION SLURRY DISPOSAL 1	1 SYS	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
340-PU-02 Dust Scrubber Sump Pump 1, V/Spindle, 2.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SU-01 Dust Extraction Sump 1	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM K - DUST EXTRACTION SLURRY DISPOSAL 2	1 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-TK-01 Receiver	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-05 Spillage Vacuum Blower, 22kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-03 Fines Pneumodryer Blower, 75kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-07 CATS Blower, 7.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BL-01 Coarse Pneumodryer Blower, 75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BU-01 Recovery Area Incinerator, 0.7kW, 50kg/hr	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM I - VENTILATION	1 SYS	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
340-FA-01 Ventilation Fan 1, 0.5kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-FA-02 Ventilation Fan 2, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-03 Ventilation Fan 3, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-04 Ventilation Fan 4, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-05 Ventilation Fan 5, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-06 Ventilation Fan 6, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-07 Ventilation Fan 7, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-08 Ventilation Fan 8, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-FA-09 Ventilation Fan 9, 0.5kW	0	SYS	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-01 Coarse Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-02 Fines Pneumodryer Primary Tubular Conveyor, 5,000 kg Capacity, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-07 Fines 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-08 Fines/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-10 Coarse/Middles 1st Pass X-Ray Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-11 Fines X-Ray Concentrate Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-12 Fines X-Ray Concentrate Tubular Conveyor 2, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-13 Coarse/Middles Concentrate Distributor Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-14 Fines Weigh Bin Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-15 Coarse/Middles Concentrate X-Ray Tubular Conveyor 1, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-16 Fines X-ray Tailings Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-17 Coarse/Middles Concentrate X-Ray Tubular Conveyor 2, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-18 Coarse/Middles Belt Weigh Feeder Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-19 Coarse X-Ray Tails Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-20 Recovery Tails Tubular Conveyor, 1kW	1	EA	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-CV-21 Coarse Pneumo-Drier 2 Tubular Conveyor, 1kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-22 Coarse Pneumo-Drier 3 Tubular Conveyor, 1kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-23 Fines Pneumo-Drier 2 Tubular Conveyor, 1kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-24 Fines Pneumo-Drier 3 Tubular Conveyor, 1kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-02 Coarse Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-01 Fines Sizing Screen Vibrating Feeder, 5,000 kg/h Capacity, 1kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-04 Fines Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CV-03 Coarse Pneumodryer Secondary Tubular Conveyor, 5,000 kg/h Capacity, 2.2kW	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
SYSTEM H - CATS	1	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-01 Fines CATS Loading Station	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-02 Coarse CATS Loading Station	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-DT-03 CATS Discharge Station	0	SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-16 SPS Fines Weigh Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-BI-17 SPS Coarse Weigh Bin	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-03 Fines X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-04 Fines/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1	EA	0	0	0	-0.00	0	0.00	0	0.00	0	0
340-FE-05 Coarse/Middles X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-FE-06 Coarse X-Ray Belt Weigh Feeder, 3,500 kg/h Capacity, 0.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-CK-01 Recovery Hoist, 5 tonne capacity, 10kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-07 SFD, 8kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-01 Coarse Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-SN-02 Coarse Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-03 Fines Pneumodryer Feed Dewatering Screen - Stream 1, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-04 Fines Pneumodryer Feed Dewatering Screen - Stream 2, 2,500 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-05 Fines Sizing Screen, 5,000 kg/h Capacity, 1200 X 3600MM, 19kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-SN-06 Coarse Sizing Screen, 5,000 kg/h Capacity, 900 X 1800MM, 5.5kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-PG-01 Canning Machine, 6kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-02 Vacuum Moisturised Valve - Spillage, 0.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-VA-01 Vacuum Moisturised Valve - Recycle, 0.2kW	0 SYS	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-01 Fines SPS Raven, 2.2kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-LS-02 Coarse SPS Raven, 2.2kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-01 Fines First Pass CDX1132CL LARA, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-02 Fines Second Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-04 Fines/Middles First Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-06 Coarse/Middles First Pass CDX1132CL LARA , 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-07 Coarse/Middles Second Pass CDX1132CL LARA , 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-08 Fines/Middles Second Pass CDX1132CL LARA 1, 4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-10 Coarse/Middles First Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-11 Coarse/Middles Second Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-12 Coarse First Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-13 Coarse Second Pass CDX113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
340-XR-14 Fines Reconcentrate CDXST116C 1, 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
340-XR-16 Coarse Reconcentrate CDXST113C , 1.4kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			1,313	98,494		0		0		0	98,494
COMM 50 PIPING											
Piping Allowance - 3% of mechanical equipment, excluding x-ray machines	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Subtotal 50 PIPING			158	11,880		0		0		0	11,880
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance - 3% of mechanical equipment cost (as per Debtch & adjusted for NA productivity)	1 LS	257.4	257	19,305	0.00	0	0.00	0	0.00	0	19,305
Subtotal 60 ELECTRICAL			257	19,305		0		0		0	19,305
AREA 3400 RECOVERY PLANT			1,729	129,679		0		0		0	129,679

AREA 3500 THICKENING & DEGRIT

COMM 40 MECHANICAL

350-CH-01 Oversize Chute for 350-SN-01, Metal Lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-01 Metal Lining	600 KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-02 Oversize Chute for 350-SN-02, Metal Lined	1480 KG	0.0102	15	1,132	0.00	0	0.00	0	0.00	0	1,132
350-CH-02 Metal Lining	600 KG	0.00765	5	344	0.00	0	0.00	0	0.00	0	344
350-CH-04 Underpan for 350-SN-01, Rubber Lined	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-04 Rubber Lining	27 M2	0	0	0	0.00	0	0.00	0	0.00	0	0

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**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
350-CH-05 Underpan for 350-SN-02, Rubber Lined	1830 KG	0.0102	19	1,400	0.00	0	0.00	0	0.00	0	1,400
350-CH-05 Rubber Lining	27 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-01, Rubber Lined	1415 KG	0.0102	14	1,082	0.00	0	0.00	0	0.00	0	1,082
350-LAUNDER-01 Rubber Lining	15 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-LAUNDER-02, Rubber Lined	2830 KG	0.0102	29	2,165	0.00	0	0.00	0	0.00	0	2,165
350-LAUNDER-02 Rubber Lining	50 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-SU-01 Degrit Cyclone Feed Sump, 7m Dia x 10m High, 60 deg Cone, 200m3, Rubber Lined	12160 KG	0.0102	124	9,302	0.00	0	0.00	0	0.00	0	9,302
350-SU-01 Rubber Lining	112 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
350-PU-01 Degrit Cyclone Feed Pump, 300 x 250 mm Heavy Duty Horizontal Slurry Pump, 225kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-03 Thickener Area Sump Pump, 65mm V/Spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-04 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-05 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-06 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-07 Thickener Underflow/Conditioning Pump, 200 x 150 mm Heavy Duty Centrifugal Slurry Pump, 188kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
350-PU-13 Degrit Area Sump Pump, 65mm V/spindle, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-PU-14 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-PU-15 Flocculant Dosing Pump, Progressing Cavity, 2.2kW VFD	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-BL-01 Flocculant Mixing, 1.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
350-IN-03 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-IN-04 Massflow Measurement On Thickener U/F, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
350-AG-01 Flocculant Mixing, 3.8kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Total	TotalDirect	Unit	Total	Unit	Total	Unit	Total	Total	
		Direct Hr	Direct Hr	Lab Cost	Mat	Mat Cost	Sub	Sub Cost	Other	Other Cost	Cost	
350-IN-01 Nuclear Density Gauge, 150mm Dia.	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-IN-02 Nuclear Density Gauge, 150mm Dia.	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-FE-01 Flocculant Mixing Screw Conveyor, 0.4kW VFD	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
350-CK-01 Flocculant Hoist, 2 tonne capacity, 2.2kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CK-02 Degrit Cyclone Overhead Crane, 25 tonne capacity, 11kW	1	EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
350-FO-01 Flocculant Mixing & Dosing System, Automated Make -up, 5.5kW	1	EA	40.8	41	3,060	0.00	0	0.00	0	0.00	0	3,060
350-SN-01 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-02 Degritting Screen, 2100 x 4800mm Long Low Head Screen, 0.5mm Cut, PU, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
350-SN-03 Thickener Tramp Screen, 6mm mesh	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-01 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-CY-02 Degritting Cyclone, Hydrocyclone SiC2 lined 800mm Dia.	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
350-TH-01 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1	EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
350-TH-02 PK Slimes Thickener, 10m Dia, Deep Cone Paste Thickener, 5.5kW	1	EA	306	306	22,950	0.00	0	0.00	0	0.00	0	22,950
Subtotal 40 MECHANICAL				1,310	98,245		0		0		0	98,245
COMM 50 PIPING												
Piping Allowance - 20% of mechanical equipment	1	LS	534.6	535	40,095	0.00	0	0.00	0	0.00	0	40,095
Subtotal 50 PIPING				535	40,095		0		0		0	40,095
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance	1	LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
VFD 0.4kW	1	EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
VFD 2.2kW	2	EA	7.92	16	1,188	0.00	0	0.00	0	0.00	0	1,188



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL				143	10,692		0		0		0	10,692
AREA 3500 THICKENING & DEGRIT				1,987	149,032		0		0		0	149,032

AREA 3600 WATER & AIR SYSTEMS

COMM 40 MECHANICAL

360-TK-01 Clarified Water Tank, 9m Dia., 10m High, 550m3 Capacity, Unlined	22500	KG	0.00765	172	12,909	0.00	0	0.00	0	0.00	0	12,909
360-TK-02 Fresh Water Storage Tank., 6m Dia., 10m High, 250m3 Capacity, Unlined	14000	KG	0.00765	107	8,033	0.00	0	0.00	0	0.00	0	8,033
360-HX-01 Primary Scrubber Process Fired Water Heat Exchanger, 3156kJ water 42l/s glycol 451/s, 5.5kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
360-PU-01 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-02 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU-03 Clarified Water Pump, 200 x 150 mm Heavy Duty Horizontal Slurry Pump, 110kW	1	EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
360-PU Fire Water Pump Module - c/w one diesel, one electric, one jockey pump and enclosure	1	MOD	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-PU-04 Fire Water Pump, 450 m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-05 Fire Water Pump, Diesel fired, 450m3/h 100 psi, 75kW - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-06 Fire Water Jockey Pump, Air Driven 50mm 450m3/h 100 psi, 50mm - included in module	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
360-PU-07 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
360-PU-08 Gland Seal Water Pump, 37 x 25 mm Water Pump, 15kW	1	EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
360-PU-09 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-10 Fresh Water Pump, 75 x 50 mm Water Pump, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
360-PU-12 Water Management Pond Supply Pump, 41 m3/h, 75kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
360-CO-01 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-CO-02 Compressor, 1600 m3/h @ 860 kPa c/w receiver, 150kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
360-AD-01 Instrument Air Dryer, 1kW	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
360-AD-02 Instrument Air Oil Filter	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
Subtotal 40 MECHANICAL			601	45,039		0		0		0	45,039
COMM 50 PIPING											
Piping Allowance - 20% of mechanical equipment	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Subtotal 50 PIPING			198	14,850		0		0		0	14,850
COMM 60 ELECTRICAL											
Low Voltage Electrical Allowance - 15% of mechanical equipment	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Subtotal 60 ELECTRICAL			119	8,910		0		0		0	8,910
AREA 3600 WATER & AIR SYSTEMS			917	68,799		0		0		0	68,799

AREA 3700 PASTE FILL PLANT

COMM 40 MECHANICAL



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-XX-01 Pig Insertion Valve, including hydraulic power pack, 7.5kW - not required	0 EA	15.3	0	0	0.00	0	0.00	0	0.00	0	0
370-XX-02 Diversion Valve, for changing lines from material to water cleaning, including hydraulic power pack, 7.5kW	2 EA	15.3	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Ductwork Allowance	1 LS	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
370-BH-01 Paste Plant Dust Collector, 44m2 Area, 2.2/1.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FA-01 Paste Plant Dust Collector Fan, 3500m3/h, 3.8kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-TK-01 Air Receiver, 1.22m Dia x 3.66m High	1000 KG	0.00765	8	574	0.00	0	0.00	0	0.00	0	574
370-BI-01 Floats & Grit Bin, 1000 tonnes	100 T	10.2	1,020	76,500	0.00	0	0.00	0	0.00	0	76,500
370-BI-02 Cement Dump Hopper , 20 tonnes - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-BI-03 Weigh Feeder Feed Bin	50 T	10.2	510	38,250	0.00	0	0.00	0	0.00	0	38,250
370-SO-01 Cement Silo, 3.66m Dia. X 16.42m High with Baghouse & Fan, 37/2.2kW	1 EA	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
370-CH-01 Head Chute for 370-CV-01, Rubber Lined	1630 KG	0.0102	17	1,247	0.00	0	0.00	0	0.00	0	1,247
370-CH-01 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-02 Head Chute for 370-CV-02, Rubber Lined	1515 KG	0.0102	15	1,159	0.00	0	0.00	0	0.00	0	1,159
370-CH-02 Rubber Lining	10 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-03 Head Chute for 370-FE-01, Rubber Lined	3530 KG	0.0102	36	2,700	0.00	0	0.00	0	0.00	0	2,700
370-CH-03 Rubber Lining	20 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-04 Head Chute for 370-FE-04, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-04 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-CH-05 Head Chute for 370-FE-05, Rubber Lined	751 KG	0.0102	8	575	0.00	0	0.00	0	0.00	0	575
370-CH-05 Rubber Lining	4 M2	0	0	0	0.00	0	0.00	0	0.00	0	0
370-SU-01 Slimes By-Pass Tank	1610 KG	0.0102	16	1,232	0.00	0	0.00	0	0.00	0	1,232
370-PU-01 Emergency Slimes Disposal Pump - Stage 1, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-PU-02 Vertical Floor Wash Sump Pump, 76mm, 18.5kW	1 EA	12.75	13	956	0.00	0	0.00	0	0.00	0	956
370-PU-03 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-PU-04 Paste Pump, GEHO DHC 21200, 2 x 355kW & 30kW	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
370-PU-08 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-09 Cement Pump, progressing cavity, slurry pump, 7.5kW, VFD, included in Colloidal Mixer Package	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-PU-05 Paste Line Flush PD Pump, 36m3/hr, concrete cylinders 180 x 1000mm	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-PU-07 Emergency Slimes Disposal Pump - Stage 2, 100 x 75mm Heavy Duty Slurry Pump, 55kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-CO-01 Air Compressor, 500m3/h @ 800 kPa For Blowing Paste Line, 45kW	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-BL-01 Cement Blow-in System Blower	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
370-MX-01 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-02 Twin Screw Paste Mixer, 2-610mm Dia Mixers 7.0m Long, 2x37.0kW	1 EA	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
370-MX-03 Colloidal Mixer, Vendor Package	1 EA	91.8	92	6,885	0.00	0	0.00	0	0.00	0	6,885
370-CV-01 Floats and Grits Conveyor, 914mm Wide x 42m Long, 30kW	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
370-CV-02 Floats and Grits Conveyor, 914mm Wide x 25m Long, 22kW	1 EA	89.25	89	6,694	0.00	0	0.00	0	0.00	0	6,694
370-CV-04 Cement Feed Screw Conveyor, 305mm dia x 10.0m Long, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-RV-02 Cement Dust Star Feeder, 0.37kW, included with BL-01	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-FE-01 Belt Feeder, 914mm Wide x 4.7m Long, 5.5kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
370-FE-04 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-FE-05 Paste Mixer Weigh Feeder, 914mm wide x 7.0m long, 7.5kW, VFD	1 EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
370-SC-02 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-SC-03 Electronic Weigh Scale	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
370-HY-02 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-03	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
370-HY-03 Paste Pump Hydraulic Pack, 2 x 355kW - included with PU-04	0	INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
370-HY-01 Paste Line Flush Pump Hydraulic Pack, 75kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL				2,499	187,453		0		0		0	187,453
COMM 50 PIPING												
Piping Allowance - 15% of mechanical equipment	1	LS	752.4	752	56,430	0.00	0	0.00	0	0.00	0	56,430
Subtotal 50 PIPING				752	56,430		0		0		0	56,430
COMM 60 ELECTRICAL												
Low Voltage Electrical Allowance	1	LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
VFD 7.5kW	4	EA	7.92	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Subtotal 60 ELECTRICAL				150	11,286		0		0		0	11,286
AREA 3700 PASTE FILL PLANT				3,402	255,169		0		0		0	255,169

AREA 3800 PLANT SERVICES

COMM 70 INSTRUMENTATION AND CONTROLS

Instrumentation allowance for all process areas	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Instrumentation Allowance, 15% of mechanical equipment, with the exception of 4.9% for the recovery area (as per Debtech)	1	LS	1968	1,968	147,600	0.00	0	0.00	0	0.00	0	147,600
Plant Control System - includes process controllers, I/O cards and cabinets, HMI consoles/software, communication ethernet hubs for plant network	1	LS	871.2	871	65,340	0.00	0	0.00	0	0.00	0	65,340



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 70 INSTRUMENTATION AND CONTROLS				2,839	212,940		0		0		0	212,940
AREA 3810 PROCESS INSTRUMENTATION				2,839	212,940		0		0		0	212,940

AREA 3900 PROCESS BUILDING

COMM 10 CIVIL

Excavate to Expose Foundations	712	M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Backfill after Foundation Removal	712	M3	0.1	71	5,340	0.00	0	5.00	3,560	0.00	0	8,900
Detail Excavation	712	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	10888	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	4278	M	0.19008	813	60,987	0.00	0	0.00	0	0.00	0	60,987
Subtotal 10 CIVIL				956	71,667		0		7,120		0	78,787

COMM 20 STRUCTURAL AND ARCHITECTURAL

Process Building 144m x 48m x 24.3m high --> 6912m2	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	696	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	963	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	174	M3	4.29	746	55,985	0.00	0	0.00	0	0.00	0	55,985
Concrete - Pedestals	183	M3	4.29	785	58,880	0.00	0	0.00	0	0.00	0	58,880
Concrete - Grade Beams	116	M3	4.785	555	41,630	0.00	0	0.00	0	0.00	0	41,630
Concrete - Walls	415	M3	4.884	2,027	152,015	0.00	0	0.00	0	0.00	0	152,015
Concrete - Columns	90	M3	5.082	457	34,304	0.00	0	0.00	0	0.00	0	34,304
Concrete - Beams	16	M3	7.524	120	9,029	0.00	0	0.00	0	0.00	0	9,029
Concrete - Slab on Grade	1069	M3	1.386	1,482	111,123	0.00	0	0.00	0	0.00	0	111,123



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	665 M3	2.211	1,470	110,274	0.00	0	0.00	0	0.00	0	110,274
Concrete - Misc & Equipment Pads	224 M3	2.409	540	40,471	0.00	0	0.00	0	0.00	0	40,471
Concrete - Embedded Metal	2210 KG	0.0132	29	2,188	0.00	0	0.00	0	0.00	0	2,188
Concrete - Anchor Bolts	7528 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	7260 M2	0.0495	359	26,953	0.00	0	0.00	0	0.00	0	26,953
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	483 M2	0.0495	24	1,793	0.00	0	0.00	0	0.00	0	1,793
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	404 M2	0.0495	20	1,500	0.00	0	0.00	0	0.00	0	1,500
Steel - Structural Light	105 T	8.58	901	67,568	0.00	0	0.00	0	0.00	0	67,568
Steel - Structural Medium	300 T	7.26	2,178	163,350	0.00	0	0.00	0	0.00	0	163,350
Steel - Structural Heavy	294 T	6.6	1,940	145,530	0.00	0	0.00	0	0.00	0	145,530
Steel - Floor Grating	4411 M2	0.495	2,183	163,758	0.00	0	0.00	0	0.00	0	163,758
Steel - Stairs c/w handrail	236 M	0.726	171	12,850	0.00	0	0.00	0	0.00	0	12,850
Steel - Handrails c/w kick plate	1624 M	0.396	643	48,233	0.00	0	0.00	0	0.00	0	48,233
Steel - Grout, for structural steel columns	11 M3	11.55	127	9,529	0.00	0	0.00	0	0.00	0	9,529
Process Building, engineered structure	1 LS	7656	7,656	574,200	0.00	0	0.00	0	0.00	0	574,200
Process - Overhead rolling steel doors - exterior insulated 4m x 4m	2 EA	66	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Process - Mandors - exterior insulated 0.9m x 2.1m	11 EA	3.96	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Process - Double doors - exterior insulated 1.2m x 2.4m	5 EA	6.6	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Process - Mandors - interior 0.9m x 2.1m	24 EA	3.3	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Process - Windows - exterior insulated	4 EA	4.95	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Process - Windows - interior	4 EA	2.64	11	792	0.00	0	0.00	0	0.00	0	792
Process - Concrete Block Wall, fire wall	150 M2	0.495	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Process - 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1400 M2	0.85	1,190	89,250	0.00	0	0.00	0	0.00	0	89,250
Process - Lockers c/w aluminum bench	120 EA	1	120	9,000	0.00	0	0.00	0	0.00	0	9,000
Process - Privacy showers w/ drying cubicle	4 EA	10	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Process - Washroom facilities	1 LS	30	30	2,250	0.00	0	0.00	0	0.00	0	2,250



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Process - Lunchroom counter w/ sink	1 LS	15	15	1,125	0.00	0	0.00	0	0.00	0	1,125
Process - Office Furniture for 6 offices	1 LS	40	40	3,000	0.00	0	0.00	0	0.00	0	3,000
Process - Office vinyl flooring	2100 M2	0.1	210	15,750	0.00	0	0.00	0	0.00	0	15,750
Process - Office ceiling tile	2100 M2	0.25	525	39,375	0.00	0	0.00	0	0.00	0	39,375
Security - Manddoors - exterior insulated 0.9m x 2.1m	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Security - Double doors - exterior insulated 1.2m x 2.4m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Security - Manddoors - interior 0.9m x 2.1m	35 EA	3.3	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Security - Windows - exterior insulated	10 EA	4.95	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Security - Windows - interior	2 EA	2.64	5	396	0.00	0	0.00	0	0.00	0	396
Security - Concrete Block Wall, fire wall	100 M2	0.495	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Security - Stud wall, 92mm studs, 16mm gwb (type "x" where required) both sides, (insulation where required) sealed and painted	1000 M2	0.425	425	31,875	0.00	0	0.00	0	0.00	0	31,875
Security - Office Furniture for 6 offices	1 LS	8.712	9	653	0.00	0	0.00	0	0.00	0	653
Security - Office flooring	460 M2	0.132	61	4,554	0.00	0	0.00	0	0.00	0	4,554
Security - Ceiling, suspended t-bar, 1" thick acoustical tiles	460 M2	0.165	76	5,693	0.00	0	0.00	0	0.00	0	5,693
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			27,789	2,084,180		0		0		0	2,084,180
COMM 40 MECHANICAL											
HVAC allowance	6912 M2	0.0612	423	31,726	~0.00	0	0.00	0	0.00	0	31,726
390-CK-01 Overhead Crane DMS Section, 15 Tonne 18kW	1 EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Removal of Bulk Sample Plant	1 LS	0	0	0	0.00	0 1,550,000.00	1,550,000	0.00	0.00	0	1,550,000
Subtotal 40 MECHANICAL			459	34,404		0		1,550,000		0	1,584,404
COMM 50 PIPING											
Fire Suppression - including piping, alarm valves, sprinklers, hose reels, wall hydrants, FM200 system, etc.	1 LS	293.238	293	21,993	0.00	0	0.00	0	0.00	0	21,993



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				293	21,993		0		0		0	21,993
COMM 60 ELECTRICAL												
Lighting allowance	6912	M2	0.198	1,369	102,643	0.00	0	0.00	0	0.00	0	102,643
Electrical Services allowance, for HVAC, welding outlets, etc.	6912	M2	0.0594	411	30,793	0.00	0	0.00	0	0.00	0	30,793
Grounding allowance	6912	M2	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 60 ELECTRICAL				1,779	133,436		0		0		0	133,436
AREA 3900 PROCESS BUILDING				31,276	2,345,680		0		1,557,120		0	3,902,800

