

Department of Natural Resources 1313 Sherman Street, Room 215 Denver, Colorado 80203

August 27, 2018

Steve O'Brian Environment, Inc. 7985 Vance Dr. #205A Arvada, CO 80003

Re: 22 West Pit, File No. M-2017-032, 112c Reclamation Permit Application, Adequacy Review No. 3

Mr. O'Brian:

The Division of Reclamation, Mining and Safety (Division) has completed its third adequacy review of the above referenced application. The decision date for the application is currently set for August 31, 2018.

After reviewing your adequacy response submitted on August 10, 2018, the Division has determined all adequacy items have been sufficiently addressed except for the following:

Exhibit G – Water Information (Rule 6.4.7) and Exhibit L – Reclamation Costs (Rule 6.4.12):

The Division of Water Resources (DWR) has informed the Division that the Applicant has dedicated enough water shares to cover long-term evaporative depletions from 9.85 acres of exposed groundwater.

In order to satisfy the Division's requirements regarding exposed groundwater, the Applicant has the following three options available:

- Option 1 For the proposed pond expansion to 15 acres, submit a bond amount sufficient to backfill the 5.15 acres of exposed groundwater not covered by dedicated shares. The Division has calculated a bond estimate for this option in the amount of \$407,627.00 (see attached).
- Option 2 For the existing pond of 12.68 acres, submit a bond amount sufficient to backfill the 2.83 acres not covered by dedicated shares. For this option, the Division could approve the application with a stipulation that no additional groundwater is to be exposed until the Applicant has demonstrated the appropriate amount of water shares have been dedicated with DWR, that a water-court approved augmentation plan has been obtained, or that the reclamation bond includes sufficient costs to backfill the additional exposure. The Division has calculated a bond estimate for this option in the amount of \$249,120.00 (see attached).



Option 3 – Demonstrate the appropriate amount of water shares have been dedicated for the existing or proposed amount of exposed groundwater. For this option, the Division would not require the reclamation bond include costs for backfilling the pond. The Division has calculated a bond estimate for this option in the amount of \$16,548.00 (see attached).

Please be advised that on <u>August 31, 2018</u>, the application may be deemed inadequate and denied if the adequacy issue identified above has not been addressed to the Division's satisfaction.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

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Amy Eschberger

Environmental Protection Specialist

Encls: Bond estimate including costs to backfill 5.15 acres of exposed groundwater

Bond estimate including costs to backfill 2.83 acres of exposed groundwater

Bond estimate with no costs to backfill exposed groundwater

Ec: Chris Tomky, Deep Cut LLC at: tomkyfarms@yahoo.com

Tom Brubaker, Valco Inc at: tom.brubaker@valco-inc.com

Michael Cunningham, DRMS at: <u>michaela.cunningham@state.co.us</u>



COST SUMMARY WORK

Task description: **Cost Summary** 112c App Bond - BF Permit Action: Site: 22 West Pit 5.15 ac Pond Permit/Job#: M2017032 **PROJECT IDENTIFICATION** Colorado Task #: 000 State: Abbreviation: None 8/24/2018 M032-000 Date: County: Otero Filename: User: **AME**

Agency or organization name: <u>DRMS</u>

TASK LIST (DIRECT COSTS)

Task	Description	Form	Fleet	Task Hours	Cost
	Description	Used	Size		
001	Grade plant site area	GRADER	1	6.70	\$1,174.00
002	Grade 2,000' pond shoreline to 3H:1V	EXCAVATE	1	14.74	\$2,693.00
003	Grade 100' pond shoreline to 5H:1V	EXCAVATE	1	0.49	\$90.00
004	Remove 100 cy scrap from site	TRUCK1	1	4.27	\$843.00
005	Remove 300 cy concrete rubble from site	TRUCK1	1	7.86	\$1,552.00
006	Rip 8.54 ac stockpile area	RIPPER	1	12.86	\$2,898.00
007	Backfill 5.15 ac existing pond	DOZER	2	659.58	\$275,036.00
008	Spread growth medium across 14.19 ac	LOADER	2	74.31	\$14,766.00
009	Revegetate 14.19 acres	REVEGE	1	28.00	\$24,245.00
010	Mobilization/Demobilization	MOBILIZE	1	6.53	\$9,932.00
		SUBTO	TALS:	815.34	\$333,229

INDIRECT COSTS

OVERHEAD AND PROFIT:

 Liability insurance:
 2.02 Total =
 \$6,731.23

 Performance bond:
 1.05 Total =
 \$3,498.90

 Job superintendent:
 150.00 Total =
 \$10,957.50

Profit: 10.00 Total = $\frac{$33,322.90}{$54,510.53}$

CONTRACT AMOUNT (direct + O & P) = $\frac{$31,316.35}{$387,739.53}$

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00 Total = 500.00

Engineering work and/or contract/bid preparation: 0.00 Total = \$0.00

Reclamation management and/or administration: 5.00 \$19,386.98

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$74,397.51

TOTAL BOND AMOUNT (direct + indirect) = \$407,626.51

MOTOR GRADER WORK

Task description:	Grade plant site	e area				
22 West Pit	Pe	rmit Action:	112c App Bon 5.15 ac Pond		Permit/Job#:	M2017032
PROJECT IDENT	IFICATION					
Task #: 001	State:	Colorado		Ab	breviation:	None
Date: 8/24/20		Otero			Filename:	M032-001
User: AME						
Agency or or	rganization name: D	RMS				
HOURLY EQUIP	MENT COST					
Basic Mach	nine: CAT 16M			Horsepower:		297
Ripper Attachn		ipper		Shift Basis:		per day
				Data Source:	((CRG)
Cost Breakdown:						
				Utilization %		
	vnership Cost/Hour:		\$77.19	NA	_	
	perating Cost/Hour:		\$63.34	100	_	
	vnership Cost/Hour: _ perating Cost/Hour:		\$4.07 \$1.77	NA 50	_	
	Operating Cost/Hour: _		\$28.69	50 NA	_	
	otal Unit Cost/Hour:		\$175.05	11/1	<u> </u>	
	_		<u> </u>			
To	tal Fleet Cost/Hour: _	\$17	5.05			
MATERIAL QUA	NTITIES					
	rea to be graded or ripp	ed: 12.33				acres
So	urce of estimated acrea	ge: Applic	ation			
HOURLY PRODU	ICTION					
HOURET TROBE			1.50	1		
	Average Grader S Selected Applic		1.50	mph grading (0-2.5 r	nnh) 15	
	Selected Applic		30	degree	_	
	Effective Blade Le		13.90	feet	,,,	
Wid	Ith of blade overlap per		2.00	feet		
Net gradi	ng or ripping width per	pass:	11.90	feet		
Unadjus	sted Hourly Unit Produ	ction:	2.1636	acres/l	nour	
Job Condition Correct	ion Factors		Si	te Altitude: 413	0 feet	
		Source				
Altitude Adj	: 1.00	(CAT HI	B)			
Job Efficiency		(1sh/d, mo				
Net Correction	: 0.8500	multiplier	•			
	Adjusted Hourly Uni	t Production:	1.8391	acres/Hou	r	
	Adjusted Hourly Flee		1.8391	acres/Hou		
IOD TIME AND C	COST					
JOB TIME AND (`	Total inh time		70	Полия
Fleet size:	1 Grader(s)	Total job time	6.7	/U	Hours
Unit cost:	\$95.18 per acre		Total job cost	: \$1, 1	174	

HYDRAULIC EXCAVATOR WORK

Task description	1	rade 2,000' pond	u biioi ciiii	t to 311.1 v			
22 West Pit		Perm	nit Action:	112c App Bond 5.15 ac Pond	d - BF	Permit/.	Job#: <u>M20170</u> 2
PROJECT ID	ENTIFICA'	TION					
Task #: 00)2	State:	Colorado			Abbreviati	ion: None
	24/2018	County:	Otero			Filena	
	ME		0.010			1 1101111	11100 2 001
Δgency	y or organizati	on name: DRM	MS				
HOURLY EQ			V15				
Basic Ma		345D L 12'-10"	Stick		Horsepov	uar:	380
Attachn		PS Cab	buck		Weight (M		49.37
7 Reachin	1. <u>101</u>	B Cub			Shift Ba		1 per day
					Data Sour		(CRG)
Cost Breakdown	· ·						
Cost Dicardown	<u>1.</u>			Utilization %			
Ownersh	nip Cost/Hour:	\$66.64	4	NA			
	ng Cost/Hour:			100			
	tor Cost/Hour:			NA			
_	nit Cost/Hour:		7				
Total Fl	leet Cost/Hour	: \$182.5	57				
MATERIAL (
Initial volu		<u> </u>	CCY	Swell fac	ctor: 1.23	20	
	inc. 0,230						
Loose volu	me· 7 688		_	Swell fac	1.23	50	_
Loose volu	me: 7,688		LCY	Swell fac		50	_
	Source of est	imated volume:	LCY Applicat	ion		50	=
	Source of est	imated volume: ed swell factor:	LCY	ion	. 1.23		_
Sou	Source of estimat	ed swell factor:	LCY Applicat	ion	. 1.23	50	-
Sou HOURLY PR	Source of estimate SODUCTION	ed swell factor:	Applicat Cat Hand	ion dbook		90	-
Sou HOURLY PR	Source of estimate SODUCTION	ed swell factor:	Applicat Cat Hand	ion dbook			-
Sou HOURLY PR	Source of estimate CODUCTION ETime (load by	ed swell factor: <u>N</u> ucket, swing load I	Applicat Cat Hand led, dump leds of Colors Basic Job Colors	ion dbook bucket, swing em Condition Descrip	npty): ption: AV	VERAGE	
Sou HOURLY PR	Source of estimate CODUCTION ETime (load by	ed swell factor: <u>N</u> ucket, swing load	Applicat Cat Hand led, dump leds of Colors Basic Job Colors	ion dbook bucket, swing em Condition Descrip nin Basic Descrip	npty): ption: AV ption: AV	VERAGE VERAGE	
Sou HOURLY PR Excavator Cycle	Source of estimate SODUCTION Time (load by	ed swell factor: <u>N</u> ucket, swing load I	Applicat Cat Hand led, dump leds of Colors Basic Job Colors	ion dbook bucket, swing em Condition Descrip	npty): ption: AV ption: AV	VERAGE VERAGE	minutes
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Sou HOURLY PR Excavator Cycle Load Bucket Ca	Source of estimate and estimate	ed swell factor: N ucket, swing load Fecondary Job Cor 3.14	Applicat Cat Hand led, dump l Basic Job Condition with	ion dbook bucket, swing em Condition Descrip nin Basic Descrip Cycle Time V	npty): ption: AV ption: AV alue: 0.3	VERAGE VERAGE 315 Size Class:	Medium
Sou HOURLY PR Excavator Cycle Load Bucket Ca Rated Bucket F	Source of estince of e	ed swell factor: N ucket, swing load econdary Job Cor 3.14 1.050	Applicat Cat Hand led, dump l Basic Job C ndition with LCY (he Moist los	ion dbook bucket, swing em Condition Descrip nin Basic Descrip Cycle Time V	npty): ption: AV ption: AV alue: 0.3	VERAGE VERAGE 315 Size Class:	Medium
Sou HOURLY PR Excavator Cycle Load Bucket Ca Rated Bucket F	Source of estimate and estimate	ed swell factor: N ucket, swing load Fecondary Job Cor 3.14	Applicat Cat Hand led, dump l Basic Job Condition with	ion dbook bucket, swing em Condition Descrip nin Basic Descrip Cycle Time V	npty): ption: AV ption: AV alue: 0.3	VERAGE VERAGE 315 Size Class:	Medium
Sou HOURLY PR Excavator Cycle Load Bucket Ca Rated Bucket F	Source of estimate and estimate	ed swell factor: Nucket, swing load econdary Job Cor 3.14 1.050 3.30	Applicat Cat Hand led, dump l Basic Job C ndition with LCY (he Moist los	ion dbook bucket, swing em Condition Descrip nin Basic Descrip Cycle Time V aped) am or sandy clay	npty): ption: AV ption: AV alue: 0.3	VERAGE VERAGE 315 Size Class:	Medium
Sou HOURLY PR Excavator Cycle Load Bucket Ca Rated Bucket F Adjusted Job Condition C	Source of estimate and estimate	ed swell factor: Nucket, swing load econdary Job Cor 3.14 1.050 3.30 ors	Applicat Cat Hand led, dump led, dum	ion dbook bucket, swing em Condition Descrip nin Basic Descrip Cycle Time V aped) am or sandy clay	npty): otion: AV otion: AV otion: O.3 Bucket S	VERAGE VERAGE 315 Size Class:	Medium
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HYDRAULIC EXCAVATOR WORK

