

February 3, 2022

Daniel Pollock
Grand Island Resources, LLC
4415 Caribou Rd
P.O. Box 3395
Nederland, CO 80466

RE: Cross Gold Mine, Permit No. M-1977-410, 110(2) Hard Rock Permit Amendment Application (AM-02), Adequacy Review No. 5

Mr. Pollock:

The Division of Reclamation, Mining and Safety (Division) has completed its review of your adequacy response for Amendment No. 2 (AM-02), received on February 3, 2022. The Division has identified the following adequacy items in the application requiring additional information or clarification:

Exhibit L – Permanent Man-Made Structures (Rule 6.3.12):

- 1) The operator has submitted sufficient proof that a structure agreement was provided to the U.S. Forest Service (USFS) for USFS Road 505, which is located within 200 feet of the proposed permit area for the Caribou 300 Level Portal. After discussing this structure agreement with Mike Johnson of the USFS, it is the Division's understanding they plan to sign the agreement. Once the operator has received the fully executed structure agreement for USFS Road 505, please submit a copy to our office. Given the limited time remaining prior to the application decision date, the operator may send a copy of the fully executed structure agreement via email for AM-02 approval.

Additional Item(s):

- 2) Pursuant to Rule 1.6.2(1)(c), any changes or additions to the application on file in our office must also be reflected in the public review copy which was placed with the local County Clerk and Recorder. Pursuant to Rule 6.4.18, you must provide our office with an affidavit or receipt indicating the date this was done.
- 3) The Division has calculated the required financial warranty for the operation based on the reclamation plan proposed in AM-02 (see enclosed estimate), and found this amount to be \$365,812.00. Please review the bond estimate provided and submit any comments at your earliest convenience. The Division would like to remind the operator the \$162,841.00 interim financial warranty for water treatment required by the Mined Land Reclamation Board (Board) will be in addition to the amount calculated for AM-02 (and is due within 30 days of the effective date of the Board Order for Violation No. MV-2021-017, yet to be issued).



This concludes the Division's 5th adequacy review of AM-02. The decision date for the application is currently set for **February 8, 2021**. Please submit the remaining adequacy items with sufficient time prior to the decision date for the Division to complete its review process. Per Rule 1.4.1(9), the Division staff will not be able to approve an additional extension of the decision date for this application, as the current decision date coincides with the 365-day deadline from filing.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

A handwritten signature in blue ink that reads "Amy Eschberger". The signature is written in a cursive, flowing style.

Amy Eschberger
Environmental Protection Specialist

Encl: Division's bond estimate for AM-02

Cc: Richard Mittasch, Grand Island Resources, LLC
Daniel Takami, Grand Island Resources, LLC
Michael Cunningham, DRMS

COST SUMMARY WORK

Task description: Cost summary

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022

Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 2/2/2022 County: Boulder Filename: M410-000
User: AME

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Seal mine openings	MINESEAL	1	60.00	\$55,517
002	Demolish/remove structures	DEMOLISH	1	80.00	\$68,090
003	Install chain link fence at mine openings (total=190 LF)	NA	1	10.00	\$7,220
004	Backfill Pond 1	DOZER	1	0.47	\$95
005	Backfill Pond 2	DOZER	1	2.03	\$407
006	Backfill Ponds 3A-C	DOZER	1	4.81	\$964
007	Grade backfilled pond areas	DOZER	1	1.81	\$363
008	Retopsoil backfilled ponds	DOZER	1	3.74	\$749
009	Grade Idaho Tunnel side slopes	DOZER	1	2.35	\$470
010a	Haul and replace topsoil on Idaho Tunnel slopes	TRUCK1	1	0.92	\$720
011	Grade New Cross Mine Decline slope	DOZER	1	3.13	\$627
012	Haul and replace topsoil on New Cross Mine Decline	TRUCK1	1	1.31	\$1,024
013	Grade out new road	DOZER	1	4.15	\$831
014	Retopsoil new road area	DOZER	1	2.84	\$568
015	Grade waste rock slope (that does not overlap new rd)	DOZER	1	4.49	\$899
016	Retopsoil waste rock area (that does not overlap new rd)	DOZER	1	2.09	\$420
017	Retopsoil Cross Mine Adit area	DOZER	1	0.06	\$13
018	Retopsoil Idaho Tunnel portal area	DOZER	1	0.03	\$5
019	Haul and replace topsoil on Cross Vent Shaft and Escapeway	TRUCK1	1	0.11	\$89
020	Haul and replace topsoil on Potosi Shaft area	TRUCK1	1	0.18	\$144
021	Haul and replace topsoil on Caribou 300 LP area	TRUCK1	1	0.32	\$250
022	Grade slope at Caribou 300 LP	DOZER	1	0.20	\$41
023	Grade slope at Potosi Shaft	DOZER	1	0.06	\$12
024	Grade slope at Cross Vent Shaft & Escapeway	DOZER	1	0.05	\$10
025	Retopsoil Caribou Water Shed area	DOZER	1	0.02	\$4
026	Retopsoil Flow Shed 1 area	DOZER	1	0.02	\$4
027	Retopsoil Flow Shed 2 area	DOZER	1	0.02	\$4
028	Retopsoil Cross Ore Building area	DOZER	1	0.51	\$101
029	Retopsoil Explosives Storage area	DOZER	1	0.02	\$4
030	Backfill Historic Shaft Disturbance	TRUCK1	1	6.04	\$4,711
031	Grade Historic Shaft Disturbance	DOZER	1	0.18	\$36
032	Haul and replace topsoil on Historic Shaft Disturbance area	TRUCK1	1	0.44	\$341
033	Retopsoil disturbance between mine features	DOZER	1	11.81	\$2,367
034	Import 6,600 cy topsoil from Nederland (\$15/cy)	NA	1	1.00	\$99,000
035	Revegetate Cross/Caribou area (Subalpine Mix)	REVEGE	1	4.86	\$6,641
036	Revegetate Potosi Shaft area (Subalpine Mix)	REVEGE	1	0.01	\$14
037	Revegetate Caribou 300 LP area (Subalpine Mix)	REVEGE	1	0.01	\$14
038	Revegetate Cross/Caribou (Wetland Mix)	REVEGE	1	0.65	\$176

