

July 11, 2022

Martin Azcarraga M.A. Concrete Construction, Inc. 2323 River Road Grand Junction, CO 81505

Re: 32.5 Road Gravel Pit - File No. M-2009-035

M.A. Concrete Construction, Inc.

**Surety Increase (SI-1)** 

Surety Increase based on inflation and site conditions

Dear Martin Azcarraga:

On July 11, 2022 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$88,155.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$14,067.00.

Please see the November 10, 2021 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 (July 11, 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 September 9, 2022, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	\$74,088.00
Prior Liability:	\$74,088.00
Change in Liability:	\$14,067.00
Revised Liability:	\$88,155.00
Prior Permit Acreage:	34.34



Change in Permit Acreage:	0.00
Revised Permit Acreage:	34.34
Prior Affected Acreage:	30.25
Change in Affected Acreage:	0.00
Revised Affected Acreage:	30.25

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: Martin Azcarraga

M-GR-04

### **COST SUMMARY WORK**

Та	ask description:	2022 Update					
Site: _	32.5 Road Gravel Pit	Permit Acti	on: SI1		Permit/Jo	b#: <u>M2009035</u>	
<u>PR</u>	OJECT IDENTIFIC	<u>CATION</u>					
	Task #: ACY Date: 7/11/2022 User: Accy	State: Colora County: Mesa zation name: DRMS	do	A	Abbreviation: Filename:	None M035-ACY	<u>—</u>
<u>TA</u>	Agency or organi						
Гask	Description		Form Used	Fleet Size	Task Hours	Cost	

To al-		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
01a	Construct pond in North Phase	LOADER	1	12.95	\$1,418
02a	Construct pond in South Phase	LOADER	1	20.86	\$2,285
03a	Import Gravel for bank	TRUCK1	1	0.92	\$12,134
03b	Grade imported gravel	DOZER	1	1.51	\$320
04a	Reclaim settling ponds	DOZER	1	66.89	\$14,190
05a	Demo Scale	DEMOLISH	1	16.00	\$2,268
06a	Rip compacted areas	RIPPER	1	12.76	\$2,878
07a	Import Gravel for bank	TRUCK1	1	16.83	\$3,836
07b	Grade transported topsoil	DOZER	1	11.45	\$2,429
08a	Reveg	REVEGE	1	10.00	\$18,718
09a	Initial Mobilization	MOBILIZE	1	2.57	\$3,243
10a	Secondary Mobilization	MOBILIZE	1	2.57	\$1,416
		SUBTO	TALS:	175.31	\$65,135

### **INDIRECT COSTS**

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02 Total = \$1,316 Performance bond: 1.05 Total = \$684 Job superintendent: 87.65 Total = \$6,585 Profit: 10.00 Total = \$6,514

TOTAL O & P = \$15,098 CONTRACT AMOUNT (direct + O & P) = \$80,233

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500 Total = \$500
Engineering work and/or contract/bid preparation: 4.25 Total = \$3,410
Reclamation management and/or administration: 5.00 \$4,012

