POGO MINE
SUMMARY OF ESTIMATED CLOSURE COSTS
7-Sep-10

SUMMARY OF ESTIMATED RECLAMATION AND CLOSURE COSTS-POGO MINE SITE									
		1 year holding cost	Phase I	Phase II	Phase III	Phase IV Water Treatment	Phase IV Reclamation	Phase V	Total
Direct Cost		$ 1,952,300	$ -	$ 770,900	$ 7,953,500	$ 5,205,600	$ 2,990,200	$ 104,800	$ 18,977,300
Site Management Cost			$ -	$ 26,500	$ 2,668,800	$ 5,433,728	$ 1,902,100	$ -	$ 10,031,128
Subtotal Direct Cost		**$ 1,952,300**	**$ -**	**$ 797,400**	**$ 10,622,300**	**$ 10,639,328**	**$ 4,892,300**	**$ 104,800**	**$ 29,008,428**
Indirect Costs	**% of Subtotal**								
Mobilization/Demobilization	**5.0%**	$ -	$ -	$ 39,870	$ 531,115	$ -	$ 244,615	$ 5,240	$ 820,840
Subtotal		$ 1,952,300	$ -	$ 837,270	$ 11,153,415	$ 10,639,328	$ 5,136,915	$ 110,040	$ 29,829,268
Contractor Overhead and Profit	**15.0%**	$ 292,845	$ -	$ 125,591	$ 1,673,012	$ 1,595,899	$ 770,537	$ 16,506	$ 4,474,390
Subtotal		$ 2,245,145	$ -	$ 962,861	$ 12,826,427	$ 12,235,227	$ 5,907,452	$ 126,546	$ 34,303,658
Performance Bond	**3.0%**	$ 67,354	$ -	$ 28,886	$ 384,793	$ 367,057	$ 177,224	$ 3,796	$ 1,029,110
Insurance	**1.5%**	$ 33,677	$ -	$ 14,443	$ 192,396	$ 183,528	$ 88,612	$ 1,898	$ 514,555
Subtotal		$ 2,346,177	$ -	$ 1,006,189	$ 13,403,616	$ 12,785,812	$ 6,173,288	$ 132,241	$ 35,847,322
Contract Administration	**4.0%**	$ 93,847	$ -	$ 40,248	$ 536,145	$ 511,432	$ 246,932	$ 5,290	$ 1,433,893
Engineering Re-Design	**3.0%**	$ -	$ -	$ 30,186	$ 402,108	$ -	$ 185,199	$ 3,967	$ 621,460
Contingency	**15.0%**	$ 351,926	$ -	$ 150,928	$ 2,010,542	$ 1,917,872	$ 925,993	$ 19,836	$ 5,377,098
Total Indirects		$ 839,650	$ -	$ 430,151	$ 5,730,112	$ 4,575,789	$ 2,639,111	$ 56,533	$ 14,271,346
Total Direct + Indirect		$ 2,791,950	$ -	$ 1,227,551	$ 16,352,412	$ 15,215,116	$ 7,531,411	$ 161,333	$ 43,279,773
Infration Proofing	**2.66%**	74,192	-	32,620	434,542	404,320	200,137	4,287	$ 1,150,099
Total Closure Cost		**$ 2,866,142**	**$ -**	**$ 1,260,171**	**$ 16,786,955**	**$ 15,619,437**	**$ 7,731,548**	**$ 165,621**	**$ 44,429,873**
								Rounded	$ 44,430,000

Phase	Area Code	WBS	Item	Area Description	Activity	Task	Description 2	Status	Standard Quantity	Standard Unit	Metric Quantity	Metric Unit	Cost Code	Unit Mhrs	Total Mhrs	Activity Total	Source / Comments
1 year holding	6000	S-00		All of Mine	Water treatment	Operate water treatment plant			12	months	12	months	W.001	0.00	8760.00	$509,441	See Water_treatment cost worksheet
1 year holding	6000	S-00		All of Mine	Monitoring	Monitoring Phase III TeckCominco inspection			1	yr	1	yr			540.00	$164,521	See monitoring cost
															9300.00	$673,962	

CLOSURE COSTS - Site Management Cost

Administration costs	enter 1 if item is required, 0 if not required																$	257,330
	1	Worker's compensation	62	Man-months	x	$ -	per person per month									$0		
	1	equip. Insurance (10% of equipment cost)	10%		of	$0	Equipment Cost									$0		
	1	Office Supplies	12.00	months	x	$100	/month									$1,200		
	1	Communications	12.00	months	x	$1,000	/month									$12,000		
	1	Heating Fuel (avg. 400 gal per month)	12.00	months	x	400	gal/month	x	$ 3.23	/ gallon						$15,480		
	1	Misc. Supplies	12.00	months	x	$500	/month									$6,000		
	1	Camp Operation	365	days	x	$610	per day									$222,650		
Field support													Turnaround:	Total hours	unit	rate	$	360,475
	1	Supervisor #1	365	days	x	12	hrs/day						26	4197.5	hr	$ 76.11	$319,456	
	0	Administrative Assistant #1	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	1	Field Support Vehicles	365	days	x	1	trucks							1,095	hr	$ 37.46	$41,019	
	0	Turnaround costs - Admin	-	trips	x	$ 295.92	/trip										$0	
Field crew													Turnaround:	Total hours	unit	rate	$	635,867
	0	Foreman #1	365	days	x	12	hrs/day						26	4,198	hr	$ -	$0	
	0	Foreman #2	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Foreman #3	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	1	Equipment Operator	365	days	x	12	hrs/day						26	4197.5	hr	$ 70.86	$297,424	
	1	Mechanic #1	365	days	x	12	hrs/day						26	4197.5	hr	$ 70.86	$297,424	
	0	Mechanic #2	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Survey Field Manager	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Survey Crew (Surveyor + helper)	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	1	Field Support Vehicles	365	days	x	1	trucks							1,095	hr	$ 37.46	$41,019	
	0	Turnaround costs - Crew	-	trips	x	$ 295.92	/trip										$0	
Contract Administration and QA/QC													Turnaround:	Total hours	unit	rate	$	-
	0	Resident Engineer #1	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Resident Engineer #2	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Engineering Technician #1	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Engineering Technician #2	365	days	x	12	hrs/day						26	4197.5	hr	$ -	$0	
	0	Laboratory and Material Testing Costs	-	months	x	$1,000	/month										$0	
	0	Field Support Vehicles	365	days	x	1	trucks							1,095	hr	$ -	$0	
	0	Turnaround costs - QA/QC	-	trips	x	$ 295.92	/trip										$0	
Other																	$	24,650
	0	Helicopter support		hours	x	$ 1,323	/hour	x									$0	
	1	Freight costs	12%		of	$0	Material Costs										$0	
	1	Allowance for haul road maintenance	1.0	yr											$	24,650.00	$24,650	
Subtotal Site Management Cost																		$1,278,322
CLOSURE COSTS - TOTAL																		
		Total direct and management costs																$1,952,284

Administrative Crew size	3	Crew Size
	346.0	days + 10 for pre/post job work
Project duration	12	months
Field crew assumption calculations		
expected duration	12	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	3864	hrs
Crew size	2	people
Camp rotation is every 30 days	0.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

I: Post-Construction

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Area Subtotal	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
2000	Airstrip Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
3000	Mill & Camp Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
4000	Drystack and RTP											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
5000	Underground workings											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
6000	All Mine in general											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Water treatment											
		Monitoring											
Subtotal Direct Costs										**$ -**			

CLOSURE COSTS - Site Management Cost

Administration c	enter 1 if item is required, 0 if not required															$	-
0	Worker's compensation	-	Man-months	x		$ -	per person per month								$0		
0	equip. Insurance (10% of equipment cost)	10%			of	$0	Equipment Cost								$0		
0	Office Supplies	-	months		x	$100	/month								$0		
0	Communications	-	months		x	$1,000	/month								$0		
0	Heating Fuel (avg. 400 gal per month)	-	months		x	400	gal/month x	$ 3.23	/ gallon						$0		
0	Misc. Supplies	-	months		x	$500	/month								$0		
0	Camp Operation	-	Man-days		x	$50	per day per person								$0		
Field support								Turnarounds	Total hours	unit		rate				$	-
0	Supervisor #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Administrative Assistant #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Field Support Vehicles	-	days		x	0	trucks		0	day	$	303.37			$0		
0	Turnaround costs - Admin	-	trips		x	$ -	/trip								$0		
Field crew								Turnarounds	Total hours	unit		rate				$	-
0	Foreman #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Foreman #2	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Foreman #3	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Foreman #4	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Mechanic #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Mechanic #2	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Survey Field Manager	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Survey Crew (Surveyor + helper)	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Field Support Vehicles	-	days		x	0	trucks				$	-			$0		
0	Turnaround costs - Crew	-	trips		x	$ -	/trip								$0		
Contract Administration and QA/QC								Turnarounds	Total hours	unit		rate				$	-
0	Resident Engineer #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Resident Engineer #2	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Engineering Technician #1	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Engineering Technician #2	-	days		x	12	hrs/day	-	0	hr	$	-			$0		
0	Laboratory and Material Testing Costs	-	months		x	$1,000	/month								$0		
0	Field Support Vehicles	-	days		x	1	trucks		0	day	$	-			$0		
0	Turnaround costs - QA/QC	-	trips		x	$ -	/trip								$0		
Other																$	-
0	Helicopter support		hours	x		$ 1,323	/hour x								$0		
0	Freight costs	12%			of	$0	Material Costs								$0		
0	Allowance for haul road maintenance	10.0	yr										$ 24,650.00		$0		
Subtotal Site Management Cost																	$0
CLOSURE COSTS - TOTAL																	
	Total direct and management costs																**$0**

Administrative Crew size	0	Crew Size
	0.0	days + 10 for pre/post job work
Project duration	0	months
Field crew assumption calculations		
expected duration	-	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	0	hrs
Crew size	0	people
Camp rotation is every 30 days	0.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

II: Reclamation Concurrent with Mining

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Area Subtotal	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$761,475	
		Demobilization/Demolition			675	$72,435	$27,200	$35,778	1,851	$5,970	$141,382		
		Recontouring/Reshaping			2,090	$146,610		$164,566	16,799	$54,178	$365,354		
		Spread Growth Media			159	$11,229		$11,830	976	$3,149	$26,209		
		Enhanced recovery			1		$9,547				$9,547		
		Install			2,100	$135,817	$24,500	$39,515	5,939	$19,152	$218,984		
		Monitoring											
2000	Airstrip Area											$2,481	
		Demobilization/Demolition			10	$709		$1,499	85	$274	$2,481		
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
3000	Mill & Camp Area											$6,877	
		Demobilization/Demolition			40	$4,635					$6,635		
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install			2	$96	$134	$8	1	$4	$242		
		Monitoring											
4000	Drystack and RTP											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
5000	Underground workings											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
6000	All Mine in general											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Water treatment											
		Monitoring											
Subtotal Direct Costs					**5,077**	**$371,530**	**$61,381**	**$253,196**	**25,651**	**$ 82,726**	**$770,833**	$770,833	

CLOSURE COSTS - Site Management Cost

Administration c	enter 1 if item is required, 0 if not required																$ -
0	Worker's compensation	15	Man-months	x		$ -	per person per month									$0	
0	equip. Insurance (10% of equipment cost)	10%			of	$253,196	Equipment Cost									$0	
0	Office Supplies	7.80	months		x	$100	/month									$0	
0	Communications	7.80	months		x	$1,000	/month									$0	
0	Heating Fuel (avg. 400 gal per month)	7.80	months		x	400	gal/month x	$ 3.23	/ gallon							$0	
0	Misc. Supplies	7.80	months		x	$500	/month									$0	
0	Camp Operation	16	Man-days		x	$50	per day per person									$0	
Field support										Turnarounds	Total hours	unit		rate			$ -
0	Supervisor #1	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Administrative Assistant #1	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Field Support Vehicles	240	days		x	0	trucks				0	day	$	303.37		$0	
0	Turnaround costs - Admin	8	trips		x		/trip									$0	
Field crew										Turnarounds	Total hours	unit		rate			$ -
0	Foreman #1	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Foreman #2	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Foreman #3	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Foreman #4	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Mechanic #1	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Mechanic #2	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Survey Field Manager	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Survey Crew (Surveyor + helper)	224	days		x	12	hrs/day			7	2576	hr	$	-		$0	
0	Field Support Vehicles	224	days		x	1	trucks						$	-		$0	
0	Turnaround costs - Crew	7	trips		x		/trip									$0	
Contract Administration and QA/QC										Turnarounds	Total hours	unit		rate			$ -
0	Resident Engineer #1	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Resident Engineer #2	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Engineering Technician #1	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Engineering Technician #2	240	days		x	12	hrs/day			8	2760	hr	$	-		$0	
0	Laboratory and Material Testing Costs	8	months		x	$1,000	/month									$0	
0	Field Support Vehicles	240	days		x	1	trucks				240	day	$	-		$0	
0	Turnaround costs - QA/QC	8	trips		x		/trip									$0	
Other																	$ 26,455
1	Helicopter support	20	hours	x		$ 1,323	/hour x									$26,455	
0	Freight costs	12%			of	$61,381	Material Costs									$0	
0	Allowance for haul road maintenance	10.0	yr										$	24,650.00		$0	
Subtotal Site Management Cost																	$26,455
CLOSURE COSTS - TOTAL																	
	Total direct and management costs																**$797,288**

Administrative Crew size	0	Crew Size
	234.0	days + 10 for pre/post job work
Project duration	8	months
Field crew assumption calculations		
expected duration	**8**	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	2576	hrs
Crew size	2	people
Camp rotation is every 30 days	224.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

III: Final Reclamation & Closure

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Area Subtotal	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$564,546	
		Demobilization/Demolition			1,461	$138,485	$92,032	$88,680	5,087	$16,405	$335,603		
		Recontouring/Reshaping			431	$28,986	$44,305	$32,737	3,295	$10,628	$116,655		
		Spread Growth Media			10	$692		$2,084	202	$651	$3,427		
		Enhanced recovery			66	$4,538	$11,374	$13,676	1,325	$4,273	$33,861		
		Install									$75,000		
		Monitoring									$5,000		
2000	Airstrip Area											$107,449	
		Demobilization/Demolition			127	$10,808		$6,058	209	$673	$17,539		
		Recontouring/Reshaping			207	$13,742	$26,117	$13,246	1,289	$4,159	$57,263		
		Spread Growth Media			9	$626		$674	60	$193	$1,493		
		Enhanced recovery			35	$2,263	$24,818	$2,937	352	$1,135	$31,153		
		Install											
		Monitoring									$5,000		
3000	Mill & Camp Area											$3,078,606	
		Demobilization/Demolition			9,608	$735,085	$6,400	$869,283	58,231	$187,796	$1,808,564		
		Recontouring/Reshaping			4,349	$305,958	$29,845	$510,664	54,226	$174,882	$1,021,350		
		Spread Growth Media			220	$14,918		$19,875	2,021	$6,518	$41,310		
		Enhanced recovery			28		$207,383				$207,383		
		Install											
		Monitoring									$10,000		
4000	Drystack and RTP											$1,347,068	
		Demobilization/Demolition			266	$18,862		$24,482	2,934	$9,463	$52,806		
		Recontouring/Reshaping			1,656	$117,407		$141,371	14,406	$46,458	$305,236		
		Spread Growth Media			668	$47,377		$52,083	5,220	$16,834	$116,294		
		Enhanced recovery			61		$457,199				$457,199		
		Install			328	$24,106		$374,783	5,160	$16,642	$415,532		
		Monitoring									$18,000		
5000	Underground workings											$2,800,468	
		Demobilization/Demolition			150	$5,798	$86,400	$1,319	172	$554	$94,071		
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install			9,004	$72,136	$551,019	$10,102	1,047	$3,376	$2,706,397		
6000	All Mine in general											$55,334	
		Demobilization/Demolition											
		Recontouring/Reshaping			3	$243		$316	38	$122	$681		
		Spread Growth Media			17	$1,190		$1,288	133	$428	$2,906		
		Enhanced recovery			100	$6,754	$35,330	$7,266	743	$2,397	$51,747		
		Install											
		Water treatment											Moved to IV: Water Treatment
		Monitoring											Moved to IV: Water Treatment
Subtotal Direct Costs					**33,880**	**$1,549,974**	**$1,572,222**	**$2,172,924**	**156,149**	**$ 503,586**	**$7,991,470**	$7,953,470	

CLOSURE COSTS - Site Management Cost

Administration co	enter 1 if item is required, 0 if not required														$ 577,303
1	Worker's compensation	169	Man-months	x	$ -	per person per month								$0	
1	equip. Insurance (10% of equipment cost)	10%		of	$2,172,924	Equipment Cost								$217,292	
1	Office Supplies	6.00	months	x	$100	/month								$600	
1	Communications	6.00	months	x	$1,000	/month								$6,000	
1	Heating Fuel (avg. 400 gal per month)	6.00	months	x	400	gal/month x	$ 3.23	/ gallon						$7,740	
1	Misc. Supplies	6.00	months	x	$500	/month								$3,000	
1	Camp Operation	5,114	Man-days	x	$67	per day per person								$342,671	
Field support								Turnarounds	Total hours	unit		rate			$ 426,893
1	Supervisor #1	180	days	x	11.5	hrs/day		13	2070	hr	$	76.11	$157,540		
2	Administrative Assistant #1	180	days	x	11.5	hrs/day		13	2,070.0	hr	$	60.17	$249,124		
1	Field Support Vehicles	180	days	x	1	trucks			540.0	hr	$	37.46	$20,228		
0	Turnaround costs - Admin	13	trips	x	$ 56.07	/trip							$0		
Field crew								Turnarounds	Total hours	unit		rate			$ 1,061,174
1	Foreman #1	168	days	x	11.5	hrs/day		12	1932	hr	$	75.58	$146,016		
1	Foreman #2	168	days	x	11.5	hrs/day		12	1932	hr	$	75.58	$146,016		
0	Foreman #3	168	days	x	11.5	hrs/day		12	1932	hr	$	-	$0		
0	Foreman #4	168	days	x	11.5	hrs/day		12	1932	hr	$	-	$0		
1	Mechanic #1	168	days	x	11.5	hrs/day		12	1932	hr	$	70.86	$136,897		
1	Mechanic #2	168	days	x	11.5	hrs/day		12	1932	hr	$	70.86	$136,897		
1	Survey Field Manager	168	days	x	11.5	hrs/day		12	1932	hr	$	74.84	$144,593		
1	Survey Crew (Surveyor + helper)	168	days	x	11.5	hrs/day		12	1932	hr	$	132.69	$256,358		
1	Field Support Vehicles	168	days	x	5	trucks			2,520	hr	$	37.46	$94,399		
0	Turnaround costs - Crew	12	trips	x	$ 56.07	/trip							$0		
Contract Administration and QA/QC								Turnarounds	Total hours	unit		rate			$ 369,518
1	Resident Engineer #1	180	days	x	11.5	hrs/day		13	2070	hr	$	89.73	$185,749		
0	Resident Engineer #2	180	days	x	11.5	hrs/day		13	2070	hr	$	-	$0		
1	Engineering Technician #1	180	days	x	11.5	hrs/day		13	2070	hr	$	76.11	$157,540		
0	Engineering Technician #2	180	days	x	11.5	hrs/day		13	2070	hr	$	-	$0		
1	Laboratory and Material Testing Costs	6	months	x	$1,000	/month							$6,000		
1	Field Support Vehicles	180	days	x	1	trucks			540	hr	$	37.46	$20,228		
0	Turnaround costs - QA/QC	13	trips	x	$ 56.07	/trip							$0		
Other															$ 233,888
0	Helicopter support	33,880	hours	x	$ 1,323	/hour x							$0		
1	Turnaround Cost	13	trips	x	$ 1,600	/trip							$20,571		
1	Freight costs	12%		of	$1,572,222	Material Costs							$188,667		
1	Allowance for haul road maintenance	1.0	yr								$	24,650.00	$24,650		
Subtotal Site Management Cost															$2,668,775
CLOSURE COSTS - TOTAL															
	Total direct and management costs														**$10,622,245**

Administrative Crew size	11	Crew Size
	178.0	days + 10 for pre/post job work
Project duration	6	months
Field crew assumption calculations		
expected duration	**6**	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	1,932	hrs
Crew size	18	people
Camp rotation is every 14 days	168.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

IV: Water Treatment

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Area Subtotal	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
2000	Airstrip Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
3000	Mill & Camp Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
4000	Drystack and RTP											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
5000	Underground workings											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
6000	All Mine in general											$5,205,552	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Water treatment			27,600						$3,528,482		
		Monitoring			5,400						$1,677,070		
Subtotal Direct Costs					**33,000**					**$ -**	**$5,205,552**	$5,205,552	

CLOSURE COSTS - Site Management Cost

Administration cc	enter 1 if item is required, 0 if not required																$	821,300
0	Worker's compensation	480	Man-months	x		$ -	per person per month									$0		
0	equip. Insurance (10% of equipment cost)	10%			of	$0	Equipment Cost									$0		
1	Office Supplies	120.00	months		x	$100	/month									$12,000		
1	Communications	120.00	months		x	$1,000	/month									$120,000		
1	Heating Fuel (avg. 400 gal per month)	120.00	months		x	400	gal/month x	$ 3.23	/ gallon							$154,800		
1	Misc. Supplies	120.00	months		x	$500	/month									$60,000		
1	Camp Operation	3,650	days		x	$130	per day									$474,500		
Field support										Turnarounds	Total hours	unit		rate			$	410,187
0	Supervisor #1	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Administrative Assistant #1	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
1	Field Support Vehicles	3,650	days		x	1	trucks				10,950.0	hr	$	37.46		$410,187		
0	Turnaround costs - Admin	261	trips		x	$ 400.00	/trip									$0		
Field crew										Turnarounds	Total hours	unit		rate			$	3,955,741
0	Foreman #1	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Foreman #2	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Foreman #3	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Equipment Operator	3,650	days		x	11.5	hrs/day			261	41975	hr	$	70.86		$0		
1	Mechanic #1	3,650	days		x	11.5	hrs/day			261	41975	hr	$	70.86		$2,974,241		
0.3	Mechanic #2	3,650	days		x	11.5	hrs/day			261	41975	hr	$	70.86		$981,500		
0	Survey Field Manager	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Survey Crew (Surveyor + helper)	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Field Support Vehicles	3,650	days		x	1	trucks						$	-		$0		
0	Turnaround costs - Crew	261	trips		x	$ 400.00	/trip									$0		
Contract Administration and QA/QC										Turnarounds	Total hours	unit		rate			$	-
0	Resident Engineer #1	3,650	days		x	11.5	hrs/day			261	41,975.0	hr	$	-		$0		
0	Resident Engineer #2	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Engineering Technician #1	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Engineering Technician #2	3,650	days		x	11.5	hrs/day			261	41975	hr	$	-		$0		
0	Laboratory and Material Testing Costs	120	months		x	$1,000	/month									$0		
0	Field Support Vehicles	3,650	days		x	1	trucks				10,950	hr	$	-		$0		
0	Turnaround costs - QA/QC	261	trips		x	$ 400.00	/trip									$0		
Other																	$	246,500
0	Helicopter support	33,000	hours	x		$ 1,323	/hour	x								$0		
0	Turnaround Cost	-				$ 1,600	/trip									$0		
0	Freight costs	12%			of	$0	Material Costs									$0		
1	Allowance for haul road maintenance	10.0	yr										$	24,650.00		$246,500		
Subtotal Site Management Cost																		$5,433,728
CLOSURE COSTS - TOTAL																		
	Total direct and management costs																	**$10,639,280**

Administrative Crew size	2	Crew Size
	3650.0	days
Project duration	120	months
Field crew assumption calculations		
expected duration	**120**	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	38,640	hrs
Crew size	2	people
Camp rotation is every 30 days	3650.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

IV: Post Closure Reclamation

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Area Subtotal	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$1,116,724	
		Demobilization/Demolition			1,518	$115,328		$133,161	9,159	$29,537	$378,024		
		Recontouring/Reshaping			3,019	$212,782		$329,655	32,368	$104,388	$646,825		
		Spread Growth Media			519	$36,794		$35,658	3,685	$11,883	$84,335		
		Enhanced recovery			1		$7,540				$7,540		
		Install											
		Monitoring											
2000	Airstrip Area											$69,533	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media			402	$28,606		$30,777	3,147	$10,150	$69,533		
		Enhanced recovery											
		Install											
		Monitoring											
3000	Mill & Camp Area											$87,009	
		Demobilization/Demolition			270	$17,462	$3,150	$5,081	764	$2,462	$28,155		
		Recontouring/Reshaping			88	$6,210		$13,388	1,390	$4,481	$24,080		
		Spread Growth Media			88	$6,247		$6,204	566	$1,826	$14,278		
		Enhanced recovery			3		$20,496				$20,496		
		Install											
		Monitoring											
4000	Drystack and RTP											$636,896	
		Demobilization/Demolition			153	$11,960		$6,739	435	$1,402	$32,601		
		Recontouring/Reshaping			2,272	$128,136	$265	$232,012	23,433	$75,573	$435,985		
		Spread Growth Media			403	$28,655		$33,278	3,411	$10,999	$72,933		
		Enhanced recovery			13		$95,376				$95,376		
		Install											
		Monitoring											
5000	Underground workings											$67,437	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media			409	$28,787		$30,595	2,498	$8,056	$67,437		
		Enhanced recovery											
		Install											
6000	All Mine in general											$1,012,612	
		Demobilization/Demolition			427	$26,817		$6,022	905	$2,919	$35,758		
		Recontouring/Reshaping			5	$324		$421	50	$163	$500,907		
		Spread Growth Media											
		Enhanced recovery			7		$53,519				$53,519		
		Install											
		Water treatment			2,070						$254,721		
		Monitoring									$167,707		
Subtotal Direct Costs					**11,665**	**$648,110**	**$180,346**	**$862,989**	**81,810**	**$ 263,840**	**$2,990,212**	$2,990,212	

