

Department of Natural Resources

June 8, 2022

Alan Parkerson Parkerson Construction, Inc. 710 S. 15th St Grand Junction, CO 81501

Re: 31 Road Pit - File No. M-1987-178 **Parkerson Construction, Inc. Surety Increase Application (SI-3) Surety Increase**

Dear Alan Parkerson:

On June 8, 2022 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$505,455.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$284,345.00.

Please see the May 12, 2022 inspection report for details regarding why this surety increase is required.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter (June 8, 2022).

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit after August 7, 2022, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	\$221,110.00
Prior Liability:	\$221,110.00
Change in Liability:	\$284,345.00
Revised Liability:	\$505,455.00
Prior Permit Acreage:	60.50



Change in Permit Acreage:	0.00
Revised Permit Acreage:	60.50
Prior Affected Acreage:	60.50
Change in Affected Acreage:	0.00
Revised Affected Acreage:	60.50

If you have any questions, please contact me by telephone at (303) 866-3567 x 8183, or by email at Amy.yeldell@state.co.us.

Sincerely,

Amy C. Yeldell

Environmental Protection Specialist

cc: Alan Parkerson

COST SUMMARY WORK

1	Fask description:	Increase based on 05-	12-2022	2 Inspection			
Site:	31 Road Pit	Permit A	Action:	SI-3		Permit/Job	#: <u>M1987178</u>
<u>P</u> :	ROJECT IDENTIFIC	CATION					
	Task #: ACY	State: Col	orado		A	Abbreviation:	None
	Date: 6/6/2022	County: Me	sa			Filename:	M178-ACY
	User: ACY						
	Agency or organi	zation name: DRMS					
<u>T</u> .	ASK LIST (DIRECT	COSTS)					
ask				Form	Fleet	Task	
	Description			Used	Size	Hours	Cost
1a	Remove site structure			DEMOLISH COR A PER 1	1 2	2.00	\$100
2A	Regrade pit slopes to			SCRAPER1	3	20.23	\$86,757
2b	Reduce slopes to 3H:			DOZER	6	2.43	\$3,422
2c		d knock down visual berr	ns	DOZER	6	1.08	\$1,528
2d	Reveg pit slopes w/ d	, ,		REVEGE	1	8.00	\$2,990
3a	Apply overburden to	*		SCRAPER1	3	36.34	\$155,408
3b	Apply topsoil to pit f			SCRAPER1	3	36.10	\$154,356
3c	Rip areas under stock	piles		RIPPER	6	2.54	\$3,975
4a	Initial Mobilization			MOBILIZE	1	3.00	\$12,384
4b	Secondary Mobilizati	on		MOBILIZE	1	3.00	\$746
				SUBTO	TALS:	114.72	\$421,666
<u>II</u>	NDIRECT COSTS						
<u>O</u>	VERHEAD AND PROFI	<u>T:</u>					
	Liability insurar	nce: 2.02				Total = \$8	,518
	Performance bo						,427
	Job superintend	ent: 57.36				Total = $\sqrt{\$4}$,132
	Pro	ofit: 10.00				Total = \$4	2,167
							9,243
		(CONTR	ACT AMOUNT	(direct +	$O \& P) = _{-}$4$	80,909
Ll	EGAL - ENGINEERING	- PROJECT MANAGEM	MENT:				
	Financial warranty pr	ocessing (legal/related co	osts):	\$500		Total = \$5	00
		d/or contract/bid prepara		0.00	_	$Total = \frac{\$0}{\$0}$	
		gement and/or administra		5.00	_		4,045
		CONTINGEN	ICY:	0.00		Total = \$0	
				TOTAL IN	NDIRECT		3,789
		ТОТА	L BON	D AMOUNT (d	irect + in	ndirect) = \$5	05,455

DEMOLITION WORK

Task descri	ption: Re	emove site structures				
Site: 31 Road I	Pit	Permit Action: SI-3		Pe	ermit/Job#: _	M1987178
PROJECT IDEN	<u>TIFICATION</u>					
Task #: 01A		State: Colorado		Abbreviat	ion: None	
Date: 6/3/202	2	County: Mesa		Filena	me: M178	8-01A
User: ACY					-	
Δger	ncy or organization	name: DRMS				
71501	icy or organization	name. Ditivis				
UNIT COSTS				Location	adjustment	<u>: 90.70 %</u>
Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Scale house	8 x8 x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	512.00	CF	\$0.22	\$110.08
Job Hours:	2.00	Subtotal (unadjusted): \$1	10.08	(adj	otal Cost usted for ocation):	\$99.84