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$23,020

TOTAL BOND AMOUNT (direct + indirect) = \$88,155

## WHEEL LOADER – LOAD AND CARRY WORK

<b>:</b> :			ct pond in Nort	n Phase				
_	32.5 Road Gravel	Pit	Permit Acti	on: SI1		Po	ermit/Job#:	M2009035
<u>P</u> I	ROJECT IDENT	TIFICATION	[					
	Task #: 01A		State: Color	ado		Abb	reviation:	None
	Date: 7/11/202	22	County: Mesa		<del></del>		Filename:	M035-01a
	User: ACY	<del></del>				-		1,1000 014
	Agency or or	rganization nar	ne: DRMS					
<u>H</u>	OURLY EQUIP	MENT COS	<u>r</u>					
	Basic Machine	: CAT 938H	I		Hors	sepower:		172
	Attachment 1			_		ift Basis:		er day
	7 tttueimient 1	. Korb cut	<u> </u>	_		Source:		CRG)
<u>Cc</u>	ost Breakdown:							
	01:	/III	¢40.05	Utilizatio	on %			
	Ownership Co		\$40.85	NA 100				
	Operating Co Operator Co		\$32.69 \$35.97	NA				
	Total Unit Co		\$109.51	INA				
			\$109.51					
	Total Fleet Co	ost/Hour:	\$109.51					
	IATERIAL QUA  Initial volume:  Loose volume:	1,452 1,452 ce of estimated		7	ell factor:	1.000		
		f estimated swe		Handbook				
<u>H</u>		f estimated swe						
	Source of	f estimated swe		Handbook	p, maneuve	r):	0.483	minutes
	Source of Source	f estimated swe UCTION  Unadjust actors	ell factor: Cat	Handbook `ime (load, dum	p, maneuve	Facto	r (min.)	Source
	Source of OURLY PRODU oader Cycle Time: Cycle Time Fa Mai	f estimated swe  UCTION  Unadjust actors   terial: Mater	ell factor: Cat	Handbook `ime (load, dum	p, maneuve	Factor 0.	r (min.)	Source (Cat HB)
	Source of Source	f estimated swe  UCTION  Unadjust actors   terial: Mater kpile: Dump	ell factor: Cat de la factor Cat de la factor Cycle Tatal 3/4" to 6" dia de la factor Cat d	Handbook 'ime (load, dum		Factor 0. 0.	r (min.) 000 020	Source (Cat HB) (Cat HB)
	Source of Source	Unadjustactors terial: Mater kpile: Dumprship: Comr	ell factor: Cat deed Basic Cycle To dial 3/4" to 6" dial deed by truck 0.02 non ownership of	Handbook  Time (load, dum  meter 0.00		Facto 0. 00.	r (min.) 000 020 .040	Source (Cat HB) (Cat HB) (Cat HB)
	Source of Source	Unadjustactors Lerial: Material: Material: Dumpriship: Commation: Const	red Basic Cycle To a sial 3/4" to 6" dial died by truck 0.02 non ownership of ant operation -0.0	Handbook  Time (load, dum  meter 0.00		Factor 0. 000.	r (min.) 000 020 .040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
	Source of Source	Unadjustactors Lerial: Material: Material: Dumpriship: Commation: Const	red Basic Cycle To ial 3/4" to 6" dial oed by truck 0.02 non ownership of ant operation -0.0 e target 0.05	Handbook Time (load, dum meter 0.00 Ttrucks and load)	ders -0.04	Factor 0. 000. 0.	r (min.) 000 020 .040 .040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
	Source of Source	Unadjustactors Lerial: Material: Material: Dumpriship: Commation: Const	red Basic Cycle Trial 3/4" to 6" dialed by truck 0.02 non ownership of ant operation -0.0 e target 0.05	Fime (load, dum meter 0.00  Trucks and load)  t Cycle Time A	djustment:	Factor 0. 00000.	r (min.) 000 020 040 040 050 010	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Lo	Source of Source	Unadjustactors   terial: Materkpile: Dumprship: Comration: Constarget: Fragil	red Basic Cycle Total 3/4" to 6" dial old by truck 0.02 non ownership of ant operation -0.0 e target 0.05	Handbook Time (load, dum meter 0.00 Ttrucks and load)	djustment:	Factor 0. 00000.	r (min.) 000 020 .040 .040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Lo	Source of COURLY PRODUCTION OF THE PRODUCTION OF	Unadjustactors  terial: Materickpile: Dumprship: Commation: Constarget: Fragil	red Basic Cycle To a sign of the sign of t	Handbook  Time (load, dum  meter 0.00  Ttrucks and load)  t Cycle Time A djusted Basic C	djustment: ycle Time:	Facto 0. 000. 0. 0.	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Lo	Source of COURLY PRODUCTION OF THE PRODUCTION OF	Unadjustaterial: Material: Material: Dumpreship: Commation: Constarget: Fragil	red Basic Cycle Total 3/4" to 6" dial old by truck 0.02 non ownership of ant operation -0.0 e target 0.05	Handbook  Time (load, dum  meter 0.00  Ttrucks and load)  t Cycle Time A djusted Basic C  ance, no water,	djustment: ycle Time:	Factor 0. 0. 000. 000000.	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>La</u>	Source of COURLY PRODUCTION OF THE PRODUCTION OF	Unadjustactors  Unadjustactors  terial: Materical: Dumpriship: Commation: Constarget: Fragil	red Basic Cycle To a sign of the sign of t	Handbook  Time (load, dum  meter 0.00  Ttrucks and load)  t Cycle Time A djusted Basic C  ance, no water,	djustment: ycle Time:	Factor 0. 0. 000. 000000.	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>La</u>	Source of Source	Unadjustactors  terial: Mater kpile: Dumprship: Comration: Constarget: Fragil  Road Condition  Rutted Connection: Rutted Connection: Rutted Connection: Constarget: Rutted Connection: R	ell factor: Cat led Basic Cycle To a led Basic Cycle To a led by truck 0.02 non ownership of ant operation -0.00 e target 0.05  Ne Act led Basic Cycle To a	Handbook Time (load, dum meter 0.00 Ttrucks and load) t Cycle Time A djusted Basic C ance, no water, ance, no water,	djustment: ycle Time: 2" tire pene	Facto  0.  0.  -0.  0.  -0.  0.  etration 5.0	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>La</u>	Source of COURLY PRODUCTION OF THE PRODUCTION OF	Unadjustactors  Unadjustactors  terial: Materical: Dumpriship: Commation: Constarget: Fragil  Road Condition  Rutted committed to Rutted commits  Length	red Basic Cycle To rial 3/4" to 6" dial 3/4" to 6" dial 3ed by truck 0.02 mon ownership of ant operation -0.0 to target 0.05  Ne Addissert Little mainten lirt, little mainten lirt, little mainten Grade Res.	Handbook  Time (load, dum  meter 0.00  Ttrucks and load)  t Cycle Time A djusted Basic C  ance, no water, ance, no water, Rolling	djustment: ycle Time:  2" tire pene 2" tire pene	Facto 0. 000. 00. ctration 5.0  ctration 5.0	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>Lo</u>	Source of COURLY PRODUCTION OF THE PRODUCTION OF	Unadjustactors  terial: Mater kpile: Dumprship: Comration: Constarget: Fragil  Road Condition  Rutted Connection: Rutted Connection: Rutted Connection: Constarget: Rutted Connection: R	ell factor: Cat led Basic Cycle To a led Basic Cycle To a led by truck 0.02 non ownership of ant operation -0.00 e target 0.05  Ne Act led Basic Cycle To a	Handbook Time (load, dum meter 0.00 Ttrucks and load) t Cycle Time A djusted Basic C ance, no water, ance, no water,	djustment: ycle Time: 2" tire pene	Facto 0. 000. 00. ctration 5.0  Stration 5.0	r (min.) 000 020 .040 .040 050 .010 473	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes

				Total Travel Tim	ne:	1.2166	minutes
				Total Cycle Tim	ne:	1.6891	minutes
Load Bucket Capacity							
Rated Capac	ity:	3.90	LCY (hea	ped)			
Bucket Fill Fact	tor:	0.975	Loose ma	terial - mixed mois	t aggrega	ites (95-10	0%) 0.975
Adjusted Capac	ity:	3.80	LCY				
Job Condition Correction Site Altitude: 4620 feet							
			Source				
Altitude Adj:	1.0	0	(CAT HB	)			
Job Efficiency:	0.8	13	(1 shift/day	y)			
Net Correction:	0.8	3	multiplier				
U	nadjusted H	lourly Unit	Production:	135.07	LCY/H	our	
	Adjusted H	lourly Unit l	Production:	112.11	LCY/H	our	
	Adjusted H	ourly Fleet l	Production:	112.11	LCY/H	our	
JOB TIME AND CO	<u>OST</u>						
Fleet size:	1	Loader(s)		Total job time: _		12.95	Hours
Unit cost: \$	0.977	/LCY		Total job cost:	\$	61,418	

## WHEEL LOADER – LOAD AND CARRY WORK

Task description:	Constru	ct pond in South	n Phase				
: 32.5 Road Grave	Pit	Permit Acti	on: SI1		Peri	nit/Job#:	M2009035
PROJECT IDEN	<b>TIFICATION</b>						
Task #: 02A		State: Color	ado		Abbres	viation:	None
Date: 7/11/2	022	County: Mesa				ename:	M035-02a
User: ACY	<u></u>						1,1000 024
Agency or	organization nan	ne: DRMS					
HOURLY EQUIP	MENT COST	<u>T</u>					
Basic Machin	e: CAT 938H	ſ		Horse	epower:		172
Attachment			_		t Basis:		er day
Attachment	1. KOI 5 Cao		=		Source:		CRG)
Cost Breakdown:				0/			
O	Sa at /III a	¢40.05	Utilizatio	on %			
Ownership C Operating C		\$40.85 \$32.69	NA 100				
Operator C		\$35.97	NA				
Total Unit C		\$109.51	INA				
Total Fleet (	Cost/Hour:	\$109.51					
MATERIAL QUA	ANTITIES						
Initial volume:	2,339	CCY	/ Swe	ell factor:	1.000		
Loose volume:	2,339					<del></del>	
Sou	arce of estimated	volume: 2000	calc				
	of estimated swe		Handbook				
HOURLY PROD	<u>UCTION</u>						
Loader Cycle Time:	Unadjust	ed Basic Cycle T	ime (load, dum	p, maneuver)	):(	0.483	minutes
Cycle Time I					Factor (	min.)	Source
		ial 3/4" to 6" dia	meter 0.00		0.00		(Cat HB)
		ed by truck 0.02			0.02		(Cat HB)
Truck Own		non ownership of		lers -0.04	-0.04		(Cat HB)
		ant operation -0.0	)4		-0.04		(Cat HB)
Dump 7	l'arget: Fragil	e target 0.05	G 1 T	1.	0.05		(Cat HB)
			t Cycle Time A		-0.01		minutes
		Ac	djusted Basic C	ycle I ime: _	0.47	3	minutes
Rolling Resistance –	Road Condition	<u>s</u>					
F	Iaul: Rutted d	irt, little mainten	ance, no water.	2" tire penet	ration 5.0		
		irt, little mainten					
Haul and Return Tin			. ,				
11au1 and Neturn Illi			D 111	m . 1 **	1 -	'	
	Length	Grade Res.	Rolling	Total Res		l Time	Source
TT 175	(feet)	(%)	Res. (%)	(%)		utes)	
Haul Route:	700	0.00	5.00	5.00		414	(Cat HB)
Return Route:	700	0.00	5.00	5.00	0.5	752	(Cat HB)

