September 26, 2016

Mike and Mardi Anson Moffat Limestone Company PO Box 777 Craig, CO 81626



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

1313 Sherman Street, Room 215 Denver, CO 80203

RE: Juniper Quarry, Permit No. M-1982-141, Technical Revision (TR-4) Approval

Dear Mr. Anson:

On September 16, 2016 the Division of Reclamation, Mining and Safety (Division) approved the Technical Revision request (TR-4) submitted on July 18, 2016, addressing the following:

- Updated mining plan and map.
- Updated reclamation plan. No reclamation maps were submitted.
 - <u>Stipulation:</u> prior to release, updated reclamation plans shall be submitted in the form of a technical revision depicting current site conditions and topography.

The terms of the TR-4 approved by the Division are hereby incorporated into Permit No. M-1982-141. All other conditions and requirements of the permit remain in full force and effect.

The Division has updated the Reclamation cost estimated based on changes approved under TR-4. The Division has found that the currently held bond amount of \$154,405 is adequate based on current disturbances observed on September 21, 2016 and the approved plans.

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 970-254-8511 or via email at amy.yeldell@state.co.us

Sincerely,

my Geldell

Amy Yeldell Environmental Protection Specialist Department of Natural Resources Division of Reclamation, Mining and Safety Phone: (970) 254-8511 Fax: (970) 241-1516

Cc: Russ Means, Senior EPS, Grand Junction DRMS Jennifer Maiolo, Little Snake Field Office BLM, 455 Emerson St, Craig, CO 81625



COST SUMMARY WORK

Task description:		Updated based on TR-4						
Site: Juniper Quarry		Permit Action: T		TR-4	Permit/Job#: <u>M1982141</u>			
<u>P</u>	ROJECT Task #: Date: User:	IDENTIFIC 000 7/22/2016 ACY	CATION State: County:	Colorado Moffat		Abbreviation: Filename:	None M141-000	

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Took		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
01a	Removal of mining equipment and debris	DEMOLISH	1	8.00	\$3,364.50
02a	AM1 Highwall Reduction	BLASTING	1	30.72	\$10,281.00
03a	AM1 Highwall reduction (grade HW) and	DOZER	2	6.43	\$2,575.00
	overburden				
04a	AM1 Rip process area and access road	RIPPER	2	2.26	\$968.00
05a	AM1 Distribute topsoil throughout disturbed area	LOADER	2	9.63	\$2,707.00
06a	AM1 Spread topsoil	DOZER	2	4.13	\$1,653.00
07a	AM1 Revegetate disturbed area	REVEGE] 1	24.00	\$15,386.00
08a	CN1 Highwall reduction	DOZER] 1	14.64	\$2,345.00
08b	CN1 Grade various processing benches	DOZER	2	8.51	\$3,406.00
08c	CN1 Grade stockpiles	DOZER	2	2.72	\$1,090.00
09a	CN1 Rip pit floor, process area and roads	RIPPER	2	4.67	\$2,002.00
10a	CN1 Distribute topsoil throughout disturbed area	LOADER	2	25.62	\$7,202.00
11a	CN1 Spread topsoil	DOZER	2	6.88	\$2,754.00
12a	CN1 Revegetate disturbed area	REVEGE	1	40.00	\$29,589.00
13a	Mobilize reclamation crew and equipment	MOBILIZE	1	4.66	\$8,010.00
	<u>SUBTOTALS:</u>				\$93,333

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$1,885.33
Performance bond:	1.05	Total =	\$980.00
Job superintendent:	96.44	Total =	\$7,182.48
Profit:	10.00	Total =	\$9,333.30
		TOTAL O & P =	\$19,381.11
		CONTRACT AMOUNT (direct + O & P) = $($	\$112,714.11

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	<u>8.00</u> 5.81	1 otal =	\$9,017.13
Reclamation management and/or administration.	5.61		\$0, 3 4 0.09
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL IN	DIRECT COST =	\$35,446.93
TOTAL BO	\$128,779.93		

DEMOLITION WORK

Т	Task description:	Removal of mining equip	ment and debris		
Site:	Juniper Quarry	Permit Action	: <u>TR-4</u>	Permit/.	Job#: <u>M1982141</u>
<u>ROJE(</u>	CT IDENTIFICATIO	N			
Task #:	01A	State: Colorado		Abbreviation:	None
Date:	7/22/2016	County: Moffat		Filename:	M141-01a
	ACW			_	

UNIT COSTS

Location adjustment: 91.30 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Trailer and misc. metal in AM-1	8'W x 20'L x 10'H	Loading and 5 mile haul, salvage allowed - Steel frame structures	59.30	CY	\$10.57	\$626.80
Remove 10,000 gallon fuel tank	10,000 gallon	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
Remove steel trailers in CN-1	150 CY	Loading and 5 mile haul, salvage allowed - Steel frame structures	150.00	CY	\$10.57	\$1,585.50
Remove misc. refuse/debris in CN-1	40 CY	Loading and 5 mile haul, salvage allowed - Steel frame structures	40.00	CY	\$10.57	\$422.80

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	8.00	(unadjusted):	\$3,685.10	location):	\$3,364.50

SURFACE BLASTING WORK

Task description:	AM1 Highwall Reduction					_
te: Juniper Quarry	Permit Action:	TR-4	Permit/J	ob#:	M1982141	
PROJECT IDENTIFIC	ATION					
Task #: 02A	State: Colorado		Abbrow	iation	None	
Date: $9/12/2016$	County: Moffat		File	name:	M141-02a	
User: ACY			- I ne	inume.	101111 024	
	notion name: DDMS					
Agency of organiz	auon name. DRIVIS					
BLAST AREA DIMENS	IONS					
			QUAN	TITY		UNIT
Bl	ast Area Configuration: Wed	lge-shaped mass (high	wall reduction	using ba	lanced cut/fi	11)
Blasti	ng Method Description: Conv	ventional surface blast	(fragmentation	n only)		
	Highwall or Ber	nch Face Angle:	0.0	00		h:1v
	Regrade	ed Slope Angle:	1.5	50		h:1v
	Highwall or	r Bench Length:	30	00		feet
	Highwall c	or Bench Width:	3	0		feet
	Highwall of	r Bench Height:	50	.0		feet
	Depth to Base of C	Lut at Highwall:	20	.0		feet
BLAST AREA VOLUM	ES					
			OUANT	TTV	1	
	Total Volume of Dimensiona	I Mass to be Shot:	2 3 3 3	11 1	cubic	varde
Blast	Volume to Subdrill Grade and B	last Pattern Lines:	3,55	3	cubic	vards
Blas	Volume to Finish Grade and B	last Pattern Lines:	2.96	3	cubic	vards
Rema	ining Volume Required to be R	Re-Shot or Ripped:	370	~	cubic	vards
						ž
<u>BLAST AREA DESIGN</u>						
		QUANTIT	Y		UNIT	
Recor	nmended Blasthole Diameter:	2.940	j	inches		
	Selected Blasthole Diameter:	4.000	j	inches		
	Subdrilling Allowance:	2.4	İ	feet		
	Blasthole Depth:	11.7	t	feet		
	Density of Rock:	Average Density Ro	ck (ANFO	rock den	sity	
		Basis)				
Burc	en to Charge Diameter Ratio:	25	1	times dia	ameter	
	Specing to Durden Detici	8.0	1	ieet	rdan	
	Spacing to Burden Katlo:	1.5		foot	Idell	
Cubic	Yards of Rock per Blasthole	10.0 /1/18		cubic ve	rds	
	Powder Factor Description:	41.40 High	1	rock stre	noth	
	Powder Factor	1 000	1	nounds/c	ngu ngu vd.	
	Density of Blasting Agent	1.10		grams/co	24. ju. 2	
Ouantit	y of Explosives per Blasthole:	41.48		POUND	S	
	Height of Powder Column:	6.92	1	feet		
Heig	t of Stemming per Blasthole.	4 81		feet		

