

# 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  
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August 8, 2012

Mr. Ralph Martinez  
Southway Construction Company, Inc.  
117 White Pine Dr.  
Alamosa, CO 81101

John W. Hickenlooper  
Governor

Mike King  
Executive Director

Loretta E. Piñeda  
Director

**Re: Burton Pit, Permit No. M-1987-013, Conversion Approval, Revision No. CN-1**

Dear Mr. Martinez:

On July 31, 2012 the Division of Reclamation, Mining and Safety approved the Conversion application submitted to the Division on April 17, 2012, addressing the following:

*Convert a 110c to 112c Application, add 4.44 acres.*

The terms of the Conversion No. 1 approved by the Division are hereby incorporated into Permit No. M-1987-013. All other conditions and requirements of Permit No. M-1987-013 remain in full force and effect.

The "actual" financial warranty currently held by the Division is in the amount of \$11,896.00, although the "required" financial warranty amount is \$7,700.00. The revised total estimated liability amount associated with this conversion is \$42,184.00, which exceeds the \$11,896.00 financial warranty currently held. You can review the breakdown of the estimated costs in the enclosed packet. Please contact me promptly if you notice any errors or omissions (see my Durango Office address and phone below).

The approved financial warranty forms are available on the Division's website: [www.mining.state.co.us/](http://www.mining.state.co.us/). If you have questions about a form please contact Barbara Coria at the Division's Denver Office (see letterhead above). Please submit additional bond in the amount of \$30,288.00. Bond should be submitted directly to Barbara Coria. The revision will not be final until the bond is approved by the Division.

If you have any 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

Enclosure: reclamation cost estimate

Page 1

Ralph Martinez/M-1987-013, CN-1  
August 8, 2012  
Page 2

Cc(w/encl): Joe Gagliano, LJ Development, Inc.  
Ec: Barbara Coria, DRMS Denver  
Russ Means, DRMS Grand Junction

(c:\12-08 docs\Burton CN-1 appr&fw\rco)

## COST SUMMARY WORK

Task description: Cost summary

Site: Burton Pit

Permit Action: CN-1

Permit/Job#: M1987013

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 7/31/2012

County: Rio Grande

Filename: M013-000

User: RCO

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Reduce highwall to 3:1	DOZER	1	12.15	\$2,616.91
002	Rip compaction and rock	RIPPER	1	15.35	\$3,305.00
003	Carry topsoil to be spread	SCRAPER1	1	53.84	\$10,677.53
004	Spread topsoil on disturbed area	DOZER	1	17.74	\$3,676.54
005	Revegetate affected area	REVEGE	1	20.00	\$12,042.75
006	Haul reclamation equipment to and from site	MOBILIZE	1	2.66	\$2,791.69
<b><u>SUBTOTALS:</u></b>				<b>121.74</b>	<b>\$ \$35,110.42</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

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

Total = \$709.23

Total = \$368.66

Total = \$0.00

Total = \$3,511.04

TOTAL O & P = \$4,588.93

CONTRACT AMOUNT (direct + O & P) = \$39,699.35

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00

Total = 500.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 5.00

\$1,984.97

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$7,073.90

TOTAL BOND AMOUNT (direct + indirect) = \$42,184.32

**BULLDOZER WORK**Task description: Reduce highwall to 3:1Site: Burton PitPermit Action: CN-1Permit/Job#: M1987013**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 7/31/2012County: Rio GrandeFilename: M013-001User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 1-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$65.94	NA
Operating Cost/Hour:	\$102.81	100
Ripper op. Cost/Hour:	\$8.09	100
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$215.33Total Fleet Cost/Hour: \$215.33**MATERIAL QUANTITIES**Initial Volume: 2,222Swell factor: 1.490Loose volume: 3,311 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 80 feetUnadjusted hourly production: 984.2 LCY/hrMaterials consistency description: Rock, poorly ripped or blasted 0.6Average push gradient: -15 %Average site altitude: 8,000 feetMaterial weight: 3,300 lbs/LCYWeight description: Basalt**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.600	(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:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2768

Adjusted unit production: 272.43 LCY/hr  
Adjusted fleet production: 272.43 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.790/LCY  
  
Total job time: 12.15 Hours  
Total job cost: \$2,616.91

Note: Volume is based on 200-foot long highwall, 40 feet high, with mined gradient of 1.5:1. Final reclamation gradient is 3:1. Rock is basalt, with medium blasting fracture. Ripping is with single shank ripper, and material is dozed downhill.

