



**COLORADO**  
Division of Reclamation,  
Mining and Safety  
Department of Natural Resources

July 2, 2021

Jason McGraw  
General Shale Brick, Inc.  
1845 W. Dartmouth Ave.  
Denver, CO 80110

**RE: Dawson Mine, Permit No. M-1977-392, Application for Transfer of Permit and Succession of Operators (Revision No. SO-01), Revised Bond Estimate**

Mr. McGraw:

On July 1, 2021, the Division of Reclamation, Mining and Safety (Division) received your comments on the bond estimate provided to you on June 18, 2021 for the Succession of Operators application (SO-01) submitted for the Dawson Mine. The Division has revised the bond estimate to incorporate your suggestions (see enclosed estimate). These changes did result in a reduction in costs. However, as we discussed on the phone earlier today, the recent annual update to our bond calculating software resulted in some slightly higher costs. Overall, the total bond amount was reduced from \$132,260 (June 18, 2021 estimate) to \$123,009 (July 2, 2021 estimate), which is a reduction of \$9,251.

Please review the enclosed estimate and provide any comments you might have by **July 9, 2021**. If you accept the revised estimate, please submit a statement of your acceptance and the Division will send out a formal notice of the required financial warranty amount for SO-01 approval. The Successor Operator will have 60 days from the date of the notice to post the required financial warranty for this site.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129 (office), 303-945-9014 (mobile), or by email at [amy.eschberger@state.co.us](mailto:amy.eschberger@state.co.us).

Sincerely,

Amy Eschberger  
Environmental Protection Specialist

Encl: Division's bond estimate, dated 7/2/2021

Cc: Harold Stickler, General Shale Brick, Inc.  
Sean Austin, The Denver Brick Company  
Richard Murphy, The Denver Brick Company  
Michael Cunningham, DRMS



## COST SUMMARY WORK

Task description: Cost Summary

Site: Dawson Mine

Permit Action: SO-01 2021

Permit/Job#: M1977392

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: Rev 7/2/2021

County: Elbert

Filename: M392-000

User: AME

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Push down material for East pit backfill	DOZER	1	52.13	\$16,093
002	Backfill East pit highwalls	DOZER	1	46.34	\$14,307
003b	Transport topsoil to East pit	SCRAPER1	1	6.55	\$4,320
004b	Spread topsoil on East pit area - 2.15 ac	DOZER	1	3.19	\$985
005	Revegetate East pit area - 2.15 ac	REVEGE	1	2.15	\$3,529
006	Rip West pit/stockpile area - 7.9 ac	RIPPER	1	12.41	\$2,348
007	Retopsoil West pit/stockpile area - 7.9 ac	SCRAPER1	1	7.08	\$6,930
008	Revegetate West pit/stockpile area - 7.9 ac	REVEGE	1	7.90	\$12,968
009	Interseed stockpile area North of access road	REVEGE	1	3.00	\$4,730
010	Mobilization/Demobilization	MOBILIZE	1	17.33	\$29,779
<b><u>SUBTOTALS:</u></b>				<b>158.08</b>	<b>\$95,989</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$1,939

Performance bond: 1.05

Total = \$1,008

Job superintendent: 50.00

Total = \$3,602

Profit: 10.00

Total = \$9,599

TOTAL O & P = \$16,147

CONTRACT AMOUNT (direct + O & P) = \$112,136

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$4,766

Reclamation management and/or administration: 5.00

\$5,607

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$27,020

**TOTAL BOND AMOUNT (direct + indirect) = \$123,009**

**BULLDOZER WORK**Task description: **Push down material for East pit backfill**Site: **Dawson Mine** Permit Action: **SO-01 2021** Permit/Job#: **M1977392****PROJECT IDENTIFICATION**

Task #: 001 State: Colorado Abbreviation: None  
 Date: Rev 7/2/2021 County: Elbert Filename: M392-001  
 User: AME

