

Knight Piesold 2015 Estimate				Golder 2017 Estimate				Difference	Comparison Summary		
Underground Mine		Unit	Price	Total	Underground Mine		Unit	Price	Total	Underground Mine	
Control Access					Control Access					Control Access	
	Backfill Adits	1,000	\$ 3.49	\$ 3,494		Backfill Adits	940	\$ 3.50	\$ 3,290	204	
	Cap Shafts	5	\$ 85,656	\$ 428,282		Cap Shafts	5	\$ 85,656	\$ 428,280	2	
	Backfill Open Stopes	2,250	\$ 3.49	\$ 7,863		Backfill Open Stopes	2,250	\$ 3.50	\$ 7,875	(12)	
	Crown Pillar Study	1	\$ 25,000	\$ 25,000		Crown Pillar Study	1	\$ 25,000	\$ 25,000	-	
Remove Hazardous Waste					Remove Hazardous Waste					Remove Hazardous Waste	
Total				\$ 464,639	Total				\$ 464,445	194	Essentially the same.

Tailings Impoundment		Unit	Price	Total	Tailings Impoundment		Unit	Price	Total	Tailings Impoundment	
Stabilize Embankment					Stabilize Embankment						
	Rip Rap	90,000	\$ 15.20	\$ 1,368,000		Rip Rap	15,000	\$ 15.20	\$ 228,000	1,140,000	KP assumed upstream faces of dams would be flattened to 2.5:1 using rip rap. This is unnecessary. Golder assumed rip rap in the wave zone only with reduced water levels. Dam M repairs were completed in 2016.
Cover Tailings					Cover Tailings					Cover Tailings	
	Soil Cover	241,328	\$ 9.30	\$ 2,244,350		Soil Cover	209,828	\$ 7.02	\$ 1,472,993	771,358	Unit costs are actual costs based on the work being done in 2016-2017. KP area is from 2012. Area has been reduced to reflect cover work completed by the end of 2017.
										-	
	excavate and dispose tailings cell 4	1	\$ 100,000	\$ 100,000		excavate and dispose tailings cell 4	1	\$ 100,000	\$ 100,000	-	
	Other - cover repair	20,000	\$ 9.30	\$ 186,000						186,000	KP report states that this is an arbitrary allowance. There is no evidence that this is necessary.
Remove Tailings Discharge					Remove Tailings Discharge					Remove Tailings Discharge	
	Pipe	8,500	\$ 22.00	\$ 187,000		Pipe	8,500	\$ 18.39	\$ 156,315	30,685	KP used a RECAIM rate. Lower unit cost was provider by a contractor.
Upgrade Spillway					Upgrade Spillway					Upgrade Spillway	
	Excavate Channel	30,600	\$ 9.30	\$ 284,580		Excavate Channel	12,350	\$ 4.30	\$ 53,105	231,475	Golder assumed spillway excavation through Dam 1A and J (4m bottom, 4:1 side slope up to elevation 480m and 481m respectively).
	Rip Rap spillway	20,000	\$ 15.20	\$ 304,000		Rip Rap spillway	936	\$ 7.00	\$ 6,552	297,448	Spillways through Dam 1A and J. 2m flow depth 0.5 m thick rip rap. Rip rap to be reclaimed from dam faces above water level. KP What is basis of KP lump sum?
	Geotextile	7,000	\$ 3.44	\$ 24,080		Geotextile	2,800	\$ 3.44	\$ 9,632	14,448	Based on spillway size
Specialized Items					Specialized Items					Specialized Items	
	install permanent instrumentation, supply & technician	1	\$ 60,000	\$ 60,000		install permanent instrumentation, supply & technician	1	\$ 30,000	\$ 30,000	30,000	50% added in next row, cost for drilling
						install permanent instrumentation, drilling	1	\$ 30,000	\$ 30,000	(30,000)	
Treatment Supernatant					Treatment Supernatant					Treatment Supernatant	
	Equipment maintenance and parts	1	\$ 100,000	\$ 100,000		Equipment maintenance and parts				100,000	KP adopted an earlier allowance by INAC. Note that Golder allowed 277,900 under "Water Management"
Annual treatment Costs					Annual treatment Costs					Annual Treatment Costs	
Total				\$ 4,858,010	Total				\$ 2,086,597	2,771,414	

Rock Pile		Unit	Price	Total	Rock Pile		Unit	Price	Total	Rock Pile	
Cover Rock Pile					Cover Rock Pile					Cover Rock Pile	
						Soil Cover, excavate, haul, spread, compact	364,800	\$ 7.02	\$ 2,560,896	(2,560,896)	Cover of waste rock on place with 1m of borrow material (36.48 ha)
Relocate Dumps					Relocate Dumps					Relocate Dumps	
	Load, Haul, Dump and Doze - m3	400,000	\$ 7.00	\$ 2,800,000		Load, Haul, Dump and Doze m3	45,600	\$ 4.72	\$ 215,232	2,584,768	Approximate volume to be removed and disposed underground
						Contour Reclaimed Area	364,800	\$ 1.05	\$ 383,040	(383,040)	
Other					Other					Other	
	Waste Rock Survey	1	\$ 100,000	\$ 100,000		Waste Rock Survey				100,000	These items were completed as part of the 2017 ESA update.