## BULLDOZER RIPPING WORK

Task description: Rip compaction and rock

Site: Burton Pit

Permit Action: CN-1

Permit/Job#: M1987013

### PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 7/31/2012

County: Rio Grande

Filename: M013-002

User: RCO

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Ripper Attachment: 1-Shank Ripper

Horsepower: 310  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$65.94</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$102.81</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$8.09</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$215.33</u>	
Total Fleet Cost/Hour:	<u>\$215.33</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 8.00 acres Rip Depth (ft): 1.00 Volume: 12,907 BCY or CCY

Source of estimated quantity: CN-1 application

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 3.71 mph  
Average Ripping Width: 5.56 degrees  
Average Ripping Length: 300.00 feet  
Average Dozer Speed: 88.00 feet  
Average Maneuver Time: 0.25 feet  
Production per unit area: 0.628 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.628 Acres/hr  
Site Altitude: 8,000 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier  
Adjusted Hourly Unit Production: 0.52 Acres/hr  
Adjusted Hourly Fleet Production: 0.52 Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 15.35 Hours

Unit cost: \$413.181 Per acre Total job cost: \$3,305.00

**SCRAPER TEAM WORK**Task description: Carry topsoil to be spreadSite: Burton PitPermit Action: CN-1Permit/Job#: M1987013**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 7/31/2012County: Rio GrandeFilename: M013-003User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 623G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$64.15	NA	NA	NA	NA	NA
Operating cost/hour:	\$109.22	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$24.95	NA	NA	NA	NA	NA
Unit Subtotals:	\$198.32	NA	NA	NA	NA	NA
Number of Units:	1	0	0	0	0	0
Group Subtotals:	Work: \$198.32		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$198.32****MATERIAL QUANTITIES**Initial volume: 14,455

CCY

Swell factor: 1.125Loose volume: 16,262

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,550 lbs/LCY  
 Material description: Earth - Dry packed  
 Rated Payload: 55,200 pounds  
 Payload Capacity: 21.65 LCY

Struck Volume: 18.00 LCY  
 Heaped Volume: 23.00 LCY  
 Average Volume: 20.50 LCY  
 Adjusted Capacity: 20.50 LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 8000 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	8.00	4.00	12.00	527	1.44

Haul Time: 1.44 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	-8.00	4.00	-4.00	2774	0.34

Return Time: 0.34 minutesTotal Scraper team cycle time: 3.38 minutesAdjusted for job conditions: 302.04 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 302.04 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 302.04 LCY/HourUnadjusted unit production/hour: 363.91 LCY/HourOptimal Number of Scrapers per push dozer:           **JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 53.84 HoursUnit cost: \$0.657 /LCYTotal job cost: \$10,677.53



**BULLDOZER WORK**Task description: Spread topsoil on disturbed areaSite: Burton PitPermit Action: CN-1Permit/Job#: M1987013**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 7/31/2012County: Rio GrandeFilename: M013-004User: RCOAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 1-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$65.94	NA
Operating Cost/Hour:	\$102.81	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$207.25Total Fleet Cost/Hour: \$207.25**MATERIAL QUANTITIES**Initial Volume: 16,632Swell factor: 1.000Loose volume: 16,632 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 60 feetUnadjusted hourly production: 1,246.9 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 8,000 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7519

Adjusted unit production: 937.54 LCY/hr  
Adjusted fleet production: 937.54 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.221/LCY

Total job time: 17.74 Hours  
Total job cost: \$3,676.54

Notes: This is the cost for topsoil spreading only. See task 003 for the scraper carry cost.

**REVEGETATION WORK**Task description: Revegetate affected areaSite: Burton PitPermit Action: CN-1Permit/Job#: M1987013**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 8/8/2012County: Rio GrandeFilename: M013-005User: RCOAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.32	\$64.00
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$64.00</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$50.09
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$50.09</b>

**TILLING**

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

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	3.00	9.71	\$19.80
Sand Dropseed	0.10	11.94	\$0.68
Streambank Wheatgrass - Sodar	1.50	4.89	\$6.18
Western Wheatgrass - Arriba	1.00	2.53	\$3.60
<b>Totals Seed Mix</b>	<b>5.60</b>	<b>29.06</b>	<b>\$30.26</b>

**Application**

Description	Cost /Acre
Drill seeding {DMG}	\$90.11

<b>Total Seed Application Cost/Acre</b>	<b>\$90.11</b>
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**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$164.00	\$164.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$164.00</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$79.71
<b>Total Mulch Application Cost/Acre</b>	<b>\$145.60</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	13.44	Cost /Acre:	\$689.26
Estimated Failure Rate:	30%	Cost /Acre*:	\$689.26
*Selected Replanting Work Items:	FERTILIZING, TILLING, SEEDING, MULCHING		
Initial Job Cost:	\$9,263.65		
Reseeding Job Cost:	\$2,779.10		
Total Job Cost:	\$12,042.75		
Job Hours:	20.00		

Note: Task cost based on assumption that all seeded areas are appropriate for drill seeding.

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Haul reclamation equipment to and from siteSite: Burton PitPermit Action: CN-1Permit/Job#: M1987013**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 8/8/2012County: Rio GrandeFilename: M013-006User: 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 D8T - 8SU	52.21	\$65.94	\$125.45	1	\$191.39	\$125.45	\$250.00
Cat 623G	41.35	\$64.15	\$117.55	1	\$181.70	\$117.55	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$44.44	\$88.67	1	\$133.11	\$88.67	\$250.00

Subtotals: **\$506.20** **\$331.67** **\$750.00****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: DEL NORTE  
 Total one-way travel distance: 5.00 miles  
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost \* \$2,791.69  
 \* 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>0.17</u>	<u>0.17</u>
Return Time (Hours):	<u>0.17</u>	<u>0.17</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.33</u>	<u>0.33</u>

**JOB TIME AND COST**

Total job time: 2.67 Hours

Total job cost: \$2,791.69