

August 27, 2019

Mike Anson Moffat Limestone Company P.O. Box 363 Craig, CO 81626

# RE: Juniper Quarry, Permit No. M-1982-141, Reclamation Costs Update and Notice of Surety Increase (SI-2)

Dear Mr. Anson:

In an effort to ensure the Financial Warranty for the above referenced site adequately reflects the actual current costs of fulfilling the requirements of the approved reclamation plan, the Colorado Division of Reclamation, Mining and Safety (Division) has updated the reclamation cost estimate (copy enclosed).

Division calculations estimate the cost to reclaim the above referenced site to be <u>\$186,313</u>. This is an increase of <u>\$31,908</u> over the <u>\$154,405</u> currently held by the Division. This estimate is based on conditions observed during the July 17, 2019 inspection. *Therefore, pursuant to Section 34–32.5–117(4) of the Colorado Land Reclamation Act, adequate Financial Warranty must be submitted to the Division within 60 days of the mailing date of this letter. The additional amount needs to be accepted prior to Monday, October 28, 2019. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted.* 

Please make arrangements with Gabriel Benvenuti at the Division of Reclamation, Mining and Safety Denver Office, phone no. 303.866.3567, ext. 8148 for submittal of the financial warranty. Any questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Gabriel Benvenuti.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 303-866-3567 Ext 8183 or via email at amy.yeldell@ state.co.us



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Sincerely,

Amy Geldell

**Amy Yeldell** Environmental Protection Specialist

Ec: Travis Marshall, Senior EPS, Grand Junction DRMS Jennifer Maiolo, Little Snake Field Office BLM COC-48936

# COST SUMMARY WORK

Task description:	Post inspection updat	te 7-17-19			
Site: Juniper Quarry	Permit A	Action: 2019-07	Permit/Job#	: M1982141	
PROJECT IDENTIFICTask #:ACYDate:8/27/2019User:ACY	State: Col	lorado ffat		None M141-ACY	

Agency or organization name: DRMS

# TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Removal of mining equipment and debris	DEMOLISH	1	8.00	\$2,955
02a 03a	AM-1 Highwall Reduction AM-1 highwall reduction (grading) and overburden replacement	BLASTING DOZER	1 2	30.72 4.27	\$12,452 \$2,431
04a	AM-1 Rip process area and access road	RIPPER	2	2.08	\$1,216
05a	AM-1 Distribute topsoil	LOADER	2	9.63	\$2,755
06a	AM-1 Spread topsoil	DOZER	2	2.83	\$1,521
07a	AM-1 Revegetation	REVEGE	1	24.00	\$15,071
08a 08b	CN-1 Highwall Reduction CN-1 Highwall Reduction	DOZER BLASTING	2	62.37 30.72	\$35,517 \$12,452
09a 10a	CN-1 Rip compacted areas CN-1 Distribute topsoil	RIPPER LOADER	22	4.31 37.63	\$2,516 \$10,763
10a 11a	CN-1 Spread topsoil	DOZER	2	5.66	\$3,042
12a	CN-1 Revegetation	REVEGE	1	40.00	\$30,141
13a 13b	Initial Mobilization Secondary Mobilization	MOBILIZE MOBILIZE	1	4.66 4.66	\$7,717 \$977
	SUBTOTALS:				\$141,526

# **INDIRECT COSTS**

### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$2,859
Performance bond:	1.05	Total =	\$1,486
Job superintendent:	135.77	Total =	\$9,421
Profit:	10.00	Total =	\$14,153
		TOTAL O & P =	\$27,919
		CONTRACT AMOUNT (direct + O & P) = $($	\$169,445

### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$7,201
Reclamation management and/or administration:	5.41		\$9,167
CONTINGENCY:	0.00	Total =	\$0

TOTAL INDIRECT COST =\$44,787

TOTAL BOND AMOUNT (direct + indirect) = \$186,313

## **DEMOLITION WORK**

ite:	Juniper Quarry	I	Permit Action:	2019-07	Permit/J	Iob#: <u>M1982141</u>
JEC	<u>CT IDENTIFICAT</u>	TION				
sk #:	01A	State:	Colorado		Abbreviation:	None
Date:	8/27/2019	County:	Moffat		Filename:	M141-01a
Jser:	ACY					

## UNIT COSTS

## Location adjustment: 90.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
AM-1 Trailer	8'W x 10'H x 20'L	Loading and 5 mile haul, salvage allowed - Steel frame structures	59.30	CY	\$10.55	\$625.62
CN-1 Trailers x 3	Appox. 150 CY	Loading and 5 mile haul, salvage allowed - Steel frame structures	150.00	CY	\$10.55	\$1,582.50
CN-1 Fuel Tank	10,000 gal	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
Job Hours:	8.00	(unadjusted):	\$3,258.12	location):	\$2,955.11

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### SURFACE BLASTING WORK

Task description:	AM-1 Highwall Reduction				
e: Juniper Quarry	Permit Action:	2019-07	Permit/Job#: M198214		M1982141
PROJECT IDENTIF	TCATION				
Task #: 02A	State: Colorado		Abbre	eviation:	None
Date: 8/27/2019				lename:	M141-02a
User: ACY					
Agency or org	ganization name: DRMS				
BLAST AREA DIMI					
			OUA	ANTITY	UNIT
	Blast Area Configuration: Wed	lge-shaped mass (hig			
B		ventional surface blas			,
	Highwall or Ber			0.00	h:1v
	Regrad	ed Slope Angle:		1.50	h:1v
		r Bench Length:		300	feet
		or Bench Width:		30	feet
	Highwall o	r Bench Height:	:	50.0	feet
	Depth to Base of C	Cut at Highwall:	,	20.0	feet
	Total Volume of Dimensiona ast Volume to Subdrill Grade and B	last Pattern Lines:	QUAN 3,3 3,6		UNIT cubic yards cubic yards
I	Blast Volume to Finish Grade and B	last Pattern Lines:	2,9	63	cubic yards
F	Remaining Volume Required to be R	Re-Shot or Ripped:	37	70	cubic yards
<b>BLAST AREA DESI</b>	GN				
		QUANTI	TY		UNIT
R	ecommended Blasthole Diameter:	2.940		inches	
	Selected Blasthole Diameter:	4.000		inches	
	Subdrilling Allowance:	2.4		feet	
	Blasthole Depth:	11.7		feet	
	Density of Rock:	Average Density R Basis)	lock (ANFO	rock der	nsity
]	Burden to Charge Diameter Ratio:	25		times di	ameter
	Burden:	8.0		feet	
	Spacing to Burden Ratio:	1.3		times bu	ırden
	Spacing:	10.0		feet	
C	ubic Yards of Rock per Blasthole:	41.48		cubic ya	
	Powder Factor Description:	High		rock stre	
	Powder Factor:	1.000		pounds/	
	Density of Blasting Agent:	1.10		grams/co	
Qua	antity of Explosives per Blasthole:	41.48		POUND	OS
	Height of Powder Column:	6.92		feet	

4.81

0.60

0.0156

3

30

90

1,056

Height of Stemming per Blasthole:

Quantity of Stemming per Blasthole:

Number of Blastholes per Row:

Total Number of Blastholes:

Total Length of all Blastholes:

Stemming to Burden Ratio:

Number of Rows:

feet

rows

holes

feet

times burden

holes per row

cubic yards

### **BLASTING MATERIALS QUANTITIES**

	QUANTITY	UNIT
Total Quantity of Stemming Required:	1.40	cubic yards
Total Quantity of Explosives Required:	3,733	pounds
Total Quantity of det. cord/fuse/wire Required:	2,178	linear feet
Quantity of Blasting Caps per Blasthole:	1	cap(s)
Total Quantity of Blasting Caps Required:	90	caps
Quantity of Primers per Blasthole:	1	primer(s)
Total Quantity of Primers Required:	90	primers
Quantity of Delays per Blasthole:	1	delay(s)
Total Quantity of Delays Required:	93	delays

### HOURLY EQUIPMENT COST

Shift basis: <u>1 per day</u>

HOUKLY EQUIPMENT COST	Shift basis: <u>1 per day</u>
	Description
Drilling Equipment - Drill:	ATLAS COPCO ROC D7-11,4.0 in.
-Drill Pad Preparation:	Cat D8T - 8SU
Misc. Drill Support Equipment:	NA
Misc. Explosives Support Equipment:	NA
Explosives Delivery –Bulk Truck:	NA
-Cap Truck:	NA

<u>Cost Breakdown</u> :	Drilling Equipment	Drill Pad Preparation	Misc. Drill Support	Misc. Expl. Support	Explosives Bulk Truck	Delivery Cap Truck
	Drilling	Dozer				
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$70.87	\$103.86	NA	NA	NA	NA
Operating cost/hour:	\$69.01	\$82.26	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$41.24	NA	NA	NA	NA
Unit Subtotals:	\$139.88	\$227.36	\$0.00	\$0.00	\$0.00	\$0.00
Number of Units:	1	1	0	0	0	0
Group Subtotals:	\$139.88	\$227.36	\$0.00	\$0.00	\$0.00	\$0.00