AREA 4100 POWER PLANT & DISTRIBUTION

COMM 10 CIVIL												
Backfill after Foundation Removal	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Excavate to Expose Foundations	743	M3	0.1	74	5,573	0.00	0	5.00	3,715	0.00	0	9,288
Detail Excavation	743	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	261	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Piling, 168mm dia sch 80, approx 5.5m long, 2.5m above grade, 3m embedment, 26 piles	143	M	0.0891	13	956	0.00	0	0.00	0	0.00	0	956
Airport...WMP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Airport...WMP Feeder - Sand for: Install Buried Duct for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
WTP Feeder - Trench for: Install Buried Duct for initial 100 m	100	M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
WTP Feeder - Sand for: Install Buried Duct (duct only) for initial 100 m	2	M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Service Bldg/Exist Accom - Trench for: Install Buried Duct for initial 100 m, 5 kV 3c 500MCM Teck feeder	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Service Bldg/Exist Accom - Sand for: Install Buried Duct for initial 100 m	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Service Bldg/Exist Accom - Allowance for Trench for: Install Buried Duct for all 600V services	600 M	0.018	11	810	0.00	0	0.00	0	0.00	0	810
Service Bldg/Exist Accom - Allowance for Sand for: Install Buried Duct for all 600V services	7.5 M3	0.0432	0	24	0.00	0	0.00	0	0.00	0	24
Intake Fan / Batch Plant Power Distribution: - Trench for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	200 M	0.018	4	270	0.00	0	0.00	0	0.00	0	270
Intake Fan / Batch Plant Power Distribution: - Sand for:500MCM 5kV cable from power plant to #2 Intake fan and Batch Plant	2.5 M3	0.0432	0	8	0.00	0	0.00	0	0.00	0	8
Intake Fan / Batch Plant Power Distribution: - Trench for:#2/0 5kV cable from power plant to #1 Intake fan	100 M	0.018	2	135	0.00	0	0.00	0	0.00	0	135
Intake Fan / Batch Plant Power Distribution: - Sand for:#2/0 5kV cable from power plant to #1 Intake fan	2 M3	0.0432	0	6	0.00	0	0.00	0	0.00	0	6
Airport...WMP Feeder - Allocation for providing fill over cables in sensitive areas for 3c 3/0 AWG Verti-Teck Cable, to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	500 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			186	13,916		0		7,430		0	21,346
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Power Plant Building 54m x 36m x 12m high --> 1944m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Concrete - Lean Mix	116 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	109 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Raft Footings	270 M3	4.29	1,158	86,873	0.00	0	0.00	0	0.00	0	86,873
Concrete - Pedestals	33 M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Grade Beams	75 M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Concrete - Slab on Grade	461 M3	1.386	639	47,921	0.00	0	0.00	0	0.00	0	47,921



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Elevated Slab	111 M3	2.211	245	18,407	0.00	0	0.00	0	0.00	0	18,407
Concrete - Misc & Equipment Pads	16 M3	2.409	39	2,891	0.00	0	0.00	0	0.00	0	2,891
Concrete - Embedded Metal	1800 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	3360 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	1950 M2	0.0495	97	7,239	0.00	0	0.00	0	0.00	0	7,239
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	216 M2	0.0495	11	802	0.00	0	0.00	0	0.00	0	802
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	180 M2	0.0495	9	668	0.00	0	0.00	0	0.00	0	668
Steel - Structural Light	48 T	8.58	412	30,888	0.00	0	0.00	0	0.00	0	30,888
Steel - Structural Medium	181 T	7.26	1,314	98,555	0.00	0	0.00	0	0.00	0	98,555
Steel - Structural Heavy	61 T	6.6	403	30,195	0.00	0	0.00	0	0.00	0	30,195
Steel - Crane Rails	2.5 T	6.6	17	1,238	0.00	0	0.00	0	0.00	0	1,238
Steel - Floor Grating	372 M2	0.495	184	13,811	0.00	0	0.00	0	0.00	0	13,810
Steel - Stairs c/w handrail	30 M	0.726	22	1,634	0.00	0	0.00	0	0.00	0	1,634
Steel - Ladders	10 M	0.726	7	545	0.00	0	0.00	0	0.00	0	545
Steel - Handrails c/w kick plate	264 M	0.396	105	7,841	0.00	0	0.00	0	0.00	0	7,841
Steel - Grout, for structural steel columns	6 M3	11.55	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Cladding - Wall, insulated 65mm	2600 M2	0.2145	558	41,828	0.00	0	0.00	0	0.00	0	41,828
Cladding - Roof, insulated 65mm	2000 M2	0.2145	429	32,175	0.00	0	0.00	0	0.00	0	32,175
Overhead sectional doors - exterior insulated 6m x 5m	1 EA	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Overhead sectional steel doors - exterior insulated 3m x 3m	1 EA	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Mandoors - exterior insulated 0.9m x 2.1m	5 EA	3.96	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Double doors - exterior insulated 1.2m x 2.4m	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Mandoors - interior 0.9m x 2.1m	10 EA	3.3	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Double doors - interior 1.2m x 2.4m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Acoustical Metal doors - interior 0.9m x 2.1m	2 EA	3.96	8	594	0.00	0	0.00	0	0.00	0	594
Windows - interior, acoustical double glazed, 1.2 x 1.2m	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
Ceiling, suspended t-bar, 1" thick acoustical tiles	90 M2	0.165	15	1,114	0.00	0	0.00	0	0.00	0	1,114



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	756 M2	0.425	321	24,098	0.00	0	0.00	0	0.00	0	24,098
Stud walls 92mm studs, 1 layer 16mm gwb, sealed and painted	210 M2	0.4	84	6,300	0.00	0	0.00	0	0.00	0	6,300
Allowance for Standby Generators and Switchgear Enclosure and Stack Foundations	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Steel frame on steel piles for generator support	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Structural Light	1 T	8.58	9	644	0.00	0	0.00	0	0.00	0	644
Steel - Structural Medium	5 T	7.26	36	2,723	0.00	0	0.00	0	0.00	0	2,723
Steel - Stairs c/w handrail	6 M	0.726	4	327	0.00	0	0.00	0	0.00	0	327
Airport...WMP Feeder - Small foundation and steel frame for 5 kV Junction Box, 3 Way with tap links. Allocation only. Verti-Teck feeder to Airstrip and others	7 EA	2.64	18	1,386	0.00	0	0.00	0	0.00	0	1,386
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			7,151	536,339		0		0		0	536,339
COMM 40 MECHANICAL											
Power Plant - Allowance for Air Handling Units	3 LS	336.6	1,010	75,735	0.00	0	0.00	0	0.00	0	75,735
Power Plant - Allowance for Glycol Pumps	3 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
410-CK-01 Power Plant Crane, 20 tonne	1 EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
HVAC allowance	1944 M2	0.255	496	37,179	0.00	0	0.00	0	0.00	0	37,179
Power Plant - Main Power Diesel Generators;, industrial diesel engines with 4.4MW, 4.16kV, 60hz, 3ph, 0.8pf continuously rated generators, including design, site training, quality assurance services, transportation to YK	5 EA	765	3,825	286,875	0.00	0	0.00	0	0.00	0	286,875
Power Plant - Heat Recovery Modules, including heat recovery units, heat exchangers, radiators, booster pumps, control vales, complete with interconnection piping	5 LS	76.5	383	28,688	0.00	0	0.00	0	0.00	0	28,688
Power Plant - Black Start Generator, 250kVA, 600V, complete with 400A circuit breaker, skid mounted, pre-assembled ready for site installation.	1 EA	63.75	64	4,781	0.00	0	0.00	0	0.00	0	4,781
Allowance for Stack Installation	1 LS	50.49	50	3,787	0.00	0	0.00	0	0.00	0	3,787
Subtotal 40 MECHANICAL			5,858	439,340		0		0		0	439,340



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
Power Plant - Allowance for Piping, Fittings and connections	5 EA	396	1,980	148,500	0.00	0	0.00	0	0.00	0	148,500
Power Plant - Allowance for fuel line supply to daily tanks within the power plant	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Power Plant - Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, FM 200 system, etc.	1 LS	297	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Allowance for fuel line connections-to fuel day tanks	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 50 PIPING			2,495	187,110		0		0		0	187,110
COMM 60 ELECTRICAL											
Power Plant - Stacks, free standing, 36 meters exhaust stacks including through wall connections.,	1 LS	396	396	29,700	0.00	0	0.00	0	0.00	0	29,700
Power Plant - Combustion Air Tempering System c/w PLC controlled louvers and PID programs	5 LS	49.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Power Plant - Ancillary tank system : oil storage tank (new), waste oil storage tank, glycol tank (new), used glycol tank and fuel day tank system.	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Power Plant - Switchgear; 4.16kV, 1200A, 250MVA, 60hz, 3ph complete with six generators circuit breakers (one spare) with generators relay protection and metering, sixteen feeder circuit breakers with protection and metering	1 LS	178.2	178	13,365	0.00	0	0.00	0	0.00	0	13,365
Power Plant - Motor Control Centres; 600V, 3ph, 1200A, with six sections back to back, assembled and pre-wired for field installation	1 LS	79.2	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Grounding Zig-Zag Transformer, 100kVA, 4.16kV, 60hz, Zig-Zag transformer complete with 2.4kV, 2.4kV, 96 ohm neutral grounding resistor	2 LS	39.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Unit Substations; 600A, 4.16kV load break switch, 1500kVA, 4.16kV-600 Volt transformer complete with 5A, 347V, 69 ohm neutral grounding resistor, 600V switchgear complete, completely assembled and shipped in sections for field installation.	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 12" Cable tray Allowance for 5kV feeder 3X 3c 500 MCM from Generators junction box to 13.8kV switchgear located on the ground floor in power plant to Unit substation and 5MVA transformer for underground mine	600 M	0.1485	89	6,683	0.00	0	0.00	0	0.00	0	6,683
Power Plant - 12" Cable tray Allowance for 1kV feeders from Motor Control Centres to various motors and loads	500 M	0.1485	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Power Plant - 12" Cable tray Allowance for 1kV feeders from process plant Unit Substation to Power Plant Unit substation	150 M	0.1485	22	1,671	0.00	0	0.00	0	0.00	0	1,671
Power Plant - Running 2 inch conduit for communications and fiber optics cables within the power plant	200 M	0.099	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for two 3x3C 500MCM, 1kV cable from power plant unit substation to two Motor Control Centres	200 M	0.198	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Power Plant - Allowance for 3C 4/0 AWG, 1kV cable from power plant unit substation to process plant unit substation along the utilidor (standby/emergency feeder)	150 M	0.099	15	1,114	0.00	0	0.00	0	0.00	0	1,114
Power Plant - Allowance for power and control cables, for providing connections between generators, switchgear and unit substations.	1 LS	237.6	238	17,820	0.00	0	0.00	0	0.00	0	17,820
Power Plant - 3 x 3c 500MCM 5kV Teck Cable, from generators junction boxes 13.8kV switchgear located at ground floor.	400 M	0.198	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to unit substation within power plant - material by genset supplier	100 M	0.198	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for two 2 X 3c 500MCM, 5kV Teck Cables from power plant 4.16kV switchgear to 5MVA, 4.16-13.8kV Transformers	150 M	0.198	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Power Plant - Allowance for 3 X 3c 500MCM, 5kV Teck Cables from power plant 13.8kV switchgear to Grounding Zig-Zag Transformers and NGR - material by genset supplier	100 M	0.198	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Power Plant - Allowance for control cable installation and terminations	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Power Plant - 500MCM, 5kV Teck Cable terminations kit for Power Plant Feeders	30 EA	1.584	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Power Plant - Generator control panels including generator governors, synchronization units, synchroscope, metering and PLC/DCS pre-assembled and pre-wired for field installation.	5 LS	49.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Power Plant - Allowance for heat tracing the fuel distribution lines	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Standby/Emergency Generators; three 1250 kW, 4.16kV	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
300mm (12") Cable tray Allowance for 5kV feeder 3c 250 MCM to from Generators junction box to 4.16kV switchgear located inside switchgear enclosure	50 M	0.1485	7	557	0.00	0	0.00	0	0.00	0	557
Allowance for generator enclosure and switchgear wiring interconnections	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Allowance for supply of power cables and communications for connection between three generators enclosures and one switchgear enclosure, complete and pre-connected prior to shipment.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for re-connection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes at generators enclosure to 4.16kV switchgear inside switchgear enclosure	120 M	0.792	95	7,128	0.00	0	0.00	0	0.00	0	7,128
3C-250MCM, 1kv, teck cable from 600V auto transfer switch inside switchgear enclosure to power plant 600V switchgear.	200 M	0.0594	12	891	0.00	0	0.00	0	0.00	0	891
500MCM, 5kV Teck Cable termination kits for Power Plant Feeders	10 EA	1.584	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Emergency Generators - 75kW, 120/208V Mobile Emergency Generator for Emulsion Plant and remote areas	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Emergency Generators - 50kW, 120/208V Emergency Generator, for security system	1 LS	4.95	5	371	0.00	0	0.00	0	0.00	0	371
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400 M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Main Cable run from power plant to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage Junction Box Connection Points.	1400	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to Airstrip and others, 20 ft lengths of PVC conduit 150mm (6")	33	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 5 kV Junction Box, 3 Way with tap links. Verti-Teck feeder to Airstrip and others.	2	EA	4.752	10	713	0.00	0	0.00	0	0.00	0	713
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Airport...WMP Feeder - 3c 3/0 AWG Verti-Teck Cable, Cable Tap-Offs from Junction Boxes to Reclaim/WMP Sump/Airport/Emulsion Plant/Explosives Storage	370	M	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 2 x 3c 3/0 AWG Teck Cable, WTP Feeder: 250m Tray from power plant, 100m in buried duct in sand	700	M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 3/0AWG Verti-Teck feeder to WTP, 20 ft lengths of PVC conduit 6"	100	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Accommodation Complex: - 2 x 3c 250MCM 5kV Teck Cable, accommodation complex Feeder from power plant in cable tray within Utilidor	700	M	0.099	69	5,198	0.00	0	0.00	0	0.00	0	5,198
Service Bldg/Exist Accom - 1 x 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder: 550m Tray from power plant to service complex and 200m in buried duct to existing Camp new unit sub	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - 5 kV Junction Box, 3 Way with tap links. Service Complex/Mine Dry/Existing accommodation complex Feeder.	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356
Service Bldg/Exist Accom - Install Buried Duct (duct only) for initial 100 m in duct and sand. 5 kV 3c 500MCM Teck feeder to Existing Accommodation complex, 20 ft lengths of PVC conduit 150mm (6")	200	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 500MCM 5kV Teck Cable, #2 Intake Fan and Batch Plant Feeder: 100m Buried from power plant to edge of grade and 100m buried along traffic area.	750	M	0	0	0	0.00	0	0.00	0	0.00	0	0
Intake Fan / Batch Plant Power Distribution: - 1 x 3c 2/0AWG 5kV Teck Cable, #1 Intake Fan Feeder: 100m Buried from power plant to edge of grade	400	M	0.099	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Intake Fan / Batch Plant Power Distribution: - 5 kV Junction Box, 3 Way with tap links. #2 Intake Fan/Batch Plant Tap.	1	EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356
Process Plant Main Power Distribution: - 2 runs of 5 x 3c 500MCM 5kV Teck Cable, Process Plant Main 5 kV Switchgear Feed. Cable run in Tray from Power Plant.	3000	M	0.099	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 300MCM 5kV Teck Cable, for each Process Plant 3MVA Transformer incoming cables	120	M	0.099	12	891	0.00	0	0.00	0	0.00	0	891
Process Plant Main Power Distribution: - 2 runs of 2 x 3c 4/0AWG 5kV Teck Cable, Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	800	M	0.099	79	5,940	0.00	0	0.00	0	0.00	0	5,940



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Process Plant Main Power Distribution: - 1 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt EMCC to power plant transfer switch	300 M	0.099	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Process Plant Main Power Distribution: - 10 runs of 3 x 3c 500MCM 1kV Teck Cable, Process Plant Main 600 Volt switchgear to plant MCC's	1500 M	0.099	149	11,138	0.00	0	0.00	0	0.00	0	11,138
Process Plant Main Power Distribution: - Process Plant Unit Substations	1 EA	89.1	89	6,683	0.00	0	0.00	0	0.00	0	6,683
Process Plant Main Power Distribution: - Process Plant Main 4.16 kV Power Distribution Centre / Motor Control Centre lineup	1 LS	118.8	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Process Plant Main Power Distribution: - Process Plant HPRC Variable Speed Dual Drive Package complete with one isolation transformer - included with mechanical equipment 322-CR-02 HPRC	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Battery and UPS System: - Process Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup. 1 unit of 200ah Battery bank and 80 Amp charger.	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Power Plant 125VDC Battery Bank and Chargers for 5kV Switchgear Lineup.	2 LS	11.88	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Site Battery and UPS System: - Process Plant Control System UPS. 1 units of 200ah Battery bank and 80 Amp charger.	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Power Plant Control System UPS. 1 unit of 200ah Battery bank and 80 Amp charger.	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Site Battery and UPS System: - Security 30kW 120/208V UPS. 1 unit of 800ah Battery bank and 100 Amp charger.	1 LS	31.68	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Airport...WMP Feeder - WMP Sump Pump 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	3 EA	7.92	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Airport...WMP Feeder - Reclaim 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Airport...WMP Feeder - Explosives Storage 100 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - Emulsion Plant 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - Airstrip/Laydown Lighting 250 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	11.88	12	891	0.00	0	0.00	0	0.00	0	891
WTP Feeder - WTP Unit Substations	1 EA	23.76	24	1,782	0.00	0	0.00	0	0.00	0	1,782
Accommodation Complex: - Accommodation Complex Unit Substation	1 EA	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Service Bldg/Exist Accom - Service Complex/Mine Dry complex 1500 kVA Unit Substations, 4.16kV/600V c/w primary fused disconnect. Dry Type Transformer, Secondary Switchgear	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Service Bldg/Exist Accom - Existing accommodation 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Intake Fan / Batch Plant Power Distribution: - Batch Plant/Aggregate Plant 1000 kVA Unit Substation, 4.16kV/600V c/w primary fused disconnect. Unit Substations laid directly on rough grade (will require minimal leveling).	1 EA	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Intake Fan / Batch Plant Power Distribution: - #2 Intake Fan Heater controls 100kVA Unit Sub laid directly on rough grade (will require minimal leveling)	1 EA	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Intake Fan / Batch Plant Power Distribution: - Intake Fan starters 522kW (700HP), installed and pre-wired shipped for site installations.	2 LS	79.2	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Airport...WMP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to Airport and other. Located from Powerhouse, along Utilidor and through main process plant	300 M	0.6	180	13,500	0.00	0	0.00	0	0.00	0	13,500



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
WTP Feeder - 150mm (6") Cable tray Allowance for 5kV feeder 3c 3/0 AWG to WTP. Located from Powerhouse, along Utilidor and through main process plant	250 M	0.099	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Accommodation Complex: - 300mm (12") Cable tray Allowance for 5kV feeder 2 x 3c 250 MCM to Accommodation complex from power plant to Accommodation complex in cable tray within Utilidor	350 M	0.1485	52	3,898	0.00	0	0.00	0	0.00	0	3,898
Accommodation Complex: - 2 x 300mm (12") Cable tray Allowance for 1kV feeder 3c 500 MCM from Accommodation complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water, inside Utilidor	250 M	0.1485	37	2,784	0.00	0	0.00	0	0.00	0	2,784
Service Bldg/Exist Accom - 300mm (12") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Service Complex/Mine Dry/Existing accommodation complex Feeder. Located from Powerhouse, along Utilidor	550 M	0.099	54	4,084	0.00	0	0.00	0	0.00	0	4,084
Process Plant Main Power Distribution: - 2 runs - 914mm (36") Cable tray Allowance for 5kV feeder 3c 500MCM Teck Cable, Process Plant Main Power feed from Power Plant.	600 M	0.099	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Process Plant Main Power Distribution: - 2 runs - 300mm (12") Cable tray Allowance for 5kV feeder 3c 4/0 Teck Cable, Emergency Generator to Process Plant 4.16kV Switchgear	400 M	0.099	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Process Plant Main Power Distribution: - 10 runs - 300mm (12") Cable tray Allowance for 1kV feeder 3c 500mcm Teck Cable Process Plant 600V Switchgear to plant MCC's	500 M	0.099	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 5kV feeders 3c 300MCM Teck Cable, Process Plant 3MVA Incoming Cable feeder tray	60 M	0.099	6	446	0.00	0	0.00	0	0.00	0	446
Process Plant Main Power Distribution: - 150mm (6") Cable tray Allowance for 1kV feeder 3c 500MCM Teck Cable, Process Plant 600V EMCC to Power Plant Transfer switch	300 M	0.099	30	2,228	0.00	0	0.00	0	0.00	0	2,228
WTP Feeder - Allowance for 600 Volt cables 3x3C500MCM from 600V switchgear in unit substation to motor control centre	50 M	0.1485	7	557	0.00	0	0.00	0	0.00	0	557



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Accommodation Complex: - Allowance for four 3C-500MCM, 1kV cable from 600V switchgear in unit substation inside Accommodation Complex to Auxiliary Boilers, Incinerator, Sewage and Potable Water	500 M	0.1485	74	5,569	0.00	0	0.00	0	0.00	0	5,569
Process Plant Main Power Distribution: - Bus Trunking System, connection from Process Plant Switchgear to Recovery plant MCC's at each level.	1 LS	63.36	63	4,752	0.00	0	0.00	0	0.00	0	4,752
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to WMP Sump Pump Units/Explosives Storage/Reclaim...1 kV 3c #1AWG Teck Cable	100 M	0.099	10	743	0.00	0	0.00	0	0.00	0	743
Airport...WMP Feeder - 600 Volt feeder cables from unit substations to Airstrip/Emulsion. 1 kV 3c 350MCM Teck Cable	40 M	0.099	4	297	0.00	0	0.00	0	0.00	0	297
Service Bldg/Exist Accom - 600 Volt feeder cables from Existing accommodation complex unit substation to Existing Accommodation Main Bus. 2 x1 kV 3c 350MCM Teck Cable. Laid directly on ground in this location	60 M	0.099	6	446	0.00	0	0.00	0	0.00	0	446
Service Bldg/Exist Accom - Allowance to reconnect Existing pilot plant to new service complex electrical room. Re-Use 350MCM cable and add 100 M new cable. Required to be buried in duct in sand	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - Allowance to reconnect Existing cold storage building to new service complex electrical room. Re-Use existing cable and add 100 M new cable. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - Allowance to feed new fuel station to new service complex electrical room and re-feed existing fuel station. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - Allowance to feed new freshwater pump station to new service complex electrical room and re-feed existing freshwater pump system station. Required to be buried in duct in sand.	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Bldg/Exist Accom - Allowance for cable duct man holes for long runs for 600 Volt services	10 EA	7.92	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Intake Fan / Batch Plant Power Distribution: - Allowance for #1/#2 Intake Fan Controls LV Cable and terminations	1 LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
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Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - Allowance for Batch Plant/Aggregate Plant 600V Cable and terminations. For Main power connection to unit sub only	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 5kV 3c 3/0 Teck Cable terminations for Reclaim/WMP Sump/Airstrip/Emulsion/Explosives Storage	9 EA	0.99	9	668	0.00	0	0.00	0	0.00	0	668
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.594	3	223	0.00	0	0.00	0	0.00	0	223
Airport...WMP Feeder - 1kV 3c #1AWG Teck Cable terminations for WMP Sump Pump Units/Explosives Storage/Reclaim	5 EA	0.594	3	223	0.00	0	0.00	0	0.00	0	223
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.99	2	149	0.00	0	0.00	0	0.00	0	149
Airport...WMP Feeder - 1kV 3c 350MCM Teck Cable terminations for Airstrip/Emulsion	2 EA	0.99	2	149	0.00	0	0.00	0	0.00	0	149
U/G Air Compressors - 1 x 3c 250MCM 5kV Teck Cable, from power plant along the utilidor and 500m buried from end of utilidor to the air compressor package	800 M	0	0	0	0.00	0	0.00	0	0.00	0	0
WTP Feeder - 5kV 3c 3/0 Teck Cable terminations for WTP Feeder.	4 EA	1.188	5	356	0.00	0	0.00	0	0.00	0	356
Accommodation Complex: - 5kV 3c 250MCM Teck Cable terminations for Accommodation Feeder	4 EA	1.584	6	475	0.00	0	0.00	0	0.00	0	475
Service Bldg/Exist Accom - 1kV 3c 350MCM Teck Cable terminations for Existing accommodations complex Feeder.	4 EA	0.99	4	297	0.00	0	0.00	0	0.00	0	297
Service Bldg/Exist Accom - 5kV 3c 500MCM Teck Cable terminations for Service Complex/Mine Dry/Existing accommodations complex Feeder.	6 EA	1.584	10	713	0.00	0	0.00	0	0.00	0	713
Intake Fan / Batch Plant Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for #2 Intake Fan/Batch Plant Feeder	8 EA	1.584	13	950	0.00	0	0.00	0	0.00	0	950