CLOSURE COSTS - Site Management Cost

Administration co	enter 1 if item is required, 0 if not required																$ 295,715
1	Worker's compensation	95	Man-months	x		$ -	per person per month									$0	
1	equip. Insurance (10% of equipment cost)	10%			of	$862,989	Equipment Cost									$86,299	
1	Office Supplies	6.00	months		x	$100	/month									$600	
1	Communications	6.00	months		x	$1,000	/month									$6,000	
1	Heating Fuel (avg. 400 gal per month)	6.00	months		x	400	gal/month x	$ 3.23	/ gallon							$7,740	
1	Misc. Supplies	6.00	months		x	$500	/month									$3,000	
1	Camp Operation	2,867	Man-days		x	$67	per day per person									$192,076	
Field support									Turnarounds	Total hours	unit		rate				$ 302,330
1	Supervisor #1	180	days		x	11.5	hrs/day		13	2070	hr	$	76.11	$157,540			
1	Administrative Assistant #1	180	days		x	11.5	hrs/day		13	2070	hr	$	60.17	$124,562			
1	Field Support Vehicles	180	days		x	1	trucks			540	hr	$	37.46	$20,228			
0	Turnaround costs - Admin	13	trips		x	$ 99.76	/trip							$0			
Field crew									Turnarounds	Total hours	unit		rate				$ 867,638
1	Foreman #1	168	days		x	11.5	hrs/day		12	1932	hr	$	75.58	$146,016			
1	Foreman #2	168	days		x	11.5	hrs/day		12	1932	hr	$	75.58	$146,016			
0	Foreman #3	168	days		x	11.5	hrs/day		12	1932	hr	$	-	$0			
0	Foreman #4	168	days		x	11.5	hrs/day		12	1932	hr	$	-	$0			
1	Mechanic #1	168	days		x	11.5	hrs/day		12	1932	hr	$	70.86	$136,897			
0	Mechanic #2	168	days		x	11.5	hrs/day		12	1932	hr	$	-	$0			
1	Survey Field Manager	168	days		x	11.5	hrs/day		12	1932	hr	$	74.84	$144,593			
1	Survey Crew (Surveyor + helper)	168	days		x	11.5	hrs/day		12	1932	hr	$	132.69	$256,358			
1	Field Support Vehicles	168	days		x	2	trucks			1,008	hr	$	37.46	$37,760			
0	Turnaround costs - Crew	12	trips		x	$ 99.76	/trip							$0			
Contract Administration and QA/QC									Turnarounds	Total hours	unit		rate				$ 369,518
1	Resident Engineer #1	180	days		x	11.5	hrs/day		13	2070	hr	$	89.73	$185,749			
0	Resident Engineer #2	180	days		x	11.5	hrs/day		13	2070	hr	$	-	$0			
1	Engineering Technician #1	180	days		x	11.5	hrs/day		13	2070	hr	$	76.11	$157,540			
0	Engineering Technician #2	180	days		x	11.5	hrs/day		13	2070	hr	$	-	$0			
1	Laboratory and Material Testing Costs	6	months		x	$1,000	/month							$6,000			
1	Field Support Vehicles	180	days		x	1	trucks			540.0	hr	$	37.46	$20,228			
0	Turnaround costs - QA/QC	13	trips		x	$ 99.76	/trip							$0			
Other																	$ 66,863
0	Helicopter support	11,665	hours	x		$ 1,323	/hour x							$0			
1	Turnaround Cost	13				$ 1,600	/trip							$20,571			
1	Freight costs	12%			of	$180,346	Material Costs							$21,641			
1	Allowance for haul road maintenance	1.0	yr									$	24,650.00	$24,650			
Subtotal Site Management Cost																	$1,902,064
CLOSURE COSTS - TOTAL																	
	Total direct and management costs																**$4,892,276**

Administrative Crew size	10	Crew Size
	178.0	days + 10 for pre/post job work
Project duration	6	months
Field crew assumption calculations		
expected duration	6	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	1932	hrs
Crew size	6	people
Camp rotation is every 30 days	168.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

The current labor rates in use are for AlaskanContractor

V: Post Closure Monitoring

Area Code	Area	Activity	Description	Status	Total Mhrs	Labor Cost	Material Cost	Equipment Cost	Fuel Consumed (gal)	Fuel Cost	Activity Total	Subtotals	Source / Comments
CLOSURE COSTS - DIRECT													
1000	1525 Portal Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
2000	Airstrip Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
3000	Mill & Camp Area											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
4000	Drystack and RTP											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Monitoring											
5000	Underground workings											$0	
		Demobilization/Demolition											
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
6000	All Mine in general											$104,780	
		Demobilization/Demolition									$26,898		Work to be contracted out
		Recontouring/Reshaping											
		Spread Growth Media											
		Enhanced recovery											
		Install											
		Water treatment											
		Monitoring			238						$77,882		
Subtotal Direct Costs					**238**					**$ -**	**$104,780**	$104,780	

CLOSURE COSTS - Site Management Cost

Administration co	enter 1 if item is required, 0 if not required															$	-
0	Worker's compensation	-	Man-months	x		$ -	per person per month									$0	
0	equip. Insurance (10% of equipment cost)	10%			of	$0	Equipment Cost									$0	
0	Office Supplies	-	months		x	$100	/month									$0	
0	Communications	-	months		x	$1,000	/month									$0	
0	Heating Fuel (avg. 400 gal per month)	-	months		x	400	gal/month x	$ 3.23	/ gallon							$0	
0	Misc. Supplies	-	months		x	$500	/month									$0	
0	Camp Operation	-	Man-days		x	$130	per day									$0	
Field support										Turnarounds	Total hours	unit		rate		$	-
0	Supervisor #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Administrative Assistant #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Field Support Vehicles	-	days		x	0	trucks				0	day	$	-		$0	
0	Turnaround costs - Admin	-	trips		x	$ -	/trip									$0	
Field crew										Turnarounds	Total hours	unit		rate		$	-
0	Foreman #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Foreman #2	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Foreman #3	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Foreman #4	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Mechanic #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Mechanic #2	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Survey Field Manager	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Survey Crew (Surveyor + helper)	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Field Support Vehicles	-	days		x	0	trucks						$	-		$0	
0	Turnaround costs - Crew	-	trips		x	$ -	/trip									$0	
Contract Administration and QA/QC										Turnarounds	Total hours	unit		rate		$	-
0	Resident Engineer #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Resident Engineer #2	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Engineering Technician #1	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Engineering Technician #2	-	days		x	12	hrs/day			-	0	hr	$	-		$0	
0	Laboratory and Material Testing Costs	-	months		x	$1,000	/month									$0	
0	Field Support Vehicles	-	days		x	1	trucks				0	day	$	-		$0	
0	Turnaround costs - QA/QC	-	trips		x	$ -	/trip									$0	
Other																$	-
0	Helicopter support	238	hours	x		$ 1,323	/hour	x								$0	
0	Freight costs	12%			of	$0	Material Costs									$0	
0	Allowance for haul road maintenance	10.0	yr										$	24,650.00		$0	
Subtotal Site Management Cost																	$0
CLOSURE COSTS - TOTAL																	
	Total direct and management costs																**$104,780**

Administrative Crew size	0	Crew Size
	0.0	days + 10 for pre/post job work
Project duration	0	months
Field crew assumption calculations		
expected duration	-	months
Expected work hours per month per man	322	mhr/month
Total work hours for the project per man	0	hrs
Crew size	0	people
Camp rotation is every 30 days	0.0	days
Required supervision		
Forman 1-5 men		
Forman 1-10 men		
Forman 1-20 men		
Forman 1-30 men		

Phase	Area Code	WBS	Item	Area Description	Activity	Task	Status	Quantity	Unit	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Unit Labor	Labor Cost	Unit Material	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Consumed (gal)	Fuel Cost	Total Unit Cost	Activity Total	Source / Comments
II: Reclamation Concurrent with Mining	1000	E02		Rock storage pad	Recontouring/Reshaping	Temporary stockpile removal	1/2 completed	24,000	cy	18349	m3	R.001	0.08	1518.94	5.84	107224.65	0.00	0	6.664	122283.55	2.24	48168.46	12724.66	41037.49	14.74	$270,546	Total quantity was 48000cy estimated
II: Reclamation Concurrent with Mining	1000	E08		Upper Exploration camp	Enhanced recovery	Upper Exploration Camp		6,000	sy	5017	m2	C4.01	0.00	0.77	0.00	0.00	1.14	5717.666	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$5,718	
II: Reclamation Concurrent with Mining	1000	E03		Lower camp pond	Recontouring/Reshaping	Gravel pits will be converted to high value overwintering ponds and emergent wetlands.		1,261	cy	964	m3	R.002	0.00	2.51	0.18	177.80	0.00	0	0.147	141.65	0.07	80.58	21.29	68.65	0.40	$388	*Table 5 from 404 Permit*
IV: Post Closure Reclamation	1000	E03		Lower camp pond	Spread Growth Media	Spread growth media near shoreline		630	cy	482	m3	R.003	0.04	19.13	2.82	1360.96	0.00	0	3.038	1464.25	0.87	492.85	130.20	419.89	6.73	$3,245	
II: Reclamation Concurrent with Mining	1000	E02		Rock storage pad	Enhanced recovery	Seed pad area for test revegation program		35,843	sf	3330	m2	C4.01	0.00	0.51	0.00	0.00	1.14	3795.106	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$3,795	Anticipated test area for revegation trial, place enhanced recovery
II: Final Reclamation & Closure	1000	N08		Fuel berms	Recontouring/Reshaping	Remove fuel berm liner and material to solid waste facility		870	cy	665	m3	R.004	0.06	39.85	4.25	2826.54	0.00	0	5.169	3439.83	1.64	1277.94	337.59	1088.75	11.05	$7,355	Included liner with the removed material.
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Recontouring/Reshaping	Remove fuel berm liner and material to solid waste facility		1,268	cy	969	m3	R.004	0.06	58.05	4.25	4117.79	0.00	0	5.169	5011.24	1.64	1861.74	491.82	1586.13	11.05	$10,715	Included liner with the removed material.
II: Reclamation Concurrent with Mining	1000	E05		Lower camp diversion ditch	Recontouring/Reshaping	Lower camp diversion ditch		107	cy	82	m3	C2.08	1.00	81.63	60.17	4912.01	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	60.17	$4,912	
II: Reclamation Concurrent with Mining	1000	E05		Lower camp diversion ditch	Enhanced recovery	Lower camp diversion ditch		320	sf	30	m2	C4.01	0.00	0.00	0.00	0.00	1.14	33.91415	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$34	Assumed no growth media required (enhanced recovery)
II: Reclamation Concurrent with Mining	1000	F13			Install	Cap surface boreholes		70	ea	70	ea	C2.03	30.00	2100.00	1940.24	135816.85	350.00	24500	564.500	39515.00	273.60	22479.99	5938.54	19152.00	3128.34	$218,984	estimated
II: Reclamation Concurrent with Mining	2000	N01		1525 Portal	Demobilization/Demolition	Remove temporary substation for WTP		10	hr	10	hr	C1.02	1.00	10.00	70.86	708.57	0.00	0	149.900	1499.00	27.36	321.14	84.84	273.60	248.12	$2,481	
II: Reclamation Concurrent with Mining	3000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove buildings around injection wells		40	hr	40	hr	C1.08	1.00	40.00	115.87	4634.65	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$4,635	Included here instead of infrastructure removal
II: Reclamation Concurrent with Mining	3000	N05		Construction/Exploration Camp pad	Install	Cap Injection wells, remove projecting pipe, plug		5	ea	5	ea	C3.10	0.31	1.54	19.16	95.82	26.84	134.2	1.680	8.40	0.75	4.38	1.16	3.73	48.43	$242	
II: Reclamation Concurrent with Mining	3000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove and dispose of septic tank/clear stream unit		200	cy	153	m3															$2,000	estimated
II: Reclamation Concurrent with Mining	6000	S00			Monitoring	Monitoring Phase II TeckCominco inspection		0	yr	10	yr			0.00												$0	See Monitoring cost worksheet
II: Reclamation Concurrent with Mining	1000				Demobilization/Demolition	Site structure (see Infrastructure removal)								675.00	2937.39	72434.69	11200.00	27200	1927.930	35777.66	312.89	7006.80	1850.99	5969.50	16378.21	$ 141,382	reference to infrastructure removal tab
II: Reclamation Concurrent with Mining	2000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	70.86	0.00	0.00	0	110.360	0.00	27.36	0.00	0.00	0.00	208.58	$ -	reference to infrastructure removal tab
II: Reclamation Concurrent with Mining	3000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
II: Reclamation Concurrent with Mining	4000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
II: Reclamation Concurrent with Mining	5000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
II: Reclamation Concurrent with Mining	6000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
II: Final Reclamation & Closure	1000	E01		1525 Portal access road	Recontouring/Reshaping	Remove Culverts		150	ft	46	m	C2.11	0.33	15.24	23.62	1079.87	0.00	0	30.657	1401.62	11.85	635.93	167.99	541.78	66.13	$3,023	
II: Final Reclamation & Closure	1000	E01		1525 Portal access road	Enhanced recovery	Seed area for revegation		39294	sf	3651	m2	C4.01	0.00	0.56	0.00	0.00	1.14	4160.586	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$4,161	
II: Final Reclamation & Closure	1000	E01		1525 Portal access road	Install	Relocate sub station from the mill for Water treatment operation (reuse 138kv to 5kv and 5kv to 460V transformers)		1	ls	1	ls															$75,000	
II: Final Reclamation & Closure	1000	E03		Lower camp pond	Recontouring/Reshaping	Remove Culverts		80	ft	24	m	C2.11	0.33	8.13	23.62	575.93	0.00	0	30.657	747.53	11.85	339.16	89.60	288.95	66.13	$1,612	
II: Final Reclamation & Closure	1000	E07		Burn Pit Area	Recontouring/Reshaping	Seed burn pit area for revegation		2,461	sf	229	m2	C4.01	0.00015	0.03	0.00	0.00	1.14	260.5386	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$261	
II: Final Reclamation & Closure	3000	N14		Mill bench	Recontouring/Reshaping	Remove fuel berm liner and material to solid waste facility		184	cy	141	m3	R.004	0.06	8.41	4.25	596.79	0.00	0	5.169	726.27	1.64	269.82	71.28	229.88	11.05	$1,553	Included liner with the removed material.
II: Final Reclamation & Closure	5000	F02			Install	Paste Backfill selected areas of accesses, declines to compartmentalize hydrogeology			ton	0	tonnes	C3.15	0.03	0.00	2.25	0.00	6.21	0	1.381	0.00	0.39	0.00	0.00	0.00	10.23	$0	Information provided by Ernie Siemoneit (Mine department) - cost/production used US standard
II: Final Reclamation & Closure	5000	F03			Install	Piping Allowance paste backfill area			ft	0	m	C3.16	0.16	0.00	10.93	0.00	175.33	0	1.442	0.00	0.61	0.00	0.00	0.00	188.31	$0	
II: Final Reclamation & Closure	5000	F10			Install	Borehole to facilitate flooding of mine		700	ft	213	m	C2.02	0.60	128.02	43.56	9294.87	0.00	0	21.528	4593.21	4.34	1087.39	287.26	926.41	69.43	$14,814	
II: Final Reclamation & Closure	5000	F10			Demobilization/Demolition	Remove piping from mine where possible		3,000	ft	914	m	C3.17	0.16	150.00	6.34	5797.68	0.00	0	1.442	1319.00	0.61	650.27	171.78	554.00	8.39	$7,671	
II: Final Reclamation & Closure	5000	F11			Demobilization/Demolition	Remove Mine Equipment		54	ea	54	ea	C5.01	0.00	0.00	0.00	0.00	1600.00	86400	0.000	0.00	0.00	0.00	0.00	0.00	1600.00	$86,400	estimated 54 trips to Fairbanks for equipment demobilization
II: Final Reclamation & Closure	5000	F12			Demobilization/Demolition	Remove Mine Electrical Equipment		6	ea	6	ea		0.00	0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$0	
II: Final Reclamation & Closure	1000	N01		1525 Portal	Demobilization/Demolition	Remove propane distribution, return rented tanks and remove above ground piping		100	hr	100	hr	C1.08	1.00	100.00	115.87	11586.62	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$11,587	estimated
II: Final Reclamation & Closure	1000	N01		1525 Portal	Demobilization/Demolition	Remove fuel tanks from 1525 portal		2	ea	2	ea	C2.06	3.00	6.00	131.03	262.06	800.00	1600	70.120	140.24	29.48	69.21	18.28	58.96	1030.63	$2,061	
II: Final Reclamation & Closure	5000	N01		1525 Portal	Install	1525 portal seal opening concrete plug		235	cy	180	m3			437.00												$135,277	
II: Final Reclamation & Closure	1000	N02		Outfall 002 path	Demobilization/Demolition	Remove river discharge mixing zone at outfall 002		50	hr	50	hr	C1.08	1.00	50.00	115.87	5793.31	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$5,793	
II: Final Reclamation & Closure	1000	N02		Outfall 002 path	Demobilization/Demolition	Remove discharge pipe to outfall 002		2,080	ft	634	m	C3.07	0.01	6.97	0.68	433.19	101.00	64032.38	0.113	71.58	0.05	40.72	10.76	34.69	101.85	$64,572	
II: Final Reclamation & Closure	1000	N02		Outfall 002 path	Enhanced recovery	Apply defined enhanced recovery to Outfall 002 path		100	sf	9	m2	C4.01	0.00015	0.00	0.00	0.00	1.14	10.58826	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$11	Assumed no growth media required (enhanced recovery)
II: Final Reclamation & Closure	1000	N03		Access road #7	Recontouring/Reshaping	Remove Culverts		200	ft	61	m	C2.11	0.33	20.32	23.62	1439.82	0.00	0	30.657	1868.83	11.85	847.90	223.99	722.38	66.13	$4,031	
II: Final Reclamation & Closure	1000	N04		1525 Laydown areas	Enhanced recovery	Seed1525 Laydown areas		68,026	sf	6320	m2	C4.01	0.00015	0.97	0.00	0.00	1.14	7202.76	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$7,203	
II: Final Reclamation & Closure	2000	N08		Fuel berms	Spread Growth Media	spread growth media on the fuel containment berm area		290	cy	222	m3	R.005	0.04	8.80	2.82	626.31	0.00	0	3.038	673.84	0.87	226.81	59.92	193.23	6.73	$1,493	
IV: Post Closure Reclamation	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove temporary Closure camp		200	hr	200	hr	C1.01	1.00	200.00	70.86	14171.49	0.00	0	110.360	22072.00	27.36	6422.86	1696.73	5472.00	208.58	$41,715	Assumed temp facilities will be required at end of closure
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove propane distribution, rented tanks returned, above ground piping removed		10	hr	10	hr	C1.08	1.00	10.00	115.87	1158.66	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$1,159	estimated
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove fuel tanks to Fairbanks		13	ea	13	ea	C2.06	3.00	39.00	131.03	1703.42	800.00	10400	70.120	911.56	29.48	449.83	118.83	383.24	1030.63	$13,398	includes N27 fuel tanks
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	1.7 Transformer Upper Level: Incinerator 13.8kV-480 V 45 kVA Pole Mounted		1	ea	1	ea	C3.04	20.00	20.00	1713.62	1713.62	0.00	0	843.700	843.70	93.70	109.98	29.05	93.70	2651.02	$2,651	
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove Transformers (Lower Portal: Warehouse, Truck Shop/Offices; Upper Level: Fresh Water Pp, Camps)		5	ea	5	ea	C3.04	20.00	100.00	1713.62	8568.11	0.00	0	843.700	4218.50	93.70	549.91	145.27	468.50	2651.02	$13,255	
II: Final Reclamation & Closure	3000	N10		1690 Portal	Spread Growth Media	Spread Growth media on 1690 Portal area		2,340	cy	1789	m3	R.005	0.04	71.01	2.82	5051.95	0.00	0	3.038	5435.36	0.87	1829.48	483.29	1558.64	6.73	$12,046	*Table 9 from 404 Permit*
II: Final Reclamation & Closure	3000	N10		1690 Portal	Recontouring/Reshaping	Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		3,395	cy	2595	m3	R.006	0.00	5.91	0.16	418.58	0.00	0	0.486	1261.40	0.15	462.56	122.19	394.08	0.80	$2,074	*Table 9 from 404 Permit*
II: Final Reclamation & Closure	2000	N31		ORTW	Recontouring/Reshaping	Breach ORTW containment ponds		5,500	cy	4205	m3	R.006	0.00	9.57	0.16	678.17	0.00	0	0.486	2043.66	0.15	749.42	197.97	638.47	0.80	$3,360	
II: Final Reclamation & Closure	2000	N07		Main Airstrip	Enhanced recovery	Seed Main Airstrip		1,000	sf	93	m2	C4.01	0.00015	0.01	0.00	0.00	1.14	105.8826	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$106	
IV: Post Closure Reclamation	1000	E01		1525 Portal access road	Recontouring/Reshaping	Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Not feasible to restore wetland due to marginal hydrology.		58,318	cy	44587	m3	R.006	0.00	101.48	0.16	7190.71	0.00	0	0.486	21669.33	0.15	7946.20	2099.15	6769.83	0.80	$35,630	*Table 5 from 404 Permit*
II: Final Reclamation & Closure	1000	N08		Fuel berms	Recontouring/Reshaping	Estimated 10% could be sent off site for incineration pending sampling results		87	cy	67	m3	C3.14	1.14	75.69	71.08	4730.56	269.38	17927.19	0.000	0.00	0.00	0.00	0.00	0.00	340.47	$22,658	
IV: Post Closure Reclamation	1000	E01		1525 Portal access road	Spread Growth Media	Recontoured surfaces will be ripped and respread with growth media.		6,549	cy	5007	m3	R.007	0.03	139.61	1.98	9924.70	0.00	0	1.968	9856.03	0.58	3405.25	899.57	2901.13	4.53	$22,682	*Table 5 from 404 Permit*
II: Final Reclamation & Closure	1000	N08		Fuel berms	Monitoring	Sampling of hydro carbon soils for the fuel containment berms		5	ea	5	ea															$5,000	estimated sampling cost
II: Final Reclamation & Closure	2000	N08		Fuel berms	Enhanced recovery	Seed fuel berm area for revegation		1,741	sf	162	m2	C4.01	0.00015	0.02	0.00	0.00	1.14	184.33	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$184	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Recontouring/Reshaping	Complete removal road #6 to Material site 23 (wetlands area)		140,479	cy	107404	m3	R.008	0.02	2518.62	1.65	177319.88	0.00	0	2.134	229234.84	0.67	84916.06	22432.28	72344.88	4.46	$478,900	
II: Final Reclamation & Closure	3000	N10		1690 Portal	Demobilization/Demolition	Remove 1690 Portal Lighting - Liese Area		15	hr	15	hr	C1.08	1.00	15.00	115.87	1737.99	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$1,738	estimated
II: Final Reclamation & Closure	3000	N10		1690 Portal	Demobilization/Demolition	Remove Transformer for Materials Handling at Conveyor Portal		1	ea	1	ea	C3.04	20.00	20.00	1713.62	1713.62	0.00	0	843.700	843.70	93.70	109.98	29.05	93.70	2651.02	$2,651	
II: Final Reclamation & Closure	3000	N10		1690 Portal	Enhanced recovery	Seed 1690 Portal area		141,895	sf	13182	m2	C4.01	0.00015	2.02	0.00	0.00	1.14	15024.22	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$15,024	
IV: Post Closure Reclamation	1000	E06		Access road Goodpaster bridge to Construction Camp	Spread Growth Media	Spread growth media on #6 access road		530	cy	405	m3	R.009	0.05	20.11	3.52	1426.87	0.00	0	3.877	1572.05	1.24	590.82	156.08	503.35	8.64	$3,502	
II: Final Reclamation & Closure	1000	E07		Burn Pit Area	Recontouring/Reshaping	Excavate ashes from the Burn Pit and place in solid waste area		1,640	cy	1254	m3	R.010	0.06	70.55	3.97	4976.99	0.00	0	4.624	5799.53	1.52	2230.55	589.24	1900.33	10.11	$12,677	

