

COST SUMMARY WORK

Task description: Cost Summary of Reclamation Tasks

Site: Quist Mining Permit Action: New Permit Permit/Job#: M2023002

PROJECT IDENTIFICATION

Task #: 000A State: Colorado Abbreviation: None
Date: 4/20/2023 County: Teller Filename: M002-000A
User: ERR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001A	Backfill Excavation	LOADER	1	14.59	\$1,570
002A	Replace Topsoil and Subsoil	LOADER	1	4.27	\$460
003A	Revegetate 100,000 sq. ft.	REVEGE	1	4.60	\$2,030
004A	Mob/Demob of Reclamation Equipment	MOBILIZE	1	4.92	\$1,474
<u>SUBTOTALS:</u>				28.38	\$5,534

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total=	<u>\$112</u>
Performance bond:	1.05	Total=	<u>\$58</u>
Job superintendent:	0.00	Total=	<u>\$0</u>
Profit:	10.00	Total=	<u>\$553</u>
		TOTAL O & P =	<u>\$723</u>
		CONTRACT AMOUNT (direct + O & P) =	<u>\$6,257</u>

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$0</u>	Total=	<u>\$0</u>
Engineering work and/or contract/bid preparation:	<u>0.00</u>	Total=	<u>\$0</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$313</u>

CONTINGENCY: 0.00 Total= \$0

TOTAL INDIRECT COST = \$1,036

TOTAL (direct + indirect) = \$6,570

TOTAL BOND AMOUNT (rounded) = \$6,600

WHEEL LOADER – LOAD AND CARRY WORKTask description: **Backfill Excavation**Site: **Quist Mining** Permit Action: **New Permit** Permit/Job#: **M2023002****PROJECT IDENTIFICATION**

Task#: **001A** State: **Colorado** Abbreviation: **None**
 Date: **4/11/2023** County: **Teller** Filename: **M002-001A**
 User: **ERR**

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

Basic Machine: **CAT 924H** Horsepower: **128**
 Attachment 1: **ROPS Cab** Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$35.89</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$30.95</u>	<u>100</u>
Operator Cost/Hour:	<u>\$40.71</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$107.55</u>	
Total Fleet Cost/Hour:	<u>\$107.55</u>	

MATERIAL QUANTITIES

Initial volume: **2,250** CCY Swell factor: **1.000**
 Loose volume: **2,250** LCY

Source of estimated volume: **Application**
 Source of estimated swell factor: **Cat Handbook**

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

Cycle Time Factors		Factor (min.)	Source
Material:	<u>Mixed material 0.02</u>	<u>0.020</u>	<u>(Cat HB)</u>
Stockpile:	<u>No adjustment - factor not applicable 0.00</u>	<u>0.000</u>	<u>(Cat HB)</u>
Truck Ownership:	<u>No adjustment - factor not applicable 0.00</u>	<u>0.000</u>	<u>(Cat HB)</u>
Operation:	<u>Constant operation -0.04</u>	<u>-0.040</u>	<u>(Cat HB)</u>
Dump Target:	<u>Nominal target 0.00</u>	<u>0.000</u>	<u>(Cat HB)</u>
Net Cycle Time Adjustment:		<u>-0.020</u>	<u>minutes</u>
Adjusted Basic Cycle Time:		<u>0.455</u>	<u>minutes</u>

Rolling Resistance – Road Conditions

Haul: **Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0**
 Return: **Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0**

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	<u>200</u>	<u>9.50</u>	<u>8.00</u>	<u>17.50</u>	<u>0.4058</u>	<u>(Cat HB)</u>
Return Route:	<u>200</u>	<u>-9.50</u>	<u>8.00</u>	<u>-1.50</u>	<u>0.0986</u>	<u>(Cat HB)</u>

Total Travel Time: 0.5044 minutes
 Total Cycle Time: **0.9594** minutes

Load Bucket Capacity

Rated Capacity: 2.70 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: **2.97** LCY

Job Condition Correction Factors

Site Altitude: 8750 feet

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

Unadjusted Hourly Unit Production: 185.73 LCY/Hour
 Adjusted Hourly Unit Production: 154.16 LCY/Hour
 Adjusted Hourly Fleet Production: **154.16** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: **14.60** Hours
 Unit cost: \$0.698 /LCY Total job cost: **\$1,570**