SCRAPER TEAM WORK

Task description:	Regrade pi	t slopes to 3H: 1V	V or less			
Site: 31 Road Pit		Permit Action:	SI-3	Peri	mit/Job#: <u>M1987</u>	7178
PROJECT IDEN	<u> </u>					
Task #: $02A$ Date: $6/3/20$ User: ACY		tate: Colorado unty: Mesa			viation: None ename: M178-0)2A
Agency or o	organization name:	DRMS				
HOURLY EQUIP	PMENT_		COSTS	hift basis: 1 per d	<u>ay</u>	
			ent Description			
		craper: Cat 627 Dozer: Cat D8'	G w/push-pull T - 8SU			
Suppo	rt Equipment -Load	d Area: Cat D8'	T - 8SU			
Road Ma	-Dumj intenance –Motor (Area: Cat D8' Grader: NA	T - 8SU			
	-Water		Γanker, 3,500 Gal			
Cost Breakdown:	Scraper Woi	·k Team	Support Equi	nment	Maintenance 1	Fauinment
Cost Dicardown.	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	NA	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	\$97.46	NA	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	\$48.82	NA	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	\$40.04	NA	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	\$186.31	NA	\$70.66
Number of Units:	6	6	1	1	0	1
Group Subtotals:	Work:	\$3,844.98	Support:	\$372.62	Maint:	\$70.66
Total work team cost	t/hour: \$4,288.26					
MATERIAL QUA	ANTITIES					
Initial volume: Loose volume:	47,111 53,000	CCY LCY	Swell fac	tor: 1.125		
	rce of estimated vo			t backfill @ 40'H		
HOURLY PROD	<u>uction</u>		Scraper R	owl (volume) Bas	is·	
Matarial waights	2.550 lbs/I CV		·			TV.
Material weight: Material description:	2,550 lbs/LCY Earth - Dry packet	<u></u>	Struck Volume: 15.70 LCY Heaped Volume: 22.00 LCY			
Rated Payload:	52,800 pounds		Average			CY
Payload Capacity:	20.71 LCY		Adjusted (CY

Site Altitude: 4700 feet

C	vcle	Time	:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	450.00	1.00	5.00	6.00	1855	0.36

Haul Time: **0.36** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	450.00	-1.00	5.00	4.00	2849	0.29

0.29 minutes Return Time: Total Scraper team cycle time: 2.15 minutes Adjusted for job conditions: 873.24 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 873.24 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 2,619.71 LCY/Hour

Unadjusted unit production/hour: $\underline{1,052.09}$ LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	3	Team(s)	Total job time:	20.23	Hours
Unit cost:	\$1.637	/LCY	Total job cost:	\$86,757	

BULLDOZER WORK

Task description:	Reduce slopes to	o 3H:1V			
e: 31 Road Pit	Pe	rmit Action:	SI-3	Permit/Job#	: <u>M1987178</u>
PROJECT IDENTI	(FICATION				
Task #: 02B	State:	Colorado		Abbreviation:	None
Date: 6/3/2022	County:	Mesa		Filename:	M178-02b
User: ACY					
Agency or org	ganization name:D	RMS			
HOURLY EQUIPM	MENT COST				
Basic Machine: C	Cat D8T - 8SU				
	310				
	Semi-Universal				
	NA				
	per day		<u></u>		
Data Source:(CRG)		<u></u>		
Cost Breakdown:					
		I	<u>Utilizatio</u>	<u>on %</u>	
Ownership Cost/Hour		\$97.46	NA		
Operating Cost/Hour		\$97.63	100		
Ripper own. Cost/Hour		\$0.00	NA		
Ripper op. Cost/Hour		\$0.00	0		
Operator Cost/Hour	r:	\$40.04	NA		
Total unit Cost/Hour:	\$235.13				
Total Fleet Cost/Hour:	\$1,410.75				
MATERIAL QUAN	NTITIES				
_					
	926				
	125				
Loose volume: 6,	667 LCY				
Source of estimated vo	lume: 500LFci	ut/fill 1:1 @ 4	0'H		
Source of estimated sw	vell factor: Cat Han	dbook			
HOURLY PRODUC					
Average push distance:					
Unadjusted hourly prod	duction: 852.6 LCY	<u>//hr</u>			
Materials consistency of	lescription: Comp	acted fill or e	mbankment 0.9		
Average push gradient: Average site altitude:	:15 % 4,700 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packe	ed			
Job Condition Correcti	on Factor		So	<u>ource</u>	
).750		VG.)	
Material consi					
	istency: ().900	(CA)	Г НВ))	
Dozing r		0.900		EN.)	

