

May 24, 2021

Mr. Scott Davis Schmidt Construction Company 2635 Delta Dr. Colorado Springs, CO 80910

# Re: Menzer Quarry, Permit No. M-1976-009-HR; Financial Warranty Increase, Revision No. SI-1

Dear Mr. Davis:

On May 24, 2021 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$667,738.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$211,738.00. The Division's reclamation cost estimate is attached for your records.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, is due within 60 days from the date of this letter. If you wish to submit a different type of Financial Warranty, please contact me such that I may send you the applicable form.

If you have any questions, please contact me.

Sincerely,

Timothy A. Cazier, P.E. Environmental Protection Specialist

ec: Sara M. Stevenson-Benn, DRMS Mark Heifner

M-FW-14



# COST SUMMARY WORK

Task description:	Cost Summary					
Site: Menzer Quarry	P	ermit Action:	2021 Update	Permit/Jol	b#: M1976009HR	
PROJECT IDENTI           Task #:         000           Date:         5/24/202           User:         TC1	State:			Abbreviation: Filename:	None M009-000	

Agency or organization name: DRMS

# TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Mobilize/demobilize reclamation equipment	MOBILIZE	1	3.90	\$11,513
002	Repair and or clear roads to benches and topsoil stockpile	DOZER	1	8.64	\$2,309
003	Clean benches - move rock rubble to bench wall	DOZER	1	41.18	\$10,132
004	Haul backfill fines} to quarry benches - truck/loader operations	TRUCK1	1	100.69	\$138,950
005	Grade track dumped backfill to 5:1 on benches	DOZER	1	94.42	\$23,229
006	Haul topsoil from stockpiles to benches	TRUCK1	1	69.59	\$71,929
007	Remove plant foundations miscellaneous trash, debris {assume 1.65% inflation from 1997 costs}	NA	1	20.00	\$33,000
008	Rip the quarry floor	RIPPER	1	72.84	\$19,463
009	Haul growth medium to quarry floor & former #10: grade w/ dozer	TRUCK1	1	104.81	\$95,173
011	Establish grades for riparian areas {assume 1.65% inflation from 1997 costs}	NA	1	4.00	\$2,640
012A	Broadcast grass seed mix on north facing quarry benches	REVEGE	1	45.00	\$8,910
012B	Broadcast grass seed mix on east facing quarry benches	REVEGE	1	45.00	\$8,580
012C	Broadcast grass seed mix on south facing quarry benches	REVEGE	1	25.00	\$4,822
013	Drill grass seed mix on quarry floor	REVEGE	1	100.00	\$36,551
014	Collect seed and broadcast on riparian areas {assume 1.65% inflation from 1997 costs}	NA	1	4.00	\$3,300
015	Plant trees on 6 acres of mine benches (operator supplied cost) {assume 1.65% inflation from 1997 costs}	NA	1	4.00	\$2,970
016	Stain bench highwalls, visual impact benches only (operator supplied cost) {assume 1.65% inflation from 1997 costs}	NA	1	20.00	\$37,274
017	Grade topsoil stockpile and quarry bench access road areas	DOZER	1	10.30	\$2,534
018	Broadcast seed - graded haul road areas	REVEGE	1	10.00	\$3,180
		SUBTO	OTALS:	783.37	\$516,459

# **INDIRECT COSTS**

## OVERHEAD AND PROFIT:

2.02	Total =	\$10,432
1.05	Total =	\$5,423
391.69	Total =	\$27,242
10.00	Total =	\$51,646
	TOTAL O & P =	\$94,743
	CONTRACT AMOUNT (direct + $O \& P$ ) =	\$611,202
	1.05 391.69	1.05     Total =       391.69     Total =

### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

\$0	Total =	\$0
4.25	Total =	\$25,976
5.00		\$30,560
0.00	Total =	\$0
TOTAL IN	DIRECT COST =	\$151,279
ND AMOUNT (di	irect + indirect) =	\$667,738
	4.25 5.00 0.00 TOTAL IN	4.25 Total =

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description	n: Mo	bilize/demobilize	reclamation e	quipment	t		
: Menzer Qua	rry	Permit	Action: <u>2021</u>	Update		Permit/Job#: <u>N</u>	M1976009HR
PROJECT ID	ENTIFICATI	ON					
Task #: 0	01	State: Co	olorado		Abbro	eviation: Non	e
Date: 5/	/19/2021	County: El	Paso		F	ilename: M00	9-001
	C1	<u> </u>					
Agency	y or organization	n name: DRMS					
EQUIPMENT	TRANSPOR	T RIG COST					
					Shift ba	sis: 1 per d	av
					Cost Data Sou	L	
-							
Tru	ck Tractor Desc	cription: GENE	RIC ON-HIGH			DR, 6X4, DIESE	EL POWERED,
_					P (2ND HALF,	<i>,</i>	
Tru	ick Trailer Desc	cription: G				ROP DECK EQU	JIPMENT
				TRAILER	R (25T, 50T, Al	ND 100T)	
Cost Breakdown							
		1					
Available Rig		0-25 Tons	26-50 Tons		+ Tons		
	ip Cost/Hour:	\$17.20	\$29.63		\$38.69		
	ng Cost/Hour:	\$26.56	\$47.02	\$	\$55.69		
Operat	or Cost/Hour:	\$23.63	\$23.63	\$	523.63		
Help	er Cost/Hour:	\$0.00	\$23.53	\$	523.53		
	nit Cost/Hour:	\$67.39	\$123.81		141.54		
NON ROADA		MENT.					
	DLE EQUIT						
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
r	(TONS)		t		fleet		
Cat D8T - 8SU	53.08	\$128.22	\$141.54	1	\$269.76	\$141.54	\$250.00
Cat 770D	37.54	\$81.31	\$123.81	5	\$1,025.60	\$619.05	\$1,250.00
CAT 990H	83.34	\$111.11	\$141.54	1	\$252.65	\$141.54	\$250.00
Water Tanker,	15.00	\$29.31	\$67.39	1	\$96.70	\$67.39	\$250.00
5,000 Gal.	12.00	<i>427131</i>	<i>401.09</i>	-	<i>\$</i> 20170	401.09	<i>4250.00</i>
CAT 14M	23.57	\$65.89	\$67.39	1	\$133.28	\$67.39	\$250.00
Drill/Broadcast	25.00	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00
Drill/Broadcast	25.00	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00

Subtotals: **\$1,852.10 \$1,104.30 \$2,500.00** 

## **ROADABLE EQUIPMENT:**

Seeder with Tractor

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
		Subtotals:	\$0.00	\$0.00

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	COLORADO SPRINGS 19.00 40.00	miles mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$11,512.78	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$0.00	_

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.48	0.48
Return Time (Hours):	0.48	0.48
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.95	0.95

## JOB TIME AND COST

Total job time: **3.90** Hours

Total job cost: \_\_\_\_\_\_\$11,513

# BULLDOZER WORK

: Menzer Quarry			tockpile	
	Permit Action:	2021 Update	Permit/Jo	b#: <u>M1976009HR</u>
PROJECT IDENTIFI	CATION			
Task #:         002           Date:         5/18/2021           User:         TC1	State:     Colorado       County:     El Paso		Abbreviation: Filename:	None M009-002
Agency or organ	nization name:DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Ca Horsepower: 310	t D8T - 8SU 0	_		
VI	mi-Universal shank ripper	_		
Shift Basis: 1 p	per day RG)	_		
Cost Breakdown:				
Ownership Cost/Hour: Operating Cost/Hour:	\$116.22 \$89.77	<u>NA</u> 100		
Ripper own. Cost/Hour:	\$12.00	NA		
Ripper op. Cost/Hour: Operator Cost/Hour:	\$9.18 \$40.04	100 NA		
Total unit Cost/Hour:	\$267.19	INA		
Total Fleet Cost/Hour:	\$267.19			
MATERIAL QUANT	<u>ITIES</u>			
Initial Volume: 2,03 Swell factor: 1.21	37			
Initial Volume: 2,03 Swell factor: 1.21	37 15 75 LCY ume: <u>AM-03 CIRCES wor</u>	ksheet		
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated swe	37 15 75 LCY ume: <u>AM-03 CIRCES worl</u> Il Cat Handbook	ksheet		
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated swe factor:	37 15 75 LCY ume: <u>AM-03 CIRCES worl</u> Il Cat Handbook	<pre>csheet</pre>		
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly	37           15           75 LCY           ume:         AM-03 CIRCES world           011         Cat Handbook           SION           50 feet           1,400.0 LCY/hr			
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production:	37           15           75 LCY           ume:         AM-03 CIRCES world           011         Cat Handbook           SION           50 feet           1,400.0 LCY/hr			
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency de Average push	37 15 75 LCY ume: <u>AM-03 CIRCES worl</u> Cat Handbook <u>50 feet</u> 1,400.0 LCY/hr escription: <u>Consolidated stock</u>			
Initial Volume: 2,03 Swell factor: 1.21 Loose volume: 2,47 Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency de Average push gradient:	37         15         75 LCY         ume:       AM-03 CIRCES worldight of the standard stand			