Phase	Area Code	WBS	Item	Area Description	Activity	Task	Status	Quantity	Unit	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Unit Labor	Labor Cost	Unit Material	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Consumed (gal)	Fuel Cost	Total Unit Cost	Activity Total	Source / Comments
II: Reclamation Concurrent with Mining	1000	E08		Upper Exploration camp	Recontouring/Reshaping	Upper Exploration Camp		6,000	cy	4587	m3	R.012	0.00	10.93	0.17	774.81	0.00	0	0.219	1005.68	0.08	456.28	120.54	388.73	0.47	$2,169	
II: Final Reclamation & Closure	5000	N10		1690 Portal	Install	1690 portal seal opening concrete plug		211	cy	161	m3			432.16												$129,644	
II: Final Reclamation & Closure	1000	N11		Airstrip laydown	Recontouring/Reshaping	Estimated 10% will be sent off site for incineration		127	cy	97	m3	C3.14	1.14	110.27	71.08	6891.61	269.38	26116.85	0.000	0.00	0.00	0.00	0.00	0.00	340.47	$33,008	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Demobilization/Demolition	Remove Electricity - Overhead electrical conductors on power line to airstrip		3,787	ft	1154	m	C3.02	0.03	36.93	2.74	3164.58	0.00	0	1.350	1558.08	0.15	203.11	53.65	173.04	4.24	$4,896	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Demobilization/Demolition	Remove transmission powerline on airstrip to where the batch plant was		11	ea	11	ea	C3.03	4.55	50.00	383.32	4216.51	0.00	0	255.667	2812.33	28.39	366.61	96.85	312.33	667.38	$7,341	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Demobilization/Demolition	1.7 Transformer: Airstrip 13.8kV-480 V 45 kVA Pole Mounted		1	ea	1	ea	C3.04	20.00	20.00	1713.62	1713.62	0.00	0	843.700	843.70	93.70	109.98	29.05	93.70	2651.02	$2,651	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Demobilization/Demolition	Remove transformer for concrete batch plant Pole Mounted		1	ea	1	ea	C3.04	20.00	20.00	1713.62	1713.62	0.00	0	843.700	843.70	93.70	109.98	29.05	93.70	2651.02	$2,651	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Recontouring/Reshaping	Estimated 10% of the material might be sent off site for incineration		127	cy	97	m3	C3.14	1.14	110.27	71.08	6891.61	269.38	26116.85	0.000	0.00	0.00	0.00	0.00	0.00	340.47	$33,008	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Enhanced recovery	Seed Airstrip laydown		231,650	sf	21521	m2	C4.01	0.00015	3.29	0.00	0.00	1.14	24527.65	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$24,528	
II: Final Reclamation & Closure	4000	N20		Access road to RTP seepage wells	Recontouring/Reshaping	Reshaping access road to RTP seepage wells		9,045	cy	6915	m3	R.012	0.00	16.48	0.17	1167.99	0.00	0	0.219	1516.00	0.08	687.82	181.70	585.99	0.47	$3,270	
II: Final Reclamation & Closure	4000	N20		Dry Stack and RTP area	Monitoring	Install monitoring wells		100	ft	30	m														590.55	$18,000	
II: Final Reclamation & Closure	4000	N23		Diversion ditches	Recontouring/Reshaping	Reshape diversion ditches		110,977	cy	84848	m3	R.012	0.00	202.25	0.17	14331.03	0.00	0	0.219	18601.08	0.08	8439.44	2229.45	7190.04	0.47	$40,122	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Demobilization/Demolition	Diesel Tank - located at airstrip	removed	1	ea	1	ea															$ -	
II: Final Reclamation & Closure	2000	N11		Airstrip laydown	Monitoring	Sampling of hydro carbon soils for the fuel containment berms		5	ea	5	ea															$5,000	estimated sampling cost
II: Final Reclamation & Closure	3000	N14		Mill bench	Demobilization/Demolition	Remove propane distribution, rented tanks returned, above ground piping removed		10	hr	10	hr	C1.08	1.00	10.00	115.87	1158.66	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$1,159	estimated
II: Final Reclamation & Closure	3000	N14		Mill bench	Demobilization/Demolition	remove Diesel Tanks - located at millsite to Fairbanks		6	ea	6	ea	C2.06	3.00	18.00	131.03	786.19	800.00	4800	70.120	420.72	29.48	207.62	54.85	176.88	1030.63	$6,184	
II: Final Reclamation & Closure	3000	N14		Mill bench	Recontouring/Reshaping	Estimated 10% of the material might be sent off site for incineration		18	cy	14	m3	C3.14	1.14	15.98	71.08	998.79	269.38	3785.081	0.000	0.00	0.00	0.00	0.00	0.00	340.47	$4,784	
II: Final Reclamation & Closure	3000	N14		Mill bench	Demobilization/Demolition	Remove communication cables on Mill bench (above ground only)		10,000	ft	3048	m	C3.18	0.02	60.00	1.18	3610.49	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	1.18	$3,610	estimated
II: Final Reclamation & Closure	3000	N14		Mill bench	Demobilization/Demolition	Remove electrical and communication cables to Mill bench to 1525 Portal (above ground only)		15,000	ft	4572	m	C3.18	0.02	90.00	1.18	5415.74	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	1.18	$5,416	estimated length
II: Final Reclamation & Closure	3000	N25		Storm pond	Recontouring/Reshaping	Reshape/Recontour with water bars at the storm pond		5,107	cy	3905	m3	R.012	0.00	9.31	0.17	659.49	0.00	0	0.219	856.00	0.08	388.37	102.60	330.88	0.47	$1,846	
II: Final Reclamation & Closure	3000	N14		Mill bench	Enhanced recovery	seed, Mill bench		617,893	sf	57404	m2	C4.01	0.00	8.78	0.00	0.00	1.14	65424.15	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$65,424	
II: Final Reclamation & Closure	6000	N28B		Material site B	Spread Growth Media	Spread growth media on material site B		258	sy	216	m2	R.012	0.00	0.51	0.17	36.48	0.00	0	0.219	47.35	0.08	21.48	5.67	18.30	0.47	$102	Growth media is stockpiled there, will not require relocation
II: Final Reclamation & Closure	6000	N28D		Material site D	Recontouring/Reshaping	Reshape material site D		1,884	cy	1440	m3	R.012	0.00	3.43	0.17	243.24	0.00	0	0.219	315.72	0.08	143.24	37.84	122.04	0.47	$681	
II: Final Reclamation & Closure	3000	N14		Mill bench	Monitoring	Sampling of hydro carbon soils for the fuel containment berms		5	ea	5	ea															$5,000	estimated sampling cost
II: Final Reclamation & Closure	4000	N15		Road #3 to Mill to RTP	Enhanced recovery	Seed road #3 to drystack		342,311	sf	31802	m2	C4.01	0.00015	4.87	0.00	0.00	1.14	36244.76	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$36,245	
II: Final Reclamation & Closure	2000	N31		ORTW	Enhanced recovery	Breach ORTW containment ponds		17,524	cy	13398	m3	R.012	0.00238	31.94	0.17	2262.99	0.00	0	0.219	2937.27	0.08	1332.66	352.05	1135.37	0.47	$6,336	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Demobilization/Demolition	Dispose of culvert under 1875 portal		2	hr	2	hr	C1.01	1.00	2.00	70.86	141.71	0.00	0	110.360	220.72	27.36	64.23	16.97	54.72	208.58	$417	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Demobilization/Demolition	Remove structures around portal heater		1	ls	1	ls	C1.08	1.00	1.00	115.87	115.87	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$116	
II: Final Reclamation & Closure	5000	N16		Main Camp/1875 Portal	Install	1875 portal seal with concrete plug		50	cy	38	m3			400.68												$93,031	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Recontouring/Reshaping	Remove Storm drainage Culverts		2,848	ft	868	m	C2.11	0.33	289.39	23.62	20505.59	0.00	0	30.657	26615.40	11.85	12075.59	3190.01	10287.89	66.13	$57,409	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Demobilization/Demolition	Remove communication cables on Main camp and 1875 bench (above ground only)		10,000	ft	3048	m	C3.18	0.02	60.00	1.18	3610.49	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	1.18	$3,610	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Enhanced recovery	Facilities removed and foundations buried. Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		293,591	sf	27276	m2	C4.01	0.00015	4.17	0.00	0.00	1.14	31086.2	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$31,086	*Table 9 from 404 Permit*
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Enhanced recovery	Seed area for revegation		850,129	sf	78980	m2	C4.01	0.00015	12.08	0.00	0.00	1.14	90013.89	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$90,014	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Demobilization/Demolition	Remove Liese Bridge abutments		1,000	cy	765	m3	R.012	0.00	1.82	0.17	129.14	0.00	0	0.219	167.61	0.08	76.05	20.09	64.79	0.47	$362	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Recontouring/Reshaping	Restore stream under Liese bridge		6,193	cy	4735	m3	R.012	0.00	11.29	0.17	799.80	0.00	0	0.219	1038.11	0.08	471.00	124.42	401.27	0.47	$2,239	
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Demobilization/Demolition	Remove Electrical above ground cables		5,000	ft	1524	m															$10,000	estimated
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Monitoring	Sampling of hydro carbon soils for the fuel containment berms		5	ea	5	ea															$5,000	estimated sampling cost
II: Final Reclamation & Closure	3000	N16F		Main Camp/1875 Portal fuel berms	Recontouring/Reshaping	Estimated 10% of the material could be sent off site for incineration pending sampling results		91	cy	70	m3	C3.14	1.14	79.21	71.08	4950.40	269.38	18760.33	0.000	0.00	0.00	0.00	0.00	0.00	340.47	$23,711	
II: Final Reclamation & Closure	5000	N17		RTP	Install	Run 6" pipe from 1690 to 1525 above ground for Phase IV water treatment		12,000	lf	3658	m	C3.09	0.28	1008.99	17.18	62841.50	150.65	551018.9	1.506	5509.10	0.67	2874.94	759.47	2449.33	170.01	$621,819	Assumed running around Liese ridge next to #6 road with steel pipe where the pressures exceed HDPE capabilities
II: Final Reclamation & Closure	4000	N18		Drystack	Install	Screen Non mineralized rock cover from Material site D for drystack cover system		24,254	cy	18544	m3	C2.01	0.01	247.25	0.98	18178.60	0.00	0	19.353	358883.63	0.74	16070.67	4245.39	13691.53	21.07	$390,754	
II: Final Reclamation & Closure	4000	N18		Drystack	Install	Screen sand layer from Material site D		24,254	cy	18544	m3	C2.04	0.00	80.63	0.32	5927.80	0.00	0	0.857	15899.32	0.16	3463.66	914.99	2950.89	1.34	$24,778	
II: Final Reclamation & Closure	4000	N18		Drystack	Enhanced recovery	Seed drystack cover		2,619,476	sf	243357	m2	C4.01	0.00015	37.23	0.00	0.00	1.14	277356.8	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$277,357	
IV: Post Closure Reclamation	6000	N28A		Material sites A	Recontouring/Reshaping	Material site A,Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		626	cy	478	m3	R.012	0.00	1.14	0.17	80.81	0.00	0	0.219	104.88	0.08	47.59	12.57	40.54	0.47	$226	Table 9 from 404 Permit
IV: Post Closure Reclamation	6000	N28D		Material site D	Recontouring/Reshaping	Material site D,Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		1,884	cy	1440	m3	R.012	0.00	3.43	0.17	243.24	0.00	0	0.219	315.72	0.08	143.24	37.84	122.04	0.47	$681	
II: Final Reclamation & Closure	1000	N04		1525 Laydown areas	Recontouring/Reshaping	Rip/scarify 1525 Laydown areas		45,351	sy	37919	m2	R.014	0.00	52.19	0.10	3697.74	0.00	0	0.294	11143.19	0.09	4086.24	1079.46	3481.30	0.48	$18,322	
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Enhanced recovery	Seed Construction/Exploration Camp pad		55,658	sy	46537	m2	R.014	0.00	64.05	0.10	4538.18	0.00	0	0.294	13675.87	0.09	5014.98	1324.81	4272.55	0.48	$22,487	
II: Final Reclamation & Closure	4000	N20		Access road to RTP seepage wells	Enhanced recovery	Enhanced recovery access road to RTP seepage wells		107,144	sf	9954	m2	C4.01	0.00015	1.52	0.00	0.00	1.14	11344.65	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$11,345	
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Recontouring/Reshaping	Culverts and wetland fills removed, then regraded, ripped or scarified.		37,105	cy	28369	m3	R.014	0.00	39.04	0.10	2766.47	0.00	0	0.294	8336.81	0.09	3057.13	807.60	2604.54	0.48	$13,708	
II: Final Reclamation & Closure	1000	N05		Construction/Exploration Camp pad	Spread Growth Media	Spread with growth media.		9,276	cy	7092	m3	R.014	0.00	9.76	0.10	691.62	0.00	0	0.294	2084.20	0.09	764.28	201.90	651.14	0.48	$3,427	
II: Final Reclamation & Closure	3000	N21		Transmission line	Demobilization/Demolition	Remove Electricity - Overhead electrical conductors (3 each set)		8,183	ft	2494	m	C3.02	0.03	79.81	2.74	6838.53	0.00	0	1.350	3366.94	0.15	438.90	115.95	373.93	4.24	$10,579	
II: Final Reclamation & Closure	3000	N21		Transmission line	Demobilization/Demolition	Remove transmission powerline on mine site to the mill (Poles only - 2 each set)		42	ea	42	ea	C3.03	4.55	190.91	383.32	16099.40	0.00	0	255.667	10738.00	28.39	1399.77	369.78	1192.55	667.38	$28,030	
II: Final Reclamation & Closure	6000	N21		Transmission line	Enhanced recovery	Enhanced recovery after transmission line removal		77,072	sf	7160	m2	C4.01	0.00015	1.10	0.00	0.00	1.14	8160.621	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$8,161	
II: Final Reclamation & Closure	4000	N23		Diversion ditches	Demobilization/Demolition	Remove diversion ditch flume to Stilling basin		2,140	ft	652	m	C2.11	0.33	217.42	23.62	15406.11	0.00	0	30.657	19996.49	11.85	9072.55	2396.69	7729.42	66.13	$43,132	
II: Final Reclamation & Closure	4000	N23		Diversion ditches	Enhanced recovery	Seed the diversion ditches		1,124,114	sf	104434	m2	C4.01	0.00015	15.98	0.00	0.00	1.14	119024.1	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$119,024	
II: Final Reclamation & Closure	2000	N07		Main Airstrip	Recontouring/Reshaping	Rip/scarify Main Airstrip		14,463	sy	12093	m2	R.014	0.00	16.64	0.10	1179.27	0.00	0	0.294	3553.75	0.09	1303.17	344.26	1110.24	0.48	$5,843	
II: Final Reclamation & Closure	3000	N25		Storm pond	Recontouring/Reshaping	Seed the storm pond area		68,944	sf	6405	m2	C4.01	0.00015	0.98	0.00	0.00	1.14	7300.006	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$7,300	

Phase	Area Code	WBS	Item	Area Description	Activity	Task	Status	Quantity	Unit	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Unit Labor	Labor Cost	Unit Material	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Consumed (gal)	Fuel Cost	Total Unit Cost	Activity Total	Source / Comments
III: Final Reclamation & Closure	2000	N11		Airstrip laydown	Recontouring/Reshaping	Rip/scarify airport laydown areas		11,736	cy	8973	m3	R.014	0.00	12.35	0.10	875.03	0.00	0	0.294	2636.90	0.09	966.96	255.44	823.81	0.48	$4,336	
III: Final Reclamation & Closure	3000	N30		Ore stockpile	Recontouring/Reshaping	Rip/Scarify Ore stockpile		4,082	cy	3121	m3	R.014	0.00	4.29	0.10	304.31	0.00	0	0.294	917.05	0.09	336.29	88.84	286.50	0.48	$1,508	
IV: Post Closure Reclamation	1000	E06		Access road Goodpaster bridge to Construction Camp	Recontouring/Reshaping	Rip/Scarify #6 Access road from the Goodpaster bridge to the construction pad		1,061	cy	811	m3	R.014	0.00	1.12	0.10	79.08	0.00	0	0.294	238.32	0.09	87.39	23.09	74.46	0.48	$392	
III: Final Reclamation & Closure	6000	N27		Growth Media	Enhanced recovery	Seed growth media storage areas		92,410	sf	8585	m2	C4.01	0.00015	1.31	0.00	0.00	1.14	9784.574	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$9,785	
III: Final Reclamation & Closure	6000	N28A		Material sites A	Enhanced recovery	Seed Material site A		84,477	sf	7848	m2	C4.01	0.00015	1.20	0.00	0.00	1.14	8944.644	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$8,945	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Recontouring/Reshaping	Rip/Scarify road#6		295,779	cy	226139	m3	R.014	0.00	311.22	0.10	22052.43	0.00	0	0.294	66455.35	0.09	24369.35	6437.65	20761.66	0.48	$109,269	
III: Final Reclamation & Closure	6000	N28B		Material site B	Enhanced recovery	Seed Material site B		28,855	sf	2681	m2	C4.01	0.00015	0.41	0.00	0.00	1.14	3055.216	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$3,055	
IV: Post Closure Reclamation	3000	N13		Access Road #1	Recontouring/Reshaping	Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		25,093	cy	19185	m3	R.015	0.00	87.65	0.32	6210.43	0.00	0	0.698	13388.06	0.23	5260.10	1389.56	4481.38	1.26	$24,080	*Table 9 from 404 Permit*
IV: Post Closure Reclamation	3000	N13		Access Road #1	Spread Growth Media	Spread Growth Media, Access Road #1		3,585	cy	2741	m3	R.016	0.03	87.88	2.28	6247.36	0.00	0	2.264	6204.13	0.67	2143.52	566.25	1826.19	5.21	$14,278	*Table 9 from 404 Permit*
III: Final Reclamation & Closure	6000	N28D		Material site D	Enhanced recovery	Seed Material site D		50,857	sf	4725	m2	C4.01	0.00015	0.72	0.00	0.00	1.14	5384.91	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$5,385	
III: Final Reclamation & Closure	3000	N14		Mill bench	Recontouring/Reshaping	Recontour and install water bars on Mill bench		267,458	cy	204487	m3	R.017	0.00	934.19	0.32	66194.25	0.00	0	0.698	142697.39	0.25	61103.62	16141.74	52057.69	1.28	$260,949	
III: Final Reclamation & Closure	3000	N30		Ore stockpile	Enhanced recovery	Seed Ore stockpile		55,102	sf	5119	m2	C4.01	0.00015	0.78	0.00	0.00	1.14	5834.326	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$5,834	
III: Final Reclamation & Closure	3000	N14		Mill bench	Spread Growth Media	Place growth media on Mill bench		11,381	cy	8702	m3	R.017	0.00	39.75	0.32	2816.78	0.00	0	0.698	6072.23	0.25	2600.15	686.88	2215.22	1.28	$11,104	
III: Final Reclamation & Closure	4000	N15		Road #3 to Mill to RTP	Spread Growth Media	Spread growth media on Road #3 to drystack		6,339	cy	4847	m3	R.018	0.00	22.14	0.32	1568.88	0.00	0	0.698	3382.10	0.23	1328.81	351.03	1132.09	1.26	$6,083	
IV: Post Closure Reclamation	4000	N15		Road #3 to Mill to RTP	Recontouring/Reshaping	Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		44,374	cy	33926	m3	R.018	0.00	154.99	0.32	10982.19	0.00	0	0.698	23674.71	0.23	9301.68	2457.22	7924.63	1.26	$42,582	*Table 9 from 404 Permit*
IV: Post Closure Reclamation	4000	N15R		Road #3 to RTP to drystack	Recontouring/Reshaping	Reshape Road #3 to drystack to 10% cross fall wt water bars		64,123	cy	49026	m3	R.018	0.00	223.97	0.32	15870.08	0.00	0	0.698	34211.71	0.23	13441.61	3550.87	11451.68	1.26	$61,533	
IV: Post Closure Reclamation	4000	N15R		Road #3 to RTP to drystack	Spread Growth Media	Spread growth media on Road #3 to drystack		9,160	cy	7004	m3	R.018	0.00	32.00	0.32	2267.15	0.00	0	0.698	4887.39	0.23	1920.23	507.27	1635.95	1.26	$8,790	
III: Final Reclamation & Closure	4000	N32		Stilling Basin	Demobilization/Demolition	Remove dam spill flume to seepage collection wells		480	ft	146	m	C2.11	0.33	48.77	23.62	3455.58	0.00	0	30.657	4485.19	11.85	2034.96	537.58	1733.70	66.13	$9,674	
III: Final Reclamation & Closure	4000	N32		Stilling Basin	Enhanced recovery	Seed Stilling Basin area		124,940	sf	11607	m2	C4.01	0.00015	1.78	0.00	0.00	1.14	13228.97	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$13,229	
III: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Recontouring/Reshaping	Reshape bench and road at Main Camp/1875 Portal with 10% cross fall and water bars		293,591	cy	224467	m3	R.019	0.01	2394.84	0.75	168604.93	0.00	0	1.193	267871.95	0.39	103370.99	27307.51	88067.69	2.34	$524,545	
III: Final Reclamation & Closure	3000	N25		Storm pond	Recontouring/Reshaping	Remove liner from the storm pond to the solid waste facility		1,379	cy	1054	m3	R.020	0.03	36.61	2.45	2578.08	0.00	0	2.599	2739.96	0.68	846.79	223.70	721.43	5.73	$6,039	
IV: Water Treatment	6000	S00			Water treatment	Operate water treatment plant		80	months	80	months	W.001	0.00	27600.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	42453.45	$3,396,276	See Water_treatment cost worksheet
IV: Water Treatment	6000	S00			Water treatment	Sludge disposal		80	months	80	months														1652.58	$132,207	
IV: Water Treatment	6000	S00			Monitoring	Monitoring Phase III TeckCominco inspection		10	yr	10	yr			5400.00												$1,677,070	See Monitoring cost worksheet
III: Final Reclamation & Closure	1000				Demobilization/Demolition	Site structure (see Infrastructure removal)								1129.00	2697.89	107266.49	4800.00	16000	3002.880	82494.20	686.34	18036.09	4764.59	15365.98	11187.11	$ 221,127	reference to infrastructure removal tab
III: Final Reclamation & Closure	3000				Demobilization/Demolition	Site structure (see Infrastructure removal)		1	lot	1	lot			9061.00	16287.44	693856.39	1600.00	1600	22115.660	853692.77	5560.67	218208.46	57644.13	185904.34	45563.77	$ 1,735,053	reference to infrastructure removal tab
III: Final Reclamation & Closure	5000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
III: Final Reclamation & Closure	6000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
III: Final Reclamation & Closure	5000			Underground stopes	Install	backfill		38,513	cy	29445	m3			6596.82												$ 1,711,812	
IV: Post Closure Reclamation	5000	N16		Main Camp/1875 Portal	Spread Growth Media	Spread growth media at Main Camp/1875 bench		15,397	cy	11772	m3	R.020	0.03	408.76	2.45	28787.19	0.00	0	2.599	30594.73	0.68	9455.34	2497.82	8055.55	5.73	$67,437	
IV: Post Closure Reclamation	2000	N07		Main Airstrip	Spread Growth Media	Place growth media on Main Airstrip		37,046	cy	28324	m3	R.021	0.01	402.07	1.01	28605.79	0.00	0	1.087	30776.77	0.36	11914.17	3147.37	10150.36	2.45	$69,533	
IV: Post Closure Reclamation	1000	N01		1525 Portal	Recontouring/Reshaping	Highwalls will be stabilized by pulling the outer crest of the fill over the pad to the highwall. Recontoured surfaces will be ripped and respread with growth media. Not feasible to restore wetland due to marginal hydrology.		28,182	cy	21547	m3	R.022	0.00	67.24	0.22	4764.57	0.00	0	0.477	10271.15	0.17	4398.15	1161.86	3747.04	0.87	$18,783	
IV: Post Closure Reclamation	1000	E04		Construction Airstrip		Construction Airstrip	in natural recovery			0	0																Assumed natural recovery, floods during high water
IV: Post Closure Reclamation	1000	E06		Access road Goodpaster bridge to Construction Camp	Enhanced recovery	Seed #6 access road area for revegation		909	sf	84	m2	C4.01	0.00015	0.01	0.00	0.00	1.14	96.26775	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$96	
IV: Post Closure Reclamation	1000	N01		1525 Portal	Spread Growth Media	Spread Growth Media on 1525 Portal bench		2,601	cy	1989	m3	R.023	0.02	47.90	1.71	3407.65	0.00	0	1.843	3666.27	0.61	1419.27	374.93	1209.16	4.16	$8,283	
III: Final Reclamation & Closure	4000	N20		Access road to RTP seepage wells	Spread Growth Media	Placing growth media on access road to RTP seepage wells		3,968	cy	3034	m3	R.024	0.05	137.36	3.22	9772.24	0.00	0	3.465	10513.88	1.14	4070.09	1075.20	3467.54	7.83	$23,754	
IV: Post Closure Reclamation	1000	M09			Demobilization/Demolition	Earth Station		40	hr	40	hr	C1.08	1.00	40.00	115.87	4634.65	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	115.87	$4,635	
IV: Post Closure Reclamation	1000	N01		1525 Portal	Enhanced recovery	Seed 1525 Portal bench		21,137	sf	1964	m2	C4.01	0.00015	0.30	0.00	0.00	1.14	2238.01	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$2,238	
III: Final Reclamation & Closure	3000	N30		Ore stockpile	Spread Growth Media	Spread Growth media on Ore stockpile		1,020	cy	780	m3	R.025	0.04	30.96	2.82	2202.68	0.00	0	3.038	2369.85	1.00	917.41	242.35	781.59	6.86	$5,354	
III: Final Reclamation & Closure	4000	N18		Drystack	Recontouring/Reshaping	Place Non mineralized rock cover on drystack		48,509	cy	37088	m3	R.026	0.02	735.72	1.40	52093.13	0.00	0	1.480	54880.28	0.47	20399.77	5389.01	17379.74	3.35	$124,353	
IV: Post Closure Reclamation	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove 6" dia HDPE dr17 insulated heat trace Discharge pipe to injection wells		1,800	ft	549	m	C2.09	0.10	54.86	6.28	3447.96	0.00	0	1.411	774.27	0.68	440.48	116.36	375.27	8.38	$4,597	
IV: Post Closure Reclamation	1000	N05		Construction/Exploration Camp pad	Demobilization/Demolition	Remove remaining above ground items		1	ls	1	ls															$100,000	Assumed Misc. cleanup of the area from demolition camp
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Recontouring/Reshaping	Remove Culverts		80	ft	24	m	C2.11	0.33	8.13	23.62	575.93	0.00	0	30.657	747.53	11.85	339.16	89.60	288.95	66.13	$1,612	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Demobilization/Demolition	Remove Liese Bridge		50	ft	15	m	C3.05	4.00	60.96	254.05	3871.68	0.00	0	168.740	2571.60	18.74	335.23	88.56	285.60	441.53	$6,729	
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Enhanced recovery	Remove road #6 to Material site 23		49,161	sf	4567	m2	C4.01	0.00015	0.70	0.00	0.00	1.14	5205.321	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$5,205	
III: Final Reclamation & Closure	4000	N18		Drystack	Recontouring/Reshaping	Place sand layer from Material site B on Drystack		24,254	cy	18544	m3	R.026	0.02	367.86	1.40	26046.56	0.00	0	1.480	27440.14	0.47	10199.88	2694.50	8689.87	3.35	$62,177	
III: Final Reclamation & Closure	4000	N18		Drystack	Spread Growth Media	Place Growth media from pile C, 6"		24,254	cy	18544	m3	R.026	0.02	367.86	1.40	26046.56	0.00	0	1.480	27440.14	0.47	10199.88	2694.50	8689.87	3.35	$62,177	
IV: Post Closure Reclamation	4000	N17		RTP	Recontouring/Reshaping	Place filter base material for capping runoff sediments		2,500	cy	1911	m3	R.027	0.04	75.85	2.82	5396.59	0.00	0	3.038	5806.16	1.00	2247.65	593.76	1914.91	6.86	$13,118	Quantiy from table 4.5 in Reclamation plan. ***RTP breached. Slopes trimmed with maximum 2:1 sideslopes and 50 ft wide floodplain reestablished. Foot slopes and impoundment spread with growth media. Highwall cuts will be stabilized and left in place. Emergent wetlands established in impoundment (Table 9 in 404 Permit)***
IV: Post Closure Reclamation	4000	N17		RTP	Spread Growth Media	Place growth media on RTP dam		6,947	sy	5808	m2	R.027	0.04	230.50	2.82	16399.34	0.00	0	3.038	17643.93	1.00	6830.24	1804.34	5819.08	6.86	$39,862	
IV: Post Closure Reclamation	4000	N17		RTP	Recontouring/Reshaping	Remove HDPE liner to solid waste facility		8,500	cy	6499	m3	R.028	0.02	150.85	1.22	7959.40	0.00	0	2.150	13971.80	0.69	5288.75	1397.13	4505.79	4.07	$26,437	Quantiy from table 4.5 in Reclamation plan. ***RTP breached. Slopes trimmed with maximum 2:1 sideslopes and 50 ft wide floodplain reestablished. Foot slopes and impoundment spread with growth media. Highwall cuts will be stabilized and left in place. Emergent wetlands established in impoundment (Table 9 in 404 Permit)***
IV: Post Closure Reclamation	4000	N17		RTP	Recontouring/Reshaping	Remove filter base material to the drystack facility		85,400	cy	65293	m3	R.028	0.02	1515.57	1.22	79968.56	0.00	0	2.150	140375.45	0.69	53136.38	14037.04	45269.94	4.07	$265,614	Quantiy from table 4.5 in Reclamation plan. ***RTP breached. Slopes trimmed with maximum 2:1 sideslopes and 50 ft wide floodplain reestablished. Foot slopes and impoundment spread with growth media. Highwall cuts will be stabilized and left in place. Emergent wetlands established in impoundment (Table 9 in 404 Permit)***
IV: Post Closure Reclamation	3000	N13		Access Road #1	Enhanced recovery	Seed, Access Road #1		193,577	sf	17984	m2	C4.01	0.00015	2.75	0.00	0.00	1.14	20496.43	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$20,496	

