

## COST SUMMARY WORK

Task description: Costs released with SL23 approval

Site: New Horizon Mine

Permit Action: SL23

Permit/Job#: C1981008

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/18/2020

County: Montrose

Filename: C008-000

User: JHB

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
031	Replace topsoil on 0.4 acre	SCRAPER1	2	0.21	\$391
057	Regrade 0.4 acre diversion/collection ditch	DOZER	1	12.14	\$1,107
068	Drill seed 0.4 acres Irrigated Pasture	REVEGE	1	0.50	\$196
<b><u>SUBTOTALS:</u></b>				<b>12.85</b>	<b>\$1,694</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$34

Performance bond: 1.05

Total = \$18

Job superintendent: 6.43

Total = \$446

Profit: 10.00

Total = \$169

TOTAL O & P = \$667

CONTRACT AMOUNT (direct + O & P) = \$2,361

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 0.00

\$0

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$667

**TOTAL BOND AMOUNT (direct + indirect) = \$2,361**

## BULLDOZER WORK

Task description: Regrade 0.4 acre diversion/collection ditch

Site: New Horizon Mine

Permit Action: SL23

Permit/Job#: C1981008

### PROJECT IDENTIFICATION

Task #: 057

State: Colorado

Abbreviation: None

Date: 3/18/2020

County: Montrose

Filename: C008-057

User: JHB

Agency or organization name: Colorado Division of Reclamation, Mining and Safety

### HOURLY EQUIPMENT COST

Basic Machine: Cat D3K XL - 3P

Horsepower: 74

Blade Type: Power Angle Tilt

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$21.30	NA
Operating Cost/Hour:	\$23.64	100
Ripper own. Cost/Hour:	\$2.60	NA
Ripper op. Cost/Hour:	\$2.41	100
Operator Cost/Hour:	\$41.24	NA
Total unit Cost/Hour:	\$91.18	
Total Fleet Cost/Hour:	<b>\$91.18</b>	

### MATERIAL QUANTITIES

Initial Volume: 1,016

Swell factor: 1.000

Loose volume: **1,016 LCY**

Source of estimated volume: Estimate of regrade area and depth

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly  
production: 169.6 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push  
gradient: 0 %

Average site altitude: 5,700 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% 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:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4936

Adjusted unit  
production: 83.71 LCY/hr

Adjusted fleet  
production: **83.71** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$1.089/LCY

Total job time: **12.14** Hours

Total job cost: **\$1,107**

## SCRAPER TEAM WORK

Task description: Replace topsoil on 0.4 acre

Site: New Horizon Mine

Permit Action: SL23

Permit/Job#: C1981008

### PROJECT IDENTIFICATION

Task #: 031

State: Colorado

Abbreviation: None

Date: 3/18/2020

County: Montrose

Filename: C008-031

User: JHB

Agency or organization name: Colorado Division of Reclamation, Mining and Safety

### HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	50	50
Ownership cost/hour:	\$125.39	\$121.49	NA	NA	\$64.10	\$27.40
Operating cost/hour:	\$132.67	\$105.84	NA	NA	\$28.09	\$20.00
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.86	\$41.24	NA	NA	\$28.52	\$0.00
Unit Subtotals:	\$288.92	\$268.57	NA	NA	\$120.70	\$47.39
Number of Units:	4	2	0	0	1	1
Group Subtotals:	Work:	\$1,692.82	Support:	\$0.00	Maint:	\$168.09

Total work team cost/hour: \$1,860.91

### MATERIAL QUANTITIES

Initial volume: 508

CCY

Swell factor: 1.100

Loose volume: 559

LCY

Source of estimated volume: Map 2.05.4-4, 0.4 acre, 2018 ARR

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

#### Scraper Bowl (volume) Basis:

Material weight:	<u>2,100 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>User Provided</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>38.86 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:

Scraper Loading Time: 0.60 Minutes  
Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

Site Altitude: 5700 feet

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2227	0.47

Haul Time: 0.47 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2890	0.40

Return Time: 0.40 minutes

Total Scraper team cycle time: 2.17 minutes  
Adjusted for job conditions: 665.53 LCY/Hour  
Selected Number of Scrapers: 2 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 1,331.06 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 2,662.12 LCY/Hour

Unadjusted unit production/hour: 801.84 LCY/Hour  
Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 2 Team(s) Total job time: 0.21 Hours

Unit cost: \$0.699 /LCY Total job cost: \$391

## REVEGETATION WORK

Task description: Drill seed 0.4 acres Irrigated Pasture

Site: New Horizon Mine

Permit Action: SL23

Permit/Job#: C1981008

### PROJECT IDENTIFICATION

Task #: 068

State: Colorado

Abbreviation: None

Date: 3/18/2020

County: Montrose

Filename: C008-068

User: JHB

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	45.00	pound	\$0.34	\$15.08
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$15.08</b>

#### **Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$36.15</b>

### TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
<b>Total Tilling Cost/Acre</b>	<b>\$101.93</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	2.00	9.64	\$5.10
Orchardgrass - Latar	2.00	24.79	\$8.35
Meadow Brome - Regar	6.00	5.51	\$23.85
<b>Totals Seed Mix</b>	<b>10.00</b>	<b>39.94</b>	<b>\$37.30</b>

#### **Application**

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</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:	0.4	Cost /Acre:	\$422.46
Estimated Failure Rate:	25%	Cost /Acre*:	\$269.30
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$168.98</b>
Reseeding Job Cost:	<b>\$26.93</b>
Total Job Cost:	<b>\$196</b>
Job Hours:	<b>0.50</b>