			Total Travel Tim Total Cycle Tim		1.2166 <b>1.6891</b>	minutes minutes
Load Bucket Capacity						
Rated Capaci	ty: <u>3.90</u>	LCY (hea	ped)			
Bucket Fill Factor	or: 0.975	Loose ma	terial - mixed mois	t aggrega	tes (95-100	%) 0.975
Adjusted Capaci	ty: <b>3.80</b>	LCY				
Job Condition Correction Site Altitude: 4620 feet	n Factors					
		Source				
Altitude Adj:	1.00	(CAT HB	5)			
Job Efficiency:	0.83	(1 shift/day	y)			
Net Correction:	0.83	multiplier	<u></u>			
Ur	nadjusted Hourly Uni	t Production:	135.07	LCY/H	our	
	Adjusted Hourly Unit	t Production:	112.11	LCY/H	our	
1	Adjusted Hourly Fleet	t Production:	112.11	LCY/H	our	
JOB TIME AND CO	<u>OST</u>					
Fleet size:	1 Loader(s)	)	Total job time: _	2	20.86	Hours
Unit cost: \$0	.977 /LCY		Total job cost:	\$	2,285	

# TRUCK/LOADER TEAM WORK

HOURLY EQUIP	022 organization nan	State: Colora County: Mesa  ne: DRMS			breviation: No. Filename: M0	
Task #: 03A Date: 7/11/20 User: ACY Agency or of HOURLY EQUIF	022 (organization nan	State: Colora County: Mesa  ne: DRMS	ado	Ab		
Date: 7/11/20 User: ACY  Agency or of the second se	organization nan	County: Mesa ne: DRMS	ado	Ab		
User: ACY Agency or of HOURLY EQUIF	organization nan	ne: DRMS			Filename: M0	35-03a
Agency or of HOURLY EQUIF						
HOURLY EQUIP						
Tı	PMENT COST	<u>2</u>				
				Shift bas	is: <u>1 per day</u>	
			Equipment Descri	ption		
	ruck Loader Tea		eric 8-10 cy, 6x4 Γ 938Η			
Suppo	ort Equipment -L		1 93611			
		ımp Area: NA				
Road Ma	intenance –Moto					
	-Wa	ter Truck: NA				
Cost Breakdown:	Truck/Loa	ıder Team	Support I	Equipment	Maintenan	ce Equipment
OSSV DIVINIO WILL	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$15.43	\$40.85	NA	NA	NA	NA
Operating cost/hour:	\$43.77	\$32.69	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$35.97	NA	NA	NA	NA
Unit Subtotals:	\$59.20	\$109.51	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work:	\$227.91	Support:	\$0.00	Maint:	\$0.00
Total work team cost	t/hour: <b>\$227.91</b>					
	'					
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume:	250	CCY	Swell	factor: 1.060		
Loose volume:	265	LCY				
Sov	rce of estimated	volume: Divis	sion of Reclamation	on, Mining & Safe	ety	
Source	of estimated swe	ll factor: Cat F	Handbook	, ,	-	
	Material Purcha					
	To	otal Cost: \$11,9	925.00			
HOURLY PRO	DUCTION					
Truck Capacity: Truck Payload (weig	tht) Basis:					
Material w			Pounds/LCY			
Descri	ption: Gravel	- Wet (1/4""-2""				
Rated Pay Payload Cap			Pounds LCY			

Truck Bed (volume) Basis: Struck Volume:	8.00 LO	CY				
Heaped Volume:	10.00 LO	CY				
Average Volume:	9.00 LO	CY				
Adjusted Volume:	8.02 LO	CY				
Final	Truck Volume Ba	ased on Number of	Loader Passes:	6.83	LCY	
Loading Tool Capacity			D 1	va: al N		
Datad Camacity	2 000	I CV (boomed)	Виск	et Size Class: N	A	_
Rated Capacity: _ Bucket Fill Factor:	3.900 0.875	LCY (heaped)	- 1" and over (85	00%) 0.875		_
Adjusted Capacity:	3.413	LCY	- 1 and over (83	- 90%) 0.873		=
Adjusted Capacity.	3.413	Lei				
<b>Job Condition Corrections:</b>	<u>-</u>	Si	te Altitude (ft.): 4	620 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	,		
Job Efficiency:	0.830	0.830	(CAT HB	)		
Net Correction:	0.830	0.830				
	,					
<b>Loading Tool Cycle Time:</b>	Number o	f Loading Tool Pas	sses Required to F	Fill Truck:	2 1	passes
Loading Tool Cycle Time: Excavators and Front Shovel		f Loading Tool Pas	sses Required to F	Fill Truck:	2 1	passes
Excavators and Front Shovel	<u>s:</u>		sses Required to I	Fill Truck:	2 1	passes
Excavators and Front Shovel  Machine Cycle Time vs	<u>s:</u>	Rating: NA	sses Required to I	Fill Truck:	2 1	passes
Excavators and Front Shovel  Machine Cycle Time vs	s: s. Job Condition I within this Basic I	Rating: NA NA NA	sses Required to F	Fill Truck:	2 1	passes
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders –	s: s. Job Condition I within this Basic I	Rating: NA NA NA	sses Required to F	Fill Truck:	2 1	passes
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – 1  Cycle Time Elements (min.):	s: s. Job Condition I within this Basic I Material Descript	Rating: NA Rating: NA	sses Required to F		,	passes
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders –	s: s. Job Condition I within this Basic I Material Descript	Rating: NA NA NA	sses Required to F	Dump: 0.100	,	passes
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – 1  Cycle Time Elements (min.):	s: s. Job Condition I sithin this Basic I Material Descript Mar	Rating: NA Rating: NA ion: NA		Dump: 0.100	,	
Excavators and Front Shovel  Machine Cycle Time vs. Selected Value v  Track Loaders – I  Cycle Time Elements (min.):  Load: NA	s: s. Job Condition For the second se	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100	)	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:	s: s. Job Condition For the second se	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.) 0.030		
Excavators and Front Shovel  Machine Cycle Time vs Selected Value vs Track Loaders – 1  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors Material: Stockpile:	s: s. Job Condition I within this Basic I Material Descript  Mar Unadjusted Basic Material 6" and Dumped by true	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020	483 min  Source (Cat HB) (Cat HB)	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – 1  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040	Source   (Cat HB)   (Cat HB)   (Cat HB)	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 -0.040	Source   (Cat HB)   (Cat HB)	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – 1  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 -0.040 0.000	Source   (Cat HB)   (Cat HB)	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 -0.040 0.000 -0.030	Source   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   minutes	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v  Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n loaders -0.04  ne Adjustment: er Cycle Time:	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 0.000 -0.030 0.453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 -0.040 0.000 -0.030	Source   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   minutes	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders -  Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n loaders -0.04  ne Adjustment: er Cycle Time: ime per Truck:	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 0.000 -0.030 0.453 0.553	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s: s. Job Condition For the state of the sta	Rating: NA Rating: NA N	ne (load, dump, n loaders -0.04  ne Adjustment: er Cycle Time: ime per Truck:	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 0.000 -0.030 0.453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shovel  Machine Cycle Time vs Selected Value v Track Loaders – I  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders -  Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	s: s. Job Condition I within this Basic I Material Descript  Mar Unadjusted Basic Material 6" and Dumped by truc Common owner Constant operat Nominal target	Rating: NA Rating: NA N	ne (load, dump, n  loaders -0.04  ne Adjustment: er Cycle Time: ime per Truck:  Adjusted	Dump: 0.100 naneuver): 0. Factor (min.) 0.030 0.020 -0.040 0.000 -0.030 0.453 0.553	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes

<u>Truck Travel (Haul & Return) Time:</u> Road Condition: <u>Rutted dirt, little maintenance, no water, 2" tire penetration 5.0</u>

#### 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	0.295

Return Route:

Seg # Haul Distance Grade (%) Roll. Res Total Res Velocity Travel

((%) (%) (%) (free) Time

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2814	0.206

Return Time: 0.206 minutes
Total Truck Cycle Time: 2.354 minutes

Loading Tool unit

Production Truck Unit Production

Truck Unit Production

174.00 LCY/Hour Adjusted for job efficiency: 322.93 LCY/Hour Adjusted for job efficiency: 144.42 LCY/Hour Optimal No. of Trucks: 2 Truck(s)

Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 288.83 LCY/Hour Adjusted single truck/loader team production: 288.83 LCY/Hour Adjusted multiple truck/loader team production: 288.83 LCY/Hour

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 0.92
 Hours

 Unit cost:
 \$0.789
 /LCY
 Total job cost:
 \$12,134

## **BULLDOZER WORK**

Task description:	Grad	le imported gravel				
: 32.5 Road Grave	el Pit	Permit Actio	n: <u>SI1</u>		Permit/Job#:	M2009035
PROJECT IDEN	TIFICATION	<u>ON</u>				
Task #: 03B		 State: Colorac	do		Abbreviation:	None
Date: 7/11/2	2022	County: Mesa	40		Filename:	M035-03b
User: ACY						
	organization	name: DRMS				
Agency of	organization	name. DRMS				
<b>HOURLY EQUI</b>	PMENT CO	<u>OST</u>				
Basic Machine:		S XR Series II				
Horsepower:	240					
Blade Type:	Semi-Unive	ersal				
Attachment:	NA					
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Breakdown:			T.			
0 1: 0 4		Φ02.7	0	<u>Utilization %</u>		
Ownership Cost/H		\$92.7		NA 100		
Operating Cost/H Ripper own. Cost/H		\$79.3 \$0.0		100 NA		
Ripper op. Cost/H		\$0.0		0		
Operator Cost/H		\$40.0		NA		
Operator Cost/11		ψ+0.0	7	INA		
Total unit Cost/Hou	r: \$212.	15				
Total Fleet Cost/Ho	ur: <b>\$212.</b>	15				
	Ψ===					
MATERIAL QU	<u>ANTITIES</u>					
Initial Volume:	250					
Swell factor:	1.000					
Loose volume:	250 LCY					
Source of estimated	ryo1yymay	On anaton in mut				
Source of estimated Source of estimated		Operator input Cat Handbook				
Source of estimated	swell factor.	Cat Handbook				
HOURLY PROD	<u>UCTION</u>					
Average push distan	ice.	200 feet				
Unadjusted hourly p		410.8 LCY/hr				
Materials consistence	cy description	: Loose stockpile	1.2			
Average push gradie	ent: 0 %					
Average site altitude		feet				
Material weight:	_3,400	lbs/LCY				
Weight description:	Grave	1 - Wet (1/4'''-2'''dian	n.)			
Job Condition Corre	ection Factor			Source		
Ope	rator Skill:	0.750		(AVG.)		
Material co		1.200		(CAT HB)		
Dozir	ng method:	1.000		(GEN.)		
	Visibility:	1.000	[ _	(AVG.)		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.676	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4040

Adjusted unit production: 165.96 LCY/hr
Adjusted fleet production: 165.96 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$1.278/LCY

Total job time: 1.51 Hours \$320

## **BULLDOZER WORK**

Task description:	Reclaim	settling ponds			
: 32.5 Road Grave	el Pit	Permit Action:	SI1	Permit/Job#:	M2009035
PROJECT IDEN	TIFICATION				
Task #: 04A		State: Colorado		Abbreviation:	None
Date: $\frac{-0.11}{7/11/2}$	2022	County: Mesa		Filename:	M035-04a
User: ACY		, <u> </u>		-	
Agency or	organization nam	e: DRMS			
HOURLY EQUI		· ·			
Basic Machine:	Cat D7R DS XI	_			
Horsepower:	240	X Series II	_		
Blade Type:	Semi-Universal		<del>_</del>		
Attachment:	NA				
Shift Basis:	1 per day				
Data Source:	(CRG)		<del></del>		
Coat Decaledorem			<del></del>		
Cost Breakdown:			Utilization %		
Ownership Cost/H	our.	\$92.78	NA		
Operating Cost/H		\$79.33	100		
Ripper own. Cost/H		\$0.00	NA		
Ripper op. Cost/H		\$0.00	0	<del></del>	
Operator Cost/H		\$40.04	NA	<del></del> ;	
Operator Cost II		Ψ10.01	IVA	<del></del>	
MATERIAL QU Initial Volume: Swell factor:	10,000 1.090				
Loose volume:	10,900 LCY				
Source of estimated Source of estimated		Exhibit L and 2009 ca Cat Handbook	alc		
HOURLY PROD	<u>OUCTION</u>				
Average push distar Unadjusted hourly p		) feet ).8 LCY/hr			
Materials consistence	cy description:	Compacted fill or e	mbankment 0.9		
Average push gradic Average site altitude		<u> </u>			
Material weight:	2,600 lbs/	LCY		_	
Weight description:	Clay and	gravel - Wet			
Job Condition Corre		0.770	Source		
	rator Skill:	0.750	(AVG.)		
Material co		0.900	(CAT HB))		
Dozir	ng method:	1.000	(GEN.)		
	Visibility:	1.000	(AVG.)		