	n:	Grade 100' po	nd shoreline t	0 5H:1 V			
22 West Pit		P	ermit Action:	112c App Bond 5.15 ac Pond		Permit/Job#:	M2017032
PROJECT ID	ENTIFICA	ATION					
	03 24/2018 ME	State County			Ab	breviation: _ Filename: _	None M032-003
Agency	y or organiza	tion name:	DRMS				
HOURLY EQ	UIPMENT	Γ COST					
Basic Ma Attachn		ot 345D L 12'- DPS Cab	10" Stick		Horsepower: Weight (MT): Shift Basis: Data Source:	49 1 pe	9.37 er day (RG)
Cost Breakdowr	<u>ı:</u>		1				
Ownersh	nip Cost/Hou	ır: \$6	6.64	Utilization % NA			
	ng Cost/Hou		8.14	100			
Opera	tor Cost/Hou	r: \$3	7.79	NA	- 		
Total U	nit Cost/Hou	r: \$18	32.57				
Total F	leet Cost/Ho	ur:\$1	82.57				
MATERIAL (QUANTIT	<u>IES</u>					
Initial volu			CCY	Swell fact	tor: 1.230		
Loose volu	me: 258		LCY				
HOURLY PR	arce of estimation		or: Cat Han	dbook			
		bucket, swing	loaded, dullip				
Excavator Cycle	e 11me (10ad		-	bucket, swing emp			
Excavator Cycle		Sacandary Joh	Basic Job (Condition Descrip	tion: AVER		
Excavator Cycle		Secondary Job	Basic Job (Condition Description Basic Description	tion: AVER		minutes
Excavator Cycle Load Bucket Ca	;	Secondary Job	Basic Job (Condition Descrip	tion: AVER		minutes
Load Bucket Ca	pacity	·	Basic Job (Condition with	Condition Description Basic Description Cycle Time Va	tion: AVER	AGE	minutes dium
Load Bucket Ca Rated	pacity Capacity:	3.14	Basic Job C Condition with	Condition Description Basic Description Cycle Time Va	tion: AVER tion: AVER alue: 0.315 Bucket Size	Class: Me	
<u>Load Bucket Ca</u> Rated Bucket F	pacity Capacity: Till Factor:	3.14 1.050	Basic Job C Condition with LCY (he Moist lo	Condition Description Basic Description Cycle Time Va	tion: AVER tion: AVER alue: 0.315 Bucket Size	Class: Me	
Load Bucket Ca Rated Bucket F Adjusted	pacity Capacity: Fill Factor: Capacity:	3.14 1.050 3.30	Basic Job C Condition with	Condition Description Basic Description Cycle Time Va	tion: AVER tion: AVER 0.315 Bucket Size (100% - 110%)	AGE Class: Me	
<u>Load Bucket Ca</u> Rated Bucket F	pacity Capacity: Fill Factor: Capacity:	3.14 1.050 3.30	Basic Job (Condition with LCY (he Moist lo LCY	Condition Description Basic Description Cycle Time Variated (September 2015) Eaped) am or sandy clay Site	tion: AVER tion: AVER alue: 0.315 Bucket Size	AGE Class: Me	
Load Bucket Ca Rated Bucket F Adjusted	pacity Capacity: Fill Factor: Capacity: Capacity:	3.14 1.050 3.30	Basic Job C Condition with LCY (he Moist lo	Condition Description Basic Description Cycle Time Variated (Section 2) am or sandy clay Site	tion: AVER tion: AVER 0.315 Bucket Size (100% - 110%)	AGE Class: Me	
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Load Bucket Ca Rated Bucket F Adjusted Job Condition C	pacity Capacity: Tall Factor: Capacity: Capacity: Correction Factor The Adj: Siency:	3.14 1.050 3.30 ctors	Basic Job (Condition with LCY (he Moist lo LCY Source (CAT H	Condition Description Basic Description Cycle Time Value Paped) am or sandy clay Site B ay)	tion: AVER tion: AVER 0.315 Bucket Size (100% - 110%)	AGE Class: Me	
Load Bucket Ca Rated Bucket F Adjusted Job Condition C Altitud Job Effic	pacity Capacity: Fill Factor: Capacity: Capacity: dorrection Factorics le Adj: ciency: ciency: unadju	3.14 1.050 3.30 ctors 1.00 0.83 0.83 sted Hourly Un	Basic Job (Condition with LCY (he Moist lo LCY Source (CAT H (1 shift/d multiplie	Condition Description Basic Description Cycle Time Valence Eaped) am or sandy clay Site B) ay) r 628.00	tion: AVER AVER AVER OBJECT AVER AVER OBJECT OF THE AVER OBJECT OBJECT OF THE AVER OBJECT OF THE AVER OBJECT OBJECT OBJECT OF THE AVER OBJECT	AGE Class: Me) 1.050 0 feet	
Load Bucket Ca Rated Bucket F Adjusted Job Condition C Altitud Job Effic	pacity Capacity: Till Factor: Capacity: Correction Factor de Adj: ciency: ection: Unadju Adju	3.14 1.050 3.30 ctors 1.00 0.83 0.83 sted Hourly Ur	Basic Job C Condition with LCY (he Moist lo LCY Source (CAT H (1 shift/d multiplie nit Production: nit Production:	Condition Description Basic Description Cycle Time Value apped) am or sandy clay Site B) ay) r 628.00 521.24	tion: AVER tion: AVER alue: 0.315 Bucket Size (100% - 110%) e Altitude: 413 LCY/Hou LCY/Hou	AGE Class: Me) 1.050 0 feet	
Load Bucket Ca Rated Bucket F Adjusted Job Condition C Altitud Job Effic Net Corre	pacity Capacity: Fill Factor: Capacity: Correction Factor de Adj: ciency: ection: Unadju Adjus	3.14 1.050 3.30 ctors 1.00 0.83 0.83 sted Hourly Un	Basic Job C Condition with LCY (he Moist lo LCY Source (CAT H (1 shift/d multiplie nit Production: nit Production:	Condition Description Basic Description Cycle Time Value apped) am or sandy clay Site B) ay) r 628.00 521.24	tion: AVER AVER AVER OBJECT AVER AVER OBJECT OF THE AVER OBJECT OBJECT OF THE AVER OBJECT OF THE AVER OBJECT OBJECT OBJECT OF THE AVER OBJECT	AGE Class: Me) 1.050 0 feet	
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TRUCK/LOADER TEAM WORK

Task description:	Remove	100 cy scrap fr				
Site: 22 West Pit		Permit Acti	ion: 112c App B 5.15 ac Pond		Permit/Job#: M	2017032
PROJECT IDE	ENTIFICATION	[
Task #: 004		State: Color	ado	Ab	breviation: No	ne
		County: Otero)		Filename: M0	32-004
User: AM	<u>IE</u>					
Agency	or organization nar	ne: DRMS				
HOURLY EQU	UIPMENT COST	<u>Γ</u>		Shift bas	is: 1 per day	
			Equipment Descri			
	Truck Loader Tea		neric 12-18 cy, 6x4	4		
Sur	pport Equipment -L		T 938H			
24		ump Area: NA				
Road	Maintenance – Mot					
	-W2	ter Truck: NA	1			
Cost Breakdown	: Truck/Loa	ader Team	Support 1	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:	\$22.72	\$25.88	NA	NA	NA	NA
Operating cost/hour:	\$44.95	\$32.57	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:	\$30.37	\$40.90	NA	NA	NA	NA
Unit Subtotals:	\$98.03	\$99.35	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work:	\$197.38	Support:	\$0.00	Maint:	\$0.00
Total work team of MATERIAL Q Initial volum		CCY	/ Swall	factor: 1.000		
Loose volun	ne: 150	LCY		1actor. 1.000		
	Source of estimated ce of estimated swe Material Purch	ell factor: Cat				
HOURLY PR	ODUCTION					
Truck Capacity: Truck Payload (w			Pounds/LCY			
Des		rovided	Pounds			

Payload Capacity	50,300.00)	LCY				
Truck Bed (volume) Bas	S:						
Struck Volume:		LCY					
Heaped Volume:		LCY					
Average Volume:		LCY					
Adjusted Volume:	18.00	LCY					
F	inal Truck Vol	ume Base	d on Number of	Loader Passes:	15.80	LCY	
Loading Tool Capacity				D1	or Classic	NIA	
Rated Capacity	7: 3.90	0 1	LCY (heaped)	Buck	et Size Class:	NA	
Bucket Fill Facto				oorly blasted (60	- 75%) 0.675		
Adjusted Capacity			LCY		,		
Job Condition Correcti	ons:		Sit	te Altitude (ft.): <u>4</u>	130 feet		
	Truck		Loader	Source			
Altitude Adj:	1.000		1.000	(CAT HB)	1		
Job Efficiency:	0.830		0.830	(CAT HB)			
Net Correction:	0.830		0.830				
Net Correction: Loading Tool Cycle Ti		mber of L		sses Required to F	ill Truck:	6	passes
L	ne: Nu	mber of L		sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir	ne: Nu	dition Rati	oading Tool Pas	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va	ne: Nu ovels: ne vs. Job Con	dition Rati Basic Rati	oading Tool Pasing: NA NA	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va	ne: Nu ovels: ne vs. Job Conduction this rs – Material D	dition Rati Basic Rati	oading Tool Pasing: NA NA	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade	ne: Nu ovels: ne vs. Job Conduction this rs – Material D	dition Rati Basic Rati	oading Tool Pasing: NA NA	sses Required to F		100	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m	ne: Nu ovels: ne vs. Job Conduce within this rs – Material Din.):	dition Rati Basic Rati Description Maneu	oading Tool Pas ing: NA ing: NA ver: NA		Dump: 0.	.100	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m. Load: NA	ne: Nu ovels: ne vs. Job Conduction ue within this rs – Material D in.): ers - Unadjuste	dition Rati Basic Rati Description Maneu	oading Tool Pas ing: NA ing: NA ver: NA		Dump: 0.	.100 0.483 m	
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m. Load: NA Wheel and Track Load	ne: Nu ovels: ne vs. Job Conduction ue within this rs – Material D in.): ers - Unadjuste ors al: Mixed m	dition Rati Basic Rati Description Maneu d Basic La	oading Tool Pasing: NA In: Ver: NA oader Cycle Tin	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020	.100 0.483 m	iinutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Factor Materi Stockpi	ne: Nu ovels: ne vs. Job Conduction luc within this rs – Material D in.): ers - Unadjuste ors al: Mixed m le: No adjus	dition Rati Basic Rati Description Maneu d Basic Lo aterial 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000	.100 0.483 m Source (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh	ne: Nu ovels: ne vs. Job Conduct within this rs – Material Din.): ers - Unadjuste ors al: Mixed m le: No adjus p: Common	dition Rati Basic Rati Description Maneu d Basic Le naterial 0.0 tment - fan n ownershi	oading Tool Pasing: NA	ne (load, dump, m	Dump: 0. aneuver):	0.483 m Ource (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneu d Basic Lo naterial 0.0 tment - fan ownershi ent operat	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneu d Basic Le naterial 0.0 tment - fan n ownershi	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application of trucks and tion 0.04	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0. aneuver):	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ble 0.00 loaders -0.04 loaders -Cycle Time:	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio Dump Targ	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dian.): ers - Unadjuste ors al: Mixed m le: No adjus p: Common n: Inconsist et: Nominal	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 material 0.0 ment - fan n ownershi ent operat target 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ble 0.00 loaders -0.04 me Adjustment: er Cycle Time: ime per Truck:	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio Dump Targ	ne: Nu ovels: ne vs. Job Conclue within this rs – Material D in.): ers - Unadjuste ors al: Mixed m le: No adjus p: Commor on: Inconsist et: Nominal	dition Rati Basic Rati Description Maneu d Basic Le atterial 0.0 timent - fan ownershi ent operat target 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 2 ctor not application 0.04 0 Net Cycle Tim Adjusted Loade Net Load Ti	ne (load, dump, mobile 0.00 loaders -0.04 loaders -0.04 loaders -Truck:	Dump: 0. aneuver):	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes minutes	inutes

<u>Truck Travel (Haul & Return) Time:</u> <u>penetration 1.2</u>

Road Condition: Very hard, smooth, asphalt or concrete, no tire

Haul Route:

110011100101								
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
1	26400.00	1.00	1.20	2.20	2868	9.354		

Haul Time: 9.354 minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 26400.00 1.20 0.20 2938 -1.00 9.020

Return Time: 9.020 minutes
Total Truck Cycle Time: 22.387 minutes

Loading Tool unit

Production Truck Unit Production

42.33 LCY/Hour Adjusted for job efficiency: 252.72 LCY/Hour Adjusted for job efficiency: 35.14 LCY/Hour Optimal No. of Trucks: 7 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 35.14 LCY/Hour Adjusted single truck/loader team production: 35.14 LCY/Hour Adjusted multiple truck/loader team production: 35.14 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 4.27
 Hours

 Unit cost:
 \$5.617
 /LCY
 Total job cost:
 \$843

TRUCK/LOADER TEAM WORK

PROJECT IDENT Task #: 005 Date: 8/24/20 User: AME	<u> </u>	_			Permit/Job#: M	2017032
Task #: 005 Date: 8/24/20						
CSCI. THVIE	018	State: Cole County: Ote	orado ro	Ab	breviation: No. Mo. Mo.	ne 932-005
Agency or o	organization nar	ne: DRMS				
HOURLY EQUIP	PMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>	
		_	Equipment Descri	iption		
Tr	uck Loader Tea		eneric 12-18 cy, 6x AT 938H	4		
Suppo	rt Equipment -L		A1 938H A			
Dood Mo	-Duintenance –Mot		IA IA			
Road Wa			IA IA			
Cont Donal Laborator	Tr 1 / .	. 1 T	G	F '	Maintenance	
Cost Breakdown:	Truck/Loa	ader Team Loader	Load Area	Equipment Dump Area	Maintenan Motor Grader	ce Equipment Water Truck
%Utilization-machine:	100	100) NA	NA	NA	NA
Ownership cost/hour:	\$22.72	\$25.88		NA	NA	NA
Operating cost/hour:	\$44.95	\$32.57		NA	NA	NA
%Utilization-riper:	NA NA) NA	NA	NA NA	NA NA
Ripper own. cost/hour: Ripper op. cost/hour:	NA NA	\$0.00 \$0.00		NA NA	NA NA	NA NA
Operator cost/hour:	\$30.37	\$40.90		NA	NA	NA
Unit Subtotals:	\$98.03	\$99.35	5 NA	NA	NA	NA
Number of Units:	1		1 0	0	0	0
Group Subtotals:	Work:	\$197.38	Support:	\$0.00	Maint:	\$0.00
Total work team cost	/hour: \$197.3 8	<u> </u>				
MATERIAL QUA	ANTITIES					
Initial volume:	300	CC	CY Swell	factor: 1.000		
Loose volume:	300					
	rce of estimated of estimated swe Material Purch To	ell factor: Ca ase Cost: \$0	pplication t Handbook .00			
HOURLY PROI	DUCTION					
Truck Capacity: Truck Payload (weig Material we Descrip	eight: 1	rovided	Pounds/LCY	,		

penetration 1.2

Payload Capacity: 5 Truck Bed (volume) Basis: Struck Volume: Heaped Volume: Average Volume: Adjusted Volume:	50,300.00 12.00 LC	LCY				
Struck Volume: Heaped Volume: Average Volume:	12.00 LC					
Heaped Volume: Average Volume:	12.00 LC					
Average Volume:		Y				
	18.00 LC	Y				
Adjusted Volume:	15.00 LC	Y				
	18.00 LC	Y				
Final T	ruck Volume Ba	sed on Number of Loa	ader Passes:	16.38	LCY	
Loading Tool Capacity						
Rated Capacity:	3.900	LCY (heaped)	Bucl	ket Size Class:	NA	_
Bucket Fill Factor:	1.050	Other - moist loam	(100-1	10%) 1.050		_
Adjusted Capacity:	4.095	LCY	(100-1	11070) 1.030		_
Job Condition Corrections:		Site A	ltitude (ft.): 4	4130 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE			
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Machine Cycle Time vs. Selected Value wi	ithin this Basic R	ating: NA				
The old Loodons N	Material Description	on:				
	1					
Cycle Time Elements (min.): Load: NA	-	euver: NA		Dump: 0.10	00	
Cycle Time Elements (min.): Load: NA	Mane		oad. dump. 1	·		utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U	Mane		oad, dump, r	naneuver):	0.483 min	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors	Mane Unadjusted Basic	Loader Cycle Time (1	oad, dump, r	maneuver): Factor (min.)	0.483 min	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material:	Mane Unadjusted Basic Mixed material 0	Loader Cycle Time (1	-	maneuver): Factor (min.) 0.020	0.483 min Source (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile:	Mane Unadjusted Basic Mixed material 0 No adjustment -	Loader Cycle Time (1) 0.02 factor not applicable (1)	0.00	Factor (min.) 0.020 0.000	0.483 min Source (Cat HB) (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load	0.00	maneuver): Factor (min.) 0.020	0.483 min Source (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Mane Unadjusted Basic Mixed material 0 No adjustment -	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04	0.00	Factor (min.) 0.020 0.000 -0.040	0.483 min Source (Cat HB) (Cat HB) (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04	0.00 ders -0.04	Factor (min.) 0.020 0.000 -0.040 0.040	Source (Cat HB) (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04 0.00 Net Cycle Time A Adjusted Loader Cycle	0.00 ders -0.04 djustment: ycle Time:	maneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000	Source (Cat HB) (Cat HB)	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04 0.00 Net Cycle Time A	0.00 ders -0.04 djustment: ycle Time:	Factor (min.) 0.020 0.000 -0.040 0.000 0.000 0.020	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04 0.00 Net Cycle Time A Adjusted Loader Cycle	0.00 ders -0.04 djustment: ycle Time:	Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open Nominal target 0	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04 0.00 Net Cycle Time A Adjusted Loader Cycle	djustment: ycle Time: per Truck:	Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Mane Unadjusted Basic Mixed material 0 No adjustment - Common owners Inconsistent open Nominal target 0	Loader Cycle Time (1 0.02 factor not applicable (ship of trucks and load ration 0.04 0.00 Net Cycle Time A Adjusted Loader Cycle Time A Net Load Time	djustment: ycle Time: per Truck:	Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503 1.608	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes Minu Minu

