July 5, 2018

Greg Dangler RMR Aggregates, Inc. 4601 DTC Blvd., Suite 120 Denver, CO 80237



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

1313 Sherman Street, Room 215 Denver, CO 80203

RE: Mid-Continent LST, Permit No. M-1982-121, Technical Revision (TR-5) Approval

Dear Mr. Dangler:

On July 5, 2018 the Division of Reclamation, Mining and Safety (Division) <u>approved</u> the Technical Revision request (TR-5) submitted on June 11, 2018, addressing the following:

Exploration drilling within the current permitted boundary. Up to 15 holes to be completed in 2018

The terms of the TR-5 approved by the Division are hereby incorporated into Permit No. M-1982-121. All other conditions and requirements of the permit remain in full force and effect.

The estimated liability amount of \$222,081.00 exceeds the \$196,181.00 Financial Warranty currently held for this site. If you have not already done so, please submit additional bond in the amount of \$25,900.00. The revision will not be final until the bond is approved by the Division.

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,

Amy 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: Wally Erickson, Senior EPS, Grand Junction DRMS

Enclosures: Updated reclamation cost estimate



COST SUMMARY WORK

Task descrip	tion: Full	update plus additio	n of 15 explo	ration holes	
Site: Mid-Cont	inent LST	Permit Action:	TR-5	Permit/Job#:	M1982121
PROJECT	IDENTIFIC	ATION			

ask #:	ACI	State:	Colorado	Abbreviation:	None
Date:	6/12/2018	County:	Garfield	Filename:	M121-ACY
User:	ACY				

Agency or organization name: ______DRMS____

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demolition/removal of onsite facilities and	DEMOLISH	1	40.00	\$47,336.56
	structures				
Produc	tion Benches		, ,		
02a	Place loose material against highwall/grade	EXCAVATE	1	37.52	\$3,802.00
	benches				
02b	Placement of topsoil on benches	EXCAVATE	1	9.89	\$1,002.00
Process	s Bench				
03a	Placement of backfill against process bench	LOADER	2	55.24	\$14,517.00
	highwall				
03b	Finish grading of process bench highwall	DOZER	2	24.98	\$9,582.00
03c	Transport topsoil to processing bench	LOADER	2	6.82	\$1,655.00
03d	Distribute topsoil over processing bench	DOZER	2	0.80	\$309.00
Mill Be	ench				
04a	Transport backfill material	LOADER	2	66.69	\$17,527.00
04b	Grade and distribute backfill to 2H:1V Slope	DOZER	2	52.04	\$19,963.00
04c	Transport of topsoil	LOADER	2	1.79	\$512.00
04d	Spread topsoil over mill pad area	DOZER	2	1.09	\$419.00
05a	Rip upper and lower access roads	RIPPER	2	1.52	\$631.00
06a	Reveg disturbed areas	REVEGE	1	20.00	\$36,366.00
07a	Initial Mobilization	MOBILIZE	1	2.53	\$4,668.00
07b	Secondary Mobilization	MOBILIZE	1	0.26	\$31.00
TR5	Abandonment of 15 Exploration Holes TR-5	BOREHOLE	1	90.00	\$2,560.12
	Addition				
		<u>SUBTO'</u>	TALS:	411.17	\$160,881

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$3,249.80
Performance bond:	1.05	Total =	\$1,689.25
Job superintendent:	205.59	Total =	\$15,017.98
Profit:	10.00	Total =	\$16,088.10
		TOTAL O & P =	\$36,045.13
	CONTRACT AMOUNT	Γ (direct + O & P) =	\$196,926.13
	DDOIECT MANACEMENT.		

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	7.22	Total =	\$14,218.07
Reclamation management and/or administration:	5.30		\$10,437.08
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL INDI	RECT COST =	\$61,200.28
TOTAL BOND A	\$222,081.28		

DEMOLITION WORK

,	Task description:	Demolition	/removal of onsi	te facilities and structu	ires	
Site:	Mid-Continent LST		Permit Action:	TR-5	Permit/J	lob#: <u>M1982121</u>
<u>PROJE</u>	CT IDENTIFICATION	<u>N</u>				
Task #:	01A	State:	Colorado		Abbreviation:	None
Date:	7/3/2018	County:	Garfield		Filename:	M121-01a
User:	ACY					
	Agency or organization	tion name:	DRMS			

UNIT COSTS

Location adjustment: 95.50 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Mill Facility	30'H x 50'W x 125'L	Plant (3S) demo./on-site disposal in excavated pit - Max. 200 ft. push	187,500.00	CF	\$0.24	\$45,562.50
Conveyor	40' L	Conveyor, Horizontal Belt 24" Belt, 41.5' Length	1.00	EA	\$2,050.00	\$2,050.00
Silo (2x)	30'H x 10'D each	Loading and 5 mile haul, salvage allowed - Steel frame structures	174.50	CY	\$10.71	\$1,868.90
Scales	30'L x 12'W	Loading and 5 mile haul, salvage allowed - Steel frame structures	8.00	CY	\$10.71	\$85.68

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	40.00	(unadjusted):	\$49,567.08	location):	\$47,336.56

HYDRAULIC EXCAVATOR WORK

Task description:	Place loose mater	rial against	highwall/grade be	enches		
: Mid-Continent LST	Peri	mit Action:	TR-5	Permi	t/Job#:	M1982121
PROJECT IDENTIF	ICATION					
Task #: 02A Date: 7/3/2018 User: ACY	State: County:	Colorado Garfield		Abbrevia Filen	ation: ame:	None M121-02a
Agency or orga	nization name: DR	RMS				
HOURLY EQUIPME	ENT COST					
Basic Machine: Attachment 1:	Cat 320D L 9'-6" S ROPS Cab	tick	l W	Horsepower: /eight (MT): Shift Basis: Data Source:	2 1 µ (0	148 21.55 per day CRG)
Cost Breakdown:		1	TT.'11 .' 0/			
Ownership Cost/ Operating Cost/ Operator Cost/ Total Unit Cost/	Hour: \$31.0 Hour: \$32.5 Hour: \$37.7 Hour: \$101.	02 50 79 31	NA 100 NA	-		
Total Fleet Cost/	Hour: \$101	.31				
MATERIAL QUANT Initial volume: 3 Loose volume: 4	<u>TITIES</u> ,333 ,483	CCY LCY	Swell facto	r: <u>1.345</u>		
Source of es	of estimated volume: timated swell factor:	3 Benche Cat Hand	s approx. 600'L x book	50'H x 50'W (see	drawiı	ngs & F-2)
HOURLY PRODUC	<u>FION</u>					
Excavator Cycle Time (lo	oad bucket, swing loa	ded, dump b	ucket, swing empt	<u>y):</u>		
		Basic Job C	ondition Description	on: SEVERE		
	Secondary Job Co	ondition with	in Basic Descriptio	on: <u>SEVERE</u>		minutes
Load Bucket Capacity			Cycle Thile Val	<u> </u>		
				Bucket Size Class	: M	edium
Rated Capacity Bucket Fill Factor Adjusted Capacity	1.54 0.675 1.04	LCY (hea Blasted r LCY	aped) ock - poorly blaste	d (60 - 75%) 0.675	5	
Job Condition Correction	Factors		Site A	Altitude: <u>6800</u> feet		
Altitude Adj: Job Efficiency: Net Correction:	0.90 0.83 0.75	Source (CAT HI (1 shift/da multiplier	3) y)			
Una A A	adjusted Hourly Unit adjusted Hourly Unit djusted Hourly Fleet	Production: Production: Production:	159.92 119.46 119.46	LCY/Hour LCY/Hour LCY/Hour		
JOB TIME AND CO	<u>ST</u>					
Fleet size:	Excavate	or To	otal job time:	37.53		Hours
Unit cost: \$0.5	848 /LCY		Total job cost:	\$3,802		

