

## COST SUMMARY WORK

Task description: Reclamation Cost Estimate

Site: R.B. Pit Permit Action: 2022-04-13 FW  
Estimate

Permit/Job#: M2022002

### PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None  
Date: 4/13/2022 County: Chaffee Filename: M002-000  
User: DMC

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Highwall reduction to 3H:1V	DOZER	1	224.44	\$38,222
02a	Rip Pit Floor	RIPPER	1	30.90	\$5,581
03a	Spread topsoil	DOZER	1	82.82	\$14,105
04a	Revegetation	REVEGE	1	25.00	\$48,916
05a	Mobilize Reclamation Crew/Equipment	MOBILIZE	1	2.91	\$3,085
<b><u>SUBTOTALS:</u></b>				<b>366.07</b>	<b>\$109,909</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$2,220
Performance bond:	1.05	Total =	\$1,154
Job superintendent:	183.04	Total =	\$13,184
Profit:	10.00	Total =	\$10,991
		TOTAL O & P =	\$27,549
		CONTRACT AMOUNT (direct + O & P) =	\$137,458

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0
Reclamation management and/or administration:	5.00		\$6,873

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$34,922

**TOTAL BOND AMOUNT (direct + indirect) = \$144,831**

**BULLDOZER WORK**Task description: **Highwall Reduction to 3H:1V**Site: **R.B. Pit**Permit Action: 2022-04-13 FW  
Estimate

Permit/Job#: M2022002

**PROJECT IDENTIFICATION**Task #: 01A  
Date: 4/13/2022  
User: DMCState: Colorado  
County: ChaffeeAbbreviation: None  
Filename: M002-01a

Agency or organization name: DRMS

**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T XL  
Horsepower: 185  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$64.38	NA
Operating Cost/Hour:	\$64.62	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$170.30	
Total Fleet Cost/Hour:	<b>\$170.30</b>	

**MATERIAL QUANTITIES**Initial Volume: 37,167  
Swell factor: 1.000  
Loose volume: **37,167 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: 409.6 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 8,150 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction FactorSource

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4043

Adjusted unit  
production: 165.60 LCY/hr  
Adjusted fleet  
production: **165.6 LCY/hr**

### **JOB TIME AND COST**

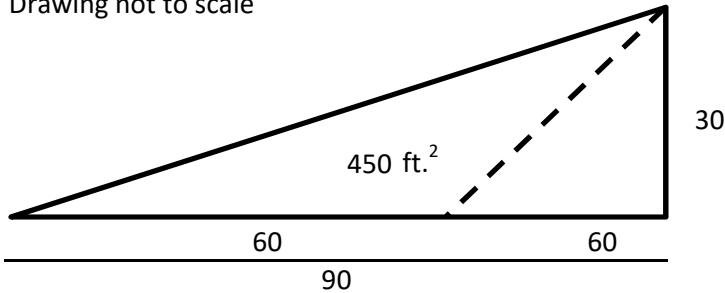
Fleet size: 1 Dozer(s)  
Unit cost: \$1.028/LCY

Total job time: **224.44 Hours**  
Total job cost: **\$38,222**

Highwall reduction - backfill

Highwall Height (ft.)	30.00
Length of Highwall (lft.)	2230.00
- - - Initial Slope	2.00 H:1V
— Desired Slope	3.00 H:1V
Volume of material to be moved (ft. <sup>3</sup> )	1,003,500
Volume of material to be moved (yd. <sup>3</sup> )	37,167

All dimensions measured in feet  
Drawing not to scale



## BULLDOZER RIPPING WORK

Task description: Rip Pit Floor

Site: R.B. Pit Permit Action: 2022-04-13 FW  
Estimate Permit/Job#: M2022002

### PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None  
Date: 4/13/2022 County: Chaffee Filename: M002-02a  
User: DMC

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D6T XL Horsepower: 185  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$64.38	NA
Operating Cost/Hour:	\$64.62	100
Ripper Ownership Cost/Hour:	\$5.99	NA
Ripper Operating Cost/Hour:	\$4.30	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$180.59	
Total Fleet Cost/Hour:	<b>\$180.59</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 19.06 acres Rip Depth (ft): 2.00 Volume: 61,500 BCY or CCY

