

1313 Sherman St. Room 215 Denver, CO 80203

March 14, 2019

Mr. Andre Laroche Continental Materials Corporation 444 E. Costilla Colorado, CO 80903

Mr. Jerald Schnabel Castle Concrete Aggregates 7250 Allegheny Drive Colorado Springs, CO 80203

Re: Pikeview Quarry, Permit No. M-1977-211, Financial Warranty Increase, Revision No. SI-2

Dear Messrs. Laroche and Schnabel:

On March 14, 2019 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$21,924,090.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$17,698,090.00. The Division is notifying both of you because the pending Succession of Operator application has not been received or approved by the Division.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, 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

Enclosure: Cost Summary Work

ec: Barbara J. Coria, DRMS (w/o enclosure)

Andre Laroche, Continental Materials Corporation Jerald Schnabel, Castle Concrete Aggregates

M-FW-14



COST SUMMARY WORK

J	ask description:	Cost Summary			
Site:	Pikeview Quarry	Permit Action:	2019 Update	Permit/Job#:	M1977211

PROJECT IDENTIFICATION

Task #:A00State:ColoradoAbbreviation:NoneDate:3/11/2019County:El PasoFilename:M211-A00

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
B10	Rip weathered granite for Bathtub area backfill	RIPPER	2	78.87	\$50,390.00
B20	Drill/blast granite for Bathtub area backfill (\$0.66/ton) ‡	NA	1	201.00	\$1,397,423.00
B30	Load/Haul/Dump Ripped & Blasted Material	TRUCK1	1	2,395.38	\$1,685,270.00
B31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	348.14	\$405,585.00
B40	Place topsoil in Bathtub area	TRUCK1	1	14.54	\$11,667.00
B50	Revegetate Bathtub Area - 10.9 Ac (ref. App, Table 1)	REVEGE] 1	22.00	\$16,943.00
D01	Demo Maintenance Shop, Office & Outbuilding	DEMOLISH	1	0.00	\$33,021.36
E50	Revegetate East Area - 32.1 Ac (ref. App, Table 1)	REVEGE	1	64.00	\$49,895.00
H10	Rip weathered granite for Horseshoe area backfill	RIPPER	2	35.75	\$22,846.00
H20	Drill/blast granite for Horseshoe area backfill(\$0.66/ton) ‡	NA	1	91.00	\$633,562.00
H30	Load/Haul/Dump Ripped & Blasted Material- Horseshoe Area	TRUCK1	1	1,136.50	\$631,919.00
H31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	157.84	\$183,884.00
H40	Place topsoil in Horseshoe area	TRUCK1	1	8.55	\$6,858.00
H50	Revegetate Horseshoe Area - 7 Ac (ref. App, Table 1)	REVEGE	1	14.00	\$10,881.00
K10	Rip weathered granite for Kiewitt Cliffs backfill	RIPPER	2	78.33	\$50,045.00
K20	Drill/blast granite for Kiewitt area backfill (\$0.66/ton) ‡	NA	1	200.00	\$1,387,859.00
K30	Load/Haul/Dump Ripped & Blasted Material- Kiewit Cliffs	TRUCK1	1	2,710.60	\$1,643,738.00
K31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	345.76	\$402,809.00
K40	Place topsoil in Kiewit Cliffs area	TRUCK1	1	18.45	\$14,804.00
K50	Revegetate Kiewit Cliffs - 15.9 Ac (ref. App, Table 1)	REVEGE	1	32.00	\$24,715.00
M01	MOB / DEMOB	MOBILIZE	1	2.00	\$10,957.00
N10	Rip weathered granite for North Widows Peak backfill	RIPPER	2	79.34	\$50,692.00
N20	Drill/blast granite for North W. Peak backfill (\$0.66/ton) ‡	NA	1	202.00	\$1,405,790.00
N30	Load/Haul/Dump Ripped & Blasted Material-N. Widows Peak	TRUCK1	1	2,409.72	\$2,050,868.00
N31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	350.22	\$408,014.00

N40	Place topsoil in N. Widows Peak area	TRUCK1	1	18.06	\$17,158.00
N50	Revegetate N. Widows Peak - 13.9 Ac (ref. App, Table 1)	REVEGE	1	28.00	\$21,606.00
P10	Rip weathered granite for Plant area backfill	RIPPER	2	26.98	\$17,242.00
P20	Drill/blast granite for Plant area backfill (\$0.66/ton) ‡	NA	1	69.00	\$478,160.00
P30	Load/Haul/Dump Ripped & Blasted Material-Plant Area	TRUCK1	1	834.84	\$464,187.00
P31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	119.12	\$138,780.00
P40	Place topsoil in Plant area	TRUCK1	1	8.28	\$6,648.00
P50	Revegetate Plant Area - 6.2 Ac (ref. App, Table 1)	REVEGE	1	12.00	\$9,637.00
S10	Rip weathered granite for South Widows Peak backfill	RIPPER	2	78.33	\$50,045.00
S20	Drill/blast granite for South W. Peak backfill (\$0.66/ton) ‡	NA	1	200.00	\$1,387,859.00
S30	Load/Haul/Dump Ripped & Blasted Material-S. Widows Peak	TRUCK1	1	2,378.99	\$1,793,614.00
S31	Push ripped/blasted material transported w/ Loader & Trucks	DOZER	4	345.76	\$402,809.00
S40	Place topsoil in S. Widows Peak area	TRUCK1	1	19.04	\$18,085.00
S50	Revegetate S. Widows Peak - 14.6 Ac (ref. App, Table 1)	REVEGE	1	29.00	\$22,694.00
		SUBT	OTALS:	15163.39	\$17,418,959

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02 Total = \$351,862.97 Performance bond: 1.05 \$182,899.07 Total = Total = Job superintendent: 7,581.69 \$553,842.45 Profit: 10.00 Total = \$1,741,895.90

TOTAL O & P = \$2,830,500.39

CONTRACT AMOUNT (direct + O & P) = \$20,249,459.39

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):

Engineering work and/or contract/bid preparation:

Reclamation management and/or administration:

Outline 0.00

Total = 0.00

Total = \$662,157.32

\$1,012,472.97

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$4,505,130.68

TOTAL BOND AMOUNT (direct + indirect) = \$21,924,089.68

ROUNDED TOTAL BOND AMOUNT (direct + indirect) = \$21,924,090.00

BULLDOZER RIPPING WORK

	Task description:	Rip	weathered granite for Ba	thtub area ba	ckfill		
Site	: Pikeview Quar	ry	Permit Action:	2019 Update	Permi	t/Job#:	M1977211
	PROJECT IDE	ENTIFICAT	<u>ION</u>				
	Task #: B10)	State: Colorado		Abbrevi	ation:	None
		1/2019	County: El Paso			name:	M211-B10
	User: TC	[•			_	
	Agency	or organization	n name: DRMS				
	HOURLY EQU	JIPMENT C	OST				
	Basic N	Machine: Ca	at D10T - 10SU		Horsepower:	5	74
	Ripper Atta	chment: 1-	Shank Ripper		Shift Basis:	1 pe	er day
					Data Source:	(C	RG)
	Cost Breakdown:						
					Utilization %		
		Ownership C		\$129.20	NA 100		
	D:	Operating C		\$121.82	100		
		r Ownership (er Operating (\$18.04 \$10.15	NA 100		
	Кірр	Operator (\$40.23	NA		
		Total Unit C		\$319.44	1771		
		Total Fleet C	Cost/Hour: \$638	2 88			
	MATERIALO		<u></u>				
	MATERIAL Q		<u>S</u> ele	cted estimating	method: Seismic		
	Alternate Method						
Seismic:		BCY	Bank Volume:	163,660	BCY Volume: NA	Mid	lrange BCY or CC
Area:	NA	acres	Rip Depth (ft):	NA	_		BC1 01 CC
			imated quantity: See Ap	pendix, Table 2	2.		
	HOURLY PRO	<u>DUCTION</u>					
	Seismic:						
			Seismic Velocity:	5,000	feet/second		
	Area:						
			ge Ripping Depth:	NA	mph		
			ge Ripping Width:	NA	degrees		
			ge Ripping Length:	NA NA	feet		
			rage Dozer Speed:e Maneuver Time:	NA NA	feet feet		
			ction per unit area:	NA NA	acres/hour		
	Job Condition Co.			·			
			y Unit Production:	1,250.00	Cu. yds./hr		
	Olla	agasica 110all					
			Site Altitude:	7,200 1.00	feet (CAT HB)		
			Altitude Adj: Job Efficiency:	0.83	(CAT HB) (1 shift/day)	
			Net Correction:	0.83	multiplier	,	
		Δ dineto	d Hourly Unit Production:	1,037.50	Cu. yds./hr		
			Hourly Fleet Production:	2,075.00	Cu. yds./hr		
	JOB TIME AN	·	-	<u> </u>	 -		
	Fleet size:	2	Grader(s)	Total job tim	ne: 78.8 °	7	Hours
	_		<u> </u>	-			
	Unit cost:	\$0.308	Per cu. yd.	Total job cos	st: \$50,3 9	90	

TRUCK/LOADER TEAM WORK

Task description:	Load/H	aul/Dump	Ripped	l & Blasted Mat	erial			
Site: Pikeview Quart	ry	Perr	nit Actio	on: 2019 Update	e	Permit/Job#:	M1977211	
PROJECT IDE	NTIFICATION	<u>I</u>						
Task #: B30		State:	Colora	do	Ab	breviation:	None	
Date: $2/12$	/2019	County:	El Paso)		Filename:	M211-B30	
User: TC1						_		
HOURLY EQU	or organization nar		MS	Equipment Descri		is: 1 per day		_
	Truck Loader Tea	ım -Truck			puon			_
	Truck Louder Tee	-Loader		7 980H				
Sup	port Equipment -I	oad Area						_
	-D	ump Area	: NA					
Road N	Maintenance –Mot	or Grader		Γ 12M				
	-Wa	iter Truck	: Wat	er Tanker, 5,000	Gal.			_
<u>Cost Breakdown</u> :		ader Tean	1		Equipment		enance Equip	
	Truck	Loader		Load Area	Dump Area	Motor Grad	der Water	Truck
%Utilization-machine:	100		100	NA	NA		25	25
						4.00		A

Cost Breakdown:	Truck/Loa	ader Team	Support l	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	25	25
Ownership cost/hour:	\$66.13	\$50.17	NA	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.19	NA	NA	\$7.65	\$9.15
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.13	NA	NA	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.48	NA	NA	\$84.03	\$34.45
Number of Units:	3	1	0	0	1	1
Group Subtotals:	Work:	\$585.07	Support:	\$0.00	Maint:	\$118.48

Total work team cost/hour: \$703.55

MATERIAL QUANTITIES

CCY Initial volume: 1,169,000 Swell factor: 1.120

Loose volume: 1,309,280 LCY

> Source of estimated volume: See Appendix, Table 2; Haul distance from AM3, Exhibit L

Cat Handbook Source of estimated swell factor:

> Material Purchase Cost: \$0.00

Total Cost: \$0.00

HOURLY PRODUCTION

Truck Capacity:

Truck Payload (weight) Basis:

Material weight: 3,250 Pounds/LCY

Description: Gravel - Pitrun Rated Payload: 87,000 Pounds Payload Capacity: 26.77 LCY

Truck Bed (volume) Basi Struck Volume:		24.20	LCY				
Heaped Volume:		31.40	LCY				
Average Volume:		27.80	LCY				
Adjusted Volume:		26.77	LCY				
F	inal Tr	ruck Volume	e Based on Numbe	er of Loader Passes:	24.75	LCY	
Loading Tool Capacity				1 01 200001 1 000001			
Bound Tool Cupucity				Buc	ket Size Class:	NA	
Rated Capacity	' :	7.500	LCY (heape	d)	-		
Bucket Fill Factor		0.825		- avg. blasted (75	- 90%) 0.825		
Adjusted Capacity	·:	6.188	LCY				
Job Condition Correction	ons:			Site Altitude (ft.):	7200 feet		
	7	Truck	Loader	Source	:		
Altitude Adj:	(0.960	1.000	(CAT HI	B)		
Job Efficiency:	(0.830	0.830	(CAT HI	3)		
Net Correction:		0.797	0.830				
L							
Loading Tool Cycle Tin	ne:	Numbe	er of Loading Tool	Passes Required to	Fill Truck:	4	passes
Loading Tool Cycle Tin Excavators and Front Sh			er of Loading Tool	Passes Required to	Fill Truck:	4	passes
Excavators and Front Sh	ovels:		-	Passes Required to	Fill Truck:	4	passes
-	ovels: ne vs. J	Job Conditio	on Rating: NA	Passes Required to	Fill Truck:	4	passes
Excavators and Front Sh Machine Cycle Tin Selected Val	ovels: ne vs. J ue wit	Job Condition	on Rating: NA NA	Passes Required to	Fill Truck:	4	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader	ovels: ne vs. J ue wit	Job Condition	on Rating: NA NA	Passes Required to	Fill Truck:	4	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m	ovels: ne vs. J ue wit	Job Condition thin this Bastaterial Description	on Rating: NA ic Rating: NA ription:	Passes Required to			passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader	ovels: ne vs. J ue wit	Job Condition thin this Bastaterial Description	on Rating: NA NA	Passes Required to		100	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m	ovels: ne vs. J ue wit rs – M	Job Condition thin this Base atternal Description Markette Markett	on Rating: NA NA NA ription: NA		Dump: 0.	100	passes
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Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. J ue wit rs – M in.): ers - U ors al: E: p: C: n: C:	Job Condition thin this Base atternal Description Manager Bank or broke No adjustme Common ow Constant open	on Rating: NA ic Rating: NA ic Rating: NA ription: NA assic Loader Cycle assert and a control of trucks are ration -0.04	Time (load, dump,	Dump: 0. maneuver): Factor (min.) 0.040 0.000 -0.040 -0.040	100 0.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
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<u>Truck Travel (Haul & Return) Time:</u> Road Condition: <u>Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0</u>

Truck(s)

Haul Route:

Se	eg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1		2500.00	-8.00	3.00	-5.00	2721	0.988

Haul Time: 0.988 minutes

Return Route:

recturn rec	rute.					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	8.00	3.00	11.00	1610	1.639

Return Time: 1.639 minutes
Total Truck Cycle Time: 5.924 minutes

Selected Number of Trucks: 3

Loading Tool unit

Optimal No. of Trucks:

Production Control of the Production Production Truck Unit Production Control of the Production

Adjusted hourly truck team production:
Adjusted single truck/loader team production:
Adjusted multiple truck/loader team production:

546.59

LCY/Hour

Adjusted multiple truck/loader team production:

JOB TIME AND COST

3

Truck(s)

Fleet size: 1 Team(s) Total job time: 2,395.38 Hours

Unit cost: \$1.287 /LCY Total job cost: \$1,685,270

BULLDOZER WORK

Task description:	Push	ripped/blas	sted materia	l transported w/ Loade	er & Trucks	
: Pikeview Quarry	7	Per	mit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDEN	TIFICATION	ON				
Task #: B31		State:	Colorado		Abbreviation:	None
Date: $\frac{B31}{2/11/2}$	2019	County:	El Paso		Filename:	M211-B31
User: $\frac{2/11/2}{\text{TC1}}$	2017	County.	Lilaso		i nename.	WI211 D31
	organization	nomo: DI	RMS			
			CIVIS			
HOURLY EQUI	PMENT CO	<u>OST</u>				
Basic Machine:	Cat D10T -	10SU				
Horsepower:	574					
Blade Type:	Semi-Unive	ersal				
Attachment:	NA					
Shift Basis:	1 per day					
Data Source:	(CRG)			<u> </u>		
Cost Breakdown:						
_				<u>Utilization %</u>		
Ownership Cost/H			\$129.20	NA		
Operating Cost/H			\$121.82	100		
Ripper own. Cost/H			\$0.00	NA		
Ripper op. Cost/H			\$0.00	0		
Operator Cost/H	our:		\$40.23	NA		
MATERIAL QU Initial Volume: Swell factor:	1,169,000 1.124		_			
Loose volume:	1,313,488 L0	CY				
Source of estimated		See Appe		2.; dry sand/gravel select	ted for	
HOURLY PROD	OUCTION					
Average push distan		150 feet				
Unadjusted hourly p	production:	1,243.2 LC	Y/hr			
Materials consistence	ey description	: Rock,	well ripped o	or blasted 0.8	_	
Average push gradie						
Average site altitude	e: 7,200	feet				
Material weight:	2,900	lbs/LCY				
Weight description:	Sand	and gravel -	Dry			
Job Condition Corre				Source		
	rator Skill:		.750	(AVG.)		
Material co			.800	(CAT HB)		
Dozir	ng method:	1.	.200	(S-BY-S)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: 348.14 Hours
Total job cost: \$405,585

TRUCK/LOADER TEAM WORK

Site: Pikeview Quarry		Permit Action	on: 2019 Update	e]	Permit/Job#: M	[1977211
PROJECT IDENT	TIFICATION					
Task #: _ B40		State: Colora		Ab	breviation: No	
Date: 2/12/20 User: TC1)19 (County: El Pas	0		Filename: M2	211-B40
		DDI (G				
Agency or o	organization nan	ne: DRMS				
HOURLY EQUIP	MENT COST	<u>r</u>		Shift bas	is: 1 per day	
		- I	Equipment Descri	intion		
Tr	ruck Loader Tear	m -Truck: Cat	740	F		
			Г 980Н			
Suppor	rt Equipment -L	oad Area: NA Cat	D9T - 9SU			
Road Ma	intenance –Moto		Γ 12M			
			er Tanker, 5,000	Gal.		
Cost Breakdown:		der Team		Equipment		water Truck
Cost Breakdown:	Truck/Loa Truck	nder Team Loader	Support Load Area	Equipment Dump Area	Maintenar Motor Grader	Water Truck
%Utilization-machine:		Loader 100	Load Area NA	Dump Area		Water Truck 25
%Utilization-machine: Ownership cost/hour:	Truck 100 \$66.13	Loader	Load Area NA NA	Dump Area	Motor Grader 25 \$30.73	25 \$25.30
%Utilization-machine: Ownership cost/hour: Operating cost/hour:	Truck 100 \$66.13 \$55.75	100 \$50.17 \$56.19	Load Area NA NA NA	Dump Area 100 \$110.70 \$95.46	25 \$30.73 \$7.65	25 \$25.30 \$9.15
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper:	Truck 100 \$66.13 \$55.75 NA	100 \$50.17 \$56.19	Load Area NA NA NA NA NA	Dump Area 100 \$110.70 \$95.46 NA	25 \$30.73 \$7.65 NA	25 \$25.30 \$9.15 NA
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA	100 \$50.17 \$56.19 0 \$0.00	Load Area NA NA NA NA NA NA NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00	25 \$30.73 \$7.65 NA \$0.00	\$25.30 \$25.30 \$9.15 NA \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA	100 \$50.17 \$56.19 0 \$0.00	Load Area NA NA NA NA NA NA NA NA NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00	25 \$30.73 \$7.65 NA \$0.00 \$0.00	25 \$25.30 \$9.15 NA \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65	100 \$50.17 \$56.19 0 \$0.00 \$0.00	NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23	25 \$30.73 \$7.65 NA \$0.00 \$0.00	\$25.30 \$25.30 \$9.15 NA \$0.00 \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65 \$147.53	100 \$50.17 \$56.19 0 \$0.00	Load Area NA NA NA NA NA NA NA NA NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00	25 \$30.73 \$7.65 NA \$0.00 \$0.00	\$25.30 \$25.30 \$9.15 NA \$0.00 \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65	100 \$50.17 \$56.19 0 \$0.00 \$0.00	NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23 \$246.39	25 \$30.73 \$7.65 NA \$0.00 \$0.00	\$25.30 \$25.30 \$9.15 NA \$0.00 \$0.00 \$34.45
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour: Unit Subtotals:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65 \$147.53	100 \$50.17 \$56.19 0 \$0.00 \$0.00 \$36.13 \$142.48	NA	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23 \$246.39	25 \$30.73 \$7.65 NA \$0.00 \$0.00 \$45.64 \$84.03	Water Truck 25 \$25.30 \$9.15 NA \$0.00 \$0.00 \$34.45
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour: Unit Subtotals: Number of Units:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65 \$147.53 2 Work:	100 \$50.17 \$56.19 0 \$0.00 \$0.00 \$36.13 \$142.48 1	NA N	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23 \$246.39	25 \$30.73 \$7.65 NA \$0.00 \$0.00 \$45.64 \$84.03	Water Truck 25 \$25.30 \$9.15 NA \$0.00 \$0.00 \$34.45
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour: Unit Subtotals: Number of Units: Group Subtotals:	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65 \$147.53 2 Work:	100 \$50.17 \$56.19 0 \$0.00 \$0.00 \$36.13 \$142.48 1	NA N	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23 \$246.39	25 \$30.73 \$7.65 NA \$0.00 \$0.00 \$45.64 \$84.03	Water Truck 25 \$25.30 \$9.15 NA \$0.00 \$0.00 \$34.45
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour: Unit Subtotals: Number of Units: Group Subtotals: Total work team cost	Truck 100 \$66.13 \$55.75 NA NA NA \$25.65 \$147.53 2 Work:	100 \$50.17 \$56.19 0 \$0.00 \$0.00 \$36.13 \$142.48 1	Load Area NA NA NA NA NA NA NA SA NA SA SA Support:	Dump Area 100 \$110.70 \$95.46 NA \$0.00 \$0.00 \$40.23 \$246.39	25 \$30.73 \$7.65 NA \$0.00 \$0.00 \$45.64 \$84.03	Water Truck 25 \$25.30 \$9.15 NA \$0.00 \$0.00 \$34.45