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Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2046

Adjusted unit production:	286.44 LCY/hr
Adjusted fleet production:	286.44 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.933/LCY

Total job time:	8.64 Hours
Total job cost:	\$2,309

# BULLDOZER WORK

Task description:	Clean benches - move rock r	ubble to bench wall		
te: Menzer Quarry	Permit Action:	2021 Update	Permit/Jo	b#: <u>M1976009HR</u>
PROJECT IDENTIFI	ICATION			
Task #:     003       Date:     5/18/2021       User:     TC1	State:     Colorado       County:     El Paso		Abbreviation: Filename:	None M009-003
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Ca	t D8T - 8SU			
Horsepower: 31		_		
• •	mi-Universal	_		
Attachment: NA		_		
	per day RG)	_		
<u>Cost Breakdown:</u>	,	_		
<u>Cost Broardo win</u> .		Utilization %		
Ownership Cost/Hour:	\$116.22	NA		
Operating Cost/Hour:	\$89.77	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$40.04	NA		
MATERIAL QUANTInitial Volume:23,5Swell factor:1.00	518			
Loose volume: 23,5 Source of estimated volu Source of estimated swe factor:		on, Mining & Safety		
HOURLY PRODUCT	<u>TION</u>			
Average push distance: Unadjusted hourly production:	50 feet 1,400.0 LCY/hr			
Materials consistency de	escription: Loose stockpile 1.2			
Average push gradient:	0 %			
Average site altitude:	6,975 feet			
Material weight:	2,950 lbs/LCY			
Weight description:	Traprock - broken			
Job Condition Correction	Factor	Source		

Task # 003

Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.780	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4079

Adjusted unit production:	571.06 LCY/hr
Adjusted fleet production:	<b>571.06</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.431/LCY

Total job time:	<b>41.18</b> Hours
Total job cost:	\$10,132

# TRUCK/LOADER TEAM WORK

Site: Menzer Quarry		Permit	Action: 2021 Update Permit/Job#: _N			M1976009HR	
PROJECT IDENT	TIFICATION						
Task #: 004		State: C	olor	ado	Ab	breviation: No	ne
Date: 5/18/2	021 0		1 Pas				09-004
User: TC1							
Agency or o	organization nan	ne: DRMS	5				
HOURLY EQUIP	MENT COST	-			Shift ba	sis: <u>1 per day</u>	
				Equipment Descr	iption		
Tr	uck Loader Tea	m -Truck: -Loader:		770D T 990H high lift			
Suppor	rt Equipment -L		NA				
	-Du	mp Area:	NA				
Road Mai	intenance – Moto			<u>T 14M</u>			
	-Wa	ter Truck:	wa	ter Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	der Team		Support	Equipment	Maintena	nce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	00	NA	NA	100	100
Ownership cost/hour:	\$81.31	\$111	.11	NA	NA	\$65.89	\$29.3
Operating cost/hour:	\$68.45	\$116	.76	NA	NA	\$58.96	\$42.13
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$24.82	\$35		NA	NA	\$46.87	\$0.00
Unit Subtotals:	\$174.58	\$263		NA	NA	\$171.73	\$71.45
Number of Units:	5 World	\$1,136.74	1	0 Sumporti	0 \$0.00	1 Maint:	\$243.18
Group Subtotals:	Work:			Support:	\$0.00	Ivianit.	\$243.18
Total work team cost/	hour: <u>\$1,379.9</u>	2					
MATERIAL QUA	NTITIES						
Initial volume:	89,572	(	CCY	Swell	factor: 1.000		
Loose volume:	89,57		LCY				
Sou	rce of estimated	volume:	AM-	03 CIRCES worl	csheet		
	of estimated swe			Handbook			
	Material Purcha		\$0.00				
	То	tal Cost:	\$0.00	)			
	TICTION						
HOURLY PROD	JUCTION						
Truck Capacity:							

Material weight:	2,850	Pounds/LCY
Description:	Sand - Damp	-
Rated Payload:	82,000	Pounds
Payload Capacity:	28.77	LCY

Truck Bed (volume) Basis:						
Struck Volume:		CY				
Heaped Volume:		CY				
Average Volume:		CY				
Adjusted Volume:	28.77 L	CY				
	ruck Volume Ba	sed on Number of L	loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Buck	tet Size Class: N	A	_
Rated Capacity:	11.250	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/dirt	mixtures (10	0-120%) 1.100		-
Adjusted Capacity:	12.375	LCY				
Job Condition Corrections:		Site	e Altitude (ft.):	<u>6975</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Nu	mber of Loading To	ool Passes Requ	uired to Fill	2	passes
Excavators and Front Shovels	:			Truck:	2	
	_	Dating NA				
Machine Cycle Time vs Selected Value w						
Track Loaders – M	Material Descript	ion:				
Cycle Time Elements (min.):						
Load: NA	Mar	neuver: NA		Dump: 0.10	0	
Wheel and Track	Loaders - Unadj	usted Basic Loader	•	· · · ()	.600 min	utes
			11	naneuver):		
Cycle Time Factors				Factor (min.)	Source	_
Material:		1/8" diameter 0.02		0.020	(Cat HB)	
Stockpile:	Dumped by tru		1 1	0.020	(Cat HB)	_
Truck Ownership:	0.04	ership of trucks and	loaders -	-0.040	(Cat HB)	_
Operation:	Constant opera			-0.040	(Cat HB)	
Dump Target:	Small target 0.0		A 11	0.040	(Cat HB)	_
		Net Cycle Time		0.000	minutes	
		Adjusted Loader Net Load Tin		0.600	_ minutes minutes	
		Net Load Thi	e per Truck.	0.700		
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.600	Minutes
Truck Load Time:	0.700	Minutes	Adjusted	for site altitude:	0.700	Minutes
Truck Maneuver and Dump Time:		Minutes	Adjusted	for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

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

Haul Route:	

	Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	SCg #	(Ft)	Jistanee	Grade (70)	(%)	(%)	(fpm)	Time	
		(11)			(70)	(70)	(ipili)	(min)	
	1	1840.0	00	7.00	3.00	10.00	834	2.247	
	2	1840.0	00	1.00	3.00	4.00	2051	1.121	
						Haul Time:	3.368	minu	tes
	Return Rou	ite:							_
	Seg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	1840.0		-1.00	3.00	2.00	4254	0.745	
	2	1840.0	00	-7.00	3.00	-4.00	3893	0.515	
						Return Time:	1.260	min	utes
					Total True	ck Cycle Time:			
						5			
L	oading Too								
<b>—</b> 1	Produ		1,142.31	LCY/Hour		Adjusted for jo	b efficiency:	948.12	LCY/Hour
Truck	Unit Produ	iction	214.35	LCY/Hour		Adjusted for jo	h officionary	177.91	LCY/Hour
		-	214.55			Aujusteu foi jo	b efficiency.	1/7.91	
Optima	ıl No. of Tr	ucks:	5	Truck(s)		Selected Numb	er of Trucks:	5	Truck(s)
				Adjusted	l hourly truck	team production	on: 889.	.54 LC	CY/Hour
				Adjusted single	e truck/loader	team productio	on: 889.	.54 LC	CY/Hour
			А	djusted multiple	e truck/loader	team productio	on: 889.	.54 LO	CY/Hour
	JOB TIM	IE AND	O COST						
	Fleet	size:	1	Team(s)	Те	otal job time:	100.6	9	Hours
	Unit			/LCY	Т				

