



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

March 9, 2015

Kevin Larimore
Revel Mining LLC
670 Oak Street
Del Norte, CO 81132

Re: Rebel Mine Project, NOI File No. P-2015-004, Technical Review and Reclamation Cost Estimate

Dear Mr. Larimore,

The Division has reviewed the NOI and has identified a few items to be clarified or confirmed before the NOI can be considered for approval.

Bond: The initial NOI submittal included a \$2,000.00 financial warranty ("bond") in the form of a corporate surety, accompanied by warranty form "One Site Prospecting Financial Warranty on Bureau of Management Land." Our warranty specialist, Barbara Coria, has reviewed it and has communicated to you regarding its acceptability. If Ms. Coria has informed you of the bond's sufficiency then no further bonding documents need to be provided. If you have been informed that there is a deficiency in the bond, please provide the items specified by Ms. Coria. Final approval of your NOI will require that the bond is sufficient.

Plan: Please review these paragraphs and respond to the Division promptly if you notice any errors or omissions in our interpretation of your plan. If no further information is provided by you, the proposed plan for prospecting and reclamation will be approved as they exist. Please try to respond within 30 days of this letter.

This site is located on land managed by the US Forest Service (USFS) so all aspects of your project plan must comply with their requirements. All correspondence from this Division will also be copied to the USFS.

The proposed prospecting plan of re-opening an old collapsed portal for purposes of sampling underground is presented clearly. The site is accessible via existing dirt road and trail up to the portal. A small mine dump is located immediately adjacent to the portal. There are no other underground openings or structures associated with the old mine.



Your plan is to muck out the caved material, presumably by excavating back to competent ground, and install a (lockable) steel door. The door will be permanent, per the wishes of the USFS, and it will provide the secure, long-term closure that is required for this portal after termination of your project. If this interpretation is in error please provide more information.

One of the interesting factors is that there is a spring in the mine workings, and an existing low-flow seep outside the portal location. This water is clean and has historically been captured and piped to a small stock tank or trough on the site for grazing animals. The USFS has stated that there is a water right on the spring, which is used by the range permittee. As such, your operation cannot degrade the quality or diminish the flow of the water, either during or after the project.

Water sampling should begin as soon as the site is accessible, and continue quarterly. Please provide copies of the water analyses to the USFS and the Division promptly after receiving them from the lab.

The plan is to use only hand tools underground to collect ore samples. To avoid degrading water quality, the water will be captured at the spring, conveyed by pipe to an upper settling pond, conveyed by pipe to a lower settling pond, and finally conveyed outside the mine to a stock tank or trough. Documents from the USFS indicate that Rebel Mining will be responsible for ensuring the placement of the piping, and for the stock tank.

No drilling is proposed in the plan. It is understood that the site has been disturbed by pre-law mining activity.

There is no available topsoil to salvage, although the muck at the mine portal that is removed while clearing the portal will be used to reclaim the trail up to the mine. Since the USFS requires revegetation of portions of the disturbed area, the NOI needs a seeding plan. The NOI leaves blank the space for details of the seed mix, but acknowledges that a seed mix will be determined at a future date. Since the Division must ensure adequate bonding for reclaiming the project, including the seeding, a "preliminary" seed mix will be used the cost estimate to arrive at a bond figure. This is not to be construed to be the final, approved seed mix.

The Division has estimated the reclamation costs for this project, based on your plan, with figures representing the point of maximum disturbance. This consists of the portal being mucked out and ready for the steel door to be installed. This scenario assumes that there will be a small amount of debris to remove and dispose of, installation of piping and steel stock tank for the spring water, some earthen material to move on the pad and onto the trail, minimal grading to contour the slopes around the portal to 2.5:1, and the seeding cost. A skid-steer for the

earthwork and welding truck for the portal door have been mobilized from Monte Vista. Seeding will be by manually broadcasting the seed. Please see the enclosed reclamation cost packet.

The total reclamation cost for this project has been estimated to be \$1999.31. You have already provided a bond in the amount of \$2,000.00, so the present bond is considered sufficient and no further bonding is required. If you do not agree with these figures, please respond within 30 days of this letter. Unless sufficient information is provided by you to allow the Division to revise this figure, this will be the required bond amount.

