

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215

Denver, Colorado 80203

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May 7, 2012

Craig Liukko
PO Box 531
Mancos, CO 81328

John W. Hickenlooper
Governor

Mike King
Executive Director

Loretta E. Piñeda
Director

Re: Red Arrow Mine Drill 2 Project, NOI P-2012-007, Completeness and Technical Review,
No Deficiencies Noted.

Dear Mr. Liukko,

I have reviewed the technical materials submitted by you and by your consultant, Steve Fearn, in the above-named NOI packet, and have determined that there are no deficiencies or other technical issues to be addressed. The NOI packet was submitted with a \$2,000 One-Site Prospecting Cash Bond, which the Division is holding until this NOI is approved.

The NOI consisted of only non-confidential materials, all of which were submitted on Public Form 2. These materials were posted on our website on April 27, 2012. The Division must wait until the end of the public comment period, which is ten working days after posting, before a decision can be made on the NOI. This places the earliest decision date (assuming that there are no issues to resolve stemming from a timely objection) on May 11, 2012. No adverse comments have been received to-date, but this office will inform you immediately if any are received.

The Division's reclamation cost estimate is enclosed herewith for your information. The estimate was based on information contained in the NOI, with few extra assumptions needed for the total figure. You will see that the cost total is \$1,533, which is well below the bond amount you have provided. Parameters used in the review and the estimate included the following:

1. The project is approved for up to ten drill holes. Only one drill hole may be open at a time. All drill holes will be drilled from the same drill pad site.
2. All drill holes will be drilled for extraction of cores. Drill holes may up to 6,000 feet deep. Core drilling will reduce the amount of cuttings, but the quantity of holes and approved depth will act to create a large amount of cores.
3. Cuttings may be scattered on the surface of the 0.1-acre area approved for disturbance, but may not be deeper than one-half inch. Excess cuttings must therefore be disposed of properly: those composed of inert materials may be backfilled in the holes or buried onsite; mineralized cuttings must be removed.
4. Cores must be handled similarly: backfilled in the drill holes or buried if they are inert, removed if they are mineralized.

5. The proposed drill hole closure method, setting a mechanical plug at the proper depth and welding a cap on casing, is approvable for dry holes. This drill holes closure method stems from a safe and reasonable assumption (based on past mining and drilling) that these drill holes will not intercept groundwater aquifers. If, however, drilling does intercept groundwater, closure must include full-depth tremmying of cement or bentonite abandonite gel. Please ensure that your driller keeps records of all drilling since proper closure depends on conditions encountered and permanent drill hole abandonment reports must be filed for all drill holes.
6. The area approved for this project is fully contained in the affected area for Permit No. M-1981-184. It is on a pre-existing bench road with no vegetation presently. Drill pad and mud pit preparation will consist of minor grading. Please ensure that pad preparation does not include pushing or sloughing of materials over the crest of the bench onto the slope below. Please establish sufficient stormwater controls at your project site.
7. Reclamation for this surface will consist of regrading and onsite burial of inert debris and earthen materials. Though no revegetation is required, you are reminded to monitor your equipment and the site for noxious weeds. Prompt treatment is important. Remember to re-establish stormwater controls as part of the reclamation earthwork.

Please review the costs in the enclosed cost estimate and notify me promptly if you see any errors or omissions. These items are what are approved for the project. If additional drill holes or different locations are desired, you may submit a request for modification to this NOI.

There are no deficiencies to address and the submitted bond appears to be sufficient at this time. We must, however, wait until the end of the public comment period, which is set for May 11, 2012. I will notify you on Friday regarding the Division decision on the NOI.

If you have any questions I may be reached at the Division's Durango Field Office: 691 CR 233, Room A-2, Durango, CO 81301; telephone 970-247-5193. I look forward to inspecting the project site.

Sincerely,



Bob Oswald
Environmental Protection Specialist

Encl: Reclamation cost estimate, dated 5/7/12.

Cc(w/encl): Steve Fearn, Fearn Engineering Services, 729 Reese Street, Silverton, CO 81433
Ec(w/o encl): Steve Shuey, DRMS Grand Junction
Barbara Coria, DRMS Denver

COST SUMMARY WORK

Task description: Reclamation cost summary

Site: Red Arrow Mine Drill 2

Permit Action: New NOI

Permit/Job#: P2012007

PROJECT IDENTIFICATION

Task #: 000
Date: 5/7/2012
User: RCO

State: Colorado
County: Montezuma

Abbreviation: None
Filename: P007-000

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Close and seal one drill hole	BOREHOLE	1	4.00	\$144.84
002	Remove drilling debris	DEMOLISH	1	1.00	\$8.36
003	Drill pad regrading	DOZER	1	1.17	\$104.76
004	Haul reclamation equipment to and from site	MOBILIZE	1	5.33	\$1,033.48
<u>SUBTOTALS:</u>				11.5	\$ \$1,291.44