039	Revegetate Cross/Caribou (Tree/Shrub Mix)	REVEGE	1	0.14	\$171
040	Mobilization/demobilization	MOBILIZE	1	19.20	\$27,962
<u>SUBTOTALS:</u>				230.08	\$281,078

INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$5,678
Performance bond:	1.05	Total =	\$2,951
Job superintendent:	230.00	Total =	\$16,567
Profit:	10.00	Total =	\$28,108
		TOTAL O & P =	\$53,304
		CONTRACT AMOUNT (direct + O & P) =	\$334,382

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$14,211
Reclamation management and/or administration:	5.00		\$16,719

CONTINGENCY:	0.00	Total =	\$0
--------------	------	---------	-----

TOTAL INDIRECT COST =	\$84,734
-----------------------	----------

TOTAL BOND AMOUNT (direct + indirect) =	\$365,812
--	------------------

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Seal mine openings

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate Permit/Job#: M1977410
2022

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 1/28/2022 County: Boulder Filename: M410-001
User: AME

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Cross Mine Adit	8x8	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	64.00	SF	\$192.07	\$12,292.48
Cross Vent Shaft & Escapeway	5x5	Shaft closure - precast concrete panel (per opening)	25.00	SF	\$10.92	\$273.00
Idaho Tunnel Portal	12x12	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	144.00	SF	\$192.07	\$27,658.08
Potosi Shaft	6x6	Shaft closure - precast concrete panel (per opening)	36.00	SF	\$10.92	\$393.12
Caribou 300 Level Portal	8x8	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	64.00	SF	\$192.07	\$12,292.48
Cross Mine Adit (grated access)	2x2	Prefeb custom grate	4.00	SF	\$32.50	\$130.00
Idaho Tunnel Portal (grated access)	2x2	Prefeb custom grate	4.00	SF	\$32.50	\$130.00
Drainage pipe for dewatering (Cross Mine)	dewatering pipe	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	80.00	LF	\$11.74	\$939.20
Drainage pipe for dewatering (Idaho Tunnel)	dewatering pipe	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	120.00	LF	\$11.74	\$1,408.80

Job Hours: 60.00

Total Cost: \$55,517.16

DEMOLITION WORK

Task description: Demolish/remove structures

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022

Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 1/28/2022 County: Boulder Filename: M410-002
User: AME

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Cross Mine Snow Shed Removal	164x10x8	Demo. only, small or single buildings (single story) - Steel structures	13,120.00	CF	\$0.18	\$2,348.48
Cross Mine Snow Shed Disposal	164x10x8	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	29.50	MI	\$7.61	\$224.50
Cross 300 LP Snow Shed Removal	20x6x6	Demo. only, small or single buildings (single story) - Steel structures	720.00	CF	\$0.18	\$128.88
Pond 1 Liner Removal and Disposal	2,004 SF	Loading and 5 mile haul, salvage allowed - Steel frame structures	74.00	CY	\$10.85	\$802.90
Pond 2 Liner Removal and Disposal	8,285 SF	Loading and 5 mile haul, salvage allowed - Steel frame structures	307.00	CY	\$10.85	\$3,330.95
Cross 300 LP Snow Shed Disposal	20x6x6	Loading and 5 mile haul, salvage allowed - Steel frame structures	27.00	CY	\$10.85	\$292.95
Ponds 3A-C Liner Removal and Disposal	17,140 SF	Loading and 5 mile haul, salvage allowed - Steel frame structures	635.00	CY	\$10.85	\$6,889.75
New Road - Box Culvert Removal	5x4x80L	Pipe, reinforced concrete (RCP) - 60 in. diameter pipe	80.00	LF	\$66.18	\$5,294.08
Caribou Water Shed Removal and Disposal	10x11x5	Bldg. (SC) demo./off-site disposal in approved landfill - Max. 30 mile haul	550.00	CF	\$0.68	\$373.45
Flow Shed 1 Removal and Disposal	10x6x6	Bldg. (SC) demo./off-site disposal in approved landfill - Max. 30 mile haul	360.00	CF	\$0.68	\$244.44
Flow Shed 2 Removal and Disposal	6x6x6	Bldg. (SC) demo./off-site disposal in approved landfill - Max. 30 mile haul	216.00	CF	\$0.68	\$146.66
Water Pipeline Removal	777ftx6in diam	Pipe, sewer/water - 12 in. diameter pipe	777.00	LF	\$4.57	\$3,550.89
Water Pipeline Disposal	777ftx6in diam	Loading and 5 mile haul, salvage allowed - Steel frame structures	15.00	CY	\$10.85	\$162.75
Cross Ore Building Removal and Disposal	80x40x25H	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 30 mile haul	80,000.00	CF	\$0.43	\$34,080.00

Cross Ore Building Foundation Demo	80x40x25H	Floor, concrete, demolition only, average reinforcing - 12 in. thick	3,200.00	SF	\$1.92	\$6,144.00
Cross Ore Building Foundation Removal and Disposal	80x40x25H	Loading and 5 mile haul, salvage allowed - Concrete frame structures	119.00	CY	\$12.80	\$1,523.20
New Road - Box Culvert Disposal	5x4x80L	Bldg. (SC) demo./off-site disposal in approved landfill - Max. 30 mile haul	1,600.00	CF	\$0.68	\$1,086.40

Job Hours: 80.00

Subtotal
(unadjusted): \$66,624.28

Total Cost
(adjusted for location): \$68,090.01

BULLDOZER WORKTask description: **Backfill Pond 1**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **004** State: **Colorado** Abbreviation: **None**
 Date: **1/26/2022** County: **Boulder** Filename: **M410-004**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **267**
 Swell factor: **1.125**
 Loose volume: **300 LCY**