Phase	Area Code	WBS	Item	Area Description	Activity	Task	Status	Quantity	Unit	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Unit Labor	Labor Cost	Unit Material	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Consumed (gal)	Fuel Cost	Total Unit Cost	Activity Total	Source / Comments
IV: Post Closure Reclamation	4000	N17		RTP	Recontouring/Reshaping	Remove Geosynthetic Clay Liner		8,500	cy	6499	m3	R.028	0.02	150.85	1.22	7959.40	0.00	0	2.150	13971.80	0.69	5288.75	1397.13	4505.79	4.07	$26,437	Quantiy from table 4.5 in Reclamation plan. ***RTP breached. Slopes trimmed with maximum 2:1 sideslopes and 50 ft wide floodplain reestablished. Foot slopes and impoundment spread with growth media. Highwall cuts will be stabilized and left in place. Emergent wetlands established in impoundment (Table 9 in 404 Permit)***
II: Final Reclamation & Closure	3000	N25		Storm pond	Spread Growth Media	Spread growth media on the storm pond		1,277	cy	976	m3	R.030	0.04	38.74	2.09	2044.00	0.00	0	3.055	2982.34	0.99	1135.94	300.08	967.77	6.14	$5,994	
II: Final Reclamation & Closure	6000	N28A		Material sites A	Enhanced recovery	Spread growth media on material site A		3,129	cy	2392	m3	R.031	0.04	94.93	2.82	6753.90	0.00	0	3.038	7266.47	1.00	2812.96	743.10	2396.53	6.86	$16,417	
IV: Post Closure Reclamation	4000	N15R		Road #3 to RTP to drystack	Enhanced recovery	Seed road #3 to drystack		494,665	sf	45956	m2	C4.01	0.00015	7.03	0.00	0.00	1.14	52376.36	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$52,376	
II: Final Reclamation & Closure	6000	N28B		Material site B	Spread Growth Media	Spread growth media on material site B		534	cy	409	m3	R.032	0.04	16.21	2.82	1153.46	0.00	0	3.038	1241.00	1.00	480.41	126.91	409.29	6.86	$2,804	
II: Final Reclamation & Closure	3000	N10		1690 Portal	Recontouring/Reshaping	Remove culver fill material from 1690 Portal and place as fill in material site A. Remove culvert and restore Liese creek drainage		40,237	cy	30763	m3	R.034	0.02	550.80	1.26	38820.26	0.00	0	2.125	65363.97	0.71	25817.02	6820.08	21995.00	4.10	$126,179	
II: Final Reclamation & Closure	3000	N31		ORTW	Spread Growth Media	Breach ORTW containment ponds		1,298	cy	992	m3	R.036	0.04	39.39	2.82	2802.10	0.00	0	3.038	3014.75	1.00	1167.06	308.30	994.28	6.86	$6,811	
IV: Post Closure Reclamation	4000	N17		RTP	Demobilization/Demolition	Remove Transformer Upper Level at the RTP Pump house		1	ea	1	ea	C3.04	20.00	20.00	1713.62	1713.62	0.00	0	843.700	843.70	93.70	109.98	29.05	93.70	2651.02	$2,651	
IV: Post Closure Reclamation	4000	N17		RTP	Enhanced recovery	Seed the RTP dam area		406,106	sf	37728	m2	C4.01	0.00015	5.77	0.00	0.00	1.14	42999.54	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$43,000	From quantities worksheet
IV: Post Closure Reclamation	4000	N17		RTP	Recontouring/Reshaping	Liner system base and cover used for capping runoff sediments		2,500	sf	232	m2	C4.01	0.00015	0.04	0.00	0.00	1.14	264.7064	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$265	Quantiy from table 4.5 in Reclamation plan. ***RTP breached. Slopes trimmed with maximum 2:1 sideslopes and 50 ft wide floodplain reestablished. Foot slopes and impoundment spread with growth media. Highwall cuts will be stabilized and left in place. Emergent wetlands established in impoundment (Table 9 in 404 Permit)***
II: Final Reclamation & Closure	4000	N32		Stilling Basin	Recontouring/Reshaping	Depression filled, contoured and spread with growth media.		16,196	cy	12383	m3	R.037	0.03	312.30	1.79	22218.61	0.00	0	2.982	36922.21	0.96	13891.91	3669.82	11835.31	5.73	$70,976	Table 9 from 404 Permit
II: Final Reclamation & Closure	4000	N32		Stilling Basin	Spread Growth Media	Depression filled, contoured and spread with growth media.		4,627	cy	3538	m3	R.038	0.04	140.40	2.82	9988.89	0.00	0	3.038	10746.98	1.00	4160.32	1099.03	3544.42	6.86	$24,280	Table 9 from 404 Permit
IV: Post Closure Reclamation	4000	N32		Stilling Basin	Spread Growth Media	spread growth media on Stilling Basin area		4,627	cy	3538	m3	R.038	0.04	140.40	2.82	9988.89	0.00	0	3.038	10746.98	1.00	4160.32	1099.03	3544.42	6.86	$24,280	
II: Final Reclamation & Closure	4000	N18		Drystack	Recontouring/Reshaping	Install erosion ditches (rip rap) on edges of drystack		1,000	cy	765	m3	R.039	0.03	21.87	2.03	1549.63	0.00	0	2.631	2011.35	1.02	912.56	241.07	777.47	5.67	$4,338	Estimated 5935' of 6'x1' of rip rap to construct ditch and 10% of the maximum production rate will be achieved during the task
II: Reclamation Concurrent with Mining	1000	E02		Rock storage pad	Spread Growth Media	Spread growth media over rock storage pad area		5,974	cy	4567	m3	R.041	0.03	158.59	2.46	11229.43	0.00	0	2.590	11830.24	0.69	3696.47	976.50	3149.23	5.74	$26,209	Test area for enhanced recovery with GM placement
IV: Post Closure Reclamation	4000	N17		RTP	Demobilization/Demolition	1.5 I/O panel for RTP pump house		1	ea	1	ea															$500	estimated
IV: Post Closure Reclamation	4000	N17		RTP	Demobilization/Demolition	Inlet structure: RTP breakup & bury in place		100	cy	76	m3															$3,000	estimated
IV: Post Closure Reclamation	4000	N17		RTP	Demobilization/Demolition	Stilling basin lock blocks: RTP		650	ea	650	ea															$9,000	estimated
IV: Post Closure Reclamation	6000	N17			Demobilization/Demolition	Remove 6" dia HDPE DR 17 from RTP sump to WTP #2		14,000	lf	4267	m	C2.09	0.10	426.72	6.28	26817.44	0.00	0	1.411	6022.09	0.68	3425.95	905.03	2918.76	8.38	$35,758	
IV: Post Closure Reclamation	3000	N20		Access road to RTP seepage wells	Demobilization/Demolition	Remove seepage collection and cap wells		9	ea	9	ea	C2.03	30.00	270.00	1940.24	17462.17	350.00	3150	564.500	5080.50	273.60	2890.28	763.53	2462.40	3128.34	$28,155	
IV: Post Closure Reclamation	4000	N20		Access road to RTP seepage wells	Demobilization/Demolition	Remove electrical and communications cables to RTP (above ground only)		8,000	ft	2438	m	C3.18	0.02	48.00	1.18	2888.39	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	1.18	$2,888	
II: Reclamation Concurrent with Mining	1000	E02		Rock storage pad	Recontouring/Reshaping	Temporary stockpile liners and fills will be removed		11,948	cy	9135	m3	R.042	0.05	476.47	3.67	33520.97	0.00	0	4.503	41135.03	1.39	14886.62	3932.60	12682.77	9.56	$87,339	*Table 5 from 404 Permit Item N25*
II: Final Reclamation & Closure	3000	N16		Main Camp/1875 Portal	Recontouring/Reshaping	Remove main camp fuel berm liner and material to solid waste facility		911	cy	696	m3	R.043	0.03	18.70	1.91	1326.75	0.00	0	2.318	1614.62	0.73	599.85	158.46	511.05	4.96	$3,452	Included liner with the removed material.
IV: Post Closure Reclamation	1000	N06		#6 Road Access road Goodpaster bridge to Liese bridge	Spread Growth Media	Place growth media on road #6 from GM 16 and GM 17		8,194	cy	6264	m3	R.044	0.05	292.13	3.30	20674.00	0.00	0	3.049	19099.27	1.09	8039.90	2123.90	6849.65	7.44	$46,623	
IV: Post Closure Reclamation	6000	S00			Enhanced recovery	Additional enhanced recovery deemed necessary - estimated 5% of total (10109154 sy)		505,458	sf	46959	m2	C4.01	0.00015	7.18	0.00	0.00	1.14	53519.16	0.000	0.00	0.00	0.00	0.00	0.00	1.14	$53,519	
IV: Post Closure Reclamation	6000	S00			Water treatment	Water treatment operations		6	months	6	months	W.001	0.00	2070	0	0	0	0	0	0.00	0	0	0	0	0	$254,721	estimated
IV: Post Closure Reclamation	6000	S00			Monitoring	Monitoring Phase IV TeckCominco inspection		1	yr	1	yr			0.00												$167,707	See Monitoring cost worksheet
IV: Post Closure Reclamation	6000	T00			Recontouring/Reshaping	Winter Road Demobilization		1	ls	1	ls															$500,000	estimated
IV: Post Closure Reclamation	1000				Demobilization/Demolition	Site structure (see Infrastructure removal)								1160.00	1878.34	89072.74	0.00	0	2385.830	107575.60	574.43	27395.38	7237.04	23339.70	4838.60	$ 219,986	reference to infrastructure removal tab
IV: Post Closure Reclamation	2000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
IV: Post Closure Reclamation	3000				Demobilization/Demolition	Site structure (see Infrastructure removal)		1	lot	1	lot			0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
IV: Post Closure Reclamation	4000				Demobilization/Demolition	Site structure (see Infrastructure removal)								85.00	1222.22	7358.01	0.00	0	1664.440	5895.35	420.08	1535.99	405.76	1308.60	3306.74	$ 14,562	reference to infrastructure removal tab
IV: Post Closure Reclamation	5000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
IV: Post Closure Reclamation	6000				Demobilization/Demolition	Site structure (see Infrastructure removal)								0.00	0.00	0.00	0.00	0	0.000	0.00	0.00	0.00	0.00	0.00	0.00	$ -	reference to infrastructure removal tab
V: Post Closure Monitoring	6000	S00			Demobilization/Demolition	Monitoring phase V: Cap groundwater monitoring wells		7	ea	7	ea	C2.03	30.00	210.00	1940.24	13581.68	350.00	2450	564.500	3951.50	273.60	2248.00	593.85	1915.20	3128.34	$26,898	Added $5000 for additional cost of travel and lodging
V: Post Closure Monitoring	6000	S00			Monitoring	Monitoring Phase V TeckCominco inspection		7	yr	7	yr			238.00												$77,882	See Monitoring cost worksheet

Table 20. Site Management Cost Inputs

Cost Code	Category	Rate Used in Estimate	Unit	Source/Comments
~~A.01~~	~~Camp Operation - Phase I & II~~	~~$50.00~~	~~USD/day/man~~	~~Cominco~~
A.01	Camp Operation - Phase III	$67.00	USD/day/man	ESS
A.01	Camp Operation - Phase IV Reclamation	$67.00	USD/day/man	ESS
A.01	Camp Operation - 1yr holding	$610.00	USD/day	Estimated
A.01	Camp Operation - Phase IV Water Treatment	$130.00	USD/day	Estimated
A.02	Communications	$1,000	Month	Assuming Iridium phone
A.03	Freight	12%		Of Material Costs
A.04	Heating Fuel	400	gal/month	
A.05	Equipment Insurance	10%		Of Equipment Costs
A.06	Laboratory/Material Testing	$1,000.00	Month	Estimated
A.07	Misc. Admin Supplies	$500.00	Month	Estimated
A.08	Office Supplies	$100.00	Month	Estimated
A.09	Turnaround Costs	$1,600.00	USD/trip	By Bus: This includes round trip in and out for 50 passengers
A.11	Worker hours per shift	11.5	hrs/day	

Task Unit Costs Worksheet

		Metric		US Standard		Rates						Manhour Details																	
												Laborers/Trades			Equipment Operators			Equipment Details					Material Details						
Cost Code	Item	Unit	Productivity (unit/hr)	Unit	Productivity (unit/hr)	Total Unit Cost	Manhours per Unit (hrs/Unit)	Labor Cost Per Unit ($/Unit)	Material Cost Per Unit ($/Unit)	Equipment Cost Per Unit ($/Unit)	Fuel Cost Per Unit ($/Unit)	Power Cost Per Unit	Qnty	Description	Rate (USD/hr)	Qnty	Description	Rate (USD/hr)	Equipment Type	Equipment Model	# of Equipment	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Cost Code	Item	Unit Rate	Unit	Multiplier	Multiplier Comments	Task Comments/Productivity Sources
Demolition																													
C1.01	Excavator: CAT 330 w/ grapple attachment	hrs	1	hrs	1	$ 208.58	1.000	$ 70.86	$ -	$ 110.36	$ 27.36					1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 Grapple	1	$110.36	$27.36							
C1.02	Excavator: CAT 330 w/ hammer attachment	hrs	1	hrs	1	$ 248.12	1.000	$ 70.86	$ -	$ 149.90	$ 27.36					1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 Hammer	1	$149.90	$27.36							
C1.03	Excavator: CAT 330 w/ shear attachment	hrs	1	hrs	1	$ 231.31	1.000	$ 70.86	$ -	$ 133.09	$ 27.36					1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 Shear	1	$133.09	$27.36							
C1.04	Truck: CAT 735	hrs	1	hrs	1	$ 172.24	1.000	$ 70.10	$ -	$ 84.59	$ 17.55					1.0	Truck Drivers - Group 1	$70.10	Truck	CAT 735	1	$84.59	$17.55							
C1.05	Dozer: CAT D9	hrs	1	hrs	1	$ 275.29	1.000	$ 70.86	$ -	$ 157.27	$ 47.16					1.0	Power Equipment Operator - Group 1	$70.86	Dozer	CAT D9T	1	$157.27	$47.16							
C1.06	Dozer: CAT D8T	hrs	1	hrs	1	$ 215.85	1.000	$ 70.86	$ -	$ 109.34	$ 35.65					1.0	Power Equipment Operator - Group 1	$70.86	Dozer	CAT D8T	1	$109.34	$35.65							
C1.07	Dozer: CAT D7	hrs	1	hrs	1	$ 186.13	1.000	$ 70.86	$ -	$ 87.67	$ 27.60					1.0	Power Equipment Operator - Group 1	$70.86	Dozer	CAT D7R	1	$87.67	$27.60							
C1.08	General Labor	hrs	1	hrs	1	$ 115.87	1.000	$ 115.87	$ -	$ -	$ -		1.0	Engineer	$115.87															
C1.09	Crane dismanteling (100 T)	hrs	1	hrs	1	$ 321.18	2.000	$ 133.70	$ -	$ 168.74	$ 18.74		1.0	Laborers Group 1	$60.17	1.0	Power Equipment Operator - Group 1A	$73.52	Lifting	Crane (Cable Boom), 100T	1	$168.74	$18.74							
Earthworks															0.0														
C2.01	Crusher: screen materials	m3	150	yd3	196.2	$ 21.07	0.013	$ 0.98	$ -	$ 19.35	$ 0.74								Misc. Equipment	Screen Plant (200 Tons/hr)	1	$2,638.00	$20.00							Estimated production/cost/ fuel usage
																2.0	Power Equipment Operator - Group 1A	$73.52	Loader	CAT 980H	2	$90.20	$36.60							Assumed a conversion factor of 1.3tn/cy
																			Truck	CAT 735	1	$84.59	$17.55							
C2.02	Drilling: Air Rotary 8" dia.	m	5	yd	5.5	$ 69.43	0.600	$ 43.56	$ -	$ 21.53	$ 4.34		1.0	Engineering Technician	$76.11	2.0	Power Equipment Operator - Group 1	$70.86	Drill	Air Rotary, 200 cfm compressor	1	$107.64	$21.71							
C2.03	Capping wells: remove projecting pipe, plug	each	0.1	each	0.100	$ 3,128.34	30.000	$1,940.24	$ 350.00	$ 564.50	$ 273.60		2.0	Laborers - Group 2	$61.58	1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 L	1	$56.45	$27.36	M.47	Delivered pre-mixed concrete	$350.00	$350.00	1		
C2.04	Cover sand production for drystack (screen plant)	m^3	230	yd^3	300.8	$ 1.34	0.004	$ 0.32	$ -	$ 0.86	$ 0.16									Screen Plant (200 Tons/hr)	1	$107.00								Fuel rate was included in estimate for screen plant
																1.0	Power Equipment Operator - Group 1A	$73.52	Loader	CAT 980H	1	$90.20	$36.60							
C2.05	Bridge demolition	m	0.2	ft	0.7	$ 2,247.12	20.000	$1,317.37	$ -	$ 705.20	$ 224.55		1.0	Laborers Group 1	$60.17	2.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 L	1	$56.45	$27.36							
													1.0	Laborers - Group 2	$61.58				Truck	CAT 735	1.0	$84.59	$17.55							
C2.06	Remove fuel tanks	each	1	each	1	$ 1,030.63	3.000	$ 131.03	$ 800.00	$ 70.12	$ 29.48		1.0	Laborers Group 1	$60.17	1.0	Power Equipment Operator - Group 1	$70.86	Loader	CAT 966H	1.0	$70.12	$29.48	M.50	Haulage to Fairbanks	$1,600.00	$1,600.00	0.5	Assumed 2 tanks per load	estimated, does not include sampling, included empting tanks
C2.07	Remove electrical cables	m	100	ft	328.1	$ 2.23	0.030	$ 1.85	$ -	$ 0.26	$ 0.11		2.0	Laborers Group 1	$60.17	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08							
C2.08	Labor (reshape soils)	m^2	3	yd^2	3.6	$ 60.17	1.000	$ 60.17	$ -	$ -	$ -		3.0	Laborers Group 1	$60.17															
C2.09	Remove above ground piping	m	40	ft	131.2	$ 8.38	0.100	$ 6.28	$ -	$ 1.41	$ 0.68		3.0	Laborers Group 1	$60.17	1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 330 L	1	56.45	27.36							
C2.10	Install concrete plug in portal	m3	5	cy	6.5	$ 511.14	0.800	$ 49.83	$ 455.00	$ 4.37	$ 1.94		3.0	Laborers Group 1	$60.17	1.0	Power Equipment Operator - Group 3	$68.60	Lifting	Forklift CAT 924G	1	21.84	9.71	M.47	Delivered pre-mixed concrete	$350.00	$350.00	1.3		
C2.11	Culvert removal	m	3	ft	9.8	$ 66.13	0.333	$ 23.62	$ -	$ 30.66	$ 11.85					1.0	Power Equipment Operator - Group 1	$70.86	Excavator	CAT 345 L	1	91.97	35.55					1		
Materials																														
C3.01	Dust Suppressant - Supply and Apply	m^2	1000	yd^2	1196.0	$ 0.22	0.003	$ 0.16	$ 0.03	$ 0.03	$ 0.01		2.0	Laborers - Group 4	$45.62	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08	M.02	Dust Suppressant	$0.03	$0.03	1		
C3.02	Remove Electricity - Overhead electrical conductors	m	125	ft	410.1	$ 4.24	0.032	$ 2.74	$ -	$ 1.35	$ 0.15		3.0	Electrician	$89.73	1.0	Power Equipment Operator - Group 1A	$73.52	Lifting	Crane (Cable Boom), 100T	1	$168.74	$18.74					1		RSMeans 2005 (18 04 0108)
C3.03	Remove Electricity - Treated Power Poles (40' class 3)	each	0.66	each	0.66	$ 667.38	4.545	$ 383.32	$ -	$ 255.67	$ 28.39		2.0	Electrician	$89.73	1.0	Power Equipment Operator - Group 1A	$73.52	Lifting	Crane (Cable Boom), 100T	1	$168.74	$18.74					1		RSMeans 2005 (18 04 0108)
C3.04	Remove Electricity - Pole mounted transformer	each	0.2	each	0.2	$ 2,651.02	20.000	$1,713.62	$ -	$ 843.70	$ 93.70		3.0	Electrician	$89.73	1.0	Power Equipment Operator - Group 1A	$73.52	Lifting	Crane (Cable Boom), 100T	1	$168.74	$18.74					1		RSMeans 2005 (18 04 0108)
C3.05	Bridge removal	ft	1	ft	1	$ 441.53	4.000	$ 254.05	$ -	$ 168.74	$ 18.74		3.0	Laborers Group 1	$60.17	1.0	Power Equipment Operator - Group 1A	$73.52	Lifting	Crane (Cable Boom), 100T	1	$168.74	$18.74					1		RSMeans 2005 (18 04 0108)
C3.06	Fencing: 7' galvanized Chain-link fence	m	20	yd	21.9	$ 115.66	0.225	$ 13.78	$ 100.00	$ 1.32	$ 0.55		3.5	Laborers - Group 1	$60.17	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08					1		RSMeans 2005 (18 04 0108)
C3.07	Remove above ground piping	m	500	ft	1640.4	$ 101.85	0.011	$ 0.68	$ 101.00	$ 0.11	$ 0.05		4.5	Laborers - Group 1	$60.17	1.0	Power Equipment Operator - Group 1	$70.86	Truck	CAT 330 L	1	$56.45	$27.36		surface piping removal			2		estimated
C3.08	Geotextile: Supply and Install (large areas)	m^2	250	yd^2	299.0	$ 1.40	0.016	$ 1.01	$ -	$ 0.28	$ 0.12		3.0	Laborers - Group 1	$60.17	1.0	Power Equipment Operator - Group 1	$70.86	Loader	CAT 966H	1	$70.12	$29.48							
C3.09	HDPE pipe: 150mm, insulated; supplied and installed (6")	m	14.5	yd	15.9	$ 170.01	0.276	$ 17.18	$ 150.65	$ 1.51	$ 0.67		3.0	Laborers - Group 1	$60.17	1.0	Power Equipment Operator - Group 3	$68.60	Truck	Forklift CAT 924G	1	$21.84	$9.71	M.17	HDPE pipe: 6X50 DR11 W/3" INS & H	$45.93	$45.93	3.28		
C3.10	Install steel piping 6"	m	13	yd	14.2	$ 48.43	0.308	$ 19.16	$ 26.84	$ 1.68	$ 0.75		3.0	Laborers - Group 1	$60.17	1.0	Power Equipment Operator - Group 3	$68.60	Truck	Forklift CAT 924G	1	$21.84	$9.71	M.39	Steel Pipe: 6" dia. W/ Foam Insul JD	$26.84	$26.84	1		
C3.11	Heat trace: constant watt cables, installed	m	50	yd	54.7	$ 25.05	0.080	$ 5.50	$ 18.80	$ 0.53	$ 0.22		1.0	Electrician	$89.73	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08	M.25	Heat trace: constant watt cables	$18.80	m	1		
													2.0	Laborers - Group 1	$60.17															
C3.12	Heat trace Power Feed Kit	each	0.5	each	0.5	$ 708.88	4.000	$ 358.94	$ 349.95	$ -	$ -		2.0	Electrician	$89.73									M.24	Heat trace Power Feed Kit	$349.95	each	1		
C3.13	Heat trace electrical thermostat	each	2	each	2	$ 993.61	1.000	$ 89.73	$ 903.88	$ -	$ -		2.0	Electrician	$89.73									M.23	Heat trace electrical thermostat	$903.88	each	1		
C3.14	Transport/incinerate hydrocarbon soils	m^3	0.9	Cy	1.15	$ 340.47	1.137	$ 71.08	$ 269.38	$ -	$ -					1.0	Contracting Truck 23cy	$62.50						M.48	Incineration of hydrocarbon soils	$135.77	ton	1		Quote from OIT
C3.15	Install paste underground	tonnes	122.5	ton	135	$ 10.23	0.033	$ 2.25	$ 6.21	$ 1.38	$ 0.39		2.0	Tunnel Labor Group 3	$67.41	2.0	Truck Drivers - Group 1	$70.10	Truck	CAT 740	2	$84.59	$24.14							Information from Mine department
																								M.13	cement paste ration 1:.032	$194.00	ton	0.032		This is 68% solids cost are calculated in US standard
C3.16	Install paste piping underground	m	18.3	ft	60	$ 188.31	0.164	$ 10.93	$ 175.33	$ 1.44	$ 0.61		2.0	Tunnel Labor Group 3	$67.41	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08		Paste (plastice pipe)+welding	$13.36	ft	4	multiplied by 4 for added cost of install	
C3.17	Remove underground piping	m	18.3	ft	60	$ 8.39	0.164	$ 6.34	$ -	$ 1.44	$ 0.61		2.0	Tunnel Labor Group 3	$67.41	1.0	Truck Drivers - Group 5	$65.07	Truck	Light Truck (3/4T) 4x2	1	$26.38	$11.08							
C3.18	Remove surface electrical cable	m	152.4	ft	500	$ 1.18	0.020	$ 1.18	$ -	$ -	$ -		3.0	Laborers - Group 1	$60.17															
Revegetation																														
C4.01	Seeding/Fertilizing: Application by Hydroseeder	m^2	929.03	ft^2	10000.0	$ 1.14	0.0	$ -	$ 1.14	$ -	$ -													M.12	Hydroseeding	$0.10	ft2			Phone quote Labrenze Landscaping Inc.
																									Fertilizer	$0.00	ft2			300 lbs/acre
																									Native Seed	$0.00	ft2			50 lbs/acre
~~C4.03~~	~~Seeding/Fertilizing: Application by Helicopter~~	~~hec~~	~~2.8~~	~~acre~~	~~6.9~~	~~$ 541.27~~	~~0.893~~	~~$ 55.48~~	~~$ -~~	~~$ 481.83~~	~~$ 3.96~~		~~1.5~~	~~Laborers - Group 1~~	~~$60.17~~				~~Other~~	~~Helicopter~~	~~1.0~~	~~$1,322.75~~	~~$0.00~~	~~M.28~~	~~Native seed~~	~~$2.73~~	~~lb~~		~~60kg per hectare~~	~~estimated~~
																~~1.0~~	~~Truck Drivers - Group 5~~	~~$65.07~~	~~Truck~~	~~Light Truck (3/4T) 4x2~~	~~1.0~~	~~$26.38~~	~~$11.08~~	~~M.08~~	~~Fertilizer~~	~~$798.30~~	~~ton~~		~~500kg per hectare~~	
~~C4.02~~	~~Planting (shrubs, seedlings, etc.): By hand~~	~~hec~~	~~0.032~~	~~acre~~	~~0.1~~	~~$ 6,965.09~~	~~93.750~~	~~$5,794.46~~	~~$ -~~	~~$ 824.38~~	~~$ 346.25~~		~~2.0~~	~~Laborers - Group 1~~	~~$60.17~~	~~1.0~~	~~Truck Drivers - Group 5~~	~~$65.07~~	~~Truck~~	~~Light Truck (3/4T) 4x2~~	~~1.0~~	~~$26.38~~	~~$11.08~~							
Relocations																														
C5.01	Demobilization to Fairbanks	each	1	each	1	$ 1,600.00			$ 1,600.00	$ -	$ -													M.50	Haulage to Fairbanks	$1,600.00	(estimated)	1	500kg per hectare	