	Soil/Waste Rock Risk Assessment	1		\$ 250,000		Soil/Waste Rock Risk Assessment				250,000	
	Options Assessment	1	\$ 50,000	\$ 50,000		Options Assessment				50,000	
Total				\$ 3,200,000	Total				\$ 3,159,168	40,832	

Equipment and Buildings					Equipment and Buildings					Equipment and Buildings						
Building Decontamination and Haz Waste Removal					Building Decontamination and Haz Waste Removal					Building Decontamination and Haz Waste Removal						
	Decontaminate - oil, fuel, glycol systems	1	\$ 218,572	\$ 218,572		Decontaminate - oil, fuel, glycol systems				218,572	Golder considers that this was covered by on Section "Hazard Materials Consolidated for Removal" below. Substantial volumes were removed in 2015 - 2017.					
	Decontaminate offices/warehouse/ accommodations			\$ -		Decontaminate offices/warehouse/ accommodations				-						
Remove Buildings					Remove Buildings					Remove Buildings						
	Sleepers and Offices	7,329	\$ 128.00	\$ 938,112		Sleepers and Offices	7,329	\$ 45.00	\$ 329,805	608,307	Golder changed from a really high unit rate, higher than RECLAIM for all buildings and broke out the ones that are easy to dismantle etc.					
	Hoist Room and Travel Ways	463	\$ 128.00	\$ 59,264		Hoist Room and Travel Ways	463	\$ 128.00	\$ 59,264	-						
	Shaft House	1,253	\$ 128.00	\$ 160,384		Shaft House	1,253	\$ 128.00	\$ 160,384	-						
	Warehouse	4,671	\$ 128.00	\$ 597,888		Warehouse	4,671	\$ 128.00	\$ 597,888	-						
	Mill	2,864	\$ 128.00	\$ 366,592		Mill	2,864	\$ 128.00	\$ 366,592	-						
	Powerhouse	1,645	\$ 128.00	\$ 210,560		Powerhouse	1,645	\$ 128.00	\$ 210,560	-						
	Headframe	413	\$ 128.00	\$ 52,864		Headframe	413	\$ 128.00	\$ 52,864	-						
	Airlock Building and Freshair Intake	366	\$ 128.00	\$ 46,848		Airlock Building and Freshair Intake	366	\$ 128.00	\$ 46,848	-						
	Paste fill Plant	316	\$ 128.00	\$ 40,448						40,448	This building has already been removed years ago					
	Cold Storage 2 buildings	1,855	\$ 128.00	\$ 237,440		Cold Storage 2 buildings	1,855	\$ 45.00	\$ 83,475	153,965	Golder changed from a really high unit rate, higher than RECLAIM for all buildings and broke out the ones that are easy to dismantle etc.					
	Surface Mobile Shop	1,008	\$ 128.00	\$ 129,024		Surface Mobile Shop	1,008	\$ 128.00	\$ 129,024	-						
	Carpenter Shop	482	\$ 128.00	\$ 61,696		Carpenter Shop	482	\$ 45.00	\$ 21,690	40,006	Golder changed from a really high unit rate, higher than RECLAIM for all buildings and broke out the ones that are easy to dismantle etc.					
	As Treatment Plant Building	177	\$ 128.00	\$ 22,656		As Treatment Plant Building	177	\$ 128.00	\$ 22,656	-						
	Pumphouse	74	\$ 128.00	\$ 9,472		Pumphouse	74	\$ 128.00	\$ 9,472	-						
	Explosives Storage	412	\$ 128.00	\$ 52,736		Explosives Storage	412	\$ 128.00	\$ 52,736	-						
	Fire house	31	\$ 128.00	\$ 3,968		Fire house	31	\$ 128.00	\$ 3,968	-						
	Emergency Power House	117	\$ 128.00	\$ 14,976		Emergency Power House	117	\$ 128.00	\$ 14,976	-						
	Weather Station and Storage Buildings	566	\$ 128.00	\$ 72,448		Weather Station and Storage Buildings	566	\$ 45.00	\$ 25,470	46,978	Golder changed from a really high unit rate, higher than RECLAIM for all buildings and broke out the ones that are easy to dismantle etc.					