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	26400.00	1.00	1.20	2.20	2868	9.354

Haul Time: 9.354 minutes

Return Route:

Ttotal II Ito	Tetalii itoate.								
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)			
1	26400.00	-1.00	1.20	0.20	2938	9.020			

Return Time: 9.020 minutes
Total Truck Cycle Time: 21.382 minutes

Loading Tool unit

Production 466.33 LCY/Hour Adjusted for job efficiency: 387.06 LCY/Hour Truck Unit Production 45.96 LCY/Hour Adjusted for job efficiency: 38.15 LCY/Hour

Optimal No. of Trucks: 10 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 38.15 LCY/Hour Adjusted single truck/loader team production: 38.15 LCY/Hour Adjusted multiple truck/loader team production: 38.15 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 7.86
 Hours

 Unit cost:
 \$5.174
 /LCY
 Total job cost:
 \$1,552

BULLDOZER RIPPING WORK

	Task description:	Rip 8	3.54 ac stockpile area				
Site	: 22 West Pit		Permit Action:	112c App Bor 5.15 ac Pond		Permit/Job#:	M2017032
	PROJECT IDE	NTIFICATIO	<u>ON</u>				
	Task #: 006 Date: 8/24 User: AM	1/2018	State: Colorado County: Otero		Al	obreviation: Filename:	None M032-006
	Agency	or organization	name: DRMS				
	HOURLY EQU	JIPMENT CO	OST				
		Machine: Cat	D8T - 8SU hank Ripper	_	Horsepower Shift Basis Data Source	: 1 p	310 per day CRG)
	Cost Breakdown:						
	Cost Breakdown.	Ownership Co	st/Hour:	\$93.62	Utilization % NA		
		Operating Co	st/Hour:	\$73.35	100	_	
		r Ownership Co		\$8.93	NA	_	
	Rippo	er Operating Co		\$7.78	100 NA	_	
		Operator Co Total Unit Co		\$41.52 \$225.20	NA		
		Total Fleet Co	-	5.20			
	MATERIALO						
	MATERIAL Q		Sele	ected estimating	g method: Aı	rea	
	Alternate Methods	<u>s:</u>					
Seismic:	NA		Bank Volume:	NA 2.00	BCY		NA
Area:	8.54	acres	Rip Depth (ft):	2.00	Volume:	27,556	BCY or 0
		Source of estin	nated quantity: Applic	ation			
	HOURLY PRO	DUCTION					
	Seismic:						
		S	Seismic Velocity:	NA	feet/se	econd	
	Area:						
	rica.	Average	e Ripping Depth:	2.56	mph		
			e Ripping Width:	7.08	degre	es	
			Ripping Length:	300.00	feet		
			ige Dozer Speed:	88.00	feet		
		_	Maneuver Time:	0.25	feet		
		Product	ion per unit area:	0.800	acres/	hour	
	Job Condition Con	rrection Factors					
	Una	djusted Hourly	Unit Production:	0.800	Acres	s/hr	
			Site Altitude:	4,130	feet		
			Altitude Adj:	1.00	(CAT		
			Job Efficiency:	0.83		ft/day)	
			Net Correction:	0.83	multij	plier	
			Hourly Unit Production: Hourly Fleet Production:	0.66 0.66	Acres/hr Acres/hr		
	JOB TIME AN	D COST					
	Fleet size:	1	Grader(s)	Total job tim	ne:	12.87	Hours
	Unit cost:	\$339.348	Per acre	Total iob co	st:	\$2.898	

BULLDOZER WORK

Task description:	Backfi	ll 5.15 ac o	existing pon	a		
e: _22 West Pit		Per	mit Action:	112c App Bond - BF 5.15 ac Pond	Permit/Job#:	M2017032
PROJECT IDEN	TIFICATIO	V				
Task #: 007 Date: 8/24/20		State: County:	Colorado Otero		Abbreviation: Filename:	None M032-007
User: AME		J			-	
Agency or o	organization na	me: DI	RMS			
HOURLY EQUIP	PMENT COS	<u>5T</u>				
Basic Machine: Horsepower: Blade Type:	Cat D8T - 8S 310 Semi-Univers	U		_		
Attachment:	NA			_		
Shift Basis: _ Data Source:	1 per day (CRG)			<u> </u>		
Cost Breakdown:	()			<u>—</u>		
				<u>Utilization %</u>		
Ownership Cost/Ho			\$93.62 \$73.35	NA 100		
Operating Cost/Ho Ripper own. Cost/Ho			\$0.00	NA		
Ripper op. Cost/Ho			\$0.00	0		
Operator Cost/Ho	our:		\$41.52	NA		
MATERIAL QUA	182,791					
Swell factor:	1.165 212,952 LCY		<u> </u>			
Swell factor:	212,952 LCY volume:	Applicati Cat Hand				
Swell factor: Loose volume: Source of estimated v	volume: swell factor:					
Swell factor: Loose volume: Source of estimated volume of estimated setimated set	volume: swell factor: UCTION ee: 4		book			
Swell factor: Loose volume: Source of estimated v Source of estimated s HOURLY PROD Average push distance	volume: swell factor: UCTION ee:4 roduction:1	Cat Hand	book	pile 1.0		
Swell factor: Loose volume: Source of estimated of Source of Sourc	volume: swell factor: UCTION ee: oduction: y description: nt: -5 %	Cat Hand 00 feet 83.3 LCY	book /hr	pile 1.0		
Swell factor: Loose volume: Source of estimated victorials of estimated source of esti	volume: swell factor: UCTION ee: oduction: y description: nt: -5 %	Cat Hand 00 feet 83.3 LCY Consol	book /hr	pile 1.0		
Swell factor: Loose volume: Source of estimated verage push distance Unadjusted hourly presented to the standard of the standa	212,952 LCY yolume: swell factor: UCTION re:4 roduction:1 y description: nt:5 %4,130 fe2,900 lb	Cat Hand 00 feet 83.3 LCY Consol	book /hr			
Swell factor: Loose volume: Source of estimated of Source o	volume: swell factor: UCTION ve: 4 roduction: 1 v description: nt: -5 % 4,130 fe 2,900 lb Decomp	Cat Hand 00 feet 83.3 LCY Consol eet os/LCY cosed rock	/hr idated stock	, 50% Earth <u>Source</u>		
Swell factor: Loose volume: Source of estimated of Source of S	volume: swell factor: UCTION ve:4 voluction:1 v description: nt:5 %4,130 fe2,900 lb	Cat Hand 00 feet 83.3 LCY Consol eet ss/LCY oosed rock	/hr idated stock - 50% Rock	, 50% Earth Source (EXCL.)		
Swell factor: Loose volume: Source of estimated of Source of S	volume: swell factor: UCTION ve:4 voluction:1 v description: nt:5 %4,130 fe2,900 lb	Cat Hand 00 feet 83.3 LCY Consol eet 0s/LCY 0osed rock	/hr idated stock	, 50% Earth <u>Source</u>		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8807

Adjusted unit production: 161.43 LCY/hr
Adjusted fleet production: 322.86 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$1.292/LCY

Total job time: 659.58 Hours
Total job cost: \$275,036

WHEEL LOADER – LOAD AND CARRY WORK

22 West	Pit		Perr	nit Action:	112c App 5.15 ac Po		BF 	Permit/Job#:	M2017032
PROJEC'	Γ IDENT	IFICATION							
Task #: Date:	008 8/24/20	18 (State: County:	Colorado			A	bbreviation: _ Filename:	None 032-008
User:	AME		county.	Otero			_	Thename.	032 000
Aş	gency or o	rganization nan	ne: DR	MS					
HOURLY	EQUIP	MENT COST							
	c Machine		_			Н	[orsepowe	1	72
	achment 1						Shift Basis		er day
						D	ata Source	: (C	RG)
Cost Break	down:								
					Utilizatio	n %			
	nership Co		\$25.8		NA				
	erating Co		\$32.5		100				
	perator Co		\$40.9		NA				
Tot	tal Unit Co	st/Hour:	\$99.3	35					
To	tal Fleet C	ost/Hour:	\$198	.70					
Loose		13,900 ce of estimated f estimated swe	volume:	_ LCY Applicati Cat Hand					
HOURLY	DDANI	ICTION							
Loader Cyc			- 1 D: - :	Carala Tima	(11 -1			0.492	
•		_	eu basic	Cycle Time	(10au, dulii	p, maneu		0.483	minutes
Сус	le Time Fa		.1.1/022.4	2/422 15	0.02			etor (min.)	Source
			ed by true	3/4" diame	ter -0.02			-0.020 0.020	(Cat HB) (Cat HB)
Tr	uck Owner			rship of truc	ks and load	ers -0 0/	1	-0.040	(Cat HB)
11	Opera			tion -0.04	ks and load	C13 -0.0-		-0.040	(Cat HB)
	Dump Ta		al target					0.000	(Cat HB)
	r				cle Time A	djustmen	ıt:	-0.080	minutes
					ed Basic C			0.403	minutes
Rolling Res	sistance – I	Road Condition	<u>s</u>	-					
_	Н	ul: Rutted d	irt little 1	maintenance	no water	?" tire n	enetration	5.0	
	Retu			maintenance					
** 1			,		, 110 (111101)	c p		···	
Haul and R	eturn Time	<u>2</u>							
		Length	Grade	Res.	Rolling	Total	Res.	Travel Time	Course
		(feet)	(%) R	Res. (%)	(%)	(minutes)	Source
								` '	
	ıl Route:	1000 1000	1.0	00	5.00	6.0	0	1.0071 0.8734	(Cat HB) (Cat HB)

Loader Worksheet Cont'd Task # 008 Page 2 of 2

Total Travel Time: 1.8805 minutes
Total Cycle Time: 2.2830 minutes

Load Bucket Capacity

Rated Capacity: _____ 3.90 LCY (heaped)

Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100

Adjusted Capacity: 4.29 LCY

Job Condition Correction Factors

Site Altitude: 4130 feet

Unadjusted Hourly Unit Production: 112.75 LCY/Hour Adjusted Hourly Unit Production: 93.58 LCY/Hour Adjusted Hourly Fleet Production: 187.16 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: **74.31** Hours

Unit cost: \$1.062 /LCY Total job cost: \$14,766

Total Fertilizer Materials Cost/Acre

\$113.39

REVEGETATION WORK

: 22 West Pit		Pe	rmit Action:	112c App Bond - 5.15 ac Pond		b#: <u>M2017032</u>
ROJECT	<u>IDENTIFI</u>	<u>CATION</u>				
Task #: Date: User:	009 8/24/2018 AME	State: County:	Colorado Otero		Abbreviation: Filename:	None M032-009
Age E RTILIZ aterials	, ,	ization name: <u>D</u> I	RMS			
ERTILIZ	ING	ization name: <u>Dl</u>		its / Unit	Cost / Unit	Cost /Acre

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$34.72
	Total Fertilizer Application Cost/Acre	\$34.72

TILLING

Description	Cost /Acre
Subsoil scarification, (MEANS 32 91 13.23 3100)	\$191.66
Total Tilling Cost/Acre	\$191.66

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.20	7.81	\$5.80
Blue Grama - Lovington	0.40	6.53	\$6.66
Prairie Clover, White	0.70	5.93	\$28.49
Sideoats Grama - Vaughn	2.70	8.86	\$27.65
Western Wheatgrass - Arriba	3.20	8.08	\$26.50
Totals Seed Mix	7.20	37.21	\$95.09

Ap	olication	

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.81	\$2.81
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.26	\$4.26
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$583.07

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, hand, aquatic area, annuals [DMG]		\$133.12
Weed spray, hand, aquatic area, nox. [DMG]		\$175.00
	Total Mulch Application Cost/Acre	\$376.90

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 14.19
 Cost /Acre:
 \$1,626.83

 Estimated Failure Rate:
 25%
 Cost /Acre*:
 \$327.09

*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$23,084.72

Reseeding Job Cost: \$1,160.35

Total Job Cost: \$24,245

Job Hours: 28.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilization/Demobilization

Permit Action: 112c App Bond - BF

Site: **22 West Pit** 5.15 ac Pond Permit/Job#: M2017032

PROJECT IDENTIFICATION

Task #:010State:ColoradoAbbreviation:NoneDate:8/24/2018County:OteroFilename:M032-010

User: AME

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,

400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT

TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

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 16M	28.73	\$77.19	\$117.55	1	\$194.74	\$117.55	\$250.00
Cat 345D L 12'-	54.31	\$66.64	\$125.45	1	\$192.09	\$125.45	\$250.00
10" Stick							
CAT 938H	16.34	\$25.88	\$88.67	2	\$229.10	\$177.34	\$500.00
Cat D8T - 8SU	53.08	\$102.55	\$125.45	2	\$456.00	\$250.90	\$500.00

Subtotals: \$1,071.93 \$671.24 \$1,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$97.40	1	\$97.40	\$97.40
Drill/Broadcast Seeder with	\$36.08	1	\$36.08	\$36.08
Tractor				

Subtotals: \$133.48 \$133.48

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

ROCKY FORD

miles

30.00

mph

Total Non-Roadable Mob/Demob Cost *
 '* two round trips with haul rig:
 Total Roadable Mob/Demob Cost **
 ** one round trip, no haul rig:

\$9,896.43

\$35.59

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):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	3.27	0.27

JOB TIME AND COST

Total job cost: 6.53 Hours

Total job cost: \$9,932

COST SUMMARY WORK

Task description: **Cost Summary** 112c App Bond - BF Permit Action: Site: 22 West Pit 2.83 ac Pond Permit/Job#: M2017032 **PROJECT IDENTIFICATION** Colorado Task #: 000 State: Abbreviation: None 8/24/2018 M032-000 Date: County: Otero Filename: User: **AME**