Source of estimated volume: **40x60x3 = 7200 cf; backfill with perimeter berms**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6185

Adjusted unit production: 632.66 LCY/hr

Adjusted fleet production: **632.66** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.317/LCY

Total job time: **0.47** Hours

Total job cost: **\$95**

BULLDOZER WORKTask description: **Backfill Pond 2**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **005** State: **Colorado** Abbreviation: **None**
 Date: **1/26/2022** County: **Boulder** Filename: **M410-005**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **1,141**
 Swell factor: **1.125**
 Loose volume: **1,284 LCY**

Source of estimated volume: **110x70x4 = 30,800 cf; backfill with perimeter berms**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6185

Adjusted unit production: 632.66 LCY/hr

Adjusted fleet production: **632.66** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.317/LCY

Total job time: **2.03** Hours

Total job cost: **\$407**

BULLDOZER WORKTask description: **Backfill Ponds 3A-C**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **006** State: **Colorado** Abbreviation: **None**
 Date: **1/26/2022** County: **Boulder** Filename: **M410-006**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **2,704**
 Swell factor: **1.125**
 Loose volume: **3,042 LCY**

Source of estimated volume: **Total 157x93x5 = 73,005 cf; backfill with perimeter berms**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6185

Adjusted unit production: 632.66 LCY/hr

Adjusted fleet production: **632.66** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.317/LCY

Total job time: **4.81** Hours

Total job cost: **\$964**

BULLDOZER WORKTask description: **Grade backfilled pond areas**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **007** State: **Colorado** Abbreviation: **None**
 Date: **1/26/2022** County: **Boulder** Filename: **M410-007**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **968**
 Swell factor: **1.000**
 Loose volume: **968 LCY**

Source of estimated volume: **Total surf area = 0.6 acre x 1 ft grading**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Partly consolidated stockpile 1.1**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5230

Adjusted unit production: 534.98 LCY/hr

Adjusted fleet production: **534.98** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.375/LCY

Total job time: **1.81** Hours

Total job cost: **\$363**

BULLDOZER WORKTask description: **Retopsoil backfilled ponds**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **008** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-008**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **968**
 Swell factor: **1.215**
 Loose volume: **1,176 LCY**

Source of estimated volume: **Total 0.6 ac x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Partly consolidated stockpile 1.1**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0109

Adjusted unit production: 314.49 LCY/hr

Adjusted fleet production: **314.49** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.637/LCY

Total job time: **3.74** Hours

Total job cost: **\$749**

BULLDOZER WORKTask description: **Grade Idaho Tunnel side slopes**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **009** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-009**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **1,667**
 Swell factor: **1.250**
 Loose volume: **2,084 LCY**

Source of estimated volume: **Total slopes= 200 ft L x avg 30 ft H; Cut/Fill 1:1 to 3:1**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.200</u>	<u>(SLOT)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8676

Adjusted unit production: 887.47 LCY/hr

Adjusted fleet production: **887.47** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.226/LCY

Total job time: **2.35** Hours

Total job cost: **\$470**

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on Idaho Tunnel slopes**Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 010 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-010a
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 225 CCY Swell factor: 1.215
 Loose volume: 273 LCY

Source of estimated volume: 6,052 sq ft x 12 in topsoil
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY**Truck Bed (volume) Basis:**Struck Volume: 14.50 LCYHeaped Volume: 18.70 LCYAverage Volume: 16.60 LCYAdjusted Volume: 18.70 LCYFinal Truck Volume Based on Number of Loader Passes: 18.92 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity:	<u>4.300</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) <u>1.100</u>
Adjusted Capacity:	<u>4.730</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: **0.830** **0.830****Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 4 passes**Excavators and Front Shovels:**Machine Cycle Time vs. Job Condition Rating: NASelected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		-0.040	minutes
Adjusted Loader Cycle Time:		<u>0.460</u>	minutes
Net Load Time per Truck:		<u>1.480</u>	minutes

Truck Cycle Time:Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 MinutesTruck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 MinutesTruck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes**Truck Travel (Haul & Return) Time:**
maintained 3.0Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	850.00	20.00	3.00	23.00	331	2.572

Haul Time: 2.572 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	850.00	-20.00	3.00	-17.00	1170	0.908

Return Time: 0.908 minutesTotal Truck Cycle Time: 6.360 minutes

Loading Tool unit

Production 573.33 LCY/Hour Adjusted for job efficiency: 475.87 LCY/Hour
Truck Unit Production 178.49 LCY/Hour Adjusted for job efficiency: 148.15 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 296.29 LCY/Hour
Adjusted single truck/loader team production: 296.29 LCY/Hour
Adjusted multiple truck/loader team production: 296.29 LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 0.92 HoursUnit cost: \$2.632 /LCY Total job cost: \$720

BULLDOZER WORKTask description: **Grade New Cross Mine Decline slope**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate**
2022Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #:	<u>011</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/26/2022</u>	County:	<u>Boulder</u>	Filename:	<u>M410-011</u>
User:	<u>AME</u>				

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

Basic Machine:	<u>Cat D7R DS XR Series II</u>
Horsepower:	<u>240</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>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$200.39</u>
Total Fleet Cost/Hour:	<u>\$200.39</u>

MATERIAL QUANTITIES

Initial Volume:	<u>2,222</u>
Swell factor:	<u>1.250</u>
Loose volume:	<u>2,778 LCY</u>

Source of estimated volume: **150' L x 40' H - cut and fill - vertical slope to 2H:1V**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**

Average push distance:	<u>50 feet</u>
Unadjusted hourly production:	<u>1,022.9 LCY/hr</u>

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient:	<u>-5 %</u>
Average site altitude:	<u>9,700 feet</u>

