

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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July 5, 2012

Tim Pierce Consultant
Alan and Wesley Chiles
Rimrock Exploration and Development, Inc.
P.O. Box 430
Nucla, Colorado 81424

John W. Hickenlooper
Governor

Mike King
Executive Director

Loretta Piñeda
Director

RE: Prince Albert Mine, 110d Designated Mining Operation Permit Application, No. M-2011-040, Reclamation Liability Estimate.

Dear Mr. Pierce and Chiles,

The Division of Reclamation, Mining, and Safety (Division) is completing the review process of the above referenced 110d application. Based on the application's mine and reclamation plans, corrections, and clarifications staff has estimated the initial reclamation liability to reclaim the site. (Copy Enclosed). The initial reclamation liability is estimated to be \$46,130.00.

A copy of the estimate has been forwarded to the Bureau of Land Management (BLM). Per the Memo of Understanding the BLM must concur on the amount for the bond. However, BLM has elected not initiated its review process concurrently to the Division's. Therefore, the Division will request BLM concur in writing on the current estimate with the understanding that once their Plan of Operation review is completed adjustments may be made at that time if necessary.

Currently the decision date is set for July 13, 2012. Please note that the 365 day limit for this application is July 25, 2012.

If you need additional information please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, by telephone at 970.241.1117, or by e-mail at russ.means@state.co.us.

Sincerely,

G. Russell Means
Senior Environmental Protection Specialist
Grand Junction / Durango Field Office Supervisor

EC: Rob Ernst, BLM Uncompahgre Field Office, Montrose, CO

Enclosed: Initial Reclamation Liability Estimate

COST SUMMARY WORK

Site: Prince Albert Mine Permit Action: Initial Reclamation
Liability Estimate - 2012 Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 7/5/2012 County: Montrose Filename: M040-000
User: GRM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	ore pad wash down	MISCTRUK	1	16.00	\$1,104.00
002	remove sediments from ore pad to portal, misc. earthwork	LOADER	1	4.65	\$400.00
003	cap ore stockpile area	DOZER	1	11.74	\$1,493.07
004	demo fans, remove mine support structures	DEMOLISH	1	16.00	\$2,951.88
005	seal portal and vent shaft	MINESEAL	1	20.00	\$4,037.00
006	seal monitor well and utility drop	BOREHOLE	1	8.00	\$415.39
007	grade out stormwater structures	DOZER	1	26.64	\$3,497.83
008	grade out 3:1 slopes on primary waste pile	DOZER	1	14.12	\$1,854.44
009	rip access roads, utility, and waste pile compacted areas	RIPPER	1	4.33	\$575.00
010	spread topsoil over site	LOADER	1	27.45	\$2,360.00
011	grade out 3:1 slopes on secondary waste pile	DOZER	1	6.81	\$894.14
012	spread topsoil secondary waste pile	DOZER	1	5.32	\$698.29
013	Revegetation of 5 acres of disturbed lands	REVEGE	1	24.00	\$9,718.35
014	mobilization of site	MOBILIZE	1	3.80	\$2,656.82
<u>SUBTOTALS:</u>				188.86	\$ 32,656.21

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 94.43
Profit: 10.00

Total = \$659.66
Total = \$342.89
Total = \$5,599.70
Total = \$3,265.62

TOTAL O & P = \$9,867.87

CONTRACT AMOUNT (direct + O & P) = \$42,524.08

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>500.00</u>	Total =	<u>500.00</u>
Engineering work and/or contract/bid preparation:	<u>0.00</u>	Total =	<u>\$0.00</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$2,126.20</u>
CONTINGENCY:	3.00	Total =	<u>\$979.69</u>
		TOTAL INDIRECT COST =	<u>\$13,473.76</u>
		TOTAL BOND AMOUNT (direct + indirect) =	<u>\$46,130.00</u>

MISCELLANEOUS TRUCK WORK

Task description: Ore pad wash down

Permit Action: Initial Reclamation
Liability Estimate
- 2012

Site: Prince Albert Mine

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 7/3/2012 County: Montrose Filename: M040-001
User: GRM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Make and Model: Water Tanker, 3,500 Gal. Horsepower: 250
Attachment 1: _____ Shift Basis: 1 per day
Attachment 2: _____ Weight: 6.25
Labor Unit 1: Specialty Truck Driver (US Tons)
Labor Unit 2: _____