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 0.00
Profit: 10.00

Total = \$26.09
Total = \$13.56
Total = \$0.00
Total = \$129.14

TOTAL O & P = \$168.79

CONTRACT AMOUNT (direct + O & P) = \$1,460.23

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00
Engineering work and/or contract/bid preparation: 0.00
Reclamation management and/or administration: 5.00

Total = 0.00
Total = \$0.00
\$73.01

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$241.80

TOTAL BOND AMOUNT (direct + indirect) = \$1,533.24

BOREHOLE SEALING WORK

Task description: Close and seal one drill hole

Site: Red Arrow Mine Drill 2

Permit Action: New NOI

Permit/Job#: P2012007

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 5/7/2012

County: Montezuma

Filename: P007-001

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
3.5-inch cased drill hole	Stainless steel plug - 4 in. diameter borehole	3.5	NA	1.00	EA	\$72.42	\$72.42
Place cap on exposed casing	Welded steel cap	3.5	NA	1.00	EA	\$72.42	\$72.42

Job Hours: 4.00

Total Cost: \$144.84

Notes:

1. There will be multiple drill holes drilled from this single drill pad site. Bonding amount includes only one drill hole closure, therefore only one drill hole may be open at a time.
2. All cores containing mineralized materials will be removed and disposed of properly; all cores containing only inert material may be backfilled in the bore hole or buried onsite.
3. These costs do not include any backfilling of cuttings in the drill holes. Operator may scatter cuttings on and around the drill site (on the existing roadway where the drill pad is located) but not to exceed one-half inch in depth. With the possible depth and quantity of drill holes proposed, there may be an excess of cuttings, and some (non-mineralized) cuttings may have to be backfilled or buried.
4. Drilling operation expects not to encounter groundwater. If water is encountered during drilling, this method of drill hole closure cannot be used; full sealing by cement grout or bentonite abandonment gel must be used.

DEMOLITION WORK

Task description: Remove drilling debris

Site: Red Arrow Mine Drill 2

Permit Action: New NOI

Permit/Job#: P2012007

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 5/7/2012

County: Montezuma

Filename: P007-002

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 95.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Misc. debris, no contaminants	Assume 5 cy	Excavate disposal pit with dozer (includes completed pit backfilling/grading)	5.00	CY	\$1.53	\$7.64
Fill disposal pit, bury in place	5 cy	Push demolished materials/rubble/debris into pit - Max. 50 ft. push	5.00	CY	\$0.23	\$1.14

Job Hours: <u>1.00</u>	Subtotal (unadjusted): <u>\$8.78</u>	Total Cost (adjusted for location): <u>\$8.36</u>
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Note: This task does not include the other earthwork to be performed to reclaim the drill site, such as pad regrading, closing the mud pit, and re-establishing the berms as needed. (See task 003.)

BULLDOZER WORKTask description: Drill pad regradingSite: Red Arrow Mine Drill 2Permit Action: New NOIPermit/Job#: P2012007**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 5/7/2012County: MontezumaFilename: P007-003User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D5K LGP - 5PHorsepower: 96Blade Type: Power Angle TiltAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$16.52	NA
Operating Cost/Hour:	\$34.34	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$89.35Total Fleet Cost/Hour: \$89.35**MATERIAL QUANTITIES**Initial Volume: 100Swell factor: 1.165Loose volume: 117 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 464.3 LCY/hrMaterials consistency description: Rock, well ripped or blasted 0.8Average push gradient: 5 %Average site altitude: 9,400 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2140

Adjusted unit production: 99.36 LCY/hr

Adjusted fleet production: 99.36 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.899/LCY

Total job time: 1.17 Hours
Total job cost: \$104.76

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Haul reclamation equipment to and from site**Site: **Red Arrow Mine Drill 2**Permit Action: **New NOI**Permit/Job#: **P2012007****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **5/7/2012**County: **Montezuma**Filename: **P007-004**User: **RCO**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck 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 D5K LGP - 5P	11.47	\$16.52	\$88.67	1	\$105.19	\$88.67	\$250.00
Subtotals:					\$105.19	\$88.67	\$250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:				
	\$0.00		\$0.00	\$0.00

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>CORTEZ</u>	
Total one-way travel distance:	<u>25.00</u>	miles
Average Travel Speed:	<u>30.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,033.48</u>
* two round trips with haul rig:	

Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.83</u>	<u>0.83</u>
Return Time (Hours):	<u>0.83</u>	<u>0.83</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.67</u>	<u>1.67</u>

JOB TIME AND COST

Total job time:	<u>5.33</u>	Hours
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Total job cost:	<u>\$1,033.48</u>
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