Table 17. Unit Rate Inputs

A. Equipment Rates

Adjustment Factors				
Adjustment Factor for ownership/maintenance cost vs Blue Book	1.00			
Equipment Rates Used:	AlaskanContractor	SWITCH FOR LABOR RATE SELECTION		
Exchange Rate: 1USD =	1.000	CAD		
Include Operator?	No	Avg. Wage ($/hr)		
Include Equipment Owner Overhead?	No	Owner OH Rate:	10%	
Include Equipment Owner Profit?	No	Profit rate:	10%	Fuel (USD/g)
Include Fuel Cost?	No	Fuel Cost pe litre:	$0.85	$ 3.23

		Operator Details			Rates Used in Estimate			Contractor Cost Breakdown							2006 BC Blue Book Cost Breakdown					Preferred
Model	HP	# of Operators	Operator Type	Operator Rate (US $/hr)	Equipment Rate (US $/hr)	Fuel Rate (US $/hr)	Equipment Rate Source	NC Machinery Rental Rates 2008 [1] (USD/hr)	Ownership Cost (USD/hr)	Maintenance/Repair Cost (USD/hr) [3]	Rental+ Maintenance/Repair Cost ($/hr)	Fuel Operating Cost ($/hr)	Overhead Cost (USD/hr)	Profit (USD/hr)	BC Blue Book Rate 2006 (CAD/hr)	BC Blue Book Rate 2008(CAD/hr)	Ownership/ Maintenance Cost (USD/hr)	Operators Wage 2006 (USD/hr)	Fuel Operating Cost 2006 (USD/hr)	Contractor Overhead Cost (USD/hr)	Contractor Profit (USD/hr)
Compactor										10%										
CAT CP563	153	1	Power Equipment Operator - Group 3	$68.60	**$39.93**	**$16.95**	SOA 2009 Rate	**$29.75**	$24.34	$2.98	$32.73	$16.95	$2.70	$2.70	$96.90	**$102.71**	**$76.04**	$6.86	$1.99	$8.49	$9.34
Sheepsfoot (72 in, 2 drums)	0	0																			
Walk-behind vibrating (30 in)	12	1	Laborers - Group 1	$60.17	**$3.72**	**$1.33**	SOA 2009 Rate	**$4.50**	$3.68	$0.45	$4.95	$1.33	$0.41	$0.41	$36.60	**$38.80**	**$25.89**	$6.02	$0.16	$3.21	$3.53
Dozer										20%										
D6N LGP	140	1	Power Equipment Operator - Group 1	$70.86	**$46.80**	**$16.10**	Alaskan Contractor	**$39.00**	$31.91	$7.80	$46.80	$16.10	$3.55	$3.55	$176.95	**$187.57**	**$146.04**	$7.09	$1.89	$15.50	$17.05
CAT D7R	240	1	Power Equipment Operator - Group 1	$70.86	**$87.67**	**$27.60**	SOA 2009 Rate	**$72.50**	$59.32	$14.50	$87.00	$27.60	$6.59	$6.59	$177.95	**$188.63**	**$145.56**	$7.09	$3.24	$15.59	$17.15
CAT D8T	310	1	Power Equipment Operator - Group 1	$70.86	**$109.34**	**$35.65**	SOA 2009 Rate	**$90.00**	$73.64	$18.00	$108.00	$35.65	$8.18	$8.18	$207.80	**$220.27**	**$170.76**	$7.09	$4.19	$18.20	$20.02
CAT D9T	410	1	Power Equipment Operator - Group 1	$70.86	**$157.27**	**$47.16**	SOA 2009 Rate	**$135.00**	$110.45	$27.00	$162.00	$47.16	$12.27	$12.27	$272.45	**$288.80**	**$226.05**	$7.09	$5.54	$23.87	$26.25
CAT D10	580	1	Power Equipment Operator - Group 1	$70.86	**$213.53**	**$66.71**	SOA 2009 Rate	**$180.00**	$147.27	$36.00	$216.00	$66.71	$16.36	$16.36	$345.10	**$365.81**	**$287.40**	$7.09	$7.83	$30.23	$33.26
CAT D11	850	1	Power Equipment Operator - Group 1	$70.86	**$375.22**	**$97.76**	SOA 2009 Rate								$392.80	**$416.37**	**$325.54**	$7.09	$11.48	$34.41	$37.85
Drill																					
Air track rig (900cfm)	215	2	Power Equipment Operator - Group 1	$70.86	**$85.18**	**$23.81**	SOA 2009 Rate								$234.05	**$248.09**	**$195.15**	$7.09	$2.80	$20.50	$22.55
Air Rotary, 200 cfm compressor	196	2	Power Equipment Operator - Group 1	$70.86	**$107.64**	**$21.71**	SOA 2009 Rate								$302.45	**$320.60**	**$255.32**	$7.09	$2.55	$26.50	$29.15
Excavator										10%										
CAT 330 L	247	1	Power Equipment Operator - Group 1	$70.86	**$56.45**	**$27.36**	SOA 2009 Rate	**$59.50**	$48.68	$5.95	$65.45	$27.36	$5.41	$5.41	$151.50	**$160.59**	**$122.42**	$7.09	$3.21	$13.27	$14.60
CAT 365 L	404	1	Power Equipment Operator - Group 1	$70.86	**$91.97**	**$44.74**	SOA 2009 Rate	**$110.00**	$90.00	$11.00	$121.00	$44.74	$10.00	$10.00	$246.45	**$261.24**	**$203.56**	$7.09	$5.25	$21.59	$23.75
CAT 345 L	321	1	Power Equipment Operator - Group 1	$70.86	**$91.97**	**$35.55**	SOA 2009 Rate	**$77.50**	$63.41	$7.75	$85.25	$35.55	$7.05	$7.05	$227.65	**$241.31**	**$188.17**	$7.09	$4.17	$19.94	$21.94
CAT 330 Grapple	247	1	Power Equipment Operator - Group 1	$70.86	**$110.36**	**$27.36**	SOA 2009 Rate	**$71.50**	$58.50	$7.15	$78.65	$27.36	$6.50	$6.50	$246.85	**$261.66**	**$205.95**	$7.09	$3.21	$21.62	$23.79
CAT 330 Hammer	247	1	Power Equipment Operator - Group 1	$70.86	**$149.90**	**$27.36**	SOA 2009 Rate	**$120.75**	$98.80	$12.08	$132.83	$27.36	$10.98	$10.98	$261.75	**$277.46**	**$219.01**	$7.09	$3.21	$22.93	$25.22
CAT 330 Shear	247	1	Power Equipment Operator - Group 1	$70.86	**$133.09**	**$27.36**	SOA 2009 Rate	**$120.75**	$98.80	$12.08	$132.83	$27.36	$10.98	$10.98	$254.95	**$270.25**	**$213.05**	$7.09	$3.21	$22.33	$24.57
Grader										10%										
CAT 16H	220	1	Power Equipment Operator - Group 1	$70.86	**$80.33**	**$26.24**	SOA 2009 Rate	**$114.00**	$93.27	$11.40	$125.40	$26.24	$10.36	$10.36	$151.00	**$160.06**	**$122.12**	$7.09	$3.08	$13.23	$14.55
Lifting										10%										
Crane (Cable Boom), 100T	220	1	Power Equipment Operator - Group 1A	$73.52	**$168.74**	**$18.74**	SOA 2009 Rate	**$86.00**	$70.36	$10.00	$96.00	$18.74	$7.82	$7.82	$289.65	**$307.03**	**$244.19**	$7.35	$2.20	$25.37	$27.91
Crane (Cable Boom), 150T	220	1	Power Equipment Operator - Group 1A	$73.52	**$236.93**	**$18.74**	SOA 2009 Rate	**$330.00**	$270.00	$33.00	$363.00	$18.74	$30.00	$30.00	$381.00	**$403.86**	**$324.22**	$7.35	$2.20	$33.38	$36.71
Forklift CAT 924G	114	1	Power Equipment Operator - Group 3	$68.60	**$21.84**	**$9.71**	SOA 2009 Rate	**$18.00**	$14.73	$1.80	$19.80	$9.71	$1.64	$1.64	$98.95	**$104.89**	**$78.68**	$6.86	$1.14	$8.67	$9.54
Loader										15%										
CAT 966H	286	1	Power Equipment Operator - Group 1	$70.86	**$70.12**	**$29.48**	SOA 2009 Rate	**$58.75**	$48.07	$8.81	$67.56	$29.48	$5.34	$5.34	$147.75	**$156.62**	**$118.89**	$7.09	$3.46	$12.94	$14.24
CAT 980H	355	1	Power Equipment Operator - Group 1A	$73.52	**$90.20**	**$36.60**	SOA 2009 Rate	**$79.98**	$65.43	$12.00	$91.97	$36.60	$7.27	$7.27	$243.15	**$257.74**	**$201.36**	$7.35	$4.30	$21.30	$23.43
CAT 988H	555	1	Power Equipment Operator - Group 1A	$73.52	**$128.82**	**$57.21**	SOA 2009 Rate	**$105.00**	$85.91	$15.75	$120.75	$57.21	$9.55	$9.55	$343.00	**$363.58**	**$286.41**	$7.35	$6.72	$30.05	$33.05
Truck										10%										
Light Truck (3/4T) 4x2	200	1	Truck Drivers - Group 5	$65.07	**$26.38**	**$11.08**	SOA 2009 Rate														
CAT 735	317	1	Truck Drivers - Group 1	$70.10	**$84.59**	**$17.55**	SOA 2009 Rate	**$70.00**	$57.27	$7.00	$77.00	$17.55	$6.36	$6.36	$163.00	**$172.78**	**$133.72**	$7.01	$2.06	$14.28	$15.71
CAT 740	436	1	Truck Drivers - Group 1	$70.10	**$84.59**	**$24.14**	SOA 2009 Rate	**$83.75**	$68.52	$8.38	$92.13	$24.14	$7.61	$7.61	$163.00	**$172.78**	**$132.95**	$7.01	$2.83	$14.28	$15.71
CAT 777D	938	1	Truck Drivers - Group 1A	$71.98	**$189.79**	**$51.94**	SOA 2009 Rate								$268.70	**$284.82**	**$222.09**	$7.20	$6.10	$23.54	$25.89

1. Hourly rate for a monthly rental based on 10 hour shifts.
2. Price increase of 6% based on average increase in equipment costs noted from BC BlueBook between 2004 and 2006.
3. Minor Maintenance costs not otherwise included in third party rental rates, i.e. ground engaging tools, lubricants, routine preventative maintenance, minor repairs.

Misc. Equipment	Rate (USD/hr)	Est. Fuel Rate	Source
Crusher (200 Tons/hr)	**$2,638**		**Quote from Brice, note: fuel consumption was estimated**
Helicopter	**$1,322.75**		**Estimated**
Hydro-seeder truck	**$121.00**		**Estimated**
Spreader: Dozer attachment (3m width)	**$4.28**		**BCBlue book 2005-06**
Screen Plant (200 Tons/hr)	**$107.00**		**Estimated**

B. Labor Rates

0.2516 0.21

Cost Code	Category	Rate Used in Estimate	Unit	Contractor Labor Rates: Basic Hourly Rate	Fringes	Over time	burden	Contractor Total Unit Cost	Labor Rates: Basic Hourly Rate	Loading Rate (84.38%)	Teck Cominco Unit Cost	Alaska Labor Code	Contractor Source
P.01	Laborers Group 1	$60.17	USD/hr	$28.74	$16.65	$7.23	$7.55	$60.17	$17.13	$17.49	$34.62	N1201	See reference
P.02	Carpenter (journeyman)	$70.69	USD/hr	$34.33	$18.70	$8.64	$9.02	$70.69	$28.96	$29.57	$58.53	N0301	See reference
P.03	Electrician	$89.73	USD/hr	$44.60	$22.19	$11.22	$11.72	$89.73	$36.20	$30.55	$66.75	A0704	See reference
P.04	Engineer	$115.87	USD/hr	$60.00	$25.00	$15.10	$15.77	$115.87	$36.20	$30.55	$66.75		Estimated
P.05	Engineering Technician	$76.11	USD/hr	$42.00	$12.50	$10.57	$11.04	$76.11	$34.56	$29.16	$63.73		Estimated
P.06	Foreman	$75.58	USD/hr	$40.00	$15.00	$10.06	$10.51	$75.58	$37.50	$31.64	$69.14		Prior contract pricing
P.07	Environmental Laborer	$60.17	USD/hr	$28.74	$16.65	$7.23	$7.55	$60.17	$21.41	$18.07	$39.48	N1201	See reference
P.08	Health and Safety Supervisor	$75.58	USD/hr	$40.00	$15.00	$10.06	$10.51	$75.58	$27.65	$23.33	$50.98		Prior contract pricing
P.09	Laborers - Group 1	$60.17	USD/hr	$28.74	$16.65	$7.23	$7.55	$60.17	$21.41	$18.07	$39.48	N1201	See reference
P.10	Laborers - Group 2	$61.58	USD/hr	$29.67	$16.65	$7.46	$7.80	$61.58	$24.63	$20.78	$45.40	N1202	See reference
P.11	Laborers - Group 3	$62.84	USD/hr	$30.50	$16.65	$7.67	$8.02	$62.84	$29.26	$24.69	$53.95	N1203	See reference
P.12	Laborers - Group 3A	$67.41	USD/hr	$33.52	$16.65	$8.43	$8.81	$67.41	$17.13	$14.45	$31.58	N1204	See reference
P.13	Laborers - Group 4	$45.62	USD/hr	$19.13	$16.65	$4.81	$5.03	$45.62	$32.48	$27.40	$59.88	N1205	See reference
P.14	Mechanic	$70.86	USD/hr	$36.19	$16.05	$9.11	$9.51	$70.86	$36.20	$30.55	$66.75	A2103	See reference
P.15	Millwright (journeyman)	$66.95	USD/hr	$33.39	$16.38	$8.40	$8.78	$66.95	$36.20	$30.55	$66.75	A1252	See reference
P.16	Power Equipment Operator - Group 1	$70.86	USD/hr	$36.19	$16.05	$9.11	$9.51	$70.86	$21.41	$18.07	$39.48	A1601	See reference
P.17	Power Equipment Operator - Group 1A	$73.52	USD/hr	$37.95	$16.05	$9.55	$9.97	$73.52	$19.70	$16.62	$36.32	A1602	See reference
P.18	Power Equipment Operator - Group 2	$69.69	USD/hr	$35.42	$16.05	$8.91	$9.31	$69.69	$24.63	$20.78	$45.40	A1603	See reference
P.19	Power Equipment Operator - Group 3	$68.60	USD/hr	$34.70	$16.05	$8.73	$9.12	$68.60	$29.26	$24.69	$53.95	A1604	See reference
P.20	Power Equipment Operator - Group 4	$59.20	USD/hr	$28.49	$16.05	$7.17	$7.49	$59.20	$36.20	$30.55	$66.75	A1605	See reference
P.21	Site Clerk / Medic	$60.17	USD/hr	$28.74	$16.65	$7.23	$7.55	$60.17	$29.26	$24.69	$53.95	N1201	See reference
P.22	Superintendent	$76.11	USD/hr	$42.00	$12.50	$10.57	$11.04	$76.11	$43.75	$36.92	$80.67		Prior contract pricing
P.23	Survey Field Manager	$74.84	USD/hr	$39.91	$14.40	$10.04	$10.49	$74.84	$34.56	$29.16	$63.73	A2001	See reference
P.24	Survey Crew (Surveyor and Helper)	$132.69	USD/hr	$68.60	$28.80	$17.26	$18.03	$132.69	$41.81	$35.28	$77.09	A2004	See reference
P.25	Truck Drivers - Group 1A	$71.98	USD/hr	$38.02	$14.40	$9.57	$9.99	$71.98	$21.41	$18.07	$39.48	A2101	See reference
P.26	Truck Drivers - Group 1	$70.10	USD/hr	$36.78	$14.40	$9.25	$9.67	$70.10	$19.70	$16.62	$36.32	A2102	See reference
P.27	Truck Drivers - Group 2	$67.95	USD/hr	$35.36	$14.40	$8.90	$9.29	$67.95	$24.63	$20.78	$45.40	A2103	See reference
P.28	Truck Drivers - Group 3	$67.04	USD/hr	$34.76	$14.40	$8.75	$9.14	$67.04	$29.26	$24.69	$53.95	A2104	See reference
P.29	Truck Drivers - Group 4	$66.21	USD/hr	$34.21	$14.40	$8.61	$8.99	$66.21	$32.48	$27.40	$59.88	A2105	See reference
P.30	Truck Drivers - Group 5	$65.07	USD/hr	$33.46	$14.40	$8.42	$8.79	$65.07	$19.70	$16.62	$36.32	A2106	See reference
P.31	Tunnel Labor Group 1	$64.46	USD/hr	$31.57	$16.65	$7.94	$8.30	$64.46	$17.13	$14.45	$31.58	N2201	See reference
P.32	Tunnel Labor Group 2	$66.02	USD/hr	$32.60	$16.65	$8.20	$8.57	$66.02	$19.70	$16.62	$36.32	N2202	See reference
P.33	Tunnel Labor Group 3	$67.41	USD/hr	$33.52	$16.65	$8.43	$8.81	$67.41	$23.41	$19.75	$43.16	N2203	See reference
P.34	Tunnel Labor Group 3A	$72.44	USD/hr	$36.84	$16.65	$9.27	$9.68	$72.44	$25.98	$21.92	$47.90	N2204	See reference
P.35	Tunnel Labor Group 3B	$73.73	USD/hr	$37.69	$16.65	$9.48	$9.91	$73.73	$28.96	$24.44	$53.40	N2206	See reference

Notes:
Alaska Dep. Of Labor - Laborers' & Mechanics Min. Rate of Pay, Pamphlet No. 600, Issue 15 (Sept. 1, 2009) are N1201-N1206 classification

C. Material Costs

Cost Code	Item	Unit Cost (USD)	Unit	Source
M.01	Bentonite	$264.55	tonnes	Quote: Apr. 2006
M.02	Dust Suppressant	$0.03	m2	estimated
M.03	Electricity	$0.146	kWh	Dec 2009 Pogo Rate
M.07	Explosives (for rip-rap production)	$0.65	lb	Pogo invoice from Alaska Pacific Powerder 4-26-08
M.08	Fertilizer	$798	ton	Red Dog Mine 2009 Reclamation Cost Model
M.10	Fuel: Diesel	$0.85	Litre	Dec 2009 Pogo Rate
M.11	Fuel: Diesel	$3.23	Gallon	Dec 2009 Pogo Rate
M.12	Hydroseeding	$0.10	ft2	Labrenz Lanscaping Inc. Phone quote 8-08-09
M.13	Cement	$194.00	ton	Dec 2009 Pogo Rate
M.14	8" Paste Pipe	$6.15	ft	Pogo mine 2009 cost
M.17	HDPE pipe: 6X50 DR11 W/3" INS & HT Trace channel comes in 20' pieces	$45.93	ft	Ferguson Quote 6-04-08
M.18	Recycled income for No. 1 Steel prepared	$95.00	ton	quote from Alaska Metal Recycling 7-2-08
M.19	Recycled income for scrap Steel unprepared	$40.00	ton	quote from Alaska Metal Recycling 7-2-08
M.23	Heat trace electrical thermostat	$903.88	each	Quote : Wolseley Engineered Pipe Group (Feb, 2006 - PM)
M.24	Heat trace Power Feed Kit	$349.95	each	Quote : Wolseley Engineered Pipe Group (Feb, 2006 - PM)
M.25	Heat trace: constant watt cables	$18.80	m	Quote : Wolseley Engineered Pipe Group (Feb, 2006 - PM)
M.26	Lime	$716.49	ton	Dec 2009 Pogo Rate
M.27	Lumber: 2x4 Stud framing	$1.31	m	RSMeans 2005 (16 01 9916)
M.28	Native seed	$2.73	lb	Red Dog Mine 2009 Reclamation Cost Model
M.35				
M.36	Quick lime	$580.00	ton	Pogo mine 1st Quarter 2008 cost
M.38	FERRIC CHLORIDE 40%	$0.29	$/lb	Pogo mine 1st Quarter 2008 cost
M.39	Steel Pipe: 6" dia. W/ Foam Insul JDT Sched. 40 comes in 20' pieces	$26.84	m	Melanie Cadieux, Napsteel, Van. (GD)
~~M.47~~	~~Delivered pre-mixed concrete~~	~~$350.00~~	~~cy~~	~~Verbal quote (delta concrete) $350/cy~~
M.48	Incineration of hydrocarbon soils	$135.77	ton	Quote: OIT
M.49	Burough landfill cost	$118.00	ton	Fairbanks out of burough rates
M.50	Haulage to Fairbanks	$1,600.00	each	(estimated)

Table 3: Closure Equipment Rates

Operator Details		Equipment				
Model	HP	# of Operators	Operator Type	Teck-Cominco	Contractor	Fuel Rate ($/hr)
Compactor						
CAT CP563	153	1	Power Equipment Operator - Group 3	$0.00	$32.73	$16.95
Sheepsfoot (72 in, 2 drums)	0	0		$0.00	$8.17 *	$0.00
Walk-behind vibrating (30 in)	12	1	Laborers - Group 1	$0.00	$3.08 *	$1.33
Dozer						
CAT D7	240	1	Power Equipment Operator - Group 1	$0.00	$87.00	$27.60
CAT D8	310	1	Power Equipment Operator - Group 1	$0.00	$108.00	$35.65
CAT D9	410	1	Power Equipment Operator - Group 1	$0.00	$162.00	$47.16
CAT D10	570	1	Power Equipment Operator - Group 1	$0.00	$216.00	$66.71
CAT D11	850	1	Power Equipment Operator - Group 1	$0.00	$175.19 *	$97.76
Drill						
Air track rig (900cfm)	215	2	Power Equipment Operator - Group 1	$0.00	$94.63 *	$23.81
Air Rotary, 200 cfm compressor	196	2	Power Equipment Operator - Group 1	$0.00	$150.79 *	$21.71
Excavator						
CAT 325	165	1	Power Equipment Operator - Group 1	$0.00	$65.45	$27.36
CAT 350	428	1	Power Equipment Operator - Group 1	$0.00	$121.00	$44.74
CAT 345	321	1	Power Equipment Operator - Group 1	$0.00	$85.25	$35.55
CAT 345 Grapple	321	1	Power Equipment Operator - Group 1	$0.00	$78.65	$27.36
CAT 345 Hammer	321	1	Power Equipment Operator - Group 1	$0.00	$132.83	$27.36
CAT 345 Shear	321	1	Power Equipment Operator - Group 1	$0.00	$132.83	$27.36
Grader						
CAT 16H	220	1	Power Equipment Operator - Group 1	$0.00	$125.40	$26.24
Lifting						
Crane (Cable Boom), 100T	220	1	Power Equipment Operator - Group 1A	$0.00	$176.36 *	$18.74
Crane (Cable Boom), 150T	220	1	Power Equipment Operator - Group 1A	$0.00	$248.43 *	$18.74
Forklift CAT 924G	114	1	Power Equipment Operator - Group 3	$0.00	$19.80	$9.71
Loader						
CAT 966F	235	1	Power Equipment Operator - Group 1	$0.00	$67.56	$29.48
CAT 988F	430	1	Power Equipment Operator - Group 1A	$0.00	$91.97	$36.60
CAT 992D	800	1	Power Equipment Operator - Group 1A	$0.00	$151.88 *	$57.21
Truck						
Light Truck (3/4T) 4x2	200	0	Truck Drivers - Group 5	$0.00	$26.97 *	$11.08
CAT 735	365	1	Truck Drivers - Group 1	$0.00	$77.00	$17.55
CAT 777D	938	1	Truck Drivers - Group 1A	$0.00	$125.15 *	$51.94

* NC Machinery rates not available, BC Blue Book Rate used.

1. Hourly rate for a long term rental based on 10 hour shifts.
2. Maintenance costs from Western Mine Engineering Inc. Mine and Mill Equipment Costs 2005 (equal to the total hourly operating cost minus the Fuel cost)
3. Fuel Operating cost used to determine the Bare Equipment Rate based on fuel cost at site of $1.85 USD/gal.