HYDRAULIC EXCAVATOR WORK

Task description:	Placement of tops	soil on benc	hes		
Mid-Continent LST	Perm	nit Action:	TR-5	Permit/Job	o#: <u>M1982121</u>
PROJECT IDENTIF	ICATION				
Task #: 02B Date: 7/3/2018 User: ACY	County:	Colorado Garfield		Abbreviation Filename	: None : M121-02b
Agency or orga	nization name: <u>DR</u>	MS			
HOURLY EQUIPME	ENT COST				
Basic Machine: Attachment 1:	Cat 320D L 9'-6" S ROPS Cab	tick		Horsepower: Weight (MT): Shift Basis: Data Source:	148 21.55 1 per day (CRG)
Cost Breakdown:		1			
Ownership Cost/ Operating Cost/ Operator Cost/ Total Unit Cost/	Hour: \$31.0 Hour: \$32.5 Hour: \$37.7	2 0 9	NA 100 NA		
Total Float Cost	Hour: \$101.	31			
Initial volume: 1 Loose volume: 1 Source o	,333 , 620 of estimated volume:	CCY LCY Approx.	Swell fac	tor: <u>1.215</u> (40' W x 600' L)	
Source of es	timated swell factor:	Cat Hand	lbook		
Excavator Cycle Time (le	Dad bucket, swing load Secondary Job Co	ded, dump b Basic Job C ndition with	oucket, swing em ondition Descrip in Basic Descrip Cycle Time V	tion: SEVERE tion: SEVERE alue: 0.390	minutes
Load Bucket Capacity				Bucket Size Class	Medium
Rated Capacity Bucket Fill Factor Adjusted Capacity	7: <u>1.54</u> r: <u>0.925</u> 7: 1.42	LCY (hea Loose ma	aped) aterial - 1/8" to 3	/8" (90 - 95%) 0.925	
Job Condition Correction	Factors		Site	e Altitude: <u>6800</u> feet	
Altitude Adj: Job Efficiency: Net Correction: Una	0.90 0.83 0.75 adjusted Hourly Unit L	Source (CAT HI (1 shift/da multiplier Production:	$\frac{219.15}{163.71}$	LCY/Hour	
A	djusted Hourly Fleet	Production:	163.71	LCY/Hour	
JOB TIME AND CO	<u>ST</u>				
Fleet size:	Excavato	r To	otal job time:	9.89	Hours
Unit cost: \$0.	619 /LCY		Total job cost:	\$1,002	

Page 1 of 2

WHEEL LOADER - LOAD AND CARRY WORK

N State: <u>Colorado</u> County: <u>Garfield</u> ame: <u>DRMS</u> ST		Abbreviation: Filename:	None M121-03A
State: <u>Colorado</u> County: <u>Garfield</u> ame: <u>DRMS</u>		Abbreviation: Filename:	None M121-03A
County: <u>Garfield</u>		Filename:	M121-03A
ame: <u>DRMS</u>		Thename.	W1121-03A
ame: <u>DRMS</u>			
<u>ST</u>			
РН	Hors	epower:	287
ab	Shit	ft Basis: 1 p	er day
	Data	Source: (C	CRG)
	Utilization %		
\$43.47	NA		
\$46.72	100		
\$41.20	NA		
\$131.39			
\$262.78			
GCY Golume: Previous	Swell factor: _	1.345	
vell factor: Cat Hand	lbook	r	
sted Basic Cycle Time	(load, dump, maneuver):0.525	minutes
		Factor (min.)	Source
k or broken material 0.0)4	0.040	(Cat HB)
nped by truck 0.02		0.020	(Cat HB)
mon ownership of truc	ks and loaders -0.04	-0.040	(Cat HB)
stant operation -0.04		-0.040	(Cat HB)
ninal target 0.00		0.000	(Cat HB)
Net Cy	cle Time Adjustment:	-0.020	minutes
Adjust	ed Basic Cycle Time:	0.505	minutes
ons			
dirt, little maintenance	e, no water, 2" tire penet	tration 5.0	
	ib \$43.47 \$46.72 \$41.20 \$131.39 \$262.78 361 CCY 361 LCY \$d volume: Previous vell factor: Cat Hand sted Basic Cycle Time Cat Hand k or broken material 0.0 ped by truck 0.02 imon ownership of truc stant operation -0.04 inal target 0.00 Net Cy Adjust Ons dirt, little maintenance dirt, little maintenance	ab Shift Data Data \$43.47 NA \$46.72 100 \$41.20 NA \$131.39 \$262.78 Stat Swell factor: Stat Previously accepted values TR-4 vell factor: CCY Sted Basic Cycle Time (load, dump, maneuver k or broken material 0.04 ped by truck 0.02 umon ownership of trucks and loaders -0.04 stant operation -0.04 inal target 0.00 Net Cycle Time Adjustment: Adjusted Basic Cycle Time: Ons dirt, little maintenance, no water, 2" tire penet	ab Shift Basis: 1 p Data Source: (() 43.47 NA $$46.72$ 100 $$41.20$ NA $$131.39$ \$262.78 $$262.78$ Swell factor: 1.345 100 LCY Swell factor: 1.345 100 Previously accepted values TR-4 Cat Handbook sted Basic Cycle Time (load, dump, maneuver): 0.525 Factor (min.) Factor (min.) k or broken material 0.04 0.040 uped by truck 0.02 0.020 umon ownership of trucks and loaders -0.04 -0.040 stant operation -0.04 -0.040 Net Cycle Time Adjustment: -0.020 Adjusted Basic Cycle Time: 0.505 Dns dirt, little maintenance, no water, 2" tire penetration 5.0

	(feet)	(%)	Res. (%)	(%)	(minutes)	Source
Haul Route:	100	0.00	5.00	5.00	0.0922	(Cat HB)
Return Route:	100	0.00	5.00	5.00	0.0832	(Cat HB)

			Total Travel Tin Total Cycle Tin	me: 0.1754 me: 0.6804	minutes minutes
Load Bucket Capacity					
Rated Capacit Bucket Fill Facto Adjusted Capacit	y: 5.60 or: 0.825 y: 4.62	LCY (heap Blasted roc LCY	ed) k - avg. blasted	(75 - 90%) 0.825	i
Job Condition Correctio Site Altitude: <u>6800</u> feet	n Factors				
		Source			
Altitude Adj:	1.00	(CAT HB)			
Job Efficiency:	0.83	(1 shift/day))		
Net Correction:	0.83	multiplier			
Un	adjusted Hourly Unit Adjusted Hourly Unit	Production: _	407.40 338.14	LCY/Hour LCY/Hour	
A	Adjusted Hourly Fleet	Production:	676.28	LCY/Hour	
JOB TIME AND CC	<u>DST</u>				
Fleet size:	2 Loader(s)	,	Total job time:	55.25	Hours

