

2020 Bond Rate Guidelines for the Calculation of Land Reclamation Bonds
on Coal Mining Operations

MRAB Meeting

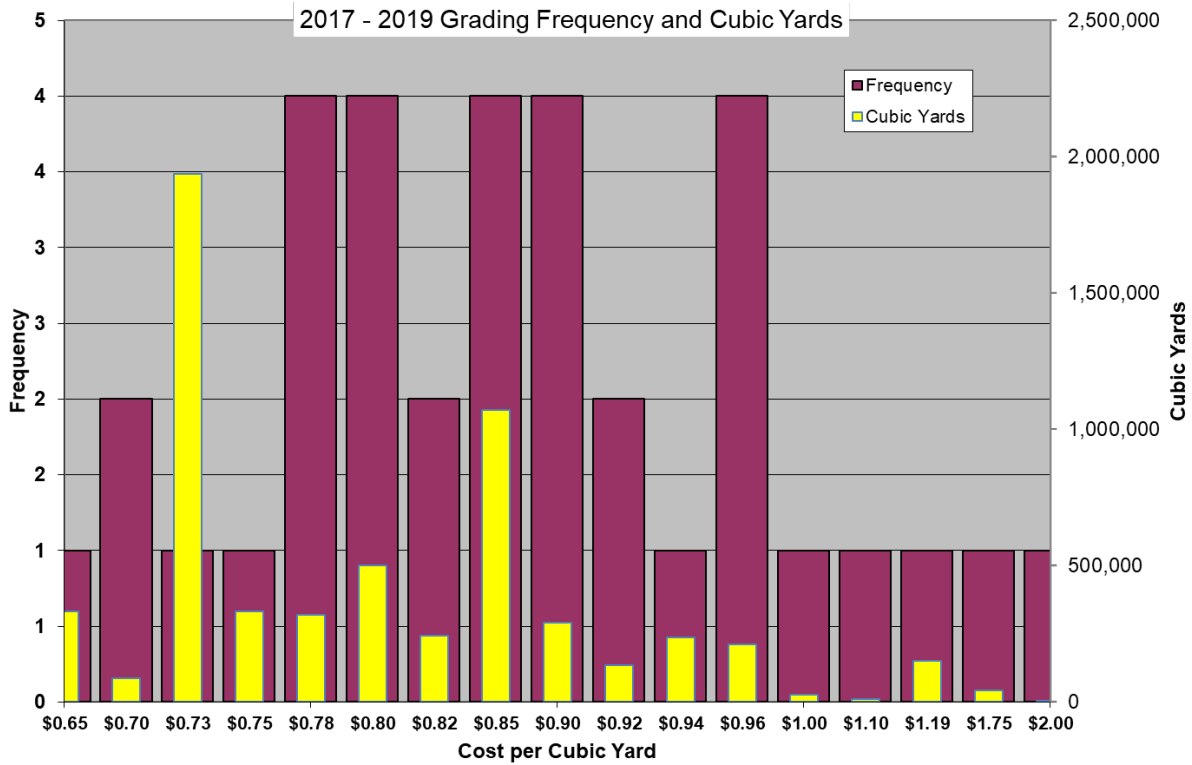
January 23, 2020

2019 AML Reclamation Grading Costs

- 4 reclamation projects with 2,070,030 total cubic yards
- Cost per cubic yard ranged from \$0.80 to \$2.00
- low bid average at \$0.88
- Current 2017 – 2019 low bid weighted average at \$0.79 for 500 ft. or less

2017-2019 Reclamation Grading Costs

Low Bid Grading Costs for 2017 - 2019											
Unit Cost	2017 CY	2017 Freq	2018 CY	2018 Freq	2019 CY	2019 Freq	Combined Total CY	Combined Freq	Total Cost	Selected CY	Ave Cost CY
\$0.65	331,473	1					331,473	1	\$215,457		
\$0.70	88,127	2					88,127	2	\$61,689		
\$0.73			1,937,857	1			1,937,857	1	\$1,414,636		
\$0.75	331,473	1					331,473	1	\$248,605		
\$0.78	187,200	2	132,700	2			319,900	4	\$249,522		
\$0.80					502,200	4	502,200	4	\$401,760		
\$0.82	243,475	2					243,475	2	\$199,650		
\$0.85			129,261	2	942,220	2	1,071,481	4	\$909,687		
\$0.90	265,620	3	24,180	1			289,800	4	\$260,530		
\$0.92	136,000	2					136,000	2	\$125,120		
\$0.94					238,000	1	238,000	1	\$223,720		
\$0.96			212,900	4			212,900	4	\$204,384	5,702,686	\$0.79
\$1.00					27,120	1	27,120	1	\$27,120	5,729,806	\$0.79
\$1.10	10,761	1					10,761	1	\$11,837	5,740,567	\$0.79
\$1.19					152,000	1	152,000	1	\$180,880	5,561,094	\$0.81
\$1.75			44,000	1			44,000	1	\$77,000	206,761	\$1.30
\$2.00					2,490	1	2,490	1	\$4,980	209,251	\$1.31