0.60

0.0156

3

30

90

1,056

Stemming to Burden Ratio:

Number of Rows:

Quantity of Stemming per Blasthole:

Number of Blastholes per Row:

Total Number of Blastholes:

Total Length of all Blastholes:

times burden

holes per row

cubic yards

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>

HUUKLI EQUIFMENI CUSI	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 I Bulk Truck	Delivery Cap Truck
<u>Cost Di candown</u> .	Drilling	Dozer	Support	Buppon	Durk Huck	
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$69.43	\$82.01	NA	NA	NA	NA
Operating cost/hour:	\$69.00	\$79.23	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	\$38.89	NA	NA	NA	NA
Unit Subtotals:	\$138.43	\$200.13	\$0.00	\$0.00	\$0.00	\$0.00
Number of Units:	1	1	0	0	0	0
Group Subtotals:	\$138.43	\$200.13	\$0.00	\$0.00	\$0.00	\$0.00

Total work team cost/hour: \$338.56

MATERIALS COST

	Description	Unit	Unit Cost	Quantity	Total Cost
	Bulk ANFO high density (
Blasting Agent:	7,900-15,000 fps)	Pound	\$0.341	3733.333	\$1,273.07
	Aluminized ANFO booster				
	(electric or non-electric				
Primers or Boosters:	system)	Bag	\$11.800	90.000	\$1,062.00
	Electric cap, inst. (electric				
Blasting Caps:	systems)	Each	\$21.252	90.000	\$1,912.68
Det. Cord, fuse, or	Blasting wire, 12-14 gage				
wire:	(electric systems)	Linear foot	\$0.088	2178.000	\$191.66
	NO DELAY MATERIALS				
Delays:	REQUIRED	NA	\$0.000	93.000	\$0.00
	Expl. magazine - agent				
	(rental basis - meet MSHA				
Miscellaneous:	req.)	Day	\$6.118	0.000	\$0.00

Exar feet \$1,095.19 Tota 1,056 112.00 14.81 6,600	0.754 \$826.09 al Materials Cost: \$5,265.50 linear feet feet/hour hours
Tota <u>IE</u> <u>1,056</u> <u>112.00</u> 14.81 6,600	al Materials Cost: \$5,265.50
1,056 112.00 14.81 6,600	linear feet feet/hour hours
6,600	hours
6,600	
6,600	
	feet
0.95	(DRMS est.)
0.67	(CH. Exc. HB)
71.29	feet/hour
15.91	hours
al Job Time: 30	0.72 Hours
tal Job Cost: \$10),281
	0.67 71.29 15.91 al Job Time: <u>3(</u> tal Job Cost: <u>\$1(</u>

Task # 03A

Page 1 of 2

Jumper Quarry	Permi	t Action:	TR-4	Permit/Job#:	M1982141
PROJECT IDENTIFICA	TION				
Task #: 03A	State:	Colorado		Abbreviation:	None
Date: $9/12/2016$	County:	Moffat		Filename:	M141-03a
User: ACY					
Agency or organizat	ion name: DRM	1S			
HOURLY FOUIPMENT	COST				
Basic Machine: Cat D87	<u> </u>				
Horsepower: 310	1 - 050				
Blade Type: Semi-II	niversal				
Attachment: NA	in versu				
Shift Basis: 1 per da	V				
Data Source: (CRG)	- <u>j</u>				
<u>Cost Breakdown</u> :		1	**		
		#03.01	<u>Utilization %</u>		
Ownership Cost/Hour:		\$82.01	NA		
Operating Cost/Hour:		\$79.23	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$38.89	NA		
Fotal unit Cost/Hour: \$2 Fotal Fleet Cost/Hour: \$4 MATERIAL QUANTITIE	200.13 100.26 ES				
Fotal unit Cost/Hour: \$2 Fotal Fleet Cost/Hour: \$4 MATERIAL QUANTITIE Initial Volume: 6,000	200.13 100.26 ES				
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Fotal unit Cost/Hour: \$2 Fotal Fleet Cost/Hour: \$4 MATERIAL QUANTITI Initial Volume: 6,000 Swell factor: 1.695 Loose volume: 10,169 L Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTIO Average push distance: Jnadjusted hourly production Materials consistency descript Average site altitude: 6,0 Material weight: 2,0 Veight description: Li ob Condition Correction Fact Operator Skill	200.13 100.26 ES CY tor: <u>3:1 overbur</u> CY tor: <u>Cat Handbo</u> N <u>50 feet</u> 1,400.0 LCY/ tion: <u>Rock, we</u> 0 % 600 lbs/LCY mestone - Broken tor : <u>0.75</u>	hr 	r blasted 0.8	stopckpiles	
Fotal unit Cost/Hour: \$2 Fotal Fleet Cost/Hour: \$4 MATERIAL QUANTITI Initial Volume: 6,000 Swell factor: 1.695 Loose volume: 10,169 L Source of estimated volume: Source of estimated swell factor HOURLY PRODUCTION Average push distance: Jnadjusted hourly production Materials consistency descript Average push gradient: 30 Average site altitude: 60 Material weight: 2,0 Veight description: Li Ob Condition Correction Fact Operator Skill Material consistency Skill	200.13 100.26 ES CY tor: 3:1 overbur Cat Handbox N 50 feet :: 1,400.0 LCY/ tion: Rock, we 0 % 600 feet 600 lbs/LCY mestone - Broken : 0.75 : 0.80	hr 	r blasted 0.8 Source (AVG.) (CAT HB)	stopckpiles	
Fotal unit Cost/Hour: \$2 Fotal Fleet Cost/Hour: \$4 MATERIAL QUANTITI Initial Volume: 6,000 Swell factor: 1.695 Loose volume: 10,169 L Source of estimated volume: Source of estimated swell factor Gource of estimated swell fact HOURLY PRODUCTIO Average push distance: Jnadjusted hourly production Aterials consistency descript 6,00 Average site altitude: 6,00 Material weight: 2,0 Veight description: Li Operator Skill Material consistency Material consistency Dozing method	200.13 00.26 ES CY tor: <u>3:1 overbur</u> CY tor: <u>Cat Handbo</u> N <u>50 feet</u> <u>1,400.0 LCY/</u> tion: <u>Rock, we</u> 0 % 600 lbs/LCY mestone - Broken tor <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant</u> <u>constant}</u> <u>constant}</u> <u>constant</u> <u>cons</u>		r blasted 0.8	stopckpiles	

Job efficienc	y: 0.830	(1 SHIFT/DAY)
Spoil pil	le: 0.800	(FND-RF)
Push gradier	nt: 1.601	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weigh	nt: 0.885	(CAT HB)
Blade typ	e: 1.000	(PAT)
Net correctio		
Adjusted unit production:	790.30 LCY/hr	
Adjusted fleet production:	1580.6 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.253/LCY

