

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

### SO-01 Bond Estimate / Dawson Mine / M1977-392

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Fri, Jun 18, 2021 at 6:09 PM

To: Harold Stickler <harold.stickler@generalshale.com>

Cc: "Jason.McGraw@generalshale.com" < jason.mcgraw@generalshale.com>, Sean Austin < saustin@brick.com>, Richard Murphy <rmurphy@brick.com>

Mr. Stickler,

I conducted an inspection of the Dawson Mine on 6/17 and have reassessed the required financial warranty for reclaiming the site in accordance with the approved plan.

Please take a look at the attached bond estimate and get any comments you might have to me within 2 weeks, by July 2.

If you have no comments or questions and accept the bond estimate as-is, please let me know as soon as you can.

Once I issue the surety increase for the new required financial warranty amount, General Shale Brick will have 60 days to post the bond. If we don't receive the bond by that deadline, the SO application is terminated and the current operator is issued the surety increase.

It's going to be a bit longer before I can get to writing the inspection report, but I wanted to go ahead and get the bond estimate to you now so you can be looking it over.

Feel free to reach out with any questions.

Thanks,

**Amy Eschberger Environmental Protection Specialist** 



I am working remotely and can be reached at 303-945-9014.

O: 303.866.3567 x 8129 | F: 303.832.8106 | C: 303.945.9014 1313 Sherman Street, Room 215, Denver, CO 80203 Amy.Eschberger@state.co.us | https://drms.colorado.gov



### **COST SUMMARY WORK**

Ta	ask descrip	otion:	Cost Summary					
ite: _	Dawson N	Mine	Pe	rmit Action:	SO-01 2021		Permit/Job#: M1977392	
<u>PR</u>	OJECT	IDENTIFIC	CATION					
	Task #: Date: User:	000 6/18/2021 AME	State: County:	Colorado Elbert			Abbreviation: Filename:	None M392-000
	Age	ency or organiz	zation name:DI	RMS				
ТА	CIZ I ICT	r (DIDECT)	COCTC)					
<u>1 A</u>	2N L121	(DIRECT	<u>COS18)</u>					
					-			
sk	Descrin	ntion			Form Used	Fleet Size	Task Hours	Cost
	<b>Descrip</b> Push do		or East pit backfill		Form Used DOZER	Fleet Size		Cost \$16,996
	Push do		or East pit backfill walls		Used		Hours	
	Push do Backfill	wn material fo	walls		Used DOZER	Size	<b>Hours</b> 52.13	\$16,996
,	Push do Backfill Haul top	wn material for East pit hight psoil to East p	walls it		Used DOZER DOZER	Size	<b>Hours</b> 52.13 46.34	\$16,996 \$15,110
	Push do Backfill Haul top Retopso	wn material for East pit hight psoil to East poil East pit area	walls it a - 2.15 ac		Used DOZER DOZER TRUCK1	Size  1 1 1	Hours 52.13 46.34 5.54	\$16,996 \$15,110 \$4,321
-	Push do Backfill Haul top Retopso Reveget	own material for East pit high Posoil to East posil East pit area East pit area East pit area	walls it a - 2.15 ac rea - 2.15 ac		Used DOZER DOZER TRUCK1 SCRAPER1	Size	52.13 46.34 5.54 2.28	\$16,996 \$15,110 \$4,321 \$1,389
3	Push do Backfill Haul top Retopso Reveget Rip Wes	wn material for East pit high psoil to East poil East pit area tate East pit area st pit/stockpile	walls it a - 2.15 ac rea - 2.15 ac	c	Used DOZER DOZER TRUCK1 SCRAPER1 REVEGE	Size	52.13 46.34 5.54 2.28 2.15	\$16,996 \$15,110 \$4,321 \$1,389 \$3,182
-	Push do Backfill Haul top Retopso Reveget Rip We: Retopso	wn material for East pit high psoil to East poil East pit areatate East pit areatate East pit areatate East pit was pit/stockpile pil West pit/stockpile pit	walls it a - 2.15 ac rea - 2.15 ac e area - 7.9 ac		Used DOZER DOZER TRUCK1 SCRAPER1 REVEGE RIPPER	Size	52.13 46.34 5.54 2.28 2.15 10.64	\$16,996 \$15,110 \$4,321 \$1,389 \$3,182 \$3,746
sk 2 3 4 5 7 8	Push do Backfill Haul top Retopso Reveget Rip Wes Retopso Reveget	ewn material for East pit high pool to East poil East pit area tate East pit area st pit/stockpile oil West pit/stocktate West pit/s	walls it a - 2.15 ac rea - 2.15 ac e area - 7.9 ac ockpile area - 7.9 ac	ac	Used DOZER DOZER TRUCK1 SCRAPER1 REVEGE RIPPER SCRAPER1	Size  1 1 1 1 1 1 1 1 1 1 1 1	Hours 52.13 46.34 5.54 2.28 2.15 10.64 7.08	\$16,996 \$15,110 \$4,321 \$1,389 \$3,182 \$3,746 \$6,581