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

Basic Machine: Cat D9T - 9SU  
 Horsepower: 405  
 Blade Type: Semi-Universal  
 Attachment: NA  
 Shift Basis: 1 per day  
 Data Source: (CRG)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$126.01</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$141.41</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour: \$308.72  
 Total Fleet Cost/Hour: **\$308.72**

**MATERIAL QUANTITIES**

Initial Volume: 17,778  
 Swell factor: 1.250  
 Loose volume: **22,223 LCY**

Source of estimated volume: Use material from hill at north edge of pit  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION**

Average push distance: 250 feet  
 Unadjusted hourly production: 546.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -5 %  
 Average site altitude: 5,980 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>1.200</u>	<u>(SLOT)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>
Job efficiency:	<u>0.830</u>	<u>(1 SHIFT/DAY)</u>

Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7808

Adjusted unit production: 426.32 LCY/hr

Adjusted fleet production: **426.32** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.724/LCY

Total job time: **52.13** Hours

Total job cost: **\$16,093**

**BULLDOZER WORK**Task description: **Backfill East pit highwalls**Site: **Dawson Mine**Permit Action: **SO-01 2021**Permit/Job#: **M1977392****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **Rev 7/2/2021**County: **Elbert**Filename: **M392-002**User: **AME**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$308.72**Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: **17,778**Swell factor: **1.000**Loose volume: **17,778 LCY**Source of estimated volume: **Use material from hill at north edge of pit, 20'H x 800'L**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **250 feet**Unadjusted hourly production: **546.0 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **5 %**Average site altitude: **5,980 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:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)

Spoil pile:	0.900	(SSD-FC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7026

Adjusted unit production: 383.62 LCY/hr

Adjusted fleet production: **383.62** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.805/LCY

Total job time: **46.34** Hours

Total job cost: **\$14,307**

**SCRAPER TEAM WORK**Task description: Transport topsoil to East pitSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 003BState: ColoradoAbbreviation: NoneDate: 7/2/2021County: ElbertFilename: M392-003bUser: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	Cat D6T LGP
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 Gal.

**Cost Breakdown:**

## Scraper Work Team

## Support Equipment

## Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	50	50
Ownership cost/hour:	\$147.77	NA	\$66.27	NA	\$85.80	\$11.70
Operating cost/hour:	\$141.36	NA	\$66.34	NA	\$30.20	\$9.00
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$320.03	NA	\$173.91	NA	\$144.56	\$20.70
Number of Units:	1	0	1	0	1	1
Group Subtotals:	Work: \$320.03		Support: \$173.91		Maint: \$144.56	\$20.70

Total work team cost/hour: **\$659.20****MATERIAL QUANTITIES**Initial volume: 1,735

CCY

Swell factor: 1.215Loose volume: **2,108**

LCY

Source of estimated volume: Replace 6 in on 2.15 ac, 1800 ft haulSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 5980 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	5.00	3.00	8.00	783	2.32

Haul Time: 2.32 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	-5.00	3.00	-2.00	2920	0.67

Return Time: 0.67 minutesTotal Scraper team cycle time: 4.49 minutesAdjusted for job conditions: 321.65 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 321.65 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 321.65 LCY/HourUnadjusted unit production/hour: 387.53 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 6.55 HoursUnit cost: \$2.049 /LCYTotal job cost: \$4,320



**BULLDOZER WORK**Task description: Spread topsoil on East pit area - 2.15 acSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 004BState: ColoradoAbbreviation: NoneDate: 7/2/2021County: ElbertFilename: M392-004bUser: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$308.72Total Fleet Cost/Hour: \$308.72**MATERIAL QUANTITIES**Initial Volume: 1,735Swell factor: 1.000Loose volume: 1,735 LCYSource of estimated volume: Replace 6 inches on 2.15 acSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 546.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 5 %Average site altitude: 5,980 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.200	(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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9959

Adjusted unit production: 543.76 LCY/hr

Adjusted fleet production: **543.76** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.568/LCY