HOURLY PRODUCTION

Source of estimated swell factor:

Material Purchase Cost:

Total Cost:

Truck Capacity:
Truck Payload (weight) Basis:

Material weight:	1,600	Pounds/LCY
Description:	Top Soil	-
Rated Payload:	87,000	Pounds
Payload Capacity:	54.38	LCY

Cat Handbook

\$0.00

\$0.00

Truck Travel (Haul & Return) Time:

Truck Bed (volume) Basis: Struck Volume:	24.20	LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:		LCY				
rajusted volume.	31.40	LC I				
Final	Truck Volume	Based on Number of	of Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Buck	et Size Class: N	A	
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/di	rt mixtures (100-	120%) 1.100		_
Adjusted Capacity:	8.250	LCY				
Job Condition Corrections:	<u>L</u>	S	ite Altitude (ft.): 72	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB))		
Job Efficiency:	0.830	0.830	(CAT HB))		
Net Correction:	0.797	0.830				
Loading Tool Cycle Time:		of Loading Tool Pa	asses Required to F	ill Truck:	3 1	passes
Loading Tool Cycle Time: Excavators and Front Shove		of Loading Tool Pa	asses Required to F	fill Truck:	3 1	passes
-	<u>ls:</u> s. Job Conditior	n Rating: NA	asses Required to F	ill Truck:	3 1	passes
Excavators and Front Shove Machine Cycle Time v	ls: s. Job Condition within this Basio	n Rating: NA NA NA	asses Required to F	ïll Truck:	3 1	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders –	ls: s. Job Condition within this Basic Material Descri	n Rating: NA NA NA	asses Required to F	ïll Truck:	3 1	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders –	ls: s. Job Condition within this Basio Material Descri	n Rating: NA NA NA	asses Required to F	Fill Truck:	,	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders — Cycle Time Elements (min.):	ls: s. Job Condition within this Basic Material Descri	n Rating: NA c Rating: NA ption: NA aneuver: NA	·	Dump: 0.100	,	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders –	ls: s. Job Condition within this Basic Material Descri	n Rating: NA c Rating: NA ption: NA aneuver: NA	·	Dump: 0.100 naneuver): 0.		
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba	n Rating: NA	·	Dump: 0.100 naneuver): 0. Factor (min.)	.550 min	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke	n Rating: NA	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040	.550 min Source (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke	n Rating: NA c Rating: NA sption: NA sption: NA sic Loader Cycle Ti en material 0.04 tt - factor not applica	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.)	550 min Source (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke	n Rating: NA c Rating: NA sption: NA sption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicatership of trucks and	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000	.550 min Source (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common own	n Rating: NA c Rating: NA sption: NA sption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicatership of trucks and ration -0.04	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040	550 min Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common owr Constant oper	n Rating: NA c Rating: NA sption: NA sption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicateship of trucks and ration -0.04 et 0.00	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	550 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common owr Constant oper	n Rating: NA c Rating: NA ption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 deloaders -0.04 del	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common owr Constant oper	n Rating: NA c Rating: NA ption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 la loaders -0.04 la loaders -0	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common owr Constant oper	n Rating: NA c Rating: NA ption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 deloaders -0.04 del	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	ls: s. Job Condition within this Basic Material Descri M Unadjusted Ba Bank or broke No adjustmen Common owr Constant oper Nominal targe	n Rating: NA c Rating: NA ption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 deloaders -0.04 del	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	s. Job Condition within this Basic Material Descri	n Rating: NA c Rating: NA ption: NA sic Loader Cycle Ti en material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Ti Adjusted Load Net Load T	me (load, dump, mable 0.00 decomposed loaders -0.04 decomposed loaders	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.120	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes

maintained 3.0

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

Truck(s)

(min)

0.800

1150.00

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1150.00	-8.00	3.00	-5.00	2721	0.497

Return Route:

Seg # Haul Distance (Ft) Grade (%) Roll. Res (%) (%) (%) Travel (fpm) Time

3.00

8.00

Truck(s)

2

Return Time: 0.800 minutes
Total Truck Cycle Time: 4.084 minutes

1610

Selected Number of Trucks: 2

Loading Tool unit

Optimal No. of Trucks:

Production S51.00 LCY/Hour Adjusted for job efficiency: 706.33 LCY/Hour Truck Unit Production 363.64 LCY/Hour Adjusted for job efficiency: 301.82 LCY/Hour

Adjusted hourly truck team production: 603.65 LCY/Hour Adjusted single truck/loader team production: 603.65 LCY/Hour Adjusted multiple truck/loader team production: 603.65 LCY/Hour

11.00

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 14.54
 Hours

 Unit cost:
 \$1.329
 /LCY
 Total job cost:
 \$11,667

REVEGETATION WORK

Task description:	Revegetate Bathtub A	rea - 10.9 Ac	(ref. App, T	able 1)		
Pikeview Quarry	Permit A	Permit Action: 2019 Update Permit/Job#:				
ROJECT IDENTII	FICATION					
Task #: B50 Date: 2/8/2019 User: TC1		orado aso				None M211-B50
Agency or org	anization name: DRMS					
ERTILIZING						
Iaterials Description		Units / Acre	Unit	Cost	t / Unit	Cost /Acre
				\$		\$
				Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application						Gard /A arra
Description						Cost /Acre
		Tota	l Fertilizer A	pplication	n Cost/Acre	\$ \$0.00
TILLING						
Description						Cost /Acre
Chisel plowing {DM	IG}					\$92.77
			To	otal Tillin	g Cost/Acre	\$92.77
EEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachit	ta			0.50	8.16	\$8.33

Crested Wheatgrass - Ephraim

Little Bluestem - Native

Mahogany, Mountain

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky

Alfalfa - Ranger (inoculated)

Western Wheatgrass - Arriba

Intermediate Wheatgrass - Oahe

Pubescent Wheatgrass - Greenleaf

CIRCES	Cost	Estimating	Software

\$3.75

\$16.13

\$19.80

\$12.96

\$15.72

\$2.66

\$15.28

\$75.38

\$33.12

1.00

1.00

2.00

2.00

4.00

1.00

4.00

2.00

4.00

4.59

5.97

6.57

8.03

8.54

4.82

8.26

2.71

10.10

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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

JOB TIME AND COST

No. of Acres: 10.9 Cost /Acre: \$1,243.50 Cost /Acre*: \$1,243.50

Estimated Failure Rate: 25% C
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$13,554.15 Reseeding Job Cost: \$3,388.54

Total Job Cost: \$16,943 Job Hours: **22.00**

DEMOLITION WORK

Demo Maintenance Shop, Office & Outbuilding

Task description:

Cou	enty: El Paso				
			Location	adjustment	93.10 %
Dimensions ‡	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
18' x 80' x 80'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	115,200.00	CF	\$0.18	\$20,966.40
0.5' x 80' x 80'	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	6,400.00	SF	\$0.81	\$5,203.20
9' x 42' x 72'	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	27,216.00	CF	\$0.24	\$6,450.19
0.33' x 42' x 72'	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 200 ft. push	3,024.00	SF	\$0.54	\$1,639.01
9' x 15' x 37'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	4,995.00	CF	\$0.18	\$909.09
0.33' x 15' x 37'	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 200 ft.	555.00	SF	\$0.54	\$300.81
	Dimensions ‡ 18' x 80' x 80' 0.5' x 80' x 80' 9' x 42' x 72' 0.33' x 42' x 72'	County: El Paso Dimensions Demolition Menu Selection	Dimensions # Demolition Menu Selection Selection Selection Dimensions # Demolition Menu Selection Selection 115,200.00 115,200	DRMS Demolition Menu Selection Selection Dimensions Demolition Menu Selection Dimensions Demolition Menu Selection Dimensions Demolition Menu Selection Dimensions Demolition Menu Selection Demolition Menu Demolition Menu Demolition Menu Selection Demolition Menu Demol	County: El Paso Filename: M211

REVEGETATION WORK

Task description:	Revegetate East Are	ea - 32.1 Ac (re	f. App, Tabl	e 1)		
Pikeview Quarry	Permit	Permit Action: 2019 Update Permit/Job#:			: <u>M1977211</u>	
PROJECT IDENTIFIC	<u>CATION</u>					
Task #: E50	State: Co	olorado		Ab	breviation:	None
Date: 2/8/2019		Paso		_	Filename:	M211-E50
User: TC1				_		
Agency or organ	ization name: DRMS					
<u>FERTILIZING</u>						
Jaterials						T
Description		Units / Acre	Unit	Cos	t / Unit	Cost /Acre
				\$		\$
				Tot	al Fertilizer Materials Cost/Acre	\$0.00
pplication Description						Cost /Acre
						\$
		Total	Fertilizer A	applicatio	n Cost/Acre	\$0.00
<u> TILLING</u>						
Description						Cost /Acre
Chisel plowing {DMG	}					\$92.77
			To	otal Tillin	g Cost/Acre	\$92.77
SEEDING						
				Rate –	g -	G . / /:
Seed Mix				PLS LBS /	Seeds per SQ. FT	Cost /Acre
Rlue Grama - Hachita				Acre 0.50	8 16	\$8.33

Joeu Hila	LBS /	per SQ.	
	Acre	FT	
Blue Grama - Hachita	0.50	8.16	\$8.33
Crested Wheatgrass - Ephraim	1.00	4.59	\$3.75
Little Bluestem - Native	1.00	5.97	\$16.13
Sideoats Grama - El Reno	2.00	6.57	\$19.80
Russian Wildrye - Bozoisky	2.00	8.03	\$12.96
Intermediate Wheatgrass - Oahe	4.00	8.54	\$15.72
Alfalfa - Ranger (inoculated)	1.00	4.82	\$2.66
Pubescent Wheatgrass - Greenleaf	4.00	8.26	\$15.28
Mahogany, Mountain	2.00	2.71	\$75.38
Western Wheatgrass - Arriba	4.00	10.10	\$33.12

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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

JOB TIME AND COST

 No. of Acres:
 32.1
 Cost /Acre:
 \$1,243.50

 Estimated Failure Rate:
 25%
 Cost /Acre*:
 \$1,243.50

*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$39,916.35

Reseeding Job Cost: \$9,979.09

Total Job Cost: Job Hours: 64.00

BULLDOZER RIPPING WORK

	Task description:	_Ri	p weathered granite for H	lorseshoe area	backfill			
Site	: Pikeview Quar	rry	Permit Action:	2019 Update	Pern	nit/Job#	: <u>M19772</u>	11
	PROJECT IDE	ENTIFICAT	ΓΙΟΝ					
	Task #: H10)	State: Colorado		Abbrev	iation:	None	
		1/2019	County: El Paso			ename:	M211-H1	.0
	User: TC							
	Agency	or organizati	on name: DRMS					
	HOURLY EQU	J IPMENT	COST					
	Basic I	Machine: (Cat D10T - 10SU		Horsepower:		574	
	Ripper Atta		-Shank Ripper	<u> </u>	Shift Basis:	1	per day	
	11				Data Source:		(CRG)	
	Cost Breakdown:							
					Utilization %			
		Ownership	Cost/Hour:	\$129.20	NA			
			Cost/Hour:	\$121.82	100			
		er Ownership		\$18.04	NA			
	Ripp	er Operating		\$10.15	100			
		-	Cost/Hour:	\$40.23	NA			
		Total Unit	Cost/Hour:	\$319.44				
		Total Fleet	Cost/Hour: \$63	8.88				
	MATERIAL Q	UANTITII	ES Sel	ected estimating	g method: Seismi	c		
	Alternate Method	s:		•	<u></u>			
Caiamia		BCY	Bank Volume:	74,200	BCY	N	Iidrange	
Seismic: Area:	74,200 NA	acres	Rip Depth (ft):	NA	Volume: NA		nurange	BCY or CC
r Heu.	1171							Be I of ee
		Source of es	stimated quantity: See Ap	opendix, Table	2.			
	HOURLY PRO	DUCTION	<u>1</u>					
	Seismic:							
			Seismic Velocity:	5,000	feet/second	1		
	Area:							
	Alca.	Ave	age Ripping Depth:	NA	mph			
			rage Ripping Width:	NA	degrees			
			age Ripping Length:	NA	feet			
		Av	verage Dozer Speed:	NA	feet			
			ge Maneuver Time:	NA	feet			
		Prod	uction per unit area:	NA	acres/hour			
	Job Condition Co	rrection Factor	<u>ors</u>					
	Una	adjusted Hou	rly Unit Production:	1,250.00	Cu. yds./hi	ŗ		
			Site Altitude:	7,200	feet			
			Altitude Adj:	1.00	(CAT HB)			
			Job Efficiency:	0.83	(1 shift/day			
			Net Correction:	0.83	multiplier			
			ed Hourly Unit Production:	1,037.50				
		Adjuste	ed Hourly Fleet Production:	2,075.00	Cu. yds./hr			
	JOB TIME AN	D COST						
	Fleet size:	2	Grader(s)	Total job tin	ne: 35.	76	Ho	urs
	Unit cost:	\$0.308	Per cu. vd.	Total job co	ost: \$22. \$	846		

TRUCK/LOADER TEAM WORK

Task description:		aul/Dump Rippe				1077211		
ite: Pikeview Quarr	<u>y</u>	Permit Action	on: 2019 Update	<u>e</u>	Permit/Job#: M	1977211		
PROJECT IDEN	NTIFICATION	1						
-	Task #: H30 State: Colorado Abbreviation: None							
Date: $\frac{2}{12}$	2019	County: El Pas				211-H30		
User: TC1								
Agency or	r organization na	me: DRMS						
HOURLY EQUI	PMENT COS	<u>T</u>		Shift bas	is: 1 per day			
			Equipment Descri	iption				
-	Fruck Loader Tea		740					
	ant Farriannant I		Т 980Н					
Supp	oort Equipment -I D-	Load Area: NA ump Area: NA						
Road M	Iaintenance –Mot		T 12M					
	-Wa	ater Truck: Wa	ter Tanker, 5,000	Gal.				
Cost Breakdown:	Tanals/Lo	ader Team	Cummont	Equipment	Maintanan	as Esvimment		
Cost Breakdown:	Truck	Loader	Load Area	Dump Area	Motor Grader	water Truck		
Utilization-machine:	100	100	NA	NA	25			
Ownership cost/hour:	\$66.13	\$50.17	NA	NA	\$30.73	\$25		
Operating cost/hour:	\$55.75	\$56.19	NA	NA	\$7.65	\$9.		
%Utilization-riper:	NA	0	NA	NA	NA	N		
pper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.		
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.0		
Operator cost/hour:	\$25.65	\$36.13	NA	NA	\$45.64	\$0.0		
Unit Subtotals:	\$147.53	\$142.48	NA	NA	\$84.03	\$34.4		
Number of Units:	2	1	0	0	1			
Group Subtotals:	Work:	\$437.54	Support:	\$0.00	Maint:	\$118.48		
Total work team co		2						
MATERIAL QU	<u>JANTITIES</u>							
Initial volume		CCY		factor: 1.120				
Loose volume	: 593,6	<u>00</u> LCY						
	ource of estimated		* *	2; Haul distance fr	om AM3, Exhibit	L		
Source	e of estimated sw		Handbook					
	Material Purch	tase Cost: $\frac{\$0.00}{\$0.00}$						
	1	σιαι Cost. <u>φυ.υ</u>	,					
HOURLY PRO	DUCTION							
Truck Capacity:								
Truck Payload (wei								
Material			Pounds/LCY	-				
Descr	ription: Grave	l - Pitrun						

Pounds LCY

Rated Payload: __Payload Capacity: __

87,000

26.77

Struck Volume:	24.20 I	LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:		LCY				
	_					
Final	Truck Volume	Based on Number of Lo	oader Passes:	24.75	LCY	
Loading Tool Capacity						
		1	Bucke	et Size Class: N	A	
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	0.825	Blasted rock - avg.	blasted (75 - 9	90%) 0.825		_
Adjusted Capacity: _	6.188	LCY				
Job Condition Corrections	<u>L</u>	Site A	Altitude (ft.): 72	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB)			
Job Efficiency:	0.830	0.830	(CAT HB)			
Net Correction:	0.797	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Passes	s Required to Fi	Ill Truck:		passes
Excavators and Front Shove	<u>ls:</u>					
Machine Cycle Time v						
Machine Cycle Time v	s. Job Condition within this Basic	Rating: NA				
Machine Cycle Time v Selected Value	s. Job Condition within this Basic Material Descri	Rating: NA				
Machine Cycle Time v Selected Value Track Loaders –	s. Job Condition within this Basic Material Descri	Rating: NA		Dump: 0.100		
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA	s. Job Condition within this Basic Material Descri	Rating: NA ption: aneuver: NA				
Machine Cycle Time v Selected Value Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders —	s. Job Condition within this Basic Material Descri	Rating: NA ption: aneuver: NA	(load, dump, m	aneuver): 0.	.550 min	utes
Machine Cycle Time v Selected Value Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors	s. Job Condition within this Basic Material Descri Ma Unadjusted Bas	Rating: NA ption: aneuver: NA sic Loader Cycle Time ((load, dump, ma	aneuver): 0. Factor (min.)	550 minu Source	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material:	s. Job Condition within this Basic Material Descri Ma Unadjusted Bas Bank or broke	Rating: NA ption: aneuver: NA sic Loader Cycle Time (aneuver): 0. Factor (min.) 0.040	Source (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile:	s. Job Condition within this Basic Material Descri Ma Unadjusted Bas Bank or broke	Rating: NA ption: Anneuver: NA sic Loader Cycle Time (an material 0.04 t - factor not applicable	0.00	aneuver): 0. Factor (min.) 0.040 0.000	Source (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own	Rating: NA ption: aneuver: NA sic Loader Cycle Time (an material 0.04 t - factor not applicable ership of trucks and loa	0.00	Factor (min.) 0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own Constant opera	e Rating: NA ption: NA aneuver: NA sic Loader Cycle Time (an material 0.04 t - factor not applicable ership of trucks and load attion -0.04	0.00	Factor (min.) 0.040 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own	Rating: NA ption: aneuver: NA sic Loader Cycle Time (n material 0.04 t - factor not applicable ership of trucks and loa ation -0.04 t 0.00	0.00 ders -0.04	aneuver):0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own Constant opera	Rating: NA ption: aneuver: NA sic Loader Cycle Time (an material 0.04 at - factor not applicable ership of trucks and load ation -0.04 at 0.00 Net Cycle Time A	0.00 ders -0.04 Adjustment:	aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own Constant opera	Rating: NA ption: aneuver: NA sic Loader Cycle Time (n material 0.04 t - factor not applicable ership of trucks and loa ation -0.04 t 0.00	0.00 ders -0.04 Adjustment: Cycle Time:	aneuver):0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broke No adjustment Common own Constant opera	Rating: NA ption: aneuver: NA sic Loader Cycle Time (n material 0.04 t - factor not applicable ership of trucks and loa ation -0.04 t 0.00 Net Cycle Time Adjusted Loader C	0.00 ders -0.04 Adjustment: Cycle Time:	aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes
Machine Cycle Time v Selected Value Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	s. Job Condition within this Basic Material Descrip Material Bank or broke No adjustment Common own Constant opera Nominal targe	e Rating: NA ption: NA aneuver: NA sic Loader Cycle Time (n material 0.04 t - factor not applicable ership of trucks and load ation -0.04 t 0.00 Net Cycle Time A Adjusted Loader C Net Load Time	0.00 ders -0.04 Adjustment: Cycle Time: e per Truck:	aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000 -0.040 0.510 1.630	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip Material Descrip Material Descrip Material Descrip Material Descrip Material Descrip Material Bank or broke No adjustment Common own Constant opera Nominal targe Science 10.60	e Rating: NA ption: aneuver: NA sic Loader Cycle Time (an material 0.04 t - factor not applicable ership of trucks and load atton -0.04 t 0.00 Net Cycle Time A Adjusted Loader C Net Load Time Minutes	0.00 ders -0.04 Adjustment: Eycle Time: per Truck:	aneuver):	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.625	utes
Machine Cycle Time v Selected Value Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time: Truck Exchange Time	S. Job Condition within this Basic Material Descrip Material Description of Material D	e Rating: NA ption: NA aneuver: NA sic Loader Cycle Time (n material 0.04 t - factor not applicable ership of trucks and load ation -0.04 t 0.00 Net Cycle Time A Adjusted Loader C Net Load Time	0.00 ders -0.04 Adjustment: Eycle Time: per Truck: Adjusted f	aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000 -0.040 0.510 1.630	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1275.00	-8.00	3.00	-5.00	2721	0.545