0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
0.885	(CAT HB)
1.000	(PAT)
	0.800 1.000 1.000 0.885

Net correction: 0.3967

Adjusted unit production: 162.96 LCY/hr
Adjusted fleet production: 162.96 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$1.302/LCY

Total job time: 66.89 Hours
Total job cost: \$14,190

# **DEMOLITION WORK**

Task de	escription:	Demo Scale					
Site: 32.5 I	Road Gravel Pi	t Perr	mit Action: SI	1	Perr	nit/Job#:	M2009035
PROJECT ID	ENTIFICAT	<u>ION</u>					
User: AC	1/2022	County: M	olorado esa AS		Abbreviatio Filenam		e 25-05a
UNIT COSTS					Location a	djustmen	<u>t: 90.70 %</u>
Structure or Descriptio	D:	ensions	nolition Menu Selection	Quantity	UIII	Unit Cost	<b>Total Cost</b>
Scale	50' x5	50' USER I ITEM	PROVIDED	2,500.00	SF	\$1.00	\$2,500.00
Job Hours:	16.00	Si (unadj	ıbtotal usted):	\$2,500.00	(adjus	al Cost ted for ation):	\$2,267.50

# **BULLDOZER RIPPING WORK**

	Task description	: <u>Rip</u>	compacted areas					
Site	: 32.5 Road Gr	avel Pit	Permit Action:	SI1	P	ermit/Job#:	M20090	)35
	PROJECT ID	ENTIFICAT	<u>ION</u>					
	Task #: 06	A	State: Colorado		Abb	reviation:	None	
		11/2022	County: Mesa			Filename:	M035-06	ia .
	User: A0	CY	·					
	Agency	y or organization	n name: DRMS					
	<b>HOURLY EQ</b>	UIPMENT C	<u>OST</u>					
	Basic	Machine: Ca	t D7R DS Series II LGP		Horsepower:		240	
	Ripper At	tachment: 3-3	Shank Ripper	<del>_</del>	Shift Basis:	1 1	er day	
				<del></del>	Data Source:	(	CRG)	
	Cost Breakdown	ı <u>:</u>						
					Utilization %			
		Ownership C	-	\$92.78	NA	_		
		Operating C		\$79.33	100	=		
		er Ownership C		\$8.37	NA	-		
	Rip	per Operating C		\$4.99	100	=		
		Operator C Total Unit C		\$40.04 \$225.51	NA	=		
		Total Fleet C	Cost/Hour: \$225	.51				
	MATERIAL (	QUANTITIES	Sele	cted estimating	g method: Area	ı		
	Alternate Metho	ds:						
Seismic:	NA		Bank Volume:	NA	BCY		NA	
Area:	6.84	acres	Rip Depth (ft):	2.00	Volume:	22,070		BCY or CCY
		Source of esti	mated quantity: Rec Pla	n and 2009 ca	lc			
	HOURLY PR		1 ,					
		ODUCTION						
	Seismic:		C. ' '. X7.1 '4	NIA	<b>C</b> /	1		
			Seismic Velocity:	NA	feet/sec	ona		
	Area:							
			ge Ripping Depth:	1.00	feet/pas			
			ge Ripping Width:	6.50	feet/pas			
			e Ripping Length: rage Dozer Speed:	100.00 88.00	feet/pas feet/mir			
			e Maneuver Time:	0.25	minutes			
		_	ction per unit area:	0.23	acres/ho	_		
	Job Condition C			0.0.0		7 442		
	•		_	0.646	A amag /la			
	OI	naujusteu Houri	y Unit Production:		Acres/h	ľ		
			Site Altitude:	4,620	feet (CATA	ID)		
			Altitude Adj:  Job Efficiency:	1.00 0.83	(CAT H			
			Net Correction:	0.83	(1 shift/ multipli	•		
					<u> </u>	.CI		
			Hourly Unit Production: Hourly Fleet Production:	0.54 <b>0.54</b>	Acres/hr Acres/hr			
	JOB TIME A	·						
	Fleet size:	1	_ Grader(s)	Total job tin	me: 1	12.76	Но	ours
	Unit cost:	\$420.715	Per acre	Total job co	ost· \$	2.878		

# TRUCK/LOADER TEAM WORK

Task description:		Gravel for bank	CI1		D	2000025
Site: 32.5 Road Grav	vel Pit	Permit Action	on: SII		Permit/Job#: M	2009035
PROJECT IDE	NTIFICATION					
Task #: 07A		State: Colora	ado	Ab	breviation: No	ne
Date: 7/11		County: Mesa				)35-07a
User: ACY						
Agency o	or organization nan	ne: DRMS				
HOURLY EQU	IPMENT COST	<u>r</u>		Shift bas	is: 1 per day	
			Equipment Descri	ption		
	Truck Loader Tea		eric 8-10 cy, 6x4 Γ 938Η			
Sup	port Equipment -L		1 936П			
	-Dı	ımp Area: NA				
Road N	Maintenance – Mot	or Grader: NA ter Truck: NA				
	- vv a	ter Truck: NA				
Cost Breakdown:	Truck/Loa	nder Team	Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$15.43	\$40.85	NA	NA	NA	NA
Operating cost/hour:	\$43.77	\$32.69	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$35.97	NA	NA	NA	NA
Unit Subtotals:	\$59.20	\$109.51	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work:	\$227.91	Support:	\$0.00	Maint:	\$0.00
Total work team co	ost/hour: <b>\$227.91</b>					
MATERIAL OI	I A NITHTHES					
MATERIAL QU						
Initial volume		CCY LCY		factor: 1.115		
Loose volume						
	ource of estimated		sion of Reclamatic Handbook	on, Mining & Safe	ety	
Sourc	e of estimated swe Material Purch					
		otal Cost: \$0.00				
HOURLY PRO	<u>ODUCTION</u>					
Truck Capacity:						
Truck Payload (we						
Material	weight: $2,100$ Earth -	Loam	Pounds/LCY			
Rated P			Pounds			
Payload Ca			LCY			