Total job time:	6.43 Hours
Total job cost:	\$2,575

BULLDOZER RIPPING WORK

	Task description	: <u>AM1</u>	Rip process a	rea and a	ccess road				
Site	Site: Juniper Quarry		Permit	Action:	TR-4		Permit/Job#:	M1982	141
	PROJECT ID	ENTIFICATIO	<u>DN</u>						
	Task #: 04 Date: $7/2$ User: AC	A 22/2016 CY	State: <u>C</u> County: <u>N</u>	Colorado Moffat		Ab	breviation: Filename:	None M141-04	4a
	Agency	or organization	name: DRM	S					
	HOURLY EO	UIPMENT CO)ST						
	Basic	Machine: Cat	<u></u> D8T - 8SU			Horsepower:		310	
	Ripper At	tachment: 3-Sh	ank Ripper			Shift Basis: Data Source:	11	per day CRG)	
	Cost Breakdown	:				Data Source.			
		-			¢0 2 01	Utilization %			
		Ownership Co	st/Hour:		\$82.01	<u>NA</u> 100	_		
	Ripp	er Ownership Co	st/Hour:		\$8.40	NA			
	Rip	per Operating Co	st/Hour:		\$5.62	100	_		
		Operator Co	st/Hour:		\$38.89	NA	_		
		Total Unit Co	st/Hour:		\$214.15				
		Total Fleet Co	st/Hour:	\$42	8.30				
	MATERIAL (QUANTITIES		Sele	ected estimating	method: Ar	ea		
	Alternate Metho	<u>ds:</u>							
Seismic:	NA		Bank V	olume:	NA	BCY		NA	
Area:	3.00	acres	Rip Dej	oth (ft):	2.00	Volume:	9,680		BCY or CCY
		Source of estim	nated quantity:	Field E	Estimates & Goo	ogle Earth digiti	zing		
	HOURLY PR	ODUCTION							
	Seismic:								
		S	eismic Velocity	y:	NA	feet/se	econd		
	Area:								
		Average	e Ripping Dept	h:	2.56	mph			
		Average	Ripping Widtl	h:	7.08	degree	es		
		Average	Ripping Lengt	h:	300.00	feet			
		Avera	ge Dozer Speed	a:	88.00	feet			
		Producti	ion per unit area	a:	0.25	acres/l	hour		
	Job Condition Co	orrection Factors							
	Ur	nadjusted Hourly	Unit Production	n:	0.800	Acres	/hr		
			Site Altitud	e:	6,600	feet			
			Altitude Ad	lj:	1.00	(CAT	HB)		
			Job Efficiency	y:	0.83	(1 shif	ft/day)		
			Net Correction	n:	0.83	multip	olier		
		Adjusted I	Hourly Unit Pro	oduction:	0.66	Acres/hr			
		Adjusted H	Iourly Fleet Pro	oduction:	1.33	Acres/hr			
	JOB TIME A	ND COST							
	Fleet size:	2	Grader(s)		Total job tim	ne:	2.26	He	ours
	Unit cost:	\$322.697	Per acre		Total job cos	st:	\$968		

WHEEL LOADER - LOAD AND CARRY WORK

Sumper Quarty	Permit Action:	TR-4	Permit/Job#:	M1982141
PROJECT IDENTIFICA	ATION			
Task #: 05A	State: Colorado		Abbreviation:	None
Date: 7/22/2016	County: Moffat		Filename:	M141-05a
User: ACY				
Agency or organiza	tion name: DRMS			
HOURLY EQUIPMENT	T COST			
Basic Machine: CA	AT 972H	Horsepo	ower:	287
Attachment 1: RC	DPS Cab	Shift B	Basis: 1 p	er dav
		Data So	urce: (C	CRG)
Cost Brookdown				
LUSI DIEaKUUWII:		Utilization %		
Ownershin Cost/Hou	r: \$44.71	NA		
Operating Cost/Hou	r: \$57.22	100		
Operator Cost/Hou	r: \$38.60	NA		
Total Unit Cost/Hou	r: \$140.53			
Total Fleet Cost/Ho	1r. \$281.05			
	φ201.05			
MATERIAL QUANTIT Initial volume: 6,050	<u>IES</u>) CCY	Swell factor: 1.0	000	
MATERIAL QUANTIT Initial volume:6,05(Loose volume:	IES CCY 6,050 LCY	Swell factor: 1.0)00	
Initial volume: 6,050 Loose volume:	IES CCY 6,050 LCY	Swell factor: <u>1.0</u>	000	
MATERIAL QUANTIT Initial volume:6,050 Loose volume: Source of estime	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han	Swell factor: <u>1.0</u> sturbance x 3" dbook	000	
MATERIAL QUANTIT Initial volume:6,05(Loose volume: Source of estimation	IES CCY 6,050 CCY LCY stimated volume: 15 ac. di Cat Han	Swell factor: <u>1.0</u> sturbance x 3" dbook	000	
MATERIAL QUANTIT Initial volume:6,050 Loose volume: Source of estimation HOURLY PRODUCTIO	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han	Swell factor: <u>1.0</u> sturbance x 3" dbook	000	
MATERIAL QUANTIT Initial volume:6,050 Loose volume: Source of estimation HOURLY PRODUCTIO	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time	Swell factor: <u>1.0</u> sturbance x 3" dbook e (load, dump, maneuver):	0.525	minutes
MATERIAL QUANTIT Initial volume: Loose volume: Source of estimation HOURLY PRODUCTIO Loader Cycle Time: Cycle Time Factors	IES CCY 6,050 CCY LCY stimated volume: <u>15 ac. di</u> ated swell factor: <u>Cat Han</u> DN Jnadjusted Basic Cycle Time	Swell factor: <u>1.0</u> sturbance x 3" dbook e (load, dump, maneuver):	000 0.525 Factor (min.)	minutes Source
MATERIAL QUANTIT Initial volume: Loose volume: Source of estima Source of estima HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material:	IES CCY 6,050 CCY LCY stimated volume: 15 ac. di 15 ac. di Cat Han N Jnadjusted Basic Cycle Time Material up to 1/8" diamete	Swell factor: <u>1.0</u> sturbance x 3" dbook c (load, dump, maneuver): er 0.02	000 0.525 Factor (min.) 0.020	minutes Source (Cat HB)
MATERIAL QUANTIT Initial volume: Loose volume: Source of exima Source of estimation HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material: Stockpile:	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time Material up to 1/8" diameted Conveyor or dozer piled 10	Swell factor: <u>1.0</u> sturbance x 3" dbook e (load, dump, maneuver): er 0.02 0 ft. high or less 0.01	000 0.525 Factor (min.) 0.020 0.010	minutes Source (Cat HB) (Cat HB)
MATERIAL QUANTIT Initial volume:6,050 Loose volume: Source of estimation HOURLY PRODUCTIO Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership:	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not	Swell factor: <u>1.0</u> sturbance x 3" dbook e (load, dump, maneuver): er 0.02 0 ft. high or less 0.01 applicable 0.00	000 0.525 Factor (min.) 0.020 0.010 0.000	minutes Source (Cat HB) (Cat HB) (Cat HB)
MATERIAL QUANTIT Initial volume: Source of estimation Source of estimation HOURLY PRODUCTIO Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04	Swell factor: sturbance x 3" dbook e (load, dump, maneuver): er 0.02 0 ft. high or less 0.01 applicable 0.00	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
MATERIAL QUANTIT Initial volume: Source of estimation Source of estimation HOURLY PRODUCTIO Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	IES CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04 No adjustment - factor not	Swell factor:	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040 0.000	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
MATERIAL QUANTIT Initial volume: Source of exima Source of estima HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	IES CCY 6,050 CCY LCY stimated volume: 15 ac. di Cat Han N Jnadjusted Basic Cycle Time Material up to 1/8" diamet Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04 No adjustment - factor not No adjustment - factor not No adjustment - factor not Net Cy	Swell factor: 1.0 sturbance x 3"	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040 0.000 -0.010	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
MATERIAL QUANTIT Initial volume: Loose volume: Source of estimates Source of estimates HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	IES CCY 6,050 CCY LCY stimated volume: 15 ac. di 15 ac. di 15 ac. di 15 ac. di Cat Han N N Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04 No adjustment - factor not Net Cy Adjus	Swell factor: 1.0 sturbance x 3"	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
MATERIAL QUANTIT Initial volume: 6,050 Loose volume:	IES 0 CCY 6,050 LCY stimated volume: 15 ac. di ated swell factor: Cat Han DN Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04 No adjustment - factor not Net Cy Adjus onditions	Swell factor: 1.0 sturbance x 3"	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
MATERIAL QUANTIT Initial volume: 6,050 Loose volume:	IES CCY 6,050 CCY LCY stimated volume: 15 ac. di ated swell factor: Cat Han N Jnadjusted Basic Cycle Time Material up to 1/8" diamete Conveyor or dozer piled 10 No adjustment - factor not Constant operation -0.04 No adjustment - factor not No adjustment - factor not No adjustment - factor not Net Cy Adjus Seconditions Rutted dirt, little maintenance	Swell factor: 1.0 sturbance x 3"	000 0.525 Factor (min.) 0.020 0.010 0.000 -0.040 0.000 -0.010 0.515 ion 5.0	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes

	Length	Grade Res.	Rolling	Total Res.	Travel Time	Source
	(feet)	(%)	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	0.1664	(Cat HB)

Load Bucket Capacity

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

Patad Cap	oity:	5 60	I CV (hos	nod)		
Rateu Capa Duckat Fill Fo	icity.	0.075		peu)	$\frac{1}{9}$ (05)	1000() 0.075
Bucket Fill Fa	ictor:	0.975	Loose ma	terial - uniform ag	gregates to 1/8 (95-	100%) 0.975
Adjusted Capa	acity:	5.46	LCY			
Job Condition Come	tion Eastana					
Job Collation Collec	tion ractors					
Site Altitude: <u>6600</u> fe	eet					
			Source			
Altitude Ad	j: 1	.00	(CAT HB)		
Job Efficiency	v: 0	.83	(1 shift/day	v)		
Net Correction	n: 0	83	multinlier			
	I0	.05	munipher			
	Unadjusted	Hourly Un	it Production:	378.36	LCY/Hour	
	Adjusted	Hourly Un	it Production:	314.04	LCY/Hour	
	Adjusted 1	Hourly Flee	et Production:	628.08	LCY/Hour	
	J	J				
JOB TIME AND	COST					
		T 1 /	``	m . 11 1	0.60	
Fleet size:	2	Loader(s)	Total job time:	9.63	Hours
TT.'.	ΦΟ 447	лох		Transfer	\$3 505	
Unit cost:	\$0.447	/LCY		1 otal job cost:	\$2,707	

Task description:	AM	1 Spread top	SOII			
Juniper Quarry		Peri	mit Action:	TR-4	Permit/Job#:	M1982141
PROJECT IDEN	TIFICATI	<u>ION</u>				
Task #: 06A		State:	Colorado		Abbreviation:	None
Date: 7/22/2	2016	County:	Moffat		Filename:	M141-06a
User: ACY		5				
Agency or	organizatior	name: DR	RMS			
HOURLY FOUL	PMENT C	OST				
Basic Machine:	Cat D8T -	8SU				
Horsepower:	310	0.5 0				
Blade Type:	Semi-Univ	versal				
Attachment:	NA					
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Brookdown						
COST DIEAKUOWII:				Litilization	0/2	
Ownership Cost/H	our.		\$82.01	<u>Ullization</u> NA	/0	
Operating Cost/H	our.		\$79.23	100		
Rinner own Cost/H	our.		\$0.00	NΔ		
	.our.		\$0.00	0		
Ripper of Mill Cost/H	our.			0		
Ripper own. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL OU	our: four: r:\$200 ur:\$400 ANTITIES	.13 .26	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor	iour: Iour: r:\$200 ur:\$400 <u>ANTITIES</u> <u>6,050</u> 1,000	.13 .26	\$38.89	NA		
Ripper own. Cost/H Ripper op. Cost/H Operator Cost/Hou Fotal Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume:	iour:	.13 .26	\$38.89	NA		
Ripper own. Cost/H Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume:	iour: iour: r:\$200 ur:\$400 <u>ANTITIES</u> <u>6,050</u> <u>1.000</u> <u>6,050</u> LCY volume:	.13 .26 5 Task 05a	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	iour:	.13 .26 2 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	aur:	.13 .26 5 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROE	iour:	.13 .26 5 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	iour:	.13 .26 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated HOURLY PROE Average push distar	iour:	.13 .26 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROE Average push distar Unadjusted hourly p Materials consistence	Iour:	.13 .26 	\$38.89 \$38.89 book	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROE Average push distar Unadjusted hourly p Materials consistence	iour:	.13 .26 	\$38.89 \$38.89 book	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Average push distar Unadjusted hourly p Materials consistence Average push gradie	iour:	.13 .26 	\$38.89	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROE Average push distar Unadjusted hourly p Materials consistence Average push gradie	our:	.13 .26 	\$38.89 \$38.89 book /hr stockpile 1.2	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated HOURLY PROD Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight:	iour:	.13 .26 	\$38.89 \$38.89 book hr stockpile 1.2	NA		
Ripper own: Cost/H Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description:	Iour:	.13 .26 .26 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	\$38.89	NA		
Ripper of Milesson Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROE Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Iob Condition Correct	Iour:	.13 .26 	\$38.89 \$38.89 book /hr stockpile 1.2 	NA		
Ripper of Milesson Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated HOURLY PROE Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: <u>Iob Condition Corre</u>	aur: \$200 ur: \$200 ur: \$400 ANTITIES 6,050 1.000 6,050 LCY volume: swell factor: DUCTION ice: oroduction: cy description ent: 0 % e: 6,600	.13 .26 	\$38.89 \$38.89 book hr stockpile 1.2 750		<u> </u>	
Ripper of Mit Cost Mit Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated Mource of estimated Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Iob Condition Correc Ope Material co	aur: \$200 ur: \$400 ur: \$400 ANTITIES 6,050 1.000 6,050 LCY volume: swell factor: DUCTION nce: production: cy description ent: 0 % e: 6,600 1,600 consistency:	.13 .26 	\$38.89 \$38.89 book hr stockpile 1.2 750 200	<u>NA</u>	<u>ce</u> 3.) HB)	
Ripper of Milesson Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated Average push distar Unadjusted hourly p Materials consistence Average push gradie Average site altitude Material weight: Weight description: Iob Condition Correc Ope Material co	aur: \$200 ur: \$400 ur: \$400 ANTITIES 6,050 1.000 6,050 LCY volume: swell factor: DUCTION nce: production: cy description ent: 0 % e: 6,600 1,600 ction Factor rator Skill: pnsistency: ng method:	.13 .26 .26 .2	\$38.89 \$38.89 book hr stockpile 1.2 750 200 000	<u>NA</u>	<u>ce</u> 3.) HB) N.)	