Haul Time: 0.545 minutes

Return Route:

Tetalii Teac.									
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)			
1	1275.00	8.00	3.00	11.00	1610	0.878			

Return Time: 0.878 minutes
Total Truck Cycle Time: 4.720 minutes

Loading Tool unit

Production Truck Unit Production

314.64 LCY/Hour Adjusted for job efficiency: 546.59 LCY/Hour Adjusted for job efficiency: 261.15 LCY/Hour Optimal No. of Trucks: 2 Truck(s)

Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 522.30 LCY/Hour Adjusted single truck/loader team production: 522.30 LCY/Hour Adjusted multiple truck/loader team production: 522.30 LCY/Hour

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____1,136.50 Hours

Unit cost: \$1.065 /LCY Total job cost: **\$631,919**

BULLDOZER WORK

Task description:	Push ripped/blas	sted materia	l transported w/ Loader	: & Trucks	
Pikeview Quarry	Per	mit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDENTIF	FICATION				
Task #: H31	State:	Colorado		Abbreviation:	None
Date: 2/11/2019		El Paso		Filename:	M211-H31
User: TC1		211 400			1,1211 1101
A compr. on once	migation name: DI	RMS			
Agency of orga	anization name: DF	CIVIS			
HOURLY EQUIPM	ENT COST				
	at D10T - 10SU		<u></u>		
Horsepower: 57					
	mi-Universal		<u> </u>		
Attachment: NA			_		
	per day		<u> </u>		
Data Source: (C	(RG)				
Cost Breakdown:					
		***	<u>Utilization %</u>		
Ownership Cost/Hour:		\$129.20	NA 100		
Operating Cost/Hour:		\$121.82	100		
Ripper own. Cost/Hour:		\$0.00 \$0.00	NA 0		
Ripper op. Cost/Hour:	-				
Operator Cost/Hour:		\$40.23	NA		
Total unit Cost/Hour:	\$291.25				
Total Fleet Cost/Hour:	\$1,165.01				
MATERIAL QUANT	<u> FITIES</u>				
Initial Volume: 530	0,000				
Swell factor: $\frac{330}{1.12}$					
	5,508 LCY				
	•		2 . 1 1/ 1 . 1	. 1 C	
Source of estimated volu	ime: See Appe swell f	endix, Table	2.; dry sand/gravel selected	ea ior	
Source of estimated swe		lhook			
Source of confidence swe.	ii iacioi. Cai Iialiu	OUK			
HOURLY PRODUC	TION				
Average push distance:	150 feet	x 7 d			
Unadjusted hourly produ	action: 1,243.2 LC	Y/hr			
Materials consistency de	escription: Rock v	well ripped o	or blasted 0.8		
Traceruis consistency de	Noch,	., on ripped 0	1 0140104 0.0		
Average push gradient:	-30 %				
Average site altitude:	7,200 feet				
					
Material weight:	2,900 lbs/LCY			<u>—</u>	
Weight description:	Sand and gravel -	Dry			
Job Condition Correction	n Factor		Source		
Operator	-	.750	(AVG.)		
Material consis	tency: 0.	.800	(CAT HB)		
Dozing me		.200	(S-BY-S)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: Total job cost: 157.84 Hours \$\frac{157.84 \text{ Hours}}{\$183,884}\$

TRUCK/LOADER TEAM WORK

				<u></u>		
Task description:	Place to	psoil in Horsesho	e area			
Site: Pikeview Quarr	y	Permit Actio	on: 2019 Update	e	Permit/Job#:	M1977211
PROJECT IDE	NTIFICATION	<u>[</u>				
Task #: H40		State: Colora	ıdo	Ab	breviation: N	None
Date: 2/12/	2019	County: El Pas	0		Filename: N	M211-H40
User: TC1						
Agency o	r organization nar	ne: DRMS				
HOURLY EQU	IPMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>	
		I	Equipment Descri	ption		
	Truck Loader Tea			_		
			Г 980Н			
Supp	oort Equipment -L		D9T - 9SU			
Road N	Iaintenance –Mot	1	Γ 12M			
Roud IV			ter Tanker, 5,000	Gal.		
Cost Breakdown:		ader Team		Equipment		ance Equipment Water Truck
	Truck	Loader	Load Area	Dump Area	Motor Grade	water Truck
%Utilization-machine:	100	100	NA	100	25	5 25
Ownership cost/hour:	\$66.13	\$50.17	NA	\$110.70	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.19	NA	\$95.46	\$7.65	\$9.15
%Utilization-riper:	NA	0	NA	NA	NA.	NA NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.13	NA	\$40.23	\$45.64	4 \$0.00
Unit Subtotals:	\$147.53	\$142.48	NA	\$246.39	\$84.03	3 \$34.45
Number of Units:	2	1	0	1	-	1 1
Group Subtotals:	Work:	\$437.54	Support:	\$246.39	Maint	: \$118.48
Total work team co	ost/hour: \$802.41					

MATERIAL QUANTITIES

CCY Initial volume: 5,663 Swell factor: 1.000

Loose volume: LCY 5,663

> Source of estimated volume: See Appendix, Table 2; Haul distance from AM3, Exhibit L Source of estimated swell factor: Cat Handbook Material Purchase Cost: \$0.00

Total Cost: \$0.00

HOURLY PRODUCTION

<u>Truck Capacity:</u> <u>Truck Payload (weight) Basis:</u>

Material weight: 1,600 Pounds/LCY Description: Top Soil

Rated Payload: 87,000 Pounds Payload Capacity: 54.38 LCY

Struck Volume:	24.20 L	.CY				
Heaped Volume:		.CY				
Average Volume:		.CY				
Adjusted Volume:		.CY				
<u></u>						
Final '	Truck Volume F	Based on Number of	Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Bucke	et Size Class: N	A	_
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/dirt	t mixtures (100-	120%) 1.100		_
Adjusted Capacity:	8.250	LCY				
Job Condition Corrections:		Sin	te Altitude (ft.): 72	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB)			
Job Efficiency:	0.830	0.830	(CAT HB)			
N. G.		0.020				
Net Correction:	0.797	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Pas	sses Required to F	ill Truck:	3 1	oasses
			1		ı	Jasses
Excavators and Front Shovels	<u>s:</u>		1			Jasses
	 '	Rating: NA	1			Jasses
Excavators and Front Shovels Machine Cycle Time vs Selected Value w	. Job Condition		•			Jasses
Machine Cycle Time vs	Job Condition vithin this Basic	Rating: NA				Jasses
Machine Cycle Time vs Selected Value w	Job Condition vithin this Basic	Rating: NA				<i>J</i> asses
Machine Cycle Time vs Selected Value w Track Loaders – I	. Job Condition vithin this Basic Material Descrip	Rating: NA	•			Jusses
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA	. Job Condition vithin this Basic Material Descrip Ma	Rating: NA otion: NA	· 	Dump: 0.100		Jusses
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.):	. Job Condition vithin this Basic Material Descrip Ma	Rating: NA otion: NA	· 	Dump: 0.100		
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA	. Job Condition vithin this Basic Material Descrip Ma	Rating: NA otion: NA	· 	Dump: 0.100		
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders -	. Job Condition vithin this Basic Material Descrip Ma	Rating: NA otion: NA neuver: NA ic Loader Cycle Tin n material 0.04	ne (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040	.550 min	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile:	. Job Condition vithin this Basic Material Descrip Ma Unadjusted Bas Bank or broker	Rating: NA otion: NA in Loader Cycle Tin n material 0.04 - factor not applical	ne (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000	Source (Cat HB) (Cat HB)	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: NA in Loader Cycle Tin n material 0.04 - factor not applicate of trucks and	ne (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB)	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04	ne (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB)	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim Adjusted Loade	ne (load, dump, m ble 0.00 loaders -0.04 ne Adjustment: er Cycle Time:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim Adjusted Loade	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim Adjusted Loade	ne (load, dump, m ble 0.00 loaders -0.04 ne Adjustment: er Cycle Time:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner Constant opera	Rating: NA otion: neuver: NA ic Loader Cycle Tin n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim Adjusted Loade	ne (load, dump, m ble 0.00 loaders -0.04 ne Adjustment: er Cycle Time: ime per Truck:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Material Descrip Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner Constant opera Nominal target	Rating: NA otion: n material 0.04 - factor not applical ership of trucks and ation -0.04 t 0.00 Net Cycle Tim Adjusted Loade Net Load Times	ne (load, dump, m ble 0.00 loaders -0.04 ne Adjustment: er Cycle Time: ime per Truck: Adjusted f	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.120	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

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

Haul Route:

Tiuui Itou	ic.					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	550.00	3.00	3.00	6.00	1566	0.607

Haul Time: **0.607** minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 550.00 -3.00 3.00 0.00 3706 0.327

Return Time: 0.327 minutes
Total Truck Cycle Time: 3.721 minutes

Loading Tool unit

Production Truck Unit Production 399.12 LCY/Hour Adjusted for job efficiency: 706.33 LCY/Hour Adjusted for job efficiency: 331.27 LCY/Hour Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 662.54 LCY/Hour Adjusted single truck/loader team production: 662.54 LCY/Hour Adjusted multiple truck/loader team production: 662.54 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 8.55
 Hours

 Unit cost:
 \$1.211
 /LCY
 Total job cost:
 \$6,858

REVEGETATION WORK

Task description:	Revegetate Horseshoe	Area - 7 Ac	(ref. App, T	able 1)		
Pikeview Quarry	Permit Ac	Permit Action: 2019 Update Permit/Job#:			: <u>M1977211</u>	
PROJECT IDENTII	FICATION					
Task #: H50 Date: 2/8/2019 User: TC1	State: Colo					None M211-H50
Agency or org	ganization name: DRMS					
FERTILIZING						
Materials		T ==				I
Description		Units / Acre	Unit	Cost	t / Unit	Cost /Acre
				\$		\$
				Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application Description						Cost /Acre
Description						\$
		Total	l Fertilizer A	pplication	n Cost/Acre	\$0.00
ΓILLING						
Description						Cost /Acre
Chisel plowing {DM	1G}					\$92.77
			To	otal Tillin	g Cost/Acre	\$92.77
SEEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachi	ta			0.50	8.16	\$8.33

Crested Wheatgrass - Ephraim

Little Bluestem - Native

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky

Alfalfa - Ranger (inoculated)

Western Wheatgrass - Arriba

Mahogany, Mountain

Intermediate Wheatgrass - Oahe

Pubescent Wheatgrass - Greenleaf

CIDCES	Cost	Estimating	Coftwara

\$3.75

\$16.13

\$19.80

\$12.96

\$15.72

\$2.66

\$15.28

\$75.38

\$33.12

1.00

1.00

2.00

2.00

4.00

1.00

4.00

2.00

4.00

4.59

5.97

6.57

8.03

8.54

4.82

8.26

2.71

10.10

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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 Cost / Acre: \$1,243.50 cost / Acre*: \$1,243.50

Estimated Failure Rate: 25% Cos *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$8,704.50

Reseeding Job Cost: \$2,176.13

Total Job Cost: \$10,881

14.00

BULLDOZER RIPPING WORK

	Task description:	R	ip weathered granite for F	Kiewitt Cliffs b	ackfill					
Site	: Pikeview Quar	ry	Permit Action:	2019 Update	Pe	rmit/Job#	: <u>M19772</u>	211		
	PROJECT IDE	PROJECT IDENTIFICATION Task #: K10 State: Colorado Abbreviation: None								
	Task #: K10)	State: Colorado		Abbr	eviation:	None			
		1/2019	County: El Paso			ilename:	M211-K	10		
	User: TC		_							
	Agency or organization name: DRMS									
	HOURLY EQUIPMENT COST									
	Basic N	Machine:	Cat D10T - 10SU		Horsepower:		574			
			1-Shank Ripper		Shift Basis:	1	per day			
		_	**		Data Source:	(CRG)			
	Cost Breakdown:				_					
					Utilization %					
		Ownership	Cost/Hour:	\$129.20	NA					
			g Cost/Hour:	\$121.82	100					
			Cost/Hour:	\$18.04	NA					
	Ripp		g Cost/Hour:	\$10.15	100					
		-	r Cost/Hour:	\$40.23	NA					
		Total Uni	t Cost/Hour:	\$319.44						
		Total Flee	t Cost/Hour: \$63	38.88						
	MATERIAL Q	UANTITI	ES Sel	lected estimatin	g method: Seisr	nic				
	Alternate Method	s:			<u> </u>					
Seismic:	162,540	BCY	Bank Volume:	162,540	BCY	М	lidrange			
Area:	NA	acres	Rip Depth (ft):	NA		JA	irarange	BCY or CO		
		Source of a								
	Source of estimated quantity: See Appendix, Table 2.									
	HOURLY PRO	<u>DUCTIO</u>	<u>N</u>							
	Seismic:									
			Seismic Velocity:	5,000	feet/seco	ond				
	Area:									
		Ave	erage Ripping Depth:	NA	mph					
			erage Ripping Width:	NA	degrees					
		Avei	rage Ripping Length:	NA	feet					
			verage Dozer Speed:	NA	feet					
			age Maneuver Time:	NA	feet					
		Pro	duction per unit area:	NA	acres/ho	ur				
	Job Condition Co.	rrection Fac	<u>tors</u>							
	Una	adjusted Ho	urly Unit Production:	1,250.00	Cu. yds.	/hr				
			Site Altitude:	7,200	feet					
			Altitude Adj:	1.00	(CAT H	B)				
			Job Efficiency:	0.83	(1 shift/c	lay)				
			Net Correction:	0.83	multiplie	er				
			ted Hourly Unit Production: ted Hourly Fleet Production:							
	JOB TIME AND COST									
	Fleet size:	2	Grader(s)	Total job tir	me: 7	8.33	Но	ours		
	Unit cost:	\$0.308	Per cu. vd.	Total job co	ost: \$5	0.045				

TRUCK/LOADER TEAM WORK

Task description:					erial-Kiewit Clif		
Site: Pikeview Quarry	7	Permit A	Action	: 2019 Update	<u>; </u>	Permit/Job#: M	1977211
PROJECT IDEN	TIFICATION	I					
Task #: K30		_	olorado	n	Δh	breviation: No	ne
Date: $\frac{130}{2/12/2}$	2019		Paso	<i>.</i>			11-K30
User: TC1		·					
Agency or	organization nar	ne: DRMS					
HOURLY EQUI	PMENT COST	<u>r</u>			Shift bas	is: <u>1 per day</u>	
				uipment Descri	ption		
Т	ruck Loader Tea		Cat 74				
Suppo	ort Equipment -L		NA	70011			
			NA				
Road Ma	aintenance –Mot		CAT 1	12M Tanker, 5,000	Ça1		
	- vv 2	itel Truck.	water	Talikei, 3,000	Jai.		
Cost Breakdown:	Truck/Loa	ader Team		Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader]	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	10	00	NA	NA	100	100
Ownership cost/hour:	\$66.13	\$50.1	17	NA	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.	19	NA	NA	\$30.60	\$36.60
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.0	00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.0		NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.		NA	NA	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.4		NA	NA	\$106.97	\$61.90
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$437.54		Support:	\$0.00	Maint:	\$168.87
Total work team cos	st/hour: \$606.41						
MATERIAL QU	<u>ANTITIES</u>						
Initial volume:			CCY	Swell	factor: 1.120		
Loose volume:	1,300,3	320 L	.CY				
	urce of estimated				; Haul distance from	om AM3, Exhibit	L
Source	of estimated swe		Cat Hai 0.00	ndbook			
	Material Purch		0.00				
	1.						 -
HOURLY PRO	DUCTION						
Truck Capacity:							
Truck Payload (weight	ght) Basis:						
Material w	veight: 3,250			Pounds/LCY			
	. :			_			
Descri Rated Pa	<u> </u>	- Pitrun		Pounds			