## **INDIRECT COSTS**

# OVERHEAD AND PROFIT:

Liability insurance: 2.02 Total = \$2,092 Total = Performance bond: 1.05 \$1,088 Job superintendent: 50.00 Total = \$3,478 Profit: 10.00 Total = \$10,359

TOTAL O &  $P = \frac{1}{\$17,016}$ 

CONTRACT AMOUNT (direct + O & P) =  $\boxed{\$120,604}$ 

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500 Total = \$500
Engineering work and/or contract/bid preparation: 4.25 Total = \$5,126
Reclamation management and/or administration: 5.00 \$6,030

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$28,672

TOTAL BOND AMOUNT (direct + indirect) = \$132,260

# **BULLDOZER WORK**

Task description:	Push do	wn material for East	pit backfill		
: Dawson Mine		Permit Action:	SO-01 2021	Permit/Job#:	M1977392
PROJECT IDEN	NTIFICATION				
Task #: 001		State: Colorado		Abbreviation:	None
Date: $\frac{6/18}{2}$	2021	County: Elbert		Filename:	M392-001
User: AME		·		-	
Agency or	organization nar	ne: DRMS			
HOURLY EQUI	PMENT COST	<u>r</u>			
Basic Machine:	Cat D9T - 9SU		<u> </u>		
Horsepower:	405	1	<u> </u>		
Blade Type: Attachment:	Semi-Universa NA	.l.	_		
Shift Basis:	1 per day		<u> </u>		
Data Source:	(CRG)				
	<u> </u>		<u> </u>		
Cost Breakdown:			<u>Utilization %</u>		
Ownership Cost/H	Iour:	\$156.88	NA		
Operating Cost/H		\$127.87	100		
Ripper own. Cost/H		\$0.00	NA		
Ripper op. Cost/H	lour:	\$0.00	0		
Operator Cost/H	lour:	\$41.30	NA		
MATERIAL QU Initial Volume: Swell factor:	17,778 1.250				
Loose volume:	22,223 LCY				
Source of estimated Source of estimated	_	Use material from hill Cat Handbook	at north edge of pit		
HOURLY PROI	<u>DUCTION</u>				
Average push distar Unadjusted hourly p		0 feet 6.0 LCY/hr			
Materials consisten	cy description:	Compacted fill or en	mbankment 0.9		
Average push gradi Average site altitud		t			
Material weight:	2,650 lbs	/LCY			
Weight description:	Decompo	osed rock - 25% Rock,	, 75% Earth		
Job Condition Corre			Source		
	erator Skill:	1.000	(EXCL.)		
	onsistency:	0.900	(CAT HB))		
Dozii	ng method:	1.200	(SLOT)		
	Visibility:	1.000	(AVG.)		

Job efficiency:

0.830

(1 SHIFT/DAY)

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: \$0.765/LCY

Total job time: 52.13 Hours 516,996

# **BULLDOZER WORK**

Task description:	Backfill East pit highwalls			
e: Dawson Mine	Permit Action:	SO-01 2021	Permit/Job#:	M1977392
PROJECT IDENTIFIC	<u>CATION</u>			
Task #: 002	State: Colorado		Abbreviation:	None
Date: 6/18/2021	County: Elbert		Filename:	M392-002
User: AME				
Agency or organi	ization name: DRMS			
HOURLY EQUIPMEN	NT COST			
Basic Machine: Cat l	D9T - 9SU			
Horsepower: 405				
• • • • • • • • • • • • • • • • • • • •	i-Universal	<u> </u>		
Attachment: NA	. 1.	_		
Shift Basis: 1 per	·	<u>—</u>		
Data Source: (CRO	J)	<del></del>		
Cost Breakdown:		Litilization 0/		
Ownership Cost/Hour:	\$156.88	<u>Utilization %</u> NA		
Operating Cost/Hour:	\$127.87	100		
Ripper own. Cost/Hour:	\$0.00	NA	<del></del>	
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.30	NA		
Total unit Cost/Hour:	\$326.04			
Total Fleet Cost/Hour:	\$326.04			
MATERIAL QUANTI				
Initial Volume: 17,77 Swell factor: 1.000				
	8 LCY			
Source of estimated volum Source of estimated swell i		1 at north edge of pit, 20'1	H x 800′L	
HOURLY PRODUCT	<u>ION</u>			
Average push distance:	250 feet			
Unadjusted hourly product	tion: 546.0 LCY/hr			
Materials consistency desc	eription: Loose stockpile 1.2	2		
Average push gradient: Average site altitude:	5 % 5,980 feet			
Material weight:	2,650 lbs/LCY		_	
Weight description:	Decomposed rock - 25% Rock	z, 75% Earth		
Job Condition Correction I	Factor	Source		
Operator S		(EXCL.)		
Material consister	ncy: 1.200	(CAT HB)		
Dozing meth		(GEN.)		
Visibi	lity: 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: \$0.850/LCY