# BULLDOZER WORK

Task description:	Grade track dumped backfi	ll to 5:1 on benches		
: Menzer Quarry	Permit Action:	2021 Update	Permit/Jo	b#: <u>M1976009HR</u>
PROJECT IDENTIF	ICATION			
Task #: 005	State: Colorado		Abbreviation:	None
Date: 5/18/2021	County: El Paso		Filename:	005
User: TC1				
Agency or orga	nization name: DRMS			
HOURLY EQUIPME	ENT COST			
Basic Machine: Ca	at D8T - 8SU			
Horsepower: 31				
	emi-Universal			
Attachment: N.				
	per day			
Data Source: (C	CRG)			
Cost Breakdown:	I	Utilization %		
Ownership Cost/Hour:	\$116.22	NA		
Operating Cost/Hour:		100		
Ripper own.				
Cost/Hour:		NA		
Ripper op. Cost/Hour:		0		
Operator Cost/Hour:		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT	\$246.02 <b>\$246.02</b> <b>TITIES</b>			
Swell factor: 1.0	097 00 <b>097</b> LCY			
Source of estimated vol	ume: AM-03 CIRCES Wor	kabaat		
Source of estimated voi factor:				
HOURLY PRODUCT	<u>FION</u>			
Average push distance:	50 feet			
Unadjusted hourly	1,400.0 LCY/hr			
production:				
Materials consistency d	escription: Loose stockpile 1.2			
Average push gradient:	15 %			
Average site altitude:	6,975 feet			
Material weight:	2,400 lbs/LCY			
Weight description:	Sand - Dry, loose			
-				

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Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3336

Adjusted unit production:	467.04 LCY/hr			
Adjusted fleet production:	<b>467.04</b> LCY/hr			

Fleet size:	1 Dozer(s)
Unit cost:	\$0.527/LCY

Total job time:	94.42 Hours
Total job cost:	\$23,229

# TRUCK/LOADER TEAM WORK

Site: Menzer Quarry		Perm	nit Action	n: 2021 Upda	ite	Permit/Job#:	M1976009HR
PROJECT IDENT	<b>TIFICATION</b>						
Task #: 006 Date: 5/18/2			Colorado El Paso	0			one 009-006
User: TC1			211 400				
Agency or o	organization nan	ne: DRM	1S				
HOURLY EQUIP	MENT COST					sis: <u>1 per day</u>	
Equipment Description Truck Loader Team -Truck: Cat 770D							
11	uck Loader Tea	-Loader:		990H high lift			
Suppo	rt Equipment -L		NA	U ·			
D134		mp Area:	NA				
Road Ma	intenance –Moto -Wat	er Grader:	NA Water	Tanker, 5,000	Gal		
		CI HUCK.	, ater	- uniter, 5,000			
Cost Breakdown:	Truck/Loa	der Team			Equipment		ance Equipment
	Truck	Loader	1	Load Area	Dump Area	Motor Grader	Water Truck
Utilization-machine:	100		100	NA	NA	NA	100
Ownership cost/hour:	\$81.31		1.11	NA	NA	NA	\$29.31
Operating cost/hour:	\$68.45	\$11	6.76	NA	NA	NA	\$42.13
%Utilization-riper:	NA	*	0	NA	NA	NA	NA
tipper own. cost/hour:	NA		0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA		0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$24.82		5.97	NA	NA	NA	\$0.00
Unit Subtotals:	\$174.58	\$26	3.84	NA	NA	NA	\$71.45
Number of Units:	4	<b>\$0.50.1.5</b>	1	0	0	0	<u><u></u> 1</u>
Group Subtotals:	Work:	\$962.16		Support:	\$0.00	Maint:	\$71.45
Total work team cost	/hour: <u>\$1,033.6</u>	1					
MATERIAL QUA	NTITIES						
Initial volume:	56,943		CCY	Swell	Factor: 1.000		
Loose volume:	56,94	3	LCY				
Sou	rce of estimated	volume:	AM-03	CIRCES World	csheet		
Source of	of estimated swe		Cat Ha	ndbook			
	Material Purcha	_	\$0.00 \$0.00				
	10	tal Cost: _	<b>\$0.00</b>				
HOURLY PROI	DUCTION						

Truck Payload (weight) Basis	<u>s:</u>	
Material weight:	2,650	Pounds/LCY
Description:	Decomposed rock - 25%	Rock, 75% Earth
Rated Payload:	82,000	Pounds
Payload Capacity:	30.94	LCY

Truck Bed (volume) Basis:         Struck Volume:         Heaped Volume:         Average Volume:         Adjusted Volume:	31.70         L           26.65         L	CY CY CY CY				
Final T	ruck Volume Ba	sed on Number of L	oader Passes:	31.22	LCY	
Loading Tool Capacity						
			Buck	ket Size Class:	NA	
Rated Capacity:	11.250	LCY (heaped)				_
Bucket Fill Factor:	0.925	Loose material -	1/8" to 3/8" (9	00 - 95%) 0.925		_
Adjusted Capacity:	10.406	LCY				
Job Condition Corrections:		Site	Altitude (ft.):	6975 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT H			
Job Efficiency:	0.830	0.830	(CAT HI			
Net Correction:	0.830	0.830				
Net Conection.	0.830	0.850				
Loading Tool Cycle Time:	Nu	mber of Loading To	ool Passes Req		3	passes
Excavators and Front Shovels	<u>:</u>			Truck:	,	
Machine Cycle Time vs.	Job Condition I	Rating: NA				
Selected Value w						
Track Loaders – M						
Cycle Time Elements (min.):						
Load: NA	Mar	neuver: NA		Dump: 0.10	00	
	_		~			
Wheel and Track	Loaders - Unadj	justed Basic Loader	•	oad, dump, maneuver):	0.600 min	utes
			1	·		
Cycle Time Factors	Mine dans terrist	10.02		Factor (min.)	Source (Cat UD)	_
Material: Stockpile:	Mixed material Dumped by tru			0.020	(Cat HB) (Cat HB)	_
Truck Ownership:		ership of trucks and	loaders -			_
	0.04	ership of trucks and	ioaders -	-0.040	(Cat HB)	_
Operation:	Constant opera			-0.040	(Cat HB)	_
Dump Target:	Small target 0.			0.040	(Cat HB)	
		Net Cycle Time		0.000	minutes	
		Adjusted Loader Net Load Tim	•	0.600	minutes	
		net Luau IIII	e per truck:	1.300	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.600	Minutes
Truck Load Time:	1.300	Minutos	Adjusted	for site altitude	1 300	Minutes
Truck Maneuver and Dump		1.300MinutesAdjusted for site altitude:1.3001.00MinutesAdjusted for site altitude:1.000				