Truck Bed (volume) Basi Struck Volume:	2	24.20	LCY				
Heaped Volume:	3	31.40	LCY				
Average Volume:	2	27.80	LCY				
Adjusted Volume:	2	26.77	LCY				
F	inal Tru	ıck Volume	Based on Number	of Loader Passes:	24.75	LCY	
Loading Tool Capacity		, or		or Bouder 1 usses.	2		
<u> </u>				Buc	ket Size Class:	NA	
Rated Capacity	:	7.500	LCY (heaped	1)			_
Bucket Fill Factor		0.825		- avg. blasted (75	- 90%) 0.825		= -
Adjusted Capacity	:	6.188	LCY	· ·			_
Job Condition Correction	ons:			Site Altitude (ft.):	7200 feet		
	T	ruck	Loader	Source			
Altitude Adj:	0	.960	1.000	(CAT HE	3)		
Job Efficiency:	0	0.830	0.830	(CAT HI	3)		
Net Correction:	0	.797	0.830				
		'					
Loading Tool Cycle Tir	ne:	Number	r of Loading Tool l	Passes Required to	Fill Truck:	4	passes
-		Number	r of Loading Tool l	Passes Required to	Fill Truck:	4	passes
-	ovels:			Passes Required to	Fill Truck:	4	passes
Excavators and Front Sh	ovels: ne vs. Jo	ob Conditio	n Rating: <u>NA</u>	Passes Required to	Fill Truck:	4 1	passes
Excavators and Front Sh Machine Cycle Tin	ovels: ne vs. Joue with	ob Conditionin this Basi	n Rating: NA NA NA	Passes Required to	Fill Truck:	4 :	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader	ovels: ne vs. Jo ue with rs – Ma	ob Conditionin this Basi	n Rating: NA NA NA	Passes Required to	Fill Truck:	4 :	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader	ovels: ne vs. Jo ue with rs – Ma	ob Conditio nin this Basi terial Descr	n Rating: NA NA NA	Passes Required to	Fill Truck: Dump: 0.1		passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA	ovels: ne vs. Jo ue with rs – Ma in.):	ob Conditio nin this Basi terial Descr M	n Rating: NA		Dump: 0.1	00	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader	ovels: ne vs. Jo ue with rs – Ma in.):	ob Conditio nin this Basi terial Descr M	n Rating: NA		Dump: 0.1	00 0.550 min	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un	ob Conditionin this Basi terial Descr Madjusted Ba	n Rating: NA		Dump: 0.1 maneuver): Factor (min.)	00 0.550 min Source	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs	ob Conditionin this Basi terial Descr Madjusted Ba	n Rating: NA	Fime (load, dump, 1	Dump: 0.1 maneuver): Factor (min.) 0.040	00 0.550 min Source (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs el: B e: N	ob Conditionin this Basinterial Description Manadjusted Basinank or brokes of adjustments of the condition o	n Rating: NA	Fime (load, dump, 1	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000	00 0.550 min Source (Cat HB) (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs el: B e: N p: C	ob Conditionin this Basinterial Description Manadjusted Banadjusted Banadjusted Banadjusted Banadjusted Banadjustmentommon own	n Rating: NA	Fime (load, dump, 1	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040	00	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs e: N p: C n: C	ob Conditionin this Basinterial Description and justed Basinadjusted Basinadjusted Basinadjusted Basinadjustmentommon own	n Rating: NA	Fime (load, dump, 1	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 -0.040	00 Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs e: N p: C n: C	ob Conditionin this Basinterial Description Manadjusted Banadjusted Banadjusted Banadjusted Banadjusted Banadjustmentommon own	n Rating: NA	Γime (load, dump, note icable 0.00 and loaders -0.04	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	00 Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs e: N p: C n: C	ob Conditionin this Basinterial Description and justed Basinadjusted Basinadjusted Basinadjusted Basinadjustmentommon own	n Rating: NA	Γime (load, dump, ricable 0.00 nd loaders -0.04	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	00 Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs e: N p: C n: C	ob Conditionin this Basinterial Description and justed Basinadjusted Basinadjusted Basinadjusted Basinadjustmentommon own	n Rating: NA	Γime (load, dump, note icable 0.00 and loaders -0.04	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	00 Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs e: N p: C n: C	ob Conditionin this Basinterial Description and justed Basinadjusted Basinadjusted Basinadjusted Basinadjustmentommon own	n Rating: NA	Time (load, dump, ricable 0.00 nd loaders -0.04 Time Adjustment: ader Cycle Time:	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	00	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi Operatio Dump Targe	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs al: Be: Np: Co n: Co et: N	ob Conditionin this Basinterial Description and justed Basinadjusted Basinadjusted Basinadjusted Basinadjustmentommon own	n Rating: NA	Time (load, dump, ricable 0.00 nd loaders -0.04 Time Adjustment: ader Cycle Time: I Time per Truck:	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	00	utes
Excavators and Front Sh Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (m. Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi Operation Dump Targe	ovels: ne vs. Jo ue with rs – Ma in.): ers - Un rs al: B: e: N: C: t: N	ob Conditionin this Basisterial Description Manager and the second secon	n Rating: NA	Fime (load, dump, ricable 0.00 nd loaders -0.04 Fime Adjustment: ader Cycle Time: I Time per Truck:	Dump: 0.1 maneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 1.630	00 Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) initiates minutes minutes minutes	

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1700.00	-8.00	3.00	-5.00	2721	0.700

Haul Time: 0.700 minutes

Return Route:

ixctui ii ixc	rute.						
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	1700.00	8.00	3.00	11.00	1610	1.142	

Return Time: 1.142 minutes
Total Truck Cycle Time: 5.139 minutes

Loading Tool unit

Production Production
Truck Unit Production

288.99 LCY/Hour Adjusted for job efficiency: 546.59 LCY/Hour

Adjusted for job efficiency: 239.86 LCY/Hour

Optimal No. of Trucks: 2 Truck(s)

Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 479.72 LCY/Hour Adjusted single truck/loader team production: 479.72 LCY/Hour Adjusted multiple truck/loader team production: 479.72 LCY/Hour

JOB TIME AND COST

Fleet size: _____ 1 ____ Team(s) Total job time: _____ 2,710.60 Hours

Unit cost: \$1.264 /LCY Total job cost: **\$1,643,738**

BULLDOZER WORK

Pikeview Quarry	Permit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDENTIFIC	ATION			
			A 1-1	Nama
Task #: K31 Date: 2/11/2019	State: Colorado County: El Paso		Abbreviation: Filename:	None M211-K31
User: TC1	County. El Faso		rnename.	WI211-K31
Agency or organiz	ation name: DRMS			
HOURLY EQUIPMEN	T COST			
	10T - 10SU			
Horsepower: 574	101 1000	<u></u>		
	Universal			
Attachment: NA				
Shift Basis: 1 per	,			
Data Source: (CRG)	<u> </u>		
Cost Breakdown:		ı		
	Φ120.20	<u>Utilization %</u>		
Ownership Cost/Hour:	\$129.20	NA 100		
Operating Cost/Hour: Ripper own. Cost/Hour:	\$121.82 \$0.00	100 NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$40.23	NA NA		
_		IVA		
	\$291.25			
Total Fleet Cost/Hour:	\$1,165.01			
MATERIAL QUANTITE Initial Volume: 1,161,0 Swell factor: 1.124				
	500 LCY			
Source of estimated volume	1.1	2.; dry sand/gravel selecte	d 4 swell	
Source of estimated swell fa	ctor: fac Cat Handbook			
Source of estimated swell la	ctor. Cat Handbook			
HOURLY PRODUCTION	<u>ON</u>			
Average push distance:	 150 feet			
Unadjusted hourly production				
J	<u>-, </u>			
Materials consistency descri	ption: Rock, well ripped of	or blasted 0.8		
Average push gradient:	-30 %			
	7,200 feet			
Material weight:	2,900 lbs/LCY		_	
Weight description:	Sand and gravel - Dry			
Job Condition Correction Fa		Source		
Operator Sk		(AVG.)		
Material consistence		(CAT HB)		
Dozing metho	od: 1.200	(S-BY-S)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: 345.76 Hours
Total job cost: \$402,809

TRUCK/LOADER TEAM WORK

7	Γask description:	Place to	psoil in Kiewit C	liffs area			
Site:	Pikeview Quarr	<u>'y</u>	Permit Action	on: 2019 Update	e	Permit/Job#:N	M1977211
]	PROJECT IDEN	NTIFICATION	Ī				
	Task #: K40		State: Colora		Ab		one
	Date: 2/12/	2019	County: El Pas	0		Filename: N	I211-K40
	User: TC1						
	Agency of	r organization nar	ne: DRMS				
]	HOURLY EQU	IPMENT COST	<u>r</u>		Shift bas	sis: 1 per day	
				Equipment Descri	ption		
	,	Truck Loader Tea		740 Γ 980Η			
	Supr	oort Equipment -L		1 90011			
		-Di	ump Area: Cat	D9T - 9SU			
	Road M	Iaintenance –Mot		Γ 12M	C-1		
		- W 2	nter Truck: Wat	ter Tanker, 5,000	Gal.		
(Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment	Maintena	nce Equipment
		Truck	Loader	Load Area	Dump Area	Motor Grader	
%Util	ization-machine:	100	100	NA	100	25	25
	ership cost/hour:	\$66.13	\$50.17	NA	\$110.70	\$30.73	
	erating cost/hour:	\$55.75	\$56.19	NA	\$95.46	\$7.65	
	Utilization-riper:	NA	0	NA	NA	NA	
	r own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripp	er op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Op	erator cost/hour:	\$25.65	\$36.13	NA	\$40.23	\$45.64	\$0.00
	Unit Subtotals:	\$147.53	\$142.48	NA	\$246.39	\$84.03	\$34.45
N	Number of Units:	2	1	0	1	1	1
(Group Subtotals:	Work:	\$437.54	Support:	\$246.39	Maint:	\$118.48
7	Γotal work team co	ost/hour: \$802.41	<u> </u>				
Ī	MATERIAL QU	JANTITIES					
=	Initial volume	<u></u>	CCY	Swell	factor: 1.000		
	Loose volume				1.000		
	Sc	ource of estimated		Appendix, Table 2	· Haul distance fr	om AM3 Evhih	it I
		e of estimated swe		Appendix, 1 aoie 2 Iandbook	z, Hauf distance ii	om Alvi3, Lamo	IL L
		Material Purch					
		To	otal Cost: \$0.00)			
<u>]</u>	HOURLY PRO	DUCTION					
7	Fruck Capacity:						
	Truck Payload (we						
	Material		*1	Pounds/LCY			
	Desc Rated P	ription: $\frac{\text{Top So}}{87,000}$		Pounds			
	Payload Ca		•	Founds LCY			

Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	31.40	LCY				
Final	Truck Volume	Based on Number of	f Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Bucke	et Size Class: N	A	
Rated Capacity:	7.500	LCY (heaped)				
Bucket Fill Factor:	1.100	Other - rock/dir	t mixtures (100-	120%) 1.100		
Adjusted Capacity: _	8.250	LCY				
Job Condition Corrections:	_	Si	te Altitude (ft.): 72	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB)	<u> </u>		
Job Efficiency:	0.830	0.830	(CAT HB)			
•						
Net Correction:	0.797	0.830				
E			•	ill Truck:	pa	iss
Excavators and Front Shovel Machine Cycle Time vs. Selected Value v	s. Job Condition		•			iss
Machine Cycle Time vs	s. Job Condition within this Basic	c Rating: NA	•			ISS
Machine Cycle Time vs Selected Value v Track Loaders –	s. Job Condition within this Basic	c Rating: NA			<u> </u>	ISS
Machine Cycle Time vs Selected Value v Track Loaders –	s. Job Condition within this Basic Material Descr	c Rating: NA		Dump: 0.100		188
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.):	s. Job Condition vithin this Basi Material Descr M	c Rating: NA iption: Ianeuver: NA		Dump: 0.100		
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders -	s. Job Condition vithin this Basi Material Descr M	c Rating: NA iption: Ianeuver: NA		Dump: 0.100)	
Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA	s. Job Condition vithin this Basi Material Descr M — Unadjusted Ba	c Rating: NA iption: Ianeuver: NA		Dump: 0.100 aneuver): 0.100)	ees
Machine Cycle Time vs. Selected Value vs. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors	s. Job Condition within this Basis Material Description Multiple Manager Manag	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Tir	me (load, dump, m	Dump: 0.100 aneuver): 0.100 Factor (min.)	.550 minut	
Machine Cycle Time vs. Selected Value vs. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material:	S. Job Condition within this Basic Material Description Multiple Material Description Multiple Multipl	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tinen material 0.04 at - factor not applicate the reship of trucks and	me (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040	.550 minut Source (Cat HB)	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Description Material Description M Unadjusted Ba Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tine en material 0.04 at - factor not applicate the reship of trucks and ration -0.04	me (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership:	S. Job Condition within this Basic Material Description Multiple Material Description Multiple Multipl	c Rating: NA iption: NA Ianeuver: NA Isic Loader Cycle Tine en material 0.04 nt - factor not applicate the reship of trucks and ration -0.04 et 0.00	me (load, dump, m	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Description Material Description M Unadjusted Ba Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Tinen material 0.04 at - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tinen	me (load, dump, m lible 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB)	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Description Material Description M Unadjusted Ba Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tine en material 0.04 nt - factor not applica nership of trucks and ration -0.04 et 0.00 Net Cycle Tine Adjusted Load	me (load, dump, m lble 0.00 loaders -0.04 me Adjustment: er Cycle Time:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material Description Material Description M Unadjusted Ba Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tine en material 0.04 nt - factor not applica nership of trucks and ration -0.04 et 0.00 Net Cycle Tine Adjusted Load	me (load, dump, m lible 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB)	
Machine Cycle Time vs. Selected Value vs. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	Material Description Material Description M Unadjusted Ba Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tine en material 0.04 nt - factor not applica nership of trucks and ration -0.04 et 0.00 Net Cycle Tine Adjusted Load	me (load, dump, m lble 0.00 loaders -0.04 me Adjustment: er Cycle Time:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Bank or broke No adjustmer Common own Constant open	c Rating: NA iption: NA Ianeuver: NA asic Loader Cycle Tine en material 0.04 nt - factor not applica nership of trucks and ration -0.04 et 0.00 Net Cycle Tine Adjusted Load	me (load, dump, m lble 0.00 loaders -0.04 me Adjustment: er Cycle Time: lime per Truck:	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs. Selected Value vs. Track Loaders — Cycle Time Elements (min.): Load: NA Wheel and Track Loaders — Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Bank or broke No adjustmer Common own Constant open Nominal targe	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Tine en material 0.04 nt - factor not applicate hership of trucks and ration -0.04 et 0.00 Net Cycle Tine Adjusted Load Net Load T	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 aneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.120	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	ces

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-8.00	3.00	-5.00	2721	0.298

Haul Time: 0.298 minutes

Return Route:								
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
1	600.00	8.00	3.00	11.00	1610	0.459		

Return Time: 0.459 minutes Total Truck Cycle Time: 3.544 minutes

Loading Tool unit

Adjusted for job efficiency: 706.33 Production 851.00 LCY/Hour LCY/Hour Truck Unit Production 419.06 LCY/Hour Adjusted for job efficiency: 347.82 LCY/Hour Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

> Adjusted hourly truck team production: 695.64 LCY/Hour Adjusted single truck/loader team production: 695.64 LCY/Hour Adjusted multiple truck/loader team production: 695.64 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **18.45** Hours

Unit cost: \$1.153 /LCY Total job cost: \$14,804

REVEGETATION WORK

Task description:	Revegetate Kiew	it Cliffs - 15.9 Ac	ref. App, T	able 1)		
Pikeview Quarry	Permit Action: 2019 Update Permit/Job#:					
PROJECT IDENTIF	<u>ICATION</u>					
Task #: K50 Date: 2/8/2019	State:	Colorado El Paso		_		None M211-K50
User: <u>7C1</u>	County:	El Faso		_	rnename.	W1211-K30
Agency or orga	anization name:DR	MS				
<u>FERTILIZING</u>						
Aaterials		Units /				
Description		Acre	Unit	Cost	t / Unit	Cost /Acre
				\$		\$
				Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application Description						Cost /Acre
						\$
		Total	Fertilizer A	Application	n Cost/Acre	\$0.00
<u>TILLING</u>						
Description						Cost /Acre
Chisel plowing {DM	G}					\$92.77
			To	otal Tillin	g Cost/Acre	\$92.77
SEEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachit	a			0.50	8.16	\$8.33

Crested Wheatgrass - Ephraim

Little Bluestem - Native

Mahogany, Mountain

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky

Alfalfa - Ranger (inoculated)

Western Wheatgrass - Arriba

Intermediate Wheatgrass - Oahe

Pubescent Wheatgrass - Greenleaf

CIRCES	Cost	Estimating	Software

\$3.75

\$16.13

\$19.80

\$12.96

\$15.72

\$2.66

\$15.28

\$75.38

\$33.12

1.00

1.00

2.00

2.00

4.00

1.00

4.00

2.00

4.00

4.59

5.97

6.57

8.03

8.54

4.82

8.26

2.71

10.10

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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: 15.9 Cost / Acre: \$1,243.50

I Failure Rate: 25% Cost / Acre*: \$1,243.50

*Selected Replanting Work Items: 25% Cost /Ac

Initial Job Cost: \$19,771.65

Reseeding Job Cost: \$4,942.91

Total Job Cost: Job Hours: 32.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task descri	ption:	MOB / DEMOI	3				
Site: Pikeview	v Quarry	Pe	rmit Action:	2019 Upo	late	Permit/Job	o#: M1977211
PROJECT	IDENTIFICA	<u>TION</u>					
Task #:	M01	State:	Colorado		Al	bbreviation:	None
Date:	2/13/2019	County:	El Paso			Filename:	M211-M01
User:	TC1						
Ag	ency or organizat	ion name: DI	RMS				
EQUIPME	ENT TRANSPO	ORT RIG COS	<u>5T</u>				
					Shif	t basis:	l per day
					Cost Data S	Source: C	CRG Data
	Truck Tractor De	escription: G	ENERIC ON				DIESEL POWERED,
					00 HP (2ND HA		
	Truck Trailer De	escription:	GENERIC		GOOSENECK,		K EQUIPMENT
G . D 11				TRA	ILER (25T, 50T,	, AND 100T)	_
Cost Breakdo	<u>own:</u>						
Available	Rig Capacities	0-25 Tons	26-50	Tons	51+ Tons	-	
Own	ership Cost/Hour	: \$16.63	\$18	3.37	\$22.33	_	
Ope	erating Cost/Hour	: \$44.38	\$46	5.13	\$50.07	_	
Op	erator Cost/Hour	: \$27.66	\$27	7.66	\$27.66	_	
	Helper Cost/Hour		\$25	5.39	\$25.39	=	
Tota	al Unit Cost/Hour	: \$88.67	\$11	7.55	\$125.45		

NON ROADABLE EQUIPMENT:

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 D9T - 9SU	60.01	\$110.70	\$125.45	4	\$944.60	\$501.80	\$250.00
Cat 365C L 13'-7"	77.56	\$114.54	\$125.45	1	\$239.99	\$125.45	\$250.00
Stick							
CAT 980H	33.12	\$50.17	\$117.55	1	\$167.72	\$117.55	\$250.00
Cat 740	36.49	\$66.13	\$117.55	4	\$734.72	\$470.20	\$1,000.00
ATLAS COPCO	0.00	\$68.46	\$88.67	1	\$157.13	\$88.67	\$250.00
ROC D7-11,4.0 in.							
Drill/Broadcast	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Seeder with							
Tractor							
Power Mulcher	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00
(Bowie LD-90)							
CAT 12M	16.01	\$30.73	\$88.67	1	\$119.40	\$88.67	\$250.00
Water Tanker,	15.00	\$25.30	\$88.67	1	\$113.97	\$88.67	\$250.00
5,000 Gal.							