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
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Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Intake Fan / Batch Plant Power Distribution: - 5kV 3c #2/0AWG Teck Cable terminations for #1 Intake Fan Feeder	4 EA	0.99	4	297	0.00	0	0.00	0	0.00	0	297
Process Plant Main Power Distribution: - 5kV 3c 500MCM Teck Cable terminations for Process Plant Main Power feed from Power Plant.	20 EA	1.584	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Process Plant Main Power Distribution: - 5kV 3c 300MCM Teck Cable terminations for Process Plant 3MVA Transformer Incoming Cables	8 EA	1.584	13	950	0.00	0	0.00	0	0.00	0	950
Process Plant Main Power Distribution: - 5kV 3c 4/0 Teck Cable terminations for Feeder cable from Main Emergency Generator to the Process Plant 5 kV Switchgear	8 EA	0.99	8	594	0.00	0	0.00	0	0.00	0	594
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt EMCC to power plant transfer switch feeder	2 EA	1.188	2	178	0.00	0	0.00	0	0.00	0	178
Process Plant Main Power Distribution: - 1kV 3c 500MCM Teck Cable terminations for Process Plant Main 600 Volt Switchgear to plant MCC's	60 EA	1.188	71	5,346	0.00	0	0.00	0	0.00	0	5,346
Fire Detection System - Power Plant Fire Detection System complete with Fire Alarm Control Panel, Smoke Detectors, Bells, Sirens, and warning lights.	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Fire Detection System - Process Plant, Fire Detection System complete with four Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Fire Detection System - Accommodation Complex Fire Detection System complete with five Fire Alarm Control Panels, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Fire Detection System - Mine Services Complex Fire Detection System complete with one Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Fire Detection System - Sewage Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Fire Detection System - Water Treatment Plant Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Boiler House Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Potable Water Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Utilidor Fire Detection System complete with Fire Alarm Control Panel, Heat and Smoke Detectors, Bells, Sirens, and warning lights	1 LS	9.9	10	743	0.00	0	0.00	0	0.00	0	743
Fire Detection System - Allowance for Plant Fire Detection Systems Ineterconnection	1 LS	49.5	50	3,713	0.00	0	0.00	0	0.00	0	3,713
Subtotal 60 ELECTRICAL			5,322	399,132		0		0		0	399,132
AREA 4100 POWER PLANT & DISTRIBUTION			21,011	1,575,837		0		7,430		0	1,583,267

AREA 4200 FUEL STORAGE & DISTRIBUTION

COMM 10 CIVIL											
Fuel Storage HDPE Liner 60 mil	12900 M2	0.01188	153	11,494	0.00	0	0.00	0	0.00	0	11,494
Fuel Storage geotextile liner, above and beneath HDPE liner, non-woven 340 gram weight	38900 M2	0.0019008	74	5,546	0.00	0	0.00	0	0.00	0	5,546
Fuel Storage Crushed Sand, above and beneath geotextiles, 150mm thick	3900 M3	0.014256	56	4,170	0.00	0	0.00	0	0.00	0	4,170
Fuel Pipe Trench Excavation	750 M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Fuel Pipe Trench Backfill	750 M3	0.1	75	5,625	0.00	0	5.00	3,750	0.00	0	9,375
Subtotal 10 CIVIL			433	32,459		0		7,500		0	39,959



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Concrete - Slab on Grade	72 M3	1.386	100	7,484	0.00	0	0.00	0	0.00	0	7,484
Concrete - Misc & Equipment Pads	2 M3	4.092	8	614	0.00	0	0.00	0	0.00	0	614
Concrete - Embedded Metal	300 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	30 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Leak-detecting manholes	6 EA	9.9	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			167	12,553		0		0		0	12,553
COMM 40 MECHANICAL											
Fuel Storage Tanks - 3 x 12.5 million litres, design, supply, erect	1 LS	6222	6,222	466,650	0.00	0	0.00	0	0.00	0	466,650
Fuel Unloading/Distribution pumping & Dispensing modules, skid mounted	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Fuel Day Tanks - 4 x 35,000 L	4 EA	15.3	61	4,590	0.00	0	0.00	0	0.00	0	4,590
Subtotal 40 MECHANICAL			6,538	490,365		0		0		0	490,365
COMM 50 PIPING											
Fuel Pipe 76mm (3") CS sch 40, encased in 150mm (6") sch 40 pipes, buried in trenches approx 1.3m deep - from fuel tanks to plant	750 M	0.5148	386	28,958	0.00	0	0.00	0	0.00	0	28,958
Subtotal 50 PIPING			386	28,958		0		0		0	28,958
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 60 ELECTRICAL			40	2,970		0		0		0	2,970
COMM 70 INSTRUMENTATION AND CONTROLS											



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Instrumentation Allowance	1 LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Subtotal 70 INSTRUMENTATION AND CONTROLS			30	2,228		0		0		0	2,228
AREA 4200 FUEL STORAGE & DISTRIBUTION			7,594	569,533		0		7,500		0	577,033

AREA 4300 GLYCOL SYSTEM

COMM 40 MECHANICAL

430-BR-01 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-02 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-BR-03 Auxiliary Boilers, Cleaver Brooks Fire Tube No.2 diesel fired boiler skid mounted Model CB size 350 c/w draft fan fuel pump, controls & instrumentation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
430-HX-01 Mine Air Shaft No. 1 Pre-heat Coil	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
430-PU-01 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-02 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-03 Main Circulating Pumps, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-04 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
430-PU-05 Mine Booster Pump, 6x8, 75kW	1 EA	22.95	23	1,721	0.00	0	0.00	0	0.00	0	1,721
Miscellaneous equipment - expansion tanks, strainers, etc	1 LS	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
Glycol - Utilidors	70000 L	0.0153	1,071	80,325	0.00	0	0.00	0	0.00	0	80,325
Glycol - Powerhouse to Mine Intake	35000 L	0.0153	536	40,163	0.00	0	0.00	0	0.00	0	40,163
Subtotal 40 MECHANICAL			2,088	156,634		0		0		0	156,634



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 50 PIPING											
Glycol Distribution Piping in Utilidors - 300mm dia (12") CS sch 40, 100mm (4") insulation, aluminum wrapped	500 M	0.594	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Glycol Distribution Piping in Utilidors - 250mm dia (10") CS sch 40, 100mm (4") insulation, aluminum wrapped	200 M	0.495	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Glycol Distribution Piping in Utilidors - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped	500 M	0.4356	218	16,335	0.00	0	0.00	0	0.00	0	16,335
Glycol Distribution Piping from Powerhouse to Mine Intake - 200mm dia (8") CS sch 40, 100mm (4") insulation, aluminum wrapped, heat traced, installed on surface	1100 M	0.495	545	40,838	0.00	0	0.00	0	0.00	0	40,838
Subtotal 50 PIPING			1,158	86,873		0		0		0	86,873
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 60 ELECTRICAL			99	7,425		0		0		0	7,425
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 70 INSTRUMENTATION AND CONTROLS			40	2,970		0		0		0	2,970
AREA 4300 GLYCOL SYSTEM			3,385	253,901		0		0		0	253,901

AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM

COMM 10 CIVIL



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Freshwater Intake Washed -600mm Rock Embankment	3300 M3	0.05	165	12,375	0.00	0	5.00	16,500	0.00	0	28,875
Freshwater Intake Pipebed, -150mm crushed gravel subgrade	50 M3	0.015444	1	58	0.00	0	0.00	0	0.00	0	58
Freshwater Intake Pipebed, -200mm crushed gravel bedding	20 M3	0.015444	0	23	0.00	0	0.00	0	0.00	0	23
Subtotal 10 CIVIL			166	12,456		0		16,500		0	28,956
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Steel Well, perforated, 1m dia x 7m long, allowance	3 EA	13.2	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Water Pumphouse Building 4m x 6m, insulated and heated, allowance	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			205	15,345		0		0		0	15,345
COMM 40 MECHANICAL											
Water Storage Tank, 200m3, 5m Dia., 10m High	11500 KG	0.00765	88	6,598	0.00	0	0.00	0	0.00	0	6,598
Fresh Water Intake Pumps, turbine, 3 pumps, 12m3/hr, 42m, 3.73kW, on skid	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Potable Water Treatment Skid, filtration/chlorination, package	1 LS	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
Subtotal 40 MECHANICAL			190	14,248		0		0		0	14,248
COMM 50 PIPING											
Piping Fresh Water Intake 100mm (4") HDPE heat traced and insulated, on surface - from intake to process plant	400 M	0.1188	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Piping Fresh Water Intake 100mm (4") CS sch 40, with anti-sweat insulation, in utilidor & buildings	800 M	0.2376	190	14,256	0.00	0	0.00	0	0.00	0	14,256
Valve and Fitting Allowance Water Fire/Fresh Water Pumphouse	1 LS	158.4	158	11,880	0.00	0	0.00	0	0.00	0	11,880



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				396	29,700		0		0		0	29,700
COMM 60 ELECTRICAL												
Electrical Allowance	1	LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 60 ELECTRICAL				40	2,970		0		0		0	2,970
COMM 70 INSTRUMENTATION AND CONTROLS												
Instrumentation Allowance	1	LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 70 INSTRUMENTATION AND CONTROLS				59	4,455		0		0		0	4,455
AREA 4400 FRESH WATER INTAKE & POTABLE WATER SYSTEM				1,056	79,174		0		16,500		0	95,674

AREA 4500 SEWAGE SYSTEM

COMM 40 MECHANICAL												
Sewage Treatment Plant	1	LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Subtotal 40 MECHANICAL				255	19,125		0		0		0	19,125
COMM 50 PIPING												
Piping Allowance	1	LS	138.6	139	10,395	0.00	0	0.00	0	0.00	0	10,395
Subtotal 50 PIPING				139	10,395		0		0		0	10,395
COMM 60 ELECTRICAL												



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Electrical Allowance	1 LS	59.4	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Subtotal 60 ELECTRICAL			59	4,455		0		0		0	4,455
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Subtotal 70 INSTRUMENTATION AND CONTROLS			40	2,970		0		0		0	2,970
AREA 4500 SEWAGE SYSTEM			493	36,945		0		0		0	36,945

AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR

COMM 10 CIVIL											
Piling, 168mm dia sch 80, approx 9m long, 1.5m above ground	720 M	0.0891	64	4,811	0.00	0	0.00	0	0.00	0	4,811
Backfill after Foundation Removal	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Excavation to Expose Foundations	250 M3	0.1	25	1,875	0.00	0	5.00	1,250	0.00	0	3,125
Subtotal 10 CIVIL			114	8,561		0		2,500		0	11,061
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Building - STP, PWTP, Boiler, Incinerator 80m x 20m x 6m high --> 1600m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Elevated Slab	320 M3	2.211	708	53,064	0.00	0	0.00	0	0.00	0	53,064
Concrete - Misc & Equipment Pads	15 M3	2.409	36	2,710	0.00	0	0.00	0	0.00	0	2,710
Building Steel - Structural Light	42 T	8.58	360	27,027	0.00	0	0.00	0	0.00	0	27,027
Building Steel - Structural Medium	18 T	7.26	131	9,801	0.00	0	0.00	0	0.00	0	9,801



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Building Steel - Structural Heavy	38 T	6.6	251	18,810	0.00	0	0.00	0	0.00	0	18,810
Internal Floor Steel - Structural Medium	18 T	7.26	131	9,801	0.00	0	0.00	0	0.00	0	9,801
Internal Floor Steel - Structural Heavy	31 T	6.6	205	15,345	0.00	0	0.00	0	0.00	0	15,345
Steel - Stairs c/w handrail	8 M	0.726	6	436	0.00	0	0.00	0	0.00	0	436
Cladding - Wall, insulated 65mm	1265 M2	0.2145	271	20,351	0.00	0	0.00	0	0.00	0	20,351
Cladding - Roof, insulated 65mm	1680 M2	0.2145	360	27,027	0.00	0	0.00	0	0.00	0	27,027
Cladding - single skin 26ga liner to soffit	1600 M2	0.165	264	19,800	0.00	0	0.00	0	0.00	0	19,800
Exterior: fiberglass insulation R-30.c/w reinforced vapour barrier	2500 M2	0.0396	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Personnel Manddoors - exterior insulated 0.9m x 2.1m	11 EA	3.96	44	3,267	0.00	0	0.00	0	0.00	0	3,267
Double doors - exterior insulated 1.2m x 2.1m	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Overhead doors - exterior insulated 3m x 3m	3 EA	33	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Overhead doors - exterior insulated 6m x 3m	1 EA	82.5	83	6,188	0.00	0	0.00	0	0.00	0	6,188
Concrete Block Wall, fire wall	390 M2	0.495	193	14,479	0.00	0	0.00	0	0.00	0	14,479
Interior Finishes, allowance	1 LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			3,373	252,978		0		0		0	252,978
COMM 40 MECHANICAL											
HVAC allowance	1600 M2	0.255	408	30,600	0.00	0	0.00	0	0.00	0	30,600
Subtotal 40 MECHANICAL			408	30,600		0		0		0	30,600
COMM 50 PIPING											
Fire Suppression - including piping, hoses, wall hydrants, etc.	1 LS	54.648	55	4,099	0.00	0	0.00	0	0.00	0	4,099
Subtotal 50 PIPING			55	4,099		0		0		0	4,099
COMM 60 ELECTRICAL											
Electrical Services allowance, for HVAC, welding outlets, etc.	1600 M2	0.0594	95	7,128	0.00	0	0.00	0	0.00	0	7,128



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: >AD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Lighting allowance	1600 M2	0.099	158	11,880	0.00	0	0.00	0	0.00	0	11,880
Grounding allowance	1600 M2	0.0396	63	4,752	0.00	0	0.00	0	0.00	0	4,752
Subtotal 60 ELECTRICAL			317	23,760		0		0		0	23,760
AREA 4600 BUILDING - STP, PWTP, BOILER, INCINERATOR			4,267	319,998		0		2,500		0	322,498

AREA 4800 WASTE DISPOSAL

COMM 40 MECHANICAL											
Waste Disposal Incinerator 75 - 100 kg/hr	2 EA	40.8	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL			82	6,120		0		0		0	6,120
COMM 50 PIPING											
Piping Allowance	1 LS	29.7	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Subtotal 50 PIPING			30	2,228		0		0		0	2,228
COMM 60 ELECTRICAL											
Electrical Allowance	1 LS	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Subtotal 60 ELECTRICAL			20	1,485		0		0		0	1,485
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance	1 LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Subtotal 70 INSTRUMENTATION AND CONTROLS			16	1,188		0		0		0	1,188



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 4800 WASTE DISPOSAL				147	11,021		0		0		0	11,021

AREA 4900 COMMUNICATIONS

COMM 70 INSTRUMENTATION AND CONTROLS

Fibre Optic Cable System - includes trunk hybrid aerial cable, armoured cable, rack mount enclosure for main trunk breakout and hardware, connector, patch cords	1	LS	166.32	166	12,474	0.00	0	0.00	0	0.00	0	12,474
Telecommunications - Satellite, telephone, emergency radio system, cable TV, internet access, video conferencing	1	LS	1485	1,485	111,375	0.00	0	0.00	0	0.00	0	111,375
Information Technology (IT) - hardware and application software	1	LS	356.4	356	26,730	0.00	0	0.00	0	0.00	0	26,730
Subtotal 70 INSTRUMENTATION AND CONTROLS				2,008	150,579		0		0		0	150,579

AREA 4900 COMMUNICATIONS				2,008	150,579		0		0		0	150,579
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AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE

COMM 10 CIVIL

Backfill after Foundation Removal	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Backfill after Foundation Removal	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Excavation to Expose Foundations	996	M3	0.1	100	7,470	0.00	0	5.00	4,980	0.00	0	12,450
Excavation to Expose Foundations	1343	M3	0.1	134	10,073	0.00	0	5.00	6,715	0.00	0	16,788
Detail Excavation	1343	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1990	M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Piling, 168mm dia sch 80, approx 10.6m long, penetrating 2m into bedrock	1780 M	0.0891	159	11,895	0.00	0	0.00	0	0.00	0	11,895
Subtotal 10 CIVIL			626	46,980		0		23,390		0	70,370
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Mine Service Complex 110m x 43m x 12m high --> 4730m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	18 ea	3.3	59	4,455	0.00	0	0.00	0	0.00	0	4,455
Concrete - Footings, Pile Caps	112 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	35 M3	4.29	150	11,261	0.00	0	0.00	0	0.00	0	11,261
Concrete - Grade Beams	135 M3	4.785	646	48,448	0.00	0	0.00	0	0.00	0	48,448
Concrete - Walls	12 M3	4.884	59	4,396	0.00	0	0.00	0	0.00	0	4,396
Concrete - Slab on Grade	1235 M3	1.386	1,712	128,378	0.00	0	0.00	0	0.00	0	128,378
Concrete - Elevated Slab	502 M3	2.211	1,110	83,244	0.00	0	0.00	0	0.00	0	83,244
Concrete - Misc & Equipment Pads	98 M3	2.409	236	17,706	0.00	0	0.00	0	0.00	0	17,706
Concrete - Embedded Metal	2000 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Anchor Bolts	2200 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Foundation Insulation - rigid insulation under slab, 50mm thick	4730 M2	0.0495	234	17,560	0.00	0	0.00	0	0.00	0	17,560
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	370 M2	0.0495	18	1,374	0.00	0	0.00	0	0.00	0	1,374
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	310 M2	0.0495	15	1,151	-0.00	0	0.00	0	0.00	0	1,151
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	5680 M2	0.0495	281	21,087	0.00	0	0.00	0	0.00	0	21,087
Internal Steel - Structural Light	8 T	8.58	69	5,148	0.00	0	0.00	0	0.00	0	5,148
Internal Steel - Structural Medium	436 T	7.26	3,165	237,402	0.00	0	0.00	0	0.00	0	237,402
Internal Steel - Structural Heavy	12 T	6.6	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Internal Steel - Crane Rails	8 T	6.6	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Internal Steel - Floor Grating	3 M2	0.495	1	111	0.00	0	0.00	0	0.00	0	111
Internal Steel - Stairs c/w handrail	18 M	0.726	13	980	0.00	0	0.00	0	0.00	0	980
Internal Steel - Handrails c/w kick plate	5 M	0.396	2	149	0.00	0	0.00	0	0.00	0	149



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Grout, for structural Internal Steel columns	2 M3	11.55	23	1,733	0.00	0	0.00	0	0.00	0	1,733
Trench & Sump Covers, heavy duty grating	50 M2	0.66	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Mine Service Complex, engineered structure	1 LS	2607	2,607	195,525	0.00	0	0.00	0	0.00	0	195,525
Grnd Flr - Interior block walls	1705 M2	0.495	844	63,298	0.00	0	0.00	0	0.00	0	63,298
Grnd Flr - Interior framed wall: 150mm steel studs & 16mm thk type 'x' gwb both sides	3130 M2	0.425	1,330	99,769	0.00	0	0.00	0	0.00	0	99,769
Grnd Flr - Painted epoxy floor finish	360 M2	0.099	36	2,673	0.00	0	0.00	0	0.00	0	2,673
Grnd Flr - vinyl sheet flooring	245 M2	0.066	16	1,213	0.00	0	0.00	0	0.00	0	1,213
Grnd Flr - Suspended T-bar ceiling system c/w all accessories	700 M2	0.165	116	8,663	0.00	0	0.00	0	0.00	0	8,663
Grnd Flr - Sectional Overhead Doors - interior, c/w electric operator and all accessories, 3.6m x 3.6m	3 EA	33	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Grnd Flr - Single Personnel Mandoors with frame and hardware - exterior, insulated including attachments, 0.9m x 2.1m	13 EA	3.96	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Grnd Flr - Double Personnel Mandoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	10 EA	6.6	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Grnd Flr - Single Personnel Mandoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Grnd Flr - Double glazed Windows -exterior c/w Aluminum frame and attachments, 1.8m x 1.2m	13 EA	3.3	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Grnd Flr - Modular offices - complete with floor, walls, roof, door and window assembly	3 EA	26.4	79	5,940	0.00	0	0.00	0	0.00	0	5,940
Grnd Flr - Washroom facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Grnd Flr - Warehouse shelving	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Grnd Flr - Offices - furniture (desk, swivel chair, side chair & file cabinet)	6 EA	0.132	1	59	0.00	0	0.00	0	0.00	0	59
Grnd Flr - Meeting rooms (tables- 2 and chairs-16)	2 EA	3.3	7	495	0.00	0	0.00	0	0.00	0	495
2nd Flr - Interior 2-hr fire rated framed wall: 150mm steel studs & 16mm thk type 'x' gwb both sides	980 M2	0.425	417	31,238	0.00	0	0.00	0	0.00	0	31,238
2nd Flr - Interior framed wall: 92mm steel studs & 16mm thick gwb both sides & insulation	1238 M2	0.4	495	37,140	0.00	0	0.00	0	0.00	0	37,140
2nd Flr - vinyl sheet flooring in Dry	1140 M2	0.066	75	5,643	0.00	0	0.00	0	0.00	0	5,643
2nd Flr - vinyl sheet flooring in Offices	1305 M2	0.066	86	6,460	0.00	0	0.00	0	0.00	0	6,460