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade plant site area	GRADER	1	6.70	\$1,174.00
002	Grade 2,000' pond shoreline to 3H:1V	EXCAVATE	1	14.74	\$2,693.00
003	Grade 100' pond shoreline to 5H:1V	EXCAVATE	1	0.49	\$90.00
004	Remove 100 cy scrap from site	TRUCK1	1	4.27	\$843.00
005	Remove 300 cy concrete rubble from site	TRUCK1	1	7.86	\$1,552.00
006	Rip 8.54 ac stockpile area	RIPPER	1	12.86	\$2,898.00
007	Backfill 2.83 ac existing pond	DOZER	2	362.45	\$151,136.00
008	Spread growth medium across 11.87 ac	LOADER	2	62.15	\$12,351.00
009	Revegetate 11.87 acres	REVEGE	1	23.00	\$20,281.00
010	Mobilization/Demobilization	MOBILIZE	1	6.53	\$9,932.00
		<u>SUBTO</u>	TALS:	501.05	\$202,950

INDIRECT COSTS

OVERHEAD AND PROFIT:

 Liability insurance:
 2.02 Total = \$4,099.59

 Performance bond:
 1.05 Total = \$2,130.98

 Job superintendent:
 100.00 Total = \$7,305.00

Profit: 10.00 Total = $\begin{array}{c} 20,295.00 \\ \hline TOTAL O \& P = \\ \end{array}$ \$33,830.57

CONTRACT AMOUNT (direct + O & P) = $\frac{$236,780.57}{}$

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00 Total = 500.00

Engineering work and/or contract/bid preparation: 0.00 Total = \$0.00

Reclamation management and/or administration: 5.00 \$11,839.03

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$46,169.60

TOTAL BOND AMOUNT (direct + indirect) = \$249,119.60

MOTOR GRADER WORK

Task description:	Grade plant site	area				
: 22 West Pit	Per	mit Action:	112c App Bor 2.83 ac Pond		Permit/Job#:	M2017032
PROJECT IDENTIH	FICATION					
Task #: 001	State:	Colorado		Ab	breviation:	None
Date: 8/24/2018		Otero			Filename:	M032-001
User: AME						
Agency or orga	anization name: DI	RMS				
HOURLY EQUIPM	ENT COST					
Basic Machin	e: CAT 16M			Horsepower:		297
Ripper Attachmer		pper		Shift Basis:		per day
		•		Data Source:	(CRG)
Cost Breakdown:						
				Utilization %		
	ership Cost/Hour:		\$77.19	NA	_	
	rating Cost/Hour:		\$63.34	100	_	
	ership Cost/Hour:		\$4.07	NA 50	_	
	erating Cost/Hour: erator Cost/Hour:		\$1.77 \$28.69	50 NA	_	
	al Unit Cost/Hour:		\$175.05	IVA	_	
100						
Tota	l Fleet Cost/Hour:	\$17	5.05			
MATERIAL QUAN	<u> FITIES</u>					
Total Area	a to be graded or rippe	ed: 12.33				acres
Sour	ce of estimated acreas	ge: Applic	eation			
HOURLY PRODUC	TION					
	Average Grader Sp	need:	1.50	mph		
	Selected Applica			grading (0-2.5 r	mph) - 1.5	
	Selected Blade A		30	degree		
	Effective Blade Lea		13.90	feet		
	of blade overlap per	pass:	2.00	feet		
	or ripping width per		11.90	feet		
Unadjuste	d Hourly Unit Produc	ction:	2.1636	acres/l	nour	
Job Condition Correction	n Factors		Si	ite Altitude: 413	<u>0</u> feet	
		Source				
Altitude Adj:	1.00	(CAT HI				
Job Efficiency:	0.85	(1sh/d, mo				
Net Correction:	0.8500	multiplier				
	Adjusted Hourly Unit	Production:	1.8391	acres/Hou	r	
P	Adjusted Hourly Fleet	Production:	1.8391	acres/Hou	r	
JOB TIME AND CO	OST					
	1 Grader(s)		Total job time	e: 6. 7	70	Hours
			-	-		=
Unit cost: \$9	5.18 per acre		Total job cos	t: \$1, 1	174	

HYDRAULIC EXCAVATOR WORK

Task description:	Grad	le 2,000' pon	d shoreline	to 3H:1V		
22 West Pit		Pern	nit Action:	112c App Bond 2.83 ac Pond		mit/Job#: <u>M2017032</u>
PROJECT IDE	NTIFICATIO	<u>ON</u>				
Task #: 002 Date: 8/24 User: AM	/2018 E	State: County:	Colorado Otero			viation: None M032-002
Agency	or organization	name: DR	MS			
HOURLY EQU	IPMENT CO	<u>OST</u>				
Basic Mach Attachme		ED L 12'-10' Cab	'Stick		Horsepower: Weight (MT): Shift Basis: Data Source:	380 49.37 1 per day (CRG)
Cost Breakdown:			Ú			
	Cost/Hour: _	\$66.6 \$78.1		Utilization % NA 100		
Operator	Cost/Hour:	\$37.7	9	NA		
	t Cost/Hour:	\$182.5				
Total Flee	et Cost/Hour:	\$182.	57			
	e: 6,250		CCY LCY Applicate Cat Hand		etor: 1.230	
HOURLY PRO Excavator Cycle T	ime (load buck	-	Basic Job C	Condition Description Basic Descrip	otion: AVERAC	E
Load Bucket Capa	citv			Cycle Time V	(alue: 0.315	minutes
Rated C Bucket Fill Adjusted C	apacity:	3.14 1.050 3.30	LCY (he Moist loa	-	Bucket Size Cla (100% - 110%) 1.	
Job Condition Cor	rection Factors		<u> </u>	Sit	e Altitude: <u>4130</u> fe	et
Altitude Job Efficie Net Correct JOB TIME AN	ncy: 0. tion: 0. Unadjusted Adjusted Adjusted I	00 83 83 Hourly Unit Hourly Unit Hourly Fleet	Production:	B) ay)	LCY/Hour LCY/Hour LCY/Hour	
Fleet size:	1	Excavato	ъr Т	otal job time:	14.75	Hours
		_	n 1	ū		
Unit cost:	\$0.350	/LCY		Total job cost:	\$2,693	

HYDRAULIC EXCAVATOR WORK

Task description:	Grade 100' pond	l shoreline t	o 5H:1V			
e: 22 West Pit	Per	mit Action:	112c App Bond 2.83 ac Pond		ermit/Job#:	M2017032
PROJECT IDENTI	FICATION					
Task #: 003 Date: 8/24/2013 User: AME	State: County:	Colorado Otero			reviation: Filename:	None M032-003
Agency or org	ganization name: DR	RMS				
HOURLY EQUIPM	IENT COST					
Basic Machine: Attachment 1:	Cat 345D L 12'-10 ROPS Cab	"Stick		Horsepower: Weight (MT): Shift Basis: Data Source:	1 p	380 9.37 er day CRG)
Cost Breakdown:						
Ournarchin Cas	t/Hour: \$66.0	64	Utilization % NA			
Ownership Cos Operating Cos			100			
Operator Cos			NA	<u></u>		
Total Unit Cos						
Total Fleet Cos	st/Hour: \$182	.57				
MATERIAL QUAN Initial volume: Loose volume:	<u>TTITIES</u> 210 258	_ CCY LCY	Swell fac	tor: 1.230		
Excavator Cycle Time		-	oucket, swing em		A CE	
	Secondary Job Co					
	·		Cycle Time V		_	minutes
Load Bucket Capacity						
Date 1 Com	2.14	LOVA	(bene	Bucket Size (Class: Me	edium
Rated Capaci Bucket Fill Fact		_ LCY (he Moist loa	apea) am or sandy clay	(100% - 110%)	1.050	
Adjusted Capaci		LCY	or surely city	(100,0 110,0)	000	
Job Condition Correction	on Factors		Site	e Altitude: 4130	feet	
		Source				
Altitude Adj:	1.00	(CAT H				
Job Efficiency: Net Correction:	0.83	(1 shift/da				
		multiplie				
U	nadjusted Hourly Unit		628.00	LCY/Hour		
	Adjusted Hourly Unit Adjusted Hourly Fleet		521.24 521.24	LCY/Hour LCY/Hour		
JOB TIME AND CO		- Toduction.				
Fleet size:	1 Excavato	or T	otal job time:	0.5	0	Hours
Unit cost:	0.350 /LCY		Total job cost:	\$90)	
Unit cost: \$6	1.330 /LC I		i otai job cost:	39 (,	

TRUCK/LOADER TEAM WORK

1 ask	description:	Kemove	100 cy scra	t Action:		and RE		
Site: <u>22</u>	West Pit		Permi	t Action:	112c App Be 2.83 ac Pond		Permit/Job#: N	M2017032
PRO	DJECT IDEN	NTIFICATION						
Ta	ask #: 004		State:	Colorado		Ab	breviation: N	one
	Date: 8/24/	2018	County:	Otero				[032-004
	User: AME	<u> </u>						
	Agency of	r organization nar	ne: DRM	IS				
<u>HOU</u>	URLY EQU	IPMENT COST	<u>T</u>			Shift bas	sis: <u>1 per day</u>	
					ipment Descri			
	,	Truck Loader Tea			c 12-18 cy, 6x4	1		
	Sunt	oort Equipment -L	-Loader:	CAT 93	38H			
	Ե ԱՐԻԼ		imp Area:	NA				
	Road M	Iaintenance –Mot		NA				
-		-Wa	ter Truck:	NA				
Cost	Breakdown:	Truck/Los	ader Team		Support I	Equipment	Maintena	nce Equipment
		Truck	Loader	L	oad Area	Dump Area	Motor Grader	
 %Utilizatio	on-machine:	100		100	NA	NA	NA	NA
Ownershi	ip cost/hour:	\$22.72	\$2.	5.88	NA	NA	NA	NA
	ng cost/hour:	\$44.95	\$3	2.57	NA	NA	NA	NA
%Utili:	zation-riper:	NA		0	NA	NA	NA	NA
lipper own	n. cost/hour:	NA	\$	0.00	NA	NA	NA	NA
Ripper of	p. cost/hour:	NA	\$	0.00	NA	NA	NA	NA
-	or cost/hour:	\$30.37		0.90	NA	NA	NA	
	it Subtotals:	\$98.03	\$9	9.35	NA	NA	NA	
	ber of Units:	1		1	0	0	0	
Grou	ip Subtotals:	Work:	\$197.38		Support:	\$0.00	Maint:	\$0.00
	l work team co	ost/hour: <u>\$197.38</u>	<u> </u>					
	Initial volume Loose volume			CCY LCY	Swell	factor: 1.000		
		ource of estimated e of estimated swe Material Purch To	ell factor:	Applicat Cat Hand \$0.00				
<u>HO</u> 1	URLY PRO	DUCTION						
	k Capacity: k Payload (we Material				Pounds/LCY			
		ription: User P	rovided		Pounds			

Payload Capacity	50,300.00)	LCY				
Truck Bed (volume) Bas	S:						
Struck Volume:		LCY					
Heaped Volume:		LCY					
Average Volume:		LCY					
Adjusted Volume:	18.00	LCY					
F	inal Truck Vol	ume Base	d on Number of	Loader Passes:	15.80	LCY	
Loading Tool Capacity				D1	or Classic	NIA	
Rated Capacity	7: 3.90	0 1	LCY (heaped)	Buck	et Size Class:	NA	
Bucket Fill Facto				oorly blasted (60	- 75%) 0.675		
Adjusted Capacity			LCY		,		
Job Condition Correcti	ons:		Sit	te Altitude (ft.): <u>4</u>	130 feet		
	Truck		Loader	Source			
Altitude Adj:	1.000		1.000	(CAT HB)	1		
Job Efficiency:	0.830		0.830	(CAT HB)			
Net Correction:	0.830		0.830				
Net Correction: Loading Tool Cycle Ti		mber of L		sses Required to F	ill Truck:	6	passes
L	ne: Nu	mber of L		sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir	ne: Nu	dition Rati	oading Tool Pas	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va	ne: Nu ovels: ne vs. Job Con	dition Rati Basic Rati	oading Tool Pasing: NA	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va	ne: Nu ovels: ne vs. Job Conduction this rs – Material D	dition Rati Basic Rati	oading Tool Pasing: NA	sses Required to F	ill Truck:	6	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade	ne: Nu ovels: ne vs. Job Conduction this rs – Material D	dition Rati Basic Rati	oading Tool Pasing: NA NA	sses Required to F		100	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m	ne: Nu ovels: ne vs. Job Conduce within this rs – Material Din.):	dition Rati Basic Rati Description Maneu	oading Tool Pas ing: NA ing: NA ver: NA		Dump: 0.	.100	passes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m. Load: NA	ne: Nu ovels: ne vs. Job Conduction ue within this rs – Material D in.): ers - Unadjuste	dition Rati Basic Rati Description Maneu	oading Tool Pas ing: NA ing: NA ver: NA		Dump: 0.	.100 0.483 m	
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m. Load: NA Wheel and Track Load	ne: Nu ovels: ne vs. Job Conduction ue within this rs – Material D in.): ers - Unadjuste ors al: Mixed m	dition Rati Basic Rati Description Maneu d Basic La	oading Tool Pasing: NA In: Ver: NA oader Cycle Tin	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020	.100 0.483 m	iinutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Factor Materi Stockpi	ne: Nu ovels: ne vs. Job Conduction luc within this rs – Material D in.): ers - Unadjuste ors al: Mixed m le: No adjus	dition Rati Basic Rati Description Maneu d Basic Lo aterial 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000	.100 0.483 m Source (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh	ne: Nu ovels: ne vs. Job Conduct within this rs – Material Din.): ers - Unadjuste ors al: Mixed m le: No adjus p: Common	dition Rati Basic Rati Description Maneu d Basic Le naterial 0.0 tment - fan n ownershi	oading Tool Pasing: NA	ne (load, dump, m	Dump: 0. aneuver):	0.483 m Ource (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneu d Basic Lo naterial 0.0 tment - fan ownershi ent operat	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneu d Basic Le naterial 0.0 tment - fan n ownershi	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application of trucks and tion 0.04	ne (load, dump, m	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0. aneuver):	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ne (load, dump, m ble 0.00 loaders -0.04	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000	0.483 m) Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dinn.): ers - Unadjuste ors al: Mixed material Mixed material Mixed material	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 International operation operation operations	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ble 0.00 loaders -0.04 loaders -Cycle Time:	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio Dump Targ	ne: Nu ovels: ne vs. Job Conduction within this rs – Material Dian.): ers - Unadjuste ors al: Mixed m le: No adjus p: Common n: Inconsist et: Nominal	dition Rati Basic Rati Description Maneur d Basic Lonaterial 0.0 material 0.0 ment - fan n ownershi ent operat target 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 22 ctor not application 0.04 00 Net Cycle Tim Adjusted Loader	ble 0.00 loaders -0.04 me Adjustment: er Cycle Time: ime per Truck:	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	inutes
Loading Tool Cycle Ti Excavators and Front Sh Machine Cycle Tir Selected Va Track Loade Cycle Time Elements (m Load: NA Wheel and Track Load Cycle Time Facto Materi Stockpi Truck Ownersh Operatio Dump Targ	ne: Nu ovels: ne vs. Job Conclue within this rs – Material D in.): ers - Unadjuste ors al: Mixed m le: No adjus p: Commor on: Inconsist et: Nominal	dition Rati Basic Rati Description Maneu d Basic Le atterial 0.0 timent - fan ownershi ent operat target 0.0	oading Tool Pasing: NA ing: NA ver: NA oader Cycle Tin 2 ctor not application 0.04 0 Net Cycle Tim Adjusted Loade Net Load Ti	ne (load, dump, mobile 0.00 loaders -0.04 loaders -0.04 loaders -Truck:	Dump: 0. aneuver): Factor (min.) 0.020 0.000 -0.040 0.040 0.000 0.020 0.503 2.613	0.483 m Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes minutes	inutes