Total work team cost/hour: \$367.24

### **MATERIALS COST**

	Description	Unit	Unit Cost	Quantity	Total Cost
	Bulk ANFO high density (				
Blasting Agent:	7,900-15,000 fps )	Pound	\$0.650	3733.333	\$2,426.67
	Aluminized ANFO booster				
	(electric or non-electric				
Primers or Boosters:	system)	Bag	\$14.800	90.000	\$1,332.00
	Electric cap, inst. (electric				
Blasting Caps:	systems)	Each	\$20.000	90.000	\$1,800.00
Det. Cord, fuse, or	Blasting wire, 12-14 gage				
wire:	(electric systems)	Linear foot	\$0.288	2178.000	\$627.26
	NO DELAY MATERIALS				
Delays:	REQUIRED	NA	\$0.000	93.000	\$0.00
	Expl. magazine - agent				
	(rental basis - meet MSHA				
Miscellaneous:	req.)	Day	\$6.653	0.000	\$0.00

Linear feet	\$1,095.19	0.754	\$826.09
	Total M	aterials Cost:	\$7,012.02
<u>TION TIME</u>			
1,056		linear feet feet/hour	
14.81		hours	
6,600		feet	
0.95		(DRMS est.)	
0.67			
71.29		feet/hour	
15.91		hours	
Total Job Time	: 30.72	Hours	
Total Job Cost	: \$12,452	1	
	1,056 112.00 14.81 6,600 0.95 0.67 <b>71.29</b> 15.91 Total Job Time:	1,056         112.00         14.81         6,600         0.95         0.67         71.29         15.91         Total Job Time:       30.72	1,056       linear feet         112.00       feet/hour         14.81       hours         6,600       feet         0.95       (DRMS est.)         0.67       (CH. Exc. HB)         71.29       feet/hour         15.91       hours

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## BULLDOZER WORK

Fask description:						
Juniper Quarry		Per	mit Action:	2019-07	Permit/Job#:	M1982141
PROJECT IDEN	FIFICATIO	N				
Task #: 03A		State:	Colorado		Abbreviation:	None
Date: $\frac{8/27/20}{8}$	)19	County:	Moffat		Filename:	M141-03a
User: ACY		county.	litoitut		<u> </u>	111111 00u
Agency or o	organization n	ame: DF	RMS			
HOURLY EQUIP	MENT CO	<u>ST</u>				
Basic Machine:	Cat D9T - 9S	U				
Horsepower:	405					
Blade Type:	Semi-Univer	sal				
Attachment:	3-shank rippe	er				
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Breakdown:						
Jost Dieakuowii.				Utilization %		
Ownership Cost/Ho	our:		\$121.49	NA		
Operating Cost/Ho			\$105.84	100		
Ripper own. Cost/Ho			\$13.94	NA		
Ripper op. Cost/Ho			\$2.24	25		
Operator Cost/Ho			\$41.24	NA		
Fotal unit Cost/Hour Fotal Fleet Cost/Hou MATERIAL QUA	r: \$569.48					
Fotal Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor:	r: <b>\$569.48</b> ANTITIES 6,000 1.695					
Fotal Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor:	r: <b>\$569.4</b> 8 ANTITIES 6,000					
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:	r: <b>\$569.48</b> ANTITIES 6,000 1.695 <b>10,169</b> LCY	3			stockpiles	
Fotal Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor:	r: <b>\$569.48</b> <b>ANTITIES</b> 6,000 1.695 <b>10,169</b> LCY volume:	3	  purden on ber	nches, backfill highwall,	stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated source	r: \$569.48 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor:	3 3:1 overb	  purden on ber		stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume         Source of estimated volume         Bource of estimated volume	r: <b>\$569.44</b> ANTITIES 6,000 1.695 <b>10,169</b> LCY volume: swell factor: UCTION	3:1 overb Cat Hand	  purden on ber		stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Average push distance	r: \$569.48	3:1 overb Cat Hand			stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume         Source of estimated volume         Bource of estimated volume	r: \$569.48	3:1 overb Cat Hand			stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Average push distance	r: \$569.48 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( roduction: 2	3:1 overb Cat Hand ) feet 2,110.5 LC		nches, backfill highwall,	stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume         Source of estimated volume         Source of estimated volume         Average push distance         Jnadjusted hourly pr	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( roduction: 2 y description: nt: -30 %	3:1 overb Cat Hand ) feet 2,110.5 LC Rock, v	  burden on ber lbook Y/hr	nches, backfill highwall,	stockpiles	
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Materials consistency         Average push gradient	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( roduction: 2 y description: nt: -30 % 6,600 fr	3:1 overb Cat Hand ) feet 2,110.5 LC Rock, v	  burden on ber lbook Y/hr	nches, backfill highwall,	stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Source of estimated volume:         Average push distance         Jnadjusted hourly pr         Materials consistence         Average push gradier         Average site altitude:	r: \$569.48 ANTITIES 6,000 1.695 <b>10,169</b> LCY volume: swell factor: UCTION ce: ( roduction: 2 y description: nt: -30 % : -30 % 2,600 II	3:1 overb Cat Hand ) feet 2,110.5 LC <u>Rock, v</u> eet	 burden on ber lbook Y/hr well ripped o	nches, backfill highwall,	stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Cource of estimated volume:         Source of estimated volume:         Average push distance         Materials consistence         Average push gradier         Average site altitude:         Material weight:         Weight description:         Tob Condition Correct	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( voduction: 2 voduction: 2	3:1 overb Cat Hand ) feet 2,110.5 LC <u>Rock, v</u> eet os/LCY one - Broke	 burden on ber lbook Y/hr well ripped o 	nches, backfill highwall,	stockpiles	
Fotal Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Cource of estimated volume         Source of estimated volume         Source of estimated volume         Source of estimated volume         Average push distance         Materials consistency         Average push gradien         Average site altitude:         Material weight:         Weight description:         Ob Condition Correct         Operation	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( Coduction: 2 y description: nt: -30 % : 6,600 fa 2,600 ll Limestor ator Skill: _	3:1 overb Cat Hand ) feet 2,110.5 LC <u>Rock, v</u> eet os/LCY one - Broke 0.	 purden on ber lbook Y/hr well ripped o  en 	nches, backfill highwall,	stockpiles	
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated with the set of the	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: () roduction: 2 y description: mt: -30 % -2,600 ll Limestone ction Factor ator Skill: msistency: 2	3:1 overb Cat Hand 0 feet 2,110.5 LC 	Y/hr well ripped o 	r blasted 0.8          Source         (AVG.)         (CAT HB)	stockpiles	
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated with the set of the	r: \$569.44 ANTITIES 6,000 1.695 10,169 LCY volume: swell factor: UCTION ce: ( Coduction: 2 y description: nt: -30 % : 6,600 fa 2,600 ll Limesto ction Factor ator Skill:	3:1 overb Cat Hand ) feet 2,110.5 LC <u>Rock, v</u> eet os/LCY one - Broke 0. 0.	 purden on ber lbook Y/hr well ripped o  en 	nches, backfill highwall,	stockpiles	

Job efficience	ey: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 1.601	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weight	nt: 0.885	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.5645	
Adjusted unit production:	1,191.38 LCY/hr	
Adjusted fleet production:	2382.76 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.239/LCY