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5373

Adjusted unit production: 458.10 LCY/hr
Adjusted fleet production: 2748.6 LCY/hr

JOB TIME AND COST

Fleet size: 6 Dozer(s)
Unit cost: \$0.513/LCY

Total job time: 2.43 Hours
Total job cost: \$3,422

BULLDOZER WORK

31 Road			n pit stope.	and knock	down visual			
31 Road Pit			Peri	mit Action:	SI-3		Permit/Job#:	M1987178
<u>PROJEC</u>	T IDEN	TIFICATIO	<u>N</u>					
Task #:	02C		State:	Colorado			Abbreviation:	None
Date:		22	County:	Mesa			Filename:	M178-02c
User:			County.	111054			- Inchame.	11170 020
			. Dr) MC				
А	gency or	organization r	iame: Dr	RMS				
HOURLY	Y EQUI	PMENT CO	<u>ST</u>					
Basic M		Cat D8T - 8	SU					
	epower:	310						
	e Type:	Semi-Unive	rsal					
	chment:	NA			_			
	t Basis:	1 per day			_			
Data S	Source:	(CRG)						
Cost Break	down:							
					<u>Utiliza</u>	ntion %		
Ownershi	-			\$97.46		ſΑ		
	g Cost/He			\$97.63		00		
Ripper owr				\$0.00		A		
	p. Cost/H			\$0.00		0		
Operator	r Cost/H	our:		\$40.04	N	ÍΑ		
		<u>ANTITIES</u>						
Initial Vo	_	4,341 1.215		_				
	factor:							
Swell to Loose vo	factor:olume:	1.215 5,274 LCY	3.11 ac @ Cat Hand	6" + 1883 obook	of berms			
Swell to Loose vo	factor:	1.215 5,274 LCY volume: swell factor:			of berms			
Swell to Loose vote Source of e Source of e	factor:	1.215 5,274 LCY volume: swell factor:	Cat Hand		of berms			
Swell to Loose von Source of e Source of e	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce:		book	of berms			
Swell to Loose vote Source of e Source of e HOURLY Average put Unadjusted	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce:	Cat Hand 100 feet 852.6 LCY/	book				
Swell to Loose vote Source of e Source of e HOURLY Average put Unadjusted	factor:	volume: swell factor: UCTION ce: roduction: y description: ent: -15 %	Cat Hand 100 feet 852.6 LCY/ Consol	book Thr				
Swell is Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials c Average pu	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce: roduction: y description: ent: -15 % -4,700	Cat Hand 100 feet 852.6 LCY/ Consol	book Thr				
Swell to Loose vote Source of e Source of e Source of e HOURLY Average pu Unadjusted Materials con Average pu Average sit	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce: roduction: y description: ent: -15 % -4,700	Cat Hand 100 feet 852.6 LCY/ Consol Geet bs/LCY	book Thr				
Swell to Loose vote Source of e Source of e Source of e HOURLY Average pu Unadjusted Materials con Average pu Average sit Material we Weight des	factor: colume: estimated Example PROD ush distant hourly pronsistence ush gradie te altitude eight: scription: ion Corre	1.215 5,274 LCY volume: swell factor: UCTION ce: roduction: y description: ent: -15 % 4,700 : 1,600 I	Cat Hand 100 feet 852.6 LCY/ Consol Geet bs/LCY	book Thr idated stock	pile 1.0	Source		
Swell to Loose vote Source of e Source of e Source of e Source of e MOURLY Average put Unadjusted Materials of Average put Average sitt Material we Weight des Job Condition	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce: roduction: y description: -15 % -4,700 : -1,600 :	Cat Hand 100 feet 852.6 LCY/ Consol Geet bs/LCY 0.	book Thr idated stock	pile 1.0	(AVG.)		
Swell to Loose vote Source of e Source of e Source of e Source of e MOURLY Average put Unadjusted Materials of Average put Average sitt Material we Weight des Job Condition	factor:	1.215 5,274 LCY volume: swell factor: UCTION ce: roduction: y description: ent: -15 % 4,700 : 1,600 I	Cat Hand 100 feet 852.6 LCY/ Consol Geet bs/LCY oil 0. 1.	book Thr idated stock	pile 1.0			