Haulage AML Reclamation Grading Refuse Disposal and Underground

Low Bid Grading Costs for Haulage

Unit Cost	Project 1	Project 2	Combined Total CY	Total Cost	Total Cubic Yards
\$1.18	153,000		153,000	\$180,540	8,110,097
\$1.25	16,000		16,000	\$20,000	
\$1.75	36,000		36,000	\$63,000	
\$1.93	2,147,000		2,147,000	\$4,143,710	
\$1.97	1,355,097		1,355,097	\$2,669,541	
\$2.08	193,000	55,000	248,000	\$515,840	
\$2.82	429,000		429,000	\$1,209,780	
\$2.90	173,000		173,000	\$501,700	
\$3.19	2,404,000		2,404,000	\$7,668,760	
\$3.42	399,000	750,000	1,149,000	\$3,929,580	

Average Cost Per Cubic Yard
\$2.58

- Selected haulage low bid reclamation projects with 8,110,097 total cubic yards

- Cost per cubic yard ranged from \$1.18 to \$3.42
- low bid average at \$2.58 for 1,000 ft up to 1 mile

2019 AML Reclamation Revegetation

- 5 reclamation projects with 262.3 acres revegetation
- Cost per acre of the low bid ranged from \$847.66 to \$2,574.66
- 3-year weighted average of low bid was \$1,830.07

2019 AML Reclamation Mulch, Seed Bed Preparation and Seed

- Mulch cost per acre low bid weighted average \$918.36.
- 3-year weighted average of Mulch cost is \$892.14.
- Seed Bed Prep cost per acre low bid weighted average \$220.06
- 3-year weighted average of Seed Bed Prep is \$218.56.
- Seed cost per acre of low bid weighed average \$371.16.
- 3-year weighted average of Seed is \$379.74.

2020 Projected Bond Rates

Grading up to 500 ft	CY	\$0.82	1,262,656	\$0.78	2,431,698	\$0.88	2,070,030	\$0.83	\$0.85	\$0.90	\$0.80
Grading Haul over 500 ft	CY								\$1.55	\$1.50	\$1.30
Haul 1000 ft to 1 mile Refuse and Underground											\$2.50
Select Grading	Acre								\$1,700.00	\$1,700.00	\$1,700.00

	Unit	2017 wgt ave	2017 amt	2018 wgt ave	2018 amt	2019 wgt ave	2019 amt	17-19 Weighted	2018	2019	2020
Reveg	Acre	\$1,861.65	172	\$1,960.12	45.7	\$1,787.95	262.3	\$1,830.72	\$2,000.00	\$2,000.00	\$1,830.00
Trees	each	\$2.54	48,600	\$2.50	9,350.0	\$3.48	13,685	\$2.71	\$0.75	\$0.75	\$0.75
Ditch Ex	CY	\$7.00	7,200	\$6.89	11,073.0	\$5.70	10,005	\$6.50	\$6.70	\$6.70	\$6.50
Jute	SY	\$2.26	2,307	\$3.63	6,866.4	\$2.05	44,845	\$2.26	\$1.90	\$2.50	\$2.25
HV Erosion	SY	\$2.64	575	\$0.00	0.0	\$2.00	1,085	\$2.22	\$3.00	\$3.00	\$2.20
AASHTO No. 1	Ton	\$40.00	47	\$23.13	339.0			\$25.18	\$23.00	\$27.00	\$25.00
AASHTO No. 57	Ton	\$50.00	3	\$19.40	14.0	\$65.00	4	\$32.46	\$33.00	\$33.00	\$32.00
R3	Ton	\$50.00	3	\$0.00	0.0			\$50.00	\$31.00	\$31.00	\$31.00
R4	Ton	\$50.00	4.0	\$0.00	0.0			\$50.00	\$36.00	\$40.00	\$40.00
R5	Ton			\$28.33	103.0			\$28.33	\$37.00	\$31.00	\$28.00
Geotex	sq yd	\$5.00	156	\$2.41	735.0			\$2.86	\$2.40	\$3.20	\$2.85
Lime	Ton	\$48.65	614	\$48.88	183.0	\$57.37	1,106	\$53.74			
Subdrain	foot	\$22.30	2,875	\$19.75	250.0	\$25.50	1,800	\$23.34	\$24.00	\$25.00	\$23.00
Mulch	Acre	\$907.21	143.8	\$878.62	45.7	\$918.36	201.3	\$909.61			
Seed Bed Prep	Acre	\$219.26	177.8	\$255.69	45.7	\$220.06	262.3	\$223.12			
Seed	Acre	\$311.78	143.8	\$498.66	45.7	\$371.16	434.9	\$366.82			

	2018	2018	2019	2019	2020	2020
Reveg Tot	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$1,830.00	\$1,830.00
Mulch	\$870.00	\$870.00	\$880.00	\$880.00	\$900.00	\$900.00
Seed Bed	\$250.00	\$250.00	\$280.00	\$280.00	\$220.00	\$220.00
Seed	\$270.00		\$290.00		\$370.00	
	\$610.00	\$880.00	\$550.00	\$840.00	\$340.00	\$710.00
Pasture		w/seed	Pasture	w/seed	Pasture	w/seed