Total job time: **3.19** Hours

Total job cost: **\$985**

**REVEGETATION WORK**Task description: Revegetate East pit area - 2.15 acSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: Rev 7/2/2021County: ElbertFilename: M392-005User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	150.00	pound	\$0.36	\$54.00
Triple superphosphate, 0-46-0	110.00	pound	\$0.46	\$50.60
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$104.60</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$38.77</b>

**TILLING**

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

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	2.50	8.09	\$22.19
Sideoats Grama - Butte	1.80	5.91	\$16.20
Pubescent Wheatgrass - Luna	3.60	7.44	\$12.24
Western Wheatgrass - Arriba	6.40	16.16	\$41.60
<b>Totals Seed Mix</b>	<b>14.30</b>	<b>37.60</b>	<b>\$92.23</b>

**Application**

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

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$307.02	\$460.53
<b>Total Mulch Materials Cost/Acre</b>				<b>\$463.51</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$240.58</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 2.15                      Cost /Acre: \$1,576.65  
 Estimated Failure Rate: 20%                      Cost /Acre\*: \$324.23  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$3,389.80**  
 Reseeding Job Cost: **\$139.42**  
 Total Job Cost: **\$3,529**  
 Job Hours: **2.15**

## BULLDOZER RIPPING WORK

Task description: Rip West pit/stockpile area - 7.9 ac

Site: Dawson Mine

Permit Action: SO-01 2021

Permit/Job#: M1977392

### PROJECT IDENTIFICATION

Task #: 006

State: Colorado

Abbreviation: None

Date: Rev 7/2/2021

County: Elbert

Filename: M392-006

User: AME

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP  
Ripper Attachment: 3-Shank Ripper

Horsepower: 200  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$66.27	NA
Operating Cost/Hour:	\$66.34	100
Ripper Ownership Cost/Hour:	\$9.32	NA
Ripper Operating Cost/Hour:	\$5.93	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$189.16	
Total Fleet Cost/Hour:	<b>\$189.16</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 7.90 acres Rip Depth (ft): 1.50 Volume: 19,118 BCY or CCY

Source of estimated quantity: DRMS

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 1.64 feet/pass  
Average Ripping Width: 6.58 feet/pass  
Average Ripping Length: 550.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.767 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.767 Acres/hr  
Site Altitude: 5,980 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.64 Acres/hr  
Adjusted Hourly Fleet Production: **0.64** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **12.41** Hours

Unit cost: \$297.175 Per acre Total job cost: **\$2,348**

**SCRAPER TEAM WORK**Task description: **Retopsoil West pit/stockpile area - 7.9 ac**Site: **Dawson Mine**Permit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: Rev 7/2/2021County: ElbertFilename: M392-007User: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	Cat D6T LGP
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 Gal.

**Cost Breakdown:**

## Scraper Work Team

## Support Equipment

## Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	50	50
Ownership cost/hour:	\$147.77	NA	\$66.27	NA	\$85.80	\$11.70
Operating cost/hour:	\$141.36	NA	\$66.34	NA	\$30.20	\$9.00
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$320.03	NA	\$173.91	NA	\$144.56	\$20.70
Number of Units:	2	0	1	0	1	1
Group Subtotals:	Work: \$640.06		Support: \$173.91		Maint: \$165.26	

Total work team cost/hour: **\$979.23****MATERIAL QUANTITIES**Initial volume: 6,373

CCY

Swell factor: 1.215Loose volume: **7,743**

LCY

Source of estimated volume: Replace 6 in on 7.9 acSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 5980 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	5.00	3.00	8.00	783	0.85

Haul Time: 0.85 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	-5.00	3.00	-2.00	2920	0.29

Return Time: 0.29 minutesTotal Scraper team cycle time: 2.64 minutesAdjusted for job conditions: 547.05 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,094.09 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,094.09 LCY/HourUnadjusted unit production/hour: 659.09 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 7.08 HoursUnit cost: \$0.895 /LCYTotal job cost: \$6,930