Total job time:	<b>4.27</b> Hours
Total job cost:	\$2,431

# BULLDOZER RIPPING WORK

	Task description:	AM-	1 Rip process area and a	ccess raod				
Site	: Juniper Quar	ry	Permit Action:	2019-07	Perr	nit/Job#:	M198214	41
	PROJECT ID	ENTIFICATI	<u>ON</u>					
	Task #:       04.         Date:       8/2         User:       AC	27/2019	State:ColoradoCounty:Moffat		Abbrev Fil	viation: ename:	None M141-04a	a
	Agency	or organization	name: DRMS					
	HOURLY EQ	•						
			D9T - 9SU		Horsepower:	2	405	
	Ripper Att		hank Ripper	_	Shift Basis:	1 p	er day	
					Data Source:	((	CRG)	
	Cost Breakdown	• <u>•</u>			Utilization %			
		Ownership Co		\$121.49	NA			
	Diam	Operating Co		\$105.84	100 NA			
		er Ownership Co per Operating Co		\$13.94 \$8.96	NA 100			
	Kipj	Operator Co		\$41.24	NA			
		Total Unit Co		\$291.46				
		Total Fleet Co	st/Hour: \$582	.92				
	MATERIAL (	<b>DUANTITIES</b>	Sele	cted estimating	method: Area			
	Alternate Method		2010	eree estimating	<u> </u>			
Seismic:	NA		Bank Volume:	NA	BCY		NA	
Area:	3.00	acres	Rip Depth (ft):	2.00	Volume: 9,6			BCY or CCY
		Source of estin	nated quantity: Field E	stimates				
	HOURLY PR	ODUCTION						
	Seismic:							
	<u>bershile.</u>	S	Seismic Velocity:	NA	feet/secon	d		
	Area:		·					
	<u>incu.</u>	Average	e Ripping Depth:	2.63	feet/pass			
		Average	e Ripping Width:	7.67	feet/pass			
		0	Ripping Length:	300.00	feet/pass			
			age Dozer Speed:	88.00 0.25	feet/minut			
		-	Maneuver Time: ion per unit area:	0.23	minutes/pacres/hour			
	Job Condition Co		-	0.000				
			Unit Production:	0.866	Acres/hr			
	Ch	aagusted 110urry		6,600				
			Site Altitude: Altitude Adj:	1.00	feet (CAT HB	)		
			Job Efficiency:	0.83	(1 shift/da			
			Net Correction:	0.83	multiplier	•		
		Adjusted	Hourly Unit Production:	0.72	Acres/hr			
			Hourly Fleet Production:	1.44	Acres/hr			
	JOB TIME AN	ND COST						
	Fleet size:	2	Grader(s)	Total job time	e: <u>2.</u> (	)9	Но	urs
	Unit cost:	\$405.410	Per acre	Total job cos	t: <b>\$1,</b> 2	216		

### WHEEL LOADER - LOAD AND CARRY WORK

Task description:	AM-1 D	istribute topsoil				
Juniper Quarry		Permit Actio	on: 2019-07		Permit/Job#:	M1982141
PROJECT IDENT	TFICATION					
	IIICAIION	-	da		Abbreviation:	None
Task #: 05A Date: 8/27/20	10	State: <u>Colora</u> County: Moffat			Filename:	M141-05a
User: ACY	19		L		Phename.	W1141-03a
Agency or o	rganization nar	ne: DRMS				
HOURLY EQUIP	MENT COST	<u>r</u>				
Basic Machine	: CAT 972H	ſ		Horsep	ower:	287
Attachment 1			-			ber day
			-	Data S	1	CRG)
						/
Cost Breakdown:			Utilizatio	on 94		
Ownership Co	et/Hour	\$46.54	NA	DII %0		
Operating Co		\$55.81	100			
Operator Co		\$40.65	NA			
Total Unit Co		\$143.00				
Total Fleet C	ost/Hour:	\$286.00				
MATERIAL QUA	<u>NTITIES</u>					
Initial volume: Loose volume:	6,050 <b>6,05</b>	CCY LCY	Sw	ell factor: <u>1</u>	.000	
Sour	ce of estimated	volumo: 15 ac	@3" depth			
	f estimated swe		Handbook			
HOURLY PRODU	ICTION					
Loader Cycle Time:	Unadjust	ed Basic Cycle Ti	ime (load, dum	p, maneuver):	0.525	minutes
Cycle Time Fa	actors				Factor (min.)	Source
Ma	terial: Mixed	l material 0.02			0.020	(Cat HB)
		eyor or dozer piled	1 10 ft. high or	less 0.01	0.010	(Cat HB)
Truck Owner	1	justment - factor 1	11	0.00	0.000	(Cat HB)
		ant operation -0.0	4		-0.040	(Cat HB)
Dump T	arget: Nomi	nal target 0.00			0.000	(Cat HB)
			Cycle Time A		-0.010	minutes
		Ad	justed Basic C	ycle Time:	0.515	minutes
Rolling Resistance – I	Road Condition	IS				
-				<b>an</b> .:		
		lirt, little maintena				
Retu	Irn: Rutted c	lirt, little maintena	ance, no water,	2" tire penetra	ition 5.0	
Haul and Return Time	<u>e</u>					
	_	Grade Res.	Rolling	Total Res.	Travel Time	I
	Length (feet)	(%)	Ronnig Res. (%)	(%)	(minutes)	Source
Haul Route:	200	0.00	5.00	5.00	0.1844	(Cat HB)

Return Route:

200

0.00

5.00

5.00

(Cat HB)

0.1664

Total Travel Time:	0.3508	minutes
Total Cycle Time:	0.8658	minutes

### Load Bucket Capacity

Rated Capacity:	5.60	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	5.46	LCY

Job Condition Correction Factors Site Altitude: <u>6600</u> feet

	Source
1.00	(CAT HB)
0.83	(1 shift/day)
0.83	multiplier
	0.83

Unadjusted Hourly Unit Production:	378.36	LCY/Hour
Adjusted Hourly Unit Production:	314.04	LCY/Hour
Adjusted Hourly Fleet Production:	628.08	LCY/Hour

Fleet size:	2	Loader(s)	Total job time:	9.63	Hours
Unit cost:	\$0.455	/LCY	Total job cost:	\$2,755	

Page 1 of 2

## BULLDOZER WORK

Task description:	AM-	- opread topo					
Juniper Quarry		Permi	t Action:	2019-07		Permit/Job#:	M1982141
PROJECT IDENT	IFICATI	<u>ON</u>					
Task #: 06A		State:	Colorado			Abbreviation:	None
Date: $\frac{8/27}{20}$	19		Moffat			Filename:	M141-06a
User: ACY		<u> </u>					
Agency or or	rganization	name: DRM	IS				
HOURLY EQUIP	MENT CO	<u>DST</u>					
Basic Machine:	Cat D9T - 9	9SU					
	405						
• • • •	Semi-Unive	ersal					
	NA						
	1 per day						
Data Source:	(CRG)						
Cost Breakdown:							
				<u>Utilizat</u>			
Ownership Cost/Hou			\$121.49	NA			
Operating Cost/Hou			\$105.84	100			
Ripper own. Cost/Hou			\$0.00	NA	1		
Ripper op. Cost/Hou	ır:		\$0.00	0			
Operator Cost/Hou Total unit Cost/Hour:	\$268.		\$41.24	NA	<u> </u>		
Operator Cost/Hou	\$268. : <b>\$537.</b>	13	\$41.24	NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA	\$268. : <b>\$537.</b>	13	\$41.24	NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u>	\$268. \$537. NTITIES 6,050 .000	13	\$41.24	NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u>	\$268. \$ <b>537.</b> NTITIES	13	\$41.24	NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6	\$268. \$537. NTITIES 0,050 .000 0,050 LCY	13	\$41.24	NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo	\$268. \$537. NTITIES 0,050 .000 0,050 LCY olume:	13 		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u>	\$268. \$537. NTITIES 0,050 .000 0,050 LCY olume:	13 		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo Source of estimated so	\$268. \$537. NTITIES 0,050 .000 0,050 LCY olume: well factor:	13 		NA	<u>x</u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated sw HOURLY PRODU	\$268. <b>\$537.</b> <b>NTITIES</b> ,050 .000 <b>,050</b> LCY olume: well factor: <b>JCTION</b>	13 Task 05a Cat Handbo		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance	\$268. \$537. NTITIES 5,050 .000 5,050 LCY olume: well factor: UCTION e:	13 Task 05a Cat Handbo		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated sw HOURLY PRODU	\$268. \$537. NTITIES 5,050 .000 5,050 LCY olume: well factor: UCTION e:	13 Task 05a Cat Handbo		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance	\$268. <b>\$537.</b> <b>NTITIES</b> 5,050 .000 5,050 LCY olume: well factor: <u>UCTION</u> e: oduction:	13 <u>Task 05a</u> <u>Cat Handbo</u> 100 feet 1,243.2 LCY/		NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance Unadjusted hourly pro	\$268. <b>\$537.</b> <b>NTITIES</b> 5,050 .000 5,050 LCY olume: well factor: <b>UCTION</b> e: oduction: description	13 <u>Task 05a</u> <u>Cat Handbo</u> 100 feet 1,243.2 LCY/	bok hr	NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance Unadjusted hourly pro Materials consistency	\$268. <b>\$537.</b> <b>NTITIES</b> 5,050 .000 5,050 LCY olume: well factor: <b>UCTION</b> e: oduction: description	Task 05a           Cat Handbo           100 feet           1,243.2 LCY//           ::         Loose sto	bok hr	NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>6</u> Swell factor: <u>1</u> Loose volume: <u>6</u> Source of estimated vo Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance Unadjusted hourly pro Materials consistency Average push gradien	\$268. <b>\$537.</b> <b>NTITIES</b> 5,050 .000 <b>5,050</b> LCY olume: well factor: <b>UCTION</b> e: oduction: description t: <u>0 %</u> <u>6,600</u>	Task 05a           Cat Handbo           100 feet           1,243.2 LCY//           ::         Loose sto	bok hr	NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated vo Source of estimated sv HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude:	\$268. <b>\$537.</b> <b>NTITIES</b> 5,050 .000 <b>5,050</b> LCY olume: well factor: <b>UCTION</b> e: oduction: description t: <u>0 %</u> <u>6,600</u>	13	bok hr	NA	<u> </u>		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated vo Source of estimated sv HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight: Weight description:	$ \frac{\$268.}{\$537.} $ <b>NTITIES</b> 0,050 $0,000$ $0,050$ LCY olume: well factor: UCTION e: oduction: description t: 0% 6,600 1,600 Top S	13         Task 05a         Cat Handbo         100 feet         1,243.2 LCY/         ::       Loose sto         feet         lbs/LCY         Soil	bok hr				
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:6 Swell factor:1 Loose volume:6 Source of estimated vo Source of estimated vo Source of estimated sv HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average push gradien Average site altitude: Material weight: Weight description: Job Condition Correct	$ \frac{\$268.}{\$537.} $ <b>NTITIES</b> 0,050 $0,000$ $0,050$ LCY olume: well factor: UCTION e: oduction: description t: 0% 6,600 1,600 Top S	13         Task 05a         Cat Handbo         100 feet         1,243.2 LCY/         ::       Loose sto         feet         lbs/LCY         Soil	hr ckpile 1.2		<u>Source</u> AVG.)		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated vo Source of estimated vo Material con Material con	$\frac{\$268.}{\$537.}$ $\frac{\text{NTITIES}}{0.000}$ $\frac{0.000}{0.000}$ $0.0$	13         Task 05a         Cat Handbo         100 feet         1,243.2 LCY/         ::       Loose sto         feet         lbs/LCY         Soil	hr ckpile 1.2		ource		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated vo Source of estimated vo Naterial constant Note of estimated vo Source of e	$\frac{\$268.}{\$537.}$ $\frac{\text{NTITIES}}{0.000}$ $\frac{0.000}{0.000}$ $0.0$	13	bok hr ckpile 1.2		<u>Source</u> AVG.)		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.8593	
Adjusted unit production: 1,	068.28 LCY/hr	
Adjusted fleet production: 21	136.56 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.251/LCY

