

1313 Sherman Street, Room 215 Denver, CO 80203

December 3, 2018

Louis Head New Elk Coal Company, LLC 12250 Highway 12 Weston, CO 81019

Re: New Elk Mine, Permit C-1981-012, Reclamation Cost Estimate for RN-07

Dear Mr. Head:

As part of the permit renewal (RN-07) process, the Division has updated the Reclamation Cost Estimate (RCE) for the New Elk Mine. The total amount is \$4,166,596.08. This is a significant increase from the current permitted liability for the New Elk permit, which is \$4,044,696.58.

The primary reasons for the overall cost increase are revegetation costs and mine sealing costs. In 2017 and 2018, the Division's RCE software (CIRCES) was updated using sources that include information from seed supply companies and the R.S. Means equipment cost guide. It is not unusual for reclamation costs to vary over time. For example, in 2016 your RCE went down considerably as part of the MT-07 midterm review.

With this letter I am sending you a pdf document with details from CIRCES. Let me know if you would like to see additional details regarding these costs. For example, I can send a spreadsheet that shows a comparison of MT-07 values to RN-07 values for each task; it illustrates which unit costs increased or decreased.

Please review this information and let me know if you see any issues with this updated RCE. Alternatively, please let me know if you think it is accurate. As always, Jason Musick and I are available for a conference call to discuss it. After we complete any discussions on the details of the RCE, we may need to address insufficiencies with your surety, which is currently \$4,133,137.02. Your current surety is approximately \$33,459 below the updated RCE.

Also related to the renewal, please let me know if you want to discuss my adequacy letter from November 7, 2018. The decision due date for RN-07 is January 5, 2019.



Please contact me at Rob.Zuber@state.co.us or 303.866.3567 (x8113).

Sincerely,

Robert D. Zuber, P.E.

Phot D. ZL

Environmental Protection Specialist II

Enclosure

### **COST SUMMARY WORK**

Task description: Su		Summary of Reclamation ar	nd maintenance tasks		
Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012

#### **PROJECT IDENTIFICATION**

Task #:000State:ColoradoAbbreviation:NoneDate:11/30/2018County:Las AnimasFilename:C012-000

User: JHB

Agency or organization name: DRMS

#### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
601	Backfill and Regrade East Portal Area	DOZER	3	83.38	\$67,020.00
603	Backfill and Regrade Transformer and Rock Dust Cut Slope	TRUCK1	1	48.56	\$46,416.00
606	Push Temporary Coal Stockpiles to Conveyor	DOZER	3	10.19	\$7,574.00
608	Haul Raw Coal Stockpile to Development Waste Pile	SCRAPER1	1	12.59	\$11,400.00
609	Haul Clean Coal Stockpile to Development Waste Pile	SCRAPER1	1	20.43	\$18,312.00
614	Haul and Spread Cover on RDA	SCRAPER1	1	248.08	\$237,315.00
615	Compact Final RDA Surface	COMPACT	1	32.46	\$4,807.00
623	Rip Mine Entry Area Prior to Regrading	RIPPER	3	8.56	\$6,883.00
624	Rip Wedge Area Prior to Regrading	RIPPER	3	0.76	\$617.00
625	Rip Prep Plant Area Prior to Regrading	RIPPER	3	2.57	\$2,070.00
627	Rip West Portal DNR Areas	RIPPER	3	11.94	\$9,604.00
628	Rip East Portal - Only DNR Area	RIPPER	3	16.78	\$13,489.00
639	Finish Grade Refuse Disposal Area	GRADER	1	5.31	\$743.00
643	Regrade Pond 004	DOZER	1	7.81	\$2,093.00
645	Regrade Pond 006	DOZER	1	8.73	\$2,271.00
646	Regrade Pond 007	DOZER	1	17.92	\$4,660.00
647	Regrade Pond 008; Rip and Regrade Spillway	DOZER	1	66.13	\$17,457.00
648	Regrade West Portal Containment Area 1	DOZER	1	5.21	\$1,354.00
651	Regrade temporary Ditches at West Portal	DOZER	1	0.31	\$76.00
661	Replace Cover material on DWDA #2	SCRAPER1	1	2.29	\$2,191.00
662	Replace Topsoil to DWDA #2	SCRAPER1	1	5.40	\$5,167.00
663	Replace Topsoil to Area East of Pond 5	SCRAPER1	1	0.42	\$403.00
664	Replace Topsoil to Pond 005	SCRAPER1	1	0.30	\$281.00
668	Replace Topsoil to Area Under Conveyor	SCRAPER1	1	0.90	\$862.00
669	Replace Topsoil to Raw Coal Storage Stockpile	SCRAPER1	1	1.37	\$1,307.00
670	Replace Topsoil to Small DR Area in Large DNR Area	SCRAPER1	1	0.10	\$97.00
672	Replace Topsoil to Clean Coal Stockpile	SCRAPER1	1	0.93	\$890.00
673	Replace Topsoil to East Extension of River Pumphouse	SCRAPER1	1	0.22	\$210.00
674	Replace Topsoil to Embedded Waste Area	SCRAPER1	1	2.01	\$1,928.00
676	Replace Topsoil to RDA	SCRAPER1	1	122.41	\$117,101.00
677	Replace Topsoil to Four Bench Slopes	SCRAPER1	1	15.69	\$15,136.00
678	Replace Topsoil to RDA Pond	SCRAPER1	1	5.17	\$4,877.00
680	Replace Topsoil to Transformer and Rock Dust Cut Slope	TRUCK1	1	1.40	\$1,321.00