Cost Breakdown:

	Utilization %
Ownership Cost/Hour: <u>\$10.97</u>	<u>NA</u>
Operating Cost/Hour: <u>\$35.80</u>	<u>100</u>
Operator Cost/Hour: <u>\$22.23</u>	<u>NA</u>
Total Unit Cost/Hour: <u>\$68.99</u>	
Total Fleet Cost/Hour: <u>\$68.99</u>	

JOB TIME AND COST

Fleet size: 1 Truck(s) Total job time: 16.00 Hours
Unit cost: \$68.99 /Hour Total job cost: \$1,104.00

WHEEL LOADER – LOAD AND CARRY WORKTask description: Remove sediments from ore pad to portal, misc. earthworkPermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 002
Date: 7/3/2012
User: GRMState: Colorado
County: MontroseAbbreviation: None
Filename: M040-002Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 446D
Attachment 1: ROPS CabHorsepower: 101
Shift Basis: 1 per day
Data Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$17.87	NA
Operating Cost/Hour:	\$29.61	100
Operator Cost/Hour:	\$38.49	NA
Total Unit Cost/Hour:	\$85.97	
Total Fleet Cost/Hour:	\$85.97	

MATERIAL QUANTITIESInitial volume: 500 CCY Swell factor: 1.000
Loose volume: 500 LCYSource 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): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	Small target 0.04	0.040	(Cat HB)
Net Cycle Time Adjustment:		0.100	minutes
Adjusted Basic Cycle Time:		0.575	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0
Return: 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:	150	2.00	4.00	6.00	0.1164	(Cat HB)

Return Route:	150	-2.00	4.00	2.00	0.0740	(Cat HB)
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Total Travel Time:	0.1904	minutes
Total Cycle Time:	0.7654	minutes

Load Bucket Capacity

Rated Capacity:	1.50	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	1.65	LCY

Job Condition Correction FactorsSite Altitude: 5900 feet

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

Unadjusted Hourly Unit Production:	129.35	LCY/Hour
Adjusted Hourly Unit Production:	107.36	LCY/Hour
Adjusted Hourly Fleet Production:	107.36	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	4.66	Hours
Unit cost:	\$0.801	/LCY	Total job cost:	\$400.00	

BULLDOZER WORKTask description: Cap ore stockpile areaPermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 7/3/2012County: MontroseFilename: M040-003User: GRMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6THorsepower: 185Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$31.46	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$127.14Total Fleet Cost/Hour: \$127.14**MATERIAL QUANTITIES**Initial Volume: 1,000Swell factor: 1.000Loose volume: 1,000 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: Rock, well ripped or blasted 0.8Average push gradient: -5 %Average site altitude: 5,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Sandstone**Job Condition Correction Factor**Operator Skill: 0.750Source
(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:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4007

Adjusted unit production: 85.15 LCY/hr

Adjusted fleet production: 85.15 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.493/LCY

Total job time: 11.74 Hours

Total job cost: \$1,493.07

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Seal portal and vent shaft

Permit Action: Initial Reclamation
Liability Estimate -
2012

Site: Prince Albert Mine

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 005

State: Colorado

Abbreviation: None

Date: 7/3/2012

County: Montrose

Filename: M040-005

User: GRM

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
main portal	10 X 10	Adit closure - backfilling (per opening)	1.00	EA	\$1,852.00	\$1,852.00
main vent shaft	48" dia	Shaft closure - polyurethane foam plug (per cu. yd.)	9.50	CY	\$230.00	\$2,185.00

Job Hours: 20.00

Total Cost: \$4,037.00

DEMOLITION WORK

Task description: Demo fans, remove mine support structures

Permit Action: Initial Reclamation
Liability Estimate -
2012

Site: Prince Albert Mine

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 004
Date: 7/3/2012
User: GRM

State: Colorado
County: Montrose

Abbreviation: None
Filename: M040-004

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
misc work	5 X 5	CAT 446D	16.00	1	\$85.97	\$1,375.52
misc lifting / loading	n/a	Grove GMK3055, 141', 54.4MT	8.00	EA	\$200.07	\$1,600.56
misc storage units, etc	n/a	Loading and 5 mile haul, salvage allowed - Steel frame structures	8.00	CY	\$8.78	\$70.24