**REVEGETATION WORK**Task description: Revegetate West pit/stockpile area - 7.9 acSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 008State: ColoradoAbbreviation: NoneDate: Rev 7/2/2021County: ElbertFilename: M392-008User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	150.00	pound	\$0.36	\$54.00
Triple superphosphate, 0-46-0	110.00	pound	\$0.46	\$50.60
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$104.60</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$38.77</b>

**TILLING**

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

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	2.50	8.09	\$22.19
Sideoats Grama - Butte	1.80	5.91	\$16.20
Pubescent Wheatgrass - Luna	3.60	7.44	\$12.24
Western Wheatgrass - Arriba	6.40	16.16	\$41.60
<b>Totals Seed Mix</b>	<b>14.30</b>	<b>37.60</b>	<b>\$92.23</b>

**Application**

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

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$307.02	\$460.53
<b>Total Mulch Materials Cost/Acre</b>				<b>\$463.51</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$240.58</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 7.9                      Cost /Acre: \$1,576.65  
 Estimated Failure Rate: 20%                      Cost /Acre\*: \$324.23  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$12,455.54**  
 Reseeding Job Cost: **\$512.28**  
 Total Job Cost: **\$12,968**  
 Job Hours: **7.90**

**REVEGETATION WORK**Task description: Interseed stockpile area North of access roadSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**Task #: 009State: ColoradoAbbreviation: NoneDate: 6/18/2021County: ElbertFilename: M392-009User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	150.00	pound	\$0.36	\$54.00
Triple superphosphate, 0-46-0	110.00	pound	\$0.46	\$50.60
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$104.60</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$38.77</b>

**TILLING**

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

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	2.50	8.09	\$22.19
Sideoats Grama - Butte	1.80	5.91	\$16.20
Pubescent Wheatgrass - Luna	3.60	7.44	\$12.24
Western Wheatgrass - Arriba	6.40	16.16	\$41.60
<b>Totals Seed Mix</b>	<b>14.30</b>	<b>37.60</b>	<b>\$92.23</b>

**Application**

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

## MULCHING and MISCELLANEOUS

## Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$307.02	\$460.53
<b>Total Mulch Materials Cost/Acre</b>				<b>\$463.51</b>

## Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$240.58</b>

## NURSERY STOCK PLANTING

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

## JOB TIME AND COST

No. of Acres:	<u>3</u>	Cost /Acre:	<u>\$1,576.65</u>
Estimated Failure Rate:	<u>0%</u>	Cost /Acre*:	<u>\$324.23</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u><b>\$4,729.95</b></u>		
Reseeding Job Cost:	<u><b>\$0.00</b></u>		
Total Job Cost:	<u><b>\$4,730</b></u>		
Job Hours:	<u><b>3.00</b></u>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Mobilization/DemobilizationSite: Dawson MinePermit Action: SO-01 2021Permit/Job#: M1977392**PROJECT IDENTIFICATION**

Task #: 010 State: Colorado Abbreviation: None  
 Date: Rev 7/2/2021 County: Elbert Filename: M392-010  
 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:**

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

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$126.01	\$147.95	1	\$273.96	\$147.95	\$250.00
Cat D6T LGP	26.87	\$66.27	\$132.49	1	\$198.76	\$132.49	\$250.00
Cat D6T LGP	28.63	\$75.59	\$132.49	1	\$208.08	\$132.49	\$250.00
Cat 631G	52.50	\$147.77	\$147.95	2	\$591.44	\$295.90	\$500.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$14.98	\$68.37	1	\$83.35	\$68.37	\$250.00

Subtotals: **\$1,586.11** **\$913.94** **\$2,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	\$29.70	1	\$29.70	\$29.70

Subtotals: **\$29.70** **\$29.70**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: AURORA  
 Total one-way travel distance: 60.00 miles  
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost \* \$29,700.12  
 \* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$79.20  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.33	1.33
Return Time (Hours):	1.33	1.33
Loading Time (Hours):	3.00	NA
Unloading Time (Hours):	3.00	NA
Subtotals:	8.67	2.67

**JOB TIME AND COST**

Total job time: 17.33 Hours

Total job cost: \$29,779