Total job time:	2.83 Hours
Total job cost:	\$1,521

# **REVEGETATION WORK**

Task description: : Juniper Quarry	AM-1 Revegetation Permit Action:	2019-07	Permit/Jol	o#: <u>M1982141</u>
PROJECT IDENTIF	<u>CATION</u>			
Task #: 07A Date: 8/27/2019 User: ACY	State:ColoradoCounty:Moffat		Abbreviation: Filename:	None M141-07a

# **FERTILIZING**

#### Materials

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

## Application

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

### **TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	6.00	19.42	\$53.25
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Thickspike Wheatgrass - Critana	5.50	19.44	\$37.81
Western Wheatgrass - Arriba	8.00	20.20	\$52.00
Prairie Junegrass	7.50	398.66	\$195.00
Totals Seed Mix	30.00	521.43	\$363.26

### 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
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.16	\$4.16
Total Mulch Materials Cost/Acre				\$4.16

### Application

Description		Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]		\$71.50
	<b>Total Mulch Application Cost/Acre</b>	\$71.50

### NURSERY STOCK PLANTING

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

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	30%	Cost /Acre: Cost /Acre*:	· · ·	
Initial Job Cost: Reseeding Job Cost: Total Job Cost: Job Hours:	\$3,477.83 \$15,071				

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## BULLDOZER WORK

Task description:	CN-1	l Highwall H	reduction			
Juniper Quarry		Per	mit Action:	2019-07	Permit/Job#:	M1982141
PROJECT IDEN	TIFICATI	<u>ON</u>				
Task #:         08A           Date:         8/27/2           User:         ACY	019	State: County:	Colorado Moffat		Abbreviation: Filename:	None M141-08a
Agency or	organization	name: DF	RMS			
HOURLY EQUI	PMENT CO	<u>DST</u>				
Basic Machine:	Cat D9T - 9	<b>S</b> U				
Horsepower:	405 Semi-Unive					
Blade Type: Attachment:	3-shank rip					
Shift Basis:	1 per day	pei				
Data Source:	(CRG)					
	(end)					
Cost Breakdown:			1			
Ownership Cost/II	011r.		\$121.49	<u>Utilization %</u> NA		
Ownership Cost/H Operating Cost/H			\$121.49	100		
Ripper own. Cost/H			\$103.84	NA		
Ripper op. Cost/H			\$2.24	25		
Operator Cost/H			\$41.24	NA		
MATERIAL QU	<u>ANTITIES</u>					
Initial Volume:	45,321					
Swell factor:	1.345					
Loose volume:	60,957 LCY					
	.1	See attacl				
Source of estimated Source of estimated		Cat Hand				
	swell factor:					
Source of estimated	swell factor: <u>UCTION</u> ce:		lbook			
Source of estimated HOURLY PROD Average push distan	swell factor: <u>UCTION</u> ce: roduction:	Cat Hand 100 feet 1,243.2 LC	lbook	r blasted 0.8		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p	swell factor: <u>UCTION</u> ce: roduction: y description ent:5 %	Cat Hand <u>100 feet</u> <u>1,243.2 LC</u> : <u>Rock</u> , v	lbook Y/hr	nr blasted 0.8		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistenc Average push gradie	swell factor:         UCTION         ce:         roduction:         y description         ent:       -5 %         ex:       6,600	Cat Hand <u>100 feet</u> <u>1,243.2 LC</u> : <u>Rock</u> , v	lbook Y/hr	or blasted 0.8		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistence Average push gradie Average site altitude	swell factor: <u>UCTION</u> ce: roduction: y description ent: <u>-5 %</u> : <u>6,600</u> <u>2,600</u>	Cat Hand 100 feet 1,243.2 LC :	book Y/hr well ripped o	or blasted 0.8		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Job Condition Corre	swell factor: <u>UCTION</u> ce: roduction: y description ent: <u>-5 %</u> <u>6,600</u> <u>2,600</u> <u>Limes</u> ction Factor	Cat Hand 100 feet 1,243.2 LC : <u>Rock, v</u> feet lbs/LCY stone - Broke	book Y/hr well ripped o	Source		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: <u>Job Condition Corre</u> Open	swell factor: <u>UCTION</u> ce: roduction: y description ent: <u>-5 %</u> <u>2,600</u> <u>Limes</u> ction Factor rator Skill:	Cat Hand           100 feet           1,243.2 LC           :         Rock, v           feet           lbs/LCY           stone - Broke           0.	book Y/hr well ripped o  en .750	Source (AVG.)		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: <u>Job Condition Corre</u> Open Material co	swell factor: <u>UCTION</u> ce: roduction: y description ent: <u>-5 %</u> <u>2,600</u> <u>2,600</u> <u>Limes</u> <u>ction Factor</u> ator Skill: 	Cat Hand           100 feet           1,243.2 LC           :         Rock, v           feet           lbs/LCY           stone - Broke           0.           0.	book Y/hr well ripped o  en  750 	Source (AVG.) (CAT HB)		
Source of estimated <u>HOURLY PROD</u> Average push distan Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: <u>Job Condition Corree</u> Oper Material co Dozim	swell factor: <u>UCTION</u> ce: roduction: y description ent: <u>-5 %</u> <u>2,600</u> <u>Limes</u> ction Factor rator Skill:	Cat Hand           100 feet           1,243.2 LC           :         Rock, v           feet           lbs/LCY           stone - Broke           0.           0.           1.	book Y/hr well ripped o  en .750	Source (AVG.)		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.885	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.3931	
Adjusted unit production: 48	88.70 LCY/hr	
Adjusted fleet production: 97	7.4 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.583/LCY

Total job time:	<b>62.37</b> Hours
Total job cost:	\$35,517

# Highwall reduction - cut and fill

Upper Bench #2		
Highwall Height (ft.)	50.0	
Length of Highwall (Ift.)	100	
Initial Slope	0.0 H:1V	
Desired Slope	3 H:1V	
Volume of material to be moved (ft. <sup>3</sup> )	93,719	
Volume of material to be moved (yd. <sup>3</sup> )	3,471	

All dimensions measured in feet Drawing not to scale



# Highwall reduction - cut and fill

Upper Bench #1		
Highwall Height (ft.)	50.0	
Length of Highwall (Ift.)	900	
Initial Slope	1.0	H:1V
Desired Slope	3	H:1V
Volume of material to be moved (ft. <sup>3</sup> )	562,500	
Volume of material to be moved (yd. <sup>3</sup> )	20,833	