Job efficient	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 1.000	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weig	ht: 1.438	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.8593	
Adjusted unit production:	732.64 LCY/hr	
Adjusted fleet production:	1465.28 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.273/LCY

Total job time:	4.13 Hours
Total job cost:	\$1,653

REVEGETATION WORK

Task descrij	otion:	AM1 Revegetate disturbed a	rea		
e: Juniper (Quarry	Permit Action:	TR-4	Permit/Job	o#: <u>M1982141</u>
PROJECT	IDENTIFIC	CATION			
Task #:	07A	State: Colorado		Abbreviation:	None
Date:	7/22/2016	County: Moffat		Filename:	M141-07a
	ACN	·			

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)	\$107.59
Total Tilling Cost/Acre	\$107.59

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	6.00	19.42	\$42.54
Sandberg Bluegrass - VNS	3.00	63.71	\$26.10
Thickspike Wheatgrass - Critana	5.50	19.44	\$28.49
Western Wheatgrass - Arriba	8.00	20.20	\$29.52
Prairie Junegrass	7.50	398.66	\$258.53
Totals Seed Mix	30.00	521.43	\$385.18

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	\$1.56	\$1.56
Total Mulch Materials Cost/Acre				\$1.56

Application

Description		Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]		\$62.72
	Total Mulch Application Cost/Acre	\$62.72

NURSERY STOCK PLANTING

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

Estimate	No. of Acres: ed Failure Rate:	15 30%	Cost /Acre: Cost /Acre*:	\$789.05 \$789.05
*Selected Replanti	ng Work Items:	TILLING,SEEDIN	IG,MULCHING	
Initial Job Cost:	\$11,835.75			
Reseeding Job Cost:	\$3,550.73			
Total Job Cost:	\$15,386			
Job Hours:	24.00			

Task description:	UNI .	ingnwan ie					
Juniper Quarry		Perr	mit Action:	TR-4		Permit/Job#:	M1982141
PROJECT IDEN	FIFICATIO	<u>DN</u>					
Task #: 08A Date: 9/12/20 User: ACY)16	State: County:	Colorado Moffat			Abbreviation: Filename:	None M141-08a
Agency or o	organization 1	name: DR	RMS				
HOURLY EQUIP	MENT CO	<u>ST</u>					
Basic Machine:	Cat D8T - 8	U					
Horsepower:	305 Universel						
Attachment:	NA						
Shift Basis	1 per day						
Data Source:	(CRG)						
	(010)						
<u>Cost Breakdown</u> :			I	¥ T. ***	at: 0/		
Ownership Cost/II-			\$57 02	<u>Utiliz</u>	<u>ation %</u>		
Ownership Cost/Ho	ul		\$62.30 \$62.35		NA 100		
Operating Cost/HC	ul		ան Տուրը		NA		
Ripper own. Cost/He	ur.		\$0.00	1			
Operator Cost/He			\$38.80				
operator costric					1/1		
Total unit Cost/Hour Total Fleet Cost/Hou MATERIAL OUA	: \$160.1 r: \$160.1	0 0					
Total unit Cost/Hour Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor:	: \$160.1 r: \$160.1 ANTITIES 10,000 1.345	0 0					
Total unit Cost/Hour Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume:	: \$160.1 r: \$160.1 ANTITIES 10,000 1.345 13,450 LCY	0 0					
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated source	: \$160.1 r: \$160.1 ANTITIES 10,000 1.345 13,450 LCY volume: swell factor: UCTION ce: oduction: _	0 0 Backfill a Cat Handl 50 feet 1,627.0 LCY	 pprox. 30 lft book Y/hr	. x 30 ft. 1H:	1V to 3H:1V	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated s Source of estimated s HOURLY PROD Average push distance Unadjusted hourly pu	: \$160.1 r: \$160.1 x xntities 10,000 1.345 13,450 LCY volume: swell factor: UCTION ce: oduction: v description:	0 0 0 Backfill a Cat Handl 50 feet 1,627.0 LC Rock, v		. x 30 ft. 1H:	1V to 3H:1V	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated v Source of estimated v Average push distance Unadjusted hourly pr Materials consistency Average push gradier Average site altitude	\$160.1 r: \$160.1 xntitles 10,000 1.345 13,450 LCY volume: swell factor: UCTION ce: oduction: y description: nt: 30 % 6,600	0 0 Backfill a Cat Handl 50 feet 1,627.0 LC Rock, v feet	 	. x 30 ft. 1H:	1V to 3H:1V	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated y Source of estimated y Source of estimated y Average push distance Unadjusted hourly pro Materials consistency Average push gradier Average site altituder	\$160.1 r: \$160.1 \$160.1 \$160.1 \$10,000 1.345 13,450 LCY volume: well factor: UCTION xe: roduction: y description: nt: -30 % 6,600 2,600	0 0 0 Backfill a Cat Handl 50 feet 1,627.0 LCY Rock, v feet lbs/LCY	 	. x 30 ft. 1H:	1V to 3H:1V	<u>,</u>	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated v Source of estimated v Source of estimated v Average push distance Unadjusted hourly pu Materials consistence Average push gradien Average site altituden	\$160.1 r: \$160.1 xntitles 10,000 1.345 13,450 LCY volume: well factor: UCTION ce: roduction: y description: nt: -30 % 2,600 Limes	0 0 0 0 0 0 0 0 0 0 0 0 0 0	Y/hr well ripped o	<u>x 30 ft. 1H:</u>	1V to 3H:1V	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated v Source of estimated v Average push distance Unadjusted hourly pr Materials consistence Average push gradier Average site altitude Material weight: Weight description: Iob Condition Correct	\$160.1 r: \$160.1 xnTITIES 10,000 1.345 13,450 LCY volume: well factor: UCTION ce: roduction: y description: nt: -30 % 6,600 2,600 Limes ction Factor	0 0 0 0 0 0 0 0 0 0 0 0 0 0	Y/hr well ripped o	<u>x 30 ft. 1H:</u>	<u>1V to 3H:1V</u> Source	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of es	\$160.1 r: \$160.1 xnTITIES 10,000 1.345 13,450 LCY yolume: swell factor: UCTION ce: roduction: y description: at: -30 % 6,600 2,600 Limes ction Factor	0 0 0 Backfill a Cat Handl 50 feet 1,627.0 LCY Rock, v feet lbs/LCY tone - Broke 0.'	<pre></pre>	. x 30 ft. 1H:	1V to 3H:1V	7	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of es	: \$160.1 r: \$160.1 r: \$160.1 xntitles 10,000 1.345 13,450 LCY volume: well factor: UCTION ve: voduction: vdescription: nt: vdescription: y description: y description: times <u>ction Factor</u> ator Skill: sistency:	0 0 0 Backfill a Cat Handl 50 feet 1,627.0 LCY Rock, v feet lbs/LCY tone - Broke 0.7 0.1		r blasted 0.8	<u>Source</u> (AVG.) CAT HB)	<u></u>	
Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated y Source of estimated y Source of estimated y Source of estimated y Average push distance Unadjusted hourly pu Materials consistency Average push gradien Average site altitude Material weight: Weight description: Iob Condition Correct Opera Material con Dozing	\$160.1 r: \$160.1 xnTITIES 10,000 1.345 13,450 LCY volume: well factor: UCTION ye: oduction: y description: y es: -30 % 6,600 2,600 Limes etion Factor ator Skill: nsistency: g	0 0 0 0 0 0 0 0 0 0 0 0 0 0			<u>Source</u> (AVG.) (GEN.)	<u></u>	

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.885	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.5645	
Adjusted unit production: 91	8.44 LCY/hr	
Adjusted fleet production: 91	18.44 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.174/LCY

