

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY Department of Natural Resources

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Denver, Colorado 80203
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John W. Hickenlooper
Governor

Mike King
Executive Director

Loretta E. Pifieda
Director

May 30, 2012

Christy Woodward
Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver, CO 80265

Re: Carnation Mine, Permit No. M-1977-416, Amendment AM-1, Approval of
Environmental Protection Plan.

Dear Ms. Woodward,

On May 21, 2012 the Division of Reclamation, Mining and Safety approved Amendment AM-1 to the Carnation Mine 110d permit, which incorporates the Environmental Protection Plan (EPP) into the permit, as required by Hard Rock/Metal Rule 6.4.21.

The Carnation Mine permit is currently in a status of Temporary Cessation, as approved under Revision TC-2, approved on June 30, 2010. Please be aware that prior to initiating any mining or reclamation activities at the site, you must inform the Division of the intent to place the permit into Active status, and the date of such change. Routine activities such as monitoring and maintenance of stormwater control structures and weed control may be carried out while the permit is in temporary cessation.

As part of the approval of Amendment AM-1, the amount of financial warranty (bond) was reviewed. The existing amount of financial warranty is \$33,409. The Division's review of the reclamation costs indicates that the current bond amount is sufficient. The updated reclamation costs were estimated to be \$32,137. The updated reclamation costs are shown in the enclosed packet (which are the same preliminary figures mailed to you previously).

This estimate includes costs for all reclamation tasks currently required under the permit and plans; if a bond reduction is desired to account for reclamation that has been performed, a separate request must be submitted. The Division may consider reducing the bond, if such request is filed according to Hard Rock/Metal Rules 4.14 and 4.17.

The present bond is in the form of a corporate surety, whose amount may be modified by providing a rider to the surety.

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The Tres Rios Field Office of the Bureau of Land Management (BLM), in Dolores, is currently completing its process of updating the plan of operations for this mine. In accordance with the MOU between the Division and the BLM, the two agencies have coordinated on the updated permit plans, and the BLM has had opportunity to review the Division's updated reclamation cost estimate. The BLM will inform the Division as to whether it accepts the current estimate, and if necessary, adjustments to the bond amount may be made.

The Division appreciates the diligence and cooperation shown by Denison throughout this amendment process. If you have questions, please contact me at the Division's Durango Field Office: 691 CR 233, Room A-2, Durango, CO 81301; telephone 970-247-5193.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Oswald", written in a cursive style.

Bob Oswald

Environmental Protection Specialist

Encl: Bond estimate packet.

Ec: Steve Shuey, DRMS, Grand Junction
Barbara Coria, DRMS, Denver
James Blair, BLM, Tres Rios Field Office, Dolores

(c:\12-05 docs\Carnation AM-1 Appr/rco)

COST SUMMARY

Task description: Cost summary

Site: Carnation Mine

Permit Action: Amendment AM-1

Permit/Job#: M1977416

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 12/5/2011

County: San Miguel

Filename: M416-000

User: RCO

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Demolition of onsite structures	DEMOLISH	1	20.00	\$10,330.01
002	Portal closure (backfilling)	MINESEAL	1	12.00	\$2,532.00
003	Grading SW dump to 2:1	DOZER	1	11.57	\$1,808.39
004	Grading main dump area to 2:1	DOZER	1	34.68	\$5,421.34
005	Ripping compaction on mine roads and dumps	RIPPER	1	5.19	\$813.00
006	Revegetate 3.1 acre disturbance	REVEGE	1	8.00	\$2,049.17
007	Haul reclamation equipment to and from site	MOBILIZE	1	8.00	\$2,644.90
<u>SUBTOTALS:</u>				99.44	\$ \$25,598.81

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 20.00
Profit: 10.00

Total = \$517.10

Total = \$268.79

Total = \$1,186.00

Total = \$2,559.88

TOTAL O & P = \$4,531.77

CONTRACT AMOUNT (direct + O & P) = \$30,130.58

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00
Engineering work and/or contract/bid preparation: 0.00
Reclamation management and/or administration: 5.00

Total = 500.00

Total = \$0.00

\$1,506.53

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$6,538.30

TOTAL BOND AMOUNT (direct + indirect) = \$32,137.11

DEMOLITION WORK

Task description: Demolition of onsite structures

Site: Carnation Mine

Permit Action: Amendment AM-1

Permit/Job#: M1977416

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 12/5/2011

County: San Miguel

Filename: M416-001

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 96.90 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Shop/office bldg.	32x28x15	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	13,440.00	CF	\$0.15	\$2,042.88
Portal shed structure	10x20x10	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	2,000.00	CF	\$0.15	\$304.00
Overhead electric line & poles	3200 LF	Powerline or telephone line, overhead, wood - Single pole	3,200.00	LF	\$2.60	\$8,313.60

Job Hours: 0.00

Subtotal
(unadjusted): \$10,660.48

Total Cost
(adjusted for location): \$10,330.01

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Portal closure (backfilling)

Site: Carnation Mine

Permit Action: Amendment AM-1

Permit/Job#: M1977416

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 12/5/2011

County: San Miguel

Filename: M416-002

User: RCO

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Portal, place debris in adit	10x10	Adit closure - backfilling (per cu. yd.)	600.00	CY	\$2.11	\$1,266.00
Portal, 30 ft earthen backfill	10x10	Adit closure - backfilling (per cu. yd.)	600.00	CY	\$2.11	\$1,266.00

Job Hours: 0.00

Total Cost: \$2,532.00

BULLDOZER WORKTask description: Grading SW dump to 2:1Site: Carnation MinePermit Action: Amendment AM-1Permit/Job#: M1977416**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 12/5/2011County: San MiguelFilename: M416-003User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D6T LGP
 Horsepower: 200
 Blade Type: Straight
 Attachment: 3-shank ripper
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$49.25</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$68.58</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>

