

COST SUMMARY WORK

Task description: Reclamation Cost Estimate Summary

Site: Tomahawk Mine Permit Action: 2023 Inspection Permit/Job#: M1991003

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 11/2/2023 County: Pueblo Filename: M003-000
User: AMG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade Highwall to 3H:1V	DOZER	1	8.77	\$2,267
002	Spread 6 inches of topsoil over 11 acres	DOZER	1	45.56	\$11,656
003	Revegetation of max. anticipated disturbance	REVEGE	1	21.00	\$44,130
004	Mobilization/Demobilization	MOBILIZE	1	8.72	\$6,452
<u>SUBTOTALS:</u>				84.05	\$64,505

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$1,303
Performance bond:	1.05	Total =	\$677
Job superintendent:	42.03	Total =	\$2,735
Profit:	10.00	Total =	\$6,450

TOTAL O & P = \$11,166

CONTRACT AMOUNT (direct + O & P) = \$75,671

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>4.25</u>	Total =	<u>\$3,216</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$3,784</u>

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$18,665

TOTAL BOND AMOUNT (direct + indirect) = \$83,170

BULLDOZER WORK

Task description: Grade Highwall to 3H:1V

Site: Tomahawk Mine

Permit Action: 2023 Inspection

Permit/Job#: M1991003

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 11/2/2023

County: Pueblo

Filename: 001

User: AMG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D7R DS Series II LGP

Horsepower: 240

Blade Type: Straight

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$114.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$91.98</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$9.06</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$2.51</u>	<u>50</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$258.35</u>	
Total Fleet Cost/Hour:	<u>\$258.35</u>	

MATERIAL QUANTITIES

Initial Volume: 1,536

Swell factor: 1.430

Loose volume: 2,196 LCY

Source of estimated volume: 400 ft of highwall 20 feet vertical

Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 80 feet

Unadjusted hourly
production: 575.0 LCY/hr

Materials consistency
description: Compacted fill or embankment 0.9

Average push
gradient: -5 %

Average site altitude: 5,500 feet

Material weight: 3,300 lbs/LCY

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

Job Condition Correction Factor

		<u>Source</u>
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:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4354

Adjusted unit
production: 250.36 LCY/hr
Adjusted fleet
production: **250.36** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.032/LCY

Total job time: **8.77** Hours
Total job cost: **\$2,267**

BULLDOZER WORK

Task description: Spread 6 inches of topsoil over 11 acres

Site: Tomahawk Mine

Permit Action: 2023 Inspection

Permit/Job#: M1991003

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 11/2/2023

County: Pueblo

Filename: 002

User: AMG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D7R DS Series II LGP

Horsepower: 240

Blade Type: Straight

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$114.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$91.98</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$9.06</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$255.84</u>	
Total Fleet Cost/Hour:	<u>\$255.84</u>	

MATERIAL QUANTITIES

Initial Volume: 3,127

Swell factor: 1.250

Loose volume: 3,908 LCY

Source of estimated volume: Rec Plan avg 2", Largest Phase 11.4 acres

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 400 feet

Unadjusted hourly production: 180.4 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %

Average site altitude: 5,500 feet

Material weight: 2,650 lbs/LCY

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

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4755

Adjusted unit
production: 85.78 LCY/hr
Adjusted fleet
production: **85.78** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$2.982/LCY

Total job time: **45.56** Hours
Total job cost: **\$11,656**

REVEGETATION WORK

Task description: Revegetation of max. anticipated disturbance

Site: Tomahawk Mine

Permit Action: 2023 Inspection

Permit/Job#: M1991003

PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 11/2/2023

County: Pueblo

Filename: 003

User: AMG

Agency or organization name: DRMS

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$451.62

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.75	12.24	\$11.98
Indian Ricegrass - Paloma	1.25	4.05	\$13.91
Little Bluestem - Pastura	1.75	10.45	\$23.60
Sideoats Grama - Vaughn	2.70	8.86	\$22.61
Western Wheatgrass - Arriba	1.60	4.04	\$10.40
Totals Seed Mix	8.05	39.64	\$82.50

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46

Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
Total Mulch Application Cost/Acre	\$222.13

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Pine, Pinyon	100	Small potted, 2.25 inch diameter (MEANS)	\$1.75	\$0.00	\$175.00
Totals Nursery Stock Cost / Acre					\$175.00

JOB TIME AND COST

No. of Acres:	21	Cost /Acre:	\$2,022.82
Estimated Failure Rate:	25%	Cost /Acre*:	\$314.50
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$42,479.22
Reseeding Job Cost:	\$1,651.13
Total Job Cost:	\$44,130
Job Hours:	21.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization/Demobilization**

Site: **Tomahawk Mine**

Permit Action: **2023 Inspection**

Permit/Job#: **M1991003**

PROJECT IDENTIFICATION

Task #: **004**

State: **Colorado**

Abbreviation: **None**

Date: **11/2/2023**

County: **Pueblo**

Filename: **004**

User: **AMG**

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:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

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 D7R DS Series II LGP	38.49	\$123.82	\$158.17	1	\$281.99	\$158.17	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	2	\$178.04	\$164.58	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00

Subtotals: **\$568.26** **\$405.04** **\$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x2, 1/2 T.	\$87.62	1	\$87.62	\$87.62
Water Tanker, 2,500 Gal.	\$73.18	1	\$73.18	\$73.18

Subtotals: **\$160.80** **\$160.80**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: **COLORADO SPRINGS**

Total one-way travel distance: **35.00** miles

Average Travel Speed: **23.00** mph

Total Non-Roadable Mob/Demob Cost * **\$5,962.42**

‘* two round trips with haul rig: _____
 Total Roadable Mob/Demob Cost **
 ** one round trip, no haul rig: \$489.39

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.52	1.52
Return Time (Hours):	1.52	1.52
Loading Time (Hours):	0.66	NA
Unloading Time (Hours):	0.66	NA
Subtotals:	4.36	3.04

JOB TIME AND COST

Total job time: 8.73 Hours

Total job cost: \$6,452