All dimensions measured in feet Drawing not to scale



# Highwall reduction - cut and fill

30.0
500
1.0 H:1V
3 H:1V
112,500
4,167

All dimensions measured in feet Drawing not to scale



# Highwall reduction - backfill

Lower Bench #2		
Highwall Height (ft.)	40.00	
Length of Highwall (Ift.)	200.00	
- – – – Initial Slope	1.00	H:1V
Desired Slope	3.00	H:1V
Volume of material to be moved (ft. <sup>3</sup> )	320,000	
Volume of material to be moved (yd. <sup>3</sup> )	11,85 <mark>2</mark>	



# Highwall reduction - backfill

Lower Bench #1

Highwall Height (ft.)	30.00	
Length of Highwall (lft.)	100.00	
- — — — Initial Slope	0.00	H:1V
Desired Slope	3.00 I	H:1V
Volume of material to be moved (ft. <sup>3</sup> )	134,955	
Volume of material to be moved (yd. <sup>3</sup> )	4,998	



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#### SURFACE BLASTING WORK

Task description:	CN-1 Highwall Reduction				
e: Juniper Quarry	Juniper Quarry Permit Action: 2		Permit	/Job#:	M1982141
PROJECT IDENTI	FICATION				
Task #: 08B	State: Colorado		Abbre	viation:	None
Date: 8/27/2019	County: Moffat			lename:	M141-08b
User: ACY					
A gancy or or	ganization name: DRMS				
BLAST AREA DIM	ENSIONS				
				NTITY	UNI
		lge-shaped mass (hi			alanced cut/fill)
В		ventional surface bla	ast (fragmentation	on only)	
	Highwall or Ber			0.00	h:1v
		ed Slope Angle:		.50	h:1v
	Ŭ	r Bench Length:		300	feet
		or Bench Width:		30	feet
		r Bench Height:		50.0	feet
	Depth to Base of C	Cut at Highwall:	2	20.0	feet
<b>BLAST AREA VOL</b>	UMES				
			QUAN		UNIT
	Total Volume of Dimensiona		3,3		cubic yards
	ast Volume to Subdrill Grade and B		3,6		cubic yards
	Blast Volume to Finish Grade and B		2,9		cubic yards
1	Remaining Volume Required to be F	ke-Shot or Ripped:	37	0	cubic yards
BLAST AREA DESI	GN				
		QUANT	TTY		UNIT
R	ecommended Blasthole Diameter:	2.940	)	inches	
	Selected Blasthole Diameter:	4.000	)	inches	
	Subdrilling Allowance:	2.4		feet	
	Blasthole Depth:	11.7		feet	
	Density of Rock:	Average Density	Rock (ANFO	rock de	ensity
		Basis	)		
	Burden to Charge Diameter Ratio:	25		times d	liameter
	Burden:	8.0		feet	
	Spacing to Burden Ratio:	1.3		times b	ourden
	Spacing:	10.0		feet	
C	ubic Yards of Rock per Blasthole:	41.48		cubic y	
	Powder Factor Description:	High		rock str	-
	Powder Factor:	1.000	)	pounds	cu. vd.

1.10

41.48

6.92

4.81

0.60

0.0156

3

30

90

1,056

Density of Blasting Agent:

Height of Powder Column:

Stemming to Burden Ratio:

Number of Rows:

Quantity of Explosives per Blasthole:

Height of Stemming per Blasthole:

Quantity of Stemming per Blasthole:

Number of Blastholes per Row:

Total Number of Blastholes:

Total Length of all Blastholes:

grams/cc

POUNDS

times burden

holes per row

cubic yards

feet

feet

rows

holes

feet

### **BLASTING MATERIALS QUANTITIES**

	QUANTITY	UNIT
Total Quantity of Stemming Required:	1.40	cubic yards
Total Quantity of Explosives Required:	3,733	pounds
Total Quantity of det. cord/fuse/wire Required:	2,178	linear feet
Quantity of Blasting Caps per Blasthole:	1	cap(s)
Total Quantity of Blasting Caps Required:	90	caps
Quantity of Primers per Blasthole:	1	primer(s)
Total Quantity of Primers Required:	90	primers
Quantity of Delays per Blasthole:	1	delay(s)
Total Quantity of Delays Required:	93	delays

### HOURLY EQUIPMENT COST

Shift basis: <u>1 per day</u>

	Description
Drilling Equipment - Drill:	ATLAS COPCO ROC D7-11,4.0 in.
-Drill Pad Preparation:	Cat D8T - 8SU
Misc. Drill Support Equipment:	NA
Misc. Explosives Support Equipment:	NA
Explosives Delivery –Bulk Truck:	NA
-Cap Truck:	NA

Cost Breakdown:	Drilling Equipment	Drill Pad Preparation	Misc. Drill Support	Misc. Expl. Support	Explosives Bulk Truck	Delivery Cap Truck
	Drilling	Dozer				
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$70.87	\$103.86	NA	NA	NA	NA
Operating cost/hour:	\$69.01	\$82.26	NA	NA	NA	NA
% Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$41.24	NA	NA	NA	NA
Unit Subtotals:	\$139.88	\$227.36	\$0.00	\$0.00	\$0.00	\$0.00
Number of Units:	1	1	0	0	0	0
Group Subtotals:	\$139.88	\$227.36	\$0.00	\$0.00	\$0.00	\$0.00

Total work team cost/hour: \$367.24

### **MATERIALS COST**

	Description	Unit	Unit Cost	Quantity	Total Cost
	Bulk ANFO high density (				
Blasting Agent:	7,900-15,000 fps )	Pound	\$0.650	3733.333	\$2,426.67
	Aluminized ANFO booster				
	(electric or non-electric				
Primers or Boosters:	system)	Bag	\$14.800	90.000	\$1,332.00
	Electric cap, inst. (electric				
Blasting Caps:	systems)	Each	\$20.000	90.000	\$1,800.00
Det. Cord, fuse, or	Blasting wire, 12-14 gage				
wire:	(electric systems)	Linear foot	\$0.288	2178.000	\$627.26
	NO DELAY MATERIALS				
Delays:	REQUIRED	NA	\$0.000	93.000	\$0.00
	Expl. magazine - agent				
	(rental basis - meet MSHA				
Miscellaneous:	req.)	Day	\$6.653	0.000	\$0.00

Drill bits: Bit life = 1,400	Linear feet	\$1,095.19	0.754	\$826.09
Dim bits. $ $ Bit me $-1,400$	Linear reet		aterials Cost:	\$7,012.02
ILLING AND EXPLOSIVES PREPAI	RATION TIME			
Total Drilling Length:	1,056		linear feet	
Unadjusted Drilling Rate:	1,050		feet/hour	
Drilling Time:	14.81		hours	
Condition Corrections: Site Altitude:	6,600		feet (DRMS est.)	
Job Efficiency Factor:	0.95		(CH. Exc. HB)	
Adjusted Drilling Rate:	71.29		feet/hour	
Explosives Prep. Time:	15.91		hours	
B TIME AND COST				
	Total Job Tin	ae: 30.72	Hours	
Unit cost: \$3.456 per cu. yd.	Total Job Co	st: <b>\$12,452</b>	<u>.</u>	

# BULLDOZER RIPPING WORK

	Task description:	CN-	1 Rip compacted areas					
Site	: Juniper Quar	ry	Permit Action:	2019-07	F	Permit/Job#:	: M1982	141
	PROJECT IDI	ENTIFICATI	<u>ON</u>					
	Task #:       09A         Date:       8/2         User:       AC	7/2019	State:ColoradoCounty:Moffat			previation: Filename:	None M141-09	9a
		or organization	name: DRMS					
	HOURLY EQU	•						
		Machine: Ca	t D9T - 9SU Shank Ripper		Horsepower: Shift Basis: Data Source:	11	405 per day CRG)	
	Cost Breakdown:				Data Source.	(	CKU)	
	Cost Breakdown.				Utilization %			
		Ownership C		\$121.49	NA	_		
	D.	Operating C		\$105.84	100	_		
		er Ownership Coperating Coperatin		\$13.94 \$8.96	NA 100	_		
	Кірг	Operating C Operator C		\$41.24	NA	-		
		Total Unit C		\$291.46				
		Total Fleet C	ost/Hour: \$582	2.92				
	MATERIAL Q			cted estimating	method: Are			
	Alternate Method		Sele	eteu estimating	method. Are	a		
<b>G</b>		<u>15.</u>	D. 1 V.1	NT A	DOV		NT A	
Seismic: Area:	NA 6.00	acres	Bank Volume:	NA 2.00	BCY Volume:	19,360	NA	BCY or CCY
111041			mated quantity: Staff es			17,000		201010001
			mated quantity. <u>Starres</u>	stillates				
	HOURLY PRO	JUCTION						
	<u>Seismic:</u>		C	NT A	<b>C</b> /	1		
			Seismic Velocity:	NA	feet/sec	cond		
	Area:			2 (2	<b>6</b> /			
			ge Ripping Depth:	2.63 7.67	feet/pa feet/pa			
		-	e Ripping Length:	200.00	feet/pa			
			age Dozer Speed:	88.00	feet/mi			
			Maneuver Time:	0.25	minute			
		Produc	tion per unit area:	0.838	acres/h	our		
	Job Condition Co	prrection Factors	<u>3</u>					
	Un	adjusted Hourly	Unit Production:	0.838	Acres/I	hr		
			Site Altitude:	6,600	feet			
			Altitude Adj:	1.00	(CAT ]			
			Job Efficiency:	0.83	(1 shift	-		
			Net Correction:	0.83	multipl	lier		
			Hourly Unit Production:	0.70	Acres/hr			
		Ū	Hourly Fleet Production:	1.39	Acres/hr			
	JOB TIME AN							
	Fleet size:	2	_ Grader(s)	Total job tim	e:	4.32	He	ours
	Unit cost:	\$419.259	Per acre	Total job cos	st:	\$2,516		

