STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

May 30, 2012

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

Re: West Sunday Mine, Permit No. M-1981-021, Amendment AM-1, Approval of Environmental Protection Plan, and Notice of Financial Warranty Increase.

Dear Ms. Woodward,

On May 21, 2012 the Division of Reclamation, Mining and Safety approved Amendment AM-1 to the West Sunday Mine 112d-3 permit, which incorporates the Environmental Protection Plan (EPP) into the permit, as required by Hard Rock/Metal Rule 6.4.21.

The EPP includes requirements for the installation of a PVC ore pad liner. The construction of the ore pad liner must be completed prior to re-commencing any mining activity. The West Sunday 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 the construction of the ore pad liner, you must inform the Division of the intent to place the permit into Active status, and the date of such change.

As part of the approval to incorporate these significant changes into this permit under Amendment AM-3, the amount of financial warranty (bond) was reviewed. The existing amount of financial warranty is $74,892. The Division's review of the reclamation costs reveals that the current bond amount is insufficient. The updated reclamation costs were estimated to be $86,155. This is a shortage of $11,263. The updated reclamation costs are shown in the enclosed packet. Please note that the costs are the same as the preliminary figures mailed to you previously, with the exception of an additional cost for installation of atmospheric bulkheads underground.

Please consider this letter to be your Notice of Financial Warranty increase. The additional amount must be provided to the Division, in an approvable format, within 60 days from the date of this letter. The present bond is in the form of a corporate surety, whose amount may be modified by providing a rider to the surety. Please direct all questions or submittals pertaining to the bond to Ms. Barbara Coria in the Division's Denver Office (see address in letterhead, above). You may reach her by phone at 303-866-3567 ext 8148.

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 subsequent adjustment to the bond amount may be made if necessary.

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,

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\West Sunday AM-1 Appr/rco)

COST SUMMARY WORK

Task description: **Cost summary (Revised 5/30/12)**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-000
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, and disposal	DEMOLISH	1	48.00	$24,006.07
002	Seal vent shafts and air holes	MINESEAL	1	48.00	$18,403.85
003	Remove and backfill ore pad liner and gravel	LOADER	1	2.58	$253.00
004	Portal closure	MINESEAL	1	20.00	$1,078.21
005	Grade dumps slopes, pad and portal areas	DOZER	1	15.06	$3,906.98
006	Rip pad area of dump	RIPPER	1	3.47	$927.00
007	Grade vent shaft and air hole areas	DOZER	1	3.88	$1,007.33
008	Carry topsoil to be spread on pad	LOADER	1	6.83	$669.00
009	Spread topsoil on pad	DOZER	1	1.27	$330.43
010	Rip road areas	RIPPER	1	1.53	$408.00
011	Revegetate all disturbed areas	REVEGE	1	30.00	$8,392.67
012	Haul reclamation equipment to and from site	MOBILIZE	1	8.00	$4,859.68
013	Install atmospheric bulkheads underground	MINESEAL	1	32.00	$3,000.00
		SUBTOTALS:		**220.62**	**$ $67,242.22**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,358.29
Performance bond:	1.05	Total =	$706.04
Job superintendent:	40.00	Total =	$2,372.00
Profit:	10.00	Total =	$6,724.22
		TOTAL O & P =	$11,160.55
		CONTRACT AMOUNT (direct + O & P) =	$78,402.77

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	4.25	Total =	$3,332.12
Reclamation management and/or administration:	5.00		$3,920.14
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$18,912.81
		TOTAL BOND AMOUNT (direct + indirect) =	**$86,155.03**