Total job time:	14.64 Hours
Total job cost:	\$2,345

l ask description:	Citi Grade varie	F	ing beneficis		
Juniper Quarry	Peri	mit Action:	TR-4	Permit/Job#:	M1982141
PROJECT IDENTIF	ICATION				
Task #: 08B Date: 9/12/2016 User: ACY	State: County:	Colorado Moffat		Abbreviation: Filename:	None M141-08b
Agency or orga	nization name: DR	RMS			
HOURLY EQUIPMI	ENT COST				
Basic Machine: <u>Ca</u>	t D8T - 8SU				
Horsepower: 310	0				
Blade Type: Sei	mi-Universal				
Shift Design 1 m	A con day				
Data Source: (C)	PC)				
Cost Breakdown:		1			
0 11 0 00		40 5 61	Utilization %		
Ownership Cost/Hour:		\$82.01	NA		
Operating Cost/Hour:		\$79.23	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$38.89	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$200.13 \$400.26				
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: 12,5 Swall factor: 134	\$200.13 \$400.26 FITIES 500				
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: <u>12,5</u> Swell factor: <u>1.34</u> Loose volume: 16,8	\$200.13 \$400.26 FITIES 500 55 B13 LCY				
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu	\$200.13 \$400.26 TITIES 500 15 813 LCY me: Grade bei		1500'L avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel	\$200.13 \$400.26 FITIES 500 5 B13 LCY me: Grade ben 1 factor: Cat Hand	nches, aprox	1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel	\$200.13 \$400.26 FITIES 500 15 B13 LCY me: Grade ben 1 factor: Cat Hand	nches, aprox book	 1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUC	\$200.13 \$400.26 FITIES 500 15 B13 LCY me: Grade ben 1 factor: Cat Hand TION	nches, aprox	 1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUCT	\$200.13 \$400.26 EITIES 500 5 B13 LCY me: Grade ber 1 factor: Cat Hand TION	nches, aprox	1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance:	\$200.13 \$400.26 FITIES 500 5 B13 LCY me: Grade ben 1 factor: Cat Hand FION 50 feet	nches, aprox book	 1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ	\$200.13 \$400.26 FITIES 500 5 B13 LCY me: Grade ben 1 factor: Grade ben Cat Hand TION ction: 50 feet 1,400.0 LCY	nches, aprox book	 1500'L, avg 30' H		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu swell Source of estimated swel 4000000000000000000000000000000000000	\$200.13 \$400.26 EITIES 500 15 B13 LCY me: Grade ben 1 factor: Cat Hand EION ction: 50 feet 1,400.0 LCY scription: Consoli	nches, aprox book Y/hr idated stockp	 1500'L, avg 30' H bile 1.0		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUCC Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude:	\$200.13 \$400.26 CITIES 500 15 813 LCY me: Grade ber 1 factor: Grade ber Cat Hand TION scription: 50 feet	nches, aprox book	 1500'L, avg 30' H pile 1.0		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight:	\$200.13 \$400.26 FITIES 500 55 B13 LCY me: Grade ben 1 factor: Cat Hand TION ction: 50 feet 1,400.0 LCY scription: Consoli -30 % 6,600 feet 2,600 lbs/LCY		 1500'L, avg 30' H pile 1.0		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	\$200.13 \$400.26 FITIES 500 15 B13 LCY me: Grade ber 1 factor: Cat Hand TION ction: 50 feet 1,400.0 LC scription: Consoli -30 % 6,600 feet 2,600 lbs/LCY Limestone - Broke	Y/hr idated stockp			
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Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator	\$200.13 \$400.26 CITTIES 500 #5 B13 LCY me: Grade ben 1 factor: Cat Hand TION ction: 50 feet 1,400.0 LC scription: Consoli -30 % 6,600 feet 2,600 lbs/LCY Limestone - Broke h Factor 0.	Y/hr idated stockp			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator Material consist	\$200.13 \$400.26 FITIES 500 15 B13 LCY me: Grade ben 1 factor: Cat Hand TION ction: 50 feet 1,400.0 LC scription: Consoli -30 % 6,600 feet 2,600 lbs/LCY Limestone - Broke Factor Skill: 0. tency: 1.	Y/hr idated stockp			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 12,5 Swell factor: 1.34 Loose volume: 16,8 Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator Material consist Dozing me	\$200.13 \$400.26 CITTIES 500 15 313 LCY me: Grade ber 1 factor: Cat Hand TION ction: 50 feet ction: 1,400.0 LC scription: Consoli	Y/hr idated stockp 			

Job efficiency:		0.830	(1 SHIFT/DAY)
Spoil pi	ile:	0.800	(FND-RF)
Push gradie	nt:	1.601	(CAT HB)
Altitud	de:	1.000	(CAT HB)
Material Weight	ht:	0.885	(CAT HB)
Blade typ	pe:	1.000	(PAT)
Net correction	on: (0.7056	
Adjusted unit production:	987.	84 LCY/hr	
Adjusted fleet production:	1975	5.68 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.203/LCY

Total job time:	8.51 Hours
Total job cost:	\$3,406

Task description:	UNIC	stude stockpiles				
: Juniper Quarry		Permit Action	n: <u>TR-4</u>		Permit/Job#:	M1982141
PROJECT IDEN	TIFICATIO	N				
Task #: 08C Date: 9/22/2 User: ACY	016	State: Colorad County: Moffat	0		Abbreviation: Filename:	None M141-08c
Agency or	organization n	ame: DRMS				
HOURLY EQUI	PMENT CO	<u>ST</u>				
Basic Machine:	Cat D8T - 85	SU				
Horsepower:	310 Somi Univer					
Attachment:	NA	Sai				
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Breakdown:			1			
Oursenskie Cast /U		000	<u>Util</u>	lization %		
Ownership Cost/He	Juf:	\$82.0 \$70.0	2	100		
Ripper own Cost/Ho	our.	\$79.2)	NA		
Ripper of . Cost/He	our:	\$0.0	0	0		
		¢29.9		NA		
Total unit Cost/Hou Total Fleet Cost/Hou	sur: \$200.1 r: \$400.2	\$38.8 3 6		NA		
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QUA Initial Volume:	Dur:	\$38.8 3 6		NA		
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume:	pur: \$200.1 r: \$400.2 ANTITIES 4,000 1.345 5,380 LCY	\$38.8 3 6		NA		
Total unit Cost/Hour Total Fleet Cost/Hour Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	pur: \$200.1 ur: \$400.2 ANTITIES 4,000 1.345 5,380 LCY volume: swell factor:	538.8 3 6 Grade stockpiles Cat Handbook				
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 HOURLY PROD Average push distance	bur: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce:	538.8 3 6 Grade stockpiles Cat Handbook 50 feet				
Operator Cost/Hour Total unit Cost/Hour Total Fleet Cost/Hour MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distant Unadjusted hourly products	bur: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce: roduction:	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr				
Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distant Unadjusted hourly p	bur: \$200.1: ur: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce: roduction: y description:	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto	ckpile 1.0			
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distant Unadjusted hourly p Materials consistenc Average push gradie Average site altitude	bur: \$200.1: ur: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce: roduction: y description: nt: 30 % :	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto ceet	ckpile 1.0			
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Average push distant Unadjusted hourly p Materials consistenc Average site altitude Material weight:	our: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce: roduction: y description: nt: _30 % : _6,600 f <2,600 l	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto eet bs/LCY	9 ckpile 1.0			
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Average push distand Unadjusted hourly p Materials consistenc Average site altitude Material weight: Weight description:	our: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION	538.8 3 6 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto eet bs/LCY one - Broken				
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly p Materials consistence Average site altitude Material weight: Weight description: Job Condition Corre	bur: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce:	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto eet bs/LCY one - Broken	ckpile 1.0	<u>Source</u>		
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated MOURLY PROD Average push distand Unadjusted hourly p Materials consistence Average site altitude Material weight: Weight description: Job Condition Corree Oper	pur: \$200.1: ir: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto eet bs/LCY one - Broken 0.750	ckpile 1.0	Source (AVG.)		
Operator Cost/Ho Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU/ Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly p Materials consistence Average site altitude Material weight: Weight description: Job Condition Corree Oper	Dur: \$200.1: ur: \$400.2: ANTITIES 4,000 1.345 5,380 LCY volume: swell factor: UCTION ce: roduction: y description: nt: _30 % 6,600 f	538.8 3 6 Grade stockpiles Cat Handbook 50 feet 1,400.0 LCY/hr Consolidated sto feet bs/LCY one - Broken 0.750 1.000 1.000	ckpile 1.0	<u>Source</u> (AVG.) (CAT HB)		