Total unit Cost/Hour: \$0.00
 Total Fleet Cost/Hour: \$156.32

MATERIAL QUANTITIES

Initial Volume: 1,613
 Swell factor: 1.000
 Loose volume: 1,613 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 303.3 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -15 %
 Average site altitude: 5,800 feet

Material weight: 2,550 lbs/LCYWeight description: Sandstone**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>

Visibility:	0.800	(POOR)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4597

Adjusted unit production: 139.43 LCY/hr

Adjusted fleet production: 139.43 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.121/LCY

Total job time: 11.57 Hours
Total job cost: \$1,808.39

BULLDOZER WORKTask description: Grading main dump area to 2:1Site: Carnation MinePermit Action: Amendment AM-1Permit/Job#: M1977416**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 12/5/2011County: San MiguelFilename: M416-004User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T LGPHorsepower: 200Blade Type: StraightAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$49.25	NA
Operating Cost/Hour:	\$68.58	100
Ripper op. Cost/Hour:	\$0.00	100
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$0.00Total Fleet Cost/Hour: \$156.32**MATERIAL QUANTITIES**Initial Volume: 3,388Swell factor: 1.000Loose volume: 3,388 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 212.5 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -15 %Average site altitude: 5,800 feetMaterial weight: 2,550 lbs/LCYWeight description: Sandstone**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	0.800	(POOR)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4597

Adjusted unit production: 97.69 LCY/hr
 Adjusted fleet production: 97.69 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
 Unit cost: \$1.600/LCY

 Total job time: 34.68 Hours
 Total job cost: \$5,421.34

BULLDOZER RIPPING WORK

Task description: Ripping compaction on mine roads and dumps

Site: Carnation Mine

Permit Action: Amendment AM-1

Permit/Job#: M1977416

PROJECT IDENTIFICATION

Task #: 005

State: Colorado

Abbreviation: None

Date: 12/5/2011

County: San Miguel

Filename: M416-005

User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP
Ripper Attachment: 3-Shank Ripper

Horsepower: 200

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$49.25	Utilization %	NA
Operating Cost/Hour:	\$68.58		100
Ripper Operating Cost/Hour:	\$0.00		100
Operator Cost/Hour:	\$38.49		NA
Total Unit Cost/Hour:	\$156.32		
Total Fleet Cost/Hour:	\$156.32		

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY

NA

Area: 3 acres

Rip Depth (ft): 1.00

Volume:

5,001

BCY or CCY

Source of estimated quantity: EPP

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>1.64</u>	mph
Average Ripping Width:	<u>6.58</u>	degrees
Average Ripping Length:	<u>200.00</u>	feet
Average Dozer Speed:	<u>88.00</u>	feet
Average Maneuver Time:	<u>0.25</u>	feet
Production per unit area:	<u>0.719</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.719 Acres/hr

Site Altitude: 5,800 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.60 Acres/hr

Adjusted Hourly Fleet Production: 0.60 Acres/hr

JOB TIME AND COST

Fleet size: 1 Ripper(s) Total job time: 5.20 Hours

Unit cost: \$262.112 Per acre Total job cost: \$813.00

REVEGETATION WORKTask description: Revegetate 3.1 acre disturbanceSite: Carnation MinePermit Action: Amendment AM-1Permit/Job#: M1977416**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 12/5/2011County: San MiguelFilename: M416-006User: RCOAgency or organization name: DRMS**FERTILIZING****Materials**

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
Weed control spraying (MEANS 31 31 16.13 3100)	\$145.20
Total Tilling Cost/Acre	\$145.20

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$20.79
Sand Dropseed	0.20	23.88	\$1.37
Crested Wheatgrass - Nordan	6.00	27.55	\$13.68
Western Wheatgrass - Arriba	6.00	15.15	\$21.60
Flax, Lewis Blue	0.50	3.32	\$8.09
Saltbush, Four Wing	4.00	5.51	\$42.00
Totals Seed Mix	19.70	85.11	\$107.52

Application

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Description	Cost /Acre
Broadcast seeding [DMG]	\$255.76
Total Seed Application Cost/Acre	\$255.76

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:	3.1	Cost /Acre:	\$508.48
Estimated Failure Rate:	30%	Cost /Acre*:	\$508.48
*Selected Replanting Work Items:	TILLING, SEEDING		
Initial Job Cost:	\$1,576.29		
Reseeding Job Cost:	\$472.89		
Total Job Cost:	\$2,049.17		
Job Hours:	8.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Haul reclamation equipment to and from site**Site: **Carnation Mine**Permit Action: **Amendment AM-1**Permit/Job#: **M1977416****PROJECT IDENTIFICATION**Task #: **007**State: **Colorado**Abbreviation: **None**Date: **12/5/2011**County: **San Miguel**Filename: **M416-007**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 D6T LGP	28.63	\$0.00	\$117.55	1	\$117.55	\$117.55	\$0.00
CAT 908	7.12	\$8.04	\$88.67	1	\$96.71	\$88.67	\$0.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$0.00

Subtotals: **\$342.52** **\$294.89** **\$0.00****ROADABLE EQUIPMENT:**

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

EQUIPMENT HAUL DISTANCE and Time

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

Total Non-Roadable Mob/Demob Cost * \$2,644.90
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$0.00
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.00</u>	<u>1.00</u>
Return Time (Hours):	<u>1.00</u>	<u>1.00</u>
Loading Time (Hours):	<u>1.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>4.00</u>	<u>2.00</u>

JOB TIME AND COST

Total job time: 8.00 Hours

Total job cost: \$2,644.90