	Shop	379	\$ 128.00	\$ 48,512		Shop	379	\$ 128.00	\$ 48,512	-						
	Batch Plant	118	\$ 128.00	\$ 15,104		Batch Plant	118	\$ 128.00	\$ 15,104	-						
	ATV Building	172	\$ 128.00	\$ 22,016		ATV Building	172	\$ 45.00	\$ 7,740	14,276	Golder changed from a really high unit rate, higher than RECLAIM for all buildings and broke out the ones that are easy to dismantle etc.					
	Fuel Tanks		\$ 65.00	\$ 599,850		Fuel Tanks	8,490	\$ 91.57	\$ 777,429	(177,579)						
	Piping		\$ 24.00			Piping	2,000	\$ 18.39	\$ 36,780	(36,780)						
	Freshwater Intake					Freshwater Intake	225	\$ 128.00	\$ 28,800	(28,800)						
	Foundation Slabs - leave in please and cover - hrs					Foundation Slabs - leave in please and cover - hrs	25	\$ 190.00	\$ 4,750	(4,750)						
										-						
										-						
Landfill for Demolition Waste					Landfill for Demolition Waste					Landfill for Demolition Waste						
	Isolate Buildings (waste, water, glycol, sewer)	24,562	\$ 12.63	\$ 310,239		Isolate Buildings (waste, water, glycol, sewer)				310,239	Included in our building costs above which is why we are so high in price from RECLAIM (also included breaking foundations which we are not doing now)					
	Bone Yard Clean Up	1	\$ 350,000	\$ 350,000		Bone Yard Clean Up	1	\$ 350,000	\$ 350,000	-						
	Operation of Landfill	1	\$ 450,000	\$ 450,000		Operation of Landfill	1	\$ 450,000	\$ 450,000	-						
										-						
Grade and Contour					Grade and Contour					Grade and Contour						
	Grade/Contour Entire Mine Site Area	230,000	\$ 4.47	\$ 1,028,573		Grade/Contour Entire Mine Site Area				1,028,573	No longer required based on new plan above, however an allowance of 33 is included in section Waste Pile					
	Concrete Slab Removal	25,000	\$ 7.28	\$ 181,955		Place 0.3 m granular fill over slabs	7,500	\$ 5.50	\$ 41,250	140,705	Concrete slabs will be left in place, hoe-rammed and then covered with 0.5 m of granular material.					
Reclaim Roads					Reclaim Roads					Reclaim Roads						
	Scarify and install water breaks	12	\$ 6,272.39	\$ 75,269		Remove Culverts	22	\$ 500	\$ 11,000	(11,000)						
	Grade airstrip	1	\$ 20,000.00	\$ 20,000		Scarify and install water breaks	12	\$ 6,030.00	\$ 72,360	2,909						
	Other - main water supply line	1	\$ 5,000	\$ 5,000		Other - Grade and counter esker borrow area	180,000	\$ 0.95	\$ 171,000	(151,000)						
						Other - main water supply line				5,000						
Total					\$ 6,402,466	Total					\$ 4,202,397	2,200,069				

Chemicals	Unit	Price	Total	Chemicals	Unit	Price	Total	Chemicals		
Hazardous Materials Audit				Hazardous Materials Audit						
Hazardous Waste Audit	1	\$ 25,000	\$ 25,000	Hazardous Waste Audit				25,000		Asbestos survey was completed in 2017
Building Decontamination and Haz Waste Removal				Building Decontamination and Haz Waste Removal				Building Decontaminate and Haz Waste Removal		
Decontaminate - oil, fuel, glycol systems				Decontaminate - oil, fuel, glycol systems	8,490	\$ 22.80	\$ 193,572	(193,572)		
Removal of Asbestos - vinyl sheet flooring				Removal of Asbestos - vinyl sheet flooring	941	\$ 140.00	\$ 131,740	(131,740)		
Removal of Asbestos - vinyl floor tiles				Removal of Asbestos - vinyl floor tiles	218	\$ 54.00	\$ 11,772	(11,772)		
Removal of Asbestos - mastic and caulking				Removal of Asbestos - mastic and caulking	1,943	\$ 26.00	\$ 50,518	(50,518)		
Hazardous Materials Consolidated for Removal				Hazardous Materials Consolidated for Removal				Hazardous Materials Consolidated for Removal		
Waste Oils	100,000	\$ 1.20	\$ 120,000	Waste Oils	1,000	\$ 1.20	\$ 1,200	118,800		
Fuel	2,344,460	\$ 1.20	\$ 2,813,352	Waste Fuel	100,000	\$ 0.43	\$ 43,000	2,770,352		Use existing fuel for closure. Burn leftover (assumed 100,000 L)
Waste batteries	100	\$ 25	\$ 2,500	Waste batteries	500	\$ 25	\$ 12,500	(10,000)		
Assay and environmental lab reagents	1,000	\$ 25	\$ 25,000	Machine Shop Paints, Solvents etc.	5,000	\$ 1.20	\$ 6,000	19,000		
Hazardous Materials				Hazardous Materials				Hazardous Materials		
Disposal Fees	100	\$ 250	\$ 25,000					25,000		
Contaminated Soil				Contaminated Soil				Contaminated Soil		
Type 2, heavy fuel and oil	40,000	\$ 60.17	\$ 2,406,967	Type 2, heavy fuel and oil - Landfarm	35,200	\$ 47.00	\$ 1,654,400	752,567		2017 ESA update indicated smaller quantities. Used lower unit rate for landfarming, estimated based on cost of constructed pilot cell.