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Dry	1140 M2	0.165	188	14,108	0.00	0	0.00	0	0.00	0	14,108
2nd Flr - Suspended T-bar ceiling system c/w all accessories in Offices	1305 M2	0.165	215	16,149	0.00	0	0.00	0	0.00	0	16,149
2nd Flr - Painted epoxy floor finish	60 M2	0.099	6	446	0.00	0	0.00	0	0.00	0	446
2nd Flr - Double Mandoors with frame and hardware - interior, uninsulated including attachments, 1.2m x 2.1m	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
2nd Flr - Single Mandoors with frame and hardware - interior, uninsulated including attachments, 0.9m x 2.1m	55 EA	3.3	182	13,613	0.00	0	0.00	0	0.00	0	13,613
2nd Flr - Double glazed Windows-exterior c/w Aluminum frame and attachments	23 EA	3.3	76	5,693	0.00	0	0.00	0	0.00	0	5,693
2nd Flr - Hanging baskets c/w suspension system, metal lockers, aluminum bench, 440 ea	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
2nd Flr - HD washing machine	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
2nd Flr - HD dryer	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
2nd Flr - Washroom & shower facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
2nd Flr - Lunch room table	6 EA	0.66	4	297	0.00	0	0.00	0	0.00	0	297
2nd Flr - Lunch room chairs	26 EA	0.066	2	129	0.00	0	0.00	0	0.00	0	129
2nd Flr - Full size lunch room fridge	1 EA	1.32	1	99	0.00	0	0.00	0	0.00	0	99
2nd Flr - Lunch/coffee room counters	8 M	2.64	21	1,584	0.00	0	0.00	0	0.00	0	1,584
2nd Flr - Office equipment (copiers-3;fax machines-2;plotters-1;printers-3)	1 LS	13.2	13	990	0.00	0	0.00	0	0.00	0	990
2nd Flr - Conference & training room tables	3 EA	0.066	0	15	-0.00	0	0.00	0	0.00	0	15
2nd Flr - Conference & training room chairs	30 EA	0.066	2	149	0.00	0	0.00	0	0.00	0	149
2nd Flr - Offices-desks and chairs (41 desks, 42 swivel chairs and 41 side chairs)	41 EA	0.132	5	406	0.00	0	0.00	0	0.00	0	406
2nd Flr - Offices-vertical, 4-drawer file cabinet (50) and lateral file cabinet (25)	75 EA	0.066	5	371	0.00	0	0.00	0	0.00	0	371
2nd Flr - Offices/library bookshelves	70 EA	0.033	2	173	0.00	0	0.00	0	0.00	0	173
2nd Flr - Conference/training room whiteboard	3 EA	0.66	2	149	0.00	0	0.00	0	0.00	0	149
2nd Flr - Allowance - office cubicles, reference tables, drawing stick files	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				15,785	1,183,839		0		0		0	1,183,839
COMM 40 MECHANICAL												
510-CK-01 Shop Crane, 10 tonne	1	EA	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
510-CK-02 Heavy Vehicle Shop Crane, 20/5 tonne	1	EA	35.7	36	2,678	0.00	0	0.00	0	0.00	0	2,678
510-CK-03 Electrical Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-04 Welding Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
510-CK-05 Machine Shop Crane, 10 tonne	1	EA	30.6	31	2,295	0.00	0	0.00	0	0.00	0	2,295
Lube Tanks, 10,000L	4	EA	10.2	41	3,060	0.00	0	0.00	0	0.00	0	3,060
Shop Tools	1	LS	51	51	3,825	0.00	0	0.00	0	0.00	0	3,825
HVAC allowance	4730	M2	0.255	1,206	90,461	0.00	0	0.00	0	0.00	0	90,461
Subtotal 40 MECHANICAL				1,446	108,439		0		0		0	108,439
COMM 50 PIPING												
Fire Suppression - including piping, sprinklers, hose reels, wall hydrants, etc.	1	LS	335.214	335	25,141	0.00	0	0.00	0	0.00	0	25,141
Subtotal 50 PIPING				335	25,141		0		0		0	25,141
COMM 60 ELECTRICAL												
Lighting allowance	4730	M2	0.1386	656	49,168	0.00	0	0.00	0	0.00	0	49,168
Electrical Services allowance, for HVAC, welding outlets, etc.	4730	M2	0.0594	281	21,072	0.00	0	0.00	0	0.00	0	21,072
Subtotal 60 ELECTRICAL				937	70,241		0		0		0	70,241



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 5100 TRUCK SHOP, WAREHOUSE, MAINTENANCE, OFFICE				19,129	1,434,639		0		23,390		0	1,458,029

AREA 5200 CAMP ACCOMMODATION & FACILITIES

COMM 10 CIVIL

Permanent Camp Dorms - Piling, 168mm dia L5, approx 4m long, 1.5m above grade, 2m into bedrock	1824	M	0.0891	163	12,189	0.00	0	0.00	0	0.00	0	12,189
Permanent Camp Core - Piling, 168mm dia L5, approx 9m long, 1.5m above grade, 3m into bedrock	1350	M	0.0891	120	9,021	0.00	0	0.00	0	0.00	0	9,021
Subtotal 10 CIVIL				283	21,210		0		0		0	21,210

COMM 20 STRUCTURAL AND ARCHITECTURAL

Permanent Camp Dorms - Accommodation Modules for 264 rooms	1	LS	7600	7,600	570,000	0.00	0	0.00	0	0.00	0	570,000
Permanent Camp Dorms Steel - Structural Light	6	T	8.58	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Permanent Camp Dorms Steel - Structural Medium	15	T	7.26	109	8,168	0.00	0	0.00	0	0.00	0	8,168
Permanent Camp Dorms Steel - Structural Heavy	112	T	6.6	739	55,440	0.00	0	0.00	0	0.00	0	55,440
Permanent Camp Dorms Steel - Stairs c/w handrail	6	M	0.726	4	327	0.00	0	0.00	0	0.00	0	327
Permanent Camp Core Steel - Structural Light	15	T	8.58	129	9,653	-0.00	0	0.00	0	0.00	0	9,653
Permanent Camp Core Steel - Structural Medium	80	T	7.26	581	43,560	0.00	0	0.00	0	0.00	0	43,560
Permanent Camp Core Steel - Structural Heavy	32	T	6.6	211	15,840	0.00	0	0.00	0	0.00	0	15,840
Permanent Camp Core Steel - Structural HSS Light	5	T	8.58	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Permanent Camp Core Steel - Stairs c/w handrail	15	M	0.726	11	817	0.00	0	0.00	0	0.00	0	817
Permanent Camp Core Timber - Plywood 19mm, construction type	9969	M2	0.066	658	49,347	0.00	0	0.00	0	0.00	0	49,347
Permanent Camp Core Timber - Plywood 16mm, construction type	3323	M2	0.066	219	16,449	0.00	0	0.00	0	0.00	0	16,449
Permanent Camp Core Timber - Plywood 13mm, G1S	1300	M2	0.066	86	6,435	0.00	0	0.00	0	0.00	0	6,435



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Permanent Camp Core Timber - Plywood 10mm, construction type	6646 M2	0.066	439	32,898	0.00	0	0.00	0	0.00	0	32,898
Permanent Camp Core Timber - Plywood 13mm, construction type, internal load bearing walls	3400 M2	0.066	224	16,830	0.00	0	0.00	0	0.00	0	16,830
Permanent Camp Core Timber - Wood Trusses	1 LS	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
Permanent Camp Core Timber - Wood Truss #1 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss #2 60m span, 30ea	30 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 48m span, 23 ea	23 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Wood Truss 34m span, 20ea	20 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Misc Timber, allow 12000 board feet of 2x6	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Permanent Camp Core Timber - Joists, Parallam Beams, TimberStrain LSL	1 LS	2970	2,970	222,750	0.00	0	0.00	0	0.00	0	222,750
Permanent Camp Core Timber - TJI Joist TJI/H90 x 356, 1570m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TJI Joist TJI/L65 x 302, 15,722m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 610, 144m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 133 x 559, 196m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - Parallam 178 x 660, 21m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 302, 800m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Permanent Camp Core Timber - TimberStrain LSL 38 x 356, 200m	0 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Exterior: insulated standing seam roof system (Vicwest Marquis 3000) c/w insulation, clips etc. - roof	2500 M2	0.165	413	30,938	0.00	0	0.00	0	0.00	0	30,938
Exterior: fiberglass insulation R-30 c/w reinforced vapour barrier	2500 M2	0.0396	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Exterior: metal wall cladding (Vicwest -AD 300) c/w concealed fastener	1755 M2	0.165	290	21,718	0.00	0	0.00	0	0.00	0	21,718



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Exterior: Perimeter expanded metal skirting on horizontal & vert. supports	293 M2	0.2145	63	4,714	0.00	0	0.00	0	0.00	0	4,714
Exterior: framed wall: 38x140 studs, 10mm thick ply sheathing & 38x38 strapping both sides	1755 M2	0.297	521	39,093	0.00	0	0.00	0	0.00	0	39,093
Exterior: framed wall- exterior face "Tyvek" air barrier over strapping	1755 M2	0.0099	17	1,303	0.00	0	0.00	0	0.00	0	1,303
Exterior: framed wall- interior face:16mm thick gwb , painted or vinyl wall covering	1755 M2	0.0858	151	11,293	0.00	0	0.00	0	0.00	0	11,293
Exterior: framed wall- R-22 fiberglass batt insulation	1755 M2	0.0396	69	5,212	0.00	0	0.00	0	0.00	0	5,212
Exterior: framed wall- interior face: poly Vapour barrier over ply sheathing	1755 M2	0.0099	17	1,303	0.00	0	0.00	0	0.00	0	1,303
Exterior: framed wall- exterior face; 19mm thick fiberglass insulation between strapping	1755 M2	0.0396	69	5,212	0.00	0	0.00	0	0.00	0	5,212
Exterior: soffit fiberglass insulation (R-30) and 10mm treated exterior grade plywood soffit	2465 M2	0.165	407	30,504	0.00	0	0.00	0	0.00	0	30,504
Exterior: fiberglass thermally efficient double glazed windows with Low-E (2Mx 1.5M)	34 EA	4.95	168	12,623	0.00	0	0.00	0	0.00	0	12,623
Exterior: insulated sectional overhead door c/w all accessories (3.1M x 3.6M)	1 EA	42.9	43	3,218	0.00	0	0.00	0	0.00	0	3,218
Exterior: insulated main entrance doors - hollow metal/ glass c/w ps frame and hardware	3 EA	9.9	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Exterior: double glazed main entrance curtain wall c/w alum or struct steel tube framing	207 M2	0.99	205	15,370	0.00	0	0.00	0	0.00	0	15,370
Exterior: insulated doors c/w ps frame and hardware	3 EA	3.96	12	891	0.00	0	0.00	0	0.00	0	891
Exterior: insulated double door c/w ps frame & hardware	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Interior: framed wall- 38x89 studs, insulation, & 16mm thick gwb painted each side	425 M2	0.2805	119	8,941	0.00	0	0.00	0	0.00	0	8,941
Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	170 M2	0.425	72	5,419	0.00	0	0.00	0	0.00	0	5,419
Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	1105 M2	0.425	470	35,222	0.00	0	0.00	0	0.00	0	35,222
Flooring: carpet over underlay	1800 M2	0.066	119	8,910	0.00	0	0.00	0	0.00	0	8,910
Flooring: seamless vinyl sheet with all joint sealed	410 M2	0.066	27	2,030	0.00	0	0.00	0	0.00	0	2,030
Flooring: galvanized checkered plate floor in food storage	130 M2	0.396	51	3,861	0.00	0	0.00	0	0.00	0	3,861
Flooring : cushion vinyl sheet flooring	465 M2	0.099	46	3,453	0.00	0	0.00	0	0.00	0	3,453



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Flooring: ceramic tiles(washrooms)	50 M2	0.429	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Ceiling: 16mm thick gwb painted	340 M2	1.625	553	41,438	0.00	0	0.00	0	0.00	0	41,438
Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2100 M2	0.165	347	25,988	0.00	0	0.00	0	0.00	0	25,988
Interior: solid core swing door c/w ps frame and hardware	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Interior: solid core swing double door c/w ps frame and hardware	2 EA	6.6	13	990	0.00	0	0.00	0	0.00	0	990
Elevator: 3000lbs capacity, hydraulic freight (sized for emergency ambulance stretcher)	1 EA	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Main stairs: Steel fabricated with carpeted thread / riser and metal / wood railing	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Dining Room: round tables - wood/metal	19 EA	0.66	13	941	0.00	0	0.00	0	0.00	0	941
Dining Room: chairs - wood/metal	1 SET	13.2	13	990	0.00	0	0.00	0	0.00	0	990
Check-in - Office: furniture (desk, swivel chair, side chair & file cabinet)	4 EA	3.3	13	990	0.00	0	0.00	0	0.00	0	990
Washroom facilities	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Storage lockers for employees offsite 600w x 600d x1830h	250 EA	0.66	165	12,375	0.00	0	0.00	0	0.00	0	12,375
First Aid: Hospital beds-2, chairs-6, cabinet-1, accessories	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Serving Area	1 LS	165	165	12,375	0.00	0	0.00	0	0.00	0	12,375
Dishwasher Area	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Food Preparation Area	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Bakery Area	1 LS	132	132	9,900	0.00	0	0.00	0	0.00	0	9,900
Coolers and Freezers	1 LS	247.5	248	18,563	0.00	0	0.00	0	0.00	0	18,563
Butcher Shop	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Pot Washing Area	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Kitchen	1 LS	72.6	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Lunch Make-up Counter and Dry Food Storage	1 LS	264	264	19,800	0.00	0	0.00	0	0.00	0	19,800
Housekeeping	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Secondary stairs w/ intermediate landing : Stl fabricated with carpeted thread / riser and metal / wood railing	1 EA	19.8	20	1,485	0.00	0	0.00	0	0.00	0	1,485



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security Office - desk(2); upholstered chair(4); Lateral file cabinet (2);file cabinet (2)	1 SET	6.6	7	495	0.00	0	0.00	0	0.00	0	495
X-Ray equipment in baggage handling.	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Storage lockers in baggage handling.	1 LS	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Second Floor Interior: framed wall-38x89 studs, insulation, & 16mm thick gwb vinyl wallcovering each side	1445 M2	0.425	614	46,059	0.00	0	0.00	0	0.00	0	46,059
Second Floor Interior: framed wall-38x89 studs, insulation, 16mm gwb w/vinyl 1side & gwb w/paint 1side	361 M2	0.425	153	11,507	0.00	0	0.00	0	0.00	0	11,507
Second Floor Flooring: carpet over underlay	1630 M2	0.066	108	8,069	0.00	0	0.00	0	0.00	0	8,069
Second Floor Flooring: seamless vinyl sheet with all joint sealed	430 M2	0.066	28	2,129	0.00	0	0.00	0	0.00	0	2,129
Second Floor Flooring: ceramic tiles(washrooms)	170 M2	0.429	73	5,470	0.00	0	0.00	0	0.00	0	5,470
Second Floor Ceiling: 16mm thick gwb painted	200 M2	1.625	325	24,375	0.00	0	0.00	0	0.00	0	24,375
Second Floor Ceiling: suspended T-bar ceiling grid system c/w acoustic lay-in panels	2700 M2	0.165	446	33,413	0.00	0	0.00	0	0.00	0	33,413
Second Floor Interior: solid core swing single door c/w ps frame and hardware	22 EA	3.3	73	5,445	0.00	0	0.00	0	0.00	0	5,445
Second Floor Interior: solid core swing double door c/w ps frame and hardware	4 EA	6.6	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	62 EA	4.95	307	23,018	0.00	0	0.00	0	0.00	0	23,018
Second Floor Exterior: fiberglass thermally efficient double glazed windows with Low-E (2m x 1.5M)	2 EA	4.95	10	743	0.00	0	0.00	0	0.00	0	743
Changerooms	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
TV Rooms & Open Lounge Area	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Games Room	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Exercise Room & Change Rooms	1 LS	52.8	53	3,960	0.00	0	0.00	0	0.00	0	3,960
Mail Boxes	1 LS	39.6	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Orientation Room	1 LS	33	33	2,475	0.00	0	0.00	0	0.00	0	2,475
Library - Learning Centre	1 LS	66	66	4,950	0.00	0	0.00	0	0.00	0	4,950
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			23,345	1,750,856		0		0		0	1,750,856



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 40 MECHANICAL												
Mechanical and HVAC, allowance	4930	M2	0.51	2,514	188,573	0.00	0	0.00	0	0.00	0	188,573
Subtotal 40 MECHANICAL				2,514	188,573		0		0		0	188,573
COMM 50 PIPING												
Fire Suppression for Core - including piping, sprinklers in every bedroom, hose reels, extinguishers, etc.	1	LS	326.7	327	24,503	0.00	0	0.00	0	0.00	0	24,503
Subtotal 50 PIPING				327	24,503		0		0		0	24,503
COMM 60 ELECTRICAL												
Electrical allowance	4930	M2	0.2376	1,171	87,853	0.00	0	0.00	0	0.00	0	87,853
Subtotal 60 ELECTRICAL				1,171	87,853		0		0		0	87,853
AREA 5200 CAMP ACCOMMODATION & FACILITIES				27,640	2,072,994		0		0		0	2,072,994

AREA 5300 SECURITY SYSTEMS

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Security Building included at end of Process Building, in Area 3900	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
COMM 70 INSTRUMENTATION AND CONTROLS												



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Security System - includes digital cameras, monitors, card readers, cable, monitoring hardware in YK, baggage X-ray system	1	LS	990	990	74,250	0.00	0	0.00	0	0.00	0	74,250
Subtotal 70 INSTRUMENTATION AND CONTROLS				990	74,250		0		0		0	74,250
AREA 5300 SECURITY SYSTEMS				990	74,250		0		0		0	74,250

AREA 5400 LABORATORY FACILITIES

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Laboratory Facilities - located in Process Building, in Area 3900	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Laboratory Equipment only, allowance	1	LS	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				99	7,425		0		0		0	7,425
AREA 5400 LABORATORY FACILITIES				99	7,425		0		0		0	7,425

AREA 5500 UTILIDORS

COMM 10 CIVIL												
Excavation to Expose Foundations	542	M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Backfill after Foundation Removal	542	M3	0.1	54	4,065	0.00	0	5.00	2,710	0.00	0	6,775
Detail Excavation - rock	384	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Detail Excavation - soil	158	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	227	M3	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 10 CIVIL			108	8,130		0		5,420		0	13,550
COMM 20 STRUCTURAL AND ARCHITECTURAL											
Utilidors 3.67m x 3.0m high, 547m length	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	73	M3	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	205	M3	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	37	M3	4.29	159	11,905	0.00	0	0.00	0.00	0	11,905
Concrete - Anchor Bolts	1472	KG	0	0	0.00	0	0.00	0	0.00	0	0
Steel - HSS Bridge Trusses and Bents	326	T	7.26	2,367	177,507	0.00	0	0.00	0.00	0	177,507
Steel - Floor Checker Plate	2188	M2	0.33	722	54,153	0.00	0	0.00	0.00	0	54,153
Steel - Stairs c/w handrail	42	M	0.726	30	2,287	0.00	0	0.00	0.00	0	2,287
Cladding - Roof, insulated 65mm	2020	M2	0.2145	433	32,497	0.00	0	0.00	0.00	0	32,497
Cladding - Wall, exterior, insulated 65mm	5380	M2	0.2145	1,154	86,551	0.00	0	0.00	0.00	0	86,551
Mandoor, exterior insulated 0.9m x 2.1m	3	EA	3.96	12	891	0.00	0	0.00	0.00	0	891
Windows, insulated 1.6m x 1.2m	112	EA	3.3	370	27,720	0.00	0	0.00	0.00	0	27,720
Fire Doors, Escape Doors, Stairs - allowance	1	LS	165	165	12,375	0.00	0	0.00	0.00	0	12,375
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			5,412	405,885		0		0		0	405,885
COMM 50 PIPING											
Fire Suppression - on site and in utilidors, including piping, monitors, extinguishers, etc.	1	LS	271.26	271	20,345	0.00	0	0.00	0.00	0	20,345
Subtotal 50 PIPING			271	20,345		0		0		0	20,345
COMM 60 ELECTRICAL											
Lighting allowance	1	LS	396	396	29,700	0.00	0	0.00	0.00	0	29,700
Subtotal 60 ELECTRICAL			396	29,700		0		0		0	29,700



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
AREA 5500 UTILIDORS				6,187	464,060		0		5,420		0	469,480

AREA 5600 COLD STORAGE (INCL CEMENT STORAGE)

COMM 10 CIVIL

Excavation to Expose Foundations	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Backfill after Foundation Removal	600	M3	0.1	60	4,500	0.00	0	5.00	3,000	0.00	0	7,500
Rock Anchors	140	M	0.19008	27	1,996	0.00	0	0.00	0	0.00	0	1,996
Detail Excavation	600	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	1909	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Core Shack - use existing facilities and build lean-to as required, allowance	1	LS	23.76	24	1,782	0.00	0	1.65	2	0.00	0	1,784
Subtotal 10 CIVIL				170	12,778		0		6,002		0	18,779

COMM 20 STRUCTURAL AND ARCHITECTURAL

Relocate Existing Cold Storage Building - allowance	1	LS	500	500	37,500	0.00	0	0.00	0	0.00	0	37,500
Cement Storage Building 100m x 50m x 10m high --> 5000m2 each for two buildings	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Precast Concrete Giant block	8	ea	3.3	26	1,980	0.00	0	0.00	0	0.00	0	1,980
Cement Storage - Concrete - Lean Mix	41	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Spread Footings	108	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Pedestals	34	M3	4.29	146	10,940	0.00	0	0.00	0	0.00	0	10,940
Cement Storage - Concrete - Grade Beams	75	M3	4.785	359	26,916	0.00	0	0.00	0	0.00	0	26,916
Cement Storage - Concrete - Slab on Grade - not required, use gravel floor	0	M3	1.386	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage - Concrete - Anchor Bolts	870	KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Cement Storage Building, engineered structure - 2 buildings	1	LS	2079	2,079	155,925	0.00	0	0.00	0	0.00	0	155,925



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				3,110	233,260		0		0		0	233,260
COMM 60 ELECTRICAL												
Lighting allowance	5000	M2	0.0594	297	22,275	0.00	0	0.00	0	0.00	0	22,275
Subtotal 60 ELECTRICAL				297	22,275		0		0		0	22,275
AREA 5620 CEMENT STORAGE				3,578	268,313		0		6,002		0	274,315

AREA 5700 BATCH & AGGREGATE PLANTS

COMM 10 CIVIL												
Excavation to Expose Foundations	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Backfill after Foundation Removal	112	M3	0.1	11	840	0.00	0	5.00	560	0.00	0	1,400
Excavation to Expose Foundations	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	42	M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Detail Excavation	112	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	12	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	552	M	0.19008	105	7,869	0.00	0	0.00	0	0.00	0	7,869
Detail Excavation	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	42	M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	456	M	0.19008	87	6,501	0.00	0	0.00	0	0.00	0	6,501
Subtotal 10 CIVIL				222	16,680		0		1,540		0	18,220

COMM 20 STRUCTURAL AND ARCHITECTURAL



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete Batch Plant - engineered building, insulated 15.25m x 15.25m x 19.2m H	1 LS	231	231	17,325	0.00	0	0.00	0	0.00	0	17,325
Concrete - Lean Mix	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	49 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	11 M3	4.29	47	3,539	0.00	0	0.00	0	0.00	0	3,539
Concrete - Anchor Bolts	570 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Grout, for structural steel columns	0.6 M3	11.55	7	520	0.00	0	0.00	0	0.00	0	520
Aggregate Crushing Plant - building, 40m x 70m x 15m H	1 EA	330	330	24,750	0.00	0	0.00	0	0.00	0	24,750
Aggregate Crushing Plant - Steel - Structural Medium	13 T	7.26	94	7,079	0.00	0	0.00	0	0.00	0	7,079
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			710	53,213		0		0		0	53,213
COMM 40 MECHANICAL											
Concrete Batch Plant - batch plant equipment, includes receiving hopper, charge conveyor, 225t aggregate storage bin, 75t cement silo, 75t fly ash silo, mixer, control room	1 EA	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Aggregate Crushing Plant - equipment listed below	1 LS	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
Jaw Crushing Plant - mobile plant c/w trailer, wheel mounted, 700mm (28") x 1067mm (42") single toggle jaw crusher, 1170mm (46") x 6.1m (20') grizzly feeder, 1067mm (42") x 10m (33') discharge conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 30m (100ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Cone/Screen Plant - mobile plant c/w trailer, HP200 cone crusher, 1.8m (6") x 6.1m (20') screen, 1524mm (60") under screen conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Mobile Wash Screen - feed hopper, grizzly feeder, belt feeder, screen feed conveyor, double 1.2m x 2.4m double deck screen, hydraulic radial discharge stacking conveyor 0.75m x 12.2m	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Screw Washer - 610mm (24") dia x 7.6m (25') long	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Stacking Conveyor - 1067mm (42") x 18.3m (60ft) mobile conveyor, chutework	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
311-BI-02 Surface Crushing Surge Bin with Static Grizzly 400 mm, 900 tonnes - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-BI-03 Surface Crushing Transfer Hopper - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CH-04 Crushed Stockpile Shuttle Chute, Metal Lined, 0.5kW - not required	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Skirt & Head Chute for 312-FE-03, metal lined - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
312-CH-06 Metal Liners - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CV-04 Surface Crusher Take-Away Conveyor, 1067mm Wide, 11kW - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-CR-02 Surface Crusher , Single Toggle Jaw Crusher - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
311-GZ-02 Surface Crushing Vibrating Grizzly,150mm Opening, 1500mm x 3600mm Single Step, VFD 30kW - included with Aggregate Plant	0	AGG	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			281	21,038		0		0		0	21,038
COMM 60 ELECTRICAL											
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	232	M2	0.1386	32	2,412	0.00	0	0.00	0	0.00	2,412
Control Tower - trailer package, electrical system	1	INCL	0	0	0	0.00	0	0.00	0	0.00	0
Electrical Services allowance, for lighting, HVAC, welding outlets, grounding, etc.	2800	M2	0.1386	388	29,106	0.00	0	0.00	0	0.00	29,106
Subtotal 60 ELECTRICAL			420	31,518		0		0		0	31,518
AREA 5710 BATCH PLANT			1,633	122,448		0		1,540		0	123,988

AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 40 MECHANICAL												
Wheel Loader w/integrated tool carrier , 175kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Integrated Tool Carrier, 149kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Excavator, 96kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bobcat, for general site use and process plant	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Grader, 123kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dozer, 123kW	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pick-up Trucks 3/4ton crew cab	8	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Boom truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Tractor and flat deck trailer	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Water Truck 5000 gallon	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Fire Truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Vacuum truck	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Bus - USED (new bus \$140,500 each)	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Dump Truck c/w Plow	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
2T Forklift	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
5T Forklift w/extendable forks	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Snow Machine	2	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase	100	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
24m manlift	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Crane - 40-50 ton	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Ambulance	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Light Plant	3	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Aircraft de-icing equipment	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Diesel fuel truck 5000 gallon	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
1T Mech. Truck c/w Welder	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Roll compactor	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Drill rig	1	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Surface haul/quarry truck 40 tonnes	3	EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Wheel Loader, 224kW - included in Area 3120	0	EA	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Forklift 30t - not required	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Prep. Vehicles for Removal	1 LS	255	255	19,125	0.00	0	0.00	0	0.00	0	19,125
Subtotal 40 MECHANICAL			255	19,125		0		0		0	19,125
AREA 5800 PLANT MOBILE & UTILITY EQUIPMENT			255	19,125		0		0		0	19,125

AREA 5900 EXPLOSIVE STORAGE

COMM 10 CIVIL

Excavation to Expose Foundations	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	42 M3	0.1	4	315	0.00	0	5.00	210	0.00	0	525
Backfill after Foundation Removal	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Excavation to Expose Foundations	182 M3	0.1	18	1,365	0.00	0	5.00	910	0.00	0	2,275
Detail Excavation	42 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	640 M	0.19008	122	9,124	0.00	0	0.00	0	0.00	0	9,124
Detail Excavation	182 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	196 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	192 M	0.19008	36	2,737	0.00	0	0.00	0	0.00	0	2,737
Subtotal 10 CIVIL			203	15,221		0		2,240		0	17,461

COMM 20 STRUCTURAL AND ARCHITECTURAL

AN Storage Building 40m x 20m x 6m high --> 800m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	12 M3	0	0	0	0.00	0	0.00	0	0.00	0	0



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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Concrete - Pedestals	7 M3	4.29	30	2,252	0.00	0	0.00	0	0.00	0	2,252
Concrete - Anchor Bolts	260 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	2 ea	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Pre-fab Building, including cladding, manddoors, overhead doors, etc.	1 LS	198	198	14,850	0.00	0	0.00	0	0.00	0	14,850
Building Steel - Structural Light, 22T - not required	0 T	8.58	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Medium, 8T - not required	0 T	7.26	0	0	0.00	0	0.00	0	0.00	0	0
Building Steel - Structural Heavy, 33T - not required	0 T	6.6	0	0	0.00	0	0.00	0	0.00	0	0
Steel - Grout, for structural steel columns, 0.3m2 - not required	0 M3	11.55	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - wall, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings & ss fasteners, 720M2 - not required	0 M2	0.33	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Cladding - roof, Epoxy coated (Barrier Series 2 sides) single skin prefin'd steel c/w flashings ss fasteners, 800M2 - not required	0 M2	0.33	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Overhead doors, uninsulated, sectional c/w motor operator, 4m x 4m, 3ea - not required	0 EA	82.5	0	0	0.00	0	0.00	0	0.00	0	0
AN Storage Manddoors, uninsulated, .09m x 2.1m, 2 ea - not required	0 EA	3.96	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building 18m x 18m x 6m high --> 324m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	11 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Spread Footings	17 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	5 M3	4.29	21	1,609	-0.00	0	0.00	0	0.00	0	1,609
Concrete - Curbs	5 M3	4.29	21	1,609	0.00	0	0.00	0	0.00	0	1,609
Concrete - Slab on Grade	80 M3	1.386	111	8,316	0.00	0	0.00	0	0.00	0	8,316
Concrete - Anchor Bolts	220 KG	0	0	0	0.00	0	0.00	0	0.00	0	0
Precast Concrete Giant block	4 ea	3.3	13	990	0.00	0	0.00	0	0.00	0	990
Grout, for structural steel columns	0.2 M3	11.55	2	173	0.00	0	0.00	0	0.00	0	173
Foundation Insulation - rigid insulation under slab, 50mm thick	341 M2	0.0495	17	1,266	0.00	0	0.00	0	0.00	0	1,266
Foundation Insulation - rigid insulation around exterior foundation wall, 75mm thick	95 M2	0.0495	5	353	0.00	0	0.00	0	0.00	0	353



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation around exterior foundation wall, 100mm thick	79 M2	0.0495	4	293	0.00	0	0.00	0	0.00	0	293
Emulsion Plant Building - supply and erection included in operating costs, no capital costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Emulsion Plant Building - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			429	32,206		0		0		0	32,206
COMM 40 MECHANICAL											
30t Powder magazines	16 EA	5.1	82	6,120	0.00	0	0.00	0	0.00	0	6,120
Subtotal 40 MECHANICAL			82	6,120		0		0		0	6,120
COMM 60 ELECTRICAL											
Lighting allowance	800 M2	0.0594	48	3,564	0.00	0	0.00	0	0.00	0	3,564
Subtotal 60 ELECTRICAL			48	3,564		0		0		0	3,564
AREA 5910 AN STORAGE BUILDING			761	57,111		0		2,240		0	59,351

AREA 6100 NORTH PILE

COMM 10 CIVIL											
North Pile - clearing containment dyke area	2 HA	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - rock fill/spreading and compact for embankment, from mine waste	120000 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
North Pile - Internal Dyke - filter zone fill, fine gravel	7500 M3	0.015444	116	8,687	0.00	0	0.00	0	0.00	0	8,687
North Pile - filter zone non-woven heavy duty geotextile	6000 M2	0.0019008	11	855	0.00	0	0.00	0	0.00	0	855
Gravity Ditch #1 - ditching along embankment, 750m	1500 M3	0.0297	45	3,341	0.00	0	0.00	0	0.00	0	3,341

(The last lines on this page are in area: 6100)



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Gravity Ditch #1 - GCL liner for ditch 750m x 4m width	3375 M2	0.004752	16	1,203	0.00	0	0.00	0	0.00	0	1,203
Gravity Ditch #1 - fill for ditch, downstream side, 750m	2000 M3	0.014256	29	2,138	0.00	0	0.00	0	0.00	0	2,138
Culvert for ditch, 914mm (36") x 80m	1 LS	21.384	21	1,604	0.00	0	0.00	0	0.00	0	1,604
Service Road - North Pile to service pumps, 5m wide, 1500m long, general rock fill/spreading, 8000m3 - Existing, not required	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Service Road - Regrade for Closure	4500 M3	0.03	135	10,125	0.00	0	1.00	4,500	0.00	0	14,625
Fencing - around water management pond	1300 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			373	27,954		0		4,500		0	32,454
COMM 40 MECHANICAL											
Pump - Sedimentation Pond #2, 54 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Temporary Pond #2, 1000 gpm, 60kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #1, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Pump - Sump #2, 150 gpm, 0.75kW	1 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 40 MECHANICAL			0	0		0		0		0	0
COMM 50 PIPING											
Pipe for runoff collection and pumps - 100mm (4") HDPE	700 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Pipe for runoff collection and pumps, Temp Pond #2 to WTP - 150mm (6") HDPE	900 M	0	0	0	0.00	0	0.00	0	0.00	0	0
Tailings Pipe, from Process Plant to North Pile - 3 lines for a total of 5800m, 127mm CS sch 80, heat traced and 102mm insulation, on surface	5800 M	0.06	348	26,100	0.00	0	0.00	0	0.00	0	26,100
Subtotal 50 PIPING			348	26,100		0		0		0	26,100
COMM 60 ELECTRICAL											
Electrical allowance	1 LS	7.92	8	594	0.00	0	0.00	0	0.00	0	594



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 60 ELECTRICAL			8	594		0		0		0	594
AREA 6100 NORTH PILE			729	54,648		0		4,500		0	59,148

AREA 6300 WATER MANAGEMENT & TREATMENT

COMM 10 CIVIL

Excavation to Expose Foundations	689 M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Backfill after Foundation Removal	689 M3	0.1	69	5,168	0.00	0	5.00	3,445	0.00	0	8,613
Detail Excavation	698 M3	0.01188	8	622	0.00	0	0.00	0	0.00	0	622
Structural Backfill -76mm (-3"), top 150mm -25mm (-1")	636 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Rock Anchors	1696 M	0.19008	322	24,178	0.00	0	0.00	0	0.00	0	24,178
Subtotal 10 CIVIL			468	35,135		0		6,890		0	42,025

COMM 20 STRUCTURAL AND ARCHITECTURAL

Water Treatment Building 55m x 15m x 16m high --> 825m2	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Lean Mix	64 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Footings	74 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Concrete - Pedestals	33 M3	4.29	142	10,618	0.00	0	0.00	0	0.00	0	10,618
Concrete - Curbs	15 M3	4.29	64	4,826	0.00	0	0.00	0	0.00	0	4,826
Concrete - Slab on Grade	300 M3	1.386	416	31,185	0.00	0	0.00	0	0.00	0	31,185
Concrete - Elevated Slab	15 M3	2.211	33	2,487	0.00	0	0.00	0	0.00	0	2,487
Concrete - Sumps	8 M3	4.29	34	2,574	0.00	0	0.00	0	0.00	0	2,574
Concrete - Misc & Equipment Pads	62 M3	2.409	149	11,202	0.00	0	0.00	0	0.00	0	11,202
Concrete - Anchor Bolts	1380 KG	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Foundation Insulation - rigid insulation under slab and around exterior foundation wall	1700 M2	0.0495	84	6,311	0.00	0	0.00	0	0.00	0	6,311
Steel - Floor Grating for platforms	60 M2	0.495	30	2,228	0.00	0	0.00	0	0.00	0	2,228
Steel - Checkerplate	45 M2	0.33	15	1,114	0.00	0	0.00	0	0.00	0	1,114
Steel - Stairs c/w handrail	15 M	0.726	11	817	0.00	0	0.00	0	0.00	0	817
Steel - Handrails c/w kick plate	100 M	0.396	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Steel - Grout, for structural steel columns	1.3 M3	11.55	15	1,126	0.00	0	0.00	0	0.00	0	1,126
Water Treatment Building, engineered structure	1 LS	2046	2,046	153,450	0.00	0	0.00	0	0.00	0	153,450
Thickener Cladding, insulated	1255 M2	0.2145	269	20,190	0.00	0	0.00	0	0.00	0	20,190
Clarifier Cladding, insulated	970 M2	0.2145	208	15,605	0.00	0	0.00	0	0.00	0	15,605
Overhead sectional door - exterior insulated 4.5m x 4.5m	1 EA	99	99	7,425	0.00	0	0.00	0	0.00	0	7,425
Double doors - exterior insulated 1.2m x 2.4m	3 EA	6.6	20	1,485	0.00	0	0.00	0	0.00	0	1,485
Mandoors - exterior insulated 0.9m x 2.1m	8 EA	3.96	32	2,376	0.00	0	0.00	0	0.00	0	2,376
Mandoors - interior 0.9m x 2.1m	3 EA	3.3	10	743	0.00	0	0.00	0	0.00	0	743
Double doors - interior 1.2m x 2.4m	1 EA	6.6	7	495	0.00	0	0.00	0	0.00	0	495
Stud walls 152mm studs, 2 layers 16mm gwb, insulation, sealed and painted	64 M2	0.425	27	2,040	0.00	0	0.00	0	0.00	0	2,040
Windows - interior, acoustical double glazed, 1.5 x 1.2m	2 EA	3.3	7	495	0.00	0	0.00	0	0.00	0	495
Ceiling, suspended t-bar, 1" thick acoustical tiles	18 M2	0.165	3	223	0.00	0	0.00	0	0.00	0	223
Subtotal 20 STRUCTURAL AND ARCHITECTURAL			3,760	281,984		0		0		0	281,984
COMM 40 MECHANICAL											
Lime Preparation Package	1 PKG	76.5	77	5,738	0.00	0	0.00	0	0.00	0	5,738
630-AG-07 Agitator, Lime Mix Tank, 0.5 m dia , 0.75kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-01 Feeder, Lime Screw, 0.5kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-PU-14 Pump, Lime Mix Tank Discharge, 2.2kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SB-01 Scrubber, Lime Area Dust	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-SL-01 Slaker, Lime Slaker, 3 tonne/day capacity	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-HO-02 Hopper, Lime Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-07 Tank, Lime Mix, 1.5 m dia x 2 m h	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
Flocculant Preparation Package	1 PKG	20.4	20	1,530	0.00	0	0.00	0	0.00	0	1,530
630-AG-11 Agitator, Flocculant Mix Tank, 0.8 m dia , 2.238kW	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-BL-01 Blower, Flocculant Air	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-FE-02 Feeder, Flocculant, 50 kg/day	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-HO-01 Hopper, Flocculant	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-11 Tank, Flocculant Mix	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-12 Tank, Flocculant Storage	1 INCL	0	0	0	0.00	0	0.00	0	0.00	0	0
630-AG-01 Agitator, Reactor Tank #1, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-03 Agitator, Reactor Tank #2, 1.7 m dia , 22kW	1 EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-AG-05 Agitator, Filter Feed Tank #1, 1.7 m dia , 1.5kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-08 Agitator, Lime Holding Tank, 1 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-09 Agitator, Ferric Sulphate Mix Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AG-10 Agitator, Ferric Sulphate Holding Tank, 0.8 m dia , 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-AH-01 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-AH-02 Make Up Air Unit, 30,000 m3/hr, 250kW electric coil, c/w 15hp TEFC motor and controls	1 EA	25.5	26	1,913	0.00	0	0.00	0	0.00	0	1,913
630-CK-01 Hoist, Reagent Area, 2 tonne	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-CL-01 Clarifier, #1 HDS, 21 m dia , covered, 3kW	1 EA	408	408	30,600	0.00	0	0.00	0	0.00	0	30,600
630-CL-01 Clarifier Dome	1 EA	178.5	179	13,388	0.00	0	0.00	0	0.00	0	13,388
630-CL-01 Clarifier Insulation	1 EA	102	102	7,650	0.00	0	0.00	0	0.00	0	7,650
630-FA-01 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-02 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1 EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-FA-03 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-04 Wall Fan, 10,000 m3/hr FSP = 12mmWC, c/w 2hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-05 Dome Exhaust Fan, 20,000 m3/hr FSP = 12mmWC, c/w 3hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FA-06 Dome Exhaust Fan, 11,000 m3/hr FSP = 12mmWC, c/w 1.5hp motor and motorized damper	1	EA	5.1	5	383	0.00	0	0.00	0	0.00	0	383
630-FL-01 Filter, Polishing, 6 x3 m dia, 7.1 m2 filter area , multi media, pressure type, 11kW	1	EA	204	204	15,300	0.00	0	0.00	0	0.00	0	15,300
630-HE-01 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-02 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-03 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-04 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-05 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-06 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-07 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-08 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-HE-09 Dome Radiant Heater, 3.8kW	1	EA	2.55	3	191	0.00	0	0.00	0	0.00	0	191
630-MX-01 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-03 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-MX-05 Mixer, In-Line	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01A Pump, Thickener U/F Recycle Duty, 19 m3/h , 65 mm hose pump, 3kW	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-01B Pump, Thickener U/F Recycle Standby, 19 m3/h , 65 mm hose pump, 3kW	1	EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-05A Pump, Clarifier U/F Recycle Duty, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-05B Pump, Clarifier U/F Recycle Standby, 34 m3/h , Warman 2/11/2 B-AH, 11kW	1	EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-07A Pump, Filter Feed Duty, 500 m3/h , Warman 300L, 30kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148
630-PU-07B Pump, Filter Feed Standby, 500 m3/h , Warman 300L, 30kW	1	EA	15.3	15	1,148	0.00	0	0.00	0	0.00	0	1,148



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-PU-11 Pump, HDS Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-15A Pump, Lime Loop Distribution Duty, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-15B Pump, Lime Loop Distribution Standby, 13 m3/h , Warman 2/11/2 B-AH, 1.1kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-16 Pump, Lime Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-17 Pump, Ferric Sulphate Mix Tank Discharge, 12 m3/h , Centrifugal 11/2x1, 316SS, 0.75kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19A Pump, Ferric Sulphate Metering Duty, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-19B Pump, Ferric Sulphate Metering Standby, 0.3 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-20 Pump, Ferric Sulphate Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-21 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-22 Pump, Flocculant Distribution, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23A Pump, Flocculant Distribution Duty, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-23B Pump, Flocculant Distribution Standby, 0.2 m3/h , Helical Rotor, 0.18kW	1 EA	7.65	8	574	0.00	0	0.00	0	0.00	0	574
630-PU-24 Pump, Flocculant Area Sump, 38mm (1 1/2") vertical cantilever, 7.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-25 Pump, Thickener U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-PU-27 Pump, Clarifier U/F Discharge, 42 m3/h , Warman 3/2 C-AH, 5.5kW	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
630-SN-01 Screen, Feed Water Safety, 850 m3/h @ 0.4wt% solids - DELETED	0 EA	0	0	0	0.00	0	0.00	0	0.00	0	0
630-TK-01 Tank, #1 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-02 Tank, #3 Reactor, 5 m dia x 8 m h , Carbon Steel	9400 KG	0.00765	72	5,393	0.00	0	0.00	0	0.00	0	5,393
630-TK-05 Tank, #1 Filter Feed, 5 m dia x 5 m h , Carbon Steel	6400 KG	0.00765	49	3,672	0.00	0	0.00	0	0.00	0	3,672



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
630-TK-08 Tank, Lime Holding, 3 m dia x 3 m h , Carbon Steel	2300 KG	0.00765	18	1,320	0.00	0	0.00	0	0.00	0	1,320
630-TK-09 Tank, Ferric Sulphate Mix, 2.5 m dia x 2.5 m h , 316 SS	1600 KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TK-10 Tank, Ferric Sulphate Holding, 2.5 m dia x 2.5 m h , 316 SS	1600 KG	0.00765	12	918	0.00	0	0.00	0	0.00	0	918
630-TH-01 Thickener, #1 Feed Water, 15 m dia , covered, 2.2kW	1 EA	357	357	26,775	0.00	0	0.00	0	0.00	0	26,775
630-TH-01 Thickener Dome	1 EA	127.5	128	9,563	0.00	0	0.00	0	0.00	0	9,563
630-TH-01 Thickener Insulation	1 EA	71.4	71	5,355	0.00	0	0.00	0	0.00	0	5,355
630-XX-01 Bag Breaker, Ferric Sulphate	1 EA	10.2	10	765	0.00	0	0.00	0	0.00	0	765
Subtotal 40 MECHANICAL			2,186	163,920		0		0		0	163,920
 COMM 50 PIPING											
Piping & Valve Allowance - inside water treatment plant, allow 25% of mech equipment	1 LS	792	792	59,400	0.00	0	0.00	0	0.00	0	59,400
Fire Suppression - allowance for extinguishers	1 LS	3.96	4	297	0.00	0	0.00	0	0.00	0	297
Yard Piping - U/G water from Portal to Process Plant, in utilidor, 300mm CS, insulated	260 M	0.9702	252	18,919	0.00	0	0.00	0	0.00	0	18,919
Yard Piping - U/G water from Process Plant to MWTP, in piperack, 300mm CS, heat traced and insulated	60 M	1.089	65	4,901	0.00	0	0.00	0	0.00	0	4,900
Yard Piping - Mine water from WMP to MWTP, on ground, 150mm HDPE, heat traced and insulated	240 M	0.3762	90	6,772	0.00	0	0.00	0	0.00	0	6,772
Yard Piping - Thickener U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100 M	0.5544	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Yard Piping - Clarifier U/F from MWTP to Process Plant, in piperack, 75mm CS, heat traced and insulated	100 M	0.5544	55	4,158	0.00	0	0.00	0	0.00	0	4,158
Yard Piping - Emergency Overflow from MWTP to WMP, on ground, 300mm HDPE, heat traced and insulated	200 M	0.5742	115	8,613	0.00	0	0.00	0	0.00	0	8,613
Subtotal 50 PIPING			1,430	107,217		0		0		0	107,217



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 60 ELECTRICAL											
Heat Tracing Panels 630-CL-01	1 LS	15.84	16	1,188	0.00	0	0.00	0	0.00	0	1,188
Heat Tracing Panels 630-TH-01	1 LS	11.88	12	891	0.00	0	0.00	0	0.00	0	891
Low Voltage Electrical Allowance, allow 15% of mech equipment	1 LS	455.4	455	34,155	0.00	0	0.00	0	0.00	0	34,155
Building Lighting allowance	825 M2	0.1386	114	8,576	0.00	0	0.00	0	0.00	0	8,576
Clarifier Enclosure Lighting Allowance	450 M2	0.099	45	3,341	0.00	0	0.00	0	0.00	0	3,341
Thickener Enclosure Lighting Allowance	250 M2	0.099	25	1,856	0.00	0	0.00	0	0.00	0	1,856
Grounding allowance	825 M2	0.0396	33	2,450	0.00	0	0.00	0	0.00	0	2,450
Subtotal 60 ELECTRICAL			699	52,458		0		0		0	52,458
COMM 70 INSTRUMENTATION AND CONTROLS											
Instrumentation Allowance, allow 6% of mech equipment	1 LS	146.52	147	10,989	0.00	0	0.00	0	0.00	0	10,989
Subtotal 70 INSTRUMENTATION AND CONTROLS			147	10,989		0		0		0	10,989
AREA 6300 WATER MANAGEMENT & TREATMENT			8,689	651,703		0		6,890		0	658,593
AREA 6400 DIFFUSER											
COMM 10 CIVIL											
Site Excavation	150 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Compacted Native Fill	150 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Site Rock Excavation	50 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bedding Sand	100 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
C.S.P. Culvert 500mm dia. X 6m long	5 EA	0.4752	2	178	0.00	0	0.00	0	0.00	0	178
Silt Fence 8mil Material c/w Posts 40m long x 2m high	1 EA	4.752	5	356	0.00	0	0.00	0	0.00	0	356

(The last lines on this page are in area: 6400)



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Earth Excavation	80 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Bank Stabilization - Geotextile and lagging	200 M2	0.009504	2	143	0.00	0	0.00	0	0.00	0	143
Drain Rock	40 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
General Fill	30 M3	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 10 CIVIL			9	677		0		0		0	677
COMM 50 PIPING											
600mm HDPE Stub End Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
600mm ASA 125# Flange Back Up Ring C.S. Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Galvanized Bolts Nuts and Washers Discharge Pipe	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm ASA 125# Flange Back Up Ring 304SS Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Discharge Pipe	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm HDPE DR17 Piping Discharge Pipe	1100 LM	0.1386	152	11,435	0.00	0	0.00	0	0.00	0	11,434
Concrete Weights Discharge Pipe	20 EA	1.98	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Temporary Blind Flange 12mm C.S. Discharge Pipe	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Galvanized Bolts Nuts and Washers	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm ASA 125# Flange Back Up Ring 304SS Diffuser	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
600mm HDPE DR17 Piping Diffuser	70 LM	0.1386	10	728	0.00	0	0.00	0	0.00	0	728
Concrete Weights Diffuser	20 EA	1.98	40	2,970	0.00	0	0.00	0	0.00	0	2,970
Nozzle Pipe 150mm dia. HDPE DR11 x 200mm long Diffuser	8 EA	0.396	3	238	0.00	0	0.00	0	0.00	0	238
150mm HDPE Cap c/w 200mm nipple	8 EA	1.386	11	832	0.00	0	0.00	0	0.00	0	832
150mm Victaulic Coupling	8 EA	0.4356	3	261	0.00	0	0.00	0	0.00	0	261
Blind Flange 12mm C.S. Diffuser	1 EA	0.396	0	30	0.00	0	0.00	0	0.00	0	30
Bolts Nuts and Washers 304SS Diffuser	20 SET	1.683	34	2,525	0.00	0	0.00	0	0.00	0	2,524
Marine Installation Diffuser and Skiff Rental	1 LS	120	120	9,000	0.00	0	0.00	0	0.00	0	9,000