<u>Truck Travel (Haul & Return) Time:</u> <u>penetration 1.2</u>

Road Condition: Very hard, smooth, asphalt or concrete, no tire

Haul Route:

1100011100										
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)				
1	26400.00	1.00	1.20	2.20	2868	9.354				

Haul Time: 9.354 minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 26400.00 1.20 0.20 2938 -1.00 9.020

Return Time: 9.020 minutes
Total Truck Cycle Time: 22.387 minutes

Loading Tool unit

Production Truck Unit Production

42.33 LCY/Hour Adjusted for job efficiency: 252.72 LCY/Hour Adjusted for job efficiency: 35.14 LCY/Hour Optimal No. of Trucks: 7 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 35.14 LCY/Hour Adjusted single truck/loader team production: 35.14 LCY/Hour Adjusted multiple truck/loader team production: 35.14 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 4.27
 Hours

 Unit cost:
 \$5.617
 /LCY
 Total job cost:
 \$843

TRUCK/LOADER TEAM WORK

ite: _2	22 West Pit		Permi	it Action	112c App B 2.83 ac Pond		Permit/Job#: M	2017032
<u>PR</u>	OJECT IDEN	NTIFICATION						
ı	Task #: 005 Date: 8/24/2 User: AME			Colorad Otero	0	At	bbreviation: No MO	ne 032-005
	Agency or	organization nar	ne: DRM	1S				
<u>H(</u>	OURLY EQUI	PMENT COST	<u>r</u>			Shift ba	sis: <u>1 per day</u>	
					quipment Descri			
		Fruck Loader Tea	m -Truck: -Loader:	Gener	ric 12-18 cy, 6x4	1		
	Supp	ort Equipment -L		NA	73011			
	D 134		ump Area:	NA				
	Road M	Iaintenance –Mot	or Grader: iter Truck:	NA NA				
-			110011	1,112				
Co	st Breakdown:	Truck/Loa	ader Team Loader		Support I Load Area	Equipment Dump Area	Maintenan Motor Grader	ce Equipment Water Truck
T T. *1*	1.		Loader			-		
	tion-machine:	100	\$2	100	NA NA	NA NA	NA NA	N
	ship cost/hour: ting cost/hour:	\$22.72 \$44.95		25.88	NA NA	NA NA	NA NA	N N
	ilization-riper:	NA	φυ	0	NA NA	NA NA	NA NA	N
	wn. cost/hour:	NA	\$	60.00	NA	NA	NA	N
Ripper	op. cost/hour:	NA	\$	00.00	NA	NA	NA	N
	ator cost/hour:	\$30.37		0.90	NA	NA	NA	N
	Jnit Subtotals:	\$98.03	\$9	99.35	NA	NA	NA	N
	mber of Units:	1	φ10 7 20	1	0	0	0	Φ0.00
	oup Subtotals:	Work:	\$197.38		Support:	\$0.00	Maint:	\$0.00
Tot	tal work team co	st/hour: \$197.38	<u> </u>					
<u>M</u> .	ATERIAL QU	<u>JANTITIES</u>						
	Initial volume	: 300		CCY	Swell	factor:1.000		
	Loose volume	:300		LCY				
		ource of estimated	_	Applic				
	Source	of estimated swe Material Purch	_	\$0.00	ndbook			
			otal Cost:	\$0.00				
114	ALIDI V DDA	DUCTION						
	OURLY PRO	DUCTION						
	uck Capacity: uck Payload (wei	ght) Basis:						
110	Material v	weight: 1			_ Pounds/LCY			
		ription: User P	rovided					

penetration 1.2

Truck Bouder Worksheet Con	u u	rusk # 005			1 450 2 01 3	
Payload Capacity:	50,300.00	LCY				
To all Dalle all and Darle						
Truck Bed (volume) Basis: Struck Volume:	12.00 LC	TV				
Heaped Volume:	18.00 LC					
Average Volume:	15.00 LC					
Adjusted Volume:	18.00 LC					
Adjusted Volume.	LC	. I				
Final 7	Truck Volume Ba	ased on Number of Loa	der Passes:	16.38	LCY	
Loading Tool Capacity						
Data d Carracitan	2 000	LCV (haanad)	Buck	et Size Class:	NA	_
Rated Capacity: Bucket Fill Factor:	3.900	LCY (heaped)	(100.1	100/ \ 1.050		_
Adjusted Capacity:	1.050 4.095	Other - moist loam LCY	(100-1	10%) 1.050		_
Adjusted Capacity:	4.095	LCI				
Job Condition Corrections:		Site Al	titude (ft.): <u>4</u>	130 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				
Machine Cycle Time vs Selected Value w Track Loaders – I	ithin this Basic F	Rating: NA				
Cycle Time Elements (min.):	viatoriai Bescript					
Load: NA	Man	euver: NA		Dump: 0.	100	
Wheel and Track Loaders -	- Unadiusted Basic	Loader Cycle Time (la	nad dumn m	naneuver):	0.483 min	utes
Cycle Time Factors	Onadjusted Busic	Louder Cycle Time (10		Factor (min.)		ares
Material:	Mixed material	0.02		0.020	(Cat HB)	
Stockpile:		factor not applicable 0	.00	0.000	(Cat HB)	
Truck Ownership:		ship of trucks and load		-0.040	(Cat HB)	
Operation:	Inconsistent ope			0.040	(Cat HB)	
Dump Target:	Nominal target			0.000	(Cat HB)	
	_	Net Cycle Time Ac	ljustment:	0.020	minutes	
		Adjusted Loader Cy	cle Time:	0.503	minutes	
		Net Load Time p	er Truck: _	1.608	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.50	Minutes	Adjusted	for site altitude:	0.500	Mir
Truck Load Time:	1.608	Minutes	Adjusted	for site altitude:	1.608	Mir
ck Maneuver and Dump Time:	0.90	Minutes	Adjusted	for site altitude:	0.900	Min
Truck Travel (Haul & Return)	Time:	Road Condition: Very	hard, smooth	ı, asphalt or con	crete, no tire	_

CIRCES Cost Estimating Software

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	26400.00	1.00	1.20	2.20	2868	9.354

Haul Time: 9.354 minutes

Return Route:

Tetain Teace.							
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	26400.00	-1.00	1.20	0.20	2938	9.020	

Return Time: 9.020 minutes
Total Truck Cycle Time: 21.382 minutes

Loading Tool unit

Production 466.33 LCY/Hour Adjusted for job efficiency: 387.06 LCY/Hour Truck Unit Production 45.96 LCY/Hour Adjusted for job efficiency: 38.15 LCY/Hour

Optimal No. of Trucks: 10 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 38.15 LCY/Hour Adjusted single truck/loader team production: 38.15 LCY/Hour Adjusted multiple truck/loader team production: 38.15 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 7.86
 Hours

 Unit cost:
 \$5.174
 /LCY
 Total job cost:
 \$1,552

BULLDOZER RIPPING WORK

Site:	22 West Pit	Permit .	Action:	112c App Bor 2.83 ac Pond		Permit/Job#	: <u>M20170</u>	32
	PROJECT IDENTI	IFICATION						
	Task #: 006 Date: 8/24/201 User: AME		colorado Otero		Ab	breviation: Filename:	None M032-00	6
	Agency or org	ganization name: DRMS	S					
	HOURLY EQUIPM	MENT COST						
•	Basic Machi	ine: Cat D8T - 8SU			Horsepower:		310	
	Ripper Attachme	-		<u> </u>	Shift Basis:	1	per day	
					Data Source:	((CRG)	
9	Cost Breakdown:			1	TT:'1' .' 0/			
	Ow	nership Cost/Hour:		\$93.62	Utilization % NA			
		perating Cost/Hour:		\$73.35	100	<u> </u>		
	Ripper Ow	nership Cost/Hour:		\$8.93	NA	<u> </u>		
		perating Cost/Hour: Operator Cost/Hour:		\$7.78 \$41.52	100 NA	_		
		tal Unit Cost/Hour:		\$225.20	NA			
			фаа					
	Tot	al Fleet Cost/Hour:	\$225	5.20				
:	MATERIAL QUAN	<u>NTITIES</u>	Sele	ected estimating	g method: Are	ea		
	Altamata Mathada.							
	Alternate Methods:							
	NA	Bank Vo	olume:	NA	ВСҮ		NA	
nic:	NA	Bank Vo	_	NA 2.00	BCY Volume:	27,556	NA	BCY o
nic: rea:	NA 8.54		oth (ft):	2.00		27,556	NA	BCY o
nic: ea:	NA 8.54 Sour	acres Rip Deprece of estimated quantity:	oth (ft):	2.00		27,556	NA	BCY o
nic: rea:	NA 8.54 Sour	acres Rip Deprece of estimated quantity:	oth (ft):	2.00		27,556	NA	BCY o
nic: rea:	NA 8.54 Sour	acres Rip Deproce of estimated quantity: CTION	oth (ft): Applies	2.00			NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCTION Seismic:	acres Rip Deprece of estimated quantity:	oth (ft): Applies	2.00 ation	Volume:		NA	BCY
ea:	NA 8.54 Sour	acres Rip Deproce of estimated quantity: CTION Seismic Velocity	oth (ft):Applica	2.00 ation	Volume: feet/se		NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCTION Seismic:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width	oth (ft):	2.00 ation NA	Volume:	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCTION Seismic:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length	oth (ft):	2.00 ation NA 2.56 7.08 300.00	feet/se mph degree feet	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCTION Seismic:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed	cth (ft):	2.00 ation NA 2.56 7.08 300.00 88.00	feet/se mph degree feet feet	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCTION Seismic:	acres Rip Deparce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed Average Maneuver Time	oth (ft):	2.00 Aution NA 2.56 7.08 300.00 88.00 0.25	feet/se mph degree feet feet feet feet	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area	oth (ft):	2.00 ation NA 2.56 7.08 300.00 88.00	feet/se mph degree feet feet	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800	feet/se mph degree feet feet feet feet	econd	NA	BCY o
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area	Applica Applica 7:	2.00 Aution NA 2.56 7.08 300.00 88.00 0.25	feet/se mph degree feet feet feet feet	econd	NA	BCY o
nic: rea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	acres Rip Deproce of estimated quantity: CTION Seismic Velocity Average Ripping Depth Average Ripping Width Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude	cth (ft):	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 0.800 4,130	feet/se mph degree feet feet feet acres/h Acres/	econd es hour	NA	BCY
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj	cth (ft):	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 0.800 4,130 1.00	feet/se mph degree feet feet feet acres/h Acres/	econd es hour /hr HB)	NA	BCY
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency	a:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 0.800 4,130 1.00 0.83	feet/se mph degree feet feet feet acres/l Acres/ feet (CAT (1 shift	ccond es hour /hr HB) ft/day)	NA	BCY o
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area:	Average Ripping Depth Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency Net Correction	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 0.800 4,130 1.00	feet/se mph degree feet feet feet acres/h Acres/	ccond es hour /hr HB) ft/day)	NA	BCY
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area: Job Condition Correcti Unadjust	Average Ripping Depth Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency Net Correction Adjusted Hourly Unit Pro	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 4,130 1.00 0.83 0.83 0.66	feet/se mph degree feet feet feet acres/l Acres/ feet (CAT (1 shift multip Acres/hr	ccond es hour /hr HB) ft/day)	NA	BCY
iic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area: Job Condition Correcti Unadjust	Average Ripping Depth Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Dozer Speed Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency Net Correction	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 4,130 1.00 0.83 0.83	feet/se mph degree feet feet feet acres/h Acres/ feet (CAT (1 shif multip	ccond es hour /hr HB) ft/day)	NA	BCY
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area: Job Condition Correcti Unadjust	Average Ripping Depth Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency Net Correction Adjusted Hourly Unit Pro Adjusted Hourly Fleet Pro	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 4,130 1.00 0.83 0.83 0.66	feet/se mph degree feet feet feet acres/l Acres/ feet (CAT (1 shift multip Acres/hr	ccond es hour /hr HB) ft/day)	NA	BCY o
nic: ea:	NA 8.54 Sour HOURLY PRODUCT Seismic: Area: Job Condition Correcti Unadjust	Average Ripping Depth Average Ripping Depth Average Ripping Width Average Ripping Length Average Ripping Length Average Maneuver Time Production per unit area on Factors ted Hourly Unit Production Site Altitude Altitude Adj Job Efficiency Net Correction Adjusted Hourly Unit Pro Adjusted Hourly Fleet Pro	Applica Applica 7:	2.00 ation NA 2.56 7.08 300.00 88.00 0.25 0.800 4,130 1.00 0.83 0.83 0.66	feet/se mph degree feet feet feet acres/h Acres/ feet (CAT (1 shif multip Acres/hr Acres/hr	ccond es hour /hr HB) ft/day)	NA Ho	BCY of