DEMOLITION WORK

Task description: **Demolition of onsite structures, and disposal**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-001
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/dry bldg.	60x30x15	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	27,000.00	CF	$0.15	$4,104.00
Shop/office/dry bldg. concrete slab	60x30	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 200 ft. push	1,800.00	SF	$1.05	$1,890.00
Shop/office/dry bldg. conc. apron	15x15	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 200 ft. push	225.00	SF	$1.05	$236.25
Compressor bldg. (at mine)	20x20x10	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	4,000.00	CF	$0.15	$608.00
Comp. bldg (at mine) concrete slab	20x20	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 50 ft. push	400.00	SF	$1.56	$624.00
Concrete slab at WS shafts	18x23	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 50 ft. push	414.00	SF	$1.56	$645.84
Concrete slab at SJ shaft	30x20	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 50 ft. push	600.00	SF	$1.56	$936.00
Denison-owned powerlines	4800 LF	Powerline or telephone line, overhead, wood - Single pole	4,800.00	LF	$2.60	$12,470.40
Denison-owned non-PCB transfr.	20x20x48 in	Hazardous waste removal - Drum solids/liquids, per drum, (7+ drum job)	10.00	DRUM	$315.79	$3,157.90
Misc debris, parts, fans, etc.	20x20x10 ft mass	Push demolished materials/rubble/debris into pit - Max. 200 ft. push	148.00	CY	$0.69	$101.68

Job Hours: **48.00** **Subtotal (unadjusted):** **$24,774.07** **Total Cost (adjusted for location):** **$24,006.07**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Seal vent shafts and air holes**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-002
User: RCO

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Vent shaft WS-1	7 ft diam.	Shaft closure - precast concrete panel (per opening)	1.00	EA	$3,457.27	$3,457.27
Vent shaft WS-2	7 ft diam.	Shaft closure - precast concrete panel (per opening)	1.00	EA	$3,457.27	$3,457.27
Vent shaft WS-3	7 ft diam.	Shaft closure - precast concrete panel (per opening)	1.00	EA	$3,457.27	$3,457.27
Vent shaft SJ-1	7 ft diam.	Shaft closure - precast concrete panel (per opening)	1.00	EA	$3,457.27	$3,457.27
Vent shaft (new, 540 ft SW of SJ-1)	7 ft diam.	Shaft closure - precast concrete panel (per opening)	1.00	EA	$3,457.27	$3,457.27
Air holes, near SJ-1	12 in diam.	Shaft closure - monolithic plug (per cu. yd.)	2.00	CY	$223.50	$447.00
Air holes, near WS vents	12 in diam.	Shaft closure - monolithic plug (per cu. yd.)	3.00	CY	$223.50	$670.50

Job Hours: **48.00** **Total Cost:** **$18,403.85**

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Remove and backfill ore pad liner and gravel**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-003
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 938H Horsepower: 172
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$22.07	NA
Operating Cost/Hour:	$37.34	100
Operator Cost/Hour:	$38.49	NA
Total Unit Cost/Hour:	$97.90	
Total Fleet Cost/Hour:	$97.90	

MATERIAL QUANTITIES

Initial volume: 556 CCY Swell factor: 1.060
Loose volume: **589** LCY

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

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter 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:	Constant 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:	0.443	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0
Return: Loose sand or gravel 10

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	200	0.00	4.00	4.00	0.1651	(Cat HB)
Return Route:	200	0.00	10.00	10.00	0.2237	(Cat HB)

Total Travel Time:	0.3888	minutes
Total Cycle Time:	**0.8313**	minutes

Load Bucket Capacity

Rated Capacity:	3.90	LCY (heaped)
Bucket Fill Factor:	0.975	Sand and gravel (95% - 100%) 0.975
Adjusted Capacity:	**3.80**	LCY

Job Condition Correction Factors
Site Altitude: 5800 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production:	274.44	LCY/Hour
Adjusted Hourly Unit Production:	227.79	LCY/Hour
Adjusted Hourly Fleet Production:	**227.79**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**2.59**	Hours
Unit cost:	$0.430	/LCY	Total job cost:	**$253.00**	

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Portal closure**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-004
User: RCO

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Place demo debris in adit	10x10	Adit closure - backfilling (per cu. yd.)	400.00	CY	$2.11	$844.00
Place earthen backfill in adit, 30 ft	10x10	Adit closure - backfilling (per cu. yd.)	111.00	CY	$2.11	$234.21

Job Hours: **20.00** **Total Cost:** **$1,078.21**

Note: Placement of concrete demolition debris and earthen backfill is by underground loader. Final slope recontouring is by dozer, and is included in separate task.