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 50 PIPING				550	41,233		0		0		0	41,233
AREA 6400 DIFFUSER				559	41,911		0		0		0	41,911

AREA 7100 YK SORTING FACILITY

COMM 20 STRUCTURAL AND ARCHITECTURAL												
Yellowknife Sorting Facility - estimate by DeBeers	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 20 STRUCTURAL AND ARCHITECTURAL				0	0		0		0		0	0
AREA 7100 YK SORTING FACILITY				0	0		0		0		0	0

AREA 8100 OWNER'S COSTS

COMM 90 INDIRECTS												
Yellowknife Accommodations - not included	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS				0	0		0		0		0	0
AREA 8100 OWNER'S COSTS				0	0		0		0		0	0

AREA 9100 EPCM



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
COMM 90 INDIRECTS												
Engineering, Procurement and Construction Management (home office) prior to Demolition	1	LS	0	0	0	0.00	0	0.00	0	1,200,000.00	1,200,000	1,200,000
Construction Management Demolition Year	1	LS	0	0	0	0.00	0	0.00	0	1,600,000.00	1,600,000	1,600,000
Office Supplies and Communications	16	Mos	0	0	0	0.00	0	10,000.00	160,000	0.00	0	160,000
Maintenance Staff Demolition Year	1	LS	0	0	0	0.00	0	0.00	0	400,000.00	400,000	400,000
Year 2 staff	1	LS	0	0	0	0.00	0	0.00	0	1,100,000.00	1,100,000	1,100,000
Site Operations Staff	1	LS	0	0	0	0.00	0	0.00	0	1,500,000.00	1,500,000	1,500,000
Maintenance Staff	1	LS	0	0	0	0.00	0	0.00	0	450,000.00	450,000	450,000
On-call maintenance staff	1	LS	0	0	0	0.00	0	0.00	0	125,000.00	125,000	125,000
Environmental Monitoring Year 1 & 2	1	LS	0	0	0	0.00	0	0.00	0	823,000.00	823,000	823,000
Subtotal 90 INDIRECTS				0	0		0		160,000		7,198,000	7,358,000
<hr/>												
AREA 9100 EPCM				0	0		0		160,000		7,198,000	7,358,000
<hr/>												

AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT

COMM 90 INDIRECTS												
Contractor Temporary Facilities included in Labour Cost	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Mob-Demob Closure Contractor	1	LS	0	0	0	0.00	0	500,000.00	500,000	0.00	0	500,000
CM/Owner Temporary Facilities - Construction Office	1	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
CM/Owner Temporary Facilities - Construction Office Supplies	0	LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Three Standby/Emergency Generators will be used during construction, price for generators have been included in area 4110	0	INFO	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
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Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Allowance for supply of power cables and communications for connection between two generators enclosures and one switchgear enclosures complete and pre-connected prior to shipment, cost has been included in area 4110	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for reconnection of 3-3c250MCM, 5kV teck cable (bundled by generator's supplier) from emergency generators terminal boxes to switchgear enclosure, cost has been included in area 4110	0	M	4	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Unit Substation; 600A	0	EA	200	0	150,000.00	0	0.00	0	0.00	0	0
Construction Power - Intake Fan 700HP VFD complete with Isolation transformer inside E-House, installed and pre-wired shipped for site installations, cost has been included in area 4120	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 2-3c250MCM, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to construction unit substation	0	M	4	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 5MVA, 4.16-13.8kV Transformer, outdoor Pad Mounted, complete with 25A, 8000V, 320 ohms Neutral Grounding Resistor for feeding underground Mine during development and production stages	0	EA	100	0	0.00	0	0.00	0	0.00	0	0
Construction Power - 15 kV 3c 3/0AWG SWA 133% Insulation Cable Main Mine Feeder Temporary cables	0	M	0.8	0	85.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for 4/0 AWG, 5kV teck cable from 4.16kV switchgear inside switchgear enclosure to Vent Fans Isolation Transformers (this for construction only)	0	M	0.85	0	35.00	0	0.00	0	0.00	0	0
Construction Power - 3X3C-500MCM, 1kv, teck cable from 600V feeder breakers inside construction unit substation to construction power distribution panel	0	M	0.5	0	33.46	0	0.00	0	0.00	0	0
Construction Power - Teck Cable terminations kit for 5kV Construction/Standby power generators, cost has been included in area 4110	0	INFO	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Construction Poles, 40 feet in culvert for construction power overhead lines, from construction unit substation located next to Standby/Construction Generators to Power distribution centres	0	EA	10	0	350.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Power - Neutral Supported Cables, Type NSF-2, 4/0 AWG, quadroplex, 600V for overhead line installation	0 M	0.6	0	0	10.61	0	0.00	0	0.00	0	0
Construction Power - Construction 600V Distribution Panels, with 400A incoming circuit breakers and six 200A outgoing circuit breakers, suitable for outdoor installation on H-Frame Supports	0 EA	8	0	0	5,000.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for generators' enclosure and switchgear's wiring interconnections , cost has been included in arera 4110	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Standby Generators and Switchgear Enclosure's Foundations and installations	0 LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Construction Power - Allowance for Construction 600V Unit Substation's Foundations and Installations	0 LS	400	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Laydown Area Lighting	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Overhauling Gensets	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Reconfigure cables to final emergency location	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Fuel storage of 3M litres existing on site	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Fuel Storage during Construction, for 3M litres	0 LS	1200	0	0	650,000.00	0	0.00	0	0.00	0	0
Allowance for Snow Clearing and Temporary Heating and Hoarding during construction	0 LS	1000	0	0	0.00	0	0.00	0	0.00	0	0
Small Tools and Consummables included in Labour Cost	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Turn-Around and Personnel Travel included in Labour Cost	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Container Purchase - included in Area 5800	0 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Construction Equipment Rental	175924 LS	0	0	0	0.00	0	8.00	1,407,392	0.00	0	1,407,392
D9 Rental and Operator	0 LS	0	0	0	0.00	0	200,000.00	0	0.00	0	0
Construction Equipment Rental - 200t crane	0 MO	0	0	0	0.00	0	30,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete trucks 2 x 5m3	0 MO	0	0	0	0.00	0	43,000.00	0	0.00	0	0
Construction Equipment Rental - U/G concrete pump	0 MO	0	0	0	0.00	0	14,000.00	0	0.00	0	0
Construction Equipment - 2 operators for U/G concrete trucks	0 MO	200	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Construction Equipment - 1 operator for U/G concrete pump	0 MO	200	0	0	0.00	0	0.00	0	0.00	0	0
Construction fuel Year 2 Dismantling	1200000 L	0	0	0	0.54	648,000	0.00	0	0.00	0	648,000
Credit for remaining fuel	-4E+06 L	0	0	0	0.54	-2,160,000	0.00	0	0.00	0	-2,160,000
Construction fuel Year 1 Dismantling	6500000 L	0	0	0	0.54	3,510,000	0.00	0	0.00	0	3,510,000
Subtotal 90 INDIRECTS			0	0		1,998,000		1,907,392		0	3,905,392
AREA 9300 TEMPORARY CONSTRUCTION FACILITIES AND EQUIPMENT			0	0		1,998,000		1,907,392		0	3,905,392

AREA 9400 CONSTRUCTION CAMP AND CATERING

COMM 90 INDIRECTS

Expanding existing construction camp, from 85 to 185 person	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Allowance for Temporary Camp	24 mo	0	0	0	0.00	0	35,000.00	840,000	0.00	0	840,000
Sewage Treatment Plant - expand existing STP adjacent to the construction camp an additional 100-person capacity	1 LS	0	0	0	0.00	0	0.00	0	0.00	0	0
Catering Direct Cost Activities	18773 MD	0	0	0	0.00	0	62.50	1,173,313	0.00	0	1,173,313
Catering for Emulsion Plant Building erection - supply camp and catering for erection crew, approx 8 workers for 2 weeks	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Indirect Cost Activities	4694 MD	0	0	0	0.00	0	62.50	293,375	0.00	0	293,375
Catering Preproduction Underground Mining Activities - Phase I 2003	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase I 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase II 2004	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Catering Preproduction Underground Mining Activities - Phase II 2005	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: CAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Catering Construction Mgmt & Maint Year 1	4015 MD	0	0	0	0.00	0	62.50	250,938	0.00	0	250,938
Catering Care & Maintenance	6325 MD	0	0	0	0.00	0	125.00	790,625	0.00	0	790,625
Catering Visitors, allowance	100 MD	0	0	0	0.00	0	62.50	6,250	0.00	0	6,250
Catering Commissioning Engineers	0 MD	0	0	0	0.00	0	50.00	0	0.00	0	0
Camp Maintenance	420 DAY	0	0	0	0.00	0	350.00	147,000	0.00	0	147,000
Subtotal 90 INDIRECTS			0	0		0		3,501,500		0	3,501,500
AREA 9400 CONSTRUCTION CAMP AND CATERING			0	0		0		3,501,500		0	3,501,500

AREA 9600 COMMISSIONING AND STARTUP

COMM 90 INDIRECTS											
Start-Up and Commissioning - allowance for contractors, 8 people for 3 months	0 LS	7200	0	0	0.00	0	0.00	0	0.00	0	0
Start-Up and Commissioning - allowance for 10 engineers for 3 months	0 LS	0	0	0	0.00	0	690,000.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		0		0	0
AREA 9600 COMMISSIONING AND STARTUP			0	0		0		0		0	0

AREA 9700 SPARES AND FIRST FILLS

COMM 90 INDIRECTS											
Mining Spares - Mobile Equipment	0 LS	0	0	0	3,100,000.00	0	0.00	0	0.00	0	0
Mining Spares - Other	0 LS	0	0	0	500,000.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Electrical and Instrumentation Spares - allowance	0 LS	0	0	0	2,500,000.00	0	0.00	0	0.00	0	0
Power Plant - Special Tools and anticipated Spares	0 lot	0	0	0	602,300.00	0	0.00	0	0.00	0	0
Subtotal 90 INDIRECTS			0	0		0		0		0	0
AREA 9700 SPARES AND FIRST FILLS			0	0		0		0		0	0

AREA 9800 FREIGHT AND TAXES

COMM 90 INDIRECTS

Freight to Yellowknife - included in direct costs	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Freight from Site to Edmonton Construction Material	3200 LDS	0	0	0	0.00	0	5,750.00	18,400,000	0.00	0	18,400,000
Freight from Site to Edmonton Equipment	600 LDS	0	0	0	0.00	0	5,750.00	3,450,000	0.00	0	3,450,000
Freight from Site to Edmonton Potentially Hazardous and Recycleable Materials	200 LDS	0	0	0	0.00	0	6,900.00	1,380,000	0.00	0	1,380,000
Winter Road Royalty, \$0.10/tonne/km for 222km	100000 MT	0	0	0	0.00	0	22.20	2,220,000	0.00	0	2,220,000
Disposal Fee's Equipment	15000 MT	0	0	0	0.00	0	42.00	630,000	0.00	0	630,000
Disposal Fee's Waste Oil	20835 DRM	0	0	0	0.00	0	65.00	1,354,275	0.00	0	1,354,275
Disposal Fee's Glycol	5000 DRM	0	0	0	0.00	0	170.00	850,000	0.00	0	850,000
Disposal Fee's Misc. Other	1250 DRM	0	0	0	0.00	0	100.00	125,000	0.00	0	125,000
Disposal Fee's Scrap Metal	64000 MT	0	0	0	0.00	0	42.00	2,688,000	0.00	0	2,688,000
Disposal Fee's Construction Material	16000 MT	0	0	0	0.00	0	26.50	424,000	0.00	0	424,000
Air Freight Allowance to Site	1 LS	0	0	0	0.00	0	200,000.00	200,000	0.00	0	200,000
Hercules airplane from Yellowknife \$15,000/trip	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties on equipment from South Africa - if equipment cannot be manufactured in Canada, duties are 0%. If equipment can be manufactured in Canada, duties are approximately 15-20%	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0
Duties - recovery equipment sourced from South Africa is expected not to have duties applied, due to its specialized nature	0 INFO	0	0	0	0.00	0	0.00	0	0.00	0	0



**SNAP LAKE CLOSURE ALT. 2 100% OFF-SITE DISPOSAL
CAPITAL COST ESTIMATE**

Project Number: U638C
Currency: JAD 4TH Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	TotalDirect Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost	Total Cost
Subtotal 90 INDIRECTS				0	0		0		31,721,275		0	31,721,275
AREA 9800 FREIGHT AND TAXES				0	0		0		31,721,275		0	31,721,275
AREA 9900 CONTINGENCY												
COMM 90 INDIRECTS												
Contingency	1	LS	0	0	0	0.00	0	0.00	0	9,692,769.26	9,692,769	9,692,769
Subtotal 90 INDIRECTS				0	0		0		0		9,692,769	9,692,769
AREA 9900 CONTINGENCY				0	0		0		0		9,692,769	9,692,769
TOTAL PROJECT COST												
				187,074	14,030,517		2,006,500		40,122,214		18,240,769	74,400,000

APPENDIX B
COST ESTIMATE DETAILS
North Pile Reclamation

NORTH PILE - PROGRESSIVE RECLAMATION CREDIT - QUANTITY AND COST ESTIMATE DETAIL

Year	Quantities				Costs (Value of Progressive Reclamation)		
	Area Capped (m ²)	Capping Volume (m ³)	Cumulative Area Capped (m ²)	Cumulative Capping Volume (m ³)	Unit Cost (\$/m ³)	Capping Cost (\$)	Cumulative Capping Cost (\$)
0	0	0	0	0	20	0	0
1	0	0	0	0	20	0	0
2	117,000	59,000	117,000	59,000	20	1,180,000	1,180,000
3	130,000	65,000	247,000	124,000	20	1,300,000	2,480,000
4	0	0	247,000	124,000	20	0	2,480,000
5	0	0	247,000	124,000	20	0	2,480,000
6	0	0	247,000	124,000	20	0	2,480,000
7	48,000	24,000	295,000	148,000	20	480,000	2,960,000
8	48,000	24,000	343,000	172,000	20	480,000	3,440,000
9	48,000	24,000	391,000	196,000	20	480,000	3,920,000
10	48,000	24,000	439,000	220,000	20	480,000	4,400,000
11	40,000	20,000	479,000	240,000	20	400,000	4,800,000
12	40,000	20,000	519,000	260,000	20	400,000	5,200,000
13	0	0	519,000	260,000	20	0	5,200,000
14	0	0	519,000	260,000	20	0	5,200,000
15	0	0	519,000	260,000	20	0	5,200,000
16	0	0	519,000	260,000	20	0	5,200,000
17	54,000	27,000	573,000	287,000	20	540,000	5,740,000
18	49,000	25,000	622,000	311,000	20	500,000	6,220,000
19	49,000	25,000	671,000	336,000	20	500,000	6,720,000
20	49,000	25,000	720,000	360,000	20	500,000	7,200,000
21	49,000	25,000	769,000	385,000	20	500,000	7,700,000
22	49,000	25,000	818,000	409,000	20	500,000	8,180,000



NORTH PILE - RECLAMATION QUANTITY AND COST ESTIMATE DETAIL

Year	Work Required for Closure	Quantity	Units	Unit Cost (incl. Contingency)	Item Cost	Annual Total (incl. Contingency)	Contingency Included	Annual Total (excl. Contingency)
0	Move PAG Rock to quarry	250,000	m3	5	1,250,000	2,100,000	274,000	1,826,000
	Place berm materials over PAG rock.	170,000	m3	5	850,000			
1	Remove berms near Sump #1 and place over PAG rock.	42,000	m3	5	210,000	5,096,000	665,000	4,431,000
	Remove PK distribution pipes.	3,500	m	6.5	23,000			
	Regrade PK and restore drainage	60,000	m2	0.8	48,000			
	Place capping over exposed PK.	240,000	m3	20	4,800,000			
	Relocate Sump #1 & #2 pumps to quarry	2	ea	7500	15,000			
2	Remove berms near Sump #1 and place over PAG rock.	82,000	m3	5	410,000	5,296,000	691,000	4,605,000
	Remove PK distribution pipes.	3,500	m	6.5	23,000			
	Regrade PK and restore drainage	60,000	m2	0.8	48,000			
	Place capping over exposed PK.	240,000	m3	20	4,800,000			
	Relocate Sump #1 & #2 pumps to quarry	2	ea	7500	15,000			
3	Remove berms near Sump #1 and place over PAG rock.	82,000	m3	5	410,000	3,633,000	474,000	3,159,000
	Remove PK distribution pipes.	3,500	m	6.5	23,000			
	Place capping over exposed PK.	160,000	m3	20	3,200,000			
4	Remove berms near Sump #1.	82,000	m3	5	410,000	6,633,000	865,000	5,768,000
	Remove PK distribution pipes.	3,500	m	6.5	23,000			
	Place capping over exposed PK.	310,000	m3	20	6,200,000			
5	Remove berms near Sump #1.	82,000	m3	5	410,000	6,633,000	865,000	5,768,000
	Remove PK distribution pipes.	3,500	m	6.5	23,000			
	Place capping over exposed PK.	310,000	m3	20	6,200,000			
6	Remove berms near Sump #1.	40,000	m3	5	200,000	6,464,000	843,000	5,621,000
	Remove PK distribution pipes.	2,400	m	6.5	16,000			
	Regrade PK	310,000	m2	0.8	248,000			
	Place capping over exposed PK.	310,000	m3	20	6,200,000			
7	Remove PK distribution pipes.	2,800	m	6.5	18,000	4,178,000	545,000	3,633,000
	Regrade PK	200,000	m2	0.8	160,000			
	Place capping over exposed PK.	200,000	m3	20	4,000,000			
8	Remove PK distribution pipes.	2,800	m	6.5	18,000	3,138,000	409,000	2,729,000
	Regrade PK	150,000	m2	0.8	120,000			
	Place capping over exposed PK.	150,000	m3	20	3,000,000			
9	Remove PK distribution pipes.	2,800	m	6.5	18,000	1,911,000	249,000	1,662,000
	Regrade PK	91,000	m2	0.8	73,000			
	Place capping over exposed PK.	91,000	m3	20	1,820,000			
10	Remove Sump #3	1	ea	7500	8,000	1,215,000	158,000	1,057,000
	Remove portions of berms from West Cell to allow drainage to WCP #1.	16,000	m3	5	80,000			
	Remove PK distribution pipes.	2,800	m	6.5	18,000			
	Regrade PK	36,000	m2	0.8	29,000			
	Place capping over exposed PK.	36,000	m3	20	720,000			
11	Remove PK distribution pipes.	4,800	m	6.5	31,000	1,125,000	147,000	978,000
	Remove portions of berms from West Cell to allow drainage to WCP #1.	40,000	m3	5	200,000			
	Regrade PK	43,000	m2	0.8	34,000			
	Place capping over exposed PK.	43,000	m3	20	860,000			

APPENDIX B
COST ESTIMATE DETAILS
Post-Closure Monitoring

ESTIMATED COST OF POST-CLOSURE ENVIRONMENTAL MONITORING AND MAINTENANCE

Post Closure Monitoring & Maintenance	Decommissioning		Post Closure (Years 1 thru 3)			Post Closure (Years 4 thru 10)						
	Year 1	Year 2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Monitoring Labour	\$100,000	\$100,000	\$40,000	\$40,000	\$40,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Monitoring Supplies & Equipment	\$3,661	\$3,661	\$686	\$686	\$686	\$321	\$321	\$321	\$321	\$321	\$321	\$321
Transportation to and from Site	\$7,800	\$7,800	\$4,000	\$4,000	\$4,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Analytical Costs	\$36,612	\$36,612	\$6,864	\$6,864	\$6,864	\$3,206	\$3,206	\$3,206	\$3,206	\$3,206	\$3,206	\$3,206
Transportation of Samples to Lab	\$6,000	\$6,000	\$1,000	\$1,000	\$1,000	\$500	\$500	\$500	\$500	\$500	\$500	\$500
Aquatic Effects Monitoring Program	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$125,000		\$125,000		\$125,000		\$125,000
Annual Geotechnical Inspection	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500
Post Closure Maintenance	\$0	\$0	\$25,000	\$25,000	\$25,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Sub-Total	\$411,573	\$411,573	\$335,050	\$335,050	\$335,050	\$168,527	\$43,527	\$168,527	\$43,527	\$168,527	\$43,527	\$168,527
Contingency Allowance (15%)	\$61,736	\$61,736	\$50,258	\$50,258	\$50,258	\$25,279	\$6,529	\$25,279	\$6,529	\$25,279	\$6,529	\$25,279
Total (Rounded)	\$473,000	\$473,000	\$385,000	\$385,000	\$385,000	\$194,000	\$50,000	\$194,000	\$50,000	\$194,000	\$50,000	\$194,000

Post Closure Monitoring & Maintenance	Post Closure (Years 11 thru 20)										Sum
	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Monitoring Labour	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$560,000
Monitoring Supplies & Equipment	\$169	\$169	\$169	\$169	\$169	\$169	\$169	\$169	\$169	\$169	\$13,311
Transportation to and from Site	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$51,600
Analytical Costs	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$1,685	\$133,108
Transportation of Samples to Lab	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$21,000
Aquatic Effects Monitoring Program					\$60,000					\$60,000	\$1,870,000
Annual Geotechnical Inspection	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$165,000
Post Closure Maintenance	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$195,000
Sub-Total	\$25,604	\$25,604	\$25,604	\$25,604	\$85,604	\$25,604	\$25,604	\$25,604	\$25,604	\$85,604	\$3,009,019
Contingency Allowance (15%)	\$3,841	\$3,841	\$3,841	\$3,841	\$12,841	\$3,841	\$3,841	\$3,841	\$3,841	\$12,841	\$451,353
Total (Rounded)	\$29,000	\$29,000	\$29,000	\$29,000	\$98,000	\$29,000	\$29,000	\$29,000	\$29,000	\$98,000	\$3,460,000

Analytical Costs	Cost per Sample*
Assay Set Ref #1	\$25
Assay Set Ref #2	\$158
Assay Set Ref #3	\$169
Assay Set Ref #4	\$190
Assay Set Ref #5	\$113
Assay Set Ref #6	\$82

#Based on quotation from ALS Environmental

APPENDIX C

REVEGETATION AND SURFACE MATERIALS HANDLING PLAN

**REPORT ON
REVEGETATION & SURFACE MATERIALS HANDLING PLAN
FOR THE SNAP LAKE DIAMOND PROJECT**

GOLDER ASSOCIATES LTD.

**Submitted to:
De Beers Canada**

February 14 2003

03-1322-017

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1 INTRODUCTION

This report is separated into two sections. The first section provides an overview of available literature pertaining to northern reclamation and revegetation, methods and results. Following this, are the details of the Snap Lake Diamond Project (the Project) reclamation plan that is intended to build on the existing literature and supplement the reclamation section of the Snap Lake Diamond Project EA (Appendix III. De Beers 2002). Information provided in the EA is not repeated here. Reclamation components addressed in this report include: progressive reclamation of the north pile; the direct placement of surface materials; the salvage and stockpiling of surface materials; the use of salvaged peat and surface materials for future reclamation; soil amendment options; the use of seed-mixes and northern species for revegetation; and, transplanting and monitoring.