Total job time: 46.34 Hours
Total job cost: \$15,110

# TRUCK/LOADER TEAM WORK

Task description:	Haul top	psoil to East pit								
Site: <b>Dawson Mine</b>		Permit Actio	on: SO-01 2021		Permit/Job#:	M1977392				
PROJECT IDEN	TIFICATION									
Task #: 003		State: Colora	ido	Ab	breviation:	None				
Date: 6/18/2	021	County: Elbert			Filename:	M392-003				
User: AME										
Agency or	organization nan	ne: DRMS								
<b>HOURLY EQUIP</b>	PMENT COST	<u>r</u>		Shift bas	is: 1 per day					
			Equipment Descri	ption						
T	Truck Loader Team -Truck: Cat 730									
Loader: CAT 966H Support Equipment -Load Area: NA										
Suppo			D6T LGP							
Road Ma	intenance –Mote		Γ 16M							
	-Wa	ter Truck: Wat	er Tanker, 3,500	Gal.						
Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment	Mainte	nance Equipment				
	Truck	Loader	Load Area	Dump Area	Motor Grade	er Water Truck				
%Utilization-machine:	100	100	NA	100	10	00 100				
Ownership cost/hour:	\$58.32	\$42.87	NA	\$71.95	\$55.7	79 \$14.71				
Operating cost/hour:	\$49.78	\$53.22	NA	\$58.55	\$60.0	08 \$30.58				
%Utilization-riper:	NA	0	NA	NA	N	A NA				
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.0	\$0.00				
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.0	\$0.00				
Operator cost/hour:	\$32.54	\$40.71	NA	\$41.30	\$28.5	\$0.00				
Unit Subtotals:	\$140.64	\$136.79	NA	\$171.79	\$144.4	\$45.29				
Number of Units:	2	1	0	1		1 1				
Group Subtotals:	Work:	\$418.07	Support:	\$171.79	Mair	nt: \$189.72				
Total work team cos		<u> </u>								
MATERIAL QUA	<u>ANTITIES</u>									
Initial volume:	1,735	CCY	Swell	factor: 1.215						
Loose volume:	2,108	B LCY								
	Loose volume:  Source of estimated volume: Source of estimated swell factor: Material Purchase Cost:  LCY  Replace 6 in on 2.15 ac, 1,800 ft haul Cat Handbook \$0.00									

# **HOURLY PRODUCTION**

Truck Capacity:
Truck Payload (weight) Basis:

Material weight:	1,600	Pounds/LCY
Description:	Top Soil	_
Rated Payload:	62,000	Pounds
Payload Capacity:	38.75	LCY

Total Cost: \$0.00

Truck Maneuver and Dump Time:

Truck Bed (volume) Basi Struck Volume: Heaped Volume: Average Volume: Adjusted Volume:	17.10 22.10 19.60 22.10	LCY LCY LCY LCY LCY Based on Number of	Loader Passes:	22.00	LCY	
Loading Tool Capacity			<del>-</del>		<del></del>	
Loading 1001 Capacity			Ruck	et Size Class: N	Δ	
Rated Capacity	y: 5.000	LCY (heaped)	Duck	et Size Class. N	A	_
Bucket Fill Factor		Other - rock/dirt	mixtures (100-	120%) 1.100		_
Adjusted Capacity		LCY	inixuos (100	120,0) 1.100		_
J 1	· · ·					
Job Condition Correction	ons:	Sit	te Altitude (ft.): 59	980 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				
<b>Loading Tool Cycle Tir</b>	me: Numbe	r of Loading Tool Pas	ses Required to F	ill Truck:	41	passes
Excavators and Front Sh	ovels:					
Machine Cycle Tin	<del></del>	n Rating: NA				
•	lue within this Bas					
	rs – Material Desci					
Cycle Time Elements (m						
Load: NA	N	Ianeuver: NA		Dump: 0.100	•	
Load. NA		Tancuver.		Dump. 0.100	<u>'</u>	
Wheel and Track Load	ers - Unadjusted Ba	asic Loader Cycle Tin	ne (load, dump, m	aneuver):0	.500 min	utes
Cycle Time Facto	ors			Factor (min.)	Source	
Materi		ial 0.02		0.020	(Cat HB)	=
Stockpi	le: Dumped by t	ruck 0.02		0.020	(Cat HB)	_
Truck Ownershi	ip: Common ow	nership of trucks and	loaders -0.04	-0.040	(Cat HB)	
Operation				-0.040	(Cat HB)	<u> </u>
Dump Targe	et: Nominal targ			0.000	(Cat HB)	_
		Net Cycle Tim	_	-0.040	minutes	
		Adjusted Loade		0.460	minutes	
		Net Load 11	me per Truck:	1.480	minutes	
Truck Cycle Time:						
Truck Exchange T	ime: 0.60	Minutes	Adjusted f	for site altitude:	0.600	Minutes
Truck Load T	ime: 1.480	Minutes	Adjusted f	or site altitude:	1.480	Minutes

