

9 to 5 Unpatented Mining Claims Reclamation Bond Cost Summary— Bonding Proposal

In anticipation of approving the Plan of Operations for Randall Kokkinen to operate for five years on 9 to 5 unpatented mining claim, a bond calculation has been prepared. The calculation has taken into consideration, as per the Guide for Reclamation Bond Estimation and Administration, the maximum amount of disturbance anticipated for their operations.

In order to fairly and equitably calculate the reclamation bond costs, the following assumptions have been made:

- Operators Randall Kokkinen will be following his Plan of Operations, as described.
- The Forest Service will need to complete the reclamation work, which will be done through a contractor using heavy equipment.
- Cost estimates are based on Forest Service cost estimate guides and actual contractor bid estimates.
- Costs reflect a combination of equipment/material/personnel.
- The area of disturbance estimated includes (i) the reclamation of a temporary non-system access road with maximum dimensions of 8' x 705' x 0.3' or 1,692 bank cubic feet (BCF) and (ii) one exploration pit with approximate dimensions of 10' x 15' x 7' or 1,050 BCF.
- To convert bank cubic feet (BCF) to bank cubic yards (BCY), divide BCF by 27.
- To calculate loose cubic yards (LCY) from BCY, multiply BCY by the swell factor of the material (decomposed granite).
- The Swell or Bulking factor of decomposed rock (75% Rock, 25% Earth) is 1.25 or 25%.
<https://www.nrc.gov/docs/ML0807/ML080700314.pdf>
- *Definition of Swell or Bulking Factor* - A cubic yard of earth measured in its natural position swells to more than a cubic yard after it is excavated. This occurs because of an increase in **voids**. Swell or Bulk is expressed as a percentage of natural volume.
- Volume for each excavation is 49 LCY. Total acreage is: 150 SF/ 43560 = 0.003 acres.
- The 2-track non-system road is estimated to be 8' wide by 705' long or 5,640 square feet (SF). Total acreage is 0.13.
- Water bars will be installed across access roads to minimize water erosion, if necessary.
- Total estimated disturbance is 0.13 acres (road + excavation).
- Crystal Creek seed mix will be used on site (recommended mix attached).
- Seeding rate is 25 lbs/ acre. For 0.13 acres (excavations + road), 1 lbs of seed will be needed. This is the minimum amount of seed sold by Western Native Seed.
- Leave No Trace standards are the basis for the reclamation work.
- Mobilization costs assume equipment will be coming from Colorado Springs, Colorado.
- Direct Costs are based upon the details of the reclamation work outlined in the Plan of Operations.
- Indirect Costs are those fees and charges over and above the direct reclamation costs. Indirect costs include contingency costs for the operation, along with the costs of reclamation management (supervision), and/or administration (inspection).

Task	Task Description	Unit	Direct Costs (rounded to nearest whole number)	Indirect Costs (rounded to nearest whole number)
1	Backfill 49 cubic yards (LCY) of dig site with D6 crawler dozer w/ 50' haul distance @ 267.26 LCY/hr production rate @ \$186.47/hour.	0.18 hours	\$34	
1	Recontouring 0.13 acres (5790 SF) at 2400 SF/hr production rate @ \$95.14/hour	2.4 hours	\$228	
2	Seed rate: 25 lbs/ acre @ 0.13 acres @ \$14.50/ lb.	3.25 lbs.	\$47	
3	Seeding application (broadcast) cost \$267.22/ acre	0.13 acres	\$35	
4	Mobilization of skid steer, Bobcat w/ lowboy @ \$9.72/mile to Forest Boundary (carried)	80 miles	\$778	
5	Mobilization of skid steer, Bobcat to worksite (driven) 2-mile round trip at 3 mph @ \$95.14/hr.	0.6 hours	\$57	
6	Site clean-up: 1 GS7 seasonal @ \$236/day (supervision)	1 day		\$236
7	Site monitoring: 1 GS7 seasonal @ \$236/day, for 3 years (monitoring)	3 days		\$708
Indirect Costs	Forest Service administrative costs (contingency costs – 7%)			\$83
Total Indirect Costs	Forest Service administrative costs (supervision and monitoring)			\$944
Total Direct Costs			\$1179	
Total Reclamation Bond				\$2,206
Minus DRMS Reclamation Bond	Mobilization and reclamation charges are covered in DRMS permit #M029-000			-\$1,800
Total Forest Service Bond (Rounded to)				\$406

Prepared by: Amy J. Titterington
Geologist/ AML Coordinator
South Park Ranger District
January 19, 2023

Production costs and volumes calculated by Caitlin Woods, Civil Engineer, and Amy Titterington, Geologist, PSICC.
Government Cost Estimates and contractor estimates supplied by the PSICC Engineering Group, 2020 Caterpillar Performance Handbook, and local contractors.



DRAFT Reclamation Cost Estimate M2022029

Titterington, Amy -FS <amy.j.titterington@usda.gov>
To: "Russell - DNR, Elliott" <elliott.russell@state.co.us>

Thu, Jan 19, 2023 at 2:21 PM

Hey Elliott,

Thanks for providing the RCE. I believe the DRMS bond is adequate for the operations.

My bond calculation (including the road) is attached for your review.

Amy

[Quoted text hidden]

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.



20230119_Kokkinen_BondCalc.docx
24K