Truck Bed (volume) Basis Struck Volume:	8.00	LCY	•					
Heaped Volume:	10.00	LCY	-					
Average Volume:	9.00	LCY	•					
Adjusted Volume:	10.00	LCY	•					
Fin	al Truck Vo	lume Base	ed on Number of	f Loader Passes:	8.19	)	LCY	
Loading Tool Capacity								
				Bucl	ket Size Class	: <u>NA</u>		
Rated Capacity:	3.90		LCY (heaped)					
Bucket Fill Factor:	1.05			andy clay (100%	- 110%) 1.05	0		
Adjusted Capacity:	4.09	<b>9</b> 5	LCY					
Job Condition Correction	ıs:		Si	te Altitude (ft.): 4	1620 feet			
	Truck		Loader	Source				
Altitude Adj:	1.000		1.000	(CAT HE	5)			
Job Efficiency:	0.830		0.830	(CAT HE	5)			
Net Correction:	0.830		0.830					
<b>Loading Tool Cycle Tim</b>	e: Nu	ımber of L	oading Tool Pas	sses Required to 1	Fill Truck:	2		passes
Loading Tool Cycle Tim  Excavators and Front Sho		ımber of L	oading Tool Pas	sses Required to	Fill Truck: _	2		passes
Excavators and Front Sho	vels:		-	sses Required to	Fill Truck: _	2		passes
Excavators and Front Sho Machine Cycle Time	vels: vs. Job Cor	ndition Rat	ing: NA	sses Required to	Fill Truck: _	2		passes
Excavators and Front Sho	vels: vs. Job Core within this	ndition Rat Basic Rat	ing: NA NA	sses Required to	Fill Truck: _	2		passes
Excavators and Front Sho Machine Cycle Time Selected Valu	vels: vs. Job Core within this Material I	ndition Rat Basic Rat	ing: NA NA	sses Required to	Fill Truck: _	2		passes
Excavators and Front Sho Machine Cycle Time Selected Valu Track Loaders	vels: vs. Job Core within this Material I	ndition Rat Basic Rat	ing: NA ing: NA	sses Required to		0.100		passes
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA	vels: vs. Job Core within this Material I	ndition Rat Basic Rat Description Maneu	ing: NA		Dump:	0.100	miı	passes
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min	vels: vs. Job Core within this Material I .): s - Unadjust	ndition Rat Basic Rat Description Maneu	ing: NA		Dump:	0.100	min	
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA  Wheel and Track Loader	vels: vs. Job Core within this — Material I .): s - Unadjust	ndition Rat Basic Rat Description Maneu	ing: NA ing: NA n: NA oader Cycle Tir		Dump: _	0.100 0.483 n.)	Source (Cat HB)	
Excavators and Front Sho  Machine Cycle Time Selected Valu Track Loaders  Cycle Time Elements (min Load: NA  Wheel and Track Loader  Cycle Time Factors	vels: vs. Job Core within this — Material I .): s - Unadjust                 Mixed r	ndition Rat Basic Rat Description Maneu ed Basic L	ing: NA ing: NA n: NA oader Cycle Tir	ne (load, dump, r	Dump: _ naneuver): _ Factor (mi	0.100 0.483 n.)	Source	
Excavators and Front Sho  Machine Cycle Time Selected Valu Track Loaders  Cycle Time Elements (min Load: NA  Wheel and Track Loader  Cycle Time Factors Material	vels:  vs. Job Core within this  Material I  .):  s - Unadjust  Mixed r  Convey: Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA ing: NA n: NA oader Cycle Tir o2 r piled 10 ft. higi ip of trucks and	ne (load, dump, r	Dump:	0.100 0.483 n.)	Source (Cat HB)	
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA  Wheel and Track Loader  Cycle Time Factors  Material Stockpile  Truck Ownership Operation	vels:  vs. Job Core within this  Material I  :):  s - Unadjust : Mixed r : Convey : Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA ing: NA n: NA oader Cycle Ting o2 r piled 10 ft. high ip of trucks and n -0.04	ne (load, dump, r	Dump: maneuver): Factor (mi	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA  Wheel and Track Loader  Cycle Time Factors  Material  Stockpile  Truck Ownership	vels:  vs. Job Core within this  Material I  :):  s - Unadjust : Mixed r : Convey : Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA	me (load, dump, r h and up 0.00 loaders -0.04	Dump:	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA  Wheel and Track Loader  Cycle Time Factors  Material Stockpile  Truck Ownership Operation	vels:  vs. Job Core within this  Material I  :):  s - Unadjust : Mixed r : Convey : Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA ing: NA n:  NA n:  Noader Cycle Tin  O2 r piled 10 ft. higi ip of trucks and n -0.04 00  Net Cycle Tin	me (load, dump, r h and up 0.00 loaders -0.04	Dump: maneuver): Factor (mi	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA  Wheel and Track Loader  Cycle Time Factors  Material Stockpile  Truck Ownership Operation	vels:  vs. Job Core within this  Material I  :):  s - Unadjust : Mixed r : Convey : Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA ing: NA n: NA oader Cycle Tir  22 r piled 10 ft. higi ip of trucks and n -0.04 00 Net Cycle Tir Adjusted Loader	me (load, dump, r h and up 0.00 loaders -0.04	Dump:	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Sho  Machine Cycle Time Selected Valu Track Loaders  Cycle Time Elements (min Load: NA  Wheel and Track Loader  Cycle Time Factors Material Stockpile Truck Ownership Operation Dump Target	vels:  vs. Job Core within this  Material I  :):  s - Unadjust : Mixed r : Convey : Commo	Maneu ed Basic L material 0.0 or or dozer n ownersh	ing: NA ing: NA n: NA oader Cycle Tir  22 r piled 10 ft. higi ip of trucks and n -0.04 00 Net Cycle Tir Adjusted Loader	ne (load, dump, r h and up 0.00 loaders -0.04 ne Adjustment: er Cycle Time:	Dump: naneuver): Factor (mi 0.020 0.000 -0.040 0.000 -0.060 0.423	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Sho  Machine Cycle Time Selected Valu Track Loaders  Cycle Time Elements (min Load: NA  Wheel and Track Loader  Cycle Time Factors Material Stockpile Truck Ownership Operation Dump Target	vels: vs. Job Core within this — Material I  .): s - Unadjust  . Mixed r  . Convey  . Commo  . Constan  . Nomina	Maneu ed Basic L material 0.0 or or dozer n ownersh t operation l target 0.0	ing: NA ing: NA n: NA oader Cycle Tir  22 r piled 10 ft. higi ip of trucks and n -0.04 00 Net Cycle Tir Adjusted Loader	h and up 0.00 loaders -0.04 me Adjustment: er Cycle Time: ime per Truck:	Dump:  Factor (mi 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.423 0.523	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Sho  Machine Cycle Time Selected Valu Track Loaders  Cycle Time Elements (min Load: NA  Wheel and Track Loader  Cycle Time Factors Material Stockpile Truck Ownership Operation Dump Target	vels:  vs. Job Core within this — Material I .):  s - Unadjust  Mixed r Convey Commo Constant Nomina	Maneu ed Basic L material 0.0 or or dozen n ownersh t operation l target 0.0	ing: NA ing: NA  n: NA  ver: NA  coader Cycle Tir  piled 10 ft. high ip of trucks and n -0.04 00  Net Cycle Tir  Adjusted Load Net Load T	me (load, dump, r h and up 0.00 loaders -0.04 me Adjustment: er Cycle Time: ime per Truck:	Dump: naneuver): Factor (mi 0.020 0.000 -0.040 0.000 -0.060 0.423	0.100 0.483 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	nutes