Table 18. Relocation Unit Costs

								Productivities			Unit Rates					Loader				Excavator				Truck				Dozer 1					Compactor				
Cost Code	Area	Activity	Material	Source	Area used Code	Destination	Code	Loose (LCY³/hr)	Loose (Lm³/hr)	Bank (Bm³/hr)	Total Loose Unit Rate ($/Lm3)	Total Bank Unit Rate ($/Bm3)	Manhours (hrs/Bm3)	Labor Cost ($/Bm3)	Equipment Cost ($/Bm3)	Fuel Cost ($/Bm3)	Qnty	Model	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Operator Wage ($/hr)	Qnty	Model	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Operator Wage ($/hr)	Qnty	Model	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Operator Wage ($/hr)	Qnty	Model	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Operator Wage ($/hr)	Qnty	Model	Equipment Rate ($/hr)	Fuel Cost ($/hr)	Operator Wage ($/hr)
R.001	1525 Portal area	Load, haul, dump, place dev. rock	Sand & Gravel	E02	E02	Drystack (N18)		122	93.4	84.6	$16.28	$14.74	0.083	$ 5.84	$ 6.66	$ 2.24	1	CAT 980H	$90.20	$36.60	$73.52	1	CAT 345 L	$91.97	$35.55	$70.86	3	CAT 740	$84.59	$24.14	$70.10	1	CAT D7R	$87.67	$27.60	$70.86	1	CAT CP563	$39.93	$16.95	$68.60
R.002	Lower camp pond	Reshaping shoreline	Gravels	in place	E02	in place (cut/fill)		553	422.6	384.2	$0.44	$0.40	0.003	$ 0.18	$ 0.15	$ 0.07						1	CAT 330 L	$56.45	$27.36	$70.86															
R.003	Lower camp pond	Load, haul, place growth media	Growth media	N27 next to ponds	N27	Mineralized rock storage (E02)		145	110.9	100.8	$7.41	$6.73	0.040	$ 2.82	$ 3.04	$ 0.87	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 735	$84.59	$17.55	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.004	Lower camp fuel containment	Remove fuel berms liner to dry stack tailings	HDPE liner	N08 Fuel island	N08	Solid Waste facility		120	91.9	83.5	$12.16	$11.05	0.060	$ 4.25	$ 5.17	$ 1.64	1	CAT 980H	$90.20	$36.60	$73.52						3	CAT 740	$84.59	$24.14	$70.10	1	CAT D7R	$87.67	$27.60	$70.86					
R.005	Lower camp fuel containment	Load, haul, place growth media	Growth media	N27 next to ponds	N27	N08		145	110.9	100.8	$7.41	$6.73	0.040	$ 2.82	$ 3.04	$ 0.87	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 735	$84.59	$17.55	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.006	general	Reshaping roads, berms (no haul) dozer	Waste Rock	general	E01,	in place (cut/fill)		632	483.3	439.4	$0.88	$0.80	0.002	$ 0.16	$ 0.49	$ 0.15																1	CAT D10	$213.53	$66.71	$70.86					
R.007	1525 Portal access road	Load, haul, place growth media	Growth media	N27 next to ponds	N27	E01		258	197.3	179.3	$4.98	$4.53	0.028	$ 1.98	$ 1.97	$ 0.58	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 735	$84.59	$17.55	$70.10	2	D6N LGP	$46.80	$16.10	$70.86					
R.008	Access road Goodpaster bridge to Liese bridge	Remove road material	Waste Rock	#6 access road	E06	Material site 23		307	234.5	213.2	$4.90	$4.46	0.023	$ 1.65	$ 2.13	$ 0.67						1	CAT 345 L	$91.97	$35.55	$70.86	3	CAT 740	$84.59	$24.14	$70.10	1	CAT D8T	$109.34	$35.65	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.009	Access road Goodpaster bridge to Liese bridge	Load, haul, place growth media	Growth media	N27 next to ponds	N27	in place		145	110.9	100.8	$9.50	$8.64	0.050	$ 3.52	$ 3.88	$ 1.24	1	CAT 980H	$90.20	$36.60	$73.52						3	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.010	Burn Pit	Load, haul, dump in dry stack tailings facility	Misc.	Burn Pit	E-7	Solid Waste facility		140	106.7	106.7	$10.11	$10.11	0.056	$ 3.97	$ 4.62	$ 1.52	1	CAT 980H	$90.20	$36.60	$73.52						3	CAT 740	$84.59	$24.14	$70.10	1	CAT D8T	$109.34	$35.65	$70.86	1	CAT CP563	$39.93	$16.95	$68.60
R.011	Road #6	Load, haul , dump, compact	Sand & Gravel	#6 Road	N06	Materilal site 23		307	234.5	212.5	$4.01	$3.63	0.019	$ 1.33	$ 1.74	$ 0.56						1	CAT 345 L	$91.97	$35.55	$70.86	2	CAT 740	$84.59	$24.14	$70.10	1	CAT D8T	$109.34	$35.65	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.012	general	General excavator reshaping	Misc.	general	N20	general		549	419.5	419.5	$0.47	$0.47	0.002	$ 0.17	$ 0.22	$ 0.08						1	CAT 345 L	$91.97	$35.55	$70.86															
R.013	#7 Access Road	Excavate, haul, place	Sand & Gravel	#7 Road	N03	Material site A		600	458.7	415.5	$2.41	$2.18	0.010	$ 0.68	$ 1.14	$ 0.36						1	CAT 345 L	$91.97	$35.55	$70.86	2	CAT 740	$84.59	$24.14	$70.10	1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.014	general	Ripping/scarifying	Sand & Gravel	general	N07,N30	in place		1049	802.2	726.6	$0.53	$0.48	0.001	$ 0.10	$ 0.29	$ 0.09																1	CAT D10	$213.53	$66.71	$70.86					
R.015	Access road #1	Reshaping to 10% wt water bars	Sand & Gravel	#1 road (N13)	N13	in place (cut/fill)		632	483.3	437.8	$1.39	$1.26	0.005	$ 0.32	$ 0.70	$ 0.23						1	CAT 345 L	$91.97	$35.55	$70.86						1	CAT D10	$213.53	$66.71	$70.86					
R.016	Access road #1	Load, haul, place growth media	Growth media	N27 below mill bench	N27	Access road #1 (N13)		224	171.5	155.9	$5.73	$5.21	0.032	$ 2.28	$ 2.26	$ 0.67	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 735	$84.59	$17.55	$70.10	2	D6N LGP	$46.80	$16.10	$70.86					
R.017	Mill bench	Reshaping (cut/fill)	Sand & Gravel	Mill bench (N14)	N14	in place (cut/fill)		632	483.3	437.8	$1.41	$1.28	0.005	$ 0.32	$ 0.70	$ 0.25						1	CAT 365 L	$91.97	$44.74	$70.86						1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.018	Access road #3	Reshaping to 10% wt water bars	Sand & Gravel	#1 road (N15)	N15	in place (cut/fill)		632	483.3	437.8	$1.39	$1.26	0.005	$ 0.32	$ 0.70	$ 0.23						1	CAT 345 L	$91.97	$35.55	$70.86						1	CAT D10	$213.53	$66.71	$70.86					
R.019	Main Camp/1875 Portal	Reshaping (cut/fill) (short haul)	Sand & Gravel	Mill bench (N16)	N16	in place (cut/fill) (short haul)		677	517.4	468.6	$2.58	$2.34	0.011	$ 0.75	$ 1.19	$ 0.39						1	CAT 365 L	$91.97	$44.74	$70.86	3	CAT 740	$84.59	$24.14	$70.10	1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.020	Main Camp/1875 Portal	Load, haul, place growth media	Growth media	N27 below RTP	N27	Access road #1 (N13)		290	221.7	201.6	$6.30	$5.73	0.035	$ 2.45	$ 2.60	$ 0.68						1	CAT 345 L	$91.97	$35.55	$70.86	4	CAT 735	$84.59	$17.55	$70.10	2	D6N LGP	$46.80	$16.10	$70.86					
R.021	Main Airstrip	Load, haul, place growth media	Growth media	N27 on Airstrip	N07	Airstip (N07)		405	310.0	281.8	$2.70	$2.45	0.014	$ 1.01	$ 1.09	$ 0.36	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.022	1525 Portal bench	Reshaping (cut/fill)	Sand & Gravel	1525 Portal bench (N01)	N01	in place (cut/fill)		925	707.5	640.9	$0.96	$0.87	0.003	$ 0.22	$ 0.48	$ 0.17						1	CAT 365 L	$91.97	$44.74	$70.86						1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.023	1525 Portal bench	Load, haul, place growth media	Growth media	N27 next to ponds	N01	in place (cut/fill)		239	182.7	166.1	$4.58	$4.16	0.024	$ 1.71	$ 1.84	$ 0.61	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.024	Access road to RTP seepage wells material site A	Load, haul, place growth media	Growth media	material site A	N20	Seepage Well		127	97.2	88.4	$8.61	$7.83	0.045	$ 3.22	$ 3.47	$ 1.14	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.025	Ore stockpile (short haul)	Load, haul, place growth media	Growth media	N27 below mill bench	N27	in place		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.026	Cover material on drystack placement	Load, haul , place 6" layers	Sands	Material site B	N18	dyrstack (N18)		462	352.9	352.9	$3.35	$3.35	0.020	$ 1.40	$ 1.48	$ 0.47	1	CAT 980H	$90.20	$36.60	$73.52						4	CAT 740	$84.59	$24.14	$70.10	2	D6N LGP	$46.80	$16.10	$70.86					
R.027	RTP dam (short haul)	Load, haul, place growth media	Growth media	N27 below RTP dam	N17	RTP dam		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.028	RTP dam	Load, haul, place liner in dry stack tailings fa	HDPE liner	N17 RTP dam	N17	Solid Waste facility		248	189.6	172.3	$4.47	$4.07	0.023	$ 1.22	$ 2.15	$ 0.69						1	CAT 345 L	$91.97	$35.55		2	CAT 740	$84.59	$24.14	$70.10	1	CAT D8T	$109.34	$35.65	$70.86					
R.029	Storm pond	Load, haul, place liner in dry stack tailings fa	HDPE liner	N25 storm pond	N25	Solid Waste facility		129	98.9	89.9	$8.58	$7.80	0.045	$ 2.35	$ 4.12	$ 1.33						1	CAT 345 L	$91.97	$35.55		2	CAT 740	$84.59	$24.14	$70.10	1	CAT D8T	$109.34	$35.65	$70.86					
R.030	Storm pond	Load, haul, place growth media (short haul)	Growth media	N25 storm pond	N25	Solid Waste facility		145	110.9	100.8	$6.75	$6.14	0.040	$ 2.09	$ 3.06	$ 0.99						1	CAT 345 L	$91.97	$35.55		2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.031	Material site A	Load, haul, place growth media	Growth media	N27 below RTP dam	N17	Material site A		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.032	Material site B	Load, haul, place growth media	Growth media	N27 below mill bench	N17	Material site B		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.033	Material site C	Load, haul, place growth media	Growth media	N27 below RTP dam	N17	Material site C		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.034	1690 Portal	Reshaping (cut/fill) (short haul)	Sand & Gravel	1690 Portal (N10)	N10	(N10)		323	246.6	223.4	$4.53	$4.10	0.018	$ 1.26	$ 2.12	$ 0.71						1	CAT 365 L	$91.97	$44.74	$70.86	2	CAT 740	$84.59	$24.14	$70.10	1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.035	1690 Portal	Load, haul, place growth media	Growth media	N27 next to storm pond	N10	1690 Portal (N10)		145	110.9	100.8	$6.75	$6.14	0.040	$ 2.09	$ 3.06	$ 0.99						1	CAT 345 L	$91.97	$35.55		2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.036	ORTW	Load, haul, place growth media (short haul)	Growth media	N27 next to ORTW	N31	ORTW (N31)		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.037	Stilling basin	Load, haul place excavated fill	Sand & Gravel	N32	N32	Stilling Basin		229	175.1	158.6	$6.33	$5.73	0.025	$ 1.79	$ 2.98	$ 0.96	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	CAT D10	$213.53	$66.71	$70.86					
R.038	Stilling basin (short haul)	Load, haul, place growth media	Growth media	N27 below RTP dam	N32	Stilling Basin		145	110.9	100.8	$7.55	$6.86	0.040	$ 2.82	$ 3.04	$ 1.00	1	CAT 980H	$90.20	$36.60	$73.52						2	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86					
R.039	drystack (erosion ditch) construction	General excavator reshaping	Rip-Rap	general	N18	N18		55	42.0	35.0	$6.81	$5.67	0.029	$ 2.03	$ 2.63	$ 1.02						1	CAT 345 L	$91.97	$35.55	$70.86															
R.040	1525 Mineralized storage pad	Load, haul, dump, place at dry stack tailings	Waste Rock	E02	E02	Drystack (N18)		255	195.2	177.4	$10.06	$9.14	0.045	$ 3.17	$ 4.58	$ 1.39						1	CAT 345 L	$91.97	$35.55	$70.86	6	CAT 740	$84.59	$24.14	$70.10	1	CAT D10	$213.53	$66.71	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.041	1525 Mineralized storage pad	Load, haul, place growth media	Growth media	N27 next to ponds	N27	E01		290	221.7	201.6	$6.31	$5.74	0.035	$ 2.46	$ 2.59	$ 0.69	1	CAT 980H	$90.20	$36.60	$73.52						4	CAT 735	$84.59	$17.55	$70.10	2	D6N LGP	$46.80	$16.10	$70.86					
R.042	1525 Mineralized storage pad	Load, haul, dump, place in drystack	HDPE liner	E02	E02	Drystack (N18)		165	126.5	115.0	$10.52	$9.56	0.052	$ 3.67	$ 4.50	$ 1.39						1	CAT 345 L	$91.97	$35.55	$70.86	4	CAT 740	$84.59	$24.14	$70.10	1	CAT D7R	$87.67	$27.60	$70.86	0	CAT CP563	$39.93	$16.95	$68.60
R.043	Main camp/Mill bench fuel berms to solid waste	Remove fuel berms liner to dry stack tailings	HDPE liner	N14 Mill Area	N08	Solid Waste facility		268	204.8	186.2	$5.45	$4.96	0.027	$ 1.91	$ 2.32	$ 0.73	1	CAT 980H	$90.20	$36.60	$73.52						3	CAT 740	$84.59	$24.14	$70.10	1	CAT D7R	$87.67	$27.60	$70.86					
R.044	#6 road	Load, haul, place growth media	Growth media	GM 16 and GM 17	N01	#6 road		123	94.4	85.8	$8.19	$7.44	0.047	$ 3.30	$ 3.05	$ 1.09	1	CAT 980H	$90.20	$36.60	$73.52						1	CAT 740	$84.59	$24.14	$70.10	1	D6N LGP	$46.80	$16.10	$70.86	1	CAT CP563	$39.93	$16.95	$68.60

Material Properties

Assumed Material Properties	Bulk density Mg/m3	Bulking Factor	Excavated Density Mg/m3	Shrinkage	Compacted Density Mg/m3
Clay - Natural	2.02	3078.00	1.20	1.68	0.90
Earth	1.90	2700.00	1.25	1.52	0.95
Gravels	2.17	2835.00	1.10	1.97	0.97
Misc.	2.00	3371.11	1.00	2.00	1.00
Rip-Rap	3.00	2700.00	1.20	2.50	1.00
Sands	1.90	3240.00	1.10	1.73	0.90
Sand & Gravel	2.23	3375.00	1.10	2.02	1.00
Shale	2.00	2673.00	1.20	1.67	0.90
Solid Waste	1.00	1685.55	1.00	1.00	0.00
Growth media	1.37	2309.21	1.40	0.98	1.10
Till	1.84	3101.42	1.20	1.53	0.90
HDPE liner	1.00	1685.00	1.00	1.00	1.00
Waste Rock	2.10	3539.67	1.10	1.91	1.00

Area	Description	AutoCAD layer information (ft^2)	(acres)	Est. Volume GM placement (yd^3)	Est. Area Seeding (ft^2)	Est. Area Seeding (ft^2)	Est. Area Natural Recovery (yd^2)	Est. Area Rip/Scarify (yd^3)	Est. Volume Reshaping (yd^3)	Est. Volume Relocation (yd^3)	Wetlands Disturbed (Acres)
E01	1525 Portal access road	353,649.1	8.1	6,549.1	39,294.3	.9	7.2			58,317.5	3.4
E02	Rock storage pad	322,583.3	7.4	5,973.8	35,842.6	.8	6.6			11,947.5	1.3
E03	Lower camp pond	340,455.8	7.8	630.5			7.8		1,260.9		.5
E04	Construction Airstrip	86,671.4	2.0				2.0				.0
E05	Lower camp diversion ditch	2,882.7	.1		320.3	.0	.1			106.8	.0
E06	Access road Goodpaster bridge to Construction Camp	8,182.7	.2	530.4	909.2	.0	.2		1,060.7	1,060.7	.0
E07	Burn Pit	22,145.7	.5		2,460.6	.1	.5			1,640.4	.0
E08	Upper Exploration Camp	54,270.0									.0
N01	1525 Portal	190,230.4	4.4	2,601.2	21,136.7	.5	3.9			28,182.3	1.7
N02	Outfall 002 path	23,822.6	.5				.5				.0
N04	1525 Laydown areas	612,233.3	14.1		68,025.9	1.6	12.5	45,350.6			4.9
N05	Construction/Exploration Camp pad	500,923.3	11.5	9,276.4	55,658.1	1.3	10.2	37,105.4			1.3
N06	#6 Road Access road Goodpaster bridge to Liese bridge	442,451.3	10.2	8,193.5	49,161.3	1.1	9.0	21,909.6		19,013.1	3.4
N08	Fuel berms	15,667.6	.4	290.1	1,740.8	.0	.3			870.4	.0
Airport Area			67.1								
N03	Access road #7	282,980.0	6.5	5,240.4	31,442.2	.7	5.8	2,762.9		46,533.8	3.6
N07	Main Airstrip	1,952,514.0	44.8	37,046.1	216,946.0	5.0	39.8	144,630.7		6,219.4	12.6
N09	Borrow source at airstrip	23,638.1	.5	43.8	591.0	.0	.5			87.5	.0
N11	Airstrip laydown	1,601,522.5	36.8	317.0	231,649.5	5.3	31.4	117,363.2		1,268.1	6.3
N31	ORTW	700,966.0	16.1	1,298.1	17,524.1	.4	15.7		2,596.2	5,500.0	.2
N34	Log Storage	145,597.4									.0
Mill & Camp Area			104.7								
N10	1690 Portal	141,895.1	3.3	2,340.3	141,895.1	3.3				40,236.7	3.1
N13	Access Road #1	193,577.0	4.4	3,584.8	193,577.0	4.4				25,093.3	4.4
N14	Mill bench	617,893.4	14.2	11,381.2	617,893.4	14.2				267,642.2	.6
N16	Main Camp/1875 Portal	850,129.4	19.5	15,396.8	850,129.4	19.5				293,591.2	24.8
N16F	Main Camp/1875 Portal fuel berms	12,296.8	.3		12,296.8	.3				910.9	.0
N25	Storm pond	68,944.4	1.6	1,276.7	68,944.4	1.6				5,107.0	1.6
N30	Ore stockpile	55,101.9	1.3	1,020.4	55,101.9	1.3		4,081.6			1.1
Tailings Treatment Area			44.5								
N15	Road #3 to Mill to RTP	342,310.9	7.9	6,339.1	342,310.9	7.9				44,373.6	.6
N15R	Road #3 to RTP to drystack	494,664.6	11.4	9,160.5	494,664.6	11.4				64,123.2	.0
N17	RTP	406,105.9	9.3	6,946.8	406,105.9	9.3					5.2
N18	Drystack	2,619,475.8	60.1	24,254.4	2,619,475.8	60.1				48,508.8	20.3
N20	Access road to RTP seepage wells	107,143.7	2.5	3,968.3	107,143.7	2.5				9,044.6	1.7
N23	Diversion ditches (flume)	1,124,114.1	25.8	4,886.0	1,124,114.1	25.8				110,976.6	4.1
N32	Stilling Basin	124,940.0	2.9	4,627.4	124,940.0	2.9				16,195.9	2.5
All of Mine			119.8								
N21	Transmission line	770,723.7	17.7		770,723.7	17.7					8.9
N27	Growth Media	924,096.7	21.2		924,096.7	21.2					9.0
N28A	Material sites A	84,477.0	1.9	3,128.8	84,477.0	1.9				625.8	.0
N28B	Material site B	144,273.8	3.3	534.3	144,273.8	3.3				1,068.7	.0
N28D	Material site D	254,286.9	5.8	941.8	254,286.9	5.8				1,883.6	.0
N28	Material sites										2.1
N36	Road - Phase III Access	137,314.2	3.2				3.2				3.0
N37	Material Site - Phase III	1,229,094.6	28.2				28.2				25.1
N38	Growth Media Pile - Phase III	344,228.4	7.9				7.9				3.4
			89.3								
Total		**18,676,205**	**425**	**177,778**	**10,109,154**	**232**	**193**	**373,204**	**4,918**	**1,110,130**	**160.8**