 Unit cost:
 \$0.389
 /LCY
 Total job cost:
 \$14,517

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BULLDOZER WORK

Task description:	Finish grading of	process bei	ich inghwan		
Mid-Continent LST	Perr	mit Action:	TR-5	Permit/Job#:	M1982121
PROJECT IDENTIF	ICATION				
Task #: 03B Date: 7/3/2018 User: ACX	State: County:	Colorado Garfield		Abbreviation: Filename:	None M121-03b
Agency or organ	nization name: DR	RMS			
Pasia Mashina: Cat	TOT SEL				
Horsepower: 310)				
Blade Type: Ser	<u>,</u> ni-Universal		_		
Attachment: NA	1				
Shift Basis: 1 p	er day				
Data Source: (CH	RG)		_		
Cost Breakdown:					
COST DICARUOWII.			Utilization %		
Ownership Cost/Hour:		\$83.81	NA		
Operating Cost/Hour:		\$66.17	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
		\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour:	\$191.83 \$383.65	¢			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT	\$191.83 \$383.65	• 11100			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: <u>10,0</u> Swell factor: <u>1.00</u> Loose volume: 10,0	\$191.83 \$383.65 CITIES 00 0 00 LCY				
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 10,0 Loose volume: 10,0 Source of estimated volum Source of estimated swell	\$191.83 \$383.65 TTIES 00 0 00 LCY me: <u>Approx 1</u> 1 factor: <u>Cat Handl</u>	/3 of previou book	Isly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 10,0 Loose volume: 10,0 Source of estimated volu Source of estimated swell HOURLY PRODUCT	\$191.83 \$383.65 TITIES 00 00 00 00 LCY me: <u>Approx 1</u> / 1 factor: <u>Cat Hand</u> FION	/3 of previou book	Isly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc	\$191.83 \$383.65 TTIES 00 00 00 10 00 10 00 10 100	/3 of previou book	Isly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product	\$191.83 \$383.65 CITIES 00<	/3 of previou book	Isly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 10,0 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude:	\$191.83 \$383.65 CITIES 00 16 15 % 6,800 feet	/3 of previou book hr vell ripped or	isly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight:	\$191.83 \$383.65 CITIES 00 1 factor: 100 feet ction: 100 feet scription: Rock, v 15 % 6,800 feet 2,600 lbs/LCY	/3 of previou book hr well ripped or	sly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 10,0 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	\$191.83 \$383.65 CITIES 00 1 factor: 100 feet ction: 100 feet ction: 100 feet scription: Rock, v 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke	hr well ripped or n	sly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volut Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	\$191.83 \$383.65 TITIES 00 00 00 10 00 10 00 10 00 10 00 10 00 10 00 10 00 10 1	hr well ripped or	sly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volu Source of estimated volu Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator	\$191.83 \$383.65 CITIES 00 1 factor: 100 feet ction: 100 feet ction: 852.6 LCY/ scription: Rock, v 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor Skill: 0.'	hr well ripped or n 750	r blasted 0.8		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volu Source of estimated volu Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator a Material consist	\$191.83 \$383.65 CITIES 000 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor Skill: 0.2 ency: 0.3		sly transported material		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 10,0 Swell factor: 1.00 Loose volume: 10,0 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator a Material consistency des	\$191.83 \$383.65 CITIES 000 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor Skill: 0.7 ency: 0.3 thod: 1.4		r blasted 0.8 Source (AVG.) (CAT HB) (GEN.)		

Task # 03B

Job efficience	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 0.666	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weig	ht: 0.885	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.2348	
Adjusted unit production:	200.19 LCY/hr	
Adjusted fleet production:	400.38 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.958/LCY

Total job time:	24.98 Hours
Total job cost:	\$9,582

WHEEL LOADER - LOAD AND CARRY WORK

Task description:	Т	ransport tops	oil to proc	cessing bench			
: Mid-Continent	LST	Pe	rmit Actio	on: TR-5		Permit/Job	o#: <u>M1982121</u>
PROJECT IDE	NTIFICA	<u>TION</u>					
Task #: 03C		State:	Colora	ido		Abbreviation	: None
Date: 7/3/2	2018	County:	Garfie	ld		Filename	: M121-03c
User: ACY	7						
Agency of	or organizati	ion name: D	RMS				
HOURLY EQU	IPMENT	COST					
Basic Mach	ine: CA	Г 966H high lif	Ìt		Horse	power:	262
Attachme	nt 1: RO	PS Cab		-	Shift	Basis:	1 per day
				-	Data S	Source:	(CRG)
Cost Brookdown:							
COSt DICARUOWIL				Utilizatio	on %		
Ownership	Cost/Hour	: \$37	.45	NA	· · ·		
Operating	Cost/Hour	: \$42	.54	100			
Operator	Cost/Hour	: \$41	.20	NA			
Total Unit	Cost/Hour	\$121	.19		—		
Total Flee	t Cost/Hou	·· \$24	7 38				
101411100	t COSt/110th	φ24	2.30				
S Sourc <u>HOURLY PRO</u>	ource of est e of estimat	imated volume ted swell factor <u>N</u>	: <u>2.4 ac</u> : <u>Cat H</u>	c. @ 6" Thick Iandbook			
Loader Cycle Time	e: U	nadjusted Basic	c Cycle Ti	me (load, dum	p, maneuver)	: 0.500	minutes
Cycle Time	e Factors					Factor (min.)	Source
]	Material:	Material up to	1/8" dian	neter 0.02		0.020	(Cat HB)
S	tockpile:	Dumped by tr	uck 0.02			0.020	(Cat HB)
Truck Ov	vnership:	Common own	ership of	trucks and load	ters -0.04	-0.040	(Cat HB)
0	peration:	Constant oper	$\frac{1000}{1000}$	4		-0.040	(Cat HB)
Dum	p Target:	nominal targe	Not	Cuelo Timo A	diustmant	0.000	(Cat HB)
				iusted Basic C	ujustinent:	0.040	minutes
			лu	Justica Dasie C	, eie 1 mie	0.700	IIIIIutes
Rolling Resistance	- Road Co	nditions					
	Haul: R	utted dirt, little	maintena	ince, no water.	2" tire penetr	ation 5.0	
F	Return: R	utted dirt, little	maintena	ince, no water,	2" tire penetr	ration 5.0	
Haul and Return T	ime						
	Len	gth Grad	e Res.	Rolling	Total Res.	Travel Time	C
	(fe	et) (*	%)	Res. (%)	(%)	(minutes)	Source
Haul Rout	e: 50	0 00	.00	5.00	5.00	0.4593	(Cat HB)

5.00

5.00

Return Route:

500

0.00

0.4179

(Cat HB)

			Total Travel Tin Total Cycle Tin	ne: 0.8771 ne: 1.3371	minutes minutes
Load Bucket Capacity					
Rated Capaci Bucket Fill Fact	ty: 5.00 or: 0.925	LCY (heap Loose mat	oed) erial - 1/8" to 3/8'	° (90 - 95%) 0.925	
Job Condition Correction Site Altitude: 6800 feet	ty: 4.63				
		Source			
Altitude Adj:	1.00	(CAT HB))		
Job Efficiency:	0.83	(1 shift/day	7)		
Net Correction:	0.83	multiplier			
U	nadjusted Hourly Uni Adjusted Hourly Uni	t Production: t Production:	207.53 172.25	LCY/Hour LCY/Hour	
	Adjusted Hourly Flee	et Production:	344.50	LCY/Hour	
JOB TIME AND CO	<u>DST</u>				
Fleet size:	2 Loader(s	.)	Total job time:	6.83	Hours