Subtotals: \$2,678.74 \$1,658.35 \$3,000.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
ANFO Bulk Delivery Truck	\$193.85	1	\$193.85	\$193.85
Cap Delivery Truck	\$26.31	1	\$26.31	\$26.31

Subtotals:	\$220.16	\$220.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: COLORADO SPRINGS
Total one-way travel distance: 10.00 miles
Average Travel Speed: 40.00 mph

Task # M01

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

\$10,847.29

\$110.08

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.25	0.25
Return Time (Hours):	0.25	0.25
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.00	0.50

JOB TIME AND COST

Total job cost: 2.00 Hours

Total job cost: \$10,957

BULLDOZER RIPPING WORK

	Task description:	Ri	p weathered granite for N	orth Widows l	Peak backfill			
Site	: Pikeview Quar	ry	Permit Action:	2019 Update	Per	mit/Job#	#: <u>M197721</u>	1
	PROJECT IDE	ENTIFICAT	<u> TION</u>					
	Task #: N10)	State: Colorado		Abbre	viation:	None	
		1/2019	County: El Paso			lename:	M211-N10	0
	User: TC		- · ·				-	
	Agency	or organizatio	on name: DRMS					
	HOURLY EQU	JIPMENT (COST					
	Basic N	Machine: C	Cat D10T - 10SU		Horsepower:		574	
	Ripper Atta	chment: 1	-Shank Ripper		Shift Basis:	1	per day	_
					Data Source:	((CRG)	
	Cost Breakdown:							
					Utilization %			
		Ownership		\$129.20	NA			
			Cost/Hour:	\$121.82	100			
		r Ownership		\$18.04	NA			
	Ripp	er Operating		\$10.15	100			
			Cost/Hour:	\$40.23 \$319.44	NA			
		Total Unit	Cost/Hour:	\$319.44				
		Total Fleet	Cost/Hour: \$63	8.88				
	MATERIAL Q	<u>UANTITIE</u>	E <u>S</u> Sel	ected estimating	g method: Seism	ic		
	Alternate Method	<u>s:</u>						
Seismic:	164,640	BCY	Bank Volume:	164,640	BCY	N	lidrange	
Area:	NA	acres	Rip Depth (ft):	NA	Volume: N			BCY or CC
		Source of es	stimated quantity: See A	ppendix. Table				
	HOUDI V DDC		· · ·	princin, ruete				
	HOURLY PRO	DUCTION	<u>\</u>					
	Seismic:							
			Seismic Velocity:	5,000	feet/secon	nd		
	Area:							
		Aver	rage Ripping Depth:	NA	mph			
			age Ripping Width:	NA	degrees			
			ige Ripping Length:	NA	feet			
			rerage Dozer Speed:	NA	feet			
			ge Maneuver Time:	NA NA	feet acres/hou			
			uction per unit area:	INA	acres/flou	I		
	Job Condition Co.	rrection Facto	<u>ors</u>					
	Una	adjusted Hour	rly Unit Production:	1,250.00	Cu. yds./l	nr		
			Site Altitude:	7,200	feet			
			Altitude Adj:	1.00	(CAT HE			
			Job Efficiency:	0.83	(1 shift/da	•		
			Net Correction:	0.83	multiplier	•		
			ed Hourly Unit Production:	1,037.50				
		· ·	ed Hourly Fleet Production:	2,075.00	Cu. yds./hr			
	JOB TIME AN	D COST						
	Fleet size:	2	Grader(s)	Total job tin	ne: 79	.34	Hou	ırs
	Unit cost:	\$0.308	Per cu. vd.	Total job co	ost: \$50	.692		

TRUCK/LOADER TEAM WORK

Task description:	·	aul/Dump Rippe				1077211
Site: Pikeview Quarry	<u>'</u>	Permit Acti	on: 2019 Update	<u> </u>	Permit/Job#: M	1977211
PROJECT IDEN	TIFICATION					
Task #: N30		State: Colors	ado	Ab	breviation: No	ne
Date: 2/12/2	019	County: El Pas	50			211-N30
User: TC1						
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>Γ</u>		Shift bas	is: 1 per day	
			Equipment Descri	ption		
Т	ruck Loader Tea		740 T 980H			
Suppo	ort Equipment -L					
		ımp Area: NA				
Road Ma	aintenance –Mote		T 12M	G.1		
	-wa	ter Truck: Wa	ter Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	25	25
Ownership cost/hour:	\$66.13	\$50.17	NA	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.19	NA	NA	\$7.65	\$9.15
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.13	NA	NA	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.48	NA	NA	\$84.03	\$34.45
Number of Units:	4	1	0	0	1	1
Group Subtotals:	Work:	\$732.60	Support:	\$0.00	Maint:	\$118.48
Total work team cos	t/hour: \$851.08	<u>; </u>				
MATERIAL QU	<u>ANTITIES</u>					
Initial volume:	1,176,000	CCY	Swell	factor: 1.120		
Loose volume:	1,317,1	120 LCY	•			
Sou	irce of estimated	volume: See A	Appendix, Table 2	; Haul distance fr	om AM3, Exhibit	L
Source	of estimated swe		Handbook			
	Material Purcha	ase Cost: \$0.00 otal Cost: \$0.00				
	10	λωι Cost. <u>ψο.οι</u>	<u> </u>			
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (weigh						
Material w		D'	Pounds/LCY			
Descri Rated Pa	<u> </u>	- Pitrun	Pounds			
Payload Car			1 Oullus			

Truck Bed (volume) Basis: Struck Volume:	24.20 L	.CY				
Heaped Volume:	31.40 L	.CY				
Average Volume:	27.80 L	.CY				
Adjusted Volume:	26.77 L	.CY				
	Truck Volume E	Based on Number of	f Loader Passes:	24.75	LCY	
Loading Tool Capacity			Buck	et Size Class: N	A	
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	0.825		vg. blasted (75 -	90%) 0.825		_
Adjusted Capacity:	6.188	LCY		,		_
Job Condition Corrections:	_	Si	ite Altitude (ft.): <u>7</u>	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB			
N. C.	0.505	0.020				
Net Correction:	0.797	0.830				
Loading Tool Cycle Time: Excavators and Front Shove	ls:	of Loading Tool Pa	sses Required to F	ill Truck:	4 1	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v	ls: s. Job Condition within this Basic	Rating: NA NA NA	sses Required to F	ill Truck:	4	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders –	ls: s. Job Condition within this Basic Material Descrip	Rating: NA NA NA	sses Required to F	ill Truck:	4	passes
Excavators and Front Shove Machine Cycle Time v Selected Value v	ls: s. Job Condition within this Basic Material Descrip	Rating: NA NA NA	sses Required to F	Fill Truck:		passes
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.):	ls: s. Job Condition within this Basic Material Descrip Ma	Rating: NA Rating: NA	·	Dump: 0.100		
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders –	ls: s. Job Condition within this Basic Material Descrip Ma	Rating: NA Rating: NA	·	Dump: 0.100 naneuver): 0.	.550 min	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA	ls: s. Job Condition within this Basic Material Descrip Ma	Rating: NA Rating: NA otion: neuver: NA ic Loader Cycle Tin	·	Dump: 0.100)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas	Rating: NA Rating: NA otion: neuver: NA ic Loader Cycle Tin	me (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.)	.550 min Source	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA otion: NA ineuver: NA ic Loader Cycle Tinen material 0.04 - factor not applicate ership of trucks and	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Include: NA Rating: NA	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Inneuver: NA In material 0.04 - factor not applicate of trucks and attion -0.04 10.00	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Inneuver: NA In material 0.04 In factor not applicate of trucks and attion -0.04 In the control of trucks and attion -0.04	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Include:	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Include:	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner	Rating: NA Rating: NA Potion: NA Include:	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Bank or broker No adjustment Common owner Constant opera	Rating: NA Rating: NA Potion: NA Include:	me (load, dump, mable 0.00 loaders -0.04 loa	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Is: s. Job Condition within this Basic Material Descrip Ma Unadjusted Basic Bank or broker No adjustment Common owner Constant operation Nominal target 1.0.60	Rating: NA Rating: NA NA otion: NA ic Loader Cycle Tine material 0.04 - factor not applicateship of trucks and attion -0.04 to 0.00 Net Cycle Tine Adjusted Load Net Load T	me (load, dump, multiple 0.00 loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.630	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	-8.00	3.00	-5.00	2721	1.354

Haul Time: 1.354 minutes

Return Route:

Ttotal II Ito	ate.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	10.00	3.00	13.00	1288	4.149

Return Time: 4.149 minutes
Total Truck Cycle Time: 8.800 minutes

Loading Tool unit

Production Truck Unit Production

Truck Unit Production

168.76 LCY/Hour Adjusted for job efficiency: 546.59 LCY/Hour Adjusted for job efficiency: 140.07 LCY/Hour Optimal No. of Trucks: 4 Truck(s)

Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 560.27 LCY/Hour Adjusted single truck/loader team production: 546.59 LCY/Hour Adjusted multiple truck/loader team production: 546.59 LCY/Hour

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____2,409.72 Hours

Unit cost: \$1.557 /LCY Total job cost: **\$2,050,868**

BULLDOZER WORK

Pikeview Quarry	Permit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDENTIFIC	CATION			
Task #: N31	State: Colorado		Abbreviation:	None
Date: 2/11/2019	County: El Paso		Filename:	M211-N31
User: $\frac{2/11/2017}{\text{TC1}}$	CountyLi i aso	·	i nename.	1/1211-1/31
Agency or organiz	ration name: DRMS			
HOURLY EQUIPMEN	T COST			
	010T - 10SU			
Horsepower: 574				
	-Universal	<u></u>		
Attachment: NA		<u></u>		
Shift Basis: 1 per	·	<u></u>		
Data Source: (CRG	i)	<u> </u>		
Cost Breakdown:				
0 1: ~	*	<u>Utilization %</u>		
Ownership Cost/Hour:	\$129.20	NA 100		
Operating Cost/Hour:	\$121.82	100 NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour:	\$0.00 \$0.00	NA 0		
Operator Cost/Hour:	\$40.23			
Operator Cost/Hour.	\$40.23	NA		
Total unit Cost/Hour:	\$291.25			
Total Fleet Cost/Hour:	\$1,165.01			
MATERIAL QUANTIT	<u>ries</u>			
Initial Volume: 1,176,0	000			
Swell factor: $\frac{1,170,0}{1.124}$	- 			
	354 LCY			
Source of estimated volume		2.; dry sand/gravel selecte	d 4 swell	
	fac	-		
Source of estimated swell fa	actor: Cat Handbook			
HOURLY PRODUCTI	<u>ON</u>			
Average push distance:	150 feet			
Unadjusted hourly production				
J J F				
Materials consistency descr	iption: Rock, well ripped of	or blasted 0.8		
Average push gradient:	-30 %			
	7,200 feet			
	7,200 1000			
Material weight:	2,900 lbs/LCY		<u> </u>	
Weight description:	Sand and gravel - Dry			
Job Condition Correction Fa		Source		
Operator Sk	ill: 0.750	(AVG.)		
Material consisten		(CAT HB)		
Dozing method	od: 1.200	(S-BY-S)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: 350.22 Hours
Total job cost: \$408,014

TRUCK/LOADER TEAM WORK

	Task description:	Place to	psoil in N. Wide	ows Peak area			
Site	Pikeview Quarr	y	Permit Act	ion: 2019 Update	e	Permit/Job#: N	1 1977211
	PROJECT IDEN	NTIFICATION	I				
	Task #: N40		State: Color	rado	Ab	breviation: No	one
	Date: 2/12/	2019	County: El Pa	ISO		Filename: M	211-N40
	User: TC1						
	Agency o	r organization nar	ne: DRMS				
	HOURLY EQU	IPMENT COS	<u>r</u>			is: 1 per day	
_		Truck Loader Tea	m Truck: Co	Equipment Descri t 740	ption		
		Truck Loader Tea		T 980H			
_	Supp	oort Equipment -L					
_	Road M	-D ⁻ Iaintenance –Mot		t D9T - 9SU AT 12M			
	Koau IV			ater Tanker, 5,000	Gal.		
_			-				
	Cost Breakdown:	Truck/Lo	ader Team Loader	Support Load Area	Equipment	Maintena Motor Grader	nce Equipment Water Truck
					Dump Area		
	ilization-machine:	100	100	NA	100	25	25
	nership cost/hour:	\$66.13	\$50.17	NA	\$110.70	\$30.73	\$25.30
	perating cost/hour:	\$55.75	\$56.19	NA	\$95.46	\$7.65	\$9.15
	6 Utilization-riper: er own. cost/hour:	NA NA	\$0.00	NA NA	NA \$0.00	NA \$0.00	NA \$0.00
	oper op. cost/hour:	NA NA	\$0.00	NA NA	\$0.00	\$0.00	
	perator cost/hour:	\$25.65	\$36.13	NA	\$40.23	\$45.64	\$0.00
	Unit Subtotals:	\$147.53	\$142.48	NA	\$246.39	\$84.03	\$34.45
	Number of Units:	3	1	0	1	1	1
	Group Subtotals:	Work:	\$585.07	Support:	\$246.39	Maint:	\$118.48
	Total work team co		1				
	Initial volume	e: 11,205	CC	Y Swell	factor: 1.000		
	Loose volume	e: 11,20	D5 LCY	Y			
		ource of estimated e of estimated swe Material Purch To	ell factor: Cat		2; Haul distance fr	om AM3, Exhibi	it L
	HOURLY PRO	<u>DDUCTION</u>					
	Truck Capacity: Truck Payload (we Material Desc		oil	Pounds/LCY			
	Rated P Payload Ca	ayload: 87,000		Pounds LCY			

Truck Bed (volume) Basis: Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	31.40	LCY				
Fina	ıl Truck Volum	e Based on Number	of Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Buck	et Size Class: N	A	_
Rated Capacity:	7.500	LCY (heaped	,			_
Bucket Fill Factor:	1.100	Other - rock/o	dirt mixtures (100-	120%) 1.100		_
Adjusted Capacity:	8.250	LCY				
Job Condition Correction	<u>s:</u>		Site Altitude (ft.): 7	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB))		
Job Efficiency:	0.830	0.830	(CAT HB))		
Net Correction:	0.797	0.830				
Loading Tool Cycle Time	: Numbe	er of Loading Tool l	Passes Required to F	ill Truck:	3	nasses
Loading Tool Cycle Time	_	er of Loading Tool l	Passes Required to F	Fill Truck:	3	passes
Excavators and Front Shov	els:	C	Passes Required to F	Fill Truck:	3	passes
Excavators and Front Shov Machine Cycle Time	els:	on Rating: <u>NA</u>	Passes Required to F	ill Truck:	3	passes
Excavators and Front Shov Machine Cycle Time	e <u>ls:</u> vs. Job Conditio within this Bas	on Rating: NA NA	Passes Required to F	ill Truck:	3	passes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders	els: vs. Job Conditio within this Bas – Material Desc	on Rating: NA NA	Passes Required to F	ill Truck:	3	passes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders	els: vs. Job Condition within this Base Material Descent	on Rating: NA NA	Passes Required to F	Fill Truck:		passes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min.	els: vs. Job Condition within this Base Material Descent):	on Rating: NA sic Rating: NA ription: NA		Dump: 0.100	<u> </u>	passes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA	els: vs. Job Condition within this Base Material Descent):	on Rating: NA sic Rating: NA ription: NA		Dump: 0.100	<u> </u>	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol	on Rating: NA	Time (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040	.550 min Source (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol	on Rating: NA	Time (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.)	.550 min	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow	on Rating: NA sic Rating: NA ription: NA Maneuver: NA sasic Loader Cycle Taken material 0.04 ent - factor not applied whership of trucks at	Time (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040	550 min Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow Constant ope	on Rating: NA sic Rating: NA ription: NA Maneuver: NA sasic Loader Cycle Taken material 0.04 ent - factor not appliation of trucks are aration -0.04	Time (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	550 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow	on Rating: NA sic Rating: NA ription: NA ription: NA rasic Loader Cycle Taken material 0.04 ent - factor not applied varietion -0.04 get 0.00	Fime (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow Constant ope	on Rating: NA	Time (load, dump, micable 0.00 nd loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow Constant ope	on Rating: NA	Fime (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brol No adjustme Common ow Constant ope	on Rating: NA	Time (load, dump, micable 0.00 nd loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Base Material Desc): - Unadjusted B Bank or brole No adjustme Common ow Constant ope Nominal targ	on Rating: NA	Time (load, dump, micable 0.00 nd loaders -0.04 lime Adjustment: ader Cycle Time: I Time per Truck:	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	els: vs. Job Condition within this Base Material Desc : - Unadjusted B Bank or brole No adjustme Common ow Constant ope Nominal targ e: 0.60	on Rating: NA Sic Rating: NA Tription: Maneuver: NA Tription: Net - factor not applied to trucks and the second se	Fime (load, dump, modern decided) Fime Adjustment: ader Cycle Time: I Time per Truck: Adjusted	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.120	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

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

Haul Route:

Tiuui Itou	ic.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	5.00	3.00	8.00	1123	2.437

Haul Time: 2.437 minutes

Return Route:

	Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel Time				
		(Ft)		(%)	(%)	(fpm)	(min)				
ſ	1	2600.00	-5.00	3.00	-2.00	3706	0.737				

Return Time: 0.737 minutes
Total Truck Cycle Time: 5.961 minutes

Loading Tool unit

Production Truck Unit Production

Truck Unit Production

249.13 LCY/Hour Adjusted for job efficiency: 706.33 LCY/Hour Adjusted for job efficiency: 206.78 LCY/Hour Optimal No. of Trucks: 3 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 620.34 LCY/Hour Adjusted single truck/loader team production: 620.34 LCY/Hour Adjusted multiple truck/loader team production: 620.34 LCY/Hour

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____18.06 Hours

Unit cost: \$1.531 /LCY Total job cost: **\$17,158**

REVEGETATION WORK

Task description:	Revegetate N. Widows	Peak - 13.9	Ac (ref. App	, Table 1)	
Pikeview Quarry	Permit Ac	: <u>M1977211</u>				
PROJECT IDENTIF	FICATION					
Task #: N50 Date: 2/8/2019 User: TC1	State: Color					None M211-N50
Agency or org	anization name: DRMS					
FERTILIZING						
Materials		Units /				
Description		Acre	Unit	Cost	t / Unit	Cost /Acre
				\$		\$
				Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application Description						Cost /Acre
•						\$
		Total	Fertilizer A	pplication	n Cost/Acre	\$0.00
<u> FILLING</u>						
Description						Cost /Acre
Chisel plowing {DM	[G]					\$92.77
			To	otal Tilling	g Cost/Acre	\$92.77
SEEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachit	ta			0.50	8.16	\$8.33

Crested Wheatgrass - Ephraim

Little Bluestem - Native

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky

Alfalfa - Ranger (inoculated)

Western Wheatgrass - Arriba

Mahogany, Mountain

Intermediate Wheatgrass - Oahe

Pubescent Wheatgrass - Greenleaf

CIRCES Cost Estimating S	oftware

\$3.75

\$16.13

\$19.80

\$12.96

\$15.72

\$2.66

\$15.28

\$75.38

\$33.12

1.00

1.00

2.00

2.00

4.00

1.00

4.00

2.00

4.00

4.59

5.97

6.57

8.03

8.54

4.82

8.26

2.71

10.10

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 13.9 Cost/Acre: \$1,243.50

Estimated Failure Rate: 25% Cost /Acre*: \$1,243.50

*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$17,284.65

Reseeding Job Cost: \$4,321.16

Total Job Cost: \$21,606

28.00

BULLDOZER RIPPING WORK

	Task description:	Rip	weathered granite for Pl	ant area back	fill			
Site:	Pikeview Quar	ry	Permit Action:	2019 Update	Pern	nit/Job#:	M19772	11
	PROJECT IDE	ENTIFICAT	ION					
	Task #: P10		State: Colorado		Abbrev	riation:	None	
		1/2019	County: El Paso			ename:	M211-P1	0
	User: TC	[·			-		
	Agency	or organization	n name: DRMS					
	HOURLY EQU	JIPMENT C	<u>OST</u>					
	Basic N	Machine: Ca	at D10T - 10SU		Horsepower:	4	574	
	Ripper Atta	chment: 1-3	Shank Ripper	_	Shift Basis:	1 p	er day	
					Data Source:	(C	CRG)	
	Cost Breakdown:							
				4.50.50	Utilization %			
		Ownership C		\$129.20	NA NA			
	Diam.	Operating C		\$121.82	100			
		r Ownership C er Operating C		\$18.04 \$10.15	NA 100			
	Кірр	Operator C		\$40.23	NA			
		Total Unit C		\$319.44	1171			
		Total Fleet C	Cost/Hour: \$638	R 88				
	MATERIAL O							
	MATERIAL Q		<u>S</u> ele	ected estimating	g method: Seismi	2		
	Alternate Method							
smic:	56,000	BCY	Bank Volume:	56,000	BCY NA		drange	DCV
Area:	NA	acres	Rip Depth (ft):	NA	Volume: NA	<u> </u>		BCY or C
		Source of esti	mated quantity: See Ap	pendix, Table 2	2.			<u></u>
	HOURLY PRO	<u>DUCTION</u>						
	Seismic:							
			Seismic Velocity:	5,000	feet/second	d		
	Area:							
			ge Ripping Depth:	NA	mph			
			ge Ripping Width:	NA	degrees			
			e Ripping Length:	NA NA	feet			
			rage Dozer Speed:e Maneuver Time:	NA NA	feet feet			
		_	ction per unit area:	NA NA	acres/hour			
	Job Condition Co.							
			unit Production:	1,250.00	Cu. yds./h	r		
	Oile		Site Altitude:	7,200	feet			
			Altitude Adj:	1.00	(CAT HB)	١		
			Job Efficiency:	0.83	(1 shift/da			
			Net Correction:	0.83	multiplier	, ,		
		Adjusted	Hourly Unit Production:	1,037.50	Cu. yds./hr			
		Adjusted	Hourly Fleet Production:	2,075.00	Cu. yds./hr			
	JOB TIME AN	D COST						
	Fleet size:	2	_ Grader(s)	Total job tin	ne: 26. 9	99	Но	urs
	Unit cost:	\$0.308	Per cu. yd.	Total job co	st: \$17,	242		