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9517

Adjusted unit production: 811.42 LCY/hr
Adjusted fleet production: 4868.52 LCY/hr

JOB TIME AND COST

Fleet size: 6 Dozer(s)
Unit cost: \$0.290/LCY

Total job time: 1.08 Hours
Total job cost: \$1,528

REVEGETATION WORK

31 Road Pit	Perr	Permit Action: SI-3 Permit/Job				#: <u>M1987178</u>
ROJECT IDENTIFIC	ATION					
Task #: 02D	State:	Colorado		۸۲	breviation:	None
Date: $\frac{6/3}{2022}$	County:	Mesa		_ ^\	Filename:	M178-04d
User: ACY	County	Wiesa		_	i nename.	W1170-04u
Agency or organiz	zation name: _ DRI	MS				
ERTILIZING						
aterials		TT */ /				
Description		Units /	Unit	Cos	st / Unit	Cost /Acre
Description		Acre	Omt	Cu	st / Omt	Cost/Acre
				\$		\$
				Tr	4-1 54:1!	
				10	tal Fertilizer Materials	
					Cost/Acre	
					COSUACIE	φυ.υυ
Description						Cost /Acre
plication Description						Cost /Acre
_						
_		Total	Fertilizer	Applicatio	on Cost/Acre	\$
Description		Total	Fertilizer A	Applicatio	on Cost/Acre	\$
Description LLING		Total	Fertilizer A	Applicatio	on Cost/Acre	\$0.00
Description LLING Description	(MEANS 32 91 13		Fertilizer	Applicatio	on Cost/Acre	\$ \$0.00 Cost /Acre
Description LLING	(MEANS 32 91 13		Fertilizer	Applicatio	on Cost/Acre	\$0.00
Description LLING Description	(MEANS 32 91 13				on Cost/Acre	\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep	(MEANS 32 91 13					\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep	(MEANS 32 91 13			otal Tillii		\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep	(MEANS 32 91 13			otal Tillin	ng Cost/Acre	\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep	(MEANS 32 91 13			otal Tillin Rate – PLS	ng Cost/Acre	\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep	(MEANS 32 91 13			Rate – PLS LBS /	ng Cost/Acre	\$ \$0.00 Cost /Acre \$114.56
Description LLING Description Disc harrowing, 6" deep EDING Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	\$0.00 Cost /Acre \$114.56 \$114.56
Description LLING Description Disc harrowing, 6" deep EDING Seed Mix Indian Ricegrass - Palon	na			Rate – PLS LBS / Acre 2.26	Seeds per SQ. FT	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre
Description LLING Description Disc harrowing, 6" deep EDING Seed Mix Indian Ricegrass - Palon Crested Wheatgrass - Ep	na			Rate – PLS LBS / Acre 2.26 1.26	Seeds per SQ. FT 7.32 5.79	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre \$25.14 \$5.45
Description LLING Description Disc harrowing, 6" deep EDING Seed Mix Indian Ricegrass - Palon Crested Wheatgrass - Ep Sand Dropseed	na			Rate – PLS LBS / Acre 2.26 1.26 0.26	Seeds per SQ. FT 7.32 5.79 31.04	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre \$25.14 \$5.45 \$2.54
Description LLING Description Disc harrowing, 6" deep EDING Seed Mix Indian Ricegrass - Palon Crested Wheatgrass - Ep Sand Dropseed Galleta	na ohraim			Rate – PLS LBS / Acre 2.26 1.26 0.26 3.00	Seeds per SQ. FT 7.32 5.79 31.04 10.95	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre \$25.14 \$5.45 \$2.54 \$67.05
Description LLING Description Disc harrowing, 6" deep EEDING Seed Mix Indian Ricegrass - Palon Crested Wheatgrass - Ep Sand Dropseed	na ohraim			Rate – PLS LBS / Acre 2.26 1.26 0.26	Seeds per SQ. FT 7.32 5.79 31.04	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre \$25.14 \$5.45 \$2.54
Description LLING Description Disc harrowing, 6" deep EEDING Seed Mix Indian Ricegrass - Palon Crested Wheatgrass - Ep Sand Dropseed Galleta	na ohraim			Rate – PLS LBS / Acre 2.26 1.26 0.26 3.00	Seeds per SQ. FT 7.32 5.79 31.04 10.95	\$0.00 Cost /Acre \$114.56 \$114.56 Cost /Acre \$25.14 \$5.45 \$2.54 \$67.05