### Truck Travel (Haul & Return) Time: maintained 3.0

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

#### Haul Route:

	Haul Koute	2:								
	Seg #	Haul D	oistance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
	C	(Ft)			(%)	(%)	(fpm)	Time		
		. ,						(min)		
	1	1875.0	0	5.00	3.00	8.00	1057	1.842		
	2	1300.0	0	0.00	3.00	3.00	2754	0.889		
						Haul Time:	2.731	n	ninutes	
	Return Rou	ite:								
	Seg #	Haul D	oistance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
		(Ft)			(%)	(%)	(fpm)	Time		
								(min)		
	1	1300.0		0.00	3.00	3.00	4074	0.662		
	2	1875.0	0	-5.00	3.00	-2.00	4254	0.477		
						Return Time:	1.139		minutes	
					Tatal Tma					
					Total True	ck Cycle Time:	6.770		minutes	
I	oading Too	ol unit								
_	Produ		985.86	LCY/Hour		Adjusted for jo	b efficiency.	818	26	LCY/Hour
Truck	Unit Produ		202.00			riajastea for je	i enneneney.		.20	Leimiu
Truck	Cint i lout	<i>iction</i>	276.68	LCY/Hour		Adjusted for jo	h efficiency:	229	64	LCY/Hour
		_	270.08			Aujusicu ioi je	bo efficiency.		.04	LC I/Hou
Ontin	-1 N		4	$\mathbf{T}_{max} = 1_{r}(\mathbf{x})$		Calastad Marsh		,	1	$\mathbf{T}_{max} = 1_{n}(\mathbf{x})$
Optim	al No. of Tr		4	Truck(s)		Selected Numb	er of Trucks.		1	Truck(s)
				Adjusted	l hourly truck	team production	on: 918	.58	LCY/H	lour
					•	team production		26	LCY/H	our
			А	djusted multiple					LCY/H	
			1	ajustea maniph	e diactor founder	team productio	JII. 010		201/11	our
			COST							
	JOB TIM	IE AND	<u>COSI</u>							
	Fleet	size.	1	Team(s)	Т	otal job time:	69.5	)	Hour	s
	1 1001		1	i cum(3)	1	sur joo unic.	07.0	•	_ 11041	2

Unit cost: \$1.263 /LCY

Total job cost:	\$71,929
Ū.	