BULLDOZER WORK

Task description: **Grade dumps slopes, pad and portal areas**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-005
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$80.19	NA
Operating Cost/Hour:	$140.68	100
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$38.49	NA

Total unit Cost/Hour: $259.35
Total Fleet Cost/Hour: **$259.35**

MATERIAL QUANTITIES

Initial Volume: 4,800
Swell factor: 1.215
Loose volume: **5,832** LCY

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

HOURLY PRODUCTION

Average push distance: 150 feet
Unadjusted hourly production: 910.5 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -10 %
Average site altitude: 5,800 feet

Material weight: 3,300 lbs/LCY

Weight description: Decomposed rock - 75% Rock, 25% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4252

Adjusted unit production: 387.14 LCY/hr
Adjusted fleet production: **387.14** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.670/LCY

Total job time: **15.06** Hours
Total job cost: **$3,906.98**

Note: This earthwork task includes a small amount of pushing material against the slope around the backfilled portal, and the recontouring work there too. This does not include any earthwork at the remote vent shaft sites.

BULLDOZER RIPPING WORK

Task description: **Rip pad area of dump**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-006
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$80.19	NA
Operating Cost/Hour:	$140.68	100
Ripper Operating Cost/Hour:	$7.17	100
Operator Cost/Hour:	$38.49	NA
Total Unit Cost/Hour:	$266.52	
Total Fleet Cost/Hour:	**$266.52**	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 2.50 acres Rip Depth (ft): 1.00 Volume: 4,033 BCY or CCY

Source of estimated quantity: AM-1 maps

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.63	mph
Average Ripping Width:	7.67	degrees
Average Ripping Length:	300.00	feet
Average Dozer Speed:	88.00	feet
Average Maneuver Time:	0.25	feet
Production per unit area:	0.866	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	0.866	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:	0.72	Acres/hr
Adjusted Hourly Fleet Production:	**0.72**	Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **3.48** Hours

Unit cost: $370.719 Per acre Total job cost: **$927.00**

BULLDOZER WORK

Task description: **Grade vent shaft and air hole areas**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-007
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$80.19	NA
Operating Cost/Hour:	$140.68	100
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$38.49	NA

Total unit Cost/Hour: $259.35
Total Fleet Cost/Hour: **$259.35**

MATERIAL QUANTITIES

Initial Volume: 2,200
Swell factor: 1.125
Loose volume: **2,475** LCY

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

HOURLY PRODUCTION

Average push distance: 60 feet
Unadjusted hourly production: 1,872.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3404

Adjusted unit production: 637.23 LCY/hr
Adjusted fleet production: **637.23** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.407/LCY

Total job time: **3.88** Hours
Total job cost: **$1,007.33**

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Carry topsoil to be spread on pad**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-008
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 938H Horsepower: 172
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$22.07	NA
Operating Cost/Hour:	$37.34	100
Operator Cost/Hour:	$38.49	NA
Total Unit Cost/Hour:	$97.90	

Total Fleet Cost/Hour: $97.90

MATERIAL QUANTITIES

Initial volume: 1,000 CCY Swell factor: 1.000
Loose volume: **1,000** LCY

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

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(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:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.423	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0
Return: Loose sand or gravel 10

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	500	0.00	4.00	4.00	0.4128	(Cat HB)
Return Route:	500	0.00	10.00	10.00	0.5593	(Cat HB)

Total Travel Time:	0.9721	minutes
Total Cycle Time:	**1.3946**	minutes

Load Bucket Capacity

Rated Capacity:	3.90	LCY (heaped)
Bucket Fill Factor:	1.050	Moist loam or sandy clay (100% - 110%) 1.050
Adjusted Capacity:	**4.10**	LCY

Job Condition Correction Factors
Site Altitude: 5800 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production:	176.19	LCY/Hour
Adjusted Hourly Unit Production:	146.23	LCY/Hour
Adjusted Hourly Fleet Production:	**146.23**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**6.84**	Hours
Unit cost:	$0.669	/LCY	Total job cost:	**$669.00**	

BULLDOZER WORK

Task description: **Spread topsoil on pad**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-009
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$80.19	NA
Operating Cost/Hour:	$140.68	100
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$38.49	NA