### WHEEL LOADER - LOAD AND CARRY WORK

Juninan Augur							
Juniper Quarry		Permit Acti	on: 2019-07		Perm	it/Job#:	M1982141
PROJECT IDENTI	FICATION						
		Cuture Cuture	. 1.		A 1 1		Num
Task #: 10A Date: 8/27/201	<u> </u>	State: Color County: Moffa			Abbrevi		None M141-10a
Date: $\frac{8/27/201}{\text{ACY}}$	<u>9</u> (	County: <u>Moff</u> a	11		гпе	name:	M141-10a
Agency or org	ganization nam	e: DRMS					
IOURLY EQUIPM	AENT COST						
Basic Machine:				Horse	power:		287
Attachment 1:	-				Basis:		ber day
Titueinnent T.			_		Source:	-	CRG)
							/
Cost Breakdown:			Utilizatio	on 0/			
Ownership Cos	st/Hour	\$46.54	NA	JII 70			
Operating Cos		\$55.81	100				
Operator Cos		\$40.65	NA				
Total Unit Cos		\$143.00					
Total Fleet Co	st/Hour:	\$286.00					
MATERIAL QUAN	NTITIES						
Test 1 1							
Initial volume:	12,100	CCY	C Swe	ell factor: 1	1.215		
Loose volume:	12,100 <b>14,70</b> 2			ell factor: 1	1.215		
Loose volume:	14,702	LCY	7	ell factor: 1	1.215		
Loose volume: Sourc	14,702 e of estimated	LCY volume: 30 ad	c @ 3" depth	ell factor: <u>1</u>	1.215		
Loose volume: Sourc	14,702	LCY volume: 30 ad	7	ell factor: _1	1.215		
Loose volume: Sourc Source of	14,702 e of estimated estimated swel	LCY volume: 30 ad	c @ 3" depth	ell factor: <u>1</u>	1.215		
Loose volume:Sourc Source of HOURLY PRODU	14,702 e of estimated estimated swel	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u>	c @ 3" depth Handbook				
Loose volume: Sourc Source of	14,702 e of estimated estimated swel	LCY volume: 30 ad	c @ 3" depth Handbook			525	minutes
Loose volume:Sourc Source of HOURLY PRODU	14,702 e of estimated estimated swel CTION Unadjuste	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u>	c @ 3" depth Handbook				minutes
Loose volume: _ Sourc Source of HOURLY PRODU Loader Cycle Time: Cycle Time Fac Mate	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02	c @ 3" depth Handbook `ime (load, dum	p, maneuver):	:0. Factor (n 0.020	nin.)	Source (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fact Mate Stock	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile	c @ 3" depth Handbook 'ime (load, dum ed 10 ft. high or	p, maneuver):	:0. Factor (n 0.020 0.010	nin.)	Source (Cat HB) (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Face Mate Stock Truck Owners	14,702         e of estimated         estimated swel         CTION         Unadjuste         ctors         erial:       Mixed         pile:       Conve         ship:       No adj	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile ustment - factor	c @ 3" depth Handbook ime (load, dum d 10 ft. high or not applicable (	p, maneuver):	:	nin.)	Source (Cat HB) (Cat HB) (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile ustment - factor nt operation -0.0	c @ 3" depth Handbook ime (load, dum d 10 ft. high or not applicable (	p, maneuver):	: Factor (n 0.020 0.010 0.000 -0.040	nin.) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Face Mate Stock Truck Owners	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00	c @ 3" depth Handbook 'ime (load, dum ed 10 ft. high or not applicable ( )4	p, maneuver): less 0.01 0.00	: <u>0.</u> Factor (n 0.020 0.010 0.000 -0.040 0.000	nin.) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A	p, maneuver): less 0.01 0.00 djustment:	: <u>0.</u> Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne	c @ 3" depth Handbook 'ime (load, dum ed 10 ft. high or not applicable ( )4	p, maneuver): less 0.01 0.00 djustment:	: <u>0.</u> Factor (n 0.020 0.010 0.000 -0.040 0.000	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta rget: Nomin	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A	p, maneuver): less 0.01 0.00 djustment:	: <u>0.</u> Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Sourc Source of HOURLY PRODUC Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera Dump Tac Rolling Resistance – R	14,702 e of estimated estimated swel CTION Unadjuste ctors erial: Mixed pile: Conve ship: No adj tion: Consta rget: Nomin	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C	p, maneuver): less 0.01 0.00 djustment: ycle Time:	: Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Face Mate Stock Truck Owners Opera Dump Tac Rolling Resistance – R Hau	14,702         e of estimated swel         estimated swel         CTION         Unadjuste         corrs         erial: Mixed         pile: Conversition: Constarget: Nomin         oad Conditions         ul: Rutted di	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac 5 rt, little mainten	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C ance, no water,	p, maneuver): less 0.01 0.00 djustment: ycle Time:	: Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ration 5.0	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Sourc Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera Dump Ta Rolling Resistance – R Hat Retur	14,702         e of estimated swel         estimated swel         CTION         Unadjuste         corrs         erial: Mixed         pile: Conversition: Constarget: Nomin         oad Conditions         ul: Rutted di	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C ance, no water,	p, maneuver): less 0.01 0.00 djustment: ycle Time:	: Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ration 5.0	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Face Mate Stock Truck Owners Opera Dump Tac Rolling Resistance – R Hau	14,702         e of estimated swel         estimated swel         CTION         Unadjuste         corrs         erial: Mixed         pile: Conversition: Constarget: Nomin         oad Conditions         ul: Rutted di	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac 5 rt, little mainten	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C ance, no water,	p, maneuver): less 0.01 0.00 djustment: ycle Time:	: Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ration 5.0	nin.) ) ) ) )	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Loose volume: Sourc Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera Dump Ta Rolling Resistance – R Hat Retur	14,702         e of estimated swel         estimated swel         CTION         Unadjuste         ctors         erial: Mixed         pile: Conversition: Constarget: No adjuste         ship: No adjuste         tion: Constarget: Nomin         oad Conditions         ul: Rutted di         rn: Rutted di	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T <u>material 0.02</u> yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac 5 rt, little mainten	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C ance, no water,	p, maneuver): less 0.01 0.00 djustment: ycle Time:	: Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ration 5.0	nin.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
Loose volume: Sourc Source of HOURLY PRODUCE Loader Cycle Time: Cycle Time Fac Mate Stock Truck Owners Opera Dump Ta Rolling Resistance – R Hat Retur	14,702         e of estimated swel         estimated swel         CTION         Unadjuste         corrs         erial: Mixed         pile: Conversition: Constarget: Nomin         oad Conditions         ul: Rutted di	2 LCY volume: <u>30 ac</u> l factor: <u>Cat l</u> ed Basic Cycle T material 0.02 yor or dozer pile ustment - factor nt operation -0.0 al target 0.00 Ne Ac <u>s</u> rt, little mainten rt, little mainten	c @ 3" depth Handbook Time (load, dum d 10 ft. high or not applicable ( )4 t Cycle Time A djusted Basic C ance, no water, ance, no water,	p, maneuver): less 0.01 0.00 djustment: ycle Time: 2" tire penetr 2" tire penetr	: 0. Factor (n 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ation 5.0 ation 5.0	Time	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes

Return Route:

500

0.00

5.00

5.00

(Cat HB)

0.4160

Total Travel Time:	0.8771	minutes
Total Cycle Time:	1.3921	minutes

### Load Bucket Capacity

Rated Capacity:	5.60	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	5.46	LCY

Job Condition Correction Factors Site Altitude: <u>6600</u> feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production:	235.33	LCY/Hour
Adjusted Hourly Unit Production:	195.32	LCY/Hour
Adjusted Hourly Fleet Production:	390.65	LCY/Hour