TRUCK/LOADER TEAM WORK

Task description:					erial-Plant Area	D 1/T 1 !! 3.5	1077011
Site: Pikeview Quarry	7	Permit A	Action	: 2019 Update	2	Permit/Job#: M	1977211
PROJECT IDEN	TIFICATION	<u>[</u>					
Task #: P30		State: Co	olorad	.0	Ab	breviation: No	ne
Date: $\frac{2/12/2}{2}$	019		l Paso				211-P30
User: TC1							
Agency or	organization nar	ne: DRMS	5				
HOURLY EQUI	PMENT COST	<u>r</u>			Shift bas	is: 1 per day	
				quipment Descri	ption		
Т	ruck Loader Tea		Cat 7				
Suppo	ort Equipment -L		NA	900H			
			NA				
Road Ma	aintenance –Mot		CAT		G 1		
	-W 2	ater Truck:	Water	r Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	ader Team		Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	00	NA	NA	25	25
Ownership cost/hour:	\$66.13	\$50.		NA	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.		NA	NA	\$7.65	\$9.15
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.	.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.	.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.	.13	NA	NA	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.	.48	NA	NA	\$84.03	\$34.45
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$437.54		Support:	\$0.00	Maint:	\$118.48
Total work team cos	st/hour: \$556.0 2	2					
MATERIAL QU	<u>ANTITIES</u>						
Initial volume:	,		CCY	Swell	factor: 1.120		
Loose volume:	448,0	<u>00 </u>	LCY				
Sou	arce of estimated	l volume: S	See Ap	pendix, Table 2	; Haul distance fr	om AM3, Exhibit	L
Source	of estimated swe			ndbook			
	Material Purch		\$0.00 \$0.00				
	10	<u> </u>	p0.00				
HOURLY PRO	DUCTION						
Truck Capacity:							
Truck Payload (weig	ght) Basis:						
Material w				_ Pounds/LCY			
Descri Rated Pa	<u> </u>	- Pitrun		Pounds			

Truck Bed (volume) Basi Struck Volume:	24.20	LCY					
Heaped Volume:	31.40	LCY					
Average Volume:	27.80	LCY					
Adjusted Volume:	26.77	LCY					
Fi	nal Truck Vo	olume Based	d on Number o	f Loader Passes:	24.75	LCY	
Loading Tool Capacity							
				Buck	et Size Class:	NA	_
Rated Capacity	7.50	00 I	LCY (heaped)		_		_
Bucket Fill Factor	0.82	25 I	Blasted rock - a	vg. blasted (75 -	90%) 0.825		
Adjusted Capacity	6.18	88 I	LCY				
Job Condition Correction	ns:		Si	ite Altitude (ft.): 7	200 feet		
	Truck		Loader	Source			
Altitude Adj:	0.960		1.000	(CAT HB			
Job Efficiency:	0.830		0.830	(CAT HB)		
Net Correction:	0.797		0.830				
Loading Tool Cycle Tin	ne• Ni	umber of La	oading Tool Pa	sses Required to F	ill Truck:	4 n	9666
Everysters and Front Sh		umber of Lo	oading Tool Pa	sses Required to F	ill Truck:	4 p	asse
Excavators and Front Sho	ovels:		-	sses Required to F	ill Truck:	p	asse
-	ovels: e vs. Job Cor	ndition Rati	ng: NA	sses Required to F	Fill Truck:	4 p	asse
Excavators and Front Sho Machine Cycle Tim	ovels: e vs. Job Cor ue within this	ndition Rati s Basic Rati	ng: NA NA	sses Required to F		4 p	asse
Excavators and Front Sho Machine Cycle Tim Selected Val	ovels: e vs. Job Cou ue within this s – Material	ndition Rati s Basic Rati	ng: NA NA			4 p	asse
Excavators and Front She Machine Cycle Tim Selected Val Track Loader	ovels: e vs. Job Cou ue within this s – Material	ndition Rati s Basic Rati	ng: <u>NA</u> ng: <u>NA</u> :			4 p	asse
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi	e vs. Job Conue within this s – Material in.):	ndition Rati s Basic Rati Description Maneuv	ng: NA ng: NA :	· 	Dump: 0.1		
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi	e vs. Job Conue within this s – Material in.):	ndition Rati s Basic Rati Description Maneuv	ng: NA ng: NA :	· 	Dump: 0.1	100 0.550 minu	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade	e vs. Job Conue within this s – Material in.):	ndition Rati s Basic Rati Description Maneuv	ng: NA ng: NA : ver: NA pader Cycle Tin	· 	Dump: 0.1	100 0.550 minu	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Facto	e vs. Job Conue within this s – Material in.): rs - Unadjust	ndition Rati s Basic Rati Description Maneuv red Basic Lo	ng: NA ng: NA : ver: NA pader Cycle Tin	me (load, dump, n	Dump: 0.1 naneuver): Factor (min.)	100 0.550 minu Source	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	e vs. Job Con ue within this s – Material n.): rs - Unadjust s l: Bank on e: No adjust c: Commo	Maneuv ed Basic Lo broken ma istment - fac on ownershi	ng: NA ng: NA : NA ver: NA pader Cycle Tinterial 0.04 ctor not applicate p of trucks and	me (load, dump, n	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040	0.550 minu Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	e vs. Job Control of the constant of the const	Maneuved Basic Lorden Basic Lorden malestment - facon ownershipt operation	ng: NA ng: NA : ver: NA pader Cycle Tin terial 0.04 ctor not applica p of trucks and -0.04	me (load, dump, n	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040	0.550 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	e vs. Job Control of the constant of the const	Maneuv ed Basic Lo broken ma istment - fac on ownershi	ng: NA ng: NA : ver: NA pader Cycle Tin terial 0.04 ctor not applica p of trucks and -0.04 0	me (load, dump, number of the loaders -0.04	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	0.550 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	e vs. Job Control of the constant of the const	Maneuved Basic Lords on ownership target 0.00	ng: NA ng: NA : ver: NA bader Cycle Tin terial 0.04 ctor not applicate of trucks and -0.04 Net Cycle Tin	me (load, dump, numble 0.00 loaders -0.04 lo	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	0.550 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	e vs. Job Control of the constant of the const	Maneuved Basic Lords on ownership target 0.00	ng: NA ng: NA : ver: NA bader Cycle Tin terial 0.04 ctor not applica p of trucks and -0.04 Net Cycle Tin Adjusted Load	me (load, dump, number of the loaders -0.04	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	0.550 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi Operatior Dump Targer	e vs. Job Control of the constant of the const	Maneuved Basic Lords on ownership target 0.00	ng: NA ng: NA : ver: NA bader Cycle Tin terial 0.04 ctor not applica p of trucks and -0.04 Net Cycle Tin Adjusted Load	me (load, dump, numble 0.00 loaders -0.04 loaders -c.04 lo	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	e vs. Job Conue within this s – Material in.): rs - Unadjust is library in No adjust is Commonic Constart; Nomina	Maneuved Basic Local broken maistment - factor operation of target 0.00	ng: NA ng: NA : ver: NA bader Cycle Tin terial 0.04 ctor not applica p of trucks and -0.04 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 loaders -0.04 loa	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	tes
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi Operatior Dump Targer	e vs. Job Corue within this s – Material in.): rs - Unadjust rs l: Bank or e: No adjust rs c: Common: Constart: Nomina	Maneuvied Basic Lorenteer Basi	ng: NA ng: NA : ver: NA terial 0.04 ctor not applica p of trucks and -0.04 0 Net Cycle Tin Adjusted Load Net Load T	me (load, dump, numble 0.00 loaders -0.04 loaders -0.04 loaders -Truck:	Dump: 0.1 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 1.630	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	ttes - - - -

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1150.00	-8.00	3.00	-5.00	2721	0.497

Haul Time: **0.497** minutes

Return Route:

Tetam Te	Return Route.								
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)			
1	1150.00	8.00	3.00	11.00	1610	0.800			

Return Time: 0.800 minutes
Total Truck Cycle Time: 4.594 minutes

Loading Tool unit

Production Truck Unit Production

323.27 LCY/Hour Adjusted for job efficiency: 546.59 LCY/Hour Adjusted for job efficiency: 268.32 LCY/Hour Optimal No. of Trucks: 2 Truck(s)

Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 536.63 LCY/Hour Adjusted single truck/loader team production: 536.63 LCY/Hour Adjusted multiple truck/loader team production: 536.63 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 834.84
 Hours

 Unit cost:
 \$1.036
 /LCY
 Total job cost:
 \$464,187

BULLDOZER WORK

Task description:	Push r	ipped/blasted materia	il transported w/ Load	er & Trucks	
Pikeview Quarry	<i>I</i>	Permit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDEN	TIFICATIO	<u>N</u>			
Task #: P31		State: Colorado		Abbreviation:	None
Date: $\frac{131}{2/11/2}$	2019	County: El Paso	·	Filename:	M211-P31
User: TC1		Erraso	·	-	1,1211 131
Agency or	organization na	ime: DRMS			
HOURLY EQUI	PMENT COS	<u>5T</u>			
Basic Machine:	Cat D10T - 10	0SU			
Horsepower:	574				
Blade Type:	Semi-Univers	sal			
Attachment:	NA				
Shift Basis:	1 per day				
Data Source:	(CRG)		<u></u>		
Cost Breakdown:					
			<u>Utilization %</u>		
Ownership Cost/He		\$129.20	NA		
Operating Cost/He		\$121.82	100		
Ripper own. Cost/He		\$0.00	NA		
Ripper op. Cost/He	our:	\$0.00	0		
Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QUA	our: \$291.25 ur: \$1,165. 0		NA 		
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume:	our: \$291.25 ur: \$1,165.0 ANTITIES 400,000		NA NA		
Total unit Cost/Hour Total Fleet Cost/Hou MATERIAL QUA	our: \$291.25 ur: \$1,165.0 ANTITIES		NA NA		
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QU. Initial Volume: Swell factor:	our: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY	D1 See Appendix, Table	NA 2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume:	our: r: \$291.25 \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume:	D1		eted for	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QU. Initial Volume: Swell factor: Loose volume: Source of estimated	our: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor:	See Appendix, Table swell f		eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	our: \$291.25 \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor:	See Appendix, Table swell f		eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Entitle Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD	our: r: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor: DUCTION ace: 1	See Appendix, Table swell f Cat Handbook		eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distan	our: r: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor: DUCTION ace: 1 production: 1	See Appendix, Table swell f Cat Handbook	2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distan Unadjusted hourly p Materials consistence Average push gradie	our: r: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor: OUCTION ace: 1 production: 1 ry description: ent: -30 %	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of	2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distan Unadjusted hourly p	our: r: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor: OUCTION ace: 1 production: 1 ry description: ent: -30 %	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of	2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distan Unadjusted hourly p Materials consistence Average push gradie	our: r: \$291.25 ur: \$1,165.0 ANTITIES 400,000 1.124 449,440 LCY volume: swell factor: OUCTION ace: 1 production: 1 ry description: ent: -30 %	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of the seet	2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Partial Fleet Cost Fleet F	our: 1	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of the seet	2.; dry sand/gravel selec	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated HOURLY PROD Average push distant Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Job Condition Corre	our:	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of the set set set set set d gravel - Dry	2.; dry sand/gravel selection of blasted 0.8	eted for	
Total unit Cost/Hour Total Fleet Cost/Hour Initial Volume: Swell factor: Loose volume: Source of estimated HOURLY PROD Average push distant Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Job Condition Corre	Sand an Section Factor rator Skill: Signature Signature	See Appendix, Table swell f Cat Handbook 50 feet ,243.2 LCY/hr Rock, well ripped of the set eet	2.; dry sand/gravel selection		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: 119.12 Hours \$\frac{119.12 \text{ Hours}}{\$138,780}\$

TRUCK/LOADER TEAM WORK

Task description:	Place to	psoil in Plant arc	ea			
Site: Pikeview Quarry	7	Permit Action	on: 2019 Update	<u>e</u> :	Permit/Job#: M	1977211
PROJECT IDEN	TIFICATION					
Task #: P40 Date: 2/12/2 User: TC1	019	State: Colora County: El Pas		Ab	breviation: No. M2	ne 11-P40
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>r</u>		Shift bas	sis: <u>1 per day</u>	
			Equipment Descri	ption		
T	ruck Loader Tea		740	1		
			Т 980Н			
Suppo	ort Equipment -L					
			D9T - 9SU			
Road Ma	aintenance –Mot		T 12M	G 1		
	-Wa	ter Truck: Wa	ter Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	25	25
Ownership cost/hour:	\$66.13	\$50.17	NA	\$110.70	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.19	NA	\$95.46	\$7.65	\$9.15
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.13	NA	\$40.23	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.48	NΑ	\$246.39	\$84.03	\$34.45

Total work team cost/hour: \$802.41

MATERIAL QUANTITIES

Initial volume: 5,001 CCY Swell factor: 1.000

1

Loose volume: **5,001** LCY

Work:

Source of estimated volume: See Appendix, Table 2; Haul distance from AM3, Exhibit L

Cat Handbook

Support:

\$246.39

Material Purchase Cost: 50.00 Total Cost: 50.00

\$437.54

HOURLY PRODUCTION

Truck Capacity:

Number of Units:

Group Subtotals:

Truck Payload (weight) Basis:

Material weight: 1,600 Pounds/LCY
Description: Top Soil

Rated Payload: 87,000 Pounds
Payload Capacity: 54.38 LCY

1

\$118.48

Maint:

Struck Volume:	24.	.20 LC	Y					
Heaped Volume:								
Average Volume:								
Adjusted Volume:								
J								
F	inal Truck	v Volume Bas	sed on Number o	of Loader Passe	es: <u>2</u> 4	1.75	LCY	
Loading Tool Capacity								
				F	Bucket Size Cla	ass: N	A	
Rated Capacity	/ :	7.500	LCY (heaped)			-		
Bucket Fill Factor		1.100	Other - rock/dia	rt mixtures (100-120%) 1.1	.00		
Adjusted Capacity	/:	8.250	LCY	`	,			
Job Condition Correction	ons•		S	ite Altitude (ft): 7200 feet			
300 Condition Correction		,			·			
Altitudo Adia	Tru 0.90		Loader 1.000	Sou				
Altitude Adj: Job Efficiency:	0.90		0.830	(CAT				
Job Efficiency.	0.8.	30	0.830	(CAI	пь)			
Net Correction:	0.79	97	0.830					
_								
Excavators and Front Sh Machine Cycle Tin Selected Val	ovels: ne vs. Job			asses Required	to Fill Truck:		3	passes
Excavators and Front Sh Machine Cycle Tin	ovels: ne vs. Job lue within rs – Mater	Condition R this Basic R	ating: NA ating: NA	asses Required	to Fill Truck:		3	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader	ovels: ne vs. Job lue within rs – Mater	Condition Raths Basic Rational Description	ating: NA ating: NA	asses Required	to Fill Truck:	0.100		passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m	ovels: ne vs. Job lue within rs – Mater in.):	Condition Rethis Basic Rerial Description	ating: NA ating: NA on:		Dump:	0.100	1	passes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad	Condition Rethis Basic Rerial Description	ating: NA ating: NA on:		Dump:	0.100	<u> </u>	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad ors al: Ban	Condition Rethis Basic Rerial Description Mane	ating: NA ating: NA	me (load, dum	Dump: np, maneuver): Factor (0.100 0. (min.)	.550 m: Source (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad ors al: Ban le: No	Condition R. this Basic R rial Description Mane Ijusted Basic k or broken r adjustment -	ating: NA ating: NA on: euver: NA Loader Cycle Tine material 0.04 factor not applica	me (load, dum	Dump: ip, maneuver): Factor (0.04	0.100 0. min.) 40	.550 m Source (Cat HB) (Cat HB)	
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad ors al: Ban le: No: p: Con	Condition Rather this Basic Rational Description Mane Ijusted Basic Radjustment - Inmon owners	ating: NA ating: NA on: NA euver: NA Loader Cycle Ti material 0.04 factor not applica	me (load, dum	Dump: p, maneuver): Factor (0.04 0.00 -0.00	0.100 0. (min.) 10 00 40	.550 m: Source (Cat HB) (Cat HB) (Cat HB)	
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Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpil Truck Ownershi Operation Dump Targer Truck Cycle Time: Truck Exchange T	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad ors al: Ban le: No a p: Con on: Con et: Nor	Condition R. this Basic R rial Description Mane ljusted Basic k or broken r adjustment - nmon owners istant operation minal target 0	ating: NA ating: NA on: euver: NA Loader Cycle Ti material 0.04 factor not applica ship of trucks and on -0.04 0.00 Net Cycle Tir Adjusted Load Net Load T	me (load, dum able 0.00 l loaders -0.04 me Adjustmen ler Cycle Time Fime per Truck	Dump: Factor (0.04 0.00 -0.04 0.00 t: -0.04 e: 0.51 c: 1.12	0.100 0. min.) 10 00 40 40 40 10 20	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	inutes
Excavators and Front Sh Machine Cycle Tin Selected Val Track Loader Cycle Time Elements (m Load: NA Wheel and Track Loader Cycle Time Factor Materia Stockpii Truck Ownershi Operation Dump Targe	ovels: ne vs. Job lue within rs – Mater in.): ers - Unad ors al: Ban le: No a p: Con on: Con et: Nor	Condition R. this Basic R rial Description Mane ljusted Basic k or broken r adjustment - nmon owners istant operation minal target 0	ating: NA ating: NA on: euver: NA Loader Cycle Ti material 0.04 factor not applica ship of trucks and on -0.04 0.00 Net Cycle Tir Adjusted Load Net Load T	me (load, dum able 0.00 l loaders -0.04 me Adjustmen ler Cycle Time Fime per Truck	Dump: Factor (0.100 0. min.) 00 40 40 40 00 40 00 40 00 10 00	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	inutes

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

0.800

LCY/Hour

1150.00

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1150.00	-8.00	3.00	-5.00	2721	0.497

Haul Time: **0.497** minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min)

3.00

8.00

LCY/Hour

363.64

Return Time: 0.800 minutes
Total Truck Cycle Time: 4.084 minutes

1610

Adjusted for job efficiency: 301.82

Loading Tool unit

Production 851.00 LCY/Hour Adjusted for job efficiency: 706.33 LCY/Hour Truck Unit Production

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

Adjusted hourly truck team production:
Adjusted single truck/loader team production:
Adjusted multiple truck/loader team production:

603.65

LCY/Hour

603.65

LCY/Hour

603.65

LCY/Hour

11.00

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 8.28
 Hours

 Unit cost:
 \$1.329
 /LCY
 Total job cost:
 \$6,648

REVEGETATION WORK

Task desc	eription:	Revegetate Plant	t Area - 6.2	Ac (ref	. App, Tal	ble 1)		
te: Pikeview Quarry		Per	mit Action:	2019	Update		Permit/Job	#: <u>M1977211</u>
PROJEC	T IDENTIFI	CATION						
Task # Date User	: 2/8/2019	State: County:	Colorado El Paso				oreviation: _ Filename: _	None M211-P50
A	Agency or organ	nization name: DR	MS					
<u>FERTILI</u>	ZING							
Materials								
Descri	otion			nits / cre	Unit	Cost	t / Unit	Cost /Acre
						\$		\$
						Tota	al Fertilizer Materials Cost/Acre	\$0.00
Applicatio	n							
Descri	otion							Cost /Acre
				Total	Fertilizer	Application	n Cost/Acre	\$0.00
TILLING	<u> </u>							
Descrij	otion							Cost /Acre
Chisel	plowing {DMC	}						\$92.77
					,	Total Tilling	g Cost/Acre	\$92.77
SEEDING	<u>3</u>							
Seed M	lix					Rate – PLS LBS /	Seeds per SQ. FT	Cost /Acre

