

COST SUMMARY WORK

Task description: Reclamation Cost Update SO3

Site: Gleason Pit

Permit Action: 2024-07-03

Permit/Job#: M1983159

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 7/3/2024

County: Montrose

Filename: M159-000

User: DMC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Reduce all mined slopes to 3H:1V	DOZER	1	3.33	\$1,070
02a	Rip pit floor	RIPPER	1	7.63	\$2,628
03a	Spread topsoil	DOZER	1	19.08	\$6,138
04a	Revegetate disturbed area	REVEGE	1	12.00	\$26,623
05a	Mobilize reclamation crew and equipment	MOBILIZE	1	3.30	\$2,947
<u>SUBTOTALS:</u>				45.34	\$39,406

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$796

Performance bond: 1.05

Total = \$414

Job superintendent: 22.67

Total = \$1,797

Profit: 10.00

Total = \$3,941

TOTAL O & P = \$6,947

CONTRACT AMOUNT (direct + O & P) = \$46,353

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

\$2,318

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$9,765

TOTAL BOND AMOUNT (direct + indirect) = \$49,171

BULLDOZER WORKTask description: Reduce all mined slopes to 3H:1VSite: Gleason PitPermit Action: 2024-07-03Permit/Job#: M1983159**PROJECT IDENTIFICATION**Task #: 01AState: ColoradoAbbreviation: NoneDate: 7/3/2024County: MontroseFilename: 01aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$321.62Total Fleet Cost/Hour: \$321.62**MATERIAL QUANTITIES**Initial Volume: 2,448Swell factor: 1.125Loose volume: 2,754 LCYSource of estimated volume: Existing ConditionsSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -15 %Average site altitude: 6,600 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(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:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5910

Adjusted unit production: 827.40 LCY/hr

Adjusted fleet production: **827.4** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.389/LCY

Total job time: **3.33** Hours

Total job cost: **\$1,070**

BULLDOZER RIPPING WORK

Task description: Rip pit floor

Site: Gleason Pit Permit Action: 2024-07-03 Permit/Job#: M1983159

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 7/3/2024 County: Montrose Filename: 02a
User: DMC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper Ownership Cost/Hour:	\$14.53	NA
Ripper Operating Cost/Hour:	\$7.95	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$344.10	
Total Fleet Cost/Hour:	\$344.10	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 5.00 acres Rip Depth (ft): 2.00 Volume: 16,133 BCY or CCY

Source of estimated quantity: DRMS

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 250.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.789 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.789 Acres/hr
Site Altitude: 6,600 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.65 Acres/hr
Adjusted Hourly Fleet Production: **0.65** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **7.64** Hours

Unit cost: \$525.601 Per acre Total job cost: **\$2,628**

BULLDOZER WORKTask description: Spread topsoilSite: Gleason Pit Permit Action: 2024-07-03 Permit/Job#: M1983159**PROJECT IDENTIFICATION**

Task #:	<u>03A</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>7/3/2024</u>	County:	<u>Montrose</u>	Filename:	<u>03a</u>
User:	<u>DMC</u>				

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

Basic Machine:	<u>Cat D8T - 8SU</u>
Horsepower:	<u>310</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$173.32</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$109.71</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>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$321.62</u>
Total Fleet Cost/Hour:	<u>\$321.62</u>

MATERIAL QUANTITIES

Initial Volume:	<u>8,067</u>
Swell factor:	<u>1.000</u>
Loose volume:	<u>8,067 LCY</u>

Source of estimated volume:	<u>10 ac. @ 6"</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTION

Average push distance:	<u>200 feet</u>
Unadjusted hourly production:	<u>491.9 LCY/hr</u>

Materials consistency description: Loose stockpile 1.2

Average push gradient:	<u>0 %</u>
Average site altitude:	<u>6,600 feet</u>

Material weight: 1,600 lbs/LCYWeight description: Top Soil

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.200</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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: 422.69 LCY/hr

Adjusted fleet production: **422.69** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.761/LCY

Total job time: **19.08** Hours

Total job cost: **\$6,138**

REVEGETATION WORKTask description: Revegetate disturbed areaSite: Gleason PitPermit Action: 2024-07-03Permit/Job#: M1983159PROJECT IDENTIFICATIONTask #: 04AState: ColoradoAbbreviation: NoneDate: 7/3/2024County: MontroseFilename: 04aUser: DMCAgency or organization name: DRMSFERTILIZINGMaterials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.51	\$102.32
			Total Fertilizer Materials Cost/Acre	\$102.32

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$102.41
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$441.21

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Sand Dropseed	0.15	17.91	\$1.95
Thickspike Wheatgrass - Critana	2.75	9.72	\$22.41
Western Wheatgrass - Native	6.00	15.15	\$54.03
Totals Seed Mix	8.90	42.78	\$78.39

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64

	Total Seed Application Cost/Acre	\$236.64
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MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	<u>10</u>	Cost /Acre:	<u>\$2,129.87</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$2,129.87</u>
*Selected Replanting Work Items:	<u>FERTILIZING,TILLING,SEEDING,MU LCHING</u>		
Initial Job Cost:	<u>\$21,298.70</u>		
Reseeding Job Cost:	<u>\$5,324.68</u>		
Total Job Cost:	<u>\$26,623</u>		
Job Hours:	<u>12.00</u>		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize reclamation crew and equipment**Site: **Gleason Pit**Permit Action: **2024-07-03**Permit/Job#: **M1983159****PROJECT IDENTIFICATION**

Task #: **05A** State: **Colorado** Abbreviation: **None**
 Date: **7/3/2024** County: **Montrose** Filename: **05a**
 User: **DMC**

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:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

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	47.71	\$173.32	\$122.78	1	\$296.10	\$122.78	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$27.21	\$59.44	1	\$86.65	\$59.44	\$250.00
Subtotals:					\$483.21	\$241.66	\$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, 4x4, 3/4 T.	\$13.77	1	\$13.77	\$13.77
Subtotals:			\$13.77	\$13.77

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	NORWOOD	
Total one-way travel distance:	13.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$2,937.59
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$8.95
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.33	0.33
Return Time (Hours):	0.33	0.33
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.65	0.65

JOB TIME AND COST

Total job time:	3.30	Hours
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Total job cost:	\$2,947
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