BULLDOZER WORK

Task description:	Backfi	ll 2.83 ac	existing pon	d		
22 West Pit		Per	mit Action:	112c App Bond - BF 2.83 ac Pond	Permit/Job#:	M2017032
PROJECT IDEN	TIFICATIO	N				
Task #: 007 Date: 8/24/2		State: County:	Colorado Otero		Abbreviation: Filename:	None M032-007
User: AME						
Agency or	organization na	ame: Dl	RMS			
HOURLY EQUII	PMENT COS	ST				
Basic Machine: Horsepower: Blade Type: Attachment: Shift Basis:	Cat D8T - 8S 310 Semi-Univers NA 1 per day	U				
Data Source:	(CRG)					
Cost Breakdown:			¢02.62	<u>Utilization %</u>		
Ownership Cost/Ho Operating Cost/Ho			\$93.62 \$73.35	NA 100		
Ripper own. Cost/Ho	our:		\$0.00	NA		
Ripper op. Cost/Ho Operator Cost/Ho			\$0.00 \$41.52	0 NA		
Swell factor:	100,446 1.165 117,020 LCY		_			
Source of estimated Source of estimated	volume:	Applicati Cat Hand				
HOURLY PROD	UCTION					
Average push distant Unadjusted hourly p		00 feet 83.3 LCY	/hr			
Materials consistence	y description:	Conso	idated stock	pile 1.0		
Average push gradie Average site altitude		eet				
Material weight:	2,900 lb	os/LCY			_	
***		osed rock	- 50% Rock	, 50% Earth		
Weight description:	Decomp	JUSCU TUCK	. 3070 ROCK			
Job Condition Corre	ction Factor			Source		
Job Condition Corre Oper	ction Factor ator Skill:	1	.000	(EXCL.)		
Job Condition Corre Oper Material co	ction Factor ator Skill:	1				

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8807

Adjusted unit production: 161.43 LCY/hr
Adjusted fleet production: 322.86 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$1.292/LCY

Total job time: 362.45 Hours
Total job cost: \$151,136

WHEEL LOADER – LOAD AND CARRY WORK

22 West Pit		Permit Action	on: 112c App 2.83 ac P	Bond - BF ond	Permit/Jo	b#: <u>M2017032</u>
PROJECT IDEN	TIFICATION					
Task #: 008		State: Colora	ndo		Abbreviation	n: None
Date: 8/24/2	018	County: Otero	iuo		Filename	
User: AME	010	county. Otero			1 Hendin	· 1032 000
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	[
Basic Machir		_		Horsep	ower:	172
Attachment			-	Shift I		1 per day
7 ttaenment	1. KOIB Cab	<u>'</u>	-	Data Sc		(CRG)
Cost Breakdown:						
Cost breakdown.			Utilizatio	on %		
Ownership C	Cost/Hour:	\$25.88	NA)II / (
Operating C		\$32.57	100			
Operator (\$40.90	NA			
Total Unit C	Cost/Hour:	\$99.35				
Total Fleet	Cost/Hour:	\$198.70				
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume:	9,575	CCY	Swe	ell factor: 1.	215	
Loose volume:	11,63	4 LCY				
Sou	irce of estimated	volume: Annl	ication			
	of estimated swe	1_1	Iandbook			
HOURLY PROD	<u>UCTION</u>					
Loader Cycle Time:	Unadiust	ed Basic Cycle T	ime (load dum	n maneuver).	0.483	minutes
Cycle Time 1		ou Dusto Oyoto 1	(1546) 6611	p, mano a · 01).	Factor (min.)	Source
-		ial 1/8" to 3/4" di	ameter -0.02		-0.020	(Cat HB)
		ed by truck 0.02	unicici 0.02		0.020	(Cat HB)
Truck Own	-	non ownership of	trucks and load	lers -0.04	-0.040	(Cat HB)
		ant operation -0.0			-0.040	(Cat HB)
Dump '		nal target 0.00			0.000	(Cat HB)
		Net	Cycle Time A	djustment:	-0.080	minutes
		Ad	justed Basic C	ycle Time:	0.403	minutes
Rolling Resistance –	Road Condition	1 <u>S</u>				
•		irt, little maintena	ance no water	?" tire nenetra	tion 5 0	
		lirt, little maintena				
		me, mule mannen	mee, no water,	2 me penena		
Haul and Return Tin	<u>ne</u>					
	Length	Grade Res.	Rolling	Total Res.	Travel Time	e Source
	1	1		İ		NOUTCO
	(feet)	(%)	Res. (%)	(%)	(minutes)	Source
Haul Route:	(feet) 1000	(%) 1.00	Res. (%) 5.00	(%) 6.00	(minutes) 1.0071	(Cat HB)

Loader Worksheet Cont'd Task # 008 Page 2 of 2

Total Travel Time: 1.8805 minutes
Total Cycle Time: 2.2830 minutes

Load Bucket Capacity

Rated Capacity: 3.90 LCY (heaped)

Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100

Adjusted Capacity: 4.29 LCY

Job Condition Correction Factors

Site Altitude: 4130 feet

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

Unadjusted Hourly Unit Production: 112.75 LCY/Hour Adjusted Hourly Unit Production: 93.58 LCY/Hour Adjusted Hourly Fleet Production: 187.16 LCY/Hour

JOB TIME AND COST

Fleet size:	2	Loader(s)	Total job time:	62.16	Hours
Unit cost:	\$1.062	/LCY	Total job cost:	\$12,351	

Cost /Acre

\$113.39

\$113.39

REVEGETATION WORK

ite: 22 West Pit		Permit Action:		Permit/Job#: M2017	
(DENTIFIC	CATION				
009	State:	Colorado		Abbreviation:	None
8/24/2018	County:	Otero		Filename:	M032-009
AME					
	1DENTIFIC 009 8/24/2018 AME	IDENTIFICATION 009 State: 8/24/2018 County:	10ENTIFICATION 009 State: Colorado 8/24/2018 County: Otero AME	1DENTIFICATION 009 State: Colorado 8/24/2018 County: Otero	10ENTIFICATION 009 State: Colorado Abbreviation: 8/24/2018 County: Otero Filename: AME

Units /

Acre 667.00

Unit

pound

Cost / Unit

Total Fertilizer Materials Cost/Acre

\$0.17

Application

6-6-6

Description

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$34.72
	Total Fertilizer Application Cost/Acre	\$34.72

TILLING

Description	Cost /Acre
Subsoil scarification, (MEANS 32 91 13.23 3100)	\$191.66
Total Tilling Cost/Acre	\$191.66

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.20	7.81	\$5.80
Blue Grama - Lovington	0.40	6.53	\$6.66
Prairie Clover, White	0.70	5.93	\$28.49
Sideoats Grama - Vaughn	2.70	8.86	\$27.65
Western Wheatgrass - Arriba	3.20	8.08	\$26.50
Totals Seed Mix	7.20	37.21	\$95.09

Ap	olication	

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.81	\$2.81
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.26	\$4.26
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$583.07

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, hand, aquatic area, annuals [DMG]		\$133.12
Weed spray, hand, aquatic area, nox. [DMG]		\$175.00
	Total Mulch Application Cost/Acre	\$376.90

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 11.87
 Cost /Acre:
 \$1,626.83

 Estimated Failure Rate:
 25%
 Cost /Acre*:
 \$327.09

*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$19,310.47

Reseeding Job Cost: \$970.64

Total Job Cost: \$20,281

Job Hours: 23.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mobilization/Demobilization

Permit Action: 112c App Bond - BF

Site: 22 West Pit 2.83 ac Pond Permit/Job#: M2017032

PROJECT IDENTIFICATION

Task #:010State:ColoradoAbbreviation:NoneDate:8/24/2018County:OteroFilename:M032-010

User: AME

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,

400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT

TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

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 16M	28.73	\$77.19	\$117.55	1	\$194.74	\$117.55	\$250.00
Cat 345D L 12'-	54.31	\$66.64	\$125.45	1	\$192.09	\$125.45	\$250.00
10" Stick							
CAT 938H	16.34	\$25.88	\$88.67	2	\$229.10	\$177.34	\$500.00
Cat D8T - 8SU	53.08	\$102.55	\$125.45	2	\$456.00	\$250.90	\$500.00

Subtotals: \$1,071.93 \$671.24 \$1,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$97.40	1	\$97.40	\$97.40
Drill/Broadcast Seeder with	\$36.08	1	\$36.08	\$36.08
Tractor				

Subtotals: \$133.48 \$133.48

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

ROCKY FORD

miles

30.00

mph

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):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	3.27	0.27

JOB TIME AND COST

Total job cost: 6.53 Hours

Total job cost: \$9,932

COST SUMMARY WORK

e: 22 Wes	22 West Pit		t Pit Permit Action:112c App Bond		Permit/Job	o#: <u>M2017032</u>
PROJEC	T IDENTIFIC	<u>CATION</u>				
Task #:			Colorado		Abbreviation:	None
Date:	8/16/2018 AME	County: _	Otero		Filename:	M032-000

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
001	Grade plant site area	GRADER	1	6.70	\$1,174.00
002	Grade 675' pond shoreline to 3H:1V	EXCAVATE	1	4.97	\$909.00
003	Grade 100' pond shoreline to 5H:1V	EXCAVATE	1	0.49	\$90.00
004	Remove 100 cy scrap from site	TRUCK1] 1	4.27	\$843.00
005	Remove 300 cy concrete rubble from site	TRUCK1] 1	7.86	\$1,552.00
006	Spread growth medium across 0.5 ac	LOADER] 1	4.56	\$453.00
007	Revegetate 0.5 acres	REVEGE	1	3.00	\$2,555.00
008	Mobilization/Demobilization	MOBILIZE	1	4.53	\$4,766.00
		SUBTOTALS:		36.38	\$12,342

INDIRECT COSTS

OVERHEAD AND PROFIT:

2.02 Total = \$249.31 Liability insurance: Performance bond: 1.05 Total = \$129.59 Job superintendent: 18.19 Total = \$1,328.78 \$1,234.20 Profit: 10.00 Total =

TOTAL O & P = $\frac{$7,25 \cdot 1.25}{$2,941.88}$

CONTRACT AMOUNT (direct + O & P) = $\frac{15,283.88}{}$

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00 Total = 500.00

Engineering work and/or contract/bid preparation: 0.00 Total = \$0.00

Reclamation management and/or administration: 5.00 \$764.19

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$4,206.07

TOTAL BOND AMOUNT (direct + indirect) = \$16,548.07

MOTOR GRADER WORK

Task description:	Grade plant site area			
: 22 West Pit	Permit A	ction: 112c App Bor	nd Per	mit/Job#: M2017032
PROJECT IDENTI	FICATION			
Task #: 001	State: Col	orado	Abbre	viation: None
Date: 8/16/2018	County: Ote	ro	Fil	lename: M032-001
User: AME				
Agency or org	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machin	ne: CAT 16M		Horsepower:	297
Ripper Attachme	nt: Multi-Shank Ripper		Shift Basis:	1 per day
11			Data Source:	(CRG)
Cost Breakdown:				
Cost Dieakdowii.			Utilization %	
Owr	nership Cost/Hour:	\$77.19	NA	
	erating Cost/Hour:	\$63.34	100	
Ripper Owr	nership Cost/Hour:	\$4.07	NA	
	erating Cost/Hour:	\$1.77	50	
-	perator Cost/Hour:	\$28.69	NA	
Tot	al Unit Cost/Hour:	\$175.05		
Tota	l Fleet Cost/Hour:	\$175.05		
	a to be graded or ripped:	12.33		acres
Sour	ce of estimated acreage:	Application		
HOURLY PRODUC	CTION			
	Average Grader Speed:	1.50	mph	
	Selected Application:		grading (0-2.5 mph	n) - 1.5
	Selected Blade Angle:	30	degrees	
W: 44	Effective Blade Length:	13.90	feet	
	of blade overlap per pass: g or ripping width per pass:	11.90	feet feet	
	ed Hourly Unit Production:	2.1636	acres/hou	r
Job Condition Correction	•		ite Altitude: 4130 fe	
		Source		
Altitude Adj:	· ·	AT HB)		
Job Efficiency:		n/d, mod.)		
Net Correction:		ltiplier		
	Adjusted Hourly Unit Produ	iction: 1.8391	acres/Hour	
	Adjusted Hourly Fleet Produ		acres/Hour	
1	injusted Hourry Hotel Hout	1.0071	ucies/110ul	
JOB TIME AND CO	<u>OST</u>			
Fleet size:	1 Grader(s)	Total job time	e: 6.70	Hours Hours
Unit cost: \$9	95.18 per acre	Total job cost	t: \$1,174	

HYDRAULIC EXCAVATOR WORK

Task description:	Grade 675	pond shorelin	e to 3H:1V			
: 22 West Pit		Permit Action	n: 112c App Bond	<u>l</u> P	ermit/Job#:	M2017032
PROJECT IDENTI	FICATION					
Task #: 002 Date: 8/16/2013 User: AME		tate: Colorad inty: Otero	do		reviation: _ Filename: _	None M032-002
Agency or org	ganization name:	DRMS				
HOURLY EQUIPM	IENT COST					
Basic Machine: Attachment 1:	Cat 345D L 1 ROPS Cab	2'-10" Stick		Horsepower: Weight (MT): Shift Basis: Data Source:	1 pe	9.37 er day RG)
Cost Breakdown:			Utilization %	Data Source.	(C	KO)
Ownership Cos		\$66.64	NA	<u></u>		
Operating Cos Operator Cos Total Unit Cos	t/Hour:	\$78.14 \$37.79 \$182.57	100 NA			
Total Fleet Co	st/Hour:	\$182.57				
MATERIAL QUAN Initial volume: Loose volume:	2,109 2,594	CCY LCY	Swell fac	tor: 1.230		
	e of estimated vo estimated swell f		cation andbook			
HOURLY PRODUC	<u>CTION</u>					
Excavator Cycle Time	(load bucket, swi	ng loaded, dum	p bucket, swing em	<u>pty):</u>		
Load Bucket Capacity	Secondary J		b Condition Descrip within Basic Descrip Cycle Time V	tion: AVER		minutes
<u> </u>				Bucket Size (Class: Me	dium
Rated Capaci Bucket Fill Fact Adjusted Capaci	tor: 1.050) Moist	(heaped) loam or sandy clay	(100% - 110%)	1.050	
Job Condition Correction	on Factors		Site	e Altitude: 4130	feet	
Altitude Adj: Job Efficiency: Net Correction:	1.00 0.83 0.83	Sou (CAT (1 shift multip	HB) t/day) lier	LOVIII		
	nadjusted Hourly Adjusted Hourly Adjusted Hourly	Unit Production	on: 521.24	LCY/Hour LCY/Hour LCY/Hour		
JOB TIME AND CO	<u>OST</u>					
Fleet size:	1 Ex	cavator	Total job time:	4.9	8	Hours
Unit cost: \$0	0.350 /LC	Y	Total job cost:	\$90	9	