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Total Mulch Materials Cost/Acre				\$2.98

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

JOB TIME AND COST

No. of Acres: 4.11 Cost /Acre: \$559.66

Estimated Failure Rate: 30% Cost /Acre*: \$559.66

*Selected Replanting Work Items: TILLING, SEEDING, MULCHING

Initial Job Cost: \$2,300.20

Reseeding Job Cost: \$690.06

Total Job Cost: \$2,990

Job Hours: 8.00

Payload Capacity: 20.71 LCY

SCRAPER TEAM WORK

Task description:	Apply over	rburden to pit flo	or			
Site: 31 Road Pit		Permit Action:	SI-3	Peri	mit/Job#: <u>M198</u>	7178
PROJECT IDENT	<u> TIFICATION</u>					
Task #: 03A		State: Colorado		Abbre	viation: None	
Date: 6/6/202 User: ACY	<u>22</u> Co	unty: Mesa		Fil	ename: M178-0)3a
	organization name:	DRMS				
rigency of C	organization name.	Diane				
HOURLY EQUIP	<u>PMENT</u>		COSTS	hift basis: 1 per d	<u>ay</u>	
			ent Description			
			7G w/push-pull T - 8SU			
Suppo	rt Equipment -Loa		T - 8SU			
D 1M.		p Area: NA Grader: CAT 1	<i>(</i>) <i>(</i>			
Roau Ma	intenance –Motor -Water		Tanker, 3,500 Gal			
		,				
Cost Breakdown:	Scraper Wo Scraper	rk Team Dozer	Support Equi Load Area	pment Dump Area	Maintenance Motor Grader	Equipment Water Truck
%Utilization-machine:	100	100	50	NA NA	100	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	NA NA	\$70.80	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	NA	\$56.31	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	NA	\$46.87	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	NA	\$173.98	\$70.66
Number of Units:	6	6	1	0	1	1
Group Subtotals:	Work:	\$3,844.98	Support:	\$186.31	Maint:	\$244.64
Total work team cost	/hour: \$4,275.93					
MATERIAL QUA	NTITIES					
Initial volume:	77,762	CCY	Swell fac	tor: 1.125		
Loose volume:	87,482	LCY	Swell lac	1.125		
Sou	rce of estimated vo	olume: 48.2 ac	@ 12"			
Source of	of estimated swell					
HOURLY PROD	UCTION					
HOURETTROD	<u>ection</u>		Saranar P	owl (volume) Bas	ic	
Mataniali-l	2 550 lba/I CW					\sim V
Material weight: Material description:	2,550 lbs/LCY Earth - Dry pack	ed		Volume: 15.70 Volume: 22.00		CY CY
Rated Payload:	52,800 pounds		Average			CY

Adjusted Capacity: 18.85

LCY

Site Altitude: 4700 feet

Cycle Time:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	0.00	5.00	5.00	2218	0.46

Haul Time: ______ 0.46 ___ minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	0.00	5.00	5.00	2814	0.38

0.38 minutes Return Time: Total Scraper team cycle time: 2.34 minutes Adjusted for job conditions: 802.33 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 802.33 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 2,407.00 LCY/Hour

Unadjusted unit production/hour: 966.67 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