Area	Component	Description	AutoCAD layer information	(acres)	Est. Volume GM placement (yd³)	Est. Area Seeding (ft²)	Est. Area Seeding (acres)	Est. Area Natural Recovery (yd²)	Est. Area Liner removal (yd²)	Est. Area Rip/Scarify (yd²)	Est. Volume Reshaping (yd³)	Est. Volume Relocation (yd³)	Comments	Poly line length	Average depth assumption	Highwall area
	1525 Portal Area															
1000	E01	1525 Portal access road	336801	7.7	6237	37422	0.9	6.87				56133	Assumed 4.5' average depth	10609	4.5	
1000	E01	1525 Portal access road	16848	0.4	312	1872	0.0	0.34				2184	Assumed 3.5' average depth	775	4	
1000	E02	Rock storage pad	61909	1.4	1146	6879	0.2	1.26				2293	Assumed 1' average depth	1082	1	
1000	E02	Rock storage pad	43758	1.0	810	4862	0.1	0.89				1621	Assumed 1' average depth	1417	1	
1000	E02	Rock storage pad	216916	5.0	4017	24102	0.6	4.43	4338			8034	Assumed 1' average depth	2250	1	
1000	E03	Lower camp pond	203624	4.7	377		0.0	4.67			754		Gravel pits will be converted to high value overwintering ponds and emergent wetlands	1958	0	
1000	E03	Lower camp pond	22431	0.5	42		0.0	0.51			83		Gravel pits will be converted to high value overwintering ponds and emergent wetlands	835	0	
1000	E03	Lower camp pond	114401	2.6	212		0.0	2.63			424		Gravel pits will be converted to high value overwintering ponds and emergent wetlands	1483	0	
1000	E04	Construction Airstrip	86671	2.0			0.0	1.99						3266		
1000	E05	Lower camp diversion ditch	1186	0.0		132	0.0	0.02				44	Assumed 1' average depth	424	1	
1000	E05	Lower camp diversion ditch	1696	0.0		188	0.0	0.03				63	Assumed 1' average depth	557	1	
1000	E06	Access road Goodpaster bridge to Construction Camp	8183	0.2	530	909	0.0	0.17			1061	1061	Assumed 3.5' average depth	540	4	
1000	E07	Burn Pit	22146	0.5		2461	0.1	0.45				1640	Assumed 2' average depth	584	2	
1000	N01	1525 Portal	190230	4.4	2601	21137	0.5	3.88				28182	Assumed 4' average depth, subtracted highwall area out of GM requirement	1945	4	49765
1000	N02	Outfall 002 path	23823	0.5			0.0	0.55						2423		
1000	N04	1525 Laydown areas	180010	4.1		20001	0.5	3.67		13334				2222		
1000	N04	1525 Laydown areas	216387	5.0		24043	0.6	4.42		16029				2399		
1000	N04	1525 Laydown areas	215836	5.0		23982	0.6	4.40		15988				2486		
1000	N05	Construction/Exploration Camp pad	500923	11.5	9276	55658	1.3	10.22		37105				3765		
1000	N06	#6 Road Access road Goodpaster bridge to Liese bridge	295779	6.8	5477	32864	0.8	6.04		21910				12912		
1000	N06	#6 Road Access road Goodpaster bridge to Liese bridge	140479	3.2	2601	15609	0.4	2.87				18210	Assumed 3.5' average depth	3210	4	
1000	N06	#6 Road Access road Goodpaster bridge to Liese bridge	6193	0.1	115	688	0.0	0.13				803	Stream restoration under Liese bridge	469	4	
1000	N08	Fuel berms	15668	0.4	290	1741	0	0				870	Assumed 1.5' average depth	521	2	
		Subtotal 1525 Portal Area	**2921899**	**67**	**34045**	**274550**	**6**	**61**	**4338**	**104366**	**2322**	**120268**	**0**	**57609**		
	Airport Area															
2000	N03	Access road #7	87070	2.0	1612	9674	0.2	1.78				11287	Assumed 3.5' average depth	3556	4	
2000	N03	Access road #7	158611	3.6	2937	17623	0.4	3.24				35247	Assumed 6' average depth (complete removal)	3556	6	
2000	N03	Access road #7	37299	0.9	691	4144	0.1	0.76		2763				4593		
2000	N07	Main Airstrip	79374	1.8	1470	8819	0.2	1.62		5880				2665		
2000	N07	Main Airstrip	530645	12.2	9827	58961	1.4	10.83		39307				3367		
2000	N07	Main Airstrip	620601	14.2	11493	68956	1.6	12.66		45970				3883		
2000	N07	Main Airstrip	219989	5.1	4074	24443	0.6	4.49		16296				7231		
2000	N07	Main Airstrip	140401	3.2	2600	15600	0.4	2.87		10400				4630		
2000	N07	Main Airstrip	223526	5.1	4139	24836	0.6	4.56		16557				7290		
2000	N07	Main Airstrip	45000	1.0	833	5000	0.1	0.92		3333				900		
2000	N07	Main Airstrip	45000	1.0	833	5000	0.1	0.92		3333				900		
2000	N07	Main Airstrip	47978	1.1	1777	5331	0.1	0.98		3554		6219	Assumed 3.5' average depth	3481	4	
2000	N09	Borrow source at airstrip	23638	0.5	44	591	0.0	0.53				88	Assumed 10% of 1' x area for shoreline volume	649	1	
2000	N11	Airstrip laydown	59153	1.4		6573	0.2	1.21		4382				1110		
2000	N11	Airstrip laydown	151035	3.5		16782	0.4	3.08		11188				1154		
2000	N11	Airstrip laydown	101476	2.3		11275	0.3	2.07		7517				1243		
2000	N11	Airstrip laydown	166572	3.8		18508	0.4	3.40		12339				1594		
2000	N11	Airstrip laydown	186654	4.3		20739	0.5	3.81		13826				1780		
2000	N11	Airstrip laydown	159750	3.7		17750	0.4	3.26		11833				1905		
2000	N11	Airstrip laydown	247517	5.7		27502	0.6	5.05		18335				2160		
2000	N11	Airstrip laydown	400675	9.2		44519	1.0	8.18		29680				2788		
2000	N11	Airstrip laydown	25962	0.6		2885	0.1	0.53		1923				645		
2000	N11	Airstrip laydown	42313	1.0		4701	0.1	0.86		3134				838		
2000	N11	Airstrip laydown	43297	1.0		43297	1.0	0.00		3207				890		
3000	N11	Airstrip laydown fuel berms	17119	0.4	317	17119	0.4	0.00				1268	Assumed 2' average depth	626	2	
2000	N31	ORTW	700966	16.1	1298	17524	0.4	15.69			2596	5500	Breach ponds (estimated)	4950		
2000	N34	Log Storage	80135											1453		
2000	N34	Log Storage	2765											215		
2000	N34	Log Storage	6419											298		
2000	N34	Log Storage	6288											303		
2000	N34	Log Storage	6338											304		
2000	N34	Log Storage	9751											376		
2000	N34	Log Storage	12689											459		
2000	N34	Log Storage	21213											792		
		Subtotal 1525 Portal Area	**4707218**	**105**	**43945**	**498153**	**11**	**93**	**0**	**264757**		**59609**	**0**	**72586**		
	Mill & Camp Area															
3000	N10	1690 Portal	17491	0.4	324	17491	0.4	0.00				19434	Assumed 30' average depth (complete removal)	1761	30	
3000	N10	1690 Portal	15517	0.4		15517	0.4	0.00					Highwall area only requires seeding	530		
3000	N10	1690 Portal	63059	1.4	1168	63059	1.4	0.00				14013	Assumed 6' average depth	617	6	
3000	N10	1690 Portal	11606	0.3	215	11606	0.3	0.00				1719	Assumed 4' average depth	620	4	
3000	N10	1690 Portal	19409	0.4	359	19409	0.4	0.00				2875	Assumed 4' average depth	620	4	
3000	N10	1690 Portal	14814	0.3	274	14814	0.3	0.00				2195	Assumed 4' average depth	620	4	
3000	N13	Access Road #1	193577	4.4	3585	193577	4.4	0.00				25093	Assumed 3.5' average depth	5566	4	
3000	N14	Mill bench	614585	14.1	11381	614585	14.1	0.00				267458	Assumed 11.75' average depth	3704	12	
3000	N14	Mill bench fuel berm	3308	0.1		3308	0.1	0.00				184	Assumed 1.5' average depth	232	2	
3000	N16	Main Camp/1875 Portal	27061	0.6	501	27061	0.6	0.00					Bottom area (only will require growth media/seeding	1184		
3000	N16	Main Camp/1875 Portal	281929	6.5	5221	281929	6.5	0.00				36546	Assumed 3.5' average depth	4026	4	
3000	N16	Main Camp/1875 Portal	506030	11.6	9371	506030	11.6	0.00				231462	Assumed 12.35' average depth, subtracted highwall area out of GM placement	4660	12	
3000	N16	Main Camp/1875 Portal	18701	0.4		18701	0.4	0.00				10389	Assumed 15' average depth (complete removal), highwall will not require growth media	486	15	
3000	N16	Main Camp/1875 Portal	16409	0.4	304	16409	0.4	0.00				15194	Assumed 25' average depth (complete removal)	525	25	
3000	N16F	Main Camp/1875 Portal fuel berms	3707	0.1		3707	0.1	0.00				275	Assumed 2' average depth	525	2	
3000	N16F	Main Camp/1875 Portal fuel berms	8589	0.2		8589	0.2	0.00				636	Assumed 2' average depth	525	2	
3000	N25	Storm pond	68944	1.6	1277	68944	1.6	0.00	1379			5107	Assumed 2' average depth	1208	2	
3000	N30	Ore stockpile	55102	1.3	1020	55102	1.3	0.0		4082				1333		
		Subtotal 1525 Portal Area	**1939838**	**45**	**35000**	**1939838**	**45**	**0**	**1379**	**4082**		**632581**	**0**	**28743**		
Drystack and RTP																
4000	N15	Road #3 to Mill to RTP	342311	7.9	6339	342311	7.9	0.00				44374	Assumed 3.5' average depth	342311	4	
4000	N15R	Road #3 to RTP to drystack	494665	11.4	9160	494665	11.4	0.00				64123	Assumed 3.5' average depth	7694	4	
4000	N17	RTP	46059	1.1	853	46059	1.1	0.00	184				Removal vol. in table 4.5	1006		
4000	N17	RTP	30981	0.7		30981	0.7	0.00					All highwall area	1243		
4000	N17	RTP	123901	2.8	2294	123901	2.8	0.00					Removal vol. in table 4.5	2608		
4000	N17	RTP	76648	1.8	1419	76648	1.8	0.00					Removal vol. in table 4.5	2739		
4000	N17	RTP	7734	0.2	143	7734	0.2	0.00					Removal vol. in table 4.5	510		
4000	N17	RTP	19785	0.5	366	19785	0.5	0.00	356				Removal vol. in table 4.5	661		
4000	N17	RTP	21449	0.5	397	21449	0.5	0.00					Removal vol. in table 4.5	787		
4000	N17	RTP	16998	0.4	315	16998	0.4	0.00					Removal vol. in table 4.5	836		
4000	N17	RTP	34500	0.8	639	34500	0.8	0.00	690				Removal vol. in table 4.5	864		
4000	N17	RTP	28051	0.6	519	28051	0.6	0.00	112				Removal vol. in table 4.5	888		
4000	N18	Drystack	1309738	30.1	24254	1309738	30.1	0.00						5935		
4000	N18	Drystack (Non-mineralized rock cover -1')	1309738	30.1		1309738	30.1	0.00				48509		5935		
4000	N20	Access road to RTP seepage wells	52319	1.2	1938	52319	1.2	0.00				1938	Assumed 1' average depth	1908	1	
4000	N20	Access road to RTP seepage wells	54825	1.3	2031	54825	1.3	0.00				7107	Assumed 3.5' average depth	2765	4	
4000	N23	Diversion ditches	1044	0.0	39	1044	0.0	0.00				232	Assumed 6' average depth	134	6	
4000	N23	Diversion ditches	1419	0.0	53	1419	0.0	0.00				315	Assumed 6' average depth	172	6	
4000	N23	Diversion ditches	1704	0.0	63	1704	0.0	0.00				379	Assumed 6' average depth	176	6	
4000	N23	Diversion ditches	39219	0.9	1453	39219	0.9	0.00				8715	Assumed 6' average depth	2099	6	
4000	N23	Diversion ditches	771360	17.7	2857	771360	17.7	0.00				99991	Assumed 3.5' average depth, Assu	23770	4	
4000	N23	Diversion ditches (flume)	4308	0.1	160	4308	0.1	0.00					No reshaping required	368		
4000	N23	Diversion ditches (flume)	1044	0.0	39	1044	0.0	0.00					No reshaping required	469		
4000	N23	Diversion ditches	6047	0.1	224	6047	0.1	0.00				1344	Assumed 6' average depth	500	6	
4000	N23	Diversion ditches	297967	6.8		297967	6.8	0.00					All highwall area	7664	4	
4000	N32	Stilling Basin	24511	0.6	908	24511	0.6	0.00				3177	Assumed 3.5' average depth	1724	4	
4000	N32	Stilling Basin	42463	1.0	1573	42463	1.0	0.00				5504	Assumed 3.5' average depth	1823	4	
4000	N32	Stilling Basin	57966	1.3	2147	57966	1.3	0.0				7514	Assumed 3.5' average depth	2334	4	
		Subtotal 1525 Portal Area	**5218755**	**120**	**60182**	**5218755**	**120**	**0**	**1343**			**293223**	**0**	**419922**		

Area	Component	Description	AutoCAD layer information (ft²)	(acres)	Est. Volume GM placement (yd³)	Est. Area Seeding (ft²)	Est. Area Seeding (acres)	Est. Area Natural Recovery (yd²)	Est. Area Liner removal (yd²)	Est. Area Rip/Scarify (yd²)	Est. Volume Reshaping (yd³)	Est. Volume Relocation (yd³)	Comments	Poly line length	Average depth assumption	Highwall area
All of Mine																
6000	N21	Transmission line	437	0.0		437	0.0	0.00						107		
6000	N21	Transmission line	30023	0.7		30023	0.7	0.00						1224		
6000	N21	Transmission line	74923	1.7		74923	1.7	0.00						1766		
6000	N21	Transmission line	100514	2.3		100514	2.3	0.00						1900		
6000	N21	Transmission line	3000	0.1		3000	0.1	0.00						249		
6000	N21	Transmission line	175348	4.0		175348	4.0	0.00						3361		
6000	N21	Transmission line	6108	0.1		6108	0.1	0.00						360		
6000	N21	Transmission line	8332	0.2		8332	0.2	0.00						440		
6000	N21	Transmission line	11869	0.3		11869	0.3	0.00						481		
6000	N21	Transmission line	360168	8.3		360168	8.3	0.00						6140		
6000	N27	Growth Media	22420	0.5		22420	0.5	0.00						1035		
6000	N27	Growth Media	19869	0.5		19869	0.5	0.00						1086		
6000	N27	Growth Media	35598	0.8		35598	0.8	0.00						1127		
6000	N27	Growth Media	102900	2.4		102900	2.4	0.00						1447		
6000	N27	Growth Media	83363	1.9		83363	1.9	0.00						1458		
6000	N27	Growth Media	104316	2.4		104316	2.4	0.00						1465		
6000	N27	Growth Media	84088	1.9		84088	1.9	0.00						1579		
6000	N27	Growth Media	49578	1.1		49578	1.1	0.00						1681		
6000	N27	Growth Media	42352	1.0		42352	1.0	0.00						1810		
6000	N27	Growth Media	175900	4.0		175900	4.0	0.00						2390		
6000	N27	Growth Media	95922	2.2		95922	2.2	0.00						2500		
6000	N27	Growth Media	8597	0.2		8597	0.2	0.00						471		
6000	N27	Growth Media	15248	0.4		15248	0.4	0.00						608		
6000	N27	Growth Media	17252	0.4		17252	0.4	0.00						642		
6000	N27	Growth Media	27689	0.6		27689	0.6	0.00						793		
6000	N27	Growth Media	39005	0.9		39005	0.9	0.00						993		
6000	N28A	Material sites A	84477	1.9	3129	84477	1.9	0.00				626	Assumed 2' average depth and 10% material reshaping	1216	2	
4000	N28B	Material site B	74532	1.7	276	74532	1.7	0.00				552	Only pit floor requires growth media, remainder is highwall, Assumed this is 10% of the area	1076	2	
6000	N28B	Material site B	69742	1.6	258	69742	1.6	0.00				517	Only pit floor requires growth media, remainder is highwall, Assumed this is 10% of the area	1096	2	
6000	N28D	Material site D	254287	5.8	942	254287	5.8	0.00				1884	Only pit floor requires growth media, remainder is highwall, Assumed this is 10% of the area	3539	2	
6000	N36	Road - Phase III Access	5640	0.1				0.13						344		
6000	N36	Road - Phase III Access	131675	3.0				3.02						5414		
6000	N37	Material Site - Phase III	533224	12.2				12.24						3471		
6000	N37	Material Site - Phase III	695871	16.0				15.97						3687		
6000	N38	Growth Media Pile - Phase III	89921	2.1				2.06						1189		
6000	N38	Growth Media Pile - Phase III	254307	5.8				5.8						2158		
		Subtotal 1525 Portal Area	3888495	89	4605	2177858	50	39		0	0	3578		60303		
Total			**18676205**	**425.4**	**177778**	**10109154**	**232**	**193**	**7060**	**373204**	**2322**	**1109259**		**639164**		

Area	Description	AutoCAD layer information (ft²)	(acres)	Est. Volume GM placement (yd³)	Est. Area Seeding (ft²)	Est. Area Seeding (acres)	Est. Area Natural Recovery (yd²)	Est. Area Rip/Scarify (yd²)	Est. Volume Reshaping (yd³)	Est. Volume Relocation (yd³)	Wetlands Disturbed (Acres)	Wetlands Restored (Acres)	Wetlands Created (Acres)
1525 Portal Area													
E01	1525 Portal access road	353,649	8.1	6,549	39,294	.9	7.2			58,318	5.7	0.9	
E02	Rock storage pad	322,583	7.4	5,974	35,843	.8	6.6			11,948	4.2	0.8	
E03	Lower camp pond	340,456	7.8	630			7.8		1,261		2.2	0.0	
E04	Construction Airstrip	86,671	2.0				2.0				.0	0.0	
E05	Lower camp diversion ditch	2,883	.1		320	.0	.1			107	.0	0.0	
E06	Access road Goodpaster bridge to Construction Camp	8,183	.2	530	909	.0	.2		1,061	1,061	.0	0.0	
E07	Burn Pit	22,146	.5		2,461	.1	.5			1,640	.0	0.1	
N01	1525 Portal	190,230	4.4	2,601	21,137	.5	3.9			28,182	1.8	0.5	
N02	Outfall 002 path	23,823	.5				.5				.0	0.0	
N04	1525 Laydown areas	612,233	14.1		68,026	1.6	12.5	45,351			16.3	1.6	
N05	Construction/Exploration Camp pad	500,923	11.5	9,276	55,658	1.3	10.2	37,105			4.7	1.3	
N06	#6 Road Access road Goodpaster bridge to Liese bridge	442,451	10.2	8,194	49,161	1.1	9.0	21,910		19,013	5.4	1.1	
N08	Fuel berms	15,668	.4	290	1,741	.0	.3			870	.0	0.0	
Airport Area			67.1								.0		
N03	Access road #7	282,980	6.5	5,240	31,442	.7	5.8	2,763		46,534	5.0		
N07	Main Airstrip	1,952,514	44.8	37,046	216,946	5.0	39.8	144,631		6,219	12.8		
N09	Borrow source at airstrip	23,638	.5	44	591	.0	.5			88	.0		
N11	Airstrip laydown	1,601,523	36.8	317	231,650	5.3	31.4	117,363		1,268	10.7		
N31	ORTW	700,966	16.1	1,298	17,524	.4	15.7		2,596	5,500	1.0		
N34	Log Storage	145,597									.0		
Mill & Camp Area			104.7								.0		
N10	1690 Portal	141,895	3.3	2,340	141,895	3.3				40,237	3.9		
N13	Access Road #1	193,577	4.4	3,585	193,577	4.4				25,093	14.1		
N14	Mill bench	617,893	14.2	11,381	617,893	14.2				267,642	11.4		
N16	Main Camp/1875 Portal	850,129	19.5	15,397	850,129	19.5				293,591	24.6		
N16F	Main Camp/1875 Portal fuel berms	12,297	.3		12,297	.3				911	.0		
N25	Storm pond	68,944	1.6	1,277	68,944	1.6				5,107	.4		
N30	Ore stockpile	55,102	1.3	1,020	55,102	1.3		4,082			.0		
Drystack and RTP Area			44.5								.0		
N15	Road #3 to Mill to RTP	342,311	7.9	6,339	342,311	7.9				44,374	.3		
N15R	Road #3 to RTP to drystack	494,665	11.4	9,160	494,665	11.4				64,123	.0		
N17	RTP	406,106	9.3	6,947	406,106	9.3					.0		
N18	Drystack	2,619,476	60.1	24,254	2,619,476	60.1				48,509	1.7		
N20	Access road to RTP seepage wells	107,144	2.5	3,968	107,144	2.5				9,045	1.3		
N23	Diversion ditches (flume)	1,124,114	25.8	4,886	1,124,114	25.8				110,977	5.7		
N32	Stilling Basin	124,940	2.9	4,627	124,940	2.9				16,196	.1		
All of Mine			119.8								.0		
N21	Transmission line	770,724	17.7		770,724	17.7					8.9		
N27	Growth Media	924,097	21.2		924,097	21.2					10.6		
N28A	Material sites A	84,477	1.9	3,129	84,477	1.9				626	.0		
N28B	Material site B	144,274	3.3	534	144,274	3.3				1,069	.0		
N28D	Material site D	254,287	5.8	942	254,287	5.8				1,884	.0		
N28	Material sites										1.3		
N36	Road - Phase III Access	137,314	3.2				3.2				28.2		
N37	Material Site - Phase III	1,229,095	28.2				28.2				22.1		
N38	Growth Media Pile - Phase III	344,228	7.9				7.9				.0		
			89.3										
Total		**18,676,205**	**425**	**177,778**	**10,109,154**	**232**	**193**	**373,204**	**4,918**	**1,110,130**	**204.2**	**6.3**	

Growth Media Stockpile Volumes by Area

Notes:
Based on field estimates of height and area calculations from Reclamation quantities (final).dwg

Layer	Area	Description	Pile #	Length	Area (footprint)	Acres	Average height	estimated vol. (cy)	requirements
1525 Portal Area									
N27	1000	north of burn pit	17	1447	80754	1.9	10	24156	
N27	1000	south end of pond	18	608	15248	0.4	3	1481	
N27	1000	north end of laydown area	16	656	15636	0.4	3	1508	
							Sub-Total	**27,144**	**26,575**
Airport Area									
N27	2000	southeast end of airstrip	5	1810	42352	1.0	6	6912	
N27	2000	northeast of second laydown by powerline	4	1086	19869	0.5	6	2882	
N27	2000	north end of laydown areas	1	1925	153662	3.5	6	31495	
N27	2000	northeast of first laydown	6	1035	22420	0.5	3	2135	
N27	2000	north end of airstrip	3	2390	175900	4.0	15	76471	
N27	2000	first road to left going to airstrip	7	793	27689	0.6	6	5010	
N27	2000	south end of airstrip, east side	8	1414	44404	1.0	6	7896	
N27	2000	first road to left going to airstrip	7	1243	101476	2.3	6	20808	
N27	2000	has substantial growth on it (possible GM pile)	2	1321	96796	2.2			
							Sub-Total	**153,611**	**37,046**
Mill & Camp Area									
N27	3000	below mill bench off of ore pad	9	2500	95922	2.2	6	17897	
N27	3000	below camp bench	10	993	39005	0.9	3	3992	
N27	3000			1184	27061	0.6	3	2601	
							Sub-Total	**24,491**	**18,561**
Drystack and RTP Area									
N27	4000	next to road to diversion ditch, off of #3 road	12	1127	35598	0.8	6	6323	
N27	4000	below road to toe of drystack	13	1458	83363	1.9	6	16496	
N27	4000	next to shell of drystack	15	471	8597	0.2	6	1197	
N27	4000	below road to toe of drystack	19	1681	49578	1.1	3	4938	
N27	4000	above road to toe of drystack	14	642	17252	0.4	6	2892	
N27	4000	below RTP road	11	1579	84088	1.9	4	11496	
							Sub-Total	**43,342**	**59,924**
						Total		**224,098**	**CY**

Table 15. Infrastructure Removal Activities

Phase	Work Area Code	Area	Sub Area	Equipment Description	Status	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labor Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Total Unit Cost	Activity Total	Subtotals	Source / Comments
II: Reclamation Concurrent with Mining	1000	Upper Exploration Camp																				$ 26,419	
II: Reclamation Concurrent with Mining	1000		Office/Kitchen	Excavator: CAT 330 w/ grapple attachment		60	hr	C1.01	1	60	70.86	4251.45	0	0	110.36	6621.60	27.36	1926.86	1641.60	208.58	$ 12,515		
II: Reclamation Concurrent with Mining	1000			General Labor		120	hr	C1.08	1	120	115.87	13903.94	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 13,904		
II: Reclamation Concurrent with Mining	1000	Upper Exploration Camp																				$ 22,015	
II: Reclamation Concurrent with Mining	1000		Core Shark	Excavator: CAT 330 w/ grapple attachment		50	hr	C1.01	1	50	70.86	3542.87	0	0	110.36	5518.00	27.36	1605.71	1368.00	208.58	$ 10,429		
II: Reclamation Concurrent with Mining	1000			General Labor		100	hr	C1.08	1	100	115.87	11586.62	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 11,587		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 1,275	
II: Reclamation Concurrent with Mining	1000		exploration core workshop	Excavator: CAT 330 w/ grapple attachment		5	hr	C1.01	1	5	70.86	354.29	0	0	110.36	551.80	27.36	160.57	136.80	208.58	$ 1,043		
II: Reclamation Concurrent with Mining	1000			General Labor		2	hr	C1.08	1	2	115.87	231.73	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 232		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 579	
II: Reclamation Concurrent with Mining	1000		exploration tent workshop	General Labor		5	hr	C1.08	1	5	115.87	579.33	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 579		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 1,275	
II: Reclamation Concurrent with Mining	1000		exploration storage building	Excavator: CAT 330 w/ grapple attachment		5	hr	C1.01	1	5	70.86	354.29	0	0	110.36	551.80	27.36	160.57	136.80	208.58	$ 1,043		
II: Reclamation Concurrent with Mining	1000			General Labor		2	hr	C1.08	1	2	115.87	231.73	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 232		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ -	
II: Reclamation Concurrent with Mining	1000		Septic tank	Excavator: CAT 330 w/ grapple attachment		0	hr	C1.01	1	0	70.86	0.00	0	0	110.36	0.00	27.36	0.00	0.00	208.58	$ -		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 15,582	
II: Reclamation Concurrent with Mining	1000		construction camp (modular)																				
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		5	ea	C5.01	1	5	0.00	0.00	1600	8000	0.00	0.00	0.00	0.00	0.00	1600.00	$ 8,000		
II: Reclamation Concurrent with Mining	1000			General Labor		10	hr	C1.08	1	10	115.87	1158.66	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 1,159		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 15,582	
II: Reclamation Concurrent with Mining	1000		construction offices (modular)																				
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		5	ea	C5.01	1	5	0.00	0.00	1600	8000	0.00	0.00	0.00	0.00	0.00	1600.00	$ 8,000		
II: Reclamation Concurrent with Mining	1000			General Labor		10	hr	C1.08	1	10	115.87	1158.66	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 1,159		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 10,782	
II: Reclamation Concurrent with Mining	1000		construction mine dry (modular)																				
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		2	ea	C5.01	1	2	0.00	0.00	1600	3200	0.00	0.00	0.00	0.00	0.00	1600.00	$ 3,200		
II: Reclamation Concurrent with Mining	1000			General Labor		10	hr	C1.08	1	10	115.87	1158.66	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 1,159		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 12,658	
II: Reclamation Concurrent with Mining	1000		temporary warehouses																				
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		1	ea	C5.01	1	1	0.00	0.00	1600	1600	0.00	0.00	0.00	0.00	0.00	1600.00	$ 1,600		
II: Reclamation Concurrent with Mining	1000			General Labor		40	hr	C1.08	1	40	115.87	4634.65	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 4,635		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 12,658	
II: Reclamation Concurrent with Mining	1000		temporary warehouse																				
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		1	ea	C5.01	1	1	0.00	0.00	1600	1600	0.00	0.00	0.00	0.00	0.00	1600.00	$ 1,600		
II: Reclamation Concurrent with Mining	1000			General Labor		40	hr	C1.08	1	40	115.87	4634.65	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 4,635		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 5,965	
II: Reclamation Concurrent with Mining	1000		Potable water treatment plant #1 (complete)																				
II: Reclamation Concurrent with Mining	1000			Crane to load the structure		5	hr	C1.09	1	5	133.70	668.49	0	0	168.74	843.70	18.74	109.98	93.70	321.18	$ 1,606		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		2	ea	C5.01	1	2	0.00	0.00	1600	3200	0.00	0.00	0.00	0.00	0.00	1600.00	$ 3,200		
II: Reclamation Concurrent with Mining	1000			General Labor		10	hr	C1.08	1	10	115.87	1158.66	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 1,159		
II: Reclamation Concurrent with Mining	1000	Lower camp																				$ 16,592	
II: Reclamation Concurrent with Mining	1000		Support sheds																				
II: Reclamation Concurrent with Mining	1000			Excavator: CAT 330 w/ grapple attachment		10	hr	C1.01	1	10	70.86	708.57	0	0	110.36	1103.60	27.36	321.14	273.60	208.58	$ 2,086		
II: Reclamation Concurrent with Mining	1000			Truck: CAT 735		4	hr	C1.04	1	4	70.10	280.40	0	0	84.59	338.36	17.55	82.40	70.20	172.24	$ 689		
II: Reclamation Concurrent with Mining	1000			General Labor		10	hr	C1.08	1	10	115.87	1158.66	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 1,159		
II: Reclamation Concurrent with Mining	1000			Crane to dismantle the structure		20	hr	C1.09	1	20	133.70	2673.95	0	0	168.74	3374.80	18.74	439.93	374.80	321.18	$ 6,424		
II: Reclamation Concurrent with Mining	1000			Transport to Fairbanks		1	ea	C5.01	1	1	0.00	0.00	1600	1600	0.00	0.00	0.00	0.00	0.00	1600.00	$ 1,600		
II: Reclamation Concurrent with Mining	1000			General Labor		40	hr	C1.08	1	40	115.87	4634.65	0	0	0.00	0.00	0.00	0.00	0.00	115.87	$ 4,635		
II: Reclamation Concurrent with Mining	2000	Airport area																				$ -	
II: Reclamation Concurrent with Mining	2000		Batch plant																				
II: Reclamation Concurrent with Mining	2000			General Labor	Demolished	0	hr	C1.01	1	0	70.86	0.00	0	0	110.36	0.00	27.36	0.00	0.00	208.58	$ -	$ -	