Blue Grama - Hachita

Little Bluestem - Native

Mahogany, Mountain

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky

Alfalfa - Ranger (inoculated)

Western Wheatgrass - Arriba

Intermediate Wheatgrass - Oahe

Pubescent Wheatgrass - Greenleaf

Crested Wheatgrass - Ephraim

\$8.33

\$3.75

\$16.13

\$19.80

\$12.96

\$15.72

\$2.66

\$15.28

\$75.38

\$33.12

0.50

1.00

1.00

2.00

2.00

4.00

1.00

4.00

2.00

4.00

8.16

4.59

5.97

6.57

8.03

8.54

4.82

8.26

2.71

10.10

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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: 6.2 Cost /Acre: \$1,243.50 d Failure Rate: 25% Cost /Acre*: \$1,243.50

Estimated Failure Rate: 25% Cost /Acres
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$7,709.70

Reseeding Job Cost: \$1,927.43

Total Job Cost: \$9,637

12.00

BULLDOZER RIPPING WORK

	Task description:	_Ri	p weathered granite for S	outh Widows I	Peak backfill			
Site	: Pikeview Quar	ry	Permit Action:	2019 Update	Peri	nit/Job#	#: <u>M19772</u>	11
	PROJECT IDE	NTIFICA'	<u> FION</u>					
	Task #: S10		State: Colorado		Abbrey	viation:	None	
		/2019	County: El Paso			ename:	M211-S1	0
	User: TC1						-	
	Agency	or organizati	on name: DRMS					
	HOURLY EQU	IPMENT	COST					
	Basic M	Iachine: (Cat D10T - 10SU		Horsepower:		574	
	Ripper Atta	chment: 1	-Shank Ripper		Shift Basis:	1	per day	
					Data Source:	((CRG)	
	Cost Breakdown:							
					Utilization %			
			Cost/Hour:	\$129.20	NA			
			Cost/Hour:	\$121.82	100			
		Ownership		\$18.04	NA			
	Rippe	er Operating		\$10.15	100			
			Cost/Hour:	\$40.23	NA			
		I otal Unit	Cost/Hour:	\$319.44				
		Total Fleet	Cost/Hour: \$63	8.88				
	MATERIAL Q	<u>UANTITII</u>	<u>ES</u> Sele	ected estimating	g method: Seismi	c		
	Alternate Methods	<u>s:</u>						
Seismic:	162,540	BCY	Bank Volume:	162,540	BCY	M	lidrange	
Area:	NA	acres	Rip Depth (ft):	NA	Volume: NA			BCY or CC
		Source of es	stimated quantity: See Ap	ppendix. Table				
	HOUDI V DDO			princin, ruete				
	HOURLY PRO	DUCTION	<u>\</u>					
	Seismic:							
			Seismic Velocity:	5,000	feet/secon	d		
	Area:							
		Avei	rage Ripping Depth:	NA	mph			
		Avei	rage Ripping Width:	NA	degrees			
			age Ripping Length:	NA	feet			
			verage Dozer Speed:	NA	feet			
			ge Maneuver Time:	NA	feet			
		Prod	uction per unit area:	NA	acres/hour	'		
	Job Condition Con	rection Fact	<u>ors</u>					
	Una	djusted Hou	rly Unit Production:	1,250.00	Cu. yds./h	r		
			Site Altitude:	7,200	feet			
			Altitude Adj:	1.00	(CAT HB			
			Job Efficiency:	0.83	(1 shift/da	•		
			Net Correction:	0.83	multiplier			
			ed Hourly Unit Production: ed Hourly Fleet Production:	1,037.50 2,075.00				
	JOB TIME AN							
	Fleet size:	2	Grader(s)	Total job tin	ne: 78.	33	Но	urs
	Unit cost:	\$0.308	Per cu. vd.	Total job co	ost: \$50.	045		

TRUCK/LOADER TEAM WORK

Task description:		•	•		erial-S. Widows		1077211
Site: Pikeview Quarry	<u> </u>	Permit A	Action:	2019 Update	<u> </u>	Permit/Job#: M	1977211
PROJECT IDEN	TIFICATION	<u> </u>					
Task #: S30		_	olorado)	Ab	breviation: No	ne
Date: $\frac{2}{12/2}$	2019		Paso				11-S30
User: TC1							
Agency or	organization nar	ne: DRMS					
HOURLY EQUI	PMENT COS	<u>r</u>			Shift bas	is: 1 per day	
				uipment Descri	ption		
Т	ruck Loader Tea		Cat 74 CAT 9				
Suppo	ort Equipment -I		NA	960П			
		ump Area:	NA				
Road Ma	aintenance –Mot		CAT 1		C . 1		
	-W 2	iter Truck:	water	Tanker, 5,000	Jal.		
Cost Breakdown:	Truck/Lo	ader Team		Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader	I	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	10	00	NA	NA	100	100
Ownership cost/hour:	\$66.13	\$50.1		NA	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$56.1		NA	NA	\$30.60	\$36.60
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.0	00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.0	00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$36.1	13	NA	NA	\$45.64	\$0.00
Unit Subtotals:	\$147.53	\$142.4	48	NA	NA	\$106.97	\$61.90
Number of Units:	3		1	0	0	1	1
Group Subtotals:	Work:	\$585.07		Support:	\$0.00	Maint:	\$168.87
Total work team cos	st/hour: \$753.9 4	<u> </u>					
MATERIAL QU	<u>ANTITIES</u>						
Initial volume:			CY	Swell	factor: 1.120		
Loose volume:	1,300,3	320 L	CY				
	urce of estimated				; Haul distance from	om AM3, Exhibit	L
Source	of estimated swe		<u>at Har</u> 0.00	ndbook			
	Material Purch		0.00				
	1						
HOURLY PRO	DUCTION						
Truck Capacity:	<u>_</u>						
Truck Payload (weight	ght) Basis:						
Material w	veight: 3,250			Pounds/LCY			
				-			
Descri Rated Pa	-	- Pitrun		Pounds			

Truck Bed (volume) Basis Struck Volume:	24.20	LCY					
Heaped Volume:	31.40	LCY	•				
Average Volume:	27.80	LCY					
Adjusted Volume:	26.77	LCY	•				
	al Truck Vol	ume Base	ed on Number of	f Loader Passes:	24.75	LCY	
Loading Tool Capacity							
D : 10 ':	7. 50	a 1 :	I GV (I	Buck	tet Size Class:	NA	
Rated Capacity:	7.50		LCY (heaped)	11 . 1 . 7.5	000() 0 007		
Bucket Fill Factor:	0.82			avg. blasted (75 -	90%) 0.825		
Adjusted Capacity:	6.18	8	LCY				
Job Condition Correction	<u>ıs:</u>		Si	ite Altitude (ft.): 7	<u>'200</u> feet		
	Truck		Loader	Source			
Altitude Adj:	0.960		1.000	(CAT HB			
Job Efficiency:	0.830		0.830	(CAT HB)		
Net Correction:	0.797		0.830				
Loading Tool Cycle Tim	<u>e:</u> Nu	mber of L	oading Tool Pa	sses Required to l	Fill Truck:	4	passes
Loading Tool Cycle Tim Excavators and Front Sho		mber of L	oading Tool Pa	sses Required to l	Fill Truck:	4	passes
Excavators and Front Sho Machine Cycle Time	vels: vs. Job Con	dition Rat	ing: NA	sses Required to l	Fill Truck:	4	passes
Excavators and Front Sho Machine Cycle Time Selected Valu	vels: vs. Job Cone within this	dition Rat Basic Rat	ing: NA NA	sses Required to l	Fill Truck:	4	passes
Excavators and Front Sho Machine Cycle Time	vels: vs. Job Cone within this Material D	dition Rat Basic Rat	ing: NA NA	sses Required to l	Fill Truck:	4	passes
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders	vels: vs. Job Cone within this Material D	dition Rat Basic Rat	ing: NA NA NA	sses Required to l	Fill Truck:		passes
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA	vels: vs. Job Con within this Material C	dition Rat Basic Rat Description Maneu	ing: NA		Dump: 0.10	00	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader	vels: vs. Job Con e within this Material E .): s - Unadjuste	dition Rat Basic Rat Description Maneu	ing: NA		Dump: 0.10	00 0.550 mi	passes
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor	vels: vs. Job Con e within this – Material E .): s - Unadjuste	dition Rat Basic Rat Description Maneu ed Basic L	ing: NA NA in: NA ver: NA oader Cycle Tin		Dump: 0.10 naneuver): Factor (min.)	00	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or	dition Rat Basic Rat Description Maneu ed Basic L	ing: NA NA iver: NA oader Cycle Tine aterial 0.04	me (load, dump, n	Dump: 0.10 naneuver): Factor (min.) 0.040	0.550 mi Source (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile	vels: vs. Job Con e within this Material D .): s - Unadjuste Bank or No adjus	dition Rat Basic Rat Description Maneu ed Basic L broken ma	ing: NA ing: NA ver: NA oader Cycle Tine aterial 0.04 actor not applica	me (load, dump, n	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000	0.550 mi Source (Cat HB) (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership	vels: vs. Job Con e within this Material E .): s - Unadjuste Bank or No adjus Common	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fa n ownersh	ing: NA ing: NA ver: NA oader Cycle Tine aterial 0.04 actor not application of trucks and	me (load, dump, n	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040	0.550 mi Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fan ownersh	ing: NA ing: NA ver: NA oader Cycle Tine aterial 0.04 actor not application of trucks and a -0.04	me (load, dump, n	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040	0.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fa n ownersh	ing: NA ing: NA ver: NA oader Cycle Tine aterial 0.04 actor not application of trucks and 1-0.04 00	me (load, dump, nable 0.00	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	0.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fan ownersh	ing: NA ing: NA ver: NA oader Cycle Tin aterial 0.04 actor not application of trucks and 1-0.04 Net Cycle Tin Net Cycle Tin	me (load, dump, rable 0.00 loaders -0.04 me Adjustment:	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000 -0.040	0.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fan ownersh	ing: NA ing: NA ver: NA oader Cycle Tin aterial 0.04 actor not application of trucks and 1-0.04 00 Net Cycle Tin Adjusted Load	me (load, dump, nable 0.00	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	0.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fan ownersh	ing: NA ing: NA ver: NA oader Cycle Tin aterial 0.04 actor not application of trucks and 1-0.04 00 Net Cycle Tin Adjusted Load	me (load, dump, nable 0.00 loaders -0.04 loaders -0.04 ler Cycle Time:	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	O.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation Dump Target	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjus Common Constant Nominal	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fa n ownersh c operation target 0.0	ing: NA ing: NA ver: NA oader Cycle Tin aterial 0.04 actor not application of trucks and 1-0.04 00 Net Cycle Tin Adjusted Load	me (load, dump, nable 0.00 l loaders -0.04 me Adjustment: ler Cycle Time: Time per Truck:	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	O.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loader Cycle Time Factor Material Stockpile Truck Ownership Operation Dump Target	vels: vs. Job Con e within this – Material E .): s - Unadjuste Bank or No adjust Common Constant Nominal	dition Rat Basic Rat Description Maneu ed Basic L broken ma stment - fan ownersh coperation target 0.0	ing: NA ing: NA ver: NA oader Cycle Tine aterial 0.04 actor not application of trucks and a -0.04 Net Cycle Tine Adjusted Load Net Load T	me (load, dump, numble 0.00 loaders -0.04 loaders -0.04 loaders -Truck:	Dump: 0.10 naneuver): Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.510 1.630	O.550 mi Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	nutes

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

Haul Route:

110011100						
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	-8.00	3.00	-5.00	2721	1.062

Haul Time: **1.062** minutes

Return Ro	oute:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	8.00	3.00	11.00	1610	1.763

Return Time: 1.763 minutes 6.122 Total Truck Cycle Time: minutes

Loading Tool unit

Adjusted for job efficiency: 546.59 Production 658.54 LCY/Hour LCY/Hour Truck Unit Production 242.58 LCY/Hour Adjusted for job efficiency: 201.34 LCY/Hour

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

> Adjusted hourly truck team production: 604.03 LCY/Hour Adjusted single truck/loader team production: 546.59 LCY/Hour Adjusted multiple truck/loader team production: 546.59 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **2,378.99** Hours Unit cost: \$1.379 Total job cost: \$1,793,614 /LCY

BULLDOZER WORK

Task description:	Push	Tippeu/bias	oca materia	l transported w/ Loade	I & IIucks	
Pikeview Quarr	y	Per	mit Action:	2019 Update	Permit/Job#:	M1977211
PROJECT IDEN	NTIFICATIO	<u>)N</u>				
Task #: S31		State:	Colorado		Abbreviation:	None
Date: 2/11/2	2019	County:	El Paso		Filename:	M211-S31
User: TC1					-	
Agency or	organization 1	name: DF	RMS			
HOURLY EQUI	PMENT CO	ST				
Basic Machine:	Cat D10T -					
Horsepower:	574			<u> </u>		
Blade Type:	Semi-Unive	rsal				
Attachment: Shift Basis:	NA 1 per day			<u></u>		
Data Source:	(CRG)			<u></u>		
	(CRG)			<u> </u>		
Cost Breakdown:				Utilization %		
Ownership Cost/H	Iour:		\$129.20	NA		
Operating Cost/H			\$121.82	100		
Ripper own. Cost/H			\$0.00	NA		
Ripper op. Cost/H			\$0.00	0		
Operator Cost/H	Hour:		\$40.23	NA		
Total unit Cost/Hou Total Fleet Cost/Ho	\$291.2 bur: \$1,165					
Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume:	\$291.2 \$1,165 \$291.2 \$1,165 \$291.2 \$1,165 \$1,165					
Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor:	\$291.2 \$1,165 VANTITIES 1,161,000 1.124	5.01				
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume:	\$291.2 \$1,165 VANTITIES 1,161,000 1.124 1,304,500 LO	5.01 CY				
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume:	\$291.2 \$1,165 \$1,165 \$1,161,000 1.124 1,304,500 LO	See Appe	endix, Table 2	2.; dry sand/gravel select	eed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume:	\$291.2 \$1,165 \$1,165 \$1,161,000 1.124 1,304,500 LO	See Appe	endix, Table 2		red 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume:	\$291.2 \$1,165 EXAMTITIES 1,161,000 1.124 1,304,500 LO I volume:	See Appe	endix, Table 2		ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI	### \$291.2	See Apperage fac Cat Hand	endix, Table 2		ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	### \$291.2	See Appe fac Cat Hand	endix, Table 2		ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI	\$291.2 \$1,165 \$1,165 \$1,161,000 1.124 1,304,500 LO I volume: I swell factor: DUCTION nce: production:	See Apperatus See Apperatus Cat Hand 150 feet 1,243.2 LC	endix, Table 2	2.; dry sand/gravel select	eed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distar Unadjusted hourly p	\$291.2 \$1,165 DANTITIES 1,161,000 1.124 1,304,500 LO I volume: I swell factor: DUCTION nce: production: cy description:	See Apperatus See Apperatus Cat Hand 150 feet 1,243.2 LC	endix, Table 2	2.; dry sand/gravel select	ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly p	### \$291.2	See Apperatus See Apperatus Cat Hand 150 feet 1,243.2 LC Rock, v	endix, Table 2	2.; dry sand/gravel select	ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distar Unadjusted hourly publication Materials consistence Average push gradi	### \$291.2 ### \$291.2 ### \$1,165 ### ### ### ### ### ### ### ### ### #	See Apperatus See Apperatus Cat Hand 150 feet 1,243.2 LC Rock, v	endix, Table 2	2.; dry sand/gravel select	ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distar Unadjusted hourly published Average push gradi Average site altitud	### \$291.2 ### \$291.2 ### \$1,165 ### ### ### ### ### ### ### ### ### #	See Appe fac Cat Hand 150 feet 1,243.2 LC Rock, v	endix, Table 2	2.; dry sand/gravel select	ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distart Unadjusted hourly push Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corrections	### \$291.2 ### \$291.2 ### \$1,165 ### ### ### ### ### ### ### ### ### #	See Apperatus fac Cat Hand 150 feet Rock, verse feet Ibs/LCY and gravel -	endix, Table 2 book Y/hr well ripped o	2.; dry sand/gravel select	ed 4 swell	
Total unit Cost/Hou Total Fleet Cost/Hou Material Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant Unadjusted hourly push Materials consistency Average push gradic Average site altitud Material weight: Weight description: Job Condition Correspond	### \$291.2 ### \$291.2 ### \$1,165 ### ### ### ### ### ### ### ### ### #	See Apperatus fac Cat Hand 150 feet 1,243.2 LC Rock, v feet lbs/LCY und gravel -	endix, Table 2	2.; dry sand/gravel select	ed 4 swell	

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7587

Adjusted unit production: 943.22 LCY/hr
Adjusted fleet production: 3772.88 LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.309/LCY