 Fleet size:
 3
 Team(s)
 Total job time:
 36.34
 Hours

 Unit cost:
 \$1.776
 /LCY
 Total job cost:
 \$155,408

SCRAPER TEAM WORK

Task description:	Apply tops	oil to pit floor				
Site: 31 Road Pit		Permit Action:	SI-3	Peri	mit/Job#: <u>M1987</u>	7178
PROJECT IDEN	TIFICATION					
Task #:03B		tate: Colorado			viation: None	
Date: $\frac{6/6/20}{\text{User:}}$	22 Cou	inty: Mesa		Fil	ename: <u>M178-0</u>)3b
	organization name:	DRMS				
HOURLY EQUI	PMENT_		COSTS	hift basis: 1 per d	<u>ay</u>	
		craper: Cat 627	ent Description 7G w/push-pull T - 8SU			
	ort Equipment -Load	d Area: Cat D8' Area: NA	T - 8SU			
	-Water	,	Γanker, 3,500 Gal			
Cost Breakdown:	Scraper Wor	k Team Dozer	Support Equip Load Area	Dump Area	Maintenance Motor Grader	Equipment Water Truck
%Utilization-machine:	100	100	50	NA	100	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	NA NA	\$70.80	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	NA	\$56.31	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	NA	\$46.87	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	NA	\$173.98	\$70.66
Number of Units:	6	6	1	0	1	1
Group Subtotals:	Work:	\$3,844.98	Support:	\$186.31	Maint:	\$244.64
Total work team cos	t/hour: \$4,275.93					
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume: Loose volume:	77,117 93,697	CCY LCY	Swell fact	tor: 1.215		
	rce of estimated vo of estimated swell f					
HOURLY PROD	<u>UCTION</u>					
			Scraper Be	owl (volume) Basi	is:	
Material weight:	1,600 lbs/LCY			Volume: 15.70		CY
Material description:	Top Soil		Heaped			CY
Rated Payload: Payload Capacity:	52,800 pounds 33.00 LCY		Average Adjusted C			CY CY

Site Altitude: 4700 feet

$C_{\mathbf{v}}$	ycle	Time	e:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2218	0.35

Haul Time: 0.35 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2814	0.32

Return Time: **0.32** minutes Total Scraper team cycle time: 2.17 minutes Adjusted for job conditions: 865.19 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 865.19 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 2,595.57 LCY/Hour

Unadjusted unit production/hour: 1,042.40 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	3	Team(s)	Total job time:	36.10	Hours
Unit cost:	\$1.647	/LCY	Total job cost:	\$154,356	
Unit Cost.	\$1.047	/LC I	Total job cost.	Ф154,330	

BULLDOZER RIPPING WORK

	Task description:	Rip a	reas under stockpiles				
Site:	31 Road Pit		Permit Action:	SI-3	Permit/Job	o#: <u>M198717</u>	78
	PROJECT IDI	ENTIFICATION ENTIF	<u>ON</u>				
	Task #: 030	C	State: Colorado		Abbreviation	: None	
		/2022	County: Mesa		Filename		2
	User: AC	PY.					
	Agency	or organization	name: DRMS				
	HOURLY EQ	UIPMENT CO	<u>OST</u>				
	Basic I	Machine: Cat	D8T - 8SU		Horsepower:	310	
	Ripper Atta	achment: 3-Sl	nank Ripper			l per day	
					Data Source:	(CRG)	
	Cost Breakdown:						
		0 1: 0	. // /	007.46	Utilization %		
		Ownership Co Operating Co		\$97.46 \$97.63	NA 100		
	Rinne	er Ownership Co		\$15.19	NA		
		per Operating Co		\$9.94	100		
	11	Operator Co		\$40.04	NA		
		Total Unit Co	st/Hour:	\$260.26			
		Total Fleet Co	st/Hour: \$1,5 0	61.53			
	MATERIAL Q	<u>UANTITIES</u>	Sele	ected estimating	g method: Area		
	Alternate Method	ls:					
Seismic:	NA		Bank Volume:	NA	BCY	NA	
Area:	10.00	acres	Rip Depth (ft):	2.00	Volume: 32,267		BCY or CC
		Source of estin	nated quantity: Footpr	int of stockpile	estimate		
	HOURLY PRO	DDUCTION		-			
	Seismic:	<u> </u>					
	<u>Scisific.</u>	S	eismic Velocity:	NA	feet/second		
	A						
	Area:	Average	e Ripping Depth:	2.56	feet/pass		
			Ripping Width:	7.08	feet/pass		
		_	Ripping Length:	250.00	feet/pass		
			ge Dozer Speed:	88.00	feet/minute		
			Maneuver Time:	0.25	minutes/pass		
		Product	ion per unit area:	0.789	acres/hour		
	Job Condition Co	rrection Factors					
	Un	adjusted Hourly	Unit Production:	0.789	Acres/hr		
			Site Altitude:	4,700	feet		
			Altitude Adj:	1.00	(CAT HB)		
			Job Efficiency:	0.83	(1 shift/day)		
			Net Correction:	0.83	multiplier		
			Hourly Unit Production:	0.65	Acres/hr		
		Adjusted I	Hourly Fleet Production:	3.93	Acres/hr		
	JOB TIME AN	ND COST					
	Fleet size:	6	Grader(s)	Total job tim	ne: 2.55	Hou	ırs
	Unit cost:	\$397.538	Per acre	Total job co	st: \$3,975		