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

Minutes

1.00

1.000

Minutes

Adjusted for site altitude:

1800.00

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	5.00	3.00	8.00	902	2.044

Haul Time: 2.044 minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min)

3.00

-5.00

Return Time: 0.637 minutes
Total Truck Cycle Time: 5.761 minutes

3080

0.637

Loading Tool unit

Production 634.62 LCY/Hour Adjusted for job efficiency: 526.73 LCY/Hour Truck Unit Production 229.13 LCY/Hour Adjusted for job efficiency: 190.18 LCY/Hour

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

Adjusted hourly truck team production: 380.35 LCY/Hour Adjusted single truck/loader team production: 380.35 LCY/Hour Adjusted multiple truck/loader team production: 380.35 LCY/Hour

-2.00

## **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 5.54
 Hours

 Unit cost:
 \$2.050
 /LCY
 Total job cost:
 \$4,321

# **SCRAPER TEAM WORK**

Task description:	Retopsoil I	East pit a	rea - 2.1	.5 ac			
Site: <b>Dawson Mine</b>		Permi	t Action:	SO-01 2021	Peri	mit/Job#: <u>M1977</u>	7392
PROJECT IDENT	<u> </u>						
Task #: 004	S	State: (	Colorado		Abbrey	viation: None	
Date: 6/18/20	021 Co	unty:	Elbert		Fil	ename: M392-0	004
User: AME							
Agency or o	organization name:	DRM	IS				
HOURLY EQUIP	PMENT_			COSTS	hift basis: 1 per d	<u>ay</u>	
				ent Description			
	-Scraper: Cat 631G						
Suppo	rt Equipment -Loa	Dozer:	NA NA				
Барро		p Area:	Cat D6				
Road Ma	intenance –Motor		CAT 1				
	-Water	Truck:	Water'	Tanker, 3,500 Gal			
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	nment	Maintenance	Equipment
<u> </u>	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		NA	NA	50	50	50
Ownership cost/hour:	\$144.75		NA	NA	\$71.95	\$55.79	\$14.71
Operating cost/hour:	\$145.83		NA	NA	\$29.27	\$30.04	\$15.29
%Utilization-ripper:	NA		NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA		NA	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA		NA	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90		NA	NA	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$321.47		NA	NA	\$142.52	\$114.39	\$30.00
Number of Units:	1		0	0	1	1	1
Group Subtotals:	Work:	\$321	1.47	Support:	\$142.52	Maint:	\$144.39
Total work team cost	/hour: <b>\$608.38</b>						
MATERIAL QUA	ANTITIES						
Initial volume:	1,735		CCY	Swell fac	tor: 1.000		
Loose volume:	1,735		LCY				
Sou	rce of estimated vo	lume:	Replace	6 in on 2.15 ac			
Source of	of estimated swell i	factor:	Cat Han	dbook			
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	1,600 lbs/LCY			Struck	Volume: 24.00	LO	CY
Material description:	Top Soil			Heaped	Volume: 34.00	LO	CY
Rated Payload:	81,600 pounds			Average			CY
Payload Capacity:	51.00 LCY			Adjusted (	Capacity: <b>29.00</b>	LO	CY

Site Altitude: 5980 feet

Cyc	le '	Time	
-----	------	------	--

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

	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 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	150.00	2.00	3.00	5.00	1343	0.18

Haul Time: **0.18** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	150.00	-2.00	3.00	1.00	2937	0.22

		(%)	(%)	(%)		(min)		
1	150.00	-2.00	3.00	1.00	2937	0.22		
				Return Time:	0.22	minutes		
			Total Scrape	team cycle time:	1.90	minutes		
			Adjusted f	or job conditions:	760.11	LCY/Hour		
			Selected Nu	mber of Scrapers:	1	Scraper(s)		
	Adjusted	d single scrap	er team (unit) h	ourly production:	760.11	LCY/Hour		
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	760.11	LCY/Hour		
Optimal	Unadjusted unit production/hour: 915.79 LCY/Hour Optimal Number of Scrapers per push dozer:							
JOB TI	ME AND COST							
Fleet	size: 1	Team(s)	To	otal job time:	2.28	Hours		

ricci sizc.		ream(s)	Total job time.	2.20	_ 110
Unit cost:	\$0.800	/LCY	Total job cost:	\$1,389	_