Replace Topsoil to Bates Portal Face-Up Reseed Facilities Area with Rangeland Mix	SCRAPER1 REVEGE	1 1	3.01 178.00	\$2,877.00 \$122,437.00
Reseed Disturbed Areas with Riparian Habitat	REVEGE	1	21.14	\$15,100.00
Reseed RDA	REVEGE	1	95.25	\$38,498.00
Reseed DWP with Rangeland Mix	REVEGE	1	11.24	\$7,107.00
Plant 6 Shrub Clumps	REVEGE	1	5.60	\$2,353.00
Weed Control - Assume 1/4 of Area Three Times	REVEGE	1	102.71	
Demolish and Remove All Structures	DEMOLISH	₹ .	1,009.00	\$19,369.00 \$1,722,075,46
Seal Portals and Vent Shafts		1	-	\$1,722,075.46
Backfill East Portal Face	MINESEAL DOZER	1 2	270.00 1.39	\$183,255.76
Backfill West Portal Face  Backfill West Portal Face		2 2	1.39	\$744.00
	DOZER	2	38.69	\$722.00
Backfill Bates Portal Face	DOZER			\$20,122.00
Plug and Seal All Boreholes and Monitoring Wells	BOREHOLE	1	73.00	\$76,205.10
Clean Ponds 004, 007, and 008 Twice During Liability Period	TRUCK1	1	121.05	\$87,955.00
Regrade Areas from MR-99, MR-107, MR-111, MR-114	DOZER	3	1.43	\$1,065.00
Seed Rangeland Seed Mix on MR Areas	REVEGE	1	2.22	\$4,274.00
Replace Topsoil on D26 Extension	DOZER	1	0.24	\$58.00
Backfill and Regrade DWDA Expansion	DOZER	2	2.68	\$1,437.00
Replace Topsoil on Six Drill Pads and Mud Pits	DOZER	1	3.88	\$962.00
Demolish and Remove Structures @ C&W area	DEMOLISH	1	24.00	\$67,500.24
Rip and Regrade C&W Train Shop Area	DOZER	2	12.74	\$6,825.00
Reseed C&W Facilities Area with Rangeland Mix	REVEGE	1	12.00	\$7,553.00
Replace Topsoil to Zig Zag Road	EXCAVATE	1	0.47	\$51.00
Rip Zig Zag Road and Slurry Line Road	RIPPER	3	0.44	\$359.00
Reseed Zig Zag with Rangeland Mix	REVEGE	1	1.60	\$2,049.00
Replace Topsoil to West DWDA	SCRAPER1	1	67.00	\$64,558.00
Finish Grade West DWDA Area	GRADER	1	8.35	\$1,167.00
Reseed West DWDA Expansion Area with Rangeland Mix	REVEGE	1	20.40	\$12,840.00
Replace Topsoil on NW vent Fan Area (TR72)	TRUCK1	1	5.95	\$2,000.00
Regrade Access Road to NW Vent Shaft (TR72)	DOZER	1	2.33	\$510.00
Seed NW Vent Fan and Access Road (TR72)	REVEGE	1	1.55	\$2,127.00
Seal Additional Wells	BOREHOLE	1	36.00	\$22,805.23
Site Maintenance during the 10 year liability period	SITEMAINT ENANCE	1	400.00	\$34,540.00
Import Topsoil for RDA	TRUCK1	1	18.47	\$155,997.00
Mobilize/Demobilize Equipment for Initial Reclamation	MOBILIZE	1	5.00	\$12,233.00
Mobilize/Demobilize Equipment for Pond	MOBILIZE	1	5.00	\$1,755.00
Cleaning Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	5.00	\$1,550.00
Mobilize/Demobilize Equipment for Site Maintenance	MOBILIZE	1	3.90	\$4,027.00
	SUBTO	TALS:	3338.45	\$3,312,994

# **INDIRECT COSTS**

# OVERHEAD AND PROFIT:

Liability insurance: 2.02 Total = \$66,922.48Performance bond: 1.05 Total = \$34,786.44

TOTAL O &