 Unit cost:
 \$0.704
 /LCY
 Total job cost:
 \$1,655

Page 1 of 2

BULLDOZER WORK

Task description:	Distribute top	son over proce	song benen		
Mid-Continent LS	<u> </u>	Permit Action:	TR-5	Permit/Job#:	M1982121
PROJECT IDENTI	FICATION				
Task #· 03D	Stat	e: Colorado		Abbreviation	None
Date: $7/3/2018$	Countr	v: Garfield		Filename:	M121-03D
User: ACY					
Agency or or	ganization name:	DRMS			
HOURLY EOUIPM	-				
Basic Machine: 0	Cat D8T - 8SU				
Horsepower: 3	310				
Blade Type: S	Semi-Universal				
Attachment: N	NA				
Shift Basis: 1	per day				
Data Source: _(CRG)				
Cost Breakdown:					
			<u>Utilization %</u>		
Ownership Cost/Hour	r:	\$83.81	NA		
Operating Cost/Hour	r:	\$66.17	100		
Ripper own. Cost/Hour	r:	\$0.00	NA		
киррег ор. Cost/Hou	r:	\$0.00	0		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour:	r: \$191.83 \$383.65	\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>1</u> , Swell factor: <u>1</u> .	r: <u>\$191.83</u> \$383.65 NTITIES 936 000	\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>1</u> , Swell factor: <u>1</u> . Loose volume: 1 ,	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY	\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: 1, Swell factor: 1, Loose volume: 1, Source of estimated vo	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: Divisio	\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>1</u> , Swell factor: <u>1</u> . Loose volume: <u>1</u> , Source of estimated vo Source of estimated sw	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: <u>Divisi</u> vell factor: <u>Cat Ha</u>	\$41.85	on, Mining & Safety		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: 1, Swell factor: 1, Loose volume: 1, Source of estimated vo Source of estimated sw	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: Division vell factor: Cat Ha	\$41.85	on, Mining & Safety		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated sw HOURLY PRODU	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: Divisi- vell factor: Cat Ha CTION	\$41.85	NA		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated sw HOURLY PRODUC	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: <u>Divisione</u> vell factor: <u>Cat Has</u> <u>CTION</u> : 50 feet	\$41.85	on, Mining & Safety		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume:, Swell factor:, Loose volume:, Source of estimated vo Source of estimated sw HOURLY PRODUM Average push distance: Unadjusted hourly prod	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: <u>Divisione</u> vell factor: <u>Cat Har</u> CTION : <u>50 feet</u> duction: <u>1,400.0 I</u>	\$41.85	 on, Mining & Safety 		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODUC Average push distance: Unadjusted hourly proc	r:	\$41.85	 on, Mining & Safety		
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Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume:, Swell factor:, Loose volume:, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency of Average push gradient: Average push gradient:	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: <u>Divisional Point States Sta</u>	\$41.85 on of Reclamati andbook LCY/hr se stockpile 1.2	 on, Mining & Safety		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency of Average push gradient: Average site altitude: Material weight:	r:	\$41.85 on of Reclamati andbook LCY/hr se stockpile 1.2	 on, Mining & Safety 		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODUC Average push distance: Unadjusted hourly proc Materials consistency of Average push gradient: Average site altitude: Material weight: Weight description:	r:	\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODUC Average push distance: Unadjusted hourly proc Materials consistency of Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correcti	r: <u>\$191.83</u> \$383.65 NTITIES 936 000 936 LCY lume: <u>Divisional Point States Divisional Divisional Divisional CTION : <u>50 feet</u> duction: <u>1,400.0 I</u> description: <u>Loo</u> : <u>0 %</u> <u>6,800 feet</u> <u>1,600 lbs/LCY</u> <u>Top Soil</u> on Factor</u>	\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of es	r:	\$41.85 on of Reclamati andbook LCY/hr se stockpile 1.2 0.750			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance: Unadjusted hourly proo Materials consistency of Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correcti Operato Material cons	r:	\$41.85 on of Reclamati andbook LCY/hr se stockpile 1.2 0.750 1.200			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1, Swell factor: 1. Loose volume: 1, Source of estimated vo Source of estimated vo Average push distance: Materials consistency of Material cons Dozing to Source of estimated vo Source o	r:	\$41.85			

Job efficienc	y: 0.830	(1 SHIFT/DAY)
Spoil pil	e: 0.800	(FND-RF)
Push gradier	nt: 1.000	(CAT HB)
Altitud	e: 1.000	(CAT HB)
Material Weigh	it: 1.438	(CAT HB)
Blade typ	e: 1.000	(PAT)
Net correctio	n:0.8593	
Adjusted unit production:	1,203.02 LCY/hr	
Adjusted fleet production:	2406.04 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.159/LCY

Total job time:	0.80 Hours
Total job cost:	\$309

WHEEL LOADER - LOAD AND CARRY WORK

Mid-Continent LST	Per	mit Action:	TR-5	Pe	rmit/Job#:	M1982121
Teals # 044	ICATION States	Colorado		۸ h h	aviation	None
$\frac{138K \#}{Data:} = \frac{04A}{7/2/2018}$	State:	Corfield		ADDI		M121 04A
User: ACY	County.	Garneiu		1	nename.	W1121-04A
Agency or orga	nization name: DI	RMS				
HOURLY EQUIPMI	ENT COST					
Basic Machine:	САТ 972Н		Hors	epower:		287
Attachment 1:	ROPS Cab		Shi	ft Basis:	1 p	er dav
	1101.5 040		Data	Source:	- <u>-</u> - <u>-</u> ((CRG)
ost Breakdown.			Duiu	bource.	((110)
<u>505t Dicardo wii.</u>		1	Utilization %			
Ownership Cost/	Hour: \$43.4	47	NA			
Operating Cost/	Hour: \$46.	72	100			
Operator Cost/	Hour: \$41.	20	NA			
Total Unit Cost/	Hour: \$131	.39				
Total Fleet Cost	/Hour: \$262	2.78				
MATERIAL QUANI	<u>FITIES</u>					
MATERIAL QUANT Initial volume: 4	FITIES 11,667	CCY	Swell factor:	1.345		
MATERIAL QUANT Initial volume: <u>4</u> Loose volume:	FITIES 1,667 56,042	CCY LCY	Swell factor:	1.345		
MATERIAL QUANT Initial volume: Loose volume:	FITIES 41,667 56,042	_ CCY _ LCY	Swell factor:	1.345		
MATERIAL QUANT Initial volume: Loose volume: Source of as	FITIES 11,667 56,042 of estimated volume:	CCY LCY Previous	Swell factor:	1.345 s		
MATERIAL QUANT Initial volume: Loose volume: Source of es	TITIES 1,667 56,042 of estimated volume: stimated swell factor:	CCY LCY Previous Cat Hand	Swell factor: ly accepted TR-4 value: dbook	1.345 s		
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es	FITIES 41,667 56,042 of estimated volume: stimated swell factor: TION	CCY LCY Previous Cat Hand	Swell factor:	1.345 s		
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION	Curle Time	Swell factor:	<u>1.345</u> s	0.525	
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT Loader Cycle Time:	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic	CCY LCY Previous Cat Hand	Swell factor:	1.345 s	0.525	minutes
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT Loader Cycle Time: Cycle Time Factor	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors	CCY LCY Previous Cat Hand	Swell factor: _ ly accepted TR-4 value: dbook (load, dump, maneuver	1.345 s :): Factor	0.525 (min.)	minutes
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi	FITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker	Cycle Time	Swell factor: _ ly accepted TR-4 value: dbook (load, dump, maneuver 04	1.345 s 	0.525 (min.) 140	minutes Source (Cat HB)
MATERIAL QUANT Initial volume: Loose volume: Source of es HOURLY PRODUC' Loader Cycle Time: Cycle Time Facto Materi Stockpi	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by tru	Cycle Time	Swell factor:	1.345 s 	0.525 (min.))40)20	minutes Source (Cat HB) (Cat HB)
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUC Loader Cycle Time: Cycle Time Facto Materi Stockpi Truck Ownershi	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by tru ip: Common owned	Cycle Time material 0.0 crship of truc	Swell factor:	1.345 s Factor 0.0 0.0 -0.1	0.525 (min.))40)20)40	minutes Source (Cat HB) (Cat HB) (Cat HB)
MATERIAL QUANT Initial volume: Loose volume: Source of es MOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi Stockpi Truck Ownershi	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by truit ip: Constant operation	Cycle Time material 0.0 ct function -0.04	Swell factor: ly accepted TR-4 value: dbook (load, dump, maneuver 04 :ks and loaders -0.04	1.345 s 	0.525 (min.))40)20)40)20)40)20	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi Stockpi Truck Ownershi Operatio Dump Targ	TITIES 11,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by tru ip: Common owner on: Constant opera et: Nominal target	Cycle Time m material 0.0 cttion -0.04 c.00	Swell factor: ly accepted TR-4 value: dbook (load, dump, maneuver 04 eks and loaders -0.04	1.345 s 	0.525 (min.))40)20)20)240)240)00	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
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MATERIAL QUANT Initial volume: Loose volume: Source of Source of es HOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi Stockpi Truck Ownershi Operatior Dump Targ	FITIES 41,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by truition ip: Common owner on: Constant opera et: Nominal target	Cycle Time material 0.0 ck 0.02 ership of truc tion -0.04 t 0.00 Net Cy Adjust	Swell factor:	1.345 s Factor 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.525 (min.) 040 020 040 040 000 020 505	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
MATERIAL QUANT Initial volume:4 Loose volume: Source of es Source of es MOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi Stockpi Truck Ownershi Operatio Dump Targ Rolling Resistance – Roa	TITIES 41,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by truit ip: Common owned on: Constant opera et: Nominal target	Cycle Time material 0.0 ck 0.02 ership of truc tion -0.04 0.00 Net Cy Adjust	Swell factor:	1.345 s Factor 0.0 0.0 0.0 0.0 0.0 0.0	0.525 (min.))40)20)40)20)40)20)20)20)20)20)20)20)20)20)2	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
MATERIAL QUANT Initial volume:4 Loose volume: Source of es Source of es MOURLY PRODUCT Loader Cycle Time: Cycle Time Facto Materi Stockpi Truck Ownershi Operatio Dump Targ Rolling Resistance – Roa	EITIES 41,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by tru ip: Common owner on: Constant opera et: Nominal target	Cycle Time material 0.0 ck 0.02 ership of truc tion -0.04 0.00 Net Cy Adjust	Swell factor:	1.345 s	0.525 (min.))40)20)40)20)40)20)20)20)20)20)505	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
MATERIAL QUANT Initial volume: Source of es Source of es HOURLY PRODUCT Loader Cycle Time: Cycle Time Factor Materi Stockpi Truck Ownershi Operation Dump Targ Rolling Resistance – Roa Haul: Boturen	EITIES 41,667 56,042 of estimated volume: stimated swell factor: TION Unadjusted Basic ors al: Bank or broker le: Dumped by tru ip: Common owner on: Constant opera et: Nominal target ad Conditions Rutted dirt, little	Cycle Time material 0.0 ck 0.02 ership of truc tion -0.04 c.00 Net Cy Adjust	Swell factor:	1.345 s 	0.525 (min.))40)20)40)20)40)20)20)20)20)00)20)00)20)00	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes

	Length	Grade Res.	Rolling	Total Res.	Travel Time	Course
	(feet)	(%)	Res. (%)	(%)	(minutes)	Source
Haul Route:	100	0.00	5.00	5.00	0.0922	(Cat HB)
Return Route:	100	0.00	5.00	5.00	0.0832	(Cat HB)

			Total Travel Tin Total Cycle Tin	ne: 0.1754 ne: 0.6804	minutes minutes
Load Bucket Capacity					
Rated Capacit Bucket Fill Facto	y: 5.60 pr: 1.025	LCY (heap Rock - Ear	ped) rth Mixture (100%	-105%) 1.025	
Job Condition Correctio Site Altitude: 6800 feet	y:5.74				
<u></u>		Source			
Altitude Adj:	1.00	(CAT HB))		
Job Efficiency:	0.83	(1 shift/day	7)		
Net Correction:	0.83	multiplier			
Un	adjusted Hourly Un	it Production:	506.16	LCY/Hour	
-	Adjusted Hourly Un	it Production:	420.11	LCY/Hour	
F	Adjusted Hourly Flee	et Production:	840.23	LC Y/Hour	
JOB TIME AND CC) <u>ST</u>				
Fleet size:	2 Loader(s)	Total job time:	66.70	Hours

Total job cost: \$17,527

Unit cost: _____\$0.313 /LCY

BULLDOZER WORK

			*		
Mid-Continent LST	Peri	mit Action:	TR-5	Permit/Job#:	M1982121
PROJECT IDENTIF	ICATION				
Task #· 04B	State:	Colorado		Abbreviation	None
Date: $7/3/2018$	<u> </u>	Garfield		Filename:	M121-04B
User: ACY	County.	Guillela		-	
Agency or organ	nization name: DR	RMS			
HOURLY EQUIPME	<u>ENT COST</u>				
Basic Machine: <u>Cat</u>	D8T - 8SU				
Horsepower: 310)				
Blade Type: Sen	ni-Universal				
Attachment: NA	`				
Shift Basis: <u>1 pe</u>	er day				
Data Source: (CR	RG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$83.81	NA		
Operating Cost/Hour:		\$66.17	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.85	NA		
Total Fleet Cost/Hour:	\$383.65				
Total Fleet Cost/Hour: MATERIAL QUANT	\$383.65				
Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: 20,83	34				
Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: 20,8: Swell factor: 1.000	34 0				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,83 Swell factor: 1.000 Loose volume: 20,83	34 LCY				
Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur	34 0 34 LCY me: Half of training	 ansported vo	lume		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated swell	34 0 34 LCY ne: Half of tra factor: Cat Hand	ansported vo	lume		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur swell Source of estimated swell swell	\$383.65 TTIES 34 0 34 LCY ne: Half of training I factor: Cat Hand	ansported vo book	lume		
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Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des	\$100 \$383.65 TTIES 34 0 34 LCY me: Half of training 1 factor: Cat Hand Filon ction: 100 feet 852.6 LCY/ scription: Rock, w	ansported vo book	lume		
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Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average site altitude: Material weight:	\$383.65 TTIES 34 0 34 LCY me: Half of tra 1 factor: Cat Hand Cat Hand Cat Hand Etion: 100 feet scription: Rock, v 15 % 6,800 feet 2,600 lbs/LCY	ansported vo book	lume		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	$\begin{array}{r} \begin{array}{c} & \begin{array}{c} & \begin{array}{c} & \begin{array}{c} & \end{array} \end{array} \\ \hline \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \begin{array}{c} & \end{array} \\ \hline \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \begin{array}{c} & \end{array} \\ \hline \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \begin{array}{c} & \end{array} \\ \hline \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \begin{array}{c} & \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \hline \\ \end{array} \\ \hline \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \end{array} \\ \end{array}$	ansported vo book	lume r blasted 0.8		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur 20,8: Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Dote	\$383.65 TTIES 34 0 34 LCY me: Half of training 1 factor: Cat Hand FION ction: 100 feet ction: 852.6 LCY/ ccription: Rock, w 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor 100 feet				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUC1 Average push distance: Unadjusted hourly product Materials consistency des Average site altitude: Material weight: Weight description: Job Condition Correction Operator S	\$383.65 TTIES 34 0 34 LCY me: Half of tra 1 factor: Cat Hand TION ction: 100 feet ction: 852.6 LCY/ scription: Rock, w 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor 0.		lume r blasted 0.8 <u>Source</u> (AVG.)		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S Material consistence	\$383.65 TTIES 34 0 34 LCY me: Half of tradition of tradit		lume		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 20,8: Swell factor: 1.000 Loose volume: 20,8: Source of estimated volur Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S Material consiste Dozing met	\$383.65 TTIES 34 0 34 LCY me: Half of training I factor: Cat Hand TION ction: $\frac{100 \text{ feet}}{852.6 \text{ LCY/}}$ scription: Rock, w 15 % 6,800 feet 2,600 lbs/LCY Limestone - Broke Factor Skill: 0. ency: 0. 1.	ansported vo book /hr well ripped of en 750 800 000	lume		

Job efficient	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 0.666	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weig	ht: 0.885	(CAT HB)
Blade typ	pe: 1.000	(PAT)
Net correction	on: 0.2348	
Adjusted unit production:	200.19 LCY/hr	
Adjusted fleet production:	400.38 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.958/LCY