This proposed Revegetation and Surface Materials Handling plan forms part of the Closure and Reclamation Plan prepared to meet the Indian and Northern Affairs Canada (INAC) guidelines for the closure and reclamation of northern mines. The Mine Site Reclamation Policy for the Northwest Territories provides a clear standard for industry and other stakeholders for sustainable and responsible mine development in the North (INAC 2002). However, guidelines as to the details of revegetation standards and measurable end-points for measuring the reclamation goal are not provided. In the absence of detailed regulations, procedures and measurable reclamation end-points from INAC, De Beers proposes this reclamation plan to achieve the broad goal, or reclamation standard, as stated by INAC in the Mine Site Reclamation Policy for the Northwest Territories (INAC 2002):

The required standard for reclamation should be based on the 1994 Whitehorse Mining Initiative definition: "returning mine sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities."

Details in terms of revegetation methods and surface materials handling will be determined during the regulatory process.

It is important to stress that the proposed reclamation plan will be implemented using an adaptive management approach due to the relative infancy of arctic reclamation, and the absence of revegetation details. The proposed reclamation plan will be modified accordingly to implement new and innovative reclamation procedures as they are identified and as monitoring programs provide information on the success of various procedures. Therefore, a very detailed reclamation plan in terms of site specific and time specific activities is not

provided. Rather, a more conceptual approach is offered that provides some spatial information and possible timing for reclamation activities that are anticipated, the sources and use of surface materials, and recommended methods and suitable species for revegetation.

Complete site reclamation and revegetation in northern latitudes is expected to be a process that may take decades. Cargill et al. (1987) states that natural invasion of shrubs is a slow process that may take 50-100 years to completely restore the original community. Harper and Kershaw (1996) report that nonvascular plants such as various lichen species can return in under five decades. With the aid of a well-planned reclamation/revegetation plan complemented by the use of a natural revegetation program, the Project can be encouraged to develop along a successional sequence designed to provide equivalent land capability. Slow vegetation growth resulting from cold climatic conditions, a short growing season, and poorly developed soils with limited nutrients combine to hinder rates of revegetation.

2 LITERATURE REVIEW OF NORTHERN RECLAMATION METHODS

2.1 BENEFITS OF USING LOCAL SURFACE MATERIALS

When considering the revegetation of disturbed sites in the Arctic, by native plants, the single most important factor is the preservation or replacement of the upper organic layer of the soil (Shaver et al. 1983). The organic layer is important because: (1) it contains a large readily germinable seed pool; (2) germination rates of native seeds are higher in organic soils than mineral soils; (3) it provides insulation thereby reducing soil thaw and thermokarst erosion; and, (4) in later stages of recovery, it may reduce nutrient movement and nutrient losses from the soil.

Given these results, Shaver et al. (1983) recommend the following methods for management of development related disturbances: (1) replace the natural organic soil, particularly the upper layers, which contain the 'most seed; (2) fertilize lightly only in the first year or two; (3) do not broadcast seed except where erosion potential is great or the original organic mat is lost; (4) do not fertilize old disturbances; and, (5) mulch or add peat to the soil of old disturbances to create a more natural soil, with a more natural vegetation species composition.

A study conducted by Gartner et al. (1983), found that revegetation success was dependant on stockpiling organic soil and then returning it to the site following the disturbance. The stockpiled organic soil contained sufficient cottongrass (*Eriophorum* spp.) and sedge (*Carex* spp.) seed to effectively colonize the disturbance. Other tundra organic soils contain similar buried seed sources that can colonize a disturbance. In addition, most tundra vascular plants are effective at vegetative propagation, so that any tillers or stems remaining alive within the organic material may enhance revegetation. The organic layer can also provide a nutrient reservoir that provides nutrients similar to a slow release fertilizer (Chapin and VanCleve 1978). Organic materials can minimize frost heaving of newly transplanted seedlings and may contain mycorrhizal fungi that can enhance seedling growth.

Many researchers agree that soil salvage and reconstruction is the single most important element in creating a suitable environment for sustained plant growth on northern sites, particularly where the surface materials are coarse, consisting primarily of rock, gravel and sand (Johnson 1987). Soil can usually be reconstructed by reusing organic material, fine-grained sub-soils and selecting appropriate plant species that not only grow well on the existing soil but also aid in reconstructing a soil amenable to plant growth.

Substrates currently being salvaged and stockpiled at the Ekati diamond mine include mixtures of till and lake sediment, and the uppermost layer of tundra soils removed during pit or other mine site construction activities (Kidd and Max 2002). The stockpiles are being treated with fertilizer and seeded to native grass cultivars to stabilize the soil as well as maintain and improve physical and biological soil properties.

Harvey Martens and Associates (2002) also reported that reclamation studies at the Ekati diamond mine indicate that natural soil micro-organisms are needed for nutrient absorption, decomposition and nutrient cycling, processes that are essential to establishing stable plant communities without repeated fertilizer applications. To aide in this function, BHP-Billiton initiated a program to gather and apply soil from the surrounding area. The microbial and fungal inoculation contained in the transfer soil is also expected to be beneficial to growth. However, it may take several years before the microbial and fungal species become well established, and their effects on plant growth become apparent. This, in part, is due to the cold climate and short frost-free season.

At the Ekati diamond mine, BHP-Billiton has had success in creating soil pockets using sources from transplanted vegetation 'islands' complete with soil and soil micro-organisms (Reid 2002). Plugs of tundra vegetation have been planted including a variety of native shrub species such as willows (*Salix spp.*), birch (*Betula spp.*) and blueberry (*Vaccinium spp.*). The transplanted 'islands' have been placed in appropriate landscape features such as depressions and spaces in rock piles that provide some protection and allow for moisture and sediment collection.

Growth trial experiments at the BHP-Billiton Ekati diamond mine showed that coarse texture, no organic component and lack of available macronutrients were the principal limitations to plant colonization (Reid 2002). Structural improvement and nutrient-providing amendments were successfully used to ameliorate the limitations, thus facilitating the establishment of a vegetation cover. In addition, Reid (2002) used native species, with soil, from the surrounding tundra vegetation. Seven native grass species (*Arctagrostis latifolia*, *Calamagrostis canadensis*, *Poa glauca*, *Poa alpina*, *Deschampsia beringensis*,

Festuca rubra and *Deschampsia caespitosa*) were used to measure amendment success. All of these species are native cultivars developed for reclamation in alpine and northern latitudes and have good erosion control growth forms and a high potential to facilitate native invasion on disturbed sites (Mitchel 1980). The most successful amendment combinations included peat moss or papermill sludge in combination with biosolids from the mine site.

Reclamation programs at the Ekati diamond mine have found that surface recontouring and landscaping have become important initial steps in creating site conditions conducive to revegetation (Kidd and Max 2002). Surface roughness, provided either by the placement of boulders or by creating more hummocky terrain, results in micro habitats that protect plants from harsh winds and periods of high summer temperatures. Other benefits include enhanced snow capture and drainage regulation, thereby increasing soil moisture in early summer. Boulders also improve visual integration of mine disturbances with the surrounding tundra, where boulders dominate much of the landscape. In addition, stockpiled material may be used as a top-dressing in the future to improve conditions for plant growth in some disturbed areas.

2.2 SOIL TEXTURE & NUTRIENT AVAILABILITY

BHP-Billiton has also collected sediment that has been salvaged or collected from sediment traps and catch basins and used this to provide a top dressing prior to vegetation application. On-going research at the Ekati diamond mine has shown the importance of providing finer textured soil for reclamation and revegetation (Reid and Naeth 2001). Perennial cover was the best on small plots with lake sediment and gypsum amendments. However, any plot with lake sediment had a relatively good perennial species cover.

Small plots with sewage sludge also produced good perennial ground cover, as high as 60%. The use of sewage sludge from the Ekati diamond mine has been identified as an effective local source of macro-nutrients (Reid 2002). The use of sewage sludge as a soil amendment is becoming increasingly appealing as research supports the benefits of its use and combats the potential coliform-related health risks associated with application. These products are often inevitable by-products of resource development. There is no purchase cost involved with this waste produced at the mine. Research on nutrient run-off loss comparing sewage sludge to commercial fertilizer suggests that, when incorporated into the soil surface, sewage sludge exhibited macronutrient leaching rates equal to or lower than those of fertilizer amended soils (Dunigan, and Dick 1980).

Research on coliform survival in surface applied sewage sludge suggests that health threats posed by coliform levels are temporary as survival is reduced with time (Edmonds 1976). Research results indicated that 64 days after sewage sludge application in summer, coliform levels were reduced by almost 84% of original levels. Coliform levels were less than 1%, 200 days after application. With winter application, the rate of survival was even more reduced and Edmonds reported that, 162 days after application, 0.02% of the original coliform levels were present and, after 365 days, 0% remained. The U. S. Code of Federal Regulations for waste discharge recommends 200 colony-forming units (CFU) 100 ml^{-1} (Dunigan and Dick 1980).

A late fall or early spring application of sewage sludge greatly reduces high bacterial counts to the level where they will not pose a health risk after approximately one to two months following application (Dunigan and Dick 1980). Dry conditions and/or cool temperatures accelerate this bacterial degradation (Meeting 1992).

Some studies have shown that the potential for natural and assisted revegetation strongly depends on moisture availability, particularly for seedlings and juvenile willows (Forbes 1997). Total soil nitrogen was also found to be important to revegetation success. Without the addition of topsoil, succession on placer mine spoil depended largely on (1) the proportion of sub-sand size particles, and (2) substrate consolidation and stability. The slowest succession was on unconsolidated piles of processed spoil with few sub-sand sized particles. These sites remained largely barren, even after 50 years.

Fertilization improves native plant recovery immediately after the disturbance but, after 5-10 years, it may prevent reestablishment of normal species composition. Seeding with non-native plants either has no effect on long-term recovery of native species, or reduces the recovery of native species. Non-native species are particularly effective at reducing recovery of native plants if the site is also fertilized (Shaver et al. 1983).

While reclamation procedures will assess various amendments, it is also recognized that efforts are not always successful. Forbes and Jefferies (1999) report that the addition of fertilizer will only change abundance of species in the short term, but may lead to increased herbivory and reduction of plant cover. In a number of rehabilitation schemes, natural revegetation of disturbed landscapes has occurred without assisted revegetation and the addition of fertilizers, but rates of colonization, establishment and growth are typically slow (Forbes and Jefferies 1999).

2.3 TRANSPLANTING AND SPECIES SUITABILITY

The native species, island colonization approach focuses on the establishment of islands or patches of native plants that will expand in size and will provide seed that will disperse to adjacent areas, possibly creating new distant islands from the original islands (Smyth 1996, Bittman 1997). Similar programs have been proposed or developed at other mines in the world (Scherer and Everett 1998). Sharman and Smyth (2002) researched the progression of native species island establishment on high elevation waste rock dumps. Species considered suitable for transplanting were selected based on ecosystem restoration functions such as addition of soil structure, organic matter and nitrogen, wildlife forage value, and ease of seed collection and plant establishment. Suitable tree, shrub, forb and grass species included wheatgrasses, sedges, fescue, bluegrass, wormwood, fireweed, vetches, locoweed, cow parsnip, alders, bearberry, birch species, wolf willow, currants, roses, red raspberry, willows and blueberry species. Trees used included tamarack, Englemann spruce, lodgepole pine, balsam poplar and trembling aspen.

Appropriate microsite placement of islands is also important to successful transplanting. Moisture distribution is perhaps the most important factor in siting islands (Sharman and Smyth 2002). Timing is also a factor – spring planting was found to be more successful since the planted island had a growing season to anchor itself into the medium, thus preventing “frost-popping”.

In addition to the transplanting of islands from the adjacent landscape, nursery-propagated seedlings from collected local seed may be transplanted on reclaimed sites. In this application, the most important factor governing survival of the nursery plant is adequate root development (Sharman and Smyth 2002).

2.4 SPECIES PERFORMANCE

Sharman and Smyth (2002) found that shrubs in general had a good survival rate but did not produce seedlings outside of the islands. Scrub birch (*Betula nana*) was the best performing shrub. Most of the grasses produced viable seed, as indicated by the presence of numerous seedlings. The best performing grass species were alpine bluegrass (*Poa alpina*), alpine fescue (*Festuca brachyphylla*), and timberline bluegrass (*Poa glauca*). Several forbs also consistently performed well including alpine milkvetch (*Astragalus alpinus*), Bering's chickweed (*Cerastium beringianum*), boreal sandwort (*Minuartia rubella*), Indian milkvetch (*Astragalus aboriginum*), showy locoweed (*Oxytropis splendens*), purple milkvetch (*Astragalus agrestis*) and yarrow (*Achillea millefolium*).

Forbes and Jefferies (1999) report that *Puccinallia langeana* and *P. arctica*, indigenous to the north, have proven to be very effective at colonizing a wide range of habitats, including bare gravel sites. In addition, these grasses are prolific seeders and produce seed within two years. Some common Arctic legumes having potential as early colonizers, well adapted to dry, gravelly sites include: *Astragalus alpinus*, *Hedysarum alpinum*, *Hedysarum mackenzii*, *Oxytropis campestris*, *Oxytropis viscida*, *Aremisia spp.* and *Epilobium latifolium* (Forbes and Jefferies 1999). Some of these species were reported in the vicinity of the proposed Snap Lake Diamond Project and would be suitable for inclusion in seed collection and transplant programs.

Kershaw and Kershaw (1987) found that *Hedysarum alpinum* was broadly successful, naturally colonizing abandoned gravel quarries in northwestern Canada. Forbes (1997) reported that *Festuca ovina* was among the most important and frequent plants to colonize both disturbed and undisturbed vegetation, during studies conducted on anthropogenic primary surfaces in northwestern Siberia.

Some researchers have had success in sowing and planting riparian legumes on gravel pads (Bishop and Chapin 1989). They noted that endemic plant species that had successfully colonized riparian gravel bars were also successfully transplanted to reclaimed gravel pads. It appeared that these species were well adapted to coarse substrates with low nutrient availability.

Eriophorum species were found to be particularly suitable for seed collection and application (Gartner et al. 1983). It is a prolific seed producer and the seeds are relatively easy to collect, clean and handle. In addition, *Eriophorum* seeds remain viable for over five years, under refrigerated conditions. Gartner (1983) reinforces that revegetation practices that capitalize on the demographic patterns of native plant species are likely to be more effective and less expensive than the practice of repeated fertilization and seeding with exotic grasses.

Research conducted on reclaimed sites at the Ekati diamond mine demonstrated that Bering and Norton hairgrass and Arctic fescue outperformed other test species in the third growing season. Alpine bluegrass also provided a low but relatively uniform cover (Harvey Martens and Associates 2002). Second year willow cuttings had a poor rate of survival, likely due to poor soil moisture conditions, and birch and blueberry were the most successful. The best success of shrub establishment occurred on lower slopes where soil moisture content was higher. Dwarf birch, reflexed locoweed and *Hedysarum spp.* performed excellently, particularly where surface shape and rock piles provided protection from desiccation. Soil moisture retention was also enhanced with the addition of peat.

Kershaw (1988) conducted research on the potential for native grass populations to be used for northern revegetation. This study found that some grasses native to northern regions, such as polar grass (*Arctagrostis latifolia*) and bluejoint reedgrass (*Calamagrostis canadensis* [Michx.] Beauv.), have a slow early growth rate. These are poor candidates to provide initial erosion control, but are useful for long-term soil stabilization. Others, such as violet wheatgrass (*Agropyron violaceum* [Hornem] Lange) and fowl bluegrass (*Poa palustris* L.) which are among the primary invader species of disturbed areas, have a very rapid early growth rate and are extremely useful for initial erosion control. Both types of grasses are essential for successful revegetation while native legumes and other forbs also have a place in reclamation.

Test sites at 67 degrees north latitude in the Richardson Mountains, Yukon, indicated that, after seven growing seasons, the most successful species were tickle grass (*Agrostis scabra* Willd.), hairgrass (*Deschampsia caespitosa* [L.] Beauv.), sheep fescue (*Festuca ovina* L.), alpine bluegrass (*Poa alpina* L.), and glaucous bluegrass (*Poa glauca* M. Vahl.). These species were adapted for long-term survival and can be considered suitable candidates for northern revegetation projects (Kershaw 1988).

Kershaw (1988) concluded that, it was clear that each northern selection considered for a seed source should be tested for germination and seed purity. It was also apparent that seed having high germination percentages can be obtained from northern stock material. Regardless of the germination percentages achieved in controlled test conditions, plant emergence in the field will only be a small fraction of that achieved in the laboratory (Brown 1985). From these data, one can infer that real-world environmental conditions will be the major factor that will determine the amount of seedling emergence, not a laboratory germination percentage difference of 1 to 5%.

Reclamation research conducted at the BHP-Billiton Ekati diamond mine has provided a variety of successes and recommendations (Harvey Martens and Associates 2002). The two species of hairgrass, Norton and Bering, Arctared fescue and Gruening alpine bluegrass continue to be the most successful seeded grasses after three growing seasons. Alkali grass, a native grass invading seeded plots, appears well adapted to growth and is well adapted to a wide range of moisture conditions. Bluejoint (*Calamagrostis canadensis*) performed poorly in the 2000 and 2001 study plots due to inadequate soil moisture. Distans alkali grass (*Puccinellia distans*) appears to have a wide range of tolerance to moisture conditions and is well adapted to growth on processed kimberlite in tailings ponds, on sandy to wet sites. Transplanting native grasses and sedges into wet lower slope positions of the Ekati Long Lake Containment Facility appeared to be successful based on results from the first growing season (Harvey Martens & Associates 2002)

Strategic placement of seedlings and adequate cover is important to survival. Protection from the elements, provided by a taller, more uniform third-year grass cover in the Ekati 2000 study plots resulted in superior seedling survival and growth when compared to the 2001 plots where the seedlings were more exposed (Harvey Martens and Associates 2002).

2.5 REVEGETATION RECOMMENDATIONS – BHP-BILLITON EKATI DIAMOND MINE

Recommendations from the Ekati research program for both upland and lowland locations, include the following (Harvey Martens and Associates 2002):

(1) Upland Areas:

- Blend to incorporate approximate equal seed numbers, row seeded at 15 kg/ha using, Arctared creeping fescue, Sheep fescue, Norton hairgrass, Glacier alpine bluegrass, Violet wheatgrass, Distans alkali grass.
- Suitable containerized seedling stock for native species islands includes dwarf birch, reflexed locoweed, white dryas, blueberry and fireweed. Others species found suitable will likely be added as assessment of native plants continues.
- Spencer-Lemaire Hillson Rootainers are recommended for seedling production. Seedlings should be planted in spring to minimize frost-popping, in same-species clusters to improve pollination efficiency. A stocking rate of 4 seedlings/m² on average or 1600 seedlings per island is recommended, assuming a survival rate of 70%. Species mix should include legumes for nitrogen fixing capability.
- Where direct seeding of native species is used, refinements in processing of native seed (e.g. separating fireweed seed from its fluffy cotton) may improve the success of direct seeding. Depending on success of direct seeding and the volume of available seed, species may be direct seeded into areas outside of the islands. Candidate species for direct seeding include *Hedysarum* and fireweed. Others will be added as research continues.
- A good fertilizer regime at Year 1 was a mixture of 10-30-10 (N, P₂O₅, K₂O) applied at 100 kg/ha and 33-0-0 applied at 25 kg/ha, at the time of row seeding.
- A suitable fertilizer for years 3 to 7 was a mixture of 10-20-10 at 200kg/ha and 33-0-0 at 50 kg/ha, broadcast applied by helicopter. Application rate and formulation was subject to change based on results of the monitoring program.

(2) Lowland Areas:

In lowland areas a grass/sedge mixture, broadcast at 15 kg/ha using bluejoint reedgrass, Distans alkali grass, Polar grass, water sedge and cottongrass species was successful. This mix is recommended for incised channels. Locally collected seeds of water sedge and cottongrass may also be applied as containerized stock.

Other recommendations include:

- Transplant willow islands from containerized stock collected from the surrounding area.
- Use a fertilizer regime in year 1 at a mixture of 10-30-10 N, P₂O₅, K₂O at 200kg/ha and 33-0-0 applied at 50 kg/ha at the time of seeding, to assist in the establishment of seedling cover.
- In subsequent years additional applications should be made only if it is judged necessary.

Additional research at Ekati diamond mine indicated that orientation of individual plants and groups of plants can also have a strong effect on substrate erosion (Reid and Naeth 2001). Planting in rows reduces the ability to protect a surface from erosion whereas more random vegetation cover of the same total ground cover will provide a much higher level of erosion protection.

2.6 NATIVE SEED COLLECTION

Researchers have had success using equipment such as gas powered vacuums and seed strippers, to expedite seed collection (Sharman and Smyth 2002). Depending on the species and location, collection typically takes place from August through to October. Separation and processing of the seeds takes place after drying and involves a number of treatments that are often species specific.

Once collected and treated, the seeds are typically placed in a nursery operation that may be operated at the mine site. Seeds are germinated and placed in a suitable growing media, where the addition of native soil is the most important addition, since it serves as a source of symbionts such as mycorrhizal fungi and nitrogen fixing bacteria (Sharman and Smyth 2002). Other important considerations included pH, nutrients and additional mycorrhizal inputs.

Sharman and Smyth (2002) found that most of the species selected for the native island program can be established by direct seeding. Grass species were found to be particularly suited to this method of establishment, and numerous suitable native grass species are commercially available.

2.7 NATIVE SPECIES AND WILDLIFE HABITAT

There is little research available that provides information on the success of various reclamation activities for wildlife habitat use. However, some suitable reclamation species are recognized as having important value as forage, cover and other wildlife habitat needs.

Research conducted at the Ekati diamond mine (BHP-Billiton Ekati, Volume III Section 9, 1995) identified the following species as valuable for wildlife forage: tundra bluegrass (*Poa glauca*), alpine bluegrass (*Poa alpina*), Alaska polar grass (*Arctagrostis latifolia*), arctared fescue (*Festuca rubra*), tufted hairgrass (*Deschampsia caespitosa*), black crowberry (*Empetrum nigrum*), avens (*Dryas octopetala*), and species of *Hedysarum*, *Oxytropis*, *Astragalus*, *Artemisia*, *Salix*, *Betula* and *Vaccinium*.

3 REVEGETATION AND SURFACE MATERIALS HANDLING PLAN

3.1 RECLAMATION OBJECTIVES

The primary objective of the De Beers Snap Lake Diamond Project reclamation plan is to meet the end land-use objectives for the mine area. At the time of this report, the end land-use objective is to re-establish a landform that is consistent with surrounding conditions and will be suitable for the establishment of native vegetation.

The term 'equivalent land capability' has been used in other regions to provide a terms of reference for a reclamation goal. The Mine Site Reclamation Policy for the NWT (INAC 2002) states that the required standard of reclamation should be based on the 1994 Whitehorse Mining Initiative definition of a reclamation goal:

“returning mine sites and affected areas to viable and, whenever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities.”

The Mine Site Reclamation Policy for the NWT (INAC 2002) does not provide details as to reclamation standards or measurable end-points for assessing reclamation success. Therefore, De Beers proposes this reclamation plan to achieve the broad goal or reclamation standard provided by INAC.

3.2 PROGRESSIVE RECLAMATION DURING DEVELOPMENT AND OPERATIONS

The Snap Lake Diamond Project EA (De Beers 2002) provides general information on the reclamation, decommissioning and closure of the mine. This report provides supplemental information in terms of reclamation and revegetation activities considered suitable during operations, closure and post closure.

As this Project is an underground mine operation, the majority of reclamation will be implemented upon closure of the facility. During development and operations, there will be some opportunity to progressively reclaim portions of the north pile as well as any other surface areas that may be entirely or partially decommissioned and abandoned prior to closure (e.g., laydown areas, road sides, etc.).