# **REVEGETATION WORK**

	Permit Action: SO-01 2021 Permit/Job#:				: <u>M1977392</u>
ROJECT IDENTIFICAT	<u> TION</u>				
Task #:005		Colorado			None
Date: 6/18/2021 User: AME	County:E	Elbert		Filename:	M392-005
	_	~			
Agency or organizati	on name: DRM	S			
ERTILIZING					
aterials					
		Units /		G . / TI . !	G
Description		Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0 Triple superphosphate, 0-46		150.00	pound	\$0.34 \$0.43	\$50.25 \$46.75
Triple superphosphate, 0-40	D-U	110.00	pound	\$0.43	\$40.75
				<b>Total Fertilizer</b>	
				Materials	
				Cost/Acre	\$97.00
Description  Tractor toward approacher (MI)	EANS 22 01 00 12	0120)			
	EANS 32 01 90.13	0120)			<b>Cost /Acre</b> \$37.03
Description	EANS 32 01 90.13	,	Fertilizer Aj	oplication Cost/Acre	
Description	EANS 32 01 90.13	,	Fertilizer Ap	oplication Cost/Acre	\$37.03
<b>Description</b> Tractor towed spreader (MI	EANS 32 01 90.13	,	Fertilizer Ap	oplication Cost/Acre	\$37.03
Description Tractor towed spreader (MI  ILLING  Description Disc harrowing, 6" deep (MI)	1EANS 32 91 13.2	Total	Fertilizer Aj	oplication Cost/Acre	\$37.03 \$37.03 Cost /Acre \$107.16
Description Tractor towed spreader (MI  ILLING  Description	1EANS 32 91 13.2	Total	Fertilizer A <sub>l</sub>	oplication Cost/Acre	\$37.03 \$37.03

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
Totals Seed Mix	14.30	37.60	\$92.23

Ap	olication	

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

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$301.00	\$451.50
Total Mulch Materials Cost/Acre				\$451.50

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Power mulcher (MEANS 32 91 13.16 0350)		\$101.93
	<b>Total Mulch Application Cost/Acre</b>	\$172.10

## **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres: 2.15 Cost /Acre: \$1,382.62

Estimated Failure Rate: 30% Cost /Acre\*: \$324.23

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$2,972.63

Reseeding Job Cost: \$209.13

Total Job Cost: Job Hours: \$3,182

2.15

# **BULLDOZER RIPPING WORK**

	Task description:	Rip	West pit/stockpile area -	· 7.9 ac					
Site	: Dawson Mine	!	Permit Action:	SO-01 2021	Pe	rmit/Job#:	M19773	92	
	PROJECT ID	ENTIFICATI	<u>ON</u>						
	Task #: 006	<b>5</b>	State: Colorado		Abbr	eviation:	None		
		8/2021	County: Elbert			ilename:	M392-00	16	
	User: AM								
	Agency	or organization	name: DRMS						
	HOURLY EQ	UIPMENT C	<u>OST</u>						
	Basic	Machine: Car	D9T - 9SU	<u></u>	Horsepower:		405		
	Ripper Att	achment: 3-S	hank Ripper		Shift Basis:		er day		
					Data Source:	((	CRG)		
	Cost Breakdown:	<u>:</u>		ſ					
		O	t /I I	¢156.00	Utilization %				
		Ownership Co		\$156.88 \$127.87	NA 100				
	Rinn	er Ownership Co		\$127.87	NA				
		per Operating Co		\$10.23	100				
	rı	Operator C		\$41.30	NA				
		Total Unit C	ost/Hour:	\$351.87					
		Total Fleet Co	ost/Hour: \$35	1.87					
	MATERIAL (	<b>UANTITIES</b>	Sele	ected estimating	method: Area				
	Alternate Method	ds:		S					
Seismic:	NA		Bank Volume:	NA	BCY		NA		
Area:	7.90	acres	Rip Depth (ft):	1.50		9,118		BCY or CC	
		Source of estin	mated quantity: DRMS	}					
	HOURLY PRO	ODUCTION							
	Seismic:	_							
	<u>Bersiiie.</u>		Seismic Velocity:	NA	feet/seco	ond			
	<b>A</b>		, <u> </u>						
	Area:	Averse	ge Ripping Depth:	2.63	feet/pass				
			e Ripping Width:	7.67	feet/pass				
			e Ripping Length:	550.00	feet/pass				
			age Dozer Speed:	88.00	feet/min				
		Average	Maneuver Time:	0.25	minutes/	pass			
		Produc	tion per unit area:	0.894	acres/ho	ur			
	Job Condition Co	orrection Factors	<u>3</u>						
	Un	adjusted Hourly	Unit Production:	0.894	Acres/hr				
			Site Altitude:	5,980	feet				
			Altitude Adj:	1.00	(CAT H				
			Job Efficiency:	0.83	(1 shift/c	•			
			Net Correction:	0.83	multiplie	er			
			Hourly Unit Production:	0.74	Acres/hr				
		Adjusted	Hourly Fleet Production:	0.74	Acres/hr				
	JOB TIME AND COST								
	Fleet size:	1	Grader(s)	Total job tim	e: <u>1</u>	0.65	Но	urs	
	Unit cost:	\$474.238	Per acre	Total job cos	st: \$3	3,746			