Total job time:	52.04 Hours
Total job cost:	\$19,963

WHEEL LOADER - LOAD AND CARRY WORK

: _ <u>P</u>]		· · ·				
<u>P</u>]	Mid-Continent LST	Permit Actio	n: TR-5		Permit/Job#:	M1982121
	ROJECT IDENTIFIC	CATION				
	Task #: 04C	State: Colora	do		Abbreviation	None
	Date: $7/3/2018$	County: Garfiel	d0		Filename:	M121-04c
	User: ACY	County. <u>Counter</u>	u		i nename.	<u></u>
	Agency or organiz	zation name: DRMS				
H	OURLY EQUIPMEN	NT COST				
	Basic Machine: 0	CAT 980H		Horsepoy	ver:	315
	Attachment 1:	ROPS Cab		Shift Ba	$\frac{1}{1}$	per dav
				Data Sou	rce: (CRG)
Co	ost Breakdown:					
			Utilization	%		
	Ownership Cost/Ho	our: \$48.81	NA			
	Operating Cost/Ho	our: \$52.37	100			
	Operator Cost/Ho	bur: \$41.20	NA			
	Total Unit Cost/Ho	our: \$142.38				
	Total Fleet Cost/H	our: \$284.76				
Μ	ATERIAL QUANTI	<u>TIES</u>				
	Initial volume: 1,6	00 CCY	Swell	factor: 1.21	15	
	Loose volume:	1,944 LCY				
	Source of	estimated volume: 2 ac	@ 6" Deen			
	Source of esti	nated swell factor: Cat H	andbook			
H	OURLY PRODUCTI	ON				
Lo	oader Cycle Time:	Unadjusted Basic Cycle Tin	me (load, dump,	maneuver):	0.550	minutes
	Cycle Time Factors		· · ·		Factor (min)	Source
	Material	Material up to 1/8" diam	neter 0.02		0.020	(Cat HB)
	Stockpile	Dumped by truck 0.02			0.020	(Cat HB)
	Truck Ownership	Common ownership of t	rucks and loade	rs -0.04	-0.040	(Cat HB)
	Operation	Constant operation -0.04	1		-0.040	(Cat HB)
	Dump Target:	Nominal target 0.00			0.000	(Cat HB)
	<u> </u>	Net	Cycle Time Adj	ustment:	-0.040	minutes
		Adj	usted Basic Cyc	le Time:	0.510	minutes
		5	•			
	lling Desistance Des 1	Conditions				
<u>R</u>	olling Resistance – Road	Conditions				
<u>R</u>	olling Resistance – Road Haul:	Conditions Rutted dirt, little maintena	nce, no water, 2	' tire penetration	on 5.0	
<u>R</u>	olling Resistance – Road Haul: Return:	<u>Conditions</u> <u>Rutted dirt, little maintena</u> Rutted dirt, little maintena	nce, no water, 2 [°] nce, no water, 1 [°]	' tire penetratio ' tire penetratio	on 5.0 on 4.0	
<u>Ro</u>	olling Resistance – Road Haul: Return: aul and Return Time	Conditions Rutted dirt, little maintena Rutted dirt, little maintena	nce, no water, 2 nce, no water, 1	' tire penetratio ' tire penetratio	on 5.0 on 4.0	
<u>R</u> (biling Resistance – Road Haul: Return: aul and Return Time	Conditions Rutted dirt, little maintena Rutted dirt, little maintena	nce, no water, 2 nce, no water, 1	' tire penetration' tire penetration	on 5.0 on 4.0	

Haul Route:

Return Route:

100

100

0.00

0.00

5.00

4.00

5.00

4.00

(Cat HB)

(Cat HB)

0.0884

0.0755

Total Travel Time:	0.1639	minutes
Total Cycle Time:	0.6739	minutes

Load Bucket Capacity

Rated Capacity:	7.50	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	7.31	LCY

Job Condition Correction Factors Site Altitude: <u>6800</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:	651.10	LCY/Hour
Adjusted Hourly Unit Production:	540.41	LCY/Hour
Adjusted Hourly Fleet Production:	1,080.83	LCY/Hour

JOB TIME AND COST

Fleet size:	2	Loader(s)	Total job time:	1.80	Hours
Unit cost:	\$0.263	/LCY	Total job cost:	\$512	_

Page 1 of 2

BULLDOZER WORK

Task description	:	Spread to	psoil over mill pad	l area		
Mid-Contine	nt LST		Permit Action:	TR-5	Permit/Job#:	M1982121
PROJECT ID	ENTIFI	CATION				
Task #· 04	D		State: Colorado		Abbreviation.	None
Date: $7/3$	8/2018	C	ounty: Garfield		Filename:	M121-04D
User: AC	CY		·		-	
Agency	or organ	ization name	e: DRMS			
HOURLY EQ	UIPME	<u>NT COST</u>				
Basic Machin	e: Cat	D8T - 8SU				
Horsepowe	r: <u>310</u>					
Blade Type	e: Sem	ni-Universal				
Attachmen	t: NA					
Shift Basi	s: <u>1 pe</u>	er day				
Data Source	e: (CR	G)				
Cost Breakdown	:					
	~~			Utilization %		
Ownership Cos	t/Hour:		\$83.81	NA		
Operating Cos	t/Hour:		\$66.17	100		
Ripper own. Cos	t/Hour:		\$0.00	NA		
Ripper op. Cos	t/Hour:		\$0.00	0		
Operator Cos	t/Hour:		\$41.85	NA		
Total unit Cost/F Total Fleet Cost/	Iour: Hour:	\$191.83 \$383.65				
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor	Iour: Hour: DUANT : <u>1,600</u> : <u>1.000</u>	\$191.83 \$383.65 ITIES)				
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume	Iour: Hour: DUANT : 1,600 : 1,000	\$191.83 \$383.65 ITIES)))))))))))))				
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima HOURLY PRO Average push dis Unadjusted hour	Hour: Hour: DUANT 1,600 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly product	\$191.83 \$383.65 ITIES)))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima HOURLY PRO Average push dis Unadjusted hour	Iour: Hour: QUANT 1,600 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly product eency desc	\$191.83 \$383.65 ITIES)))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima HOURLY PR(Average push dis Unadjusted hourf Materials consist Average push gra	Iour: Hour: DUANT 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly produc ency deso adient: ude:	\$191.83 \$383.65 ITIES)) LCY ne: D factor: C TON tion: 852 cription:	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	 ion, Mining & Safety 		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima Materials consist Average push dis Unadjusted hour Materials consist Average push gra Average site altit Material weight:	Iour: Hour: DUANT 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly produc ency desc adient: ude:	\$191.83 \$383.65 ITIES)))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima Materials consist Average push dis Unadjusted hour Materials consist Average push gra Average site altit Material weight:	Hour: Hour: \underline{OUANT} $\underline{1,600}$ $\underline{1,600}$ ted volun ted swell \underline{ODUCT} stance: ly produc ency desc adient: ude: on:	\$191.83 \$383.65 ITIES)))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima HOURLY PR Average push dis Unadjusted hour Materials consist Average push gra Average site altit Material weight: Weight description	Hour: Hour: DUANT 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly produc ency desc adient: nude: on:	\$191.83 \$383.65 ITIES))))))) ())))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima HOURLY PR Average push dis Unadjusted hourf Materials consist Average push gra Average site altit Material weight: Weight description	Iour: Hour: Hour: DUANT 1,600 1,600 ted volun ted swell ODUCT stance: ly produc ency dese adient: ude: on: <u>prrection</u>	\$191.83 \$383.65 ITIES)) LCY ne: D factor: C TON tion: 852 cription: 0% 6,800 feet 1,600 lbs/I Top Soil Factor Skill:	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima Materials consist Average push dis Unadjusted hour Materials consist Average push gra Average site altit Material weight: Weight description Condition Condition Condition	Iour: Hour: Hour: DUANT 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly produc adient: ude: on: orrection Derator S l consiste	\$191.83 \$383.65 ITIES)) LCY ne:D factor:C (ION) tion:852 cription: 0 % 6,800 feet 1,600 lbs/I Top Soil Factor Skill: ency:	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2 	ion, Mining & Safety		
Total unit Cost/F Total Fleet Cost/ MATERIAL (Initial Volume Swell factor Loose volume Source of estima Source of estima Materials consist Average push dis Unadjusted hour Materials consist Average push gra Average site altit Material weight: Weight description <u>Job Condition Co</u> Material	Iour: Hour: Hour: DUANT 1,600 1,600 1,600 ted volun ted swell ODUCT stance: ly produc adient: ude: on: Derator S l consiste ozing met	\$191.83 \$383.65 ITIES)))))))))))))	ivision of Reclamat at Handbook feet .6 LCY/hr Loose stockpile 1.2 .CY 0.750 1.200 1.000	ion, Mining & Safety 2 Source (AVG.) (CAT HB) (GEN.)		