3.3 PROPOSED RECLAMATION METHODS

Based on a review of the literature and the results of previous reclamation programs, De Beers will complete an adaptive reclamation program that considers and implements methods from various research sources. The following provides a summary of practices that will be explored and used where practical:

- progressive reclamation;
- soil and surface material salvage, stockpiling and application, when technically practical;
- direct placement of surface materials, where feasible;
- sediment catchment operations;
- seed collection, treatment and application;
- use of nursery grown seedlings from local seed sources;
- seed mix designs consisting of northern species and/or cultivars of these species;
- appropriate re-contouring and management of surface features to provide suitable microsites for revegetation;
- transplanting of native vegetation islands, with consideration of appropriate physical site characteristics;
- species-specific planting regimes that consider soil nutrient and moisture conditions and physical site conditions;
- transplanting and seed collection programs that consider suitability and success of species for revegetation;
- use of sewage sludge as a soil nutrient amendment, and an assessment of potential human and wildlife risks;
- use of treated sewage effluent as a source of nutrient rich water; and
- continued research and monitoring to maintain a successful reclamation program that is adaptive and responds to on-going research findings.

3.4 RECLAMATION SCHEDULE

Careful sequencing of events during construction, operations and closure will allow for the optimum use of surface materials, local sources of native vegetation, and good sources of soil and organic matter. Surface material salvage and replacement is a critical factor affecting the revegetation schedule. The following sequencing of reclamation activities is directed towards identifying and using surface materials:

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- Identification of the nature, surface area and volume of surface materials;
 - Identification of the extent and location of sources of topsoil and organic matter;
 - Pre-construction stripping and stockpiling of surface materials;
 - Landform grading and contouring;
 - Direct placement of surface materials, where possible
 - Reclamation material placement plan;
 - Fertilizing/soil amendments; and,
 - seeding/transplanting of appropriate species.

Temporary revegetation for erosion control may be required on very select areas, such as stockpiles with a high component of fine-grained soil. Revegetation will be implemented as soon as feasible following reclamation material placement, thereby allowing the desired vegetation adequate time to establish during the current growing season, and providing erosion control early in the reclamation program.

In general, northern environments are very limited in terms of the availability of appropriate topsoil materials for use in reclamation. In the Snap Lake Project area, much of the local study area is dominated by health-boulder vegetation type, where topsoil is largely lacking or very shallow, and where boulders dominate much of the surface cover. The prevalence of this terrain type further limits the availability of topsoil and sources of organic matter.

However, it is also recognized that it may be appropriate to salvage and replace surface materials, even where the organic matter and soil quality and quantity is poor, given the paucity of this resource in the north, and the very slow soil building processes of cold climates. During the early stages of the reclamation schedule, De Beers will endeavor to salvage all available surface materials and will assess the success of such activities, particularly where the surface materials are very limited in terms of soil and organic matter content. It may be identified that the salvage and replacement/direct placement of surface materials with poor soil quality and quantity does not advance the reclamation program, and that efforts would be better placed elsewhere. Monitoring programs will be conducted to assist with this assessment.

3.5 SURFACE MATERIALS HANDLING

This section provides a description of the surface areas available in the Snap Lake Diamond Project Local Study Area (LSA) and a description of the surface materials handling program that will be conducted.

3.5.1 Surface Materials in the Local Study Area

The Snap Lake Diamond Project is located in the NWT, Canada, in the Taiga Shield Ecozone, in the High Subarctic Ecoclimatic Région. Throughout the taiga, cool air temperatures, a short growing season, geology, and recent glaciation have resulted in lower biological productivity and diversity than in the more southerly parts of Canada (Environment Canada 2001). The few plant species that thrive have adapted to the harsh climate and poor soils. Because of the cold conditions, vegetation decomposes slowly, resulting in poor soil development and, in wet areas, the accumulation of peat. The presence of permafrost acts to further limit soil development and rates of decomposition (Environment Canada 2001).

The vegetation cover in the LSA was mapped and field truthed for the Snap Lake Diamond Project EA (De Beers 2002). Although seven Ecological Land Classes (ELCs) are identified, the vast majority of the LSA is dominated by two ELC types, which provide 85% of the cover in the LSA. The heath/boulder unit makes up 54.7% of the LSA, and the Deep water ELC provides 30.9% of the cover. The deep-water unit will not be directly impacted and does not provide a source for surface materials. The heath/boulder vegetation type is an open mat plant community that transitions between boulder fields. As such, vegetation and organic matter is limited by the presence of boulders, which account for up to 80% of the ground cover. The prevalence of this vegetation type in the LSA acts to further reduce the availability of soil and organic matter resources for use in surface material salvage, stockpiling and replacement.

3.5.2 Surface Materials Salvage, Handling and Distribution

Soil quantity is very limited at the Project site. Potential soil salvage sources will be located and volumes calculated prior to construction. Therefore, it will be possible during operations to salvage surface materials suitable for future reclamation. Surface materials that are relatively fine textured and/or high in organic matter are potentially suitable as a surface amendment material and will be stored for future placement. In addition to fine textured materials and organic matter, surface materials often harbor propagules such as seeds, spores, roots, and stolons that may expedite revegetation. These stockpiles will be contoured

and seeded with a temporary cover to reduce erosion potential and provide a future seed source.

Ecological land class units (ELCs) associated with the Project that will be disturbed or removed may contain surface materials suitable for reclamation in volumes that will allow for adequate replacement. These ELCs include heath tundra, open/closed spruce forest, mixedwood deciduous forest, birch seep, riparian tall shrub, tussock-hummock and sedge wetland. It is uncertain to what extent such reclamation materials will degrade overtime. Where materials consist primarily of organic matter, with little mineral soil content, it's possible that desiccation may result in volumes too low to be useful. These materials may be better suited for direct placement if feasible.

The use of sediment settling basins will be explored to determine optimum locations, potential volumes and how best to utilize the collected material. De Beers will also review existing literature and determine methods for soil improvement and the addition of macronutrients as required. Reclamation material may be comprised of a blend of organic material and fine textured soils that will provide an adequate moisture retention capability and the capability to support erosion-resistant vegetation cover.

3.5.3 Surface Material Stripping and Storage

3.5.3.1 Stockpile Storage Locations

Based on available borehole data, areas expected to contain suitable surface materials for reclamation are available at the proposed westward extension of the airstrip, the mine infrastructure areas and the north pile during various stages of mine construction and operation.

Locations for storage and stabilization of reclamation materials include the lay-down areas (yards) that will become mostly vacant as construction nears completion. It is anticipated that the west yard will have available space throughout construction and operations. In addition, the area within the north pile designated as the west cell will provide a suitable stockpile area during construction and in the early years of operations. Following construction, it is expected that the west yard will be fully available and only a small portion of the east yard will be used for waste transfer/storage, leaving most of the yard area available for reclamation material storage. It may also be possible to stockpile suitable reclamation materials near the airstrip providing stockpiles do not encroach onto the 75 m wide operating surface, or into the operating 'envelope' (defined as a 150 m wide area above the operating surface elevation), which requires good surface grading and drainage.

3.5.3.2 Surface Material Stripping

Surface material stripping will occur prior to installation of surface facilities. Surface material stripping will occur on the footprint of the mine infrastructure, airstrip expansion area and the laydown areas. Materials will be stockpiled at the west lay-down area, where additional space is anticipated, and possibly the west cell of the north pile, if additional space is required.

Depending on available soil quantities, most of these materials will be stored on contoured surfaces of the west yard, in preparation for revegetation. During operations and at closure, the stockpiled surface materials will be used as a surface amendment, prior to revegetation activities. Focus areas for the application of stockpiled reclamation material will be those areas that are in need of fine-textured materials, organic material or a blend of available material to enhance plant growth.

3.5.4 Progressive Reclamation of the North Pile

The Snap Lake diamond mine is a subsurface operation. Therefore, the only disturbed area that provides an opportunity for progressive reclamation is the north pile. The north pile will be developed in three stages or cells, providing the opportunity to reclaim each cell as it is closed or capped. These cells are, in chronological order, the starter cell, the east cell and the west cell. As each cell of the north pile is filled with processed kimberlite and capped with granite, it will be progressively reclaimed. The application of surface materials and their immediate, direct placement onto a recontoured surface, will be optimized.

The term 'direct placement' refers to the direct removal of surface materials from one site and their immediate placement onto another site that is ready for revegetation. There are many benefits to the direct placement of mineral or organic soil and other surface materials. This material often provides an appropriate growth medium that may be rich in organic matter, fine-textured sediments and microorganisms. Such materials are associated with revegetation success, particularly where endemic species are favored. The materials often contain an abundance of seeds, spores, stolons, roots and rhizomes thus providing an immediate and local source of plant propagules. Further to this, the immediate placement of these materials ensures that the propagules are not overly subjected to burial, and additional disturbance and desiccation thereby resulting in faster and more abundant rates of revegetation. Mycorrhizal fungi, beneficial to nutrient cycling and efficient vegetation growth, are also present in salvaged soil and can survive direct placement.

Areas that have been identified as suitable sources and locations for the direct placement of surface materials include the starter cell and the east cell of the north pile.

3.5.4.1 Starter Cell

The starter cell will be prepared for receiving processed kimberlite (PK) at start-up. Prior to PK deposition, surface materials of the starter cell will be stripped and stockpiled at the west yard. During this time, a quarry will be developed on the east cell. Surface materials from the quarry will also be stripped and stockpiled at the west yard. If the west yard is full, the west cell of the north pile will be used as a storage site. The surface material within the footprint of the north pile is primarily a thin layer of boulders and plant material (1-2 metres), with little mineral soil or organic material. The proposed east cell site is located where a small polygon with a peat depth of 3 m was recorded. This may be a potential site for organic material complete with propagule source.

At approximately year 2, the starter cell will be complete and will be capped with granite, and development of the east cell will begin. At this time surface material from the east cell will be directly placed onto the starter cell. Both organic and other surface materials are considered suitable for direct placement.

An area of the starter cell has been identified as a storage site for granite that will eventually be removed from the west cell. This area will not receive surface materials from the east cell.

For successful reclamation it will be important to place surface materials in appropriate locations. Well-drained materials will be placed on upper and mid-slopes, slope crests and convex surfaces of the north pile. Poorly drained surface materials will be placed on lower slopes, depressional areas and concave surfaces of the north pile. Since most of the surface materials of the north pile footprint consists of boulder-heath and heath-boulder ELC units, direct placement onto a coarse and well-drained surface may provide suitable physical conditions for endemic revegetation.

3.5.4.2 East Cell

At approximately year 12, the east cell will be capped with granite and development of the west cell will begin. At this time it will be possible to directly place surface materials from the developing west cell, onto the capped east cell. Since there is no additional disturbance planned for the east cell and because the west cell is larger in area, it is anticipated that the entire east cell will be treated with the direct placement of surface materials from the west cell.

Following direct placement of surface materials on areas of the north pile, it may be recommended to use stockpiled surface materials as an additional amendment, to provide fine-textured sediment and organic matter where needed. This will depend on the success of stockpiling, the need for stockpiled materials at closure, and the volumes available for surface amendment.

3.5.4.3 North Pile Plan Summary

To summarize, the approximate stages of progressive reclamation and surface materials placement on the north pile during operations and at closure include:

- Strip and stockpile surface materials from the starter cell and the east cell quarry – year 1.
- Complete placement of PK and begin capping of starter cell with granite – year 2.
- Begin placement of PK in east cell – year 2.
- Directly place stripped surface materials from the east cell onto suitable surfaces of the starter cell: place wet, poorly drained materials onto lower slopes and depressions and place coarse, well drain materials onto upper slopes of the starter cell - year 2.
- Stockpile unused surface materials from the east cell at the laydown area (west yard) - year 3.
- Commence capping of completed portion of the east cell with granite – year 6.
- Commence west cell quarry development– year 6.
- Commence placement of PK in west cell – year 12
- Directly place stripped surface materials from the west cell onto the east cell. Place materials in appropriate locations such that physical conditions of materials from the west cell (slope, aspect, slope position) are similar to those of placement locations on the east cell – year 6-12
- Pack down surface materials.
- Commence capping of completed portion of the west cell with granite stockpiled on the starter cell – year 17.
- Place stockpiled materials from the laydown area onto the west cell and the storage area of the starter cell – year 22.
- Assess and use sources of sediment and sewage sludge collected from the water management ponds - years 2-22.
- Implement and monitor direct placement, island transplant programs, seed collection and use, seedling planting and other revegetation programs throughout operations and after closure - years 1-25.

3.5.5 Surface Materials Placement at Closure

The areas that will require reclamation upon closure include the mine infrastructure footprint, the west cell, the granite storage area of the starter cell, the airstrip, storage bunkers, lay-down areas and the esker. At closure, development will cease and there will be no new disturbances to provide surface materials for direct placement. Therefore, reclamation will focus on recontouring, placement of stockpiled materials, if available, and revegetation techniques.

As areas are decommissioned, they will be graded and recontoured. Following this, the suitable application of stockpiled surface materials will be assessed, and materials will be placed appropriately. As the revegetation program progresses, the use of soil amendment materials will be identified. Generally, where the location, surface materials and species indicate a need for the addition of fine soil and/or organic matter, materials will be used appropriately.

3.5.6 Reclamation of the Esker

In addition to disturbances within the Local Study Area, there will be surface disturbance to the esker, that has been identified as a source for necessary granular materials. The reclamation plan for the esker is as follows:

- minimize the number and spatial extent of disturbances;
- recontour to promote a natural landscape, and natural regeneration, colonization and encroachment of the adjacent vegetation;
- use progressive reclamation techniques;
- monitor for reclamation rate and success; and
- implement adaptive management strategies, as needed.

The impact to the esker is relatively small and localized, consisting of approximately 0.5 hectares. Natural encroachment and vegetation establishment will be encouraged to proceed through recontouring of the landscape to that consistent with the surrounding terrain. In addition, after the initial disturbance, subsequent disturbances will employ direct placement of surface materials from the new disturbance area onto the old disturbance. This will ensure optimum use of surface soil, vegetation and propagules and may enhance the rate and quality of revegetation. Periodic monitoring will be used to

indicate the rate of revegetation and to identify the need for additional revegetation measures, such as reseeding and planting programs.

3.6 SOIL AMENDMENT

Due to the lack of topsoil materials and organic matter in northern environments, operators are often challenged to identify innovative methods and sources for the amendment of surface materials, to provide necessary nutrients and organic matter. Methods that may be appropriate and have been explored by other developers in the north include the use of sewage sludge and the application of treated effluent water.

3.6.1 Sewage Sludge Amendment

Sewage sludge produced on-site can provide an additional soil amendment and nutrient source and has been proven to increase perennial ground cover without serious, lingering pathogenic concerns. This nutrient source can also provide a ready source of colonizing microbiota and their associated benefits to vegetation including improved nutrient cycling for particular species. In addition, appropriate treatment and application can eliminate the risk of bacteria associated with sewage. De Beers will consider the use of sewage sludge as a soil amendment source.

3.6.2 Treated Sewage Effluent Use

The use of treated camp sewage and wastewater will be considered as a nutrient rich source for vegetation watering. This water can provide a source of irrigation water and nutrients for reclaimed areas and simultaneously reduce the quantity of this nutrient rich water being released into local waters. Prior to release of water into Snap Lake, it may be possible to use the treated effluent in vegetation watering programs.

3.7 REVEGETATION

The revegetation approach is designed to provide an erosion resistant plant cover from a range of native plants at a variety of densities that will promote succession to biodiversity levels consistent with predevelopment conditions. In addition to the direct placement of surface material that will incorporate associated propagules, revegetation techniques will include seed mix design and application; local seed collection and application; planting of seedlings; and, transplanting vegetation plugs or islands from the adjacent, undisturbed landscape. Transplant stock may also be supplied as greenhouse-raised containerized vegetation.

As discussed in the Snap Lake Diamond Project EA (De Beers 2002), the focus of revegetation will be on the use and application of endemic species. Specific species selection will be based on the current research, end land use and landscape terrain features. Each planting prescription will depend on variations in microclimate, drainage and reclamation material depth and composition that may affect the plant community composition and diversity. It is likely that localized areas within each planting prescription area may evolve into different target ELC units due to these variables. Variations in the regeneration success of woody species and the establishment of volunteer species (species that establish on a site without being artificially introduced) may also add to the diversity of the reclaimed sites.

3.7.1 Undisturbed Vegetation Islands

Within the Project area approximately 200 ha of the 550 ha project footprint will not be directly disturbed. The presence and protection of these undisturbed natural areas, located at the periphery of the Project, are expected to accelerate recolonization of reclaimed areas and enhance habitat interspersion. These areas serve as plant root and seed sources for native plant establishment and can assist in the recolonization of reclaimed areas by wildlife.

Opportunities to leave undisturbed vegetation islands within the Project area will be considered. For example, efforts to minimize and avoid disturbance to areas around the mine infrastructure, adjacent to the north pile and airstrip and around the laydown area, bunkers, etc., will be implemented. This will include signage, and an employee education program. At closure, these areas will provide an important source for vegetation encroachment and seed dispersal into the reclaimed areas.

3.7.2 Transplanting Vegetation

Transplanting of vegetation islands from the surrounding, undisturbed landscape as well as using containerized seedling stock (seedlings germinated and grown in a container) will be investigated. Species such as sedges, fescue, bluegrass, cottongrass, wormwood, fireweed, vetches, reflexed locoweed, fireweed, dryas, alders, bearberry, dwarf birch, wolf willow, willows, blueberry, spruce and other species have the potential to be transplanted onsite. Progressive reclamation may provide the opportunity to remove vegetation from newly disturbed areas and transplant them directly to areas prepared for revegetation.

Research involving species suitability for onsite transplanting conditions will be conducted on an ongoing basis and will provide important information on species suitability. Species suitability information will be used to direct seed collection,

seed mix design and transplanting programs. In addition, knowledge regarding the suitability of legume species, such as locoweeds and vetches for nitrogen fixing properties, will be very useful in identifying appropriate species for revegetation.

3.7.3 Species Performance

De Beers will continue to review the information gathered from other researchers working in similar ecological areas, including identification of species successfully transplanted and those species most suited for seed collection. Vegetation species selection will be a continuing evolutionary process based on adaptive management as research continues to determine vegetation suitable for specific site conditions. Species suitable for transplanting will be investigated including those identified through on going, onsite research.

3.7.4 Native Seed Collection

Seeds will be collected from local vegetation and used in reseeded programs where practical. Germination tests will be conducted on these seed supplies prior to onsite planting to ensure germination success. Germination characteristics of native tundra species are often good, which is typical of many disturbance-adapted species. Therefore, these species may be good candidates for seed supplies.

3.7.5 Direct Seeding

Direct seeding of collected and purchased seed and the development of appropriate seed mixes will also be considered as a revegetation technique. The following is a list of candidate species based on previous research (Harvey Martens and Associates 2002; Bishop 1989; Bliss 1979; Brown 1985; Chester and Shaver 1982; Forbes and Jefferies 1992; Gartner et al. 1983; Gartner 1982; Johnson 1987; Kershaw and Kershaw 1987; Kidd and Max 2002; Reid 2002; Scherer and Everett; Shaver et al. 1983; Sharman and Smyth 2003; and, Vaartnou 1988):

- hairgrass (*Agrostis scabra* Willd.);
- tufted hairgrass (*Deschampsia caespitosa* (L.) Beauv.);
- sheep fescue (*Festuca ovina* L.);
- alpine bluegrass (*Poa alpina* L.);
- glaucous bluegrass (*Poa glauca* M. Vahl.);
- distans alkali grass (*Puccinellia distans*);

- polar grass (*Arctagrostis latifolia*);
- bluejoint reedgrass (*Calamagrostis canadensis* [Michx.] Beauv.);
- violet wheatgrass (*Agropyron violaceum* [Hornem] Lange);
- fowl bluegrass (*Poa palustris* L.); and,
- fireweed (*Epilobium latifolium* L.).

3.8 NATIVE SPECIES SUITABLE FOR WILDLIFE HABITAT

There is little information available that addresses the success of various reclamation activities for wildlife habitat use. However, there is considerable information that assesses wildlife habitat use and requirements in terms of plant species availability.

Research conducted at the Ekati diamond mine (BHP Ekati, Volume III Section 9, 1995) identified numerous native species that are considered valuable for wildlife forage. These include tundra bluegrass (*Poa glauca*), alpine bluegrass (*Poa alpina*), Alaska polar grass (*Arctagrostis latifolia*), arctared fescue (*Festuca rubra*), tufted hairgrass (*Deschampsia caespitosa*), black crowberry (*Empetrum nigrum*), avens (*Dryas octopetala*), and various species of *Hedysarum*, *Oxytropis*, *Astragalus*, *Artemisia*, *Salix*, *Betula* and *Vaccinium*. De Beers will determine which of these and other species will be suitable for use at the Project.

As new research and information becomes available and as monitoring programs identify best practices, adaptive management will be applied.

4 WEED CONTROL

The primary action to avoid and minimize the spread of non-native and often invasive species is to avoid their introduction into the area. The following steps will be taken to minimize weed introduction:

- the use of native species for revegetation;
- the collection and application of locally grown seeds;
- only certified seed will be used when seed mixes are purchased; and,
- machinery brought on-site will be hosed down prior to transport to the Snap Lake Diamond Project to avoid seed introduction.

If problem weeds occur, a combination of mechanical and chemical methods will be used to control noxious weeds at the Project area. Mechanical control measures may include manually removing noxious weeds prior to setting seed. Chemical control methods will be used when necessary and as approved, with herbicide selection and application undertaken by a licensed pesticide applicator. Soil sterilants will not be used on any facilities.

5 MONITORING

Researchers have identified that monitoring of revegetation programs is essential to determine revegetation success and to identify and implement the need for adaptive improvements in reclamation techniques (Hyder et al. 1995, Elzinga et al. 1998).

De Beers will establish a reclamation monitoring program to assess the success and suitability of various reclamation activities. Reclamation monitoring results will be incorporated into an annual report to document the status of reclamation efforts and refine procedures according to evolving site specific conditions.

The objectives of the reclamation monitoring program will be to evaluate the success of reclamation procedures over time and to adjust or modify these measures where necessary to ensure the following:

- erosion control and slope stability;
- revegetation and sustainability of disturbed areas;
- site-specific reclamation measures;
- optimum species performance;
- noxious and restricted weed control; and
- re-establishment of wildlife habitat.

Test plots will be part of the monitoring program. Sampling procedures will likely include microplots (1.0m x 0.5m) located systematically along transects of varying length. Reconnaissance macroplots (approximately 5.0m x 5.0m) will be permanently marked with rebar and flagging tape, and UTM co-ordinates recorded. The vegetation data recorded will include percent cover by individual species, heights, vigor, reproductive activity (seed heads and flowers), and soil development indicators. Environmental data will also be recorded and will include slope angle, slope position, aspect, elevation, landform, parent material, soil texture, soil nutrient regime and soil moisture regime.

The results of the monitoring program will be used to direct and modify the revegetation and surface materials handling plan. Based on revegetation success and species performance modifications will be made to ensure that the most successful methods are applied.

6 CLOSURE

This surface materials handling and revegetation plan is intended to provide the supporting background literature and proposed methods for managing surface materials and revegetation during construction, operations and at closure, to meet the requirements of the Mine Site Reclamation Policy for the Northwest Territories. It is recognized that De Beers will continue to identify supplemental details throughout the permitting process. It is also recognized that the reclamation plan will continue to evolve as monitoring and research programs continue to identify new and better methods for northern reclamation.

De Beers will apply and test the methods and approaches put forward in this document. Appropriate surface materials will be identified for salvage, stockpiling and replacement prior to construction, including sources of topsoil and peat. Other surface materials will also be considered for salvage and stockpiling purposes. In addition, opportunities for the direct placement of surface materials will continue to be reviewed, applied and tested. The appropriate source and application of soil amendments will be applied, including the use of sewage sludge, soil collection methods and the use of treated effluent water.

Revegetation methods will focus on the use of local, endemic species. Methods will continue to be improved upon as research and monitoring indicate best practices. The use of local seed sources, transplanting of local 'islands', seed collection for seedling establishment and the direct placement of surface materials, including vegetation resources, will be applied.

De Beers will continue to monitor reclamation results, update methods, and work with other northern operators and regulators to identify and apply best practices.

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