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.200</u>	<u>(SLOT)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8676

Adjusted unit production: 887.47 LCY/hr

Adjusted fleet production: **887.47** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.226/LCY

Total job time: **3.13** Hours

Total job cost: **\$627**

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on New Cross Mine Decline**Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**Task #: 012 State: Colorado Abbreviation: None
Date: 1/28/2022 County: Boulder Filename: M410-012
User: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**Initial volume: 320 CCY Swell factor: 1.215
Loose volume: 389 LCYSource of estimated volume: 8,623 sq ft x 12 in topsoil
Source of estimated swell factor: Cat Handbook
Material Purchase Cost: \$0.00
Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600 Pounds/LCY
Description: Top Soil
Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY**Truck Bed (volume) Basis:**

Struck Volume: 14.50 LCY
 Heaped Volume: 18.70 LCY
 Average Volume: 16.60 LCY
 Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 4.730 LCY

Job Condition Corrections:Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 4 passes**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		-0.040	minutes
Adjusted Loader Cycle Time:		0.460	minutes
Net Load Time per Truck:		1.480	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 Minutes
 Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	850.00	20.00	3.00	23.00	331	2.572

Haul Time: 2.572 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	850.00	-20.00	3.00	-17.00	1170	0.908

Return Time: 0.908 minutesTotal Truck Cycle Time: 6.360 minutes

Loading Tool unit

Production 573.33 LCY/Hour Adjusted for job efficiency: 475.87 LCY/Hour
Truck Unit Production 178.49 LCY/Hour Adjusted for job efficiency: 148.15 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 296.29 LCY/Hour
Adjusted single truck/loader team production: 296.29 LCY/Hour
Adjusted multiple truck/loader team production: 296.29 LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 1.31 HoursUnit cost: \$2.632 /LCY Total job cost: \$1,024

BULLDOZER WORKTask description: **Grade out new road**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **013** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-013**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **2,333**
 Swell factor: **1.125**
 Loose volume: **2,625 LCY**

Source of estimated volume: **Used operator's volume; 185 ft L x 50 ft W base x 6 ft H**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6185

Adjusted unit production: 632.66 LCY/hr

Adjusted fleet production: **632.66** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.317/LCY

Total job time: **4.15** Hours

Total job cost: **\$831**

BULLDOZER WORKTask description: **Retopsoil new road area**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **014** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-014**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **2,194**
 Swell factor: **1.215**
 Loose volume: **2,666 LCY**

Source of estimated volume: **1.36 ac x 12 in topsoil; use adjacent topsoil berms**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 940.05 LCY/hr

Adjusted fleet production: **940.05** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.213/LCY

Total job time: **2.84** Hours

Total job cost: **\$568**

BULLDOZER WORKTask description: Grade waste rock slope (that does not overlap new road)

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate Permit/Job#: M1977410
2022

PROJECT IDENTIFICATION

Task #: 015 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-015
 User: AME

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

Basic Machine: Cat D7R DS XR Series II
 Horsepower: 240
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$200.39
 Total Fleet Cost/Hour: \$200.39

MATERIAL QUANTITIES

Initial Volume: 2,042
 Swell factor: 1.215
 Loose volume: 2,481 LCY

Source of estimated volume: 180 ft L x 35 ft H, grade 1:1 to 3:1
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 714.3 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -5 %
 Average site altitude: 9,700 feet

Material weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.200</u>	<u>(SLOT)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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: 0.7740

Adjusted unit production: 552.87 LCY/hr

Adjusted fleet production: **552.87** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.362/LCY

Total job time: **4.49** Hours

Total job cost: **\$899**

BULLDOZER WORKTask description: Retopsoil waste rock area (that does not overlap new road)

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate Permit/Job#: M1977410
2022

PROJECT IDENTIFICATION

Task #: 016 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-016
 User: AME

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

Basic Machine: Cat D7R DS XR Series II
 Horsepower: 240
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$200.39
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: 904
 Swell factor: 1.215
 Loose volume: **1,098 LCY**

Source of estimated volume: 0.28 ac x 24 in topsoil
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet
 Unadjusted hourly production: 518.9 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
 Average site altitude: 9,700 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0109

Adjusted unit production: 524.56 LCY/hr

Adjusted fleet production: **524.56** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.382/LCY

Total job time: **2.09** Hours

Total job cost: **\$420**

BULLDOZER WORKTask description: **Retopsoil Cross Mine Adit area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **017** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-017**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **20**
 Swell factor: **1.215**
 Loose volume: **24 LCY**

Source of estimated volume: **522 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **200 feet**
 Unadjusted hourly production: **410.8 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 377.53 LCY/hr

Adjusted fleet production: **377.53** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.531/LCY

Total job time: **0.06** Hours

Total job cost: **\$13**

BULLDOZER WORKTask description: **Retopsoil Idaho Tunnel portal area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **018** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-018**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **6**
 Swell factor: **1.215**
 Loose volume: **7 LCY**

Source of estimated volume: **144 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 285.90 LCY/hr

Adjusted fleet production: **285.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.701/LCY

Total job time: **0.03** Hours

Total job cost: **\$5**

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on Cross Vent Shaft and Escapeway area**

Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 019 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-019
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 21 CCY Swell factor: 1.215
 Loose volume: 26 LCY

Source of estimated volume: 550 sq ft x 12 in topsoil
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY

Truck Bed (volume) Basis:

Struck Volume: 14.50 LCY
 Heaped Volume: 18.70 LCY
 Average Volume: 16.60 LCY
 Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 4.730 LCY

Job Condition Corrections:

Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		-0.040	minutes
Adjusted Loader Cycle Time:		0.460	minutes
Net Load Time per Truck:		1.480	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 Minutes
 Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	20.00	3.00	23.00	331	4.234

Haul Time: **4.234** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-20.00	3.00	-17.00	1170	1.351