Source of estimated quantity: Exhibit L

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 1.64 feet/pass  
Average Ripping Width: 6.58 feet/pass  
Average Ripping Length: 300.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.743 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.743 Acres/hr  
Site Altitude: 8,150 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.62 Acres/hr  
Adjusted Hourly Fleet Production: 0.62 Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 30.90 Hours

Unit cost:           \$292.805           Per acre

Total job cost:                   \$5,581

**BULLDOZER WORK**Task description: **Spread topsoil**Site: **R.B. Pit**Permit Action: 2022-04-13 FW  
EstimatePermit/Job#: M2022002**PROJECT IDENTIFICATION**Task #: 03A  
Date: 4/13/2022  
User: DMCState: Colorado  
County: ChaffeeAbbreviation: None  
Filename: M002-03aAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T XL  
Horsepower: 185  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$64.38</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$64.62</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$170.30</u>	
Total Fleet Cost/Hour:	<u><b>\$170.30</b></u>	

**MATERIAL QUANTITIES**Initial Volume: 21,586  
Swell factor: 1.000  
Loose volume: **21,586 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety  
Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet  
Unadjusted hourly production: 303.3 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %  
Average site altitude: 8,150 feetMaterial weight: 1,600 lbs/LCYWeight description: Top SoilJob Condition Correction FactorSource

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8593

Adjusted unit  
production: 260.63 LCY/hr  
Adjusted fleet  
production: **260.63** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.653/LCY

Total job time: **82.82** Hours  
Total job cost: **\$14,105**



**REVEGETATION WORK**Task description: **Revegetation**Site: **R.B. Pit**Permit Action: 2022-04-13 FW  
EstimatePermit/Job#: M2022002**PROJECT IDENTIFICATION**Task #: 04A  
Date: 4/13/2022  
User: DMCState: Colorado  
County: ChaffeeAbbreviation: None  
Filename: M002-04aAgency or organization name: DRMS**FERTILIZING****Materials**

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

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$114.56
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
<b>Total Tilling Cost/Acre</b>	<b>\$404.96</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Paiute	1.50	18.60	\$6.11
Rye, Perennial Tetraploid - Tetra-Plus	2.00	11.34	\$3.60
Crested Wheatgrass - Hy-Crest	1.50	6.89	\$5.96
Smooth Brome - Lincoln	2.00	6.66	\$6.65
Pubescent Wheatgrass - Luna	1.50	3.10	\$5.10
Dahurian Wildrye	1.50	6.03	\$6.06
		52.61	<b>\$33.49</b>

<b>Totals Seed Mix</b>	10.00		
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**Application**

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

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

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
<b>Total Mulch Materials Cost/Acre</b>				<b>\$614.04</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
<b>Total Mulch Application Cost/Acre</b>	<b>\$177.86</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 26.76                      Cost /Acre: \$1,462.35  
 Estimated Failure Rate: 25%                      Cost /Acre\*: \$1,462.35  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$39,132.49**  
 Reseeding Job Cost: **\$9,783.12**  
 Total Job Cost: **\$48,916**  
 Job Hours: **25.00**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize Reclamation Crew/Equipment**Site: **R.B. Pit** Permit Action: 2022-04-13 FW  
EstimatePermit/Job#: M2022002**PROJECT IDENTIFICATION**Task #: 05A State: Colorado Abbreviation: None  
Date: 4/13/2022 County: Chaffee Filename: M002-05a  
User: DMCAgency 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

**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 D6T XL	25.01	\$70.37	\$68.37	1	\$138.74	\$68.37	\$250.00
CAT 906H	6.21	\$20.06	\$68.37	1	\$88.43	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$14.98	\$68.37	1	\$83.35	\$68.37	\$250.00

Subtotals: **\$386.87** **\$273.48** **\$1,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$20.51	1	\$20.51	\$20.51

Subtotals: **\$20.51** **\$20.51**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: SALIDA  
 Total one-way travel distance: 8.00 miles  
 Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost \* \$3,075.61  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$9.38  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.23</u>	<u>0.23</u>
Return Time (Hours):	<u>0.23</u>	<u>0.23</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.46</u>	<u>0.46</u>

**JOB TIME AND COST**

Total job time: 2.91 Hours

Total job cost: \$3,085