Table 15. Demolition Quantities

								Building Size			Material Quantities								
Phase	Section	Area	Item	Sub Component/Building/Section		Status	Qnty	Length (ft.)	Width (ft.)	Avg. Height (ft.)	Steel Thickness	No. 1 Steel (tons)	Scrap Steel (yds)	Wood (yds)	Concrete (yds)	Other (yds)	Other (tons)	Hydrocarbon soils (cy)	source/reference
I: Post-Construction		Exploration Camp																	
				exploration camp		retain		225	41	10		105		513					
				Upper exploration camp		retain				10									
				environmental lab/ office		retain		24	20	10				27					
				environmental containment building		retain		34	20	10		8		38					
				exploration core workshop		retain		40	20	10		9		44					
				exploration tent workshop				40	20	10									
				exploration storage building		retain		30	16	8		4							
				Explosive storage building		removed													
				Septic tank											80				
II: Reclamation Concurrent with Mining		Construction camp										0							
I: Post-Construction				construction camp (modular)		retain		180	28	10				280					
I: Post-Construction				construction offices (modular)		retain		50	30	10				83					D92A0104_0
I: Post-Construction				construction mine dry (modular)		retain		56	30	9				84					D92A0100_0
I: Post-Construction				temporary warehouses		retain	2	40	40	14.5		26							D92A0101_1
				temporary warehouse		retain		100	40	14.5		105			80				D92A0105_1
				AIRPORT batch plant I-05		removed													
				Potable water treatment plant #1 (complete)				40	10	10		5					10		
				STP: building complete 75000 gpd				100	40			65			110				
				Support sheds								0		20					
				incinerator building				10	20	12		3							
				Lower camp ER#25 (pre engineered ATCO)				20	20	10		5							
IV: Post Closure Reclamation		1525 Portal										0							
			Compressor/ER #26/shop					42	24	12		14							D92A0111_0
			Shop/warehouse					80	40	20		73							
			Mine ventilation and heater					42	14	8		5							
			Mine water treatment Plant #2	Building/Shell				145	60	40	0.042	395	779		41.5				
				Thickener 32' dia. x 10' 7.5HP					32	10	0.042								
				Thickener Cover 32' dia.															
				MCC's								1	2						
				equipment															
			Construction generators MCP #24 ATCO			retain		40	20	15		22							
III: Final Reclamation & Closure		Main camp bench										0							
				1875 Mine support construction shop				80	40	20		73							
				Shop/warehouse				210	120	40		1145							
				Camp expansion C wing (50 man)				235	30	20		160		783					
				Main camp 225 man and kitchen				435	51	30				3698					
				Potable water treatment plant #2				48	10	10		9							
				Fire water pump building				34	15	10		6							
				Fire water tank					32	32.5	0.042	30							
				Mine ventilation and heater				42	14	8		5							
III: Final Reclamation & Closure		Mill Area																	
			Concentrator																
				Shell/Building				375	90	50		1918	235		338				
				mill warehouse															
				Coarse Ore	Bin (complete)							80			20				
					E-Feeder			40	10	20		31.3							
				Flotation tailings dewatering				150	50	20			30						
					CV-010 to 013 - 30" x 22' lg 20hp incl head chute skirts, stringers			22	30"										
					CV-016 - 36" x 158' lg 15hp incl chutes, skirts, stingers no trusses			158	36"										
					TK-017 Tank - CS Shop Fab 8' x 8'				8	8	0.042	16.3							
					TK-067 Tank - CS Shop Fab 10' x 30'				30	10	0.042	16.3							
				Flotation regrind															
					CV-010 to 013 - 30" x 22' lg			22	30"										
					CV-016 - 36" x 158' lg			158	36"										
					TH-002 Thickener Deep Cone 40' dia				33	30									
					TH-002 domed structure alum incl doors														
				Gold recovery and Smelting				40	20	20		29							
					equipment														
					VT-001 Vault 8'x8'x10'			8	8	10	6"	4							
				Grinding				87	86	30		424.3							
					equipment														
				Ore Transport Conveyor CV-02			9'	2024	42"					1	70				
				Pre Aeration, Leach, CIP															
				Reagents															
				Utilidor				195	10	10		51.3							
				Compressor Room				20	40	10		31.3							
				Electrical Control Module			3	10	40	10		23.3							
				Assay Lab				75	50	10		84.3							
				ATTCO temporary office				100	30	20		125.3							
			Filter/Backfill building																
				Shell/Building				173	100	40		802.3			142	45			
					CV-017 - 36" x 63' lg 15hp incl head chute skirts, stringers			63	36"										
					CV-018 - 30" x 71' lg 15hp incl head chute skirts, stringers			71	30"										
					FD-005 - 36" x 12' lg 15hp incl head chute liners skirts stringers			12	36"										
					CV-004 - 48" x 288' lg 20hp incl chute skirt stringer trusses														
					Cement Silo		1		10	40	0.042	12							
					Flyash Silo	not installed													
				Backfill Paste plant				50	40	30		109							
				Filtration Plant				60	95	30		311							
			Storm Pond	Control and pump building			1	40	13	8		8							
IV: Post Closure Reclamation			RTP	Warming hut				20	10	10		4							
				Seepage wells control module				8	10	8		1							
			TOTALS									**6355**	**1046.17**	**5571.11**	**881.822222**	**45**	**10**	**0**	

Surface Water & Groundwater Post Closure Monitoring

Phase I	Completed

1-year holding period

General Description: Current sampling will be continued.

Current sampling program — Duration: 1 years

Item	Description	Cost (per sample)	Samples per year	estimate of hours	Number of years	Sampling Cost
ORTW	001 and 011	$ 489.00	104	208	1	$ 50,856
	011 quarterly	$ 1,467.00	4	8	1	$ 5,868
STP	002	$ 238.70	52	52	1	$ 12,412
	002 bi-monthly cost	$ 238.70	6	6	1	$ 1,432
	additional monthly cost	$ 132.00	12		1	$ 1,584
RTP	Surface water sample	$ 622.00	0	0	1	$ -
				0	1	$ -
PWTP1	Potable water	$ 52.50	52	104	1	$ 2,730
	Potable water	$ 171.50	12	12	1	$ 2,058
Surface	Surface water samples	$ 622.00	24	48	1	$ 14,928
Wells	Monitoring wells	$ 622.00	16	48	1	$ 9,952
Biological	Fish tissue samples at two site	$ 6,400.00	1	10	1	$ 6,400
WET	001 annually	$ 3,800.00	1	10	1	$ 3,800
				0	1	$ -
Other Costs	Courier cost	$ 37,200.00	1	10	1	$ 37,200
	Helicopter	**$ 2,550.00**	6	0	1	$ 15,300
	Labor		1	516	1	$ -
TOTAL						**$ 164,521**

Phase III

General Description: Sampling will be on going with closure activities.
Phase III minitoring cost was included in Phase IV Water Treatment Phase

Duration: 1 years

Item	Description	Cost (per sample)	Samples per year	estimate of hours	Number of years	Sampling Cost
ORTW	001 and 011	$ 489.00	104	208	1	$ 50,856
	001 and 011	$ 1,467.00	12	24	1	$ 17,604
STP	002	$ 238.70	52	52	1	$ 12,412
	002 bi-monthly cost	$ 238.70	6	6	1	$ 1,432
	additional monthly cost	$ 132.00	12		1	$ 1,584
RTP	Weir	$ 622.00	12	12	1	$ 7,464
	Reservoir	$ 622.00	12	12	1	$ 7,464
PWTP1	Potable water	$ 52.50	52	104	1	$ 2,730
	Potable water	$ 171.50	12	12	1	$ 2,058
Surface	Surface water samples	$ 622.00	4	8	1	$ 2,488
Wells	213,216	$ 622.00	24	72	1	$ 14,928
Biological	Fish tissue samples	$ 1,500.00	1	10	1	$ 1,500
				0	1	$ -
				0	1	$ -
				0	1	$ -
Other Costs (Helicopter, Labor, etc).		**$ 6,500.00**	2	20	1	$ 13,000
TOTAL				540		**$ 135,521**

Phase IV Water Treatment

General Description: WTP is operated for 10 years. Samples will be corrected by WTP operatiors.

Duration: 10 years

Item	Description	Cost (per sample)	Samples per year	estimate of hours	Number of years	Sampling Cost
ORTW	001 and 011	$ 489.00	87	174	1	$ 42,543
	011 Quarterly	$ 1,467.00	4	8	1	$ 5,868
STP	002	$ 238.70		0	1	$ -
	002 bi-monthly cost	$ 238.70		0	1	$ -
	additional monthly cost	$ 132.00			1	$ -
PWTP1	Potable water	$ 52.50	52	104	1	$ 2,730
	Potable water	$ 171.50	12	12	1	$ 2,058
Surface	Surface water samples	$ 622.00	36	72	1	$ 22,392
Wells	500, 501, 502, 213, 216, & 2 wells between	$ 622.00	28	84	1	$ 17,416
Biological	Fish tissue samples	$ 6,400.00	1	10	1	$ 6,400
Wetlands	Dry Stack - RTP, quarterly	$ 3,000.00	4	40	1	$ 12,000
WET	001 annually	$ 3,800.00	1	10	1	$ 3,800
				0	1	$ -
Other Costs	Courier cost	$ 37,200.00	1	10	1	$ 37,200
	Helicopter	**$ 2,550.00**	6	0	1	$ 15,300
	Labor		1	524	1	$ -
TOTAL						**$ 167,707**

Phase V

General Description: 7 annual monitoring events over a 30 year period after the end of act,

Current sampling program — Duration: 10 years

Item	Description	Cost (per sample)	Samples per year	estimate of hours	Number of years	Sampling Cost
Surface	Below dry stack	$ 622.00	1	3	1	$ 622
Wells	500, 501, 502, 213, 216, & 2 wells between	$ 622.00	7	21	1	$ 4,354
Biological	Fish tissue samples	$ 6,400.00		0	1	$ -
Vegetation	Inspect site for vegetation establishment	$ 1,500.00	1	10	1	$ 1,500
				0	1	$ -
				0	1	$ -
Other Costs	Courier cost	**$ 600.00**	1	0	1	$ 600
	Helicopter	**$ 2,550.00**	1	0	1	$ 2,550
	Labor	**$ 150.00**	1	10	1	$ 1,500
TOTAL				34		**$ 11,126**

Water treatment cost:

Cost code	Description	Reagent cost			electric		Labor			Maintenance	
		gal.per month	$/gal	$/month	$/kWh	$/unit kWh	Mhr/month	Labor Rate/Unit	Labor Cost	$/unit	Total Unit Cost
W.001	Operate Water treatment per month	7,776,000	0.00071	$ 5,495.63	$ 0.146	$ 10,512	345	$ 70.86	$ 24,445.82	$ 2,000.00	**$ 42,453**

Assumptions	
Power consumption	72000 kWh
Plant process rate	180 gpm
maintenance cost (estimated)	2000 $/month
Days in a month	30

Data from the Mill

	UOI (unit of issue)		JDE	Sep-07						Oct-07						Nov-07						Dec-07					
				Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water	
Reagent	lbs	packaging	S/C	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon
CALCIUM HYDROXIDE (LIME)	2,000	supersack	11248	8,000	0.260					6,000	0.290					8,000	0.260					4,000	0.270				
CALCIUM HYDROXIDE (LIME)	55	bag	18081	0	0.260					0	0.290					550	0.299					0	0.300				
CALCIUM HYDROXIDE (LIME) (COMBINED)				8,000	0.260	0.00102	0.00027	0.00075	0.00019	6,000	0.290	0.00072	0.00021	0.00068	0.00020	8,550	0.263	0.00132	0.00035	0.00116	0.00030	4,000	0.270	0.00053	0.00014	0.00050	0.00014
FERRIC CHLORIDE 40%	3,500	tote	11237	17,500	0.290					10,500	0.290					17,500	0.290					0	0.290				
FERRIC CHLORIDE 40%	643	drum		0	0.290					0	0.290					0	0.290					5,144	0.290				
FERRIC CHLORIDE 40% (COMBINED)				17,500	0.290	0.00224	0.00065	0.00163	0.00047	10,500	0.290	0.00125	0.00036	0.00119	0.00035	17,500	0.290	0.00270	0.00078	0.00237	0.00069	5,144	0.290	0.00069	0.00020	0.00065	0.00019
POLYCLEAR 2528	55	bag	11247	55	1.670	0.000007	0.000012	0.000005	0.000009	55	1.670	0.000007	0.000011	0.000006	0.000010	55	1.750	0.000008	0.000015	0.000007	0.000013	0	1.750	0.000000	0.000000	0.000000	0.000000
				Total					0.001						0.001						0.001						0.000

DCS data

Month	Sep-07	Oct-07	Nov-07	Dec-07
Sump 5 to MWTP #01 & #02 (gallons)	7,815,827	8,390,316	7,229,636	6,795,872
RTP to MWTP #02 (gallons)	2,905,483	409,196	515,617	530,121
MWTP #01 & #02 Total Feed (gallons)	10,721,310	8,799,512	7,745,253	7,325,993
MWTP #02 to ORTW (gallons)	8,372,912	473,932	1,607	2,774

Data from the Mill

Did not receive MWTP April Reagents yet - requested report - will update as soon as

	UOI (unit of issue)		JDE	Jan-08						Feb-08						Mar-08						Apr-08					
				Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water		Mixed		SUMP 5 Water		Sump 5 + RTP Water	
Reagent	lbs	packaging	S/C	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon	lbs	$/lb	lbs/gallon	$/gallon	lbs/gallon	$/gallon
CALCIUM HYDROXIDE (LIME)	2,000	supersack	11248	6,000	0.280					6,000	0.290					8,000	0.290										
CALCIUM HYDROXIDE (LIME)	55	bag	18081	275	0.300					0	0.300					0	0.300										
CALCIUM HYDROXIDE (LIME) (COMBINED)				6,275	0.281	0.00094	0.00026	0.00074	0.00021	6,000	0.290	0.00093	0.00027	0.00085	0.00025	8,000	0.290	0.00124	0.00036	0.00109	0.00031						
FERRIC CHLORIDE 40%	3,500	tote	11237	7,000	0.290					14,000	0.290					17,500	0.290										
FERRIC CHLORIDE 40%	643	drum		2,572	0.290					0	0.290					0	0.290										
FERRIC CHLORIDE 40% (COMBINED)				9,572	0.290	0.00143	0.00042	0.00112	0.00033	14,000	0.290	0.00217	0.00063	0.00198	0.00057	17,500	0.290	0.00270	0.00078	0.00237	0.00069						
POLYCLEAR 2528	55	bag	11247	0	1.980	0.000000	0.000000	0.000000	0.000000	55	1.980	0.000009	0.000017	0.000008	0.000015	55	1.980	0.000008	0.000017	0.000007	0.000015						
				Total					0.001						0.001						0.001						

DCS data

Month	Jan-08	Feb-08	Mar-08	Apr-08
Sump 5 to MWTP #01 & #02 (gallons)	6,683,373	6,448,247	6,473,114	7,502,530
RTP to MWTP #02 (gallons)	1,831,245	628,424	896,334	422,425
MWTP #01 & #02 Total Feed (gallons)	8,514,618	7,076,671	7,369,448	7,924,955
MWTP #02 to ORTW (gallons)	1,445,785	0	0	0

Sludge Disposal Cost

	Unit		Comment
Sludge Generation Rate	ft3/1000 gallon	0.1956	WTP#2 generated 1200 ft3 of sludge within 30 days by treating 142 gpm water.
	cy/1000 gallon	0.0072	
Capacity of Roll-off	cy	25	
Disposal cost per roll-off	$/roll-off	1200	Current contract
Water Treatment Rate at Phase IV	gpm	110	2002 Wataer Management Plan
Sludge Generation Rate	cy/month	34.4	
Roll-off per month	ea/month	1.38	
Cost per month	$/month	$1,653	

Hydraulic Concrete Plug Installation Cost

A. Grouting

Assumptions
- Grout holes: 2 inch in dia., 25ft long x 16 holes
- Volume of grout: 1 cy (27 ft3) in total
- Drilling Period: 1 shift
- Grouting Period: 1 shift
- Grout Mixture: Water : Cement = 2 : 1

Costs

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
Packer	16	e.a.	$50.00	$800.00	Actual cist
94lbs Cement bag	27	e.a.	$12.75	$344.25	Actual cist
Total				$1,144.25	

Labor	Quantity	Unit	Cost per Unit	Cost	
Jumbo Operator x 1	11.5	hr	$72.44	$833.08	Tunnel Labor Group 3A
Jumbo Assistant x 1	11.5	hr	$64.46	$741.30	Tunnel Labor Group 1
Grout pump operator x 2	23	hr	$66.02	$1,518.47	Tunnel Labor Group 2
Total	46			$3,092.85	

Equipment with fuel					
Jumbo	2	month	$24,000.00	$48,000.00	Quotation from Redpath
LHD	2	month	$30,000.00	$60,000.00	Quotation from Redpath
Grout Pump (incl. setup & demolish)	2	month	$2,300.00	$4,600.00	Quotation from Redpath
Compressor	2	month	$2,300.00	$4,600.00	Quotation from Redpath
Total				$39,066.67	

Grouting Total	**$43,303.77**

B. Barricade

Assumptions
- 8 inch thick Shotcrete Barricade
- Construction period: 1 shift for frame work, 2 shifts for shotcreting

Costs

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
Shotcrete	16	cy	$300.00	$4,800.00	Internal Information
Misc. Hardware	1	e.a.	$20.00	$20.00	Internal Information
Geotextile	600	ft2	$0.08	$48.00	Internal Information
4" Screen	530	ft2	$0.12	$63.60	Internal Information
4" Screen Towers	4	e.a.	$40.00	$160.00	Internal Information
Breather Pipe	4	e.a.	$15.00	$60.00	Internal Information
Total				$5,151.60	

Labor	Quantity	Unit	Cost per Unit	Cost	
Jumbo Operator	34.5	hr	$72.44	$2,499.24	Tunnel Labor Group 3A
LHD Operator	34.5	hr	$67.41	$2,325.78	Tunnel Labor Group 3
Construction Labor x 3	103.5	hr	$66.02	$6,833.13	Tunnel Labor Group 2
Total	172.5			$11,658.16	

Equipment with fuel					
Forklift	34.5	hr	$31.55	$1,088.48	
Utility Truck	34.5	hr	$37.46	$1,292.37	
Dry Shotcrete Pod	23	hr	$1.74	$40.00	Redpath Contract ($1200/month)
Total				$2,420.85	

Barricade Total	**$19,230.60**

C. Concrete Pour

Assumptions
- Model: 1525 Portal (19 ft plug length)
- Volume of concrete: (19' x 16') x 19' x 1.1 = 6354 ft3 (235.3 cy)
- Pour period: 2 shifts

Costs

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
8" HDPE Pipe	500	ft	$6.15	$3,075.00	Internal Information
Redi-mix concrete with Type F Fly Ash	235.3	cy	$193.00	$45,412.90	Quotation from Delta Concrete
Total				$48,487.90	

Labor	Quantity	Unit	Cost per Unit	Cost	
Construction Labor x 2 x 2 shifts	46	hr	$16.62	$764.65	Tunnel Labor Group 2
Total	46			$764.65	

Equipment with fuel					
Concrete Pump Truck with operator (2 shifts)	23	hr	$185.00	$4,255.00	Quotation from Delta Concrete
Total				$4,255.00	

Concrete Pour Total	**$53,507.55**	
Concrete Pour Unit Cost	**$227.40**	/cy

D. Total Cost for Hydraulic Plug

1525 Portal	Quantity	Unit	Cost per Unit	Cost	
Grouting	1	ea	$43,303.77	$43,303.77	
Barricade	2	ea	$19,230.60	$38,461.20	
Concrete pour	235.3	cy	$227.40	$53,511.76	19 ft long plug
Total Cost - 1525 Portal Hydraulic Plug				**$135,276.73**	

1690 Haulage	Quantity	Unit	Cost per Unit	Cost	
Grouting	1	ea	$43,303.77	$43,303.77	
Barricade	2	ea	$19,230.60	$38,461.20	
Concrete pour	211	cy	$227.40	$47,878.95	17 ft long plug
Total Cost - 1690 Portal Hydraulic Plug				**$129,643.92**	

1875 Portal	Quantity	Unit	Cost per Unit	Cost	
Grouting	1	ea	$43,303.77	$43,303.77	
Barricade	2	ea	$19,230.60	$38,461.20	
Concrete pour	50	cy	$227.40	$11,265.63	4 ft long plug
Total Cost - 1875 Portal Hydraulic Plug				**$93,030.61**	

Total Concrete Plug	**$357,951.26**

E. Total Man.Hour for Hydraulic Plug

1525 Portal	Quantity	Unit	Unit Man.hour	Man.hour	
Grouting	1	ea	46.0	46.0	
Barricade	2	ea	172.5	345.0	
Concrete pour	235.3	cy	0.2	46.0	19 ft long plug
Total Man.Hour - 1525 Portal Hydraulic Plug				**437.0**	

1690 Haulage	Quantity	Unit	Unit Man.hour	Man.hour	
Grouting	1	ea	46.0	46.0	
Barricade	2	ea	172.5	345.0	
Concrete pour	211	cy	0.2	41.2	17 ft long plug
Total Man.Hour - 1690 Portal Hydraulic Plug				**432.2**	

1875 Portal	Quantity	Unit	Unit Man.hour	Man.hour	
Grouting	1	ea	46.0	46.0	
Barricade	2	ea	172.5	345.0	
Concrete pour	50	cy	0.2	9.7	4 ft long plug
Total Man.Hour - 1875 Portal Hydraulic Plug				**400.7**	

Pastefill Cost

Assumptions

Fill Volume

Most of the mining stopes alternate cycle and pastefill cycle month by month.
Thus, it is assumed that the stope volume mined in a month would be remained open when the operation is ceased.

- Required fill volume	1,039,856	ft3	Annual fill volume: 12,478,271 ft3 (2010 Budget)
- Total length of stopes to be filled (= Paste pipe length)	3,697	ft	Annual footage to be mined: 44,366 ft (2010 Budget)
- Number of stopes to be filled (= Number of barricade to be constructed)	20	e.a.	Operational information

Paste Plant Operation

- The dry stack is hauled from Dry Stack Tailings Facility.
- The following facilities should be operational to use the Paste Plant:
  - Sizer
  - CV05
  - CV013
  - Cement Silo Blower
  - Cement Rotary Valve
  - Cement Weightometer
  - Cement Screw Feeder
  - Cement Dust Collection
  - Paste Mixer
  - Paste Pump
  - 2 Pumps for water addition (One for backup)
  - Paste Plant Control Room
  - Emergency Flush Pump
- The operational data of Paste Plant follow:

Total power rating of Paste Plant facilities	750	kW	Internal Information
Load Factor	80	%	
Utilization Factor	80	%	Internal Information
Electrical Usage per hour	480	kWh	
Backfill rate	2000	ft3/hr	Average rate
Electrical Usage per ft3 pastefill	0.240	kWh/ft3	
Electric Cost	0.146	$/kWh	Dec. 2009 Cost
Paste Plant Operation Cost	**0.035**	$/ft3 pastefilled	

Pastefill Mixture

Solid %	64	%	2010 Plan
Comment Content %	6.5	%	2010 Plan
Dry Stack Content %	57.5	%	
Specific gravity - dry stack	177.0	lbs/ft3	
Specific gravity - cement	197.0	lbs/ft3	
Specific gravity -pastefill	107.1	lbs/ft3	

Dry Stack Transportation

Dry stack required (dry ton)	61.6	dry ton/hr
Dry stack required volume	696.0	ft3/hr
Dry stack required volume	25.8	cy/hr
Haul truck productivity (CAT 740)	68.8	cy/hr
No. of haul truck required	0.4	e.a.

Cost Estimation

A. Barricade

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
Shotcrete	16	cy	$300.00	$4,800.00	Internal information
Misc. Hardware	1	e.a.	$20.00	$20.00	
Geotextile	600	ft2	$0.08	$48.00	
4" Screen	530	ft2	$0.12	$63.60	
4" Screen Towers	4	e.a.	$40.00	$160.00	
Breather Pipe	4	e.a.	$15.00	$60.00	
Total				$5,151.60	

Labor	Quantity	Unit	Cost per Unit	Cost	
Construction Labor x 3 x 3 shifts	103.5	hr	$66.02	$6,833.13	Tunnel Labor Group 2
Total	103.5			$6,833.13	

Equipment with fuel cost	Quantity	Unit	Cost per Unit	Cost	
Forklift	34.5	hr	$78.31	$2,701.73	
Utility Truck	34.5	hr	$76.15	$2,627.28	
Dry Shotcrete pot	23	hr	$1.74	$40.00	Redpath Contract ($1200/month)
Total				$5,369.01	

Barricade Total	**$17,353.74**	**per e.a.**

B. Paste Pipe Installation (100 ft)

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
8" Paste Pipe	200	ft	$6.15	$1,230.00	Internal information
8" Couplings	2	e.a.	$184.96	$369.92	
4" Breather Pipe	440	ft	$1.05	$462.00	
4" Coupling	0	e.a.	$99.55	$0.00	
Chain	128	e.a.	$1.25	$160.00	
Blast off - Trimtex	1	e.a.	$3.47	$3.47	
Blast off - Det Cord	100	ft	$0.14	$14.00	
Total				$2,239.39	

Labor	Quantity	Unit	Cost per Unit	Cost	
Construction Labor x 3 x 8 hr	24	hr	$66.02	$1,584.49	Tunnel Labor Group 2
Total	24			$1,584.49	

Equipment with fuel cost	Quantity	Unit	Cost per Unit	Cost
Forklift	8	hr	$78.31	$626.49
Utility Truck	8	hr	$76.15	$609.22
Total				$1,235.71

Paste Pipe Installation	**$5,059.60**	**for 100ft**
	$50.60	**per foot**

C. Dry Stack Transportation and Paste Pour (2000ft3)

Materials	Quantity	Unit	Cost per Unit	Cost	Notes
Cement	6.96	ton	$194.00	$1,351.04	
Total				$1,351.04	

Labor	Quantity	Unit	Cost per Unit	Cost	
Loader Operator x 2	2	hr	$73.52	$147.05	Power Equipment Operator Group 1A
Haul Truck Operator x 1	1	hr	$70.10	$70.10	Truck Driver Group 1
Paste Plant Operator x 1	1	hr	$61.58	$61.58	Labor Group 2
Mechanic x 1	1	hr	$70.86	$70.86	Mechanic
Underground Construction Labor x 2	2	hr	$66.02	$132.04	Tunnel Labor Group 2
Total	7			$481.63	

Equipment with fuel cost	Quantity	Unit	Cost per Unit	Cost	
Loader x 2	2	hr	$126.80	$253.60	CAT 980H
Haul Truck x 1	1	hr	$108.73	$108.73	CAT 740
Paste Plant	2000	ft3	$0.04	$70.08	
Total				$432.41	

Dry Stack Transportation and Paste Pour Total	**$2,265.08**	**per 2000 ft3**
	$1.13	**per ft3**

D. Total Pastefill Cost

Total Pastefill Cost	Quantity	Unit	Cost per Unit	Cost	Notes
Barricade	20	e.a.	$17,353.74	$347,074.80	
Paste Pipeline	3,697	ft	$50.60	$187,061.71	
Paste Pour	1,039,856	ft3	$1.13	$1,177,675.84	
Total				**$1,711,812.35**	

D. Total Man.Hour - Pastefill

Total Pastefill Cost	Quantity	Unit	Unit Man.hour	Man.hour	Notes
Barricade	20	e.a.	103.5	2070.0	
Paste Pipeline	3,697	ft	0.2	887.3	
Paste Pour	1,039,856	ft3	0.004	3639.5	
Total				**6596.8**	