# BULLDOZER RIPPING WORK

Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION         Seismic:         Seismic:         Average Ripping Depth:         Average Ripping Width:         7.08         feet/pass         Average Ripping Length:         500.00         feet/pass         Average Ripping Length:         500.00         feet/pass         Average Dozer Speed:         88.00         feet/minute         Average Maneuver Time:         0.25         minutes/pass         Production per unit area:         0.822         acres/hur         Site Altitude:         6,975         feet         Altitude Adj:         1.00         (CAT HB)         Job Efficiency:         0.83         (1 shift/day)         Net Correction:         0.68         Acres/hr         Adjusted Hourly Unit Production:         0.68         Acres/hr         Adjusted Hourly Fleet Production:         0.68         Acres/hr         Adjusted Hourly Fleet Production:	Task description: <b>Rip the</b>	quarry floor					
Task #:       008       State:       County:       El Paso       Abbreviation:       None         Due:       TCI       County:       El Paso       Filename:       M009-008         Agency or organization name:       DRMS         HOTENT FOULPMENT COST         Basic Machine:       Car DST - 8SU       Horsepower:       310         Ripper Attachment:       3-Shank Ripper       Data Source:       (CRG)         Cost Breakdown:       \$116.22       NA       (CRG)         Operating Cost/Hour:       \$116.22       NA       (CRG)         Operating Cost/Hour:       \$16.00       NA       (CRG)         Operating Cost/Hour:       \$267.19       Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19       Total Unit Cost/Hour:       \$267.19         Correct of estimated quantity:       AM-03 CIRCES Worksheet       NA       BCY         Borne:       49.70       acres       Rip Depth (ft):       150       Volume:       120.274       BCY         Scismic:       Scismic Velocity:       NA       Scismic Velocity:       NA       Scismic Velocity:       Acreage Ripping With:       7.68       feet/pass         Average Ripping Ndthin       2.56       feet/pass<	ite: Menzer Quarry	Permit Action:	2021 Update		Permit/Jol	b#: <u>M19760</u>	09HR
Date:       \$\frac{51822021}{100000000000000000000000000000000	PROJECT IDENTIFICATION						
User:       TCI         Agency or organization name:       DRMS         HOURLY EQUIPMENT COST         Basic Machine:       Cat D8T - 8SU         Horsepower:       310         Cost Breakdown:       Built Basis:         Ownership Cost/Hour:       Shift Basis:         Operating Cost/Hour:       \$116.22         NA       Spper Ownership Cost/Hour:         Star Downership Cost/Hour:       \$116.22         Ownership Cost/Hour:       \$12.00         Proteol Total Cost/Hour:       \$12.00         Operating Cost/Hour:       \$12.01         Star Downership Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         MATERIAL OUANITIES       Selected estimating method:         Area       Area         Alternate Methods:       Marcas         ite:       NA       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION       2.56         Seismic:       Seismic Velocity:       NA         Average Ripping Depth:       7.08       fcet/pass         Average Ripping Length:       500.00       feet/second         Area:							
Agency or organization name:       DRMS         HOURLY EQUIPMENT COST         Basic Machine:       Cat D8T - 8SU         Horsepower:       310         Ripper Attachment:       3-Shank Ripper         Data Source:       Utilization %         Operating Cost/Hour:       \$116.22       NA         Operating Cost/Hour:       \$12.00       NA         Ripper Ownership Cost/Hour:       \$212.00       NA         Operating Cost/Hour:       \$247.19       Total Unit Cost/Hour:       \$2267.19         Total Unit Cost/Hour:       \$2267.19       Total Pleet Cost/Hour:       \$2267.19         Maternate Methods:       E       Area       Bank Volume:       NA       BCY       NA         ex:       NA       acres       Rip Depth (ft):       1.50       Volume:       120,274       BCY         Source of estimated quantity:       MA-03 CIRCES Worksheet       MA       BCY       NA       BCY         Arerage Ripping Depth:       2.56       feet/pass       Average Ripping Width:       7.08       feet/pass         Average Ripping Depth:       2.56       feet/pass       Average Ripping Width:       7.08       feet/pass         Average Ripping Depth:       0.25       minutes/pass       a		County: <u>El Paso</u>		F	ilename:	M009-008	
HOURDENT COST         Basic Machine:       Cat DST - 8SU       Horsepower:       310         Ripper Attachment:       3-Shank Ripper       Data Source:       (CRG)         Outer Shift Basis:       1 per day         Operating Cost/Hour:       \$116.22       NA         Operating Cost/Hour:       \$116.22       NA         Operating Cost/Hour:       \$12.00       NA         Ripper Operating Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         Total Picet Cost/Hour:       \$267.19         Total Picet Cost/Hour:       \$267.19         Atternate Methods:       Science         ic:       NA       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION       Scismic         Scismic:       Scismic Velocity:       NA         Average Ripping Depth       7.05       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       0.822       acres/hr         Average Ripping Length:       0.822       <		PA: DPMS					
Basic Machine:       Cat DST - 8SU       Horsepower:       310         Ripper Attachment:       3-Shank Ripper       Shift Basis:       Iper day         Cost Breakdown:       Utilization %       Na         Ownership Cost/Hour:       \$116.22       NA         Ownership Cost/Hour:       \$116.22       NA         Ripper Ownership Cost/Hour:       \$12.00       NA         Ripper Ownership Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         MATERIAL QUANTITIES       Selected estimating method:         Arera       Arera         Alernate Methods:       Source of estimated quantity:         ia:       NA       Bank Volume:         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION       Seismic:         Scismic:       Scismic Velocity:       NA         Average Ripping Depth       7.08         Average Ripping Depth       500.00         Average Ripping Length:       500.00         Average Ripping Length:       500.00         Average Ripping Length:       0.822         Average Ripping Length: <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>_</td></t<>							_
Ripper Attachment:       3-Shank Ripper       Shifi Basis:       I per day Data Source:         Cost Breakdown:       Utilization % Operating Cost/Hour:       \$116.22 (CRG)         Ownership Cost/Hour:       \$116.20 (Stripper Operating Cost/Hour:       \$100 (Stripper Operating Cost/Hour:         Ripper Operating Cost/Hour:       \$116.20 (Stripper Operating Cost/Hour:       \$116.20 (Stripper Operator Cost/Hour:         Year       \$12.00 (Operator Cost/Hour:       \$267.19         MATERIAL QUANTITIES       Sclected estimating method:       Area         Alternate Methods:       Sclected estimating method:       Area         Alternate Methods:       Scurce of estimated quantity:       AM-03 CIRCES Worksheet       BCY         HOURLY PRODUCTION       Source of estimated quantity:       AM-03 CIRCES Worksheet       BCY         Mareage Ripping Depth:       2.56 (Scismic:       feet/second         Areage       Average Ripping Depth:       7.08 (Scismic)       feet/pass (Average Ripping Length:       500.00 (Scitphass)         Average Ripping Length:       500.00 (Scitphass)       feet/pass (Average Ripping Vidth:       7.08 (Scitphass)       feet/pass (Average Ripping Vidth:       7.08 (Scitphass)         Average Ripping Length:       500.00 (Scitphass)       feet/pass (Average Ripping Vidth:       7.08 (Scitphass)       feet/pass (Average Ripping Vidth:       <						210	
Cost Breakdown:       Data Source:       (CRG)         Cost Breakdown:       Overaship Cost/Hour:       \$116.22       NA         Operating Cost/Hour:       \$182.00       NA         Ripper Ownership Cost/Hour:       \$12.00       NA         Ripper Ownership Cost/Hour:       \$12.00       NA         Operating Cost/Hour:       \$12.00       NA         Ripper Ownership Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         Matternate Methods:       Krea         ic:       NA       BCY         Alternate Methods:       Krea         ic:       NA       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION       Seismic:       Cost         Scismic:       Scismic Velocity:       NA         Average Ripping Depth:       2.56       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Maneuver Time:       0.822       Acres/hr         Let Altitude:       6.975       feet         Average Moneuver Time:       0.25       minutes/pass         Production per unit area:							-
Cost Breakdown:       Utilization %         Operating Cost/Hour:       \$\$116.22       NA         Operating Cost/Hour:       \$\$120.0       NA         Ripper Operating Cost/Hour:       \$\$257.19         Total Unit Cost/Hour:       \$\$267.19         Total Cost/Hour:       \$\$267.19         Total Cost/Hour:       \$\$267.19         MATERIAL OUANTITIES       Selected estimating method:       Area         Alemate Methods:       \$\$267.19         c:       NA       Bank Volume:       NA         a:       49.70       acres       Rip Depth (ft):       1.50       Volume:       120.274       BCN         Source of estimated quantity:       AM-03 CIRCES Worksheet       MA       BCN         Average Ripping Length:       7.08       feet/pass       Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass       Average Maneuver Time:       0.25       minutes/pass         Average Ripping Length:       500.67       feet       feet/mass       feet/mass         Average Ripping Length:       500.83       feet/pass       feet/mass       feet/mass         Average Ripping Length:       50.65       feet/mass       feet/minute       fee		k tupper			-		-
Ownership Cost/Hour:       \$116.22       NA         Operating Cost/Hour:       \$12.00       NA         Ripper Overship Cost/Hour:       \$29.18       100         Operating Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         MATERIAL QUANTITIES       Selected estimating method:       Area         Alternate Methods:       ic:       NA       BCY       NA         ic:       NA       Bank Volume:       NA       BCY       NA         ic:       NA       Bark Volume:       NA       BCY       NA         ic:       NA       acres       Rip Depth (ft):       1.50       Volume:       120,274       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet       BCY       Source of estimated quantity:       AM-03 CIRCES Worksheet         Ecismic:	Cost Breakdown:		1			,	=
Operating Cost/Hour:       \$\$89,77       100         Ripper Operating Cost/Hour:       \$\$12.00       NA         Operator Cost/Hour:       \$\$267.19         Total Unit Cost/Hour:       \$\$267.19         Total Fleet Cost/Hour:       \$\$267.19         MATERIAL OUANTITIES       Selected estimating method:       Area         Alternate Methods:       internate Methods:       NA         ix:       NA       BCY       NA         at:       49.70       acres       Rip Depth (ft):       1.50       Volume:       120.274       BCY         Surce of estimated quantity:       AM-03 CIRCES Worksheet       MORLY PRODUCTION       Seismic:       Seismic Velocity:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass       Average Ripping Big Length:       7.08       feet/pass         Average Ripping Depth:       2.56       feet/pass       Average Ripping Big Length:       500.00       feet/pass         Average Ripping Depth:       0.25       minutes/pass       Average Naneuver Time:       0.322       acres/hour         Job Condition Correction Factors       Unadjusted Hourly Unit Production:       0.68       Acres/hr       Adjusted Hourly Unit Production:       0.68       Acres/hr	Orrent and in Control	T					
Ripper Ownership Cost/Hour:       \$12.00       NA         Ripper Operating Cost/Hour:       \$3.18       100         Operator Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         MATERIAL OUANTITIES       Selected estimating method:       Area         Alternate Methods:       is:       NA       BCY       NA         is::       NA       BCY       NA       BCY         a::       49.70       acres       Rip Depth (ft):       1.50       Volume:       120.274       BCY         sa::       49.70       acres       Rip Depth (ft):       1.50       Volume:       120.274       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet       MA       Get/second         Area:       Seismic:       Seismic Velocity:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass       Average Ripping Vidth:       7.08       feet/pass         Average Ripping Uength:       500.00       feet/pass       Average Ripping Depth:       0.822       acres/hr         Average Ripping Length:       500.00       feet/pass       Average Riphing Depth:       0.822 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
Ripper Operating Cost/Hour:       \$9.18       100         Operator Cost/Hour:       \$267.19         Total Unit Cost/Hour:       \$267.19         MATERIAL QUANTITIES       Selected estimating method:       Area         Alternate Methods:       Selected estimating method:       Incast         e:       NA       Bank Volume:       NA         a:       49.70       acres       Bank Volume:       NA         a:       49.70       acres       Bank Volume:       MA       BCY       NA         a:       49.70       acres       Bank Volume:       MA       BCY       NA         a:       49.70       acres       Bank Volume:       MA       BCY       NA         a:       49.70       acres       Bank Volume:       NA       BCY       NA         a:       49.70       acres       BCY       NA       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet       HOX       BCY         FOURLY PRODUCTION       2.56       feet/pass       Average Ripping Depth:       2.56       feet/pass         Average Ripping Depth:       2.56       feet/pass       Average Dozer Speed:       88.00       feet/pass         Average M							
Operator Cost/Hour:       \$40.04       NA         Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         MATERIAL OUANTITIES       Selected estimating method:       Area         Alternate Methods:							
Total Unit Cost/Hour:       \$267.19         Total Fleet Cost/Hour:       \$267.19         MATERIAL QUANTITIES       Selected estimating method:       Area         Alternate Methods:							
MATERIAL QUANTITIES       Selected estimating method:       Area         Alternate Methods:	±						
MATERIAL QUANTITIES       Selected estimating method:       Area         Alternate Methods:	Total Fleet Cost/H	Iour: <b>\$267</b>	.19				
Alternate Methods:       Internate Methods:         ic:       NA       Bark Volume:       NA         ia:       49.70       acres       Rip Depth (ft):       1.50       Volume:       120,274       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION         Seismic:       Seismic Velocity:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Adjusted Hourly Unit Production:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Job Efficiency:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Job Efficiency:       0.68       Acres/hr         Hours <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
in:       NA       BCY       NA         in:       49.70       acres       Rip Depth (ft):       1.50       Volume:       120,274       BCY         Source of estimated quantity:       AM-03 CIRCES Worksheet       HOURLY PRODUCTION       BCY       Source of estimated quantity:       AM-03 CIRCES Worksheet         Mound of the second       Seismic:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Site Altitude:       6.975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         Matter Hourly Fleet Production:       0.68       Acres/hr         M	MATERIAL QUANTITIES	Selec	ted estimating 1	method: Area	l.		
a:       49.70       acres       Rip Depth (ft):       1.50       Volume:       120,274       BCV         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION         Seismic:         Seismic Velocity:       NA       feet/second         Average Ripping Depth:         Average Ripping Depth:         Average Ripping Length:         Average Ripping Length:         Average Dozer Speed:         Average Maneuver Time:         O.822         Acres/hour         Job Condition Correction Factors         Unadjusted Hourly Unit Production:         O.822         Acres/hr         Site Altitude:         6,975         Geet         Acres/hr         Adjusted Hourly Unit Production:         O.68         Acres/hr         Adjusted Hourly Unit Production:         O.68         Acres/hr         Adjusted Hourly Unit Production:         O.68 <td>Alternate Methods:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Alternate Methods:						
acres       Rip Depth (ft):       1.50       Volume:       120,274       BCV         Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION         Seismic:         Seismic Velocity:       NA       feet/second         Area:         Average Ripping Depth:       2.56       feet/pass         Average Ripping Length:         Average Ripping Length:         Average Dozer Speed:       88.00         Average Maneuver Time:       0.25         minutes/pass         Production Pactors         Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Adjusted Hourly Unit Production:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hou	ic: NA	Bank Volume	NA	BCY		NA	
Source of estimated quantity:       AM-03 CIRCES Worksheet         HOURLY PRODUCTION         Seismic:       NA         feet/second         Area:       6et/second         Average Ripping Depth:       2.56         Average Ripping Width:       7.08         Average Ripping Length:       500.00         Average Ripping Length:       500.00         Average Ripping Length:       500.00         Average Maneuver Time:       0.25         Production per unit area:       0.822         Average Maneuver Time:       0.822         Average Maneuver Time:       0.822         Production per unit area:       0.822         Job Condition Correction Factors       0         Unadjusted Hourly Unit Production:       0.822         Adjusted Hourly Unit Production:       0.63         Job Efficiency:       0.68         Acres/hr         Adjusted Hourly Fleet Production:       0.68         Acres/hr         Adjusted Hourly Fleet Production:       0.68         Acres/hr       Acres/hr         Adjusted Hourly Fleet Production:       0.68         Acres/hr       Acres/hr					120.274		BCY of
HOURLY PRODUCTION         Seismic:         Seismic Velocity:       NA         feet/second         Area:         Average Ripping Depth:       2.56         Average Ripping Length:       7.08         Average Ripping Length:       500.00         Average Ripping Length:       500.00         Average Ripping Length:       500.00         Average Maneuver Time:       0.25         Production per unit area:       0.822         Acres/hr       Site Altitude:         6.975       feet         Altitude Adj:       1.00         Job Efficiency:       0.83         Quisted Hourly Unit Production:       0.68         Acres/hr       Adjusted Hourly Unit Production:         Adjusted Hourly Fleet Production:       0.68         Acres/hr       Acres/hr         Adjusted Flourly Fleet Production:       0.68         Acres/hr       Acres/hr <th></th> <th></th> <th></th> <th></th> <th>- , -</th> <th></th> <th></th>					- , -		
Seismic:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass         Average Ripping Width:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       nultiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Pleet Production:       0.68       Acres/hr         JOB TIME AND COST       E       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours	Source of estimate	d quantity: <u>AM-03</u>	CIRCES Work	sheet			-
Seismic Velocity:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass         Average Ripping Uength:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       E       Job Efficiency:       1.68         Fleet size:       1       Grader(s)       Total job time:       72.84       Hours	HOURLY PRODUCTION						
Area:       NA       feet/second         Area:       Average Ripping Depth:       2.56       feet/pass         Average Ripping Uength:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Naverage Ripping Length:       500.00       feet/pass         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         Hours       Fleet size:       1       Grader(s)       Total job time:       72.84	Seismic:						
Average Ripping Depth:       2.56       feet/pass         Average Ripping Width:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors		nic Velocity:	NA	feet/sec	ond		
Average Ripping Depth:       2.56       feet/pass         Average Ripping Width:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors	Area						
Average Ripping Width:       7.08       feet/pass         Average Ripping Length:       500.00       feet/pass         Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Job Efficiency:       0.68       Acres/hr         Job Efficiency:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         JOB TIME AND COST		pping Depth:	2.56	feet/pas	s		
Average Ripping Length:       500.00       feet/pass         Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         JOB TIME AND COST       Total job time:       72.84       Hours	e						
Average Dozer Speed:       88.00       feet/minute         Average Maneuver Time:       0.25       minutes/pass         Production per unit area:       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         JOB TIME AND COST							
Average Maneuver Time:       0.25       minutes/pass acres/hour         Job Condition Correction Factors       0.822       acres/hour         Job Condition Correction Factors       0.822       Acres/hr         Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Total job time:       72.84       Hours			88.00				
Job Condition Correction Factors         Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours			0.25	minutes	/pass		
Unadjusted Hourly Unit Production:       0.822       Acres/hr         Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Unit Production:       0.68       Acres/hr         JOB TIME AND COST       0.68       Total job time:       72.84       Hours	Production	per unit area:	0.822	acres/ho	our		
Site Altitude:       6,975       feet         Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours	Job Condition Correction Factors						
Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours	Unadjusted Hourly Uni	t Production:	0.822	Acres/h	r		
Altitude Adj:       1.00       (CAT HB)         Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours		Site Altitude:	6,975	feet			
Job Efficiency:       0.83       (1 shift/day)         Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours					IB)		
Net Correction:       0.83       multiplier         Adjusted Hourly Unit Production:       0.68       Acres/hr         Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours							
Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours			0.83		•		
Adjusted Hourly Fleet Production:       0.68       Acres/hr         JOB TIME AND COST       Fleet size:       1       Grader(s)       Total job time:       72.84       Hours	Adjusted Hou	rly Unit Production:	0.68	Acres/hr			
Fleet size:     1     Grader(s)     Total job time:     72.84     Hours	•	•					
	JOB TIME AND COST						
	Fleet size: 1 G	rader(s)	Total job time	e:7	2.84	Hours	
Unit cost: \$391.619 Per acre Total job cost: <b>\$19,463</b>							