Job efficiency	y: 0.830	(1 SHIFT/DAY)
Spoil pile	e: 0.800	(FND-RF)
Push gradien	t: 1.601	(CAT HB)
Altitude	e: 1.000	(CAT HB)
Material Weigh	t: 0.885	(CAT HB)
Blade type	e: 1.000	(PAT)
Net correction	n: 0.7056	
Adjusted unit production:	987.84 LCY/hr	
Adjusted fleet production:	1975.68 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.203/LCY

Total job time:	2.72 Hours
Total job cost:	\$1,090

BULLDOZER RIPPING WORK

	Task description:	CN1	Rip pit floor, process a	rea and roads				
Site	: _Juniper Quar	ry	Permit Action:	TR-4	Per	mit/Job#	: <u>M1982</u>	141
	PROJECT ID	ENTIFICATI	<u>ON</u>					
	Task #: 09.	A	State: Colorado		Abbre	viation:	None	
	Date: 9/1	2/2016	County: Moffat		Fi	lename:	M141-0	9a
	User: AC	CY						
	Agency	or organization	name: DRMS					
	HOURLY EQ	UIPMENT CO	<u>DST</u>					
	Basic	Machine: Cat	D8T - 8SU		Horsepower:		310	
	Ripper Att	tachment: 3-S	hank Ripper		Shift Basis:	11	per day	
					Data Source:	(CRG)	
	Cost Breakdown	<u>:</u>						
					Utilization %			
		Ownership Co	ost/Hour:	\$82.01	NA			
	D.	Operating Co	ost/Hour:	\$79.23	100			
	Ripp	er Ownership Co	ost/Hour:	\$8.40	<u>NA</u>			
	Ripj	per Operating Co	ost/Hour:	\$38.80	100 NA			
		Total Unit Co	st/Hour.	\$214.15	11/1			
				ψ214.15				
		Total Fleet Co	st/Hour: \$428	8.30				
	MATERIAL (JUANTITIES	Sele	ected estimating	method: Area			
	Alternate Method	ds:						
Soismio	<u></u>	<u></u>	Rank Volumo	ΝA	BCV		NΛ	
Area	<u>6 00</u>	acres	Rin Denth (ft)	2.00	Volume: 10	360	INA	BCY or CCY
nicu.	0.00			2.00		,500		Deroreer
		Source of estin	nated quantity: Filed e	stimates and Go	ogle Earth digitizi	ng		
	HOURLY PR	ODUCTION						
	Seismic:							
		S	Seismic Velocity:	NA	feet/secon	nd		
	Δrea:							
	<u>mea.</u>	Averag	e Ripping Depth:	2.56	mph			
		Average	e Ripping Width:	7.08	degrees			
		Average	Ripping Length:	200.00	feet			
		Avera	age Dozer Speed:	88.00	feet			
		Average	Maneuver Time:	0.25	feet			
		Product	ion per unit area:	0.773	acres/hou	r		
	Job Condition Co	orrection Factors						
	Un	adjusted Hourly	Unit Production:	0.773	Acres/hr			
			Site Altitude:	6,600	feet			
			Altitude Adj:	1.00	(CAT HE	B)		
			Job Efficiency:	0.83	(1 shift/da	ay)		
			Net Correction:	0.83	multiplier	r		
		Adjusted	Hourly Unit Production:	0.64	Acres/hr			
		Adjusted I	Hourly Fleet Production:	1.28	Acres/hr			
	JOB TIME AN	ND COST						
	Fleet size:	2	Grader(s)	Total job tim	e: 4.	68	He	ours
	Unit cost:	\$333 771	Per acre	Total job cor	st. ¢o	002		
		ψυυυ.141		10101 100 008	<u>م</u> لا بر	004		

WHEEL LOADER - LOAD AND CARRY WORK

Task description:	CN1 Dis	stribute topsoil t	hroughout dist	turbed area		
: Juniper Quarry		Permit Acti	on: <u>TR-4</u>		Permit/Job	#: <u>M1982141</u>
PROJECT IDEN	FIFICATION					
Task #: 10A		State: Color	ado		Abbreviation:	None
Date: $9/12/20$	016	County: Moffa	it		Filename:	M141-10a
User: ACY		J				
Agency or o	organization nan	ne: DRMS				
HOURLY EQUIP	MENT COST	<u>r</u>				
Basic Machin	e: CAT 972H	[Horse	power:	287
Attachment	1: ROPS Cab		_	Shift	Basis: 1	per day
			_	Data S	ource:	(CRG)
Cost Preskdown						
COSt Dieakuowii.			Utilizatio	on %		
Ownership C	ost/Hour:	\$44.71	NA	,,,		
Operating C	ost/Hour:	\$57.22	100			
Operator C	ost/Hour:	\$38.60	NA			
Total Unit C	ost/Hour:	\$140.53				
Total Fleet C	Cost/Hour:	\$281.05				
MATERIAL QUA	<u>INTITES</u>					
Initial volume:	10,083	CCY	Sw Sw	ell factor: 1	.000	
Loose volume:	10,08	3 LCY	-			
Sou	rce of estimated	volume: 25 a	x 3"			
Source of	of estimated swe	ll factor: Cat I	Handbook			
HOURLY PROD	UCTION					
HOURETTROD						
Loader Cycle Time:	Unadjust	ed Basic Cycle T	ime (load, dum	p, maneuver):	0.525	minutes
Cycle Time F	Factors				Factor (min.)	Source
Ma	aterial: Mater	ial up to 1/8" dia	meter 0.02		0.020	(Cat HB)
Stoc	ckpile: Conve	yor or dozer pile	d 10 ft. high an	d up 0.00	0.000	(Cat HB)
Truck Owne	ership: No ad	justment - factor	not applicable	0.00	0.000	(Cat HB)
Ope	ration: Consta	ant operation -0.0)4		-0.040	(Cat HB)
Dump 7	Target: Nomin	nal target 0.00			0.000	(Cat HB)
		Ne	t Cycle Time A	djustment:	-0.020	minutes
		Ac	Ijusted Basic C	ycle Time:	0.505	minutes
Rolling Resistance –	Road Condition	S				
				0,2,4	ation 5 0	
H H	aul: <u>Rutted d</u>	irt, little mainten	ance, no water,	2" tire penetr	ation 5.0	
Ret	urn: Kutted d	in, intre mainten	ance, no water,	2 ure penetr	ation 5.0	
Haul and Return Tim	<u>ie</u>					
	I enoth	Grade Res	Rolling	Total Rec	Travel Time	
	(feet)	(%)	Res. $(\%)$	(%)	(minutes)	Source
Haul Route:	500	0.00	5.00	5.00	0.4611	(Cat HB)