Total job time: 345.76 Hours \$402,809

TRUCK/LOADER TEAM WORK

Ripper op. cost/hour:	Task description:	Place to	psoil in S. W	/idow	s Peak area				
Task #: S40	Site: Pikeview Quarr	·y	Permit .	Actio	n: 2019 Update	<u>e</u>]	Permit/Job#: N	M1977211	
Date Zr12/2019	PROJECT IDE	NTIFICATION	<u>[</u>						
Date: Z12/2019 County: El Paso Filename: M211-S40	Task #: \$40		State: C	olora	do	Ab	breviation: N	one	
Agency or organization name: DRMS		2019						I211-S40	
HOURLY EQUIPMENT COST	User: TC1								
Equipment Description Cat 740 Cat 740 NA	Agency o	r organization nar	ne: DRMS	S					
Truck Loader Team - Truck: Loader: CAT 780H Support Equipment - Load Area: Dump Area: CAT 980H NA	HOURLY EQU	IPMENT COS	<u>r</u>				is: 1 per day		
CAT 980H Support Equipment - Load Area:		T 1 I 1 T	T 1			ption			
Support Equipment -Load Area: -Dump Area: Cat D9T - 9SU Cat D9T - 9SU									
Cat D9T - 9SU	Supp	port Equipment -I			70011				
Nater Truck		-D	ump Area:						
Cost Breakdown: Truck / Loader Loader Load Area Dump Area Maintenance Equipment %Utilization-machine: 100 100 NA 100 25 25 Ownership cost/hour: \$66.13 \$50.17 NA \$110.70 \$30.73 \$25.30 Operating cost/hour: \$55.75 \$56.19 NA \$95.46 \$7.65 \$9.15 %Utilization-riper: NA 0 NA NA NA NA Ripper own. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Ripper op. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Operator cost/hour: NA \$0.00 NA \$0.00 \$0.00 Operator cost/hour: \$25.65 \$36.13 NA \$40.23 \$45.64 \$0.00 Unit Subtotals: \$147.53 \$142.48 NA \$246.39 \$84.03 \$34.45 Number of Units: 3 1 0 1 1 1 1	Road M		<u> </u>			G 1			
Number of Units: Source of estimated volume: Source of estim		-W 8	iter Truck:	Wate	er Tanker, 5,000 (Gal.			
Number of Units: Source of estimated volume: Source of estim	Cost Breakdown:	Truck/Lo	ader Team		Support F	Equipment	Maintena	ance Equipment	
Ownership cost/hour: \$66.13 \$50.17 NA \$110.70 \$30.73 \$25.30 Operating cost/hour: \$55.75 \$56.19 NA \$95.46 \$7.65 \$9.15 %Utilization-riper: NA 0 NA NA NA NA Ripper own. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Ripper op. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Operator cost/hour: \$25.65 \$36.13 NA \$40.23 \$45.64 \$0.00 Unit Subtotals: \$147.53 \$142.48 NA \$246.39 \$84.03 \$34.45 Number of Units: 3 1 0 1 1 1 Group Subtotals: Work: \$585.07 Support: \$246.39 Maint: \$118.48 Total work team cost/hour: Source of estimated volume: Source of estimated swell factor: Material Purchase Cost: Total Cos	COST DITUING WILL		1						
Operating cost/hour:	%Utilization-machine:	100	1	100	NA	100	25	25	
Wutilization-riper: NA	Ownership cost/hour:	\$66.13	\$50.	.17	NA	\$110.70	\$30.73	\$25.30	
Ripper own. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Ripper op. cost/hour: NA \$0.00 NA \$0.00 \$0.00 Operator cost/hour: \$25.65 \$36.13 NA \$40.23 \$45.64 \$0.00 Unit Subtotals: \$147.53 \$142.48 NA \$246.39 \$84.03 \$34.45 Number of Units: 3 1 0 1 1 1 1 Group Subtotals: Work: \$585.07 Support: \$246.39 Maint: \$118.48 MATERIAL QUANTITIES Initial volume: \$11,810 CCY Swell factor: _1.000	Operating cost/hour:	\$55.75	\$56.	.19	NA	\$95.46	\$7.65	\$9.15	
Ripper op. cost/hour:	%Utilization-riper:	NA		0	NA	NA	NA	. NA	
Operator cost/hour: \$25.65 \$36.13 NA \$40.23 \$45.64 \$0.00 Unit Subtotals: \$147.53 \$142.48 NA \$246.39 \$84.03 \$34.45 Number of Units: 3 1 0 1 1 1 1 Group Subtotals: Work: \$585.07 Support: \$246.39 Maint: \$118.48 MATERIAL QUANTITIES Initial volume: \$11,810 LCY Swell factor: 1.000 Loose volume: \$11,810 LCY See Appendix, Table 2; Haul distance from AM3, Exhibit L Cat Handbook Material Purchase Cost: \$0.00 Truck Capacity: Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	Ripper own. cost/hour:	NA	\$0.	.00	NA	\$0.00	\$0.00	\$0.00	
Unit Subtotals: \$147.53 \$142.48 NA \$246.39 \$84.03 \$34.45 Number of Units: 3	Ripper op. cost/hour:	NA	\$0.	.00	NA	\$0.00	\$0.00	\$0.00	
Number of Units: Group Subtotals: Work: \$585.07 Support: \$246.39 Maint: \$118.48 Total work team cost/hour: \$949.94 MATERIAL QUANTITIES Initial volume: 11,810	Operator cost/hour:	\$25.65	\$36.	.13	NA	\$40.23	\$45.64	\$0.00	
Group Subtotals: Work: \$585.07 Support: \$246.39 Maint: \$118.48 Total work team cost/hour: \$949.94 MATERIAL QUANTITIES Initial volume: 11,810 CCY Swell factor: 1.000 LCY Source of estimated volume: Source of estimated swell factor: Cat Handbook \$0.00 Material Purchase Cost: Total Cost: Total Cost: Total Cost: Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	Unit Subtotals:	\$147.53	\$142.	.48	NA	\$246.39	\$84.03	\$34.45	
Total work team cost/hour: \$949.94 MATERIAL QUANTITIES Initial volume: 11,810	Number of Units:	3		1	0		1	1	
MATERIAL QUANTITIES Initial volume: 11,810	Group Subtotals:	Work:	\$585.07		Support:	\$246.39	Maint:	\$118.48	
Initial volume: 11,810 CCY Swell factor: 1.000 Loose volume: 11,810 LCY Source of estimated volume: See Appendix, Table 2; Haul distance from AM3, Exhibit L Cat Handbook Material Purchase Cost: \$0.00 Total Cost: \$0.00 HOURLY PRODUCTION Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	Total work team co	ost/hour: \$949.9 4	<u> </u>						
Loose volume: Source of estimated volume: Source of estimated swell factor: Material Purchase Cost: Total Cost: Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 LCY See Appendix, Table 2; Haul distance from AM3, Exhibit L Cat Handbook \$0.00 \$0.00 Total Cost: Pounds/LCY	MATERIAL QU	JANTITIES							
Source of estimated volume: Source of estimated swell factor: Material Purchase Cost: Total Cost: HOURLY PRODUCTION Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 See Appendix, Table 2; Haul distance from AM3, Exhibit L Cat Handbook \$0.00 \$0.00 Pounds/LCY	Initial volume	e: 11,810	(CCY	Swell	factor: 1.000			
Source of estimated swell factor: Material Purchase Cost: Total Cost: Which is a specific and standard swell factor: Material Purchase Cost: \$0.00 Which is a specific and standard swell factor: \$0.00 Which is a specific and standard swell factor: Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	Loose volume	e: 11,8 1	10	LCY					
Material Purchase Cost: Total Cost: \$0.00	So	ource of estimated	l volume:	See A	ppendix, Table 2	; Haul distance from	om AM3, Exhib	it L	
Total Cost: \$0.00 HOURLY PRODUCTION Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	Source								
HOURLY PRODUCTION Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY									
Truck Capacity: Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY		10	otai Cost:S	Φ U.UU					
Truck Payload (weight) Basis: Material weight: 1,600 Pounds/LCY	HOURLY PRO	<u>DDUCTION</u>							
Material weight: 1,600 Pounds/LCY	Truck Capacity:								
	Truck Payload (we								
Description: Top Soil			nil		Pounds/LCY				

Pounds

LCY

87,000

54.38

Rated Payload: Payload Capacity:

Truck Travel (Haul & Return) Time:

maintained 3.0

Truck Bed (volume) Basis: Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	31.40	LCY				
rajusteu voranie.	31.10	201				
Fina	ıl Truck Volume	e Based on Number o	of Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Buck	et Size Class: N	A	_
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/di	rt mixtures (100-	120%) 1.100		_,
Adjusted Capacity:	8.250	LCY				
Job Condition Correction	<u>s:</u>	S	ite Altitude (ft.): <u>7</u>	200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HB))		
Job Efficiency:	0.830	0.830	(CAT HB)			
Net Correction:	0.797	0.830				
Loading Tool Cycle Time	: Numbe	er of Loading Tool Pa	asses Required to F	Fill Truck:	3 p	asses
Loading Tool Cycle Time Excavators and Front Show	_	er of Loading Tool Pa	asses Required to F	Fill Truck:	3 p	asses
Excavators and Front Shov Machine Cycle Time	- <u>els:</u> vs. Job Conditic	on Rating: NA	asses Required to F	Fill Truck:	3 p	asses
Excavators and Front Shov Machine Cycle Time Selected Value	e <u>ls:</u> vs. Job Conditic within this Bas	on Rating: NA NA	asses Required to F	Fill Truck:	3 p	asses
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders	e <u>ls:</u> vs. Job Conditic within this Bas - Material Descr	on Rating: NA NA	asses Required to F	Fill Truck:	3 p	oasses
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders	els: vs. Job Condition within this Bas Material Descript:	on Rating: NA NA	asses Required to F	Dump: 0.100		asses
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA	els: vs. Job Condition within this Bas Material Descript:	on Rating: NA ic Rating: NA ription: NA	·	Dump: 0.100)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders	els: vs. Job Condition within this Bas Material Descript:	on Rating: NA ic Rating: NA ription: NA	·	Dump: 0.100 naneuver): 0.		
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors	els: vs. Job Condition within this Bas Material Descript: Material Descript: Unadjusted Base	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti	·	Dump: 0.100 naneuver): 0. Factor (min.)		oasses utes
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material:	els: vs. Job Condition within this Bas Material Description Material Description Unadjusted Base Bank or brok	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040	.550 minu Source (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile:	els: vs. Job Condition within this Bas Material Description: Unadjusted Base Bank or brok No adjustme	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti cen material 0.04 nt - factor not applica	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000	Source (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti cen material 0.04 int - factor not applications	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow Constant ope	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti xen material 0.04 int - factor not application of trucks and eration -0.04	me (load, dump, m	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti cen material 0.04 int - factor not application of trucks and ceration -0.04 get 0.00	me (load, dump, mable 0.00	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow Constant ope	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti cen material 0.04 ont - factor not applicate the results of trucks and contain -0.04 get 0.00 Net Cycle Times and the results of the results of trucks and contain -0.04 get 0.00 Net Cycle Times of the results of th	me (load, dump, mable 0.00 loaders -0.04 loa	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040	Source (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow Constant ope	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti sen material 0.04 ont - factor not applicate the reation -0.04 get 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Bas Material Description Unadjusted Base Bank or brok No adjustme Common ow Constant ope	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti sen material 0.04 ont - factor not applicate the reation -0.04 get 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 loaders -0.04 loaders -0.04 ler Cycle Time:	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Show Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min. Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Bas Material Description - Unadjusted Base Bank or brok No adjustme Common ow Constant ope Nominal targ	on Rating: NA ic Rating: NA ription: NA Maneuver: NA asic Loader Cycle Ti xen material 0.04 ont - factor not applicate the reation -0.04 get 0.00 Net Cycle Tin Adjusted Load	me (load, dump, mable 0.00 deloaders -0.04 del	Dump: 0.100 naneuver): 0. Factor (min.) 0.040 0.000 -0.040 0.000 -0.040 0.000 -0.040 0.510	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
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CIRCES Cost Estimating Software

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	5.00	3.00	8.00	1123	2.437

Haul Time: 2.437 minutes

Return Route:

ixctui ii ix	outc.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	-5.00	3.00	-2.00	3706	0.737

Return Time: 0.737 minutes
Total Truck Cycle Time: 5.961 minutes

Loading Tool unit

Production Truck Unit Production

Truck Unit Production

249.13 LCY/Hour Adjusted for job efficiency: 706.33 LCY/Hour Adjusted for job efficiency: 206.78 LCY/Hour Optimal No. of Trucks: 3 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 620.34 LCY/Hour Adjusted single truck/loader team production: 620.34 LCY/Hour Adjusted multiple truck/loader team production: 620.34 LCY/Hour

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	19.04	Hours
Unit cost:	\$1.531	/LCY	Total job cost:	\$18,085	

REVEGETATION WORK

Task description:	Revegetate S. Wi	dows Peak - 14.6	Ac (ref. App	, Table 1))	
Pikeview Quarry	Peri	mit Action: 2019	Update		Permit/Job#	: M1977211
PROJECT IDENTII	FICATION					
Task #: S50 Date: 2/8/2019 User: TC1	State: _ County: _	Colorado El Paso		_ Abl		None M211-S50
Agency or org	ganization name: DR	MS				
FERTILIZING						
Materials Description		Units / Acre	Unit	Cos	t / Unit	Cost /Acre
				\$		\$
				Tot	al Fertilizer Materials Cost/Acre	\$0.00
Application Description						Cost /Acre
_						\$
		Total	Fertilizer A	pplicatio	n Cost/Acre	\$0.00
<u> FILLING</u>						
Description						Cost /Acre
Chisel plowing {DM	1 G}					\$92.77
			To	tal Tillin	g Cost/Acre	\$92.77
<u>SEEDING</u>						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachit	ta			0.50	8.16	\$8.33

Crested Wheatgrass - Ephraim

Little Bluestem - Native

Mahogany, Mountain
Western Wheatgrass - Arriba

Sideoats Grama - El Reno

Russian Wildrye - Bozoisky Intermediate Wheatgrass - Oahe Alfalfa - Ranger (inoculated) Pubescent Wheatgrass - Greenleaf

2.00	8.03	\$12.96	
4.00	8.54	\$15.72	
1.00	4.82	\$2.66	
4.00	8.26	\$15.28	
2.00	2.71	\$75.38	
4.00	10.10	\$33.12	
			•

4.59

5.97

6.57

1.00

1.00

2.00

\$3.75

\$16.13

\$19.80

Rabbitbrush, Rubber	1.00	14.90	\$65.84
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	23.50	86.81	\$273.95

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	Total Mulch Application Cost/Acre	\$68.78

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: 14.6 Cost /Acre: \$1,243.50 d Failure Rate: 25% Cost /Acre*: \$1,243.50

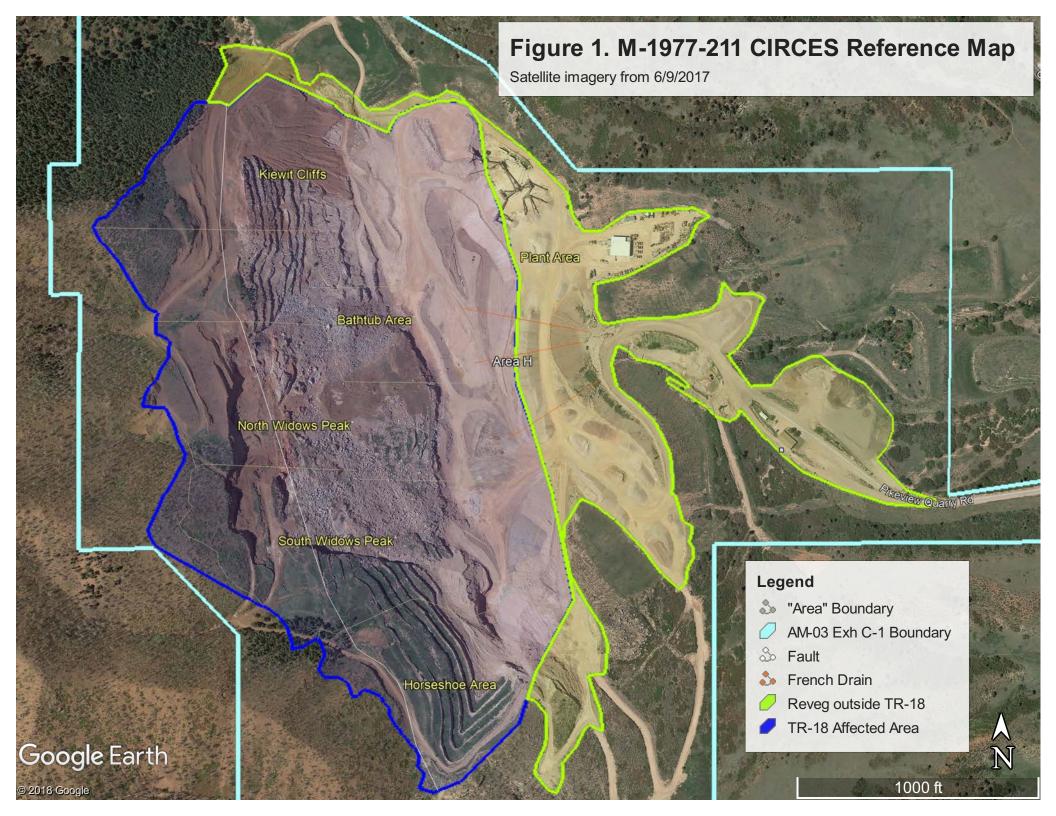
*Selected Replanting Work Items: 25% Cost / TILLING,SEEDING,MULCHING

Initial Job Cost: \$18,155.10

Reseeding Job Cost: \$4,538.78

Total Job Cost: \$22,694

29.00



APPENDIX A - COST ESTIMATING ASSUMPTIONS M-1977-211 PIKEVIEW 2019 BOND UPDATE ASSUMPTIONS

Table 1. "Topsoiling" and Revegetation Area Quantities.

		Area Cut ⁽¹⁾	Bench Area (2, 3) (½ veg)	Area Benched & Veg'd ⁽⁴⁾	Area Fill ⁽¹⁾	Area to Veg.	
Task	Area	Ac	Ac	Ac	Ac	Ac	Notes
Вху	Bathtub Area	6.6	3.6	0.0	6.1		1) Area Cut and Area Fill quantities are from the 2014 TR-18 Exhibit D,
Pxy	Plant Area	6.2	0.0	0.0	0.0	6.2	Table D-2.
Нху	Horseshoe	8.8	0.0	5.0	3.2		2) Bench Area (½ veg) is obtained from measuring areas west of the
	Area						fault line in Google Earth [‡] using Exhibits F (TR-18) as an image
Sxy	South	11.6	4.5	2.1	7.4	14.6	
	Widows Peak						3) Based on "Close Up of Granite Benches" sections in Exhibits C (TR-
Nxy	North	10.0	5.4	0.0	6.6	13.9	18), ONLY half of the Bench Areas are used for for vegetative media and seeding.
	Widows Peak						Area Benched & Veg'd accounts for completed vegetation in the
Kxy	Kiewit Cliffs	10.6	3.8	0.0	7.2	15.9	Horseshoe and South Widows Peak areas (Googel Earth *
	Area						measurements).
	Subtotal	53.8	17.4	7.1	30.5	68.5	
Exy	East Area	32.1				32.1	Disturbed area east of TR-18, not addressed in TR-18. Measured in Google
							Earth [‡]
	TOTAL	85.9	17.4	7.1	30.5	100.6	

‡ Google Earth image from 6/9/2017

Table 2. Cut & Fill Quantities.

		,								
Task	Area	Cut Volume BCY	Rippable Cut Volume (14%) ⁽¹⁾ BCY	Drill/Blast Cut Volume BCY	Fill Volume LCY	Completed Fill ⁽²⁾ LCY	Surplus ⁽³⁾ LCY	Blasting Cost ⁽⁴⁾ \$1.39/CY	Blasting Hours Assume 1Hr/5K CY	Vol. to Topsoil (6 in.) see Table 1 LCY
Bxy	Bathtub Area	1,169,000	163,660	1,005,340	909,000	950,000	493,800	1,397,423	201	8,777
Pxy	Plant Area	400,000			,	,	,	478,160	ł	5,001
Hxy	Horseshoe	530,000	-		147,000		489,000	633,562		5,663
	Area								91	
Sxy	South	1,161,000	162,540	998,460	904,000		489,000	1,387,859		11,810
	Widows Peak								200	
Nxy	North	1,176,000	164,640	1,011,360	908,000	250,000	504,000	1,405,790		11,205
	Widows Peak								202	
Кху	Kiewit Cliffs	1,161,000	162,540	998,460	841,000		552,000	1,387,859		12,834
	Area								200	
	Total	5,597,000	783,580	4,813,420	3,709,000	1,200,000	2,527,800	6,690,654	963	55,289

- (1) The 14% of cut being rippable comes from the Mar 2013 PAR Response (AM-3, p. L-3) where it is stated 206,000 CY of the 1,446,000 CY is rippable.
- (2) The 1,200,000 CY (2.5 Mton) of completed fill comes from a 1/9/2019 email from P. Kos (Stantec) stating that amount has been placed in Area H.
- (3) The surplus volume is assumed to be used in the East Area, identified in AM-3 as Phase 5, Areas A1, A2, A3 and A4 (no add'l grading required).
- (4) \$0.61/Ton (Table L-1, AM-3 PAR Response, adjusted for inflation using CPI Inflation calculator to \$0.66/Ton. Based on (2) above use 2.1 Mton/MCY to get \$1.39/CY.

Table 3. Building Demolition Quantities, Task D01.

Task	Demo of buildings	Bldg. Height (ft)	Bldg. Width (ft)	Bldg. Length (ft)	Bldg. Vol. (ft3)	Notes
D01.1	Maintenance Shop	18.0	80.0	80.0	115200.0	Buried on site (ref 4th ¶, p. E-2, TR18); Width and length
D01.3	Office	9.0	42.0	72.0		dimensions from Google Earth
D01.5	Office Outbldg	9.0	15.0	37.0	4995.0	imagery, dated 6/9/2017.
	Demo of	Slab Thick				
Task			Slab Width (ft)	Slab Length (ft)	Slab Area (ft2)	Notes
			Slab Width (ft)	3 ()	` '	Notes Buried on site (ref 4th ¶, p. E-2, TR18); Width and length
D01.2	Floors/Pads	(ft)	` ,	80.0	6400.0	Buried on site (ref 4th ¶, p. E-2,