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task d	escription: In	tial Mobilization	1			
Site: 31 R	Site: 31 Road Pit		it Action: SI-3	Permit/Jo	b#: M1987178	
<u>PROJI</u>	ECT IDENTIFICAT	<u>ION</u>				
Tas	k#: 04A	State: (Colorado	Abbreviation:	None	
D	eate: 6/3/2022	County: 1	Mesa	Filename:	M178-04a	
U	ser: ACY					
	Agency or organization	n name: DRM	S			
EQUIP	PMENT TRANSPOR	RT RIG COST				
				Shift basis:	1 per day	
					CRG Data	
	Truck Tractor Des	cription: GEN		AY TRUCK TRACTOR, 6X4,	DIESEL POWERED,	
	Truels Trailer Des	arintian:		400 HP (2ND HALF, 2006) G GOOSENECK, DROP DEC	V EOUIDMENT	
	Truck Trailer Des	cription.		AILER (25T, 50T, AND 100T)	•	
		_	110	7 HELIX (231, 301, 711 HD 1001)		
Cost Bre	eakdown:					
Availa	able Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
	Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67		
	Operating Cost/Hour:	\$26.55				
	Operator Cost/Hour:	\$20.54	\$20.54	\$20.54		
	Helper Cost/Hour:	our: \$0.00 \$23.53 \$23.53				

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

\$68.37

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)		t		fleet		
Cat D8T - 8SU	47.71	\$97.46	\$132.49	6	\$1,379.70	\$794.94	\$250.00
Cat 627G w/push-	43.48	\$188.81	\$132.49	6	\$1,927.80	\$794.94	\$500.00
pull							
CAT 16M	28.73	\$70.80	\$132.49	1	\$203.29	\$132.49	\$250.00
Drill/Broadcast	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Seeder with							
Tractor							

\$132.49

\$147.95

Subtotals: \$3,587.14 \$1,790.74 \$1,250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$41.16	1	\$41.16	\$41.16

Subtotals:	\$41.16	\$41.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GRAND JUNCTION,

Total Non-Roadable Mob/Demob Cost *

"two round trips with haul rig:

Total Roadable Mob/Demob Cost **

** one round trip, no haul rig:

\$20.58

\$12,363.22

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.25	0.25
Return Time (Hours):	0.25	0.25
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.50	0.50

JOB TIME AND COST

Total job time: 3.00 Hours

Total job cost: \$12,384

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Sec	ondary Mobiliza	tion			
ee: 31 Road Pit	Permi	Action: SI-3		Permit/Job#:	M1987178
PROJECT IDENTIFICATI	<u>ON</u>				
Task #: 04B Date: 6/3/2022 User: ACY		olorado Iesa			one 178-04b
Agency or organization	n name: DRMS	S			
EQUIPMENT TRANSPOR		EDVC ON WARM	Shift b Cost Data Sou	rce: CRG	Data
Truck Tractor Desc	ription: GENI	ERIC ON-HIGHW	AY TRUCK TRACT 400 HP (2ND HALF		SEL POWERED,
Truck Trailer Desc	ription: C		NG GOOSENECK, D RAILER (25T, 50T, A	ROP DECK E	QUIPMENT
Cost Breakdown:					
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67		
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21		
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54		
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53		
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95		

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00

Subtotals: \$76.35 \$68.37 \$250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$41.16	1	\$41.16	\$41.16

Subtotals: \$41.16 \$41.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GRAND JUNCTION,

Total Non-Roadable Mob/Demob Cost *

"* two round trips with haul rig:

Total Roadable Mob/Demob Cost **

** one round trip, no haul rig:

\$20.58

\$725.06

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.25	0.25
Return Time (Hours):	0.25	0.25
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.50	0.50

JOB TIME AND COST

Total job time:	3.00	Hours

Total job cost: \$746