<u>Truck Travel (Haul & Return) Time:</u> Road Condition: <u>Rutted dirt, little maintenance, no water, 2" tire penetration 5.0</u>

(min)

0.313

LCY/Hour

800.00

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2218	0.430

Haul Time: 0.430 minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm)

5.00

0.00

191.54 LCY/Hour

Return Time: 0.313 minutes
Total Truck Cycle Time: 2.566 minutes

2814

Adjusted for job efficiency: 158.98

Loading Tool unit

Production \_\_\_\_\_480.59 \_\_\_ LCY/Hour Adjusted for job efficiency: \_\_\_\_398.89 \_\_\_ LCY/Hour Truck Unit Production

5.00

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)

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

317.96
LCY/Hour
LCY/Hour
LCY/Hour

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 16.83
 Hours

 Unit cost:
 \$0.717
 /LCY
 Total job cost:
 \$3,836

# **BULLDOZER WORK**

Task description:	Grade	transported topsoil				
32.5 Road Grave	el Pit	Permit Action:	SI1		Permit/Job#:	M2009035
PROJECT IDEN	TIFICATIO	<u>N</u>				
Task #: 07B		State: Colorado			Abbreviation:	None
Date: $\frac{07D}{7/11/2}$	2022	County: Mesa			Filename:	M035-07b
User: ACY		County. Wiesu			i nenume.	111033 070
	organization n	ame: DRMS				
<b>HOURLY EQUI</b>	PMENT CO	<u>ST</u>				
Basic Machine:	Cat D7R DS	XR Series II				
Horsepower:	240					
Blade Type:	Semi-Univer	sal				
Attachment:	NA					
Shift Basis:	1 per day		_			
Data Source:	(CRG)					
Cost Breakdown:						
			<u>Util</u>	ization %		
Ownership Cost/H		\$92.78		NA		
Operating Cost/H		\$79.33		100		
Ripper own. Cost/H		\$0.00		NA		
Ripper op. Cost/H		\$0.00		0		
O C/II	01144	\$40.04		NA		
Operator Cost/H Total unit Cost/Hou	r: \$212.15	5		1171		
Total unit Cost/Hou Total Fleet Cost/Hou	r: \$212.15 ur: <b>\$212.1</b> 5	5		1771		
Total unit Cost/Hou	r: \$212.15 ur: <b>\$212.1</b> 5	5		11/1		
Total unit Cost/Hou Total Fleet Cost/Hou	r: \$212.15 ur: \$212.15 <b>ANTITIES</b>	5		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU	r: \$212.15 ur: <b>\$212.1</b> 5	5		IWI		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU Initial Volume:	r: \$212.15 ur: \$212.15 <b>ANTITIES</b> 5,352	5		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor:	r: \$212.15 \$212.15 \$212.15 ANTITIES 5,352 1.000 5,352 LCY volume:	5		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	r: \$212.15  xr: \$212.15  \$212.15  ANTITIES  5,352  1.000  5,352 LCY  volume: swell factor:	Transported volume		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD	r: \$212.15  \$212.15  \$212.15  ANTITIES  5,352  1.000  5,352 LCY  volume: swell factor:	Transported volume Cat Handbook		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated  HOURLY PROD  Average push distant	r: \$212.15  \$212.15  \$212.15  ANTITIES  5,352  1.000  5,352 LCY  volume: swell factor:  DUCTION  ace:	Transported volume Cat Handbook		101		
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume:    Swell factor:    Loose volume:  Source of estimated Source of estimated  HOURLY PROD  Average push distan Unadjusted hourly p	r: \$212.15  ur: \$212.15  \$212.15  ANTITIES  5,352  1.000  5,352 LCY  volume: swell factor:  DUCTION  ace:	Transported volume Cat Handbook  00 feet 714.3 LCY/hr				
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated  HOURLY PROD  Average push distan Unadjusted hourly p  Materials consistence	### ### ##############################	Transported volume Cat Handbook				
Total unit Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume:    Swell factor:    Loose volume:  Source of estimated Source of estimated  HOURLY PROD  Average push distan Unadjusted hourly p	### ### ##############################	Transported volume Cat Handbook  00 feet 714.3 LCY/hr  Loose stockpile 1.2				
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume:     Swell factor:     Loose volume:  Source of estimated Source of estimated  HOURLY PROD  Average push distan Unadjusted hourly p  Materials consistence  Average push gradie	### ### ##############################	Transported volume Cat Handbook  00 feet 14.3 LCY/hr Loose stockpile 1.2				
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated  HOURLY PROD  Average push distant Unadjusted hourly p  Materials consistence Average push gradie Average site altitude	### ### ##############################	Transported volume Cat Handbook  00 feet 714.3 LCY/hr  Loose stockpile 1.2				
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume:     Swell factor:     Loose volume:     Source of estimated  Source of estimated  HOURLY PROD  Average push distant Unadjusted hourly p  Materials consistence Average push gradie Average site altitude  Material weight:  Weight description:  Job Condition Corre	### \$212.15 ### \$2	Transported volume Cat Handbook  00 feet 14.3 LCY/hr Loose stockpile 1.2		Source		
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU.  Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated  HOURLY PROD Average push distant Unadjusted hourly push distant Unadjusted hourly push distant Unadjusted hourly push gradie Average site altitude Material weight: Weight description: Job Condition Correct Open	### \$212.15 ### \$2	Transported volume Cat Handbook  00 feet 714.3 LCY/hr  Loose stockpile 1.2  eet  os/LCY  Loam  0.750		Source (AVG.)		
Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou  MATERIAL QU  Initial Volume:     Swell factor:     Loose volume:     Source of estimated  HOURLY PROD  Average push distant Unadjusted hourly p  Materials consistence Average site altitude  Material weight:  Weight description:  Job Condition Correct Oper Material co	### \$212.15 ### \$2	Transported volume Cat Handbook  00 feet 14.3 LCY/hr Loose stockpile 1.2		Source		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6544