Job Hours: 16.00

Subtotal
(unadjusted): \$3,046.32

Total Cost
(adjusted for location): \$2,951.88

BOREHOLE SEALING WORK

Task description: Seal monitor well and utility drop

Permit Action: Initial Reclamation
Liability Estimate -
2012

Site: Prince Albert Mine

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 006
Date: 7/3/2012
User: GRM

State: Colorado
County: Montrose

Abbreviation: None
Filename: M040-006

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
monitor well	Bentonite seal - 6 in. (labor, equip, materials)	6	435	1.00	EA	\$181.28	\$181.28
cement plug	Portland cement grout - 6 in. (labor, equip, materials)	6	6	6.00	LF	\$10.69	\$64.14
utility drop plug	Portland cement grout - 6 in. (labor, equip, materials)	6	6	6.00	LF	\$10.69	\$64.14
utility drop - backfill	General laborer - Colorado (total incl. fringes, empl. burden)	6	20	4.00	HR	\$26.46	\$105.84

Job Hours: 8.00

Total Cost: \$415.40

BULLDOZER WORKTask description: Grade out stormwater structuresPermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 7/3/2012County: MontroseFilename: M040-007User: GRMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6THorsepower: 185Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$34.23	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$1.40	50
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$131.30Total Fleet Cost/Hour: \$131.30**MATERIAL QUANTITIES**Initial Volume: 1,000Swell factor: 1.125Loose volume: 1,125 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 119.6 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 10 %Average site altitude: 5,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**Operator Skill: 0.750**Source**(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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 42.23 LCY/hr

Adjusted fleet production: **42.23 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$3.109/LCY

Total job time: **26.64 Hours**

Total job cost: **\$3,497.83**

BULLDOZER WORKTask description: Grade out 3:1 slopes on primary waste pilePermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 008State: ColoradoAbbreviation: NoneDate: 7/3/2012County: MontroseFilename: M040-008User: GRMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D6T
 Horsepower: 185
 Blade Type: Semi-Universal
 Attachment: 3-shank ripper
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$34.23</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$57.18</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$1.40</u>	<u>50</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>

Total unit Cost/Hour: \$131.30Total Fleet Cost/Hour: \$131.30**MATERIAL QUANTITIES**

Initial Volume: 1,037
 Swell factor: 1.335
 Loose volume: 1,384 LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 60 feet
 Unadjusted hourly production: 409.6 LCY/hr

Materials consistency description: Rock, well ripped or blasted 0.8

Average push gradient: 15 %
 Average site altitude: 5,900 feet

Material weight: 2,550 lbs/LCYWeight description: Sandstone**Job Condition Correction Factor**Operator Skill: 0.750 Source (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:	0.800	(FND-RF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2393

Adjusted unit production: 98.02 LCY/hr

Adjusted fleet production: 98.02 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.340/LCY

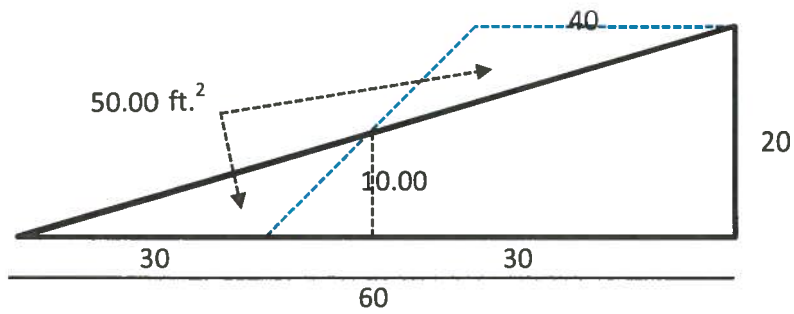
Total job time: 14.12 Hours

Total job cost: \$1,854.44

Highwall reduction - cut and fill

Highwall Height (ft.)	20
Length of Highwall (ft.)	560
Initial Slope	2 H:1V
Desired Slope	3 H:1V
Volume of material to be moved (ft. ³)	28,000
Volume of material to be moved (yd. ³)	1,037