# TRUCK/LOADER TEAM WORK

HOURLY EQUIPM	021 O organization nan MENT COST uck Loader Tear t Equipment -L -Du ntenance –Moto	m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	so Equipment Descri 770D T 990H high lift D8T - 8SU	Shift ba		Tone 1009-009		
Date: 5/19/20 User: TC1 Agency or of HOURLY EQUIPM Tru Suppor	organization nan MENT COST uck Loader Tear t Equipment -L -Du ntenance –Moto	County: El Pas ne: DRMS m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	so Equipment Descri 770D T 990H high lift D8T - 8SU	Shift ba	Filename: M			
User: <u>TC1</u> Agency or o HOURLY EQUIPM Tru Suppor	organization nan MENT COST uck Loader Tear t Equipment -L -Du ntenance –Moto	ne: DRMS m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	Equipment Descri 770D T 990H high lift D8T - 8SU	Shift ba		1009-009		
Agency or or HOURLY EQUIPM Tru Suppor	MENT COST uck Loader Tear t Equipment -L -Du ntenance –Moto	m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	770D T 990H high lift D8T - 8SU		sis: <u>1 per day</u>			
HOURLY EQUIPM	MENT COST uck Loader Tear t Equipment -L -Du ntenance –Moto	m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	770D T 990H high lift D8T - 8SU		sis: <u>1 per day</u>			
Tru Suppor	uck Loader Tear t Equipment -L -Du ntenance –Moto	m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	770D T 990H high lift D8T - 8SU		sis: <u>1 per day</u>			
Suppor	t Equipment -L -Du ntenance –Moto	m -Truck: Cat -Loader: CA oad Area: NA mp Area: Cat or Grader: NA	770D T 990H high lift D8T - 8SU	ption				
Suppor	t Equipment -L -Du ntenance –Moto	-Loader: CA oad Area: NA mp Area: Cat or Grader: NA	T 990H high lift D8T - 8SU					
	-Du ntenance –Moto	oad Area: NA mp Area: Cat or Grader: NA	: D8T - 8SU					
	-Du ntenance –Moto	mp Area: Cat or Grader: NA	: D8T - 8SU					
Road Main								
	-Wat	ter Truck:   Wa		Road Maintenance – Motor Grader: NA				
			ter Tanker, 5,000	Gal.				
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mainter	nance Equipment		
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck		
Utilization-machine:	100	100	NA	75	NA	100		
Ownership cost/hour:	\$81.31	\$111.11	NA	\$116.22	NA	\$29.31		
Operating cost/hour:	\$68.45	\$116.76	NA	\$67.32	NA			
%Utilization-riper:	NA	0	NA	NA	NA			
ipper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA			
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA			
Operator cost/hour:	\$24.82	\$35.97	NA	\$40.04	NA			
Unit Subtotals:	\$174.58	\$263.84	NA	\$223.58	NA			
Number of Units:	2	1	0	1	0			
Group Subtotals:	Work:	\$613.00	Support:	\$223.58	Maint:	\$71.45		
Total work team cost/h	hour: <u>\$908.03</u>							
MATERIAL QUA	NTITIES							
Initial volume:	75,827	CCY		factor: 1.000				
Loose volume:	75,82	7 LCY	7					
	ce of estimated		-03 CIRCES Worl	ksheet				
	f estimated swe		Handbook					
	Material Purcha To	tal Cost: \$0.00						
	10		~					