5.00

0.00

5.00

Return Route:

500

0.4160

(Cat HB)

Total Travel Time:	0.8771	minutes
Total Cycle Time:	1.3821	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:	237.03	LCY/Hour
Adjusted Hourly Unit Production:	196.74	LCY/Hour
Adjusted Hourly Fleet Production:	393.48	LCY/Hour

Fleet size:	2	Loader(s)	Total job time:	25.63	Hours
Unit cost:	\$0.714	/LCY	Total job cost:	\$7,202	

Task description:	CN1	Spread tops	soil				
Juniper Quarry		Peri	mit Action:	TR-4		Permit/Job#:	M1982141
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 11A		State:	Colorado			Abbreviation:	None
Date: $9/12/2$	016	County:	Moffat			Filename:	M141-11a
User: ACY		5					
Agency or	organization	name: DR	RMS				
HOURLY EQUI	PMENT CO	<u>DST</u>					
Basic Machine:	Cat D8T - 8	BSU					
Horsepower:	310						
Blade Type:	Semi-Unive	ersal					
Attachment:	NA						
Shift Basis:	1 per day						
Data Source:	(CRG)						
Cost Breakdown:							
_				<u>Util</u>	ization %		
Ownership Cost/Ho	our:		\$82.01		NA		
Operating Cost/Ho	our:		\$79.23		100		
Ripper own. Cost/Ho	our:		\$0.00		NA		
Ripper op. Cost/Ho	our:		\$0.00		0		
Operator Cost/Ho	our:		\$38.89		NA		
MATERIAL QUA	ANTITIES 10,083						
Swell factor: Loose volume:	1.000 10,083 LCY						
Source of estimated	volume:	Task 12a					
Source of estimated	swell factor:	Cat Hand	book				
HOURLY PROD	UCTION						
Average push distan		100 feet					
Unadjusted hourly p	roduction:	852.6 LCY/	ĥr				
Materials consistency	y description	: Loose s	stockpile 1.2				
Average push gradie							
Average site altitude	nt: 0 %						
	nt: 0% : $6,600$	feet					
Material weight:	nt: 0% : $6,600$ 1,600	feet lbs/LCY				_	
Material weight: Weight description:	nt: 0 % : 6,600 _1,600 _Top S	feet lbs/LCY foil				_	
Material weight: Weight description: Job Condition Correct	nt: 0 % : 6,600 1,600 Top S	feet lbs/LCY foil			Source	_	
Material weight: Weight description: Job Condition Correc Oper	nt: 0 % : 6,600 	feet lbs/LCY coil 0.	750		Source (AVG.)		
Material weight: Weight description: Job Condition Corree Oper Material co	nt: 0 % . 6,600 _ 1,600 _ Top S <u>ction Factor</u> ator Skill: _ nsistency: _	feet lbs/LCY foil 0. 1.	750		Source (AVG.) (CAT HB)		
Material weight: Weight description: Job Condition Correc Oper Material co Dozin	nt: 0 % : 6,600 1,600 Top S ction Factor ator Skill: nsistency: g method: Visibility	feet lbs/LCY coil 0. 1. 1.	750 200 000		Source (AVG.) (CAT HB) (GEN.)		

Job efficient	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 1.000	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weig	ht: 1.438	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.8593	
Adjusted unit production:	732.64 LCY/hr	
Adjusted fleet production:	1465.28 LCY/hr	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.273/LCY

Total job time:	6.88 Hours
Total job cost:	\$2,754

REVEGETATION WORK

Task description:		CN1 Revegetate disturbed area			
ite: Juniper Quarry		Permit Action:	TR-4	Permit/Jol	o#: <u>M1982141</u>
PROJECT	IDENTIFIC	CATION			
Task #:	12A	State: Colorado		Abbreviation:	None
Date:	9/12/2016	County: Moffat		Filename:	M141-12a
TT	ACY				

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)	\$107.59
Total Tilling Cost/Acre	\$107.59

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	6.00	19.42	\$42.54
Sandberg Bluegrass - VNS	3.00	63.71	\$26.10
Thickspike Wheatgrass - Critana	5.50	19.44	\$28.49
Western Wheatgrass - Arriba	8.00	20.20	\$29.52
Prairie Junegrass	7.50	398.66	\$258.53
Totals Seed Mix	30.00	521.43	\$385.18

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	\$1.56	\$1.56
Total Mulch Materials Cost/Acre				\$1.56

Application

Description	Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$62.72

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

Estimate	No. of Acres: ed Failure Rate:	30 25%		Cost /Acre: Cost /Acre*:	\$789.05 \$789.05	
*Selected Replanti	ng Work Items:	TILLING,SEEI	DING,MULCHINC	Ĵ		
Initial Job Cost:	\$23,671.50					
Reseeding Job Cost:	\$5,917.88					
Total Job Cost:	\$29,589					
Job Hours:	40.00					

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mo	bilize reclamation	n crew and equ	ipment			
: Juniper Quarr	y	Permit	Action: TR-4		1	Permit/Job#: <u>N</u>	11982141
PROJECT IDEN	TIFICATI	ION					
Task #: 13A		State: Co	olorado		Abbre	eviation: None	2
Date: 9/12 User: ACY	/2016 K	County: M	offat		Fi	lename: M14	1-13a
Agency of	r organizatio	n name: DRMS					
EQUIPMENT T	RANSPOR	T RIG COST					
					Shift ba	sis: 1 per da	ay
				(Cost Data Sour	rce: CRG Da	ata
Truck	Trailer Desc	cription: GLA	ENERIC FOLD	400 HP ING GOC FRAILER	(2ND HALF, SENECK, DF (25T, 50T, AN	2006) ROP DECK EQU ND 100T)	JIPMENT
Cost Breakdown:							
Available Rig Ca	pacities	0-25 Tons	26-50 Tons	51-	- Tons		
Ownership	Cost/Hour:	\$16.63	\$18.37	\$2	22.33		
Operating	Cost/Hour:	\$44.38	\$46.13	\$5	50.07		
Operator	Cost/Hour:	\$27.66	\$27.66	\$2	27.66		
Helper	Cost/Hour:	\$0.00	\$25.39	\$2	25.39		
Total Unit	Cost/Hour:	\$88.67	\$117.55	\$1	25.45		
NON ROADABI	LE EQUIP	MENT: Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/uni t	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
Cat D8T - 8SU	53.08	\$65.28	\$125.45	2	\$381.46	\$250.90	\$500.00
CAT 972H	28.00	\$36.70	\$117.55	2	\$308.50	\$235.10	\$500.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$48.87	\$88.67	1	\$137.54	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$30.65	\$88.67	1	\$119.32	\$88.67	\$250.00
Power Mulcher (Reinco M90)	6.00	\$6.72	\$88.67	1	\$95.39	\$88.67	\$250.00

Subtotals: \$1,042.21 \$752.01 \$1,750.00

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	\$25.30	1	\$25.30	\$25.30
		Subtotals:	\$25.30	\$25.30

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CRAIG	
Total one-way travel distance:	30.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$7,976.71	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$33.73	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	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: **4.67** Hours

Total job cost: **\$8,010**