Payload Capacity: 51.00 LCY

# **SCRAPER TEAM WORK**

Site: Dawson Mine		Permi	t Action	SO-01 2021	Perr	nit/Job#:	M19773	92
Dawson wine		1 CIIII	t / tetion.	50 01 2021		mu 300#.	14117773	<u>) 2</u>
PROJECT IDENT	<u> </u>							
Task #: 007	•	State: (	Colorado		Λhhras	viation:	None	
Date: 6/18/20			Elbert				M392-00	7
User: AME		<u></u>				_	1,10,2 00	<u>.                                    </u>
Agency or o	organization name:	DRM	IS					
HOURLY EQUIP	MENT			COSTS	hift basis: 1 per d	<u>ay</u>		
		Equipme	ent Description					
		Scraper:	Cat 631	G				
		-Dozer:	NA NA					
Suppo	rt Equipment -Loa Dum-	n Area:	Cat D6	ГLGP				
Road Mai	intenance –Motor		CAT 16					
	-Water	Truck:	Water T	Canker, 3,500 Gal				
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	nment	Maint	enance E	quinment
Cost Bicardown.	Scraper	Do	zer	Load Area	Dump Area	Motor C		Water Truck
%Utilization-machine:	100		NA	NA	50		50	50
Ownership cost/hour:	\$144.75		NA	NA	\$71.95	\$	555.79	\$14.71
Operating cost/hour:	\$145.83		NA	NA	\$29.27	\$	30.04	\$15.29
%Utilization-ripper:	NA		NA	NA	NA		NA	NA
Ripper own. cost/hour:	NA		NA	NA	\$0.00		\$0.00	\$0.00
Ripper op. cost/hour:	NA		NA	NA	\$0.00		\$0.00	\$0.00
Operator cost/hour:	\$30.90		NA	NA	\$41.30	\$	528.56	\$0.00
Unit Subtotals:	\$321.47		NA	NA	\$142.52	\$1	14.39	\$30.00
Number of Units:	2		0	0	1		1	1
Group Subtotals:	Work:	\$642	2.94	Support:	\$142.52	N	Maint:	\$144.39
Total work team cost	/hour: <b>\$929.85</b>							
	<del> </del>							
MATERIAL QUA	<u>NTITIES</u>							
Initial volume:	6,373		CCY	Swell fact	tor: 1.215			
Loose volume:	7,743		LCY			<del></del>		
Sour	rce of estimated vo	olume:	Replace	6 in on 7.9 ac				
Source of	of estimated swell	factor:	Cat Hand					
HOURLY PRODI	UCTION							
				Scraper Be	owl (volume) Basi	is:		
Material weight:	1,600 lbs/LCY			-	Volume: 24.00	_	LC	V
Material description:	Top Soil			Heaped			LC'	
Rated Payload:	81,600 pounds			Average				

LCY

Adjusted Capacity: 29.00

Site Altitude: 5980 feet

Cyc	le '	Time	
-----	------	------	--

Scraper Loading Time: 0.80 Minutes Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

	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 3.0

#### Haul 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** minutes

#### Return 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

**0.29** minutes Return Time: Total Scraper team cycle time: 2.64 minutes Adjusted for job conditions: 547.05 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: LCY/Hour 1,094.09 Adjusted multiple scraper team (fleet) hourly production: 1,094.09 LCY/Hour Unadjusted 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	Hours
Unit cost:	\$0.850	/LCY	Total job cost:	<b>\$6,581</b>	