HYDRAULIC EXCAVATOR WORK

	Grader	o' pona sn	oreline t	o 5H:1V			
: 22 West Pit		Permit	Action:	112c App Bond	<u>d</u>	Permit/Job#:	M2017032
PROJECT IDENTIF	FICATION						
Task #: 003 Date: 8/16/2018 User: AME	(-	Colorado Otero		A	bbreviation: Filename:	None M032-003
Agency or orga	anization nam	e: DRM	S				
HOURLY EQUIPMI	ENT COST	1 _					
Basic Machine: Attachment 1:	Cat 345D L ROPS Cab	. 12'-10" S	tick		Horsepower Weight (MT) Shift Basis Data Source	2: 4 3: 1 p	9.37 er day CRG)
Cost Breakdown:						(3	
	/T.T.			Utilization %			
Ownership Cost/		\$66.64		NA 100			
Operating Cost/ Operator Cost/		\$78.14 \$37.79		100 NA			
Total Unit Cost/		\$182.57		INA			
Total Fleet Cost	-	\$182.57					
	<u>FITIES</u> 210 258		CCY LCY	Swell fac	etor: <u>1.230</u>		
HULIDI A DDUDITO	TION						
Excavator Cycle Time (I		wing loade	d, dump t	oucket, swing em	npty):		
	load bucket, s	Ва	sic Job C	ondition Descrip	otion: AVE	RAGE	
	load bucket, s	Ва	sic Job C	Condition Description Basic Descrip	otion: AVE AVE	RAGE	
Excavator Cycle Time (I	load bucket, s	Ва	sic Job C	ondition Descrip	otion: AVE AVE	RAGE	minutes
	load bucket, s	Ва	sic Job C	Condition Description Basic Descrip	otion: AVE AVE	RAGE 5	minutes
Excavator Cycle Time (I Load Bucket Capacity Rated Capacity Bucket Fill Factor	Secondar y: 3. or: 1.0	Ba y Job Cond 14 050	asic Job C ition with LCY (he Moist los	Condition Descrip in Basic Descrip Cycle Time V	otion: AVE otion: AVE otion: O.315 Bucket Siz	RAGE 6 e Class: Me	
Excavator Cycle Time (I Load Bucket Capacity Rated Capacity Bucket Fill Factor Adjusted Capacity	Secondar y: 3. or: 1.0 y: 3.	Ba y Job Cond 14 050	asic Job C ition with	condition Description Basic Descrip Cycle Time V aped)	btion: AVE btion: AVE alue: 0.315 Bucket Siz (100% - 1109)	RAGE 6 e Class: Me 6 %) 1.050	
Excavator Cycle Time (I Load Bucket Capacity Rated Capacity Bucket Fill Factor	Secondar y: 3. or: 1.0 y: 3.	Ba y Job Cond 14 050	LCY (he Moist lox	condition Description Basic Description Cycle Time Volume Volume Paped) am or sandy clay	otion: AVE otion: AVE otion: O.315 Bucket Siz	RAGE 6 e Class: Me 6 %) 1.050	
Excavator Cycle Time (I Load Bucket Capacity Rated Capacity Bucket Fill Factor Adjusted Capacity Job Condition Correction Altitude Adj: Job Efficiency:	Secondar y:	Ba y Job Cond 14 050 30	LCY (he Moist loa LCY Source (CAT HI 1 shift/da	condition Description Basic Description Cycle Time Vaped) apped) am or sandy clay Site 3)	btion: AVE btion: AVE alue: 0.315 Bucket Siz (100% - 1109)	RAGE 6 e Class: Me 6 %) 1.050	
Excavator Cycle Time (I	Secondar y:	Bary Job Cond	LCY (he Moist loa LCY Source (CAT HI (1 shift/da multiplier	condition Description Basic Description Cycle Time Vaped) apped) am or sandy clay Site	otion: AVE	RAGE 6 e Class: Me 6 1.050 30 feet	
Excavator Cycle Time (I	Secondar y: 3. or: 1.0 y: 3. n Factors 1.00 0.83 0.83 adjusted Hou Adjusted Hou	Ba y Job Cond 14 050 30 arly Unit Pro	LCY (he Moist loa LCY Source (CAT HI (1 shift/damultiplier oduction: oduction:	condition Description Basic Descrip Cycle Time Volume Volume Or Sandy clay Site Say Signary Site Say Signary	btion: AVE btion: AVE btion: AVE alue: 0.315 Bucket Siz (100% - 1109 e Altitude: 41 LCY/Ho LCY/Ho	RAGE 6 e Class: Me 6 // 1.050 30 feet ur ur ur	
Excavator Cycle Time (I	Secondar y: 3. or: 1.0 y: 3. n Factors 1.00 0.83 0.83 adjusted Hould Houl	Ba y Job Cond 14 050 30 arly Unit Pro	LCY (he Moist loa LCY Source (CAT HI (1 shift/damultiplier oduction: oduction:	condition Description Basic Description Cycle Time Volume Apped) apped) am or sandy clay Site 3) ay 628.00	otion: AVE	RAGE 6 e Class: Me 6 // 1.050 30 feet ur ur ur	
Excavator Cycle Time (I	Secondar Secondar Secondar Secondar Secondar 1.00 0.83 0.83 0.83 adjusted Hour Hour Adjusted Hour Hour Adjusted Hour Ho	Ba y Job Cond 14 050 30 arly Unit Pro	LCY (he Moist los LCY Source (CAT HI (1 shift/ds multiplier oduction: oduction: oduction:	condition Description Basic Descrip Cycle Time Volume Volume Or Sandy clay Site Say Signary Site Say Signary	AVE	RAGE 6 e Class: Me 6 // 1.050 30 feet ur ur ur	

TRUCK/LOADER TEAM WORK

Site: 22 West Pit		Permit Action	n: 112c App B	ond I	Permit/Job#: M	2017032
PROJECT IDEN	FIFICATION					
Task #: 004		State: Colorad	lo	Ab	breviation: No	one
Date: 8/16/20)18	County: Otero			Filename: M0	032-004
User: AME		DD14				
Agency or o	organization nan	ne: DRMS				
HOURLY EQUIP	MENT COST	<u>-</u>		Shift bas	sis: 1 per day	
	1 T 1 T		quipment Descri			
Ti	ruck Loader Tea		ric 12-18 cy, 6x ² 938H	<u> </u>		
Suppo	rt Equipment -L		<u> </u>			
		imp Area: NA				
Road Ma	intenance –Moto -Wa	or Grader: NA ter Truck: NA				
		ter Truck.				
Cost Breakdown:	Truck/Loa		11	Equipment		nce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.72	\$25.88	NA	NA	NA	NA
Operating cost/hour:	\$44.95	\$32.57	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA \$30.37	\$0.00 \$40.90	NA NA	NA NA	NA NA	NA NA
Operator cost/hour: Unit Subtotals:	\$98.03	\$99.35	NA NA	NA NA	NA NA	NA NA
Number of Units:	\$98.03 1	\$99.33 1	0	0	0	INA (
Group Subtotals:	Work:	\$197.38	Support:	\$0.00	Maint:	\$0.00
			Support.	\$0.00	Maiit.	\$0.00
Total work team cost	/hour: \$197.38					
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume:	150	CCY	Swell	factor: 1.000		
Loose volume:	150	LCY				
Sou	rce of estimated					
Source of	of estimated swe		andbook			
	Material Purcha	ase Cost: \$0.00 otal Cost: \$0.00				
	10	tai Cost. <u>\$0.00</u>				
HOURLY PROI	DUCTION					
Truck Capacity:						
Truck Payload (weig	ht) Basis:					
Material we			_ Pounds/LCY			
Material w Descrij Rated Pay	ption: User Pr	ovided	Pounds/LCY Pounds			

Truck Maneuver and Dump Time:

Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	18.00	LCY				
Final	Truck Volume	Based on Number of L	oader Passes:	15.80	LCY	
Loading Tool Capacity						
			Buck	ket Size Class: N	A	
Rated Capacity:	3.900	LCY (heaped)	Buci	100		<u> </u>
Bucket Fill Factor:	0.675	Blasted rock - poo	rly blasted (60	- 75%) 0.675		_
Adjusted Capacity:	2.633	LCY		,		_
· · · · · -						
Job Condition Corrections:	_	Site	Altitude (ft.): 4	130 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	5)		
Job Efficiency:	0.830	0.830	(CAT HB			
Not Competing	0.020	0.020				
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Passe	s Required to I	Fill Truck:	6	passes
Excavators and Front Shovel	s:					
		n Datinan NA				
Machine Cycle Time vs Selected Value v						
		·				
Track Loaders –	Materiai Descr	iption:				
Cycle Time Elements (min.):						
Load: NA	M	Ianeuver: NA		Dump: 0.100		
	_	-		<u> </u>		
Wheel and Track Loaders -	Unadjusted Ba	sic Loader Cycle Time	(load, dump, n	naneuver): 0.	483 min	nutes
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed materi	al 0.02		0.020	(Cat HB)	-
Stockpile:	No adjustmen	nt - factor not applicable	e 0.00	0.000	(Cat HB)	_
Truck Ownership:		nership of trucks and lo		-0.040	(Cat HB)	
Operation:	Inconsistent of	peration 0.04		0.040	(Cat HB)	
Dump Target:	Nominal targe			0.000	(Cat HB)	
		Net Cycle Time		0.020	minutes	
		Adjusted Loader	-	0.503	minutes	
		Net Load Tim	e per Truck: _	2.613	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.50	Minutes	Adinsted	for site altitude:	0.500	Minute
Truck Load Time:		- Minutes		for site altitude:	2.613	Minute
Truck Loud Tillie	2.013	1,11110000	1 Iajastea	101 bite aititude.	2.015	1,1111410

<u>Truck Travel (Haul & Return) Time:</u> Road Condition: <u>Very hard, smooth, asphalt or concrete, no tire penetration 1.2</u>

Minutes

0.90

0.900

Minutes

Adjusted for site altitude:

Haul Route:

1100011100									
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)			
1	26400.00	1.00	1.20	2.20	2868	9.354			

Haul Time: 9.354 minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 26400.00 1.20 0.20 2938 -1.00 9.020

Return Time: 9.020 minutes
Total Truck Cycle Time: 22.387 minutes

Loading Tool unit

Production Truck Unit Production

42.33 LCY/Hour Adjusted for job efficiency: 252.72 LCY/Hour Adjusted for job efficiency: 35.14 LCY/Hour Optimal No. of Trucks: 7 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 35.14 LCY/Hour Adjusted single truck/loader team production: 35.14 LCY/Hour Adjusted multiple truck/loader team production: 35.14 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 4.27
 Hours

 Unit cost:
 \$5.617
 /LCY
 Total job cost:
 \$843

TRUCK/LOADER TEAM WORK

Site: 22 West Pit		Permit Actio	n: 112c App B	ond	Permit/Job#: M	2017032
PROJECT IDEN	TIFICATION					
Task #: 005		State: Colora	do	Ab	breviation: No	ne
Date: 8/16/20	018	County: Otero			Filename: MO	032-005
User: AME		<i>PP</i> 146				
Agency or	organization nan	ne: DRMS				
HOURLY EQUIP	PMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>	
	1 7 1 70		Equipment Descri			
1)	ruck Loader Tea		eric 12-18 cy, 6x4	4		
Suppo	ort Equipment -L	oad Area: NA	73011			
D 11/4		imp Area: NA				
Road Ma	intenance –Moto -Wa	or Grader: NA ter Truck: NA				
	114	tor reacht.				
Cost Breakdown:	Truck/Loa		11	Equipment		nce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.72	\$25.88	NA	NA	NA	NA
Operating cost/hour:	\$44.95	\$32.57	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 \$30.37	\$0.00 \$40.90	NA NA	NA NA	NA NA	NA NA
Operator cost/hour: Unit Subtotals:	\$98.03	\$99.35	NA NA	NA NA	NA NA	NA NA
Number of Units:	\$98.03 1	\$99.33 1	0	0	0	INA (
Group Subtotals:	Work:	\$197.38	Support:	\$0.00	Maint:	\$0.00
-			Support.	\$0.00	Maint.	φυ.υυ
Total work team cost	t/hour: \$197.38					
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume:	300	CCY	Swell	factor: 1.000		
Loose volume:	300	LCY				
Sou	rce of estimated	volume: Appli	cation			
Source	of estimated swe	ll factor: Cat H	andbook			
	Material Purcha					
	10	otal Cost: \$0.00				
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (weig	ht) Basis:					
			D 1/1/CW			
Material w			Pounds/LCY			
Material w Descri Rated Pay	ption: User Pr		Pounds/LCY Pounds			

Truck Bed (volume) Basis	:					
Struck Volume:	12.00	LCY				
Heaped Volume:	18.00	LCY				
Average Volume:	15.00	LCY				
Adjusted Volume:	18.00	LCY				
.	-					
Eir	nal Truck Volum	e Based on Number of I	ander Passes	16.38	LCY	
	iai Truck Volulli	e based on Number of 1	Loader Fasses.	10.30	LC1	
Loading Tool Capacity						
			Buck	ket Size Class: N	A	
Rated Capacity:	3.900	LCY (heaped)				
Bucket Fill Factor:	1.050	Other - moist loan	m (100-1	10%) 1.050		_
Adjusted Capacity:	4.095	LCY				
Job Condition Correction	ns:	Site	Altitude (ft.): 4	130 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	5)		
Job Efficiency:	0.830	0.830	(CAT HB			
Net Correction:	0.830	0.830				
Loading Tool Cycle Tim	ne: Numb	er of Loading Tool Pass	es Required to I	Fill Truck:	4	passes
Excavators and Front Sho			1			
Machine Cycle Time						
Selected Valu	e within this Bas	sic Rating: NA				
Track Loaders	s – Material Desc	ription:				
Cycle Time Elements (mir	n.):					
Load: NA	1	Maneuver: NA		Dump: 0.100		
Loau. INA		vialieuvei. NA		Dunip. 0.100	<u>'</u>	
Wheel and Track Loader	rs - Unadjusted B	asic Loader Cycle Time	e (load, dump, n	naneuver): 0.	.483 min	utes
Cycle Time Factor	·s	·		Factor (min.)	Source	
Material		rial 0.02		0.020	(Cat HB)	
Stockpile		ent - factor not applicable	e 0.00	0.000	(Cat HB)	
Truck Ownership		vnership of trucks and lo		-0.040	(Cat HB)	_
Operation	: Inconsistent	operation 0.04		0.040	(Cat HB)	
Dump Target	t: Nominal tar	get 0.00		0.000	(Cat HB)	
		Net Cycle Time	Adjustment:	0.020	minutes	
		Adjusted Loader	Cycle Time: _	0.503	minutes	
		Net Load Tin	ne per Truck:	1.608	minutes	
Truck Cycle Time:						
Truck Exchange Ti	me: 0.50	Minutes	Adiusted	for site altitude:	0.500	Minute
Truck Load Ti		Minutes	· ·	for site altitude:	1.608	_ Minute
			3			_

es Truck Maneuver and Dump Time: 0.90 Minutes Adjusted for site altitude: 0.900 Minutes

Truck Travel (Haul & Return) Time: penetration 1.2

Road Condition: Very hard, smooth, asphalt or concrete, no tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	26400.00	1.00	1.20	2.20	2868	9.354

Haul Time: 9.354 minutes

Return Route:

Ttotal II Ito	ate.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	26400.00	-1.00	1.20	0.20	2938	9.020

Return Time: 9.020 minutes
Total Truck Cycle Time: 21.382 minutes

Loading Tool unit

Production 466.33 LCY/Hour Adjusted for job efficiency: 387.06 LCY/Hour Truck Unit Production 45.96 LCY/Hour Adjusted for job efficiency: 38.15 LCY/Hour