Return Time: **1.351** minutesTotal Truck Cycle Time: **8.465** minutes

Loading Tool unit

Production 573.33 LCY/Hour Adjusted for job efficiency: 475.87 LCY/Hour
Truck Unit Production 134.11 LCY/Hour Adjusted for job efficiency: 111.31 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 222.61 LCY/Hour
Adjusted single truck/loader team production: 222.61 LCY/Hour
Adjusted multiple truck/loader team production: **222.61** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **0.11** HoursUnit cost: \$3.504 /LCY Total job cost: **\$89**

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on Potosi Shaft area**

Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 020 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-020
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

<u>Cost Breakdown:</u>	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 24 CCY Swell factor: 1.215
 Loose volume: 29 LCY

Source of estimated volume: 624 sq ft x 1 ft topsoil
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY**Truck Bed (volume) Basis:**

Struck Volume: 14.50 LCY
 Heaped Volume: 18.70 LCY
 Average Volume: 16.60 LCY
 Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 4.730 LCY

Job Condition Corrections:Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 4 passes**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		-0.040	minutes
Adjusted Loader Cycle Time:		0.460	minutes
Net Load Time per Truck:		1.480	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 Minutes
 Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	20.00	3.00	23.00	331	6.953

Haul Time: **6.953** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	-20.00	3.00	-17.00	1170	2.087

Return Time: **2.087** minutesTotal Truck Cycle Time: **11.920** minutes

Loading Tool unit

Production	<u>573.33</u>	LCY/Hour	Adjusted for job efficiency:	<u>475.87</u>	LCY/Hour
Truck Unit Production	<u>95.23</u>	LCY/Hour	Adjusted for job efficiency:	<u>79.04</u>	LCY/Hour

Optimal No. of Trucks:	<u>6</u>	Truck(s)	Selected Number of Trucks:	<u>2</u>	Truck(s)
------------------------	----------	----------	----------------------------	----------	----------

Adjusted hourly truck team production:	<u>158.09</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>158.09</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>158.09</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>0.18</u>	Hours
-------------	----------	---------	-----------------	--------------------	-------

Unit cost:	<u>\$4.934</u>	/LCY	Total job cost:	<u>\$144</u>
------------	----------------	------	-----------------	---------------------

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on Caribou 300 LP area**Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 021 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-021
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 23 CCY Swell factor: 1.215
 Loose volume: 28 LCY

Source of estimated volume: 595 sq ft x 1 ft topsoil
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY

Truck Bed (volume) Basis:

Struck Volume: 14.50 LCY
 Heaped Volume: 18.70 LCY
 Average Volume: 16.60 LCY
 Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 4.730 LCY

Job Condition Corrections:

Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		-0.040	minutes
Adjusted Loader Cycle Time:		0.460	minutes
Net Load Time per Truck:		1.480	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 Minutes
 Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4800.00	20.00	3.00	23.00	331	14.505

Haul Time: **14.505** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4800.00	-20.00	3.00	-17.00	1170	4.229

Return Time: **4.229** minutesTotal Truck Cycle Time: **21.614** minutes

Loading Tool unit

Production 573.33 LCY/Hour Adjusted for job efficiency: 475.87 LCY/Hour
Truck Unit Production 52.52 LCY/Hour Adjusted for job efficiency: 43.59 LCY/Hour

Optimal No. of Trucks: 11 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 87.19 LCY/Hour
Adjusted single truck/loader team production: 87.19 LCY/Hour
Adjusted multiple truck/loader team production: **87.19** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **0.32** Hours

Unit cost: \$8.946 /LCY Total job cost: **\$250**

BULLDOZER WORKTask description: **Grade slope at Caribou 300 LP**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **022** State: **Colorado** Abbreviation: **None**
 Date: **1/27/2022** County: **Boulder** Filename: **M410-022**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **93**
 Swell factor: **1.250**
 Loose volume: **116 LCY**

Source of estimated volume: **10 ft H x 100 ft L - grade 1H:1V to 3H:1V**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5567

Adjusted unit production: 569.45 LCY/hr

Adjusted fleet production: **569.45** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.352/LCY

Total job time: **0.20** Hours

Total job cost: **\$41**

BULLDOZER WORKTask description: **Grade slope at Potosi Shaft**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **023** State: **Colorado** Abbreviation: **None**
 Date: **1/27/2022** County: **Boulder** Filename: **M410-023**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **28**
 Swell factor: **1.250**
 Loose volume: **35 LCY**

Source of estimated volume: **10 ft H x 60 ft L - grade 2H:1V to 3H:1V**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **1,022.9 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-5 %**
 Average site altitude: **9,700 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5567

Adjusted unit production: 569.45 LCY/hr

Adjusted fleet production: **569.45** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.352/LCY

Total job time: **0.06** Hours

Total job cost: **\$12**

BULLDOZER WORKTask description: Grade slope at Cross Vent Shaft & Escapeway

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate 2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 024 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-024
 User: AME

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

Basic Machine: Cat D7R DS XR Series II
 Horsepower: 240
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$200.39
 Total Fleet Cost/Hour: \$200.39

MATERIAL QUANTITIES

Initial Volume: 23
 Swell factor: 1.250
 Loose volume: 29 LCY

Source of estimated volume: 10 ft H x 25 ft L - grade 1H:1V to 3H:1V
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet
 Unadjusted hourly production: 1,022.9 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -5 %
 Average site altitude: 9,700 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5567

Adjusted unit production: 569.45 LCY/hr

Adjusted fleet production: **569.45** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.352/LCY

Total job time: **0.05** Hours

Total job cost: **\$10**

BULLDOZER WORKTask description: **Retopsoil Caribou Water Shed area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **025** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-025**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **5**
 Swell factor: **1.215**
 Loose volume: **6 LCY**

Source of estimated volume: **112 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **250 feet**
 Unadjusted hourly production: **350.0 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 321.65 LCY/hr

Adjusted fleet production: **321.65** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.623/LCY