Truck Payload (weight) Basi	<u>s:</u>	
Material weight:	2,650	Pounds/LCY
Description:	Decomposed rock - 25%	Rock, 75% Earth
Rated Payload:	82,000	Pounds
Payload Capacity:	30.94	LCY

Truck Bed (volume) Basis:         Struck Volume:         Heaped Volume:         Average Volume:         Adjusted Volume:	31.70 L 26.65 L	CY CY CY CY				
Final '	Гruck Volume Ba	sed on Number of L	oader Passes:	31.22	LCY	<b>7</b>
Loading Tool Capacity						
			Buck	et Size Class:	NA	
Rated Capacity:	11.250	LCY (heaped)				
Bucket Fill Factor:	0.925	Loose material -	1/8" to 3/8" (9	0 - 95%) 0.92	.5	
Adjusted Capacity:	10.406	LCY				
		<i></i>				
Job Condition Corrections		Site	Altitude (ft.):	<u>6975</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE			
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Nu	mber of Loading To	ool Passes Requ		3	passes
Excavators and Front Shove	ls:			Truck:		
Machine Cycle Time v		Rating: NA				
•	within this Basic l					
		<u> </u>				
	Material Descript					
Cycle Time Elements (min.):						
Load: NA	Mar	neuver: NA		Dump:	0.100	
Wheel and Trac	k Loaders - Unadj	usted Basic Loader	•	-	0.600	minutes
			n	naneuver):		-
Cycle Time Factors				Factor (mi	n.) Sou	rce
Material:	Mixed materia			0.020	(Cat	
Stockpile:	Dumped by tru			0.020	(Cat	HB)
Truck Ownership:	Common owne 0.04	ership of trucks and	loaders -	-0.040	(Cat	HB)
Operation:	Constant opera	tion -0.04		-0.040	(Cat	HB)
Dump Target:	Nominal target			0.000	(Cat	
		Net Cycle Time	Adjustment:	-0.040	minu	
		Adjusted Loader		0.560	minu	
		Net Load Tin		1.220	minu	ites
Truck Cycle Time:						
Truck Exchange Time	e: 0.60	Minutes	Adjusted	for site altitud	le: 0.60	0 Minutes
Truck Load Time		Minutes	0	for site altitud		0 Minutes
Truck Maneuver and Dum	p 1.00	Minutes	•	for site altitud	-	0 Minutes
Time	·					

<u>Fruck Tra</u> naintaine	vel (Haul & Return) d 3.0	<u>Time:</u>	Road Condition	on: <u>Firm, smoot</u>	th, rolling, dirt	/lt. surfaced, wa
Iaul Rout	e:					
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel
•	(Ft)		(%)	(%)	(fpm)	Time
	× ,		× /	× ,		(min)
1	1250.00	2.00	3.00	5.00	1629	0.921
				Haul Time:	0.921	minutes
Return Ro	ute:					
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel
C	(Ft)	, í	(%)	(%)	(fpm)	Time
	(		(,-)	(,-,	(-1)	(min)
1	1250.00	-2.00	3.00	1.00	4254	0.557

			Total Truck Cycle Time:	4.298	minutes	
Loading Tool unit Production Truck Unit Production	1,029.19	LCY/Hour	Adjusted for job ef	ficiency:	854.23	LCY/Hour
The child found to the	435.81	LCY/Hour	Adjusted for job ef	ficiency:	361.72	LCY/Hour
Optimal No. of Trucks:	2	Truck(s)	Selected Number of	f Trucks:	2	Truck(s)
		Adjusted	hourly truck team production:	723.45	LCY/H	our
	А	djusted single	truck/loader team production:	723.45	LCY/H	our
	Adj	usted multiple	truck/loader team production:	723.45	LCY/H	our

Return Time:

0.557

minutes

Fleet size:	1	Team(s)	Total job time:	104.81	Hours
Unit cost:	\$1.255	/LCY	Total job cost:	\$95,173	

# **REVEGETATION WORK**

	Task description:   Broadcast grass seed mix on north facing quarry benches						
Site:	Menzer (	Quarry	Pe	rmit Action:	2021 Update	Permit/Jo	o#: M1976009HR
<u>P</u>	ROJECT Task #:	IDENTIFIC	CATION State:	Colorado		Abbreviation:	None
	Date: User:	5/19/2021 TC1	County:	El Paso		Filename:	M009-012A
	Age	ency or organiz	zation name: DF	RMS			

# **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.34	\$40.20
Triple superphosphate, 0-46-0	100.00	pound	\$0.43	\$42.50
			Total Fertilizer Materials Cost/Acre	\$82.70

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$37.03
	Total Fertilizer Application Cost/Acre	\$37.03

# **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Ryegrass, Perennial - Belramo	1.20	6.80	\$2.16
Sideoats Grama - Vaughn	1.30	4.27	\$10.89
Intermediate Wheatgrass - Oahe	2.20	4.70	\$6.16
Pubescent Wheatgrass - Luna	2.00	4.13	\$6.80
Yellow Sweet Clover - Madrid	5.00	29.84	\$14.13
Streambank Wheatgrass - Sodar	1.60	5.22	\$9.12
Western Wheatgrass - Native	2.30	5.81	\$13.80
Flax, Lewis Blue	4.00	26.53	\$66.00
Totals Seed Mix	20.10	95.46	\$135.92

## Application

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

### **MULCHING and MISCELLANEOUS**

#### Materials

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

Application

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

## NURSERY STOCK PLANTING

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

	No. of Acres: ed Failure Rate: ng Work Items:	 Cost /Acre: Cost /Acr <u>e*:</u> EDING	
Initial Job Cost:	\$5,939.80		
Reseeding Job Cost:	\$2,969.90		
Total Job Cost:	\$8,910		
Job Hours:	45.00		

# **REVEGETATION WORK**

Task description: Broadc		Broadcast grass	seed mix on	east facing quarr	y benches		
Site:	Site: Menzer Quarry		Per	Permit Action: 2021 Update		Permit/Job	o#: M1976009HR
<u>P</u> ]	ROJECT	IDENTIFIC 012B	ATION State:	Colorado		Abbreviation:	None
	Date: User:	5/19/2021 TC1	County:	El Paso		Filename:	M009-012B
	Age	ency or organiz	zation name: DF	RMS			

# **FERTILIZING**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.34	\$40.20
Triple superphosphate, 0-46-0	100.00	pound	\$0.43	\$42.50
			Total Fertilizer Materials Cost/Acre	\$82.70

## Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$37.03
	Total Fertilizer Application Cost/Acre	\$37.03