All dimensions measured in feet
Drawing not to scale



PRIMARY
WASTE Pile
Slope Reduction

BULLDOZER RIPPING WORK

Task description: Rip access roads, utility, and waste pile compacted areas

Permit Action: Initial Reclamation
Liability Estimate -
2012

Site: Prince Albert Mine

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #: 009

State: Colorado

Abbreviation: None

Date: 7/3/2012

County: Montrose

Filename: M040-009

User: GRM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Horsepower: 185
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$34.23	NA
Operating Cost/Hour:	\$57.18	100
Ripper Operating Cost/Hour:	\$2.81	100
Operator Cost/Hour:	\$38.49	NA
Total Unit Cost/Hour:	\$132.71	
Total Fleet Cost/Hour:	\$132.71	

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: Reclamation maps and plans

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 1.64 mph
Average Ripping Width: 6.58 degrees
Average Ripping Length: 150.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.696 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.696 Acres/hr
Site Altitude: 5,900 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier
Adjusted Hourly Unit Production: 0.58 Acres/hr
Adjusted Hourly Fleet Production: 0.58 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 4.33 Hours

Unit cost: \$229.875 Per acre Total job cost: \$575.00

WHEEL LOADER – LOAD AND CARRY WORKTask description: Spread topsoil over sitePermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**

Task #:	<u>010</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>7/3/2012</u>	County:	<u>Montrose</u>	Filename:	<u>M040-010</u>
User:	<u>GRM</u>				

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine:	<u>CAT 446D</u>
Attachment 1:	<u>ROPS Cab</u>

Horsepower:	<u>101</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$17.87	NA
Operating Cost/Hour:	\$29.61	100
Operator Cost/Hour:	\$38.49	NA
Total Unit Cost/Hour:	\$85.97	
Total Fleet Cost/Hour:	\$85.97	

MATERIAL QUANTITIES

Initial volume:	<u>2,500</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>2,500</u>	LCY		

Source of estimated volume:	<u>Division of Reclamation, Mining & Safety</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTIONLoader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	Fragile target 0.05	0.050	(Cat HB)
Net Cycle Time Adjustment:		0.110	minutes
Adjusted Basic Cycle Time:		0.585	minutes

Rolling Resistance – Road Conditions

Haul:	<u>Rutted dirt, little maintenance, no water, 1" tire penetration 4.0</u>
Return:	<u>Rutted dirt, little maintenance, no water, 1" tire penetration 4.0</u>

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	250	0.00	4.00	4.00	0.1587	(Cat HB)

Return Route:	250	0.00	4.00	4.00	0.1587	(Cat HB)
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Total Travel Time:	0.3174	minutes
Total Cycle Time:	0.9024	minutes

Load Bucket Capacity

Rated Capacity:	1.50	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	1.65	LCY

Job Condition Correction FactorsSite Altitude: 5900 feet

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

Unadjusted Hourly Unit Production:	109.71	LCY/Hour
Adjusted Hourly Unit Production:	91.06	LCY/Hour
Adjusted Hourly Fleet Production:	91.06	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	27.45	Hours
Unit cost:	\$0.944	/LCY	Total job cost:	\$2,360.00	

BULLDOZER WORKTask description: Grade out 3:1 slopes on secondary waste pilePermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040PROJECT IDENTIFICATIONTask #: 011State: ColoradoAbbreviation: NoneDate: 7/5/2012County: MontroseFilename: M040-011User: GRMAgency or organization name: DRMSHOURLY EQUIPMENT COST

Basic Machine: Cat D6T
 Horsepower: 185
 Blade Type: Semi-Universal
 Attachment: 3-shank ripper
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$34.23	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$1.40	50
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$131.30Total Fleet Cost/Hour: \$131.30MATERIAL QUANTITIESInitial Volume: 500Swell factor: 1.335Loose volume: 668 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONAverage push distance: 60 feetUnadjusted hourly production: 409.6 LCY/hrMaterials consistency description: Rock, well ripped or blasted 0.8Average push gradient: 15 %Average site altitude: 5,900 feetMaterial weight: 2,550 lbs/LCYWeight description: SandstoneJob Condition Correction FactorOperator Skill: 0.750Source
(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:	0.800	(FND-RF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2393

Adjusted unit production: 98.02 LCY/hr

Adjusted fleet production: 98.02 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.340/LCY