Task # 04D

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	pe: 1.000	(PAT)
Net correction	on: 0.8593	
Adjusted unit production:	732.64 LCY/hr	
Adjusted fleet production:	1465.28 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.262/LCY

Total job time:	1.09 Hours
Total job cost:	\$419

BULLDOZER RIPPING WORK

	Task description:	Rip upper a	nd lower access	roads			
Site:	Mid-Continer	nt LST	Permit Action:	TR-5	Perm	it/Job#: <u>M19</u>	982121
	PROJECT ID	ENTIFICATION					
	$\begin{array}{c} \text{Task #:} & 052 \\ \text{Date:} & 7/3 \\ \text{User:} & AC \end{array}$	A Sta /2018 Cour CY	tte: <u>Colorado</u> tty: <u>Garfield</u>		Abbrevi	name: <u>None</u> M12	e 1-05a
	Agency	or organization name:	DRMS				
	HOURLY EO	UIPMENT COST					
	Basic	Machine: Cat D8T - 8	SU		Horsepower:	310	
	Ripper Att	achment: 3-Shank Rij	oper		Shift Basis:	1 per day	
					Data Source:	(CRG)	
	Cost Breakdown:	<u>.</u>		I	TT.'1' /' 0/		
		Ownershin Cost/Hour		\$83.81	NA		
		Operating Cost/Hour	·	\$66.17	100		
	Ripp	er Ownership Cost/Hour	:	\$7.55	NA		
	Ripp	per Operating Cost/Hour		\$7.21	100 NA		
		Total Unit Cost/Hour	•	\$206.59	11A		
		Total Fleet Cost/Hour	541. ,	3.17			
	MATERIAL (<u>)UANTITIES</u>	Sele	ected estimating	method: Area		
	Alternate Method	<u>ls:</u>					
nic:	NA		Bank Volume:	NA	BCY	NA	
rea:	2.00	acres	Rip Depth (ft):	2.00	Volume: 6,45	53	BCY or
	HOURLY PRO	DUCTION Seismic	Velocity:	NA	feet/second	l	
	Area		•				
	<u>Incu.</u>	Average Rippir	g Depth:	2.56	mph		
		Average Rippin	g Width:	7.08	degrees		
		Average Ripping	g Length:	250.00	feet		
		Average Maneux	ver Time:	0.25	feet		
		Production per	unit area:	0.789	acres/hour		
	Job Condition Co	prrection Factors					
	Un	adjusted Hourly Unit Pro	oduction:	0.789	Acres/hr		
		Site	Altitude:	6.800	feet		
		Alti	tude Adj:	1.00	(CAT HB)		
		Job Ei	ficiency:	0.83	(1 shift/day	7)	
		Net Co	orrection:	0.83	multiplier		
		Adjusted Hourly Adjusted Hourly F	Unit Production: Fleet Production:	0.65 1.31	Acres/hr Acres/hr		
	JOB TIME AN	ND COST					
	Fleet size:	2 Grade	r(s)	Total job time	e: <u> </u>	3	Hours
	Unit cost:	\$315.559 Per ac	re	Total job cost	t: \$63	1	

REVEGETATION WORK

Task des	scription:	Reveg disturbed areas			
Site: Mid-Continent LST		Permit Action:	TR-5	Permit/Job	o#: <u>M1982121</u>
PROJE(CT IDENTIFIC	CATION			
Task	#: <u>06A</u>	State: Colorado		Abbreviation:	None
Dat	te: $\frac{7}{3}/2018$	County: Garfield		Filename:	M121-06a

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	10.00	32.37	\$70.00
Mountain Brome - Bromar	10.00	16.07	\$43.50
Kentucky Bluegrass - Lato	10.00	493.57	\$28.80
Milk Vetch, Cicer - Lutana	10.00	33.29	\$82.00
Thurber's Fescue	10.00	103.31	\$614.20
Western Wheatgrass - Native	10.00	25.25	\$70.00
Totals Seed Mix	60.00	703.86	\$908.50

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$951.79
	Total Seed Application Cost/Acre	\$951.79

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.74	\$2.74
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$463.91	\$463.91
Total Mulch Materials Cost/Acre				\$466.65

Application

Description		Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)		\$968.00
Weed spray, truck, non-aquatic areas, ann. [DMG]		\$23.35
r	Fotal Mulch Application Cost/Acre	\$991.35

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Oak, Gambel's	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$0.00	\$106.00
Serviceberry	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$0.00	\$106.00
Totals Nursery Stock Cost / Acre \$212.					

JOB TIME AND COST

	No. of Acres:	8	Cost /Acre:	\$3,636.58
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$3,636.58
*Selected Replanti	ng Work Items:	TILLING,SEEDIN	JG,NURSERY,MULC	
		HING		
Initial Job Cost:	\$29,092.64			
Reseeding Job Cost:	\$7,273.16			
Total Job Cost:	\$36,366			
Job Hours:	20.00			

EQUIPMENT MOBILIZATION/DEMOBILIZATION

rusk desemption.	1111	an in too mean on					
Mid-Continent	LST	Permit	Action: <u>TR-5</u>]	Permit/Job#: <u>N</u>	11982121
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 07A		State: Co	lorado		Abbre	eviation: None	;
Date: 7/3/2	2018	County: Ga	rfield		Fi	ilename: M12	1-07a
User: ACY	ľ	·					
Agency of	r organization	n name: DRMS					
EQUIPMENT T	RANSPOR'	<u>T RIG COST</u>					
				(Shift ba Cost Data Sour	sis: 1 per da rce: CRG Da	ay ata
Truck	Tractor Descr	ription: GENE	RIC ON-HIGH	WAY TRU 400 HP	JCK TRACTO (2ND HALF,	OR, 6X4, DIESE 2006)	L POWERED,
Truck	Trailer Desci	ription: Gl	ENERIC FOLD	ING GOC	SENECK DE		IPMENT
			DI (DIGIO I OLD		bLitLCR, Dr	VOI DLCK LQU	11 1/12/1 / 1
		I · · · ·]	RAILER	(25T, 50T, AN	ND 100T)	
]	RAILER	(25T, 50T, A)	ND 100T)	
Cost Breakdown:]	TRAILER	(25T, 50T, A)	ND 100T)	
Cost Breakdown: Available Rig Ca	pacities	0-25 Tons	26-50 Tons	TRAILER	(25T, 50T, AN	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership	pacities Cost/Hour:	0-25 Tons \$16.63	26-50 Tons \$18.37	51 - \$2	(25T, 50T, AN Tons 22.33	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating	pacities Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38	26-50 Tons \$18.37 \$46.13	51 - \$2 \$2	(25T, 50T, AN Tons 22.33 50.07	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator	pacities Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66	26-50 Tons \$18.37 \$46.13 \$27.66	51 - \$2 \$2 \$3	(25T, 50T, AN Tons 22.33 50.07 27.66	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	S1- \$2 \$2 \$2 \$2 \$2 \$2	← Tons 22.33 50.07 27.66 25.39	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	S1- \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$1	← Tons 22.33 50.07 27.66 25.39 25.45	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT:	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	S1- \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$1	+ Tons 22.33 50.07 27.66 25.39 25.45	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	51- \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$1 \$1 \$2 \$2 \$1 \$1	+ Tons 22.33 50.07 27.66 25.39 25.45 Houl Trip	Return Trip	DOT Permit
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/br/unit	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/br/uni	Fleet	← Tons 22.33 50.07 27.66 25.39 25.45 Haul Trip Cost/br/	Return Trip Cost/br/ fleet	DOT Permit Cost/ fleet
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description	pacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS)	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	Fleet Size	+ Tons (25T, 50T, AN + Tons 22.33 50.07 27.66 25.39 25.45 Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description Cat 320D L 9'-6" Stick	pacitiesCost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:LE EQUIPNWeight/ Unit (TONS)23.70	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit \$31.02	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$88.67	S1- \$2 \$2 \$2 \$2 \$2 \$1	Haul Trip Cost/hr/ fleet \$119.69	Return Trip Cost/hr/ fleet \$88.67	DOT Permit Cost/ fleet \$250.00
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description Cat 320D L 9'-6" Stick CAT 972H	pacities Cost/Hour: Veight/ Unit (TONS) 23.70 28.00	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 Image: Market	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$88.67 \$117.55	51- \$2 \$1 \$2	Haul Trip Cost/hr/ fleet \$119.69	Return Trip Cost/hr/ fleet \$88.67 \$235.10	DOT Permit Cost/ fleet \$250.00 \$500.00
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description Cat 320D L 9'-6" Stick CAT 972H Cat D8T - 8SU	pacitiesCost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:Cost/Hour:LE EQUIPNWeight/ Unit (TONS)23.7028.0053.08	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit \$31.02 \$43.47 \$91.36	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$88.67 \$117.55 \$125.45	S1- \$:	Haul Trip Cost/hr/ fleet \$322.04 \$433.62	Return Trip Cost/hr/ fleet \$88.67 \$235.10 \$250.90	DOT Permit Cost/ fleet \$250.00 \$500.00