Total job time: **0.02** Hours

Total job cost: **\$4**

BULLDOZER WORKTask description: **Retopsoil Flow Shed 1 area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **026** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-026**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **5**
 Swell factor: **1.215**
 Loose volume: **6 LCY**

Source of estimated volume: **60 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **250 feet**
 Unadjusted hourly production: **350.0 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 321.65 LCY/hr

Adjusted fleet production: **321.65** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
 Unit cost: \$0.623/LCY

Total job time: **0.02** Hours
 Total job cost: **\$4**

BULLDOZER WORKTask description: **Retopsoil Flow Shed 2 area**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **027** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-027**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **5**
 Swell factor: **1.215**
 Loose volume: **6 LCY**

Source of estimated volume: **36 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 285.90 LCY/hr

Adjusted fleet production: **285.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.701/LCY

Total job time: **0.02** Hours

Total job cost: **\$4**

BULLDOZER WORKTask description: **Retopsoil Cross Ore Building area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **028** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-028**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **119**
 Swell factor: **1.215**
 Loose volume: **145 LCY**

Source of estimated volume: **3,200 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 285.90 LCY/hr

Adjusted fleet production: **285.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.701/LCY

Total job time: **0.51** Hours

Total job cost: **\$101**

BULLDOZER WORKTask description: **Retopsoil Explosives Storage area**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate
2022**Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #: **029** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-029**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **5**
 Swell factor: **1.215**
 Loose volume: **6 LCY**

Source of estimated volume: **100 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 285.90 LCY/hr

Adjusted fleet production: **285.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.701/LCY

Total job time: **0.02** Hours

Total job cost: **\$4**

TRUCK/LOADER TEAM WORKTask description: **Backfill Historic Shaft Disturbance**

Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
 2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 030 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-030
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 1,111 CCY Swell factor: 1.125
 Loose volume: 1,250 LCY

Source of estimated volume: Approx 2,000 sq ft x 15ft depth=30,000 CF; haul from Caribou
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 2,650 Pounds/LCY
 Description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 52,000 Pounds

Payload Capacity: 19.62 LCY

Truck Bed (volume) Basis:

Struck Volume: 14.50 LCY
 Heaped Volume: 18.70 LCY
 Average Volume: 16.60 LCY
 Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 4.730 LCY

Job Condition Corrections:

Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		<u>-0.080</u>	minutes
Adjusted Loader Cycle Time:		<u>0.420</u>	minutes
Net Load Time per Truck:		<u>1.360</u>	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 1.360 Minutes Adjusted for site altitude: 1.360 Minutes
 Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	20.00	3.00	23.00	331	4.838

Haul Time: **4.838** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	-20.00	3.00	-17.00	1170	1.509

Return Time: **1.509** minutesTotal Truck Cycle Time: **9.107** minutes

Loading Tool unit

Production 610.32 LCY/Hour Adjusted for job efficiency: 506.57 LCY/Hour
Truck Unit Production 124.65 LCY/Hour Adjusted for job efficiency: 103.46 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 206.92 LCY/Hour
Adjusted single truck/loader team production: 206.92 LCY/Hour
Adjusted multiple truck/loader team production: **206.92** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **6.04** HoursUnit cost: \$3.770 /LCY Total job cost: **\$4,711**

BULLDOZER WORKTask description: **Grade Historic Shaft Disturbance**Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate**
2022Permit/Job#: **M1977410****PROJECT IDENTIFICATION**

Task #:	<u>031</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/27/2022</u>	County:	<u>Boulder</u>	Filename:	<u>M410-031</u>
User:	<u>AME</u>				

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

Basic Machine:	<u>Cat D7R DS XR Series II</u>
Horsepower:	<u>240</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>\$81.02</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.33</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$200.39</u>
Total Fleet Cost/Hour:	<u>\$200.39</u>

MATERIAL QUANTITIES

Initial Volume:	<u>74</u>
Swell factor:	<u>1.250</u>
Loose volume:	<u>93 LCY</u>

Source of estimated volume:	<u>Approx surf area = 2,000 sq ft</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTION

Average push distance:	<u>50 feet</u>
Unadjusted hourly production:	<u>1,022.9 LCY/hr</u>

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient:	<u>0 %</u>
Average site altitude:	<u>9,700 feet</u>

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>1.000</u>	<u>(EXCL.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4993

Adjusted unit production: 510.73 LCY/hr

Adjusted fleet production: **510.73** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.392/LCY

Total job time: **0.18** Hours

Total job cost: **\$36**

TRUCK/LOADER TEAM WORKTask description: **Haul and replace topsoil on Historic Shaft Disturbance area**

Site: **Cross Gold Mine** Permit Action: AM-02 Bond Estimate
2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 032 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-032
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

<u>Cost Breakdown:</u>	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	50	50
Ownership cost/hour:	\$72.63	\$38.59	NA	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$36.56	NA	\$59.50	\$30.20	\$14.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$146.85	\$111.12	NA	\$180.55	\$162.87	\$31.75
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$404.82		Support: \$180.55		Maint: \$194.62	

Total work team cost/hour: **\$779.99****MATERIAL QUANTITIES**

Initial volume: 75 CCY Swell factor: 1.215
 Loose volume: 91 LCY

Source of estimated volume: Approx 2,000 sq ft x 1 ft topsoil
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 52,000 Pounds

Payload Capacity: 32.50 LCY

Truck Bed (volume) Basis:

Struck Volume: 14.50 LCY

Heaped Volume: 18.70 LCY

Average Volume: 16.60 LCY

Adjusted Volume: 18.70 LCY

Final Truck Volume Based on Number of Loader Passes: 18.92 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	<u>4.300</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) <u>1.100</u>
Adjusted Capacity:	<u>4.730</u>	LCY

Job Condition Corrections:

Site Altitude (ft.): 9700 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: **0.830** **0.830**