				Construct 4 Landfarms	1	\$ 180,000	\$ 180,000	(180,000)		
								-		
Type 3, metals	2,000	\$ 5.73	\$ 11,463					11,463		
Other contaminants	800	\$ 5.73	\$ 4,585					4,585		
								-		
Contaminated Soil Investigation	1	\$ 200,000	\$ 200,000					200,000		Completed in 2017 ESA update
								-		
Contaminated Soil Removal				Contaminated Soil Removal				Contaminated Soil Removal		
								-		
								-		
								-		
								-		
								-		
Total			\$ 5,633,866	Total			\$ 2,284,702	3,349,164		
Water Management	Unit	Price	Total	Water Management	Unit	Price	Total	Water Management		
Remove pump				Remove pump	1	\$ 10,000.00	\$ 10,000	(10,000)		
				Treatment Plant Operation	1,786,000	\$ 0.15	\$ 267,900	(267,900)		Volume from lowering 2 ponds 1.9 m one time lime treatment.
Total			\$ -	Total			\$ 277,900	(277,900)		KP included an allowance of 100,000 under "Tailings Impoundment" above.
TOTAL DIRECT COSTS - KP OCTOBER 2015			TOTAL	TOTAL DIRECT COSTS - GOLDER 2017			TOTAL	TOTAL DIRECT COST COMPARISON		
Underground Mine			\$ 464,639	Underground Mine			\$ 464,445	194		
Tailings Impoundment			\$ 4,858,010	Tailings Impoundment			\$ 2,086,597	2,771,414		
Rock Pile			\$ 3,200,000	Rock Pile			\$ 3,159,168	40,832		
Equipment and Buildings			\$ 6,402,466	Equipment and Buildings			\$ 4,202,397	2,200,069		
Chemicals			\$ 5,633,866	Chemicals			\$ 2,284,702	3,349,164		
Water Management			\$ -	Water Management			\$ 277,900	(277,900)		
Interim Care and Maintenance			\$ 386,693	Interim Care and Maintenance			\$ 268,038	118,655		
Post Closure Monitoring and Maintenance				Post Closure Monitoring and Maintenance				-		
Total Direct Costs			\$ 20,945,674	Total Direct Costs			\$ 12,743,247	8,202,427		

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TOTAL INDIRECT COSTS - KP OCTOBER 2015		%	Total	TOTAL INDIRECT COSTS -GOLDER OCTOBER 2017		%	Total	TOTAL INDIRECT COST COMPARISON	
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Mob/Demo (see above)		\$ 6,671,462	Mob/Demo (see above)		\$ 4,829,258	1,842,204	
Post Closure Monitoring and Maintenance (see		\$ 830,014	Post Closure Monitoring and Maintenance (see above)		\$ 936,257	(106,243)	
Engineering	8%	\$ 1,696,726	Engineering	4%	\$ 509,730	1,186,996	
Project Management	5%	\$ 1,060,454	Project Management	5%	\$ 637,162	423,292	
Health and Safety Plans/Monitoring & QA/QC	0%	\$ -	Health and Safety Plans/Monitoring & QA/QC	0%	\$ -	-	
Bonding and Insurance	0%	\$ -	Bonding and Insurance	1%	\$ 127,432	(127,432)	
Contingency	15%	\$ 3,181,361	Contingency	10%	\$ 1,274,325	1,907,036	Based on percentage
Post Closure Monitoring and Maintenance			Post Closure Monitoring and Maintenance			-	
Market Price Factor Adjustment	0%	\$ -	Market Price Factor Adjustment	0%	\$ -	-	
						-	
<b>Total indirect Costs</b>		<b>\$ 13,440,017</b>	<b>Total indirect Costs</b>		<b>\$ 8,314,164</b>	5,125,853	
						-	
<b>Grand Total</b>		<b>\$ 34,385,691</b>	<b>Grand Total</b>		<b>\$ 21,057,411</b>	<b>13,328,280</b>	