Adjusted unit production: 467.44 LCY/hr
Adjusted fleet production: 467.44 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.454/LCY

Total job time: 11.45 Hours
Total job cost: \$2,429

# **REVEGETATION WORK**

32.5 Road Gravel Pit	Permit Action: SI	1	Permit/Job	#: <u>M2009035</u>
PROJECT IDENTIFICATION				
Task #: 08A Sta	ate: Colorado		Abbreviation:	None
Date: 7/11/2022 Coun	ty: Mesa		Filename:	M035-08a
User: ACY				
Agency or organization name:	DRMS			
FERTILIZING				
<b>Materials</b>				
Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00		\$0.38	\$76.00
100.0,10.00,010.0	200.00	pound	Total Fertilizer Materials	
			Cost/Acre	
Tractor towed spreader (MEANS 32 0	1 90.13 0120)			\$39.64
	To	tal Fertilizer A	pplication Cost/Acre	\$39.64
TILLING				
Description				Cost /Acre
Disc harrowing, 6" deep (MEANS 32 9	91 13.23 6100)			\$117.18
		To	otal Tilling Cost/Acre	\$117.18
SEEDING				
Seed Mix			Rate – PLS Seeds LBS / FT	Cost /Acre
Alkali Sacaton			Acre 1.00 39.03	\$28.48
1 IIIaii Ducutoii			27.03	Ψ20.70
Galleta			2.00 7.30	\$44.70
Galleta Tall Wheatgrass - Jose			2.00 7.30 4.00 7.25	\$44.70 \$13.50

Application

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

**Totals Seed Mix** 

\$111.18

62.42

10.50

Total Seed Application Cost/Acre	\$232.00

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Total Mulch Materials Cost/Acre				\$850.66

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$73.00
Power mulcher (MEANS 32 91 13.16 0350)		\$141.57
Weed spray, hand, aquatic area, nox. [DMG]		\$183.16
	<b>Total Mulch Application Cost/Acre</b>	\$397.73

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 6.84 Cost /Acre: \$1,824.39

Estimated Failure Rate: 50% Cost /Acre\*: \$1,824.39

\*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU

LCHING

Initial Job Cost: \$12,478.83

Reseeding Job Cost: \$6,239.41

Total Job Cost: Job Hours: 10.00

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: <u>Ini</u>	tial Mobilization	!		
ite: 32.5 Road Gravel Pit	Permit	t Action: SI1	Per	rmit/Job#: <u>M2009035</u>
PROJECT IDENTIFICATI	<u>ON</u>			
Task #: 09A	State: C	olorado	Abbrevi	ation: None
Date: 7/11/2022 User: ACY	County: N	<b>1</b> esa	File	mame: M035-09a
Agency or organization	n name: DRMS	S		
EQUIPMENT TRANSPOR	T RIG COST			
			Shift basis	: 1 per day
			Cost Data Source	: CRG Data
Truck Tractor Desc	ription: GENI		AY TRUCK TRACTOR 400 HP (2ND HALF, 20	, 6X4, DIESEL POWERED, 106)
Truck Trailer Desc	ription:	GENERIC FOLDIN	IG GOOSENECK, DRO	P DECK EQUIPMENT
		TR	AILER (25T, 50T, AND	100T)
Cost Breakdown:				
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons	
Ownership Cost/Hour:	\$15.25	\$23.06	\$37.58	
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41	
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71	
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22	

### **NON ROADABLE EQUIPMENT:**

Total Unit Cost/Hour:

\$68.22

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 938H	16.34	\$40.85	\$68.22	1	\$109.07	\$68.22	\$250.00
Cat D7R DS	38.49	\$101.15	\$101.82	1	\$202.97	\$101.82	\$250.00
Series II LGP							
Drill/Broadcast	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
Seeder with							
Tractor							
Power Mulcher	6.00	\$14.79	\$68.22	1	\$83.01	\$68.22	\$250.00
(Bowie LD-90)							

\$101.82

\$136.92

Subtotals: \$469.52 \$306.48 \$1,000.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 4x2, 30K GVW	\$60.57	1	\$60.57	\$60.57
Water Tanker, 2,500 Gal.	\$58.83	1	\$58.83	\$58.83
Generic 8-10 cy, 6x4	\$84.02	2	\$168.04	\$168.04

Subtotals:	\$287.44	\$287.44
Subtotais:	<b>5287.44</b>	\$287.44

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

GRAND JUNCTION
miles
mph

#### **Transportation Cycle Time:**

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.14	0.14
Return Time (Hours):	0.14	0.14
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.29	0.29

### **JOB TIME AND COST**

Total job cost: 2.57 Hours

Total job cost: \$3,243

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Secondary Mobilization					
Site: 32.5 Road Gravel Pit	Permi	t Action: SI1	Permit/Jol	b#: <u>M2009035</u>	
PROJECT IDENTIFIC	<u>ATION</u>				
Task #: 10A	State: (	Colorado	Abbreviation:	None	
Date: 7/11/2022	County: N	Mesa	Filename:	M035-10a	
User: ACY					
Agency or organiz	ation name: DRM	S			
<b>EQUIPMENT TRANSP</b>	ORT RIG COST				
			Shift basis:	1 per day	
				CRG Data	
Truck Tractor I	Description: GEN		AY TRUCK TRACTOR, 6X4,	DIESEL POWERED,	
m 1 m :1 1	· · · ·		400 HP (2ND HALF, 2006)	IZ EQLUDIVENTE	
Truck Trailer l	Description:		IG GOOSENECK, DROP DEC	~	
		IK	AILER (25T, 50T, AND 100T)		
Cost Breakdown:					
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
Ownership Cost/Hou	ır: \$15.25	\$23.06	\$37.58		
Operating Cost/Hou	ır: \$25.26	\$30.83	\$51.41		
Operator Cost/Hor	ır: \$27.71	\$27.71	\$27.71		
Helper Cost/Hou	ır: \$0.00	\$20.22	\$20.22		

### **NON ROADABLE EQUIPMENT:**

Total Unit Cost/Hour:

\$68.22

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		
Drill/Broadcast	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
Seeder with							
Tractor							
Power Mulcher	6.00	\$14.79	\$68.22	1	\$83.01	\$68.22	\$250.00
(Bowie LD-90)							

\$101.82

\$136.92

Subtotals: \$157.48 \$136.44 \$500.00

## **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 4x2, 30K GVW	\$60.57	1	\$60.57	\$60.57

Subtotals: \$60.57 \$60.57

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:
Total one-way travel distance:
Average Travel Speed:

GRAND JUNCTION
miles
5.00
mph

### **Transportation Cycle Time:**

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.14	0.14
Return Time (Hours):	0.14	0.14
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.29	0.29

### **JOB TIME AND COST**

Total job time:	2.57	Hours
Total job cost:	\$1,416	