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA

Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(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:		<u>-0.040</u>	minutes
Adjusted Loader Cycle Time:		<u>0.460</u>	minutes
Net Load Time per Truck:		<u>1.480</u>	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes

Truck Load Time: 1.480 Minutes Adjusted for site altitude: 1.480 Minutes

Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1550.00	20.00	3.00	23.00	331	4.687

Haul Time: **4.687** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1550.00	-20.00	3.00	-17.00	1170	1.462

Return Time: **1.462** minutesTotal Truck Cycle Time: **9.029** minutes

Loading Tool unit

Production 573.33 LCY/Hour Adjusted for job efficiency: 475.87 LCY/Hour
Truck Unit Production 125.73 LCY/Hour Adjusted for job efficiency: 104.35 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 208.71 LCY/Hour
Adjusted single truck/loader team production: 208.71 LCY/Hour
Adjusted multiple truck/loader team production: **208.71** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **0.44** HoursUnit cost: \$3.737 /LCY Total job cost: **\$341**

BULLDOZER WORKTask description: **Retopsoil disturbance between mine features**

Site: **Cross Gold Mine** Permit Action: **AM-02 Bond Estimate 2022** Permit/Job#: **M1977410**

PROJECT IDENTIFICATION

Task #: **033** State: **Colorado** Abbreviation: **None**
 Date: **1/28/2022** County: **Boulder** Filename: **M410-033**
 User: **AME**

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

Basic Machine: **Cat D7R DS XR Series II**
 Horsepower: **240**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$81.02	NA
Operating Cost/Hour:	\$79.33	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$200.39**
 Total Fleet Cost/Hour: **\$200.39**

MATERIAL QUANTITIES

Initial Volume: **2,779**
 Swell factor: **1.215**
 Loose volume: **3,376 LCY**

Source of estimated volume: **75,024 sq ft x 12 in topsoil**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **300 feet**
 Unadjusted hourly production: **311.1 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **9,700 feet**

Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9190

Adjusted unit production: 285.90 LCY/hr

Adjusted fleet production: **285.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.701/LCY

Total job time: **11.81** Hours

Total job cost: **\$2,367**

REVEGETATION WORKTask description: Revegetate Cross/Caribou area (Subalpine Mix)Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 035 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-035
 User: AME

Agency 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
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Wildrye - Arlington or Elkton	2.30	7.92	\$15.32
Nodding Brome	5.00	12.45	\$42.50
Creeping Red Fescue, Slender	1.00	12.63	\$2.05
Hard Fescue - Durar	1.00	12.97	\$2.93
Lupine, Mountain	0.20	0.11	\$16.00
Sheep Fescue - Covar	1.00	15.61	\$6.10
Slender Wheatgrass - San Luis	2.80	10.22	\$11.90
Muttongrass	1.00	20.66	\$34.40
Red Top	0.20	22.91	\$1.58

Tufted Hairgrass	1.00	57.39	\$11.03
Old Man of the Mountain	0.20	1.44	\$9.55
Yarrow, Western	0.20	12.16	\$8.36
Totals Seed Mix	15.90	186.48	\$161.70

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
Hydromulch, 1 ton/ac. rate {Materials Only}	1.50	ACRE	\$424.71	\$637.07
Total Mulch Materials Cost/Acre				\$637.07

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$96.80
Total Mulch Application Cost/Acre	\$96.80

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: 4.86 Cost /Acre: \$1,259.29
 Estimated Failure Rate: 25% Cost /Acre*: \$428.92
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$6,120.15**
 Reseeding Job Cost: **\$521.14**
 Total Job Cost: **\$6,641**
 Job Hours: **4.86**

REVEGETATION WORKTask description: Revegetate Potosi Shaft area (Subalpine Mix)Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 036 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-036
 User: AME

Agency 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
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Wildrye - Arlington or Elkton	2.30	7.92	\$15.32
Nodding Brome	5.00	12.45	\$42.50
Creeping Red Fescue, Slender	1.00	12.63	\$2.05
Hard Fescue - Durar	1.00	12.97	\$2.93
Lupine, Mountain	0.20	0.11	\$16.00
Sheep Fescue - Covar	1.00	15.61	\$6.10
Slender Wheatgrass - San Luis	2.80	10.22	\$11.90
Muttongrass	1.00	20.66	\$34.40
Red Top	0.20	22.91	\$1.58

Tufted Hairgrass	1.00	57.39	\$11.03
Old Man of the Mountain	0.20	1.44	\$9.55
Yarrow, Western	0.20	12.16	\$8.36
Totals Seed Mix	15.90	186.48	\$161.70

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
Hydromulch, 1 ton/ac. rate {Materials Only}	1.50	ACRE	\$424.71	\$637.07
Total Mulch Materials Cost/Acre				\$637.07

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$96.80
Total Mulch Application Cost/Acre	\$96.80

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: 0.01 Cost /Acre: \$1,259.29
 Estimated Failure Rate: 25% Cost /Acre*: \$428.92
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$12.59**
 Reseeding Job Cost: **\$1.07**
 Total Job Cost: **\$14**
 Job Hours: **0.01**

REVEGETATION WORKTask description: Revegetate Caribou 300 LP area (Subalpine Mix)Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 037 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-037
 User: AME

Agency 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
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Wildrye - Arlington or Elkton	2.30	7.92	\$15.32
Nodding Brome	5.00	12.45	\$42.50
Creeping Red Fescue, Slender	1.00	12.63	\$2.05
Hard Fescue - Durar	1.00	12.97	\$2.93
Lupine, Mountain	0.20	0.11	\$16.00
Sheep Fescue - Covar	1.00	15.61	\$6.10
Slender Wheatgrass - San Luis	2.80	10.22	\$11.90
Muttongrass	1.00	20.66	\$34.40
Red Top	0.20	22.91	\$1.58