WHEEL LOADER – LOAD AND CARRY WORKTask description: **Replace Topsoil and Subsoil**Site: **Quist Mining**Permit Action: **New Permit**Permit/Job#: **M2023002****PROJECT IDENTIFICATION**Task #: **002A**State: **Colorado**Abbreviation: **None**Date: **4/20/2023**County: **Teller**Filename: **M002-002A**User: **ERR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **CAT 924H**Horsepower: **128**Attachment 1: **ROPS Cab**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$35.89	NA
Operating Cost/Hour:	\$30.95	100
Operator Cost/Hour:	\$40.71	NA
Total Unit Cost/Hour:	\$107.55	
Total Fleet Cost/Hour:	\$107.55	

MATERIAL QUANTITIESInitial volume: **864**

CCY

Swell factor: **1.330**Loose volume: **1,149**

LCY

Source of estimated volume: **Application: 6" Topsoil 8" Subsoil (Max)**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:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.020	minutes
Adjusted Basic Cycle Time:		0.455	minutes

Rolling Resistance – Road ConditionsHaul: **Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0**Return: **Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0****Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	50	0.00	8.00	8.00	0.0476	(Cat HB)
Return Route:	50	0.00	8.00	8.00	0.0476	(Cat HB)

Total Travel Time: 0.0951 minutes
 Total Cycle Time: **0.5501** minutes

Load Bucket Capacity

Rated Capacity: 2.70 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: **2.97** LCY

Job Condition Correction Factors

Site Altitude: 8750 feet

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

Unadjusted Hourly Unit Production: 323.94 LCY/Hour
 Adjusted Hourly Unit Production: 268.87 LCY/Hour
 Adjusted Hourly Fleet Production: **268.87** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: **4.27** Hours
 Unit cost: \$0.400 /LCY Total job cost: **\$460**

REVEGETATION WORKTask description: Revegetate 100,000 sq. ft.Site: Quist MiningPermit Action: New PermitPermit/Job#: M2023002**PROJECT IDENTIFICATION**Task #: 003AState: ColoradoAbbreviation: NoneDate: 4/20/2023County: TellerFilename: M002-003AUser: ERRAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

Description	Cost/Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

Description	Cost/Acre
Subsoiling, light {(DMG)}	\$175.31
Total Tilling Cost/Acre	\$175.31

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost/Acre
Blue Grama - Hachita	2.50	40.81	\$39.94
Canby Bluegrass - Canbar	1.25	26.57	\$12.81
Mountain Brome - Bromar	5.00	8.03	\$19.00
Great Basin Wildrye - Magnar	2.50	10.16	\$28.88
Strawberry Clover (coated)	0.50	3.39	\$3.14
Sheep Fescue - Covar	3.75	58.54	\$22.88
Thickspike Wheatgrass - Critana	5.75	20.33	\$39.53
Prairie Junegrass	3.75	199.33	\$97.50
		367.15	\$263.67

Totals Seed Mix	25.00		
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Application

Description	Cost/Acre
Broadcast seeding [DMG]	\$267.22
Total Seed Application Cost/Acre	\$267.22

MULCHING and MISCELLANEOUS**Materials**

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

Application

Description	Cost/Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

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:	2.3	Cost/Acre:	\$706.20
Estimated Failure Rate:	25%	Cost/Acre*:	\$706.20
*Selected Replanting Work Items:	TILLING,SEEDING		

Initial Job Cost:	\$1,624.26
Reseeding Job Cost:	\$406.07
Total Job Cost:	\$2,030
Job Hours:	4.60

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob of Reclamation Equipment**Site: **Quist Mining**Permit Action: **New Permit**Permit/Job#: **M2023002****PROJECT IDENTIFICATION**Task #: **004A**State: **Colorado**Abbreviation: **None**Date: **4/20/2023**County: **Teller**Filename: **M002-004A**User: **ERR**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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

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 924H	12.69	\$35.89	\$68.22	1	\$104.11	\$68.22	\$250.00

Subtotals: **\$104.11** **\$68.22** **\$250.00****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	\$124.78	2	\$249.56	\$249.56

Subtotals: **\$249.56** **\$249.56**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: COLORADO SPRINGS
 Total one-way travel distance: 54.00 miles
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost * \$934.70
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$539.05
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.08	1.08
Return Time (Hours):	1.08	1.08
Loading Time (Hours):	0.15	NA
Unloading Time (Hours):	0.15	NA
Subtotals:	2.46	2.16

JOB TIME AND COST

Total job time: 4.92 Hours

Total job cost: \$1,474