# **REVEGETATION WORK**

_	Dawson Mine F	Permit Action: SO-01 2021 Permit/Job#				
₹	ROJECT IDENTIFICATION					
	Task #: 008 State:	Colorado		Abh	reviation:	None
	Date: 6/18/2021 County:			_		M392-008
	User: AME			_	_	
	Agency or organization name:I	DRMS				
1	CRTILIZING					
	aterials					
	Description	Units / Acre	Unit	Cost	:/Unit	Cost /Acre
	Ammonium nitrate, 33-0-0	150.00	pound	\$0.3		\$50.25
	Triple superphosphate, 0-46-0	110.00	pound	\$0.4		\$46.75
				Tota	al Fertilizer Materials Cost/Acre	\$97.00
	nlication					
)	plication  Description					Cost /Acre
)		90.13 0120)				Cost /Acre \$37.03
)	Description		l Fertilizer A	pplication	n Cost/Acre	
	Description		l Fertilizer A	pplication	n Cost/Acre	\$37.03
	Description Tractor towed spreader (MEANS 32 01 9  LLING		l Fertilizer A	pplication	n Cost/Acre	\$37.03
	<b>Description</b> Tractor towed spreader (MEANS 32 01 9	Tota	l Fertilizer A	pplication	n Cost/Acre	\$37.03 \$37.03
	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description	Tota	l Fertilizer A	pplication	1 Cost/Acre	\$37.03 \$37.03 Cost /Acre
	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description Disc harrowing, 6" deep (MEANS 32 91	Tota				\$37.03 \$37.03 Cost /Acre \$107.16
	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description Disc harrowing, 6" deep (MEANS 32 91	Tota			n Cost/Acre	\$37.03 \$37.03 Cost /Acre \$107.16
	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description Disc harrowing, 6" deep (MEANS 32 91 Weed control spraying (MEANS 31 31 1	Tota				\$37.03 \$37.03 Cost /Acre \$107.16 \$193.60
	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description Disc harrowing, 6" deep (MEANS 32 91	Tota	To	otal Tilling		\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76
<u> </u>	Description Tractor towed spreader (MEANS 32 01 9  LLING  Description Disc harrowing, 6" deep (MEANS 32 91 Weed control spraying (MEANS 31 31 1	Tota	To			\$37.03 \$37.03 Cost /Acre \$107.16 \$193.60

A	pplication	

**Totals Seed Mix** 

Indian Ricegrass - Nespar

Pubescent Wheatgrass - Luna

Western Wheatgrass - Arriba

Sideoats Grama - Butte

\$22.19

\$16.20

\$12.24

\$41.60

\$92.23

8.09

5.91

7.44

16.16

37.60

2.50

1.80

3.60

6.40

14.30

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
То	tal Seed Application Cost/Acre	\$232.00

# **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$301.00	\$451.50
Total Mulch Materials Cost/Acre				\$451.50

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Power mulcher (MEANS 32 91 13.16 0350)		\$101.93
	<b>Total Mulch Application Cost/Acre</b>	\$172.10

## **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres: 7.9 Cost /Acre: \$1,382.62

Estimated Failure Rate: 0% Cost /Acre\*: \$324.23

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$10,922.70

Reseeding Job Cost: \$0.00

Total Job Cost: \$10,923

Job Hours: **7.90** 

# **REVEGETATION WORK**

Dawson Mine	Permit Action: SO-01 2021 Permit/Job#:				
ROJECT IDENTIFICATION	N				
Task #: 009	State:	Colorado		Abbreviation:	None
Date: 6/18/2021	County:	Elbert		Filename:	M392-009
User: AME					
Agency or organization na	ame: DR	RMS			
ERTILIZING					
aterials					
		Units /			
Description		Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0		150.00	pound	\$0.34	\$50.25
Triple superphosphate, 0-46-0		110.00	pound	\$0.43	\$46.75
				Total Fertilizer	
				Materials	
				Cost/Acre	\$97.00
					Cost /Acre
Tractor towed spreader (MEAN	S 32 01 90	.13 0120)			\$37.03
Tractor towed spreader (MEAN	S 32 01 90	,	l Fertilizer A	pplication Cost/Acre	\$37.03
	S 32 01 90	,	l Fertilizer A	pplication Cost/Acre	\$37.03
ILLING	S 32 01 90	,	l Fertilizer A	pplication Cost/Acre	\$37.03
		Total	l Fertilizer A	pplication Cost/Acre	\$37.03 <b>\$37.03</b>
ILLING  Description	NS 32 91 1	Total	l Fertilizer A	pplication Cost/Acre	\$37.03 \$37.03
ILLING  Description  Disc harrowing, 6" deep (MEAN	NS 32 91 1	Total		pplication Cost/Acre	\$37.03 \$37.03 Cost /Acre \$107.16 \$193.60
Description Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN)	NS 32 91 1	Total			\$37.03 \$37.03 Cost /Acre \$107.16 \$193.60
Description Disc harrowing, 6" deep (MEAN) Weed control spraying (MEAN)	NS 32 91 1	Total	То	tal Tilling Cost/Acre	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76
Description Disc harrowing, 6" deep (MEAN) Weed control spraying (MEAN)	NS 32 91 1	Total	To	tal Tilling Cost/Acre  Rate – PLS Seeds	\$37.03 \$37.03 Cost /Acre \$107.16 \$193.60
LLING  Description  Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN EEDING	NS 32 91 1	Total	To	tal Tilling Cost/Acre  Rate – PLS Seeds LRS / Per SQ.	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76
Description Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN EEDING  Seed Mix	NS 32 91 1	Total	<b>To</b>	Rate – PLS Seeds PES / Acre  Rate – PLS FT	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76
Description Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN EEDING  Seed Mix  Indian Ricegrass - Nespar	NS 32 91 1	Total	To	Rate – PLS Seeds per SQ. FT Acre 2.50 8.09	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76 Cost /Acre
Description Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN SEEDING  Seed Mix  Indian Ricegrass - Nespar	NS 32 91 1	Total	To	Rate – PLS Seeds per SQ. FT Acre 2.50 8.09	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76 Cost /Acre
Description Disc harrowing, 6" deep (MEAN Weed control spraying (MEAN EEDING  Seed Mix	NS 32 91 1	Total	To	Rate – PLS Seeds PES / Acre  Rate – PLS FT	\$37.03 \$37.03 \$37.03 Cost /Acre \$107.16 \$193.60 \$300.76