Fleet size:	2	Loader(s)	Total job time:	37.63	Hours
Unit cost:	\$0.732	/LCY	Total job cost:	\$10,763	

Page 1 of 2

## BULLDOZER WORK

	· · · ·	topsoil			
Juniper Quarry		Permit Action:	2019-07	Permit/Job#:	M1982141
PROJECT IDENTI	<b>FICATION</b>				
Task #: 11A	Sta	te: Colorado		Abbreviation:	None
Date: $\frac{8/27}{2019}$				Filename:	M141-11a
User: ACY	<u> </u>				
Agency or org	ganization name:	DRMS			
HOURLY EQUIPM	<u>IENT COST</u>				
Basic Machine: C	Cat D9T - 9SU				
	05				
Blade Type: S	emi-Universal				
	JA				
Shift Basis: 1	per day				
Data Source:(	CRG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour	•	\$121.49	NA		
Operating Cost/Hour		\$105.84	100		
Ripper own. Cost/Hour		\$0.00	NA		
Ripper op. Cost/Hour		\$0.00	0		
Operator Cost/Hour		\$41.24	NA		
	-				
Fotal unit Cost/Hour:	\$268.57 \$537 13				
Fotal unit Cost/Hour: Fotal Fleet Cost/Hour:	\$268.57 <b>\$537.13</b>				
	\$537.13				
Fotal Fleet Cost/Hour: MATERIAL QUAN	\$537.13				
Fotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: <u>12</u>	\$537.13 NTITIES 2,100				
Fotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: <u>12</u> Swell factor: <u>1.0</u>	\$537.13 NTITIES 2,100 000				
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12	\$537.13 NTITIES 2,100 2000 2,100 LCY				
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task				
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task	10a Iandbook			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       50         Source of estimated sw       50	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task ell factor: Cat H				
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUCE       12	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task ell factor: Cat H CTION	landbook			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task ell factor: Cat H CTION 100 feet	landbook t			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUCE       12	\$537.13 <b>NTITIES</b> 2,100 000 2,100 LCY lume: Task ell factor: Cat H CTION 100 feet	landbook			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12	\$537.13         NTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         luction:       1,243.2	landbook t			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       Average push distance:         Jnadjusted hourly proc       Materials consistency distance	\$537.13         VTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         duction:       100 feet         1,243.2         lescription:       Loo	landbook t LCY/hr			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       Average push distance:         Jnadjusted hourly proc       Materials consistency d         Average push gradient:       12	\$537.13         VTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         luction:       100 feet         luction:       1,243.2         lescription:       Loo         0 %	landbook t LCY/hr			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       Average push distance:         Jnadjusted hourly proc       Materials consistency distance	\$537.13         VTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         duction:       100 feet         1,243.2         lescription:       Loo	landbook t LCY/hr			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       Average push distance:         Jnadjusted hourly proc       Materials consistency d         Average push gradient:       12	\$537.13         VTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         luction:       100 feet         luction:       1,243.2         lescription:       Loo         0 %	landbook t LCY/hr ose stockpile 1.2			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12         Jnadjusted hourly proc       12         Vaterials consistency d       12         Average push gradient:       12         Average site altitude:       12	\$537.13         NTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         luction:       1,243.2         lescription:       Loo         0 %       6,600 feet	landbook t LCY/hr ose stockpile 1.2			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12         Jnadjusted hourly proc       12         Vaterials consistency d       14         Average push gradient:       14         Average site altitude:       14         Vaterial weight:       14         Weight description:       14	\$537.13         NTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         luction:       1,243.2         lescription:       Loo         0 %       6,600 feet         1,600 lbs/LCY         Top Soil	landbook t LCY/hr ose stockpile 1.2			
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12         Jnadjusted hourly proc       12         Average push gradient:       14         Average site altitude:       14         Average site altitude:       14         Material weight:       15         Weight description:       16         Condition Correction       16	\$537.13         NTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         duction:       100 feet         1,243.2         lescription:       Loo         0 %       6,600 feet         1,600 lbs/LCY         Top Soil         on Factor	landbook t LCY/hr ose stockpile 1.2	Source		
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12         Jnadjusted hourly proc       12         Average push gradient:       14         Average site altitude:       14         Material weight:       14         Weight description:       16         Condition Correction       16         Operator       17	$\begin{array}{r c c c c c c c c c c c c c c c c c c c$	landbook t LCY/hr ose stockpile 1.2	Source (AVG.)		
Fotal Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       12         Swell factor:       1.0         Loose volume:       12         Source of estimated vol       12         Source of estimated vol       12         Source of estimated sw       12         HOURLY PRODUC       12         Average push distance:       12         Jnadjusted hourly proc       12         Average push gradient:       14         Average site altitude:       14         Average site altitude:       14         Material weight:       15         Weight description:       16         Condition Correction       16	\$537.13         VTITIES         2,100         000         2,100 LCY         lume:       Task         ell factor:       Cat H         CTION         duction:       100 feet         1,243.2         lescription:       Loo         0 %       6,600 feet         1,600 lbs/LCY       Top Soil         on Factor       or Skill:         istency:	landbook t LCY/hr ose stockpile 1.2	Source		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.8593	
Adjusted unit production: 1	,068.28 LCY/hr	
Adjusted fleet production: 2	136.56 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.251/LCY

Total job time:	<b>5.66</b> Hours
Total job cost:	\$3,042

# **REVEGETATION WORK**

Task descrip	ption:	CN-1 Revegetation			
e: Juniper	Quarry	Permit Action:	2019-07	Permit/Jol	o#: <u>M1982141</u>
	IDENTIFIC			Abbreviation:	None
Task #: Date:	12A 8/27/2019	State: <u>Colorado</u> County: Moffat		Abbreviation: Filename:	None M141-12a
Date.	ACY	County: Moffat		Filename.	IVI141-12a
User:					

# **FERTILIZING**

#### Materials

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

## Application

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

### **TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	6.00	19.42	\$53.25
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Thickspike Wheatgrass - Critana	5.50	19.44	\$37.81
Western Wheatgrass - Arriba	8.00	20.20	\$52.00
Prairie Junegrass	7.50	398.66	\$195.00
Totals Seed Mix	30.00	521.43	\$363.26

### 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
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.16	\$4.16
Total Mulch Materials Cost/Acre				\$4.16

### Application

Description		Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]		\$71.50
	<b>Total Mulch Application Cost/Acre</b>	\$71.50

### NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

Estimate	No. of Acres: ed Failure Rate:		Cost /Acre: Cost /Acre*:	
*Selected Replanti	ng Work Items:	TILLING,SEEDIN	G,MULCHING	
Initial Job Cost:	\$23,185.50			
Reseeding Job Cost:	\$6,955.65			
Total Job Cost:	\$30,141			
Job Hours:	40.00			

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

		tial Mobilization					
: Juniper Quarr	·y	Permit	Action: _2019-	07	1	Permit/Job#: <u>M</u>	[1982141
PROJECT IDEN	NTIFICATI	<u>ON</u>					
Task #: 13A	L	State: Co	lorado		Abbre	eviation: None	
Date: 8/27 User: AC	7/2019 Y	County: Mo	offat		Fi	lename: M141	1-13a
Agency o	r organizatior	n name: DRMS					
EQUIPMENT T	RANSPOR	<u>T RIG COST</u>					
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH	WAY TR		rce: $\overrightarrow{\text{CRG Da}}$	nta
Truck	c Trailer Desc	ription: G		ING GOO	2 (2ND HALF, DSENECK, DF (25T, 50T, AN	ROP DECK EQU	IPMENT
<u>Cost Breakdown:</u>							
Available Rig Ca	apacities	0-25 Tons	26-50 Tons	51-	+ Tons		
Ownership	Cost/Hour	\$17.20	\$29.63	\$	38.69		
- ·····p	Cost/Hour.	$\psi_{1}$ .20					
	Cost/Hour:	\$26.56	\$47.02	\$	55.69		
Operating			\$47.02 \$23.63		55.69 23.63		
Operating Operator	Cost/Hour:	\$26.56		\$			
Operating Operator Helper	Cost/Hour: Cost/Hour:	\$26.56 \$23.63	\$23.63	\$	23.63		
Operating Operator Helper	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	\$26.56 \$23.63 \$0.00 \$67.39	\$23.63 \$23.53	\$	23.63 23.53		
Operating Operator Helper Total Unit	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN	\$26.56 \$23.63 \$0.00 \$67.39 <b>MENT:</b>	\$23.63 \$23.53 \$123.81	\$ \$ \$1	23.63 23.53 41.54	Return Trip	DOT Permit
Operating Operator Helper Total Unit NON ROADABI Machine	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPM Weight/	\$26.56 \$23.63 \$0.00 \$67.39 <b>MENT:</b> Owner ship	\$23.63 \$23.53 \$123.81 Haul Rig	\$ \$ \$ Fleet	23.63 23.53 41.54 Haul Trip	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Operating Operator Helper Total Unit	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit	\$26.56 \$23.63 \$0.00 \$67.39 <b>MENT:</b>	\$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni	\$ \$ \$1	23.63 23.53 41.54 Haul Trip Cost/hr/		
Operating Operator Helper Total Unit <b>NON ROADABI</b> Machine Description	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS)	\$26.56 \$23.63 \$0.00 \$67.39 MENT: Owner ship Cost/hr/ unit	\$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni t	\$     \$     \$     \$     Fleet     Size	23.63 23.53 41.54 Haul Trip Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
Operating Operator Helper Total Unit <b>NON ROADAB</b> Machine Description Cat D9T - 9SU	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 66.13	\$26.56 \$23.63 \$0.00 \$67.39 <b>MENT:</b> Owner ship Cost/hr/ unit \$135.43	\$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni t \$141.54	\$     \$ <td>23.63 23.53 41.54 Haul Trip Cost/hr/ fleet \$553.94</td> <td>Cost/hr/ fleet \$283.08</td> <td>Cost/ fleet \$500.00</td>	23.63 23.53 41.54 Haul Trip Cost/hr/ fleet \$553.94	Cost/hr/ fleet \$283.08	Cost/ fleet \$500.00
Operating Operator Helper Total Unit <b>NON ROADABI</b> Machine Description	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 66.13 28.00 0.00	\$26.56 \$23.63 \$0.00 \$67.39 MENT: Owner ship Cost/hr/ unit	\$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni t	\$     \$     \$     \$     Fleet     Size	23.63 23.53 41.54 Haul Trip Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet

 Subtotals:
 \$1,118.44
 \$665.48
 \$1,500.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$76.23	1	\$76.23	\$76.23
		Subtotals:	\$76.23	\$76.23

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	CRAIG, CO 30.00 45.00	miles mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$7,615.44	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$101.64	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.67	0.67
Return Time (Hours):	0.67	0.67
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.33	1.33

### JOB TIME AND COST

Total job time: \_\_\_\_\_ Hours

Total job cost: \$7,717

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Juniper Quar	<b>14X</b> 7	Dormit	Action: 2019-	07		Permit/Job#: M	1082141
Jumper Quar	Ty		Action. <u>2019-</u>	-07			1962141
PROJECT IDE	NTIFICATI	<u>ON</u>					
Task #: 13	В	State: Co	olorado		Abbro	eviation: None	
Date: 8/2 User: AC	27/2019 CY	County: Mo	offat		F.	ilename: M141	-13b
Agency	or organizatior	n name: DRMS					
EQUIPMENT 2	<b>FRANSPOR</b>	<u>T RIG COST</u>					
					Shift ba	asis: 1 per da	ıy
				C	Cost Data Sou	rce: CRG Da	ita
Truc	k Tractor Desc	ription: GENE	RIC ON-HIGH	WAY TRU	CK TRACT	OR, 6X4, DIESEI	POWERED,
		1			(2ND HALF,		,
Truc	k Trailer Desc	ription: G		ING GOO	SENECK, DI	ROP DECK EQU	IPMENT
Truc	k Trailer Desc	ription: G		ING GOO		ROP DECK EQU	IPMENT
Truc Cost Breakdown:	k Trailer Desc	ription: G		ING GOO	SENECK, DI	ROP DECK EQU	IPMENT
		0-25 Tons		ING GOO FRAILER (	SENECK, DI	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownership	<b>Sapacities</b> Cost/Hour:	0-25 Tons \$17.20	]	FING GOO FRAILER ( 51+ \$3	SENECK, DF (25T, 50T, A) Tons 8.69	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownershij Operating	<b>Capacities</b> Cost/Hour: g Cost/Hour:	0-25 Tons \$17.20 \$26.56	<b>26-50 Tons</b> \$29.63 \$47.02	ING GOO TRAILER ( 51+ \$3 \$5	SENECK, DF (25T, 50T, A) Tons 8.69 5.69	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownership Operating Operato	t <mark>apacities</mark> o Cost/Hour: g Cost/Hour: r Cost/Hour:	0-25 Tons \$17.20 \$26.56 \$23.63	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63	ING GOO FRAILER ( 51+ \$3 \$5 \$2	SENECK, DF (25T, 50T, A) Tons 8.69 5.69 3.63	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownershij Operating Operato Helpe	2 <b>apacities</b> o Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour:	0-25 Tons \$17.20 \$26.56 \$23.63 \$0.00	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53	ING GOO TRAILER ( 51+ \$3 \$5 \$2 \$2 \$2 \$2	SENECK, DF (25T, 50T, A) Tons 8.69 5.69 3.63 3.53	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownershij Operating Operato Helpe	t <mark>apacities</mark> o Cost/Hour: g Cost/Hour: r Cost/Hour:	0-25 Tons \$17.20 \$26.56 \$23.63	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63	ING GOO TRAILER ( 51+ \$3 \$5 \$2 \$2 \$2 \$2	SENECK, DF (25T, 50T, A) Tons 8.69 5.69 3.63	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig C Ownership Operating Operato Helpe Total Uni	<b>Capacities</b> o Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour:	0-25 Tons \$17.20 \$26.56 \$23.63 \$0.00 \$67.39	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53	ING GOO TRAILER ( 51+ \$3 \$5 \$2 \$2 \$2 \$2	SENECK, DF (25T, 50T, A) Tons 8.69 5.69 3.63 3.53	ROP DECK EQU	IPMENT
Cost Breakdown: Available Rig O Ownership Operating Operato Helpe Total Uni	Capacities Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour: BLE EQUIPN	0-25 Tons \$17.20 \$26.56 \$23.63 \$0.00 \$67.39 MENT:	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53 \$123.81	VING GOO FRAILER ( 51+ \$3 \$5 \$2 \$2 \$2 \$14	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T)	
Cost Breakdown: Available Rig C Ownership Operating Operato Helpe Total Uni NON ROADAB Machine	Capacities o Cost/Hour: g Cost/Hour: r Cost/Hour: t Cost/Hour: t Cost/Hour: SLE EQUIPN Weight/	0-25 Tons           \$17.20           \$26.56           \$23.63           \$0.00           \$67.39             MENT:           Owner ship	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53 \$123.81 Haul Rig	Fleet	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T) Return Trip	DOT Permit
Cost Breakdown: Available Rig O Ownership Operating Operato Helpe Total Uni	Capacities Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour: SLE EQUIPN Weight/ Unit	0-25 Tons \$17.20 \$26.56 \$23.63 \$0.00 \$67.39 MENT:	26-50 Tons           \$29.63           \$47.02           \$23.63           \$123.81           Haul Rig           Cost/hr/uni	VING GOO FRAILER ( 51+ \$3 \$5 \$2 \$2 \$2 \$14	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T)	
Cost Breakdown: Available Rig C Ownership Operating Operato Helpe Total Uni NON ROADAB Machine Description	Capacities Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour: SLE EQUIPN Weight/ Unit (TONS)	0-25 Tons           \$17.20           \$26.56           \$23.63           \$0.00           \$67.39           MENT:           Owner ship           Cost/hr/ unit	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni t	Fleet Size	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T) Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cost Breakdown: Available Rig C Ownership Operating Operato Helpe Total Uni NON ROADAB Machine Description Drill/Broadcast Seeder with	Capacities Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour: SLE EQUIPN Weight/ Unit	0-25 Tons           \$17.20           \$26.56           \$23.63           \$0.00           \$67.39             MENT:           Owner ship	26-50 Tons           \$29.63           \$47.02           \$23.63           \$123.81           Haul Rig           Cost/hr/uni	Fleet	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T) Return Trip	DOT Permit
Cost Breakdown: Available Rig C Ownership Operating Operato Helpe Total Uni NON ROADAB Machine Description Drill/Broadcast	Capacities Cost/Hour: g Cost/Hour: r Cost/Hour: r Cost/Hour: t Cost/Hour: SLE EQUIPN Weight/ Unit (TONS)	0-25 Tons           \$17.20           \$26.56           \$23.63           \$0.00           \$67.39           MENT:           Owner ship           Cost/hr/ unit	<b>26-50 Tons</b> \$29.63 \$47.02 \$23.63 \$23.53 \$123.81 Haul Rig Cost/hr/uni t	Fleet Size	SENECK, DF (25T, 50T, A) (25T,	ROP DECK EQU ND 100T) Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet

# **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$76.23	1	\$76.23	\$76.23
		Subtotals:	\$76.23	\$76.23

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	CRAIG, CO 30.00 45.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$874.99	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$101.64	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.67	0.67
Return Time (Hours):	0.67	0.67
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.33	1.33

### JOB TIME AND COST

Total job time: \_\_\_\_\_ Hours

Total job cost: \$977