All written responses, including the additional financial warranty check and forms, must be mailed to our Denver office (see address at the bottom of page one).

Please be reminded that until the Division has notified you that the financial warranty is accepted, no prospecting activity may occur.

If you have any questions, please contact me by telephone: 303-866-3567 ext. 8175, or 970-247-5193; or by email: bob.oswald@state.co.us.

Sincerely,



Bob Oswald
Environmental Protection Specialist

Encl: Reclamation cost packet (3/12/15)

EC: Russ Means, DRMS Grand Junction
Barbara Coria, DRMS Denver
Patrick Moran, USFS Monte Vista

COST SUMMARY WORK

Task description: Reclamation costs

Site: Rebel Mine Permit Action: New NOI Permit/Job#: P2015004

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/13/2015 County: Saguache Filename: P004-000
User: RCO

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Remove debris, and install water line with tank	DEMOLISH	1	4.00	\$501.87
002	Close portal	MINESEAL	1	4.00	\$120.00
003	Revegetate road and pad	REVEGE	1	4.00	\$222.00
004	Contour portal and pad area, waterbars on road	LOADER	1	5.12	\$321.00
005	Haul reclamation equipment to and from site	MOBILIZE	1	4.00	\$519.00
<u>SUBTOTALS:</u>				21.12	\$1,684

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	\$34.02
Performance bond:	1.05%	Total =	\$17.68
Job superintendent:	0.00 hrs	Total =	\$0.00
Profit:	10.00%	Total =	\$168.40
		TOTAL O & P =	\$220.10
		CONTRACT AMOUNT (direct + O & P) =	\$1,904.10

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00%	Total =	\$0.00
Reclamation management and/or administration:	5.00%		\$95.21
CONTINGENCY: 0.00		Total =	\$0.00
		TOTAL INDIRECT COST =	\$315.31
		TOTAL BOND AMOUNT (direct + indirect) =	\$1,999.31

DEMOLITION WORK

Task description: Remove debris, and install water line with tank

Site: Rebel Mine

Permit Action: New NOI

Permit/Job#: P2015004

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 3/12/2015

County: Saguache

Filename: P004-001

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.00 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Misc debris to remove	3 CY	Loading and 2 mile haul, no salvage - Hand loading	3.00	CY	\$41.90	\$125.70
Purchase and install piping	1" x 100'	USER PROVIDED ITEM	8.00	Roll	\$29.90	\$239.20
Purchase and install tank	2' x 6'	USER PROVIDED ITEM	1.00	EA	\$199.00	\$199.00

Job Hours: 4.00

Subtotal
(unadjusted): \$563.90

Total Cost
(adjusted for location): \$501.87

Notes:

1. Task assumes a minimal amount of debris to be removed from site.
2. Task also includes the purchase and installation of a poly tube to convey water from the mine spring to the sediment sumps and finally to the surface. Operator will purchase and install a stock tank per USFS requirements, if needed.
3. Costs are approximate and represent general types of materials that might be required by USFS for continuity of water right during and after project.

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Close portal

Site: Rebel Mine

Permit Action: New NOI

Permit/Job#: P2015004

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 3/12/2015

County: Saguache

Filename: P004-002

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Backfill portal	6' x 6' x 30'	Adit closure - backfilling (per cu. yd.)	40.00	CY	\$3.00	\$120.00

Job Hours: 4.00

Total Cost: \$120.00

Note: Closure plan described in NOI specifies a lockable steel door to secure the portal. This cost estimate includes only backfilling. If the steel door is already installed, but not yet approved by the USFS, then this closure method can be used. Available earthen materials are present onsite for performing this task.