Optimal No. of Trucks: 10 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 38.15 LCY/Hour Adjusted single truck/loader team production: 38.15 LCY/Hour Adjusted multiple truck/loader team production: 38.15 LCY/Hour

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 7.86
 Hours

 Unit cost:
 \$5.174
 /LCY
 Total job cost:
 \$1,552

WHEEL LOADER – LOAD AND CARRY WORK

	sk description:	Spreau	growth medium					
e: <u>2</u>	22 West Pit		Permit Act	ion: 112c App	Bond	Pe	ermit/Job#:	M2017032
PR	ROJECT IDENT	IFICATION	<u>I</u>					
	Task #: 006		State: Color	rado		Abbı	reviation:	None
	Date: 8/16/201	18	County: Otero				Filename:	M032-006
	User: AME					-	_	1,1002 000
	Agency or or	rganization na	me: DRMS					
<u>H(</u>	OURLY EQUIP	MENT COS	<u>T</u>					
	Basic Machine	: CAT 938I	-		Horse	epower:		172
	Attachment 1			<u>—</u>		ft Basis:		er day
	Attachment 1	. KOI 5 Cai	,			Source:		CRG)
Co	st Breakdown:					-		,
				Utilizati				
	Ownership Co		\$25.88	NA				
	Operating Co		\$32.57	100				
	Operator Co		\$40.90	NA	·			
	Total Unit Co	st/Hour:	\$99.35					
	Total Fleet Co	ost/Hour:	\$99.35					
\mathbf{M}	ATERIAL QUA							
		NTITIES						
			CC,	Y Sw	ell factor	1 215		
	Initial volume: Loose volume:	NTITIES 410 498	CC)		ell factor:	1.215		
	Initial volume: Loose volume: Source	410 498 ce of estimated	LCY l volume: App	Y olication	ell factor: _	1.215		
	Initial volume: Loose volume: Source	410 498	LCY l volume: App	Y	ell factor: _	1.215		
	Initial volume: Loose volume: Source of	410 498 ce of estimated sweet	LCY l volume: App	Y olication	ell factor: _	1.215		
	Initial volume: Loose volume: Source of	410 498 ce of estimated swell	LCY l volume: App	Y olication Handbook			0.483	minutes
	Initial volume: Loose volume: Source of	410 498 ce of estimated swell UCTION Unadjus	LCY I volume: App ell factor: Cat	Y olication Handbook):	0.483 c (min.)	minutes Source
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa	410 498 ce of estimated swell ICTION Unadjus	LCY I volume: App ell factor: Cat	Y Nication Handbook Fime (load, dum):	10	
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa	410 498 ce of estimated swell CCTION Unadjustators erial: Mater kpile: Dump	LCY I volume: Appell factor: Cat ted Basic Cycle 7 rial 1/8" to 3/4" deed by truck 0.02	Y Olication Handbook Fime (load, dum	np, maneuver): Factor -0.	r (min.)	Source
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell CCTION Unadjusted serial: Material: Material: Dumpoship: Communication of the co	LCY I volume: Appell factor: Cat ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or	Valication Handbook Fime (load, dum	np, maneuver	Factor -0.	020 020 020 040	Source (Cat HB) (Cat HB) (Cat HB)
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell (CTION Unadjustators Serial: Material: Material: Dumpoship: Commation: Constitution: Constit	LCY d volume: Appell factor: Cat ted Basic Cycle 7 rial 1/8" to 3/4" december of the control o	Valication Handbook Fime (load, dum	np, maneuver	Factor -0. 0.0 -00.	020 020 020 040 040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell (CTION Unadjustators Serial: Material: Material: Dumpoship: Commation: Constitution: Constit	LCY I volume: Appell factor: Cat ted Basic Cycle Trial 1/8" to 3/4" depend by truck 0.02 mon ownership of tant operation -0.01 le target 0.05	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load	np, maneuver)	Factor -0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	(min.) 020 020 020 040 040 050	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell (CTION Unadjustators Serial: Material: Material: Dumpoship: Commation: Constitution: Constit	ted Basic Cycle Trial 1/8" to 3/4" deed by truck 0.02 mon ownership or tant operation -0.1 le target 0.05	Y Olication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A	ders -0.04	Factor -0. 0.0 -00000.	020 020 020 040 040 050 030	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell (CTION Unadjust actors lerial: Material: Material: Dumpriship: Commation: Constitution: Consti	ted Basic Cycle Trial 1/8" to 3/4" deed by truck 0.02 mon ownership or tant operation -0.1 le target 0.05	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load	ders -0.04	Factor -0. 0.0 -00000.	(min.) 020 020 020 040 040 050	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Los	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner	410 498 ce of estimated swell (CTION Unadjust actors lerial: Material: Material: Dumpostion: Constarget: Fraginals	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or tant operation -0.05 New York Page 1.00 New York Page 2.00	Y Olication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A	ders -0.04	Factor -0. 0.0 -00000.	020 020 020 040 040 050 030	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Los	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell (CTION) Unadjusted actors Serial: Material: Material: Dumpoship: Communication: Constarget: Fraging Road Condition	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or tant operation -0.05 New York Page 1.00 New York Page 2.00	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic C	ders -0.04 djustment:	Factor -0. 0.0 -000. 0.0	(min.) 020 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
Los	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell (CTION Unadjust actors Lerial: Material: Material: Dumpoship: Compation: Constarget: Fraging Road Conditional: Rutted of the state of the	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or tant operation -0.1 le target 0.05 No. 18	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic C	ders -0.04 dijustment: ycle Time:	Factor -0. 0.0 -00. 0.0 -0000.	(min.) 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>Los</u>	Initial volume: Loose volume: Source of OURLY PRODU adder Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell (CTION) Unadjust actors Region Communication: Communication: Constarget: Fraging Condition Condi	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or tant operation -0.1 le target 0.05 No. A distributed mainter	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic C	ders -0.04 dijustment: ycle Time:	Factor -0. 0.0 -00. 0.0 -0000.	(min.) 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>Los</u>	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell f estimated swell Unadjust actors erial: Mater kpile: Dump rship: Commation: Constanget: Fragi	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership of ant operation -0.0 le target 0.05 Neas dirt, little mainter dirt, little mainter	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic C mance, no water, nance, no water,	ders -0.04 djustment: lycle Time: 2" tire penet	Factor -0. 0.0 -00. 0.0 -0. ration 5.0	(min.) 020 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
<u>Los</u>	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell ICTION Unadjust actors derial: Mater kpile: Dump rship: Commation: Constanget: Fragin Road Condition aul: Rutted of Rutted o	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or ant operation -0.1 le target 0.05 No. A Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or ant operation -0.1 le target 0.05 No. A Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or ant operation -0.1 le target 0.05 No. A Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownership or anti-provided trial 1/8" to 3/4" doed by truck 0.02 mon ownershi	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic Co nance, no water, nance, no water, nance, no water,	ders -0.04 dijustment: lycle Time: 2" tire penet 2" tire penet	Factor -0. 0.0 -00. 0.0 -0. ration 5.0 Trav	(min.) 020 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
<u>Los</u>	Initial volume: Loose volume: Source of OURLY PRODU ader Cycle Time: Cycle Time Fa Mat Stock Truck Owner Opera Dump Ta	410 498 ce of estimated swell f estimated swell Unadjust actors erial: Mater kpile: Dump rship: Commation: Constanget: Fragi	ted Basic Cycle Trial 1/8" to 3/4" doed by truck 0.02 mon ownership of ant operation -0.0 le target 0.05 Neas dirt, little mainter dirt, little mainter	Polication Handbook Fime (load, dum liameter -0.02 f trucks and load 04 et Cycle Time A djusted Basic C mance, no water, nance, no water,	ders -0.04 djustment: lycle Time: 2" tire penet	Factor -0. 0.0 -00. 0.0 -0. ration 5.0 Tray (m	(min.) 020 020 020 040 040 050 030 453	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes

Total Travel Time: 1.5044 minutes Total Cycle Time: 1.9569 minutes

Load Bucket Capacity

Rated Capacity: _____ 3.90 LCY (heaped)

Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100

Adjusted Capacity: 4.29 LCY

Job Condition Correction Factors

Site Altitude: 4130 feet

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

Unadjusted Hourly Unit Production: 131.54 LCY/Hour Adjusted Hourly Unit Production: 109.17 LCY/Hour Adjusted Hourly Fleet Production: 109.17 LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	4.56	Hours
Unit cost:	\$0.910	/LCY	Total job cost:	\$453	

REVEGETATION WORK

22 West Pit	Pe	rmit Action: 112	c App Bond		Permit/Job	#: <u>M2017032</u>
ROJECT IDENTIFIC	CATION					
Task #: 007	State:	Colorado		Ah	breviation:	None
Date: $\frac{8/16/2018}{}$	County:	Otero		- 110	Filename:	M032-007
User: AME		Otero		=	- Inchance	111032 007
Agency or organi	zation name: _ DF	RMS				
ERTILIZING						
aterials						
		Units /				
Description		Acre	Unit		st / Unit	Cost /Acre
6-6-6		667.00	pound	\$0.1	17	\$113.39
				Tot	tal Fertilizer	
				100	Materials	
					Cost/Acre	\$113.39
_						Cost /Acre
Description Push rotary spreader (M	IEANS 32 01 90.13	,	ıl Fertilizer A	pplicatio	on Cost/Acre	Cost /Acre \$99.32 \$99.32
Description Push rotary spreader (M	IEANS 32 01 90.13	,	ıl Fertilizer A	pplicatio	on Cost/Acre	\$99.32
Description Push rotary spreader (M	IEANS 32 01 90.13	,	al Fertilizer A	pplicatio	on Cost/Acre	\$99.32
Description Push rotary spreader (M		Tota	ıl Fertilizer A	pplicatio	on Cost/Acre	\$99.32 \$99.32
Push rotary spreader (Machine Machine) LLING Description		Tota			on Cost/Acre	\$99.32 \$99.32 Cost /Acre \$191.66
Description Push rotary spreader (M LLING Description Subsoil scarification, (M		Tota				\$99.32 \$99.32
Description Push rotary spreader (M LLING Description Subsoil scarification, (M		Tota		tal Tillin Rate – PLS LBS /		\$99.32 \$99.32 Cost /Acre \$191.66
Description Push rotary spreader (M LLING Description Subsoil scarification, (M CEDING		Tota	To	tal Tillin Rate – PLS	ng Cost/Acre Seeds per SQ.	\$99.32 \$99.32 Cost /Acre \$191.66
Description Push rotary spreader (M LLING Description Subsoil scarification, (M CEDING Seed Mix	ЛЕANS 32 91 13.2	Tota	To	tal Tillin Rate – PLS LBS / Acre	Seeds per SQ. FT	\$99.32 \$99.32 Cost /Acre \$191.66 \$191.66
Description Push rotary spreader (M LLING Description Subsoil scarification, (M EEDING Seed Mix Alkali Sacaton	ЛЕANS 32 91 13.2	Tota	To	tal Tillin Rate – PLS LBS / Acre	Seeds per SQ. FT	\$99.32 \$99.32 Cost /Acre \$191.66 \$191.66
Description Push rotary spreader (M LLING Description Subsoil scarification, (M EEDING Seed Mix Alkali Sacaton Blue Grama - Lovington Prairie Clover, White Sideoats Grama - Vaugl	MEANS 32 91 13.2	Tota	To	Rate – PLS LBS / Acre 0.40 0.80 1.40 5.40	Seeds per SQ. FT 15.61 13.06	\$99.32 \$99.32 Cost /Acre \$191.66 \$191.66 Cost /Acre
Description Push rotary spreader (M LLING Description Subsoil scarification, (M EEDING Seed Mix Alkali Sacaton Blue Grama - Lovington Prairie Clover, White	MEANS 32 91 13.2	Tota	To	Rate – PLS LBS / Acre).40).80	Seeds per SQ. FT 15.61 13.06 11.86	\$99.32 \$99.32 Cost /Acre \$191.66 \$191.66 Cost /Acre \$11.60 \$13.31 \$56.98

Description

Cost /Acre

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.81	\$2.81
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.26	\$4.26
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$583.07

Application

Description		Cost /Acre
Hand spread, 1" deep (MEANS 32 91 13.16 0200)		\$3,242.00
Weed spray, hand, aquatic area, annuals [DMG]		\$133.12
Weed spray, hand, aquatic area, nox. [DMG]		\$175.00
	Total Mulch Application Cost/Acre	\$3,550.12

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 0.5 Cost /Acre: \$4,994.96
Estimated Failure Rate: 25% Cost /Acre*: \$457.40

*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$2,497.48

Reseeding Job Cost: \$57.18

Total Job Cost: \$2,555

Job Hours: \$3.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mobilization/Demo	obilization			
ite: 22 West Pit	Perm	it Action: 112c	App Bond	Permit/Jol	o#: <u>M2017032</u>
PROJECT IDENTIFICA	TION				
Task #: 008	State:	Colorado		Abbreviation:	None
Date: 8/16/2018	County:	Otero		Filename:	M032-008
User: AME					
Agency or organiza	tion name: DRM	IS			
EQUIPMENT TRANSPO	ORT RIG COST				
			Sl	hift basis:	1 per day
			Cost Dat		CRG Data
Truck Tractor D	escription: GEN	IFRIC ON-HIGH	WAY TRUCK TR	ACTOR 6X4	DIESEL POWERED,
Truck Tructor D	escription. GEI	ERIC OIV IIIOII	400 HP (2ND H		DIESEL I OWEKED,
Truck Trailer Description: GENERIC F		GENERIC FOLD	ING GOOSENEC		K EQUIPMENT
TRAILER (25T, 50T, AND 100T)					
Cost Proskdown					
Cost Breakdown:					
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
Ownership Cost/Hour		\$18.37	\$22.33		
Operating Cost/Hour	r: \$44.38	\$46.13	\$50.07		
Operator Cost/Hour	r: \$27.66	\$27.66	\$27.66		
Helper Cost/Hour	:: \$0.00	\$25.39	\$25.39		

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

\$88.67

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 16M	28.73	\$77.19	\$117.55	1	\$194.74	\$117.55	\$250.00
Cat 345D L 12'-	54.31	\$66.64	\$125.45	1	\$192.09	\$125.45	\$250.00
10" Stick							
CAT 938H	16.34	\$25.88	\$88.67	2	\$229.10	\$177.34	\$500.00

\$117.55

\$125.45

Subtotals: \$615.93 \$420.34 \$1,000.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$97.40	1	\$97.40	\$97.40

Subtotals:	\$97.40	\$97.40

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

ROCKY FORD

miles

30.00

mph

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):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.27	0.27

JOB TIME AND COST

Total job cost: 4.53 Hours

Total job cost: \$4,766