Tufted Hairgrass	1.00	57.39	\$11.03
Old Man of the Mountain	0.20	1.44	\$9.55
Yarrow, Western	0.20	12.16	\$8.36
Totals Seed Mix	15.90	186.48	\$161.70

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
Hydromulch, 1 ton/ac. rate {Materials Only}	1.50	ACRE	\$424.71	\$637.07
Total Mulch Materials Cost/Acre				\$637.07

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$96.80
Total Mulch Application Cost/Acre	\$96.80

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:	0.01	Cost /Acre:	\$1,259.29
Estimated Failure Rate:	25%	Cost /Acre*:	\$428.92
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$12.59		
Reseeding Job Cost:	\$1.07		
Total Job Cost:	\$14		
Job Hours:	0.01		

REVEGETATION WORKTask description: Revegetate Cross/Caribou (Wetland Mix)

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate Permit/Job#: M1977410
2022

PROJECT IDENTIFICATION

Task #: 038 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-038
 User: AME

Agency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

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
Alder	10	Small potted, 2.25 inch diameter (MEANS)	\$1.60	\$2.40	\$16.00
Chokecherry	20	Small potted, 2.25 inch diameter (MEANS)	\$1.63	\$2.40	\$32.60
Currant, Squaw or Wax	20	Small potted, 2.25 inch diameter (MEANS)	\$1.63	\$2.40	\$32.60
Spruce, Blue	10	Small potted, 4.00 inch diameter (MEANS)	\$2.29	\$2.40	\$22.90
Willow, Sandbar	20	Small potted, 2.25 inch diameter (MEANS)	\$1.60	\$2.40	\$32.00
Rose, Wood's	20	Small potted, 2.25 inch diameter (MEANS)	\$4.03	\$2.40	\$80.60
Totals Nursery Stock Cost / Acre					\$216.70

JOB TIME AND COST

No. of Acres:	0.65	Cost /Acre:	\$216.70
Estimated Failure Rate:	25%	Cost /Acre*:	\$216.70
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$140.86
Reseeding Job Cost:	\$35.21
Total Job Cost:	\$176
Job Hours:	0.65

REVEGETATION WORKTask description: Revegetate Cross/Caribou (Tree/Shrub Mix)Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022Permit/Job#: M1977410**PROJECT IDENTIFICATION**

Task #: 039 State: Colorado Abbreviation: None
 Date: 1/27/2022 County: Boulder Filename: M410-039
 User: AME

Agency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Black-eyed Susan	10.00	385.06	\$315.00
Penstemon, Rocky Mountain	10.00	156.74	\$295.00
Totals Seed Mix	20.00	541.80	\$610.00

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
Aspen	15	Small potted, 4.00 inch diameter (MEANS)	\$1.77	\$2.40	\$26.55
Chokecherry	10	Small potted, 4.00 inch diameter (MEANS)	\$1.78	\$2.40	\$17.80
Juniper, Rocky Mountain	15	Small potted, 4.00 inch diameter (MEANS)	\$2.29	\$2.40	\$34.35
Cinquefoil, Shrubby	10	Small potted, 4.00 inch diameter (MEANS)	\$1.78	\$2.40	\$17.80
Currant, Squaw or Wax	10	Small potted, 4.00 inch diameter (MEANS)	\$1.78	\$2.40	\$17.80
Pine, Ponderosa	40	Small potted, 4.00 inch diameter (MEANS)	\$2.29	\$2.40	\$91.60
Mahogany, Mountain	15	Small potted, 4.00 inch diameter (MEANS)	\$1.78	\$2.40	\$26.70
Rose, Wood's	10	Small potted, 4.00 inch diameter (MEANS)	\$4.18	\$2.40	\$41.80
Totals Nursery Stock Cost / Acre					\$274.40

JOB TIME AND COST

No. of Acres: 0.14 Cost /Acre: \$1,151.62
 Estimated Failure Rate: 25% Cost /Acre*: \$274.40
 *Selected Replanting Work Items: NURSERY

Initial Job Cost: **\$161.23**
 Reseeding Job Cost: **\$9.60**
 Total Job Cost: **\$171**
 Job Hours: **0.14**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Mobilization/demobilization

Site: Cross Gold Mine Permit Action: AM-02 Bond Estimate
2022 Permit/Job#: M1977410

PROJECT IDENTIFICATION

Task #: 040 State: Colorado Abbreviation: None
 Date: 1/28/2022 County: Boulder Filename: M410-040
 User: AME

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:	\$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 D7R DS XR Series II	32.01	\$81.02	\$132.49	2	\$427.02	\$264.98	\$1,000.00
CAT 14M	23.57	\$85.80	\$68.37	2	\$308.34	\$136.74	\$500.00
CAT 950H	20.13	\$38.59	\$68.37	2	\$213.92	\$136.74	\$500.00
Cat 725	24.54	\$72.63	\$68.37	2	\$282.00	\$136.74	\$500.00
Subtotals:					\$1,231.28	\$675.20	\$2,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$46.35	1	\$46.35	\$46.35
Fuel Tanker, 4x2, 170 HP	\$29.70	1	\$29.70	\$29.70
Lube Truck, 4x2, 190 HP	\$35.20	1	\$35.20	\$35.20
Light Duty Pickup, 4x4, 1 T. Crew	\$20.51	1	\$20.51	\$20.51

Subtotals: **\$131.76** **\$131.76**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>BOULDER</u>	
Total one-way travel distance:	<u>24.00</u>	miles
Average Travel Speed:	<u>30.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$27,750.85</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$210.82</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.80</u>	<u>0.80</u>
Return Time (Hours):	<u>0.80</u>	<u>0.80</u>
Loading Time (Hours):	<u>4.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>4.00</u>	<u>NA</u>
Subtotals:	<u>9.60</u>	<u>1.60</u>

JOB TIME AND COST

Total job time:	<u>19.20</u>	Hours
-----------------	--------------	-------

Total job cost:	<u>\$27,962</u>
-----------------	-----------------