

RECLAMATION COSTS (revised 10/31/2019)

The following Reclamation Cost estimate is based on the assumption that there will be restricted no more than 40.0 acres ± of disturbance at any-one time, as shown on the Mining Plan Map. The mine working face will be 500 feet long by an average of 35 feet high and would need cut/fill sloped at 14.16 yd/lft. Finish sloping on the 1,675 feet of partially backfilled 2:1 slopes that averages 35 feet high at 5.68 yd/lft to complete the 3:1 slopes. Armoring will be placed along 500 feet of the channel side slopes using 1.64 cubic yards/ linear feet (820 yd³) of clean concrete rubble. The 30 acres will then be resoiled with an average of 5.5 inches of soil using a scraper to spread it and a blade to shape the seed bed. At that time we will have to respread 22,185 cubic yards of topsoil and move 16,600 cy of cut\fill sloping along the working face. The remaining 10 acres are partially reclaimed and are waiting grass to grow so may only need reseeding. The table below outlines the various areas of disturbance at the time explained above. A D8N dozer is used to do the cut/fill sloping, a 631G scraper will resoil and complete bank sloping and a 140G Blade is used to shape the reclamation area. The mobilization haul distance is 25.0 miles at a average speed of 45 mph. The revegetation cost figure used includes fertilizer, grass seed, labor and drilling costs.

<u>STAGE</u>	<u>TOTAL</u>	<u>SOIL DEPTH</u>
NEEDING RESOILING	30.00	5.5"
REVEGETATION AREA	30.00	
RESOIL @ 5.5"	22,185	CUBIC YARDS
CUT/FILL SLOPING 1/2:1	7,090	CUBIC YARDS
BACKFILL SLOPING	9,510	CUBIC YARDS
BANK ARMORING	820	CUBIC YARDS
SECONDARY REVEGETATION	33%	

ESTIMATED UNIT COSTS FOR RECLAMATION ITEMS:

	<u>Unit Cost</u>
1. Revegetation areas includes grass seed, fertilizer and labor to drill.	\$ 1,500.00/AC.
2. Re-spreading soil and/or growth media with 631G Scraper, haul distance 800 ft or less	\$ 0.583/YD ³
3. Cut/fill working face 500 feet long by 35 feet high D-8 Dozer, push distance 100 ft or less	\$ 0.533/YD ³
4. Backfill and shape 1675 feet long part reclaimed slope D-8 Dozer, push distance 100 ft or less	\$ 0.533/YD ³
5. Place armoring along excavation.	\$29.00/YD ³
6. Shape seedbed 140G Blade at 1.75 acres per hour	\$ 83.99/AC

RECLAMATION COSTS

1. Revegetation, 30.00 ac @ \$1500.00/ac		\$45,000.00
1a. Secondary revegetation 40.00 ac @ 33% * \$1500.00/ac		14,850.00
2. Resoiling, 22,185 yd ³ @ 58.8/yd ³		14,476.49
3. Cut/fill highwall 7,090 yd ³ @ 53.3¢/yd ³		4,348.94
4. Backfill slope 9,510 yd ³ @ 53.3¢/yd ³		5,074.61
5. Place armoring 820 yd ³ @ \$29.00/yd ³		23,780.00
6. Shape seed bed 30.00 acres @ \$59.54/ac		<u>2,519.84</u>
	Direct cost Total	\$110,049.87
7. Indirect costs		14,878.75
Mobilization		7,015.00
8. Administration costs		<u>6,246.43</u>
	TOTAL ESTIMATE	\$138,190.05

Recommend bond be set at \$138,200.00