Total unit Cost/Hour: $259.35
Total Fleet Cost/Hour: **$259.35**

MATERIAL QUANTITIES

Initial Volume: 1,000
Swell factor: 1.125
Loose volume: **1,125** LCY

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

HOURLY PRODUCTION

Average push distance: 60 feet
Unadjusted hourly production: 1,872.0 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)

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

Net correction: 0.4717

Adjusted unit production: 883.02 LCY/hr
Adjusted fleet production: **883.02** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.294/LCY

Total job time: **1.27** Hours
Total job cost: **$330.43**

BULLDOZER RIPPING WORK

Task description: **Rip road areas**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 010 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-010
User: RCO

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$80.19	NA
Operating Cost/Hour:	$140.68	100
Ripper Operating Cost/Hour:	$7.17	100
Operator Cost/Hour:	$38.49	NA
Total Unit Cost/Hour:	$266.52	
Total Fleet Cost/Hour:	**$266.52**	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 1.10 acres Rip Depth (ft): 1.00 Volume: 1,775 BCY or CCY

Source of estimated quantity: AM-1 maps

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.63	mph
Average Ripping Width:	7.67	degrees
Average Ripping Length:	300.00	feet
Average Dozer Speed:	88.00	feet
Average Maneuver Time:	0.25	feet
Production per unit area:	0.866	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.866 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: 0.72 Acres/hr
Adjusted Hourly Fleet Production: **0.72** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **1.53** Hours

Unit cost: $370.719 Per acre Total job cost: **$408.00**

REVEGETATION WORK

Task description: **Revegetate all disturbed areas**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 011 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-011
User: RCO

Agency 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
Chisel plowing {DMG}	$86.71
Weed control spraying (MEANS 31 31 16.13 3100)	$145.20
Total Tilling Cost/Acre	**$231.91**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.48	7.83	$4.86
Indian Ricegrass - Native	3.71	12.01	$24.49
Sand Dropseed	0.07	8.36	$0.48
Bottlebrush Squirreltail	2.04	8.99	$49.63
Galleta	2.47	9.02	$60.93
Muttongrass	0.10	2.07	$3.60
Sagebrush, Mountain or Big	0.10	5.28	$3.30
Saltbush, Four Wing	0.25	0.34	$2.63
Winter Fat	0.25	0.64	$8.00

Totals Seed Mix	9.47	54.54	**$157.92**

Application

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: 10
Estimated Failure Rate: 30%
*Selected Replanting Work Items: TILLING,SEEDING

Cost /Acre: $645.59
Cost /Acre*: $645.59

Initial Job Cost: **$6,455.90**
Reseeding Job Cost: **$1,936.77**
Total Job Cost: **$8,392.67**
Job Hours: **30.00**

Note: This task includes revegetation of all disturbed areas: waste dump pad and slopes, access road, vent roads, and vent shaft areas. It also includes weed control treatment.

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Haul reclamation equipment to and from site**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 012 State: Colorado Abbreviation: None
Date: 3/13/2012 County: San Miguel Filename: M021-012
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 D9T - 9SU	66.13	$80.19	$125.45	1	$205.64	$125.45	$250.00
CAT 938H	16.34	$22.07	$88.67	1	$110.74	$88.67	$250.00
Cat 320D L 9'-6" Stick	23.70	$24.63	$88.67	1	$113.30	$88.67	$250.00
Subtotals:					**$429.68**	**$302.79**	**$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 4x2, 15K GVW	$26.08	1	$26.08	$26.08
Drill/Broadcast Seeder with Tractor	$61.93	1	$61.93	$61.93
Subtotals:			**$88.01**	**$88.01**

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 *	$4,683.66
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	$176.02
** one round trip, no haul rig:	

Transportation Cycle Time:

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

JOB TIME AND COST

Total job time:	**8.00**	Hours
Total job cost:	**$4,859.68**	

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Install atmospheric bulkheads underground**

Site: **West Sunday** Permit Action: AM-1 Permit/Job#: M1981021

PROJECT IDENTIFICATION

Task #: 013 State: Colorado Abbreviation: None
Date: 5/30/2012 County: San Miguel Filename: M021-013
User: RCO

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Underground workings	12x15	PUF block wall, non-backed	2.00	EA	$1,500.00	$3,000.00

Job Hours: **32.00** **Total Cost:** **$3,000.00**