REVEGETATION WORKTask description: Revegetate road and padSite: Rebel MinePermit Action: New NOIPermit/Job#: P2015004PROJECT IDENTIFICATIONTask #: 003State: ColoradoAbbreviation: NoneDate: 3/13/2015County: SaguacheFilename: P004-003User: RCOAgency or organization name: DRMSFERTILIZINGMaterials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

Description	Cost /Acre
Hand raking (MEANS 32 91 13.23 0250)	\$1,219.68
Weed control spraying (MEANS 31 31 16.13 3100)	\$145.20
Total Tilling Cost/Acre	\$1,364.88

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Fescue	1.00	29.84	\$16.55
Blue Grama - Native	1.00	16.32	\$10.35
Lupine, Silver	0.10	0.06	\$6.85
Western Wheatgrass - Arriba	3.00	7.58	\$11.04
Sagebrush, Mountain or Big	0.20	10.56	\$6.74
Flax, Lewis Blue	1.00	6.63	\$16.52
Winter Fat	0.30	0.76	\$9.81
Totals Seed Mix	6.60	71.76	\$77.85

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$261.28
Total Seed Application Cost/Acre	\$261.28

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres: 0.1 Cost /Acre: \$1,704.01
 Estimated Failure Rate: 30% Cost /Acre*: \$1,704.01
 *Selected Replanting Work Items: TILLING, SEEDING

Initial Job Cost: \$170.40
 Reseeding Job Cost: \$51.12
 Total Job Cost: \$222
 Job Hours: 4.00

Notes:

(1) This task accounts for the seeding of 0.10 acre of disturbance, on the pad and trail road up to the portal. Seed will be manually broadcast, and raked in or dragged to incorporate the seed. Task also includes weed control on the disturbed ground, as needed.

(2) Important: This is not the approved seed mix. This seed mix is for purposes of establishing an approximate revegetation cost for setting the bond amount for this project. The operator will obtain an approved seed mix from the land management agency (USFS) and will perform the seeding task at the conclusion of the earthwork. The final seeding will include species, application method, and seeding rate in PLS lbs/acre.

WHEEL LOADER – LOAD AND CARRY WORKTask description: Contour portal and pad area, waterbars on roadSite: Rebel MinePermit Action: New NOIPermit/Job#: P2015004**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 3/12/2015County: SaguacheFilename: P004-004User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 246CAttachment 1: ROPS CabHorsepower: 73Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$6.84	NA
Operating Cost/Hour:	\$18.66	100
Operator Cost/Hour:	\$37.13	NA
Total Unit Cost/Hour:	\$62.64	
Total Fleet Cost/Hour:	\$62.64	

MATERIAL QUANTITIESInitial volume: 200

CCY

Swell factor: 1.125Loose volume: 225

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.425 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.040	minutes
Adjusted Basic Cycle Time:		0.465	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Return: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	50	0.00	4.00	4.00	0.0317	(Cat HB)
Return Route:	50	0.00	4.00	4.00	0.0317	(Cat HB)

Total Travel Time: 0.0635 minutes
 Total Cycle Time: 0.5285 minutes

Load Bucket Capacity

Rated Capacity: 0.53 LCY (heaped)
 Bucket Fill Factor: 0.925 Loose material - 1/8" to 3/8" (90 - 95%) 0.925
 Adjusted Capacity: 0.49 LCY

Job Condition Correction Factors

Site Altitude: 9200 feet

Altitude Adj:	<u>0.95</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.79</u>	(1 shift/day)
		multiplier

Unadjusted Hourly Unit Production: 55.66 LCY/Hour
 Adjusted Hourly Unit Production: 43.89 LCY/Hour
 Adjusted Hourly Fleet Production: 43.89 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 5.13 Hours
 Unit cost: \$1.427 /LCY Total job cost: \$321

Note: Task assumes that after backfilling portal and adit, skid-steer will be used to recontour slope around portal, shape pad area, and install waterbars on trail up to pad, as needed.

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Haul reclamation equipment to and from siteSite: Rebel MinePermit Action: New NOIPermit/Job#: P2015004**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 3/13/2015County: SaguacheFilename: P004-005User: RCOAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
CAT 246C	3.58	\$6.84	\$88.67	1	\$95.51	\$88.67	\$0.00
Subtotals:					\$95.51	\$88.67	\$0.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$98.22	1	\$98.22	\$98.22
Subtotals:			\$98.22	\$98.22

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	MONTE VISTA	
Total one-way travel distance:	30.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$371.78
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$147.33
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.75	0.75
Return Time (Hours):	0.75	0.75
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	2.00	1.50

JOB TIME AND COST

Total job time: 4.00 Hours

Total job cost: \$519

Note: Equipment includes skid-steer on flat bed trailer, pulled by 1-ton pickup with crew. Truck has portable welding unit for installing steel portal door.