Application		

**Totals Seed Mix** 

6.40

14.30

Western Wheatgrass - Arriba

\$41.60

\$92.23

16.16

37.60

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

# **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$301.00	\$451.50
Total Mulch Materials Cost/Acre				\$451.50

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Power mulcher (MEANS 32 91 13.16 0350)		\$101.93
	<b>Total Mulch Application Cost/Acre</b>	\$172.10

## **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: 3 Cost /Acre: \$1,382.62

Estimated Failure Rate: 0% Cost /Acre\*: \$324.23

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$4,147.86

Reseeding Job Cost: \$0.00

Total Job Cost: \$4,148

Job Hours: 3.00

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	lobilization/Demo	bilization		
: Dawson Mine	Permi	t Action: SO-01	2021 Permit/J	ob#: <u>M1977392</u>
PROJECT IDENTIFICAT	ΓΙΟΝ			
Task #: 010	State: C	Colorado	Abbreviation:	
Date: 6/18/2021 User: AME	County: _E	lbert	Filename:	M392-010
Agency or organizati	on name: DRMS	S		
QUIPMENT TRANSPO	DT DIC COST			
QUIFMENT TRANSFO	KI KIG COSI		Chich having	1 4
			Shift basis: Cost Data Source:	1 per day CRG Data
Truck Tractor De	scription: GENI	ERIC ON-HIGHW		, DIESEL POWERED
Truck Trailer De	scription:	GENERIC FOLDI	NG GOOSENECK, DROP DE	CK EQUIPMENT
		T	RAILER (25T, 50T, AND 1007	Γ)
Cost Breakdown:				
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons	
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69	
Operating Cost/Hours	\$26.56	\$47.02	\$55.69	

### **NON ROADABLE EQUIPMENT:**

Total Unit Cost/Hour:

Operator Cost/Hour:

Helper Cost/Hour:

\$23.63

\$0.00

\$67.39

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)		t		fleet		
Cat 730	25.19	\$58.32	\$67.39	2	\$251.42	\$134.78	\$500.00
CAT 966H	25.80	\$42.87	\$67.39	1	\$110.26	\$67.39	\$500.00
CAT 16M	28.73	\$55.79	\$123.81	1	\$179.60	\$123.81	\$250.00
Cat D6T LGP	26.87	\$71.95	\$123.81	1	\$195.76	\$123.81	\$500.00
Cat D9T - 9SU	66.13	\$172.47	\$141.54	1	\$314.01	\$141.54	\$250.00
Cat 631G	52.50	\$144.75	\$141.54	2	\$572.58	\$283.08	\$500.00

\$23.63

\$23.53

\$123.81

\$23.63

\$23.53

\$141.54

Subtotals: \$1,623.63 \$874.41 \$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.	\$45.29	1	\$45.29	\$45.29
Drill/Broadcast Seeder with	\$15.63	1	\$15.63	\$15.63
Tractor				
Power Mulcher (Bowie LD-90)	\$30.17	1	\$30.17	\$30.17

Subtotals:	\$91.09	\$91.09

## **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:

Total one-way travel distance:

AVRORA

miles

Average Travel Speed:

50.00

mph

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

\$36,973.38

\$218.62

#### **Transportation Cycle Time:**

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.20	1.20
Return Time (Hours):	1.20	1.20
Loading Time (Hours):	4.00	NA
Unloading Time (Hours):	4.00	NA
Subtotals:	10.40	2.40

### **JOB TIME AND COST**

Total job cost: 20.80 Hours

Total job cost: \$37,192