ROADABLE EQUIPMENT:

Total Cost/hr/	Fleet Size	Haul Trip	Return Trip Cost/hr/ fleet
um		COSt/III/ Heet	
\$68.43	1	\$68.43	\$68.43
\$47.41	1	\$47.41	\$47.41
	~		
	Subtotals:	\$115.84	\$115.84
	Total Cost/hr/ unit \$68.43 \$47.41	Total Cost/hr/ unitFleet Size\$68.431\$47.411Subtotals:	Total Cost/hr/ unitFleet SizeHaul Trip Cost/hr/ fleet\$68.431\$68.43\$47.411\$47.41Subtotals: \$115.84

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GLENWOOD SPRINGS	
Total one-way travel distance:	2.00	miles
Average Travel Speed:	15.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$4,637.37	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$30.89	_

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.27	0.27

JOB TIME AND COST

Total job time: 2.53 Hours

Total job cost: ______\$4,668_____

EQUIPMENT MOBILIZATION/DEMOBILIZATION

i ask desemptio	n: Sec	ondary Mobiliza					
: Mid-Contine	ent LST	Permit	Action: TR-5		F	ermit/Job#:	M1982121
PROJECT ID	ENTIFICATI	<u>ON</u>					
Task #: 0	7B	State: Co	olorado		Abbre	viation: 1	None
Date: 7	/3/2018	County: Ga	arfield		Fil	ename: 1	M121-07b
User: A	CY						
Agency	y or organization	name: DRMS					
<u>EQUIPMENT</u>	TRANSPOR	<u>T RIG COST</u>					
					Shift bas	sis: 1 r	er dav
				C	ost Data Sour	ce: CR	G Data
Tm	ck Tractor Desc	ription: GENE	RIC ON-HIGH	WAY TRU			ESEL POWERED
110	lek mactor Dese			400 HP	2ND HALF.	2006)	LSEETOWERED,
Tri	uck Trailer Desc	ription: G	ENERIC FOLD	ING GOO	SENECK, DR	OP DECK	EQUIPMENT
		•	r	ΓRAILER (25T, 50T, AN	D 100T)	
Cost Breakdown							
A voilable Dig	<u>.</u> Conceition	0.25 Tong	26 50 Tong	51	Tong		
Available Kig Ownersh	in Cost/Hour	\$16.63	\$18 37	\$2	2 33		
Operati	iip eosa noun	\$10.05	\$46.12	\$5	0.07		
1	ng Cost/Hour:	\$44.38	\$40.15	ψJ	0.07		
Operat	ng Cost/Hour: for Cost/Hour:	\$44.38 \$27.66	\$27.66	\$2	7.66		
Operat Help	ng Cost/Hour: cor Cost/Hour: per Cost/Hour:	\$44.38 \$27.66 \$0.00	\$40.15 \$27.66 \$25.39	\$2 \$2 \$2	7.66 5.39		
Operat Help Total Ui	ng Cost/Hour: for Cost/Hour: for Cost/Hour: nit Cost/Hour:	\$44.38 \$27.66 \$0.00 \$88.67	\$27.66 \$25.39 \$117.55	\$3 \$2 \$2 \$2 \$12	7.66 5.39 25.45		
Operat Help Total Ut	ng Cost/Hour: for Cost/Hour: per Cost/Hour: nit Cost/Hour:	\$44.38 \$27.66 \$0.00 \$88.67	\$40.13 \$27.66 \$25.39 \$117.55	\$3 \$2 \$2 \$12	7.66 5.39 55.45		
Operat Help Total U	ng Cost/Hour: for Cost/Hour: for Cost/Hour: nit Cost/Hour: BLE EQUIPN	\$44.38 \$27.66 \$0.00 \$88.67 //ENT:	\$40.13 \$27.66 \$25.39 \$117.55	\$3 \$2 \$2 \$12	7.66 5.39 5.45		
Operat Help Total Ut NON ROADA Machine	ng Cost/Hour: for Cost/Hour: per Cost/Hour: nit Cost/Hour: BLE EQUIPN Weight/	\$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship	\$40.13 \$27.66 \$25.39 \$117.55	\$3 \$2 \$2 \$12 Fleet	7.66 5.39 25.45 Haul Trip	Return Tr	ip DOT Permit
Operat Help Total Ut NON ROADA Machine Description	ng Cost/Hour: for Cost/Hour: nit Cost/Hour: BLE EQUIPN Weight/ Unit	\$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit	\$40.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	\$3 \$2 \$2 \$12 Fleet Size	7.66 5.39 25.45 Haul Trip Cost/hr/	Return Tr Cost/hr/ fl	ip DOT Permit Cost/ fleet
Operat Help Total U NON ROADA Machine Description	ng Cost/Hour: for Cost/Hour: nit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	\$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit	\$40.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	size	1.67 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet	Return Tr Cost/hr/ fl	ip DOT Permit eet Cost/ fleet
Operat Help Total U NON ROADA Machine Description	ng Cost/Hour: for Cost/Hour: nit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	\$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit	\$40.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	subtotals:	1.60 7.66 5.39 5.45 Haul Trip Cost/hr/ fleet \$0.00	Return Tr Cost/hr/ fl	ip DOT Perm eet Cost/ fleet
Operat Help Total Un NON ROADA Machine Description	ng Cost/Hour: for Cost/Hour: nit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	\$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit	\$40.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	Subtotals:	7.66 5.39 25.45 Haul Trip Cost/hr/ fleet \$0.00	Return Tr Cost/hr/ fl	ip DOT Permit Cost/ fleet 0 \$0.00

Machine Description	Total Cost/hr/	Fleet Size	Haul Trip	Return Trip
	unit		Cost/hr/ fleet	Cost/hr/ fleet
Hydroseeder with Tractor	\$68.43	1	\$68.43	\$68.43
Light Duty Pickup, 4x4, 1 T.	\$47.41	1	\$47.41	\$47.41
Crew				
		Subtotals	\$115.84	\$115 84
		Subtotals.	ψ113.04	\$115.04

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GLENWOOD SPRINGS	_
Total one-way travel distance:	2.00	miles
Average Travel Speed:	15.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$0.00	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$30.89	_

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.27	0.27

JOB TIME AND COST

Total job time: 0.27 Hours

Total job cost: **\$31**

BOREHOLE SEALING WORK

	Task description:	Abandonm	ent of 15 Explor	ation Holes TR-	5 Addition	
Site:	Mid-Continent LST		Permit Action:	TR-5	Permit/J	lob#: M1982121
PROJE	CT IDENTIFICATION	<u>N</u>				
Task #: Date:	TR5 7/3/2018	State: County:	Colorado Garfield		Abbreviation: Filename:	None M121-TR5
User	Agency or organizat	ion name:	DRMS			

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Hand Backfill Holes with Cuttings Approx 3.3 CY- 4 hrs each	General laborer - Colorado (total incl. fringes, empl. burden)	6.5	197	60.00	HR	\$23.53	\$1,411.80
Non-Metalic Plug	PVC plug - 6 in. diameter borehole	6.5	.5	15.00	EA	\$54.14	\$812.10
Cement Cap	Portland cement grout - 6 in. (labor, equip, materials)	6.5	3	15.00	LF	\$10.65	\$159.75
Rake out remaining cuttings at surface 30 min each	General laborer - Colorado (total incl. fringes, empl. burden)	0	.25	7.50	HR	\$23.53	\$176.48

Job Hours: _____90.00

Total Cost: \$2,560.00



Highwall reduction - backfill



Highwall reduction - backfill

Processing Bench	
Highwall Height (ft.)	50.00
Length of Highwall (lft.)	600.00
- — — — Initial Slope	1.00 H:1V
Desired Slope	2.00 H:1V
Volume of material to be moved (ft. ³)	750,000
Volume of material to be moved (yd. ³)	27,778



Highwall reduction - backfill Fine storage area Highwall Height (ft.) 50.00 Length of Highwall (lft.) 900.00 ---- Initial Slope 1.00 H:1V Desired Slope 2.00 H:1V Volume of material to be moved (ft.³) 1,125,000 Volume of material to be moved (yd.³) 41,667