Total job time: 6.81 Hours

Total job cost: \$894.14

BULLDOZER WORKTask description: Spread topsoil secondary waste pilePermit Action: Initial Reclamation
Liability Estimate -
2012Permit/Job#: M2011040Site: Prince Albert Mine**PROJECT IDENTIFICATION**Task #: 012
Date: 7/5/2012
User: GRMState: Colorado
County: MontroseAbbreviation: None
Filename: M040-012Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T
Horsepower: 185
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$34.23</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$57.18</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$1.40</u>	<u>50</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$131.30</u>	
Total Fleet Cost/Hour:	<u>\$131.30</u>	

MATERIAL QUANTITIESInitial Volume: 500
Swell factor: 1.250
Loose volume: 625 LCYSource of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feet
Unadjusted hourly production: 357.1 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 15 %
Average site altitude: 5,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill: <u>0.750</u>	<u>(AVG.)</u>

Material consistency:	1.100	(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:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3291

Adjusted unit production: 117.52 LCY/hr

Adjusted fleet production: 117.52 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.117/LCY

Total job time: 5.32 Hours

Total job cost: \$698.29

REVEGETATION WORKTask description: Revegetation of 5 acres of disturbed landsPermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 013
Date: 7/5/2012
User: GRMState: Colorado
County: MontroseAbbreviation: None
Filename: M040-013Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
None required			\$	\$
			Total Fertilizer Materials Cost/Acre	\$0.00

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$86.71
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$92.35
Total Tilling Cost/Acre	\$179.06

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.60	9.79	\$6.25
Indian Ricegrass - Paloma	2.80	9.06	\$23.88
Crested Wheatgrass - Nordan	2.00	9.18	\$4.56
Pubescent Wheatgrass - Luna	4.00	8.26	\$8.76
Slender Wheatgrass - Pryor	2.60	9.49	\$7.85
Milk Vetch, Cicer - Lutana	0.40	1.33	\$1.99
Western Wheatgrass - Arriba	3.60	9.09	\$12.96
Needle and Thread	3.20	8.45	\$147.20
Flax, Lewis Blue	1.00	6.63	\$16.17
Saltbush, Four Wing	4.00	5.51	\$42.00
Penstemon, Palmer	0.20	4.42	\$6.07
Totals Seed Mix	24.40	81.23	\$277.69

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
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$15.90	\$15.90
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$164.00	\$246.00
Total Mulch Materials Cost/Acre				\$261.90

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$79.71
Weed spray, hand, non-aquatic area, nox. [DMG]	\$175.77
Total Mulch Application Cost/Acre	\$321.37

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
None required					\$
Totals Nursery Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres: 5 Cost /Acre: \$1,295.78
 Estimated Failure Rate: 50% Cost /Acre*: \$1,295.78
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING
 Initial Job Cost: \$6,478.90
 Reseeding Job Cost: \$3,239.45
 Total Job Cost: \$9,718.35
 Job Hours: 24.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Mobilization ot sitePermit Action: Initial Reclamation
Liability Estimate -
2012Site: Prince Albert MinePermit/Job#: M2011040**PROJECT IDENTIFICATION**Task #: 014
Date: 7/5/2012
User: GRMState: Colorado
County: MontroseAbbreviation: None
Filename: M040-014Agency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day
Cost 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	\$6.39	\$88.67	1	\$95.06	\$88.67	\$0.00
CAT 446D	9.80	\$17.87	\$88.67	1	\$106.54	\$88.67	\$0.00
Cat D6T	25.01	\$34.23	\$88.67	1	\$122.90	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$0.00
Power Mulcher (Reinco M90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$0.00

Subtotals: **\$548.46** **\$443.35** **\$250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$69.00	1	\$69.00	\$69.00
Light Duty Pickup, 4x4, 3/4 T.	\$54.12	1	\$54.12	\$54.12
Flatbed Truck, 4x2, 30K GVW	\$62.73	1	\$62.73	\$62.73

Subtotals: **\$185.85** **\$185.85**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	NUCAL	
Total one-way travel distance:	18.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$2,489.55	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$167.27	
'** one round trip, no haul rig:		

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.45	0.45
Return Time (Hours):	0.45	0.45
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.90	0.90

JOB TIME AND COST

Total job time:	3.80	Hours
Total job cost:	\$2,656.82	