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Crested Wheatgrass - Nordan	1.70	7.81	\$6.63
Sideoats Grama - Vaughn	1.50	4.92	\$12.56
Yellow Sweet Clover - Madrid	5.00	29.84	\$14.13
Slender Wheatgrass - San Luis	1.80	6.57	\$7.65
Streambank Wheatgrass - Sodar	1.80	5.87	\$10.26
Western Wheatgrass - Native	2.70	6.82	\$16.20
Flax, Lewis Blue	3.00	19.90	\$49.50
Totals Seed Mix	18.00	89.89	\$123.79

#### Application

Description		Cost /Acre
Broadcast seeding [DMG]		\$267.22
	<b>Total Seed Application Cost/Acre</b>	\$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 N	Iulch Application Cost/Acre	\$0.00

# **NURSERY STOCK PLANTING**

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

No. of Acres:	11.2	Cost /Acre:	\$510.74
Estimated Failure Rate:	50%	Cost /Acre*:	\$510.74
*Selected Replanting Work Items:	FERTILIZING, SEEDING		
Initial Job Cost: \$5,720.29			

Initial Job Cost:	\$5,720.29
Reseeding Job Cost:	\$2,860.14
Total Job Cost:	\$8,580
Job Hours:	45.00

# **REVEGETATION WORK**

Task description:			Broadcast grass	seed mix on	south facing quar	ry benches	
Site:	Menzer	Quarry	Per	mit Action:	2021 Update	Permit/Jol	o#: M1976009HR
<u>P</u>	ROJECT Task #:	IDENTIFIC 012C	ATION State:	Colorado		Abbreviation:	None
	Date: User:	5/19/2021 TC1	County:	El Paso		Filename:	M009-012C
	Age	ency or organiz	zation name: DF	RMS			

# **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.34	\$40.20
Triple superphosphate, 0-46-0	100.00	pound	\$0.43	\$42.50
			Total Fertilizer Materials Cost/Acre	\$82.70

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$37.03
Tota	l Fertilizer Application Cost/Acre	\$37.03

# **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Great Basin Wildrye - Magnar	1.80	7.31	\$20.79
Sideoats Grama - Vaughn	1.50	4.92	\$12.56
Crested Wheatgrass - Standard	1.70	7.81	\$7.06
Yellow Sweet Clover - Madrid	5.00	29.84	\$14.13
Streambank Wheatgrass - Sodar	1.80	5.87	\$10.26
Western Wheatgrass - Native	2.70	6.82	\$16.20
Totals Seed Mix	15.00	70.73	\$87.86

## Application

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

### **MULCHING and MISCELLANEOUS**

#### Materials

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

Application

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

## NURSERY STOCK PLANTING

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

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	50%	SEEDING	Cost /Acre: Cost /Acre*:	
Initial Job Cost:	\$3,214.46				
Reseeding Job Cost:	\$1,607.23				
Total Job Cost:	\$4,822				
Job Hours:	25.00				

# **REVEGETATION WORK**

ction: 2021 Update Permit/Job#: M1976009HR
orado Abbreviation: None
Paso Filename: M009-013

# **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.34	\$40.20
Triple superphosphate, 0-46-0	100.00	pound	\$0.43	\$42.50
			Total Fertilizer Materials Cost/Acre	\$82.70

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$37.03
	<b>Total Fertilizer Application Cost/Acre</b>	\$37.03

# **TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$94.63
Total Tilling Cost/Acre	\$94.63

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.25	4.08	\$3.43
Great Basin Wildrye - Magnar	0.90	3.66	\$10.40
Sideoats Grama - Vaughn	0.75	2.46	\$6.28
Crested Wheatgrass - Standard	0.85	3.90	\$3.53
Yellow Sweet Clover - Madrid	2.50	14.92	\$7.06
Streambank Wheatgrass - Sodar	0.90	2.93	\$5.13
Western Wheatgrass - Native	1.35	3.41	\$8.10
Totals Seed Mix	7.50	35.37	\$43.93

#### Application

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

## **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 Applicat	tion Cost/Acre \$0.00

# **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
		Totals 2	Nursery Stoc	ek Cost / Acre	\$ <b>0.00</b>

No. of Acres:	49.7	Cost /Acre:	\$490.29
Estimated Failure Rate:	50%	Cost /Acre*:	\$490.29
*Selected Replanting Work Items:	FERTILIZING,TII	LING,SEEDING	
Initial Job Cost: <b>\$24.367.41</b>			

miliai Job Cost.	\$24,307.41
Reseeding Job Cost:	\$12,183.71
Total Job Cost:	\$36,551
Job Hours:	100.00

### Task # 017

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# BULLDOZER WORK

Task description:       Grade topsoil stockpile and quarry bench access road areas					
ite: Menzer Quarry	Permit Action:	2021 Update	b#: <u>M1976009HR</u>		
PROJECT IDENTIFI	CATION				
Task #:017	State: Colorado		Abbreviation:	None	
Date: 5/19/2021 User: TC1	County: El Paso		Filename:	M009-017	
Agency or organ	ization name: DRMS				
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	t D8T - 8SU	_			
Horsepower: 310					
Blade Type: Ser	ni-Universal				
Attachment: NA					
Shift Basis: 1 p	er day				
Data Source: (CF	RG)	_			
Cost Breakdown:	I	Utilization %			
Ownership Cost/Hour:	\$116.22	NA			
Operating Cost/Hour:	\$89.77	100			
Ripper own.					
Cost/Hour:	\$0.00	NA			
Ripper op. Cost/Hour:	\$0.00	0			
Operator Cost/Hour:	\$40.04	NA			
MATERIAL QUANTIInitial Volume:6,11Swell factor:1.00Loose volume:6,11	1				
		1.1			
Source of estimated volu Source of estimated swel factor:		ksneet			
HOURLY PRODUCT	ION				
Average push distance: Unadjusted hourly production:	50 feet 1,400.0 LCY/hr				
Materials consistency de	scription: Partly consolidated	stockpile 1.1			
Average push gradient:	-5 %				
Average site altitude:	6,975 feet				
Material weight:	2,900 lbs/LCY				
Weight description:	Decomposed rock - 50% Rock	, 50% Earth			

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Net correction: 0.4238

Adjusted unit production:	593.32 LCY/hr
Adjusted fleet	<b>593.32</b> LCY/hr
production:	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.415/LCY

Total job time:	10.30 Hours
Total job cost:	\$2,534

# **REVEGETATION WORK**

Т	ask descrip	otion:	Broadcast seed -	graded hau	l road areas		
Site:	Menzer (	Juarry	Per	rmit Action:	2021 Update	Permit/Job	#: <u>M1976009HR</u>
<u>P</u> ]		IDENTIFIC					
	Task #:	018	State:	Colorado		Abbreviation:	None
	Date:	5/19/2021	County:	El Paso		Filename:	M009-018
	User:	TC1					
	Age	ency or organiz	zation name: DF	RMS			

# **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.34	\$40.20
Triple superphosphate, 0-46-0	100.00	pound	\$0.43	\$42.50
			Total Fertilizer Materials Cost/Acre	\$82.70

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$37.03
	Total Fertilizer Application Cost/Acre	\$37.03

## **TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$94.63
Total Tilling Cost/Acre	\$94.63

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Great Basin Wildrye - Magnar	1.80	7.31	\$20.79
Sideoats Grama - Vaughn	1.80	5.91	\$15.08
Crested Wheatgrass - Standard	1.70	7.81	\$7.06
Streambank Wheatgrass - Sodar	1.80	5.87	\$10.26
Western Wheatgrass - Native	2.70	6.82	\$16.20
Totals Seed Mix	10.30	41.88	\$76.24

## Application

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

## **MULCHING and MISCELLANEOUS**

#### Materials

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

Application

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

## NURSERY STOCK PLANTING

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

No. of Acres:	3.8	Cost /Acre:	\$557.82
Estimated Failure Rate:	50%	Cost /Acre*:	\$557.82
*Selected Replanting Work Items:	FERTILIZING,TI	LLING,SEEDING	
Initial Job Cost: <b>\$2,119.72</b>			
Deceding Job Costs \$1 050 96			

Reseeding Job Cost:	\$1,059.86
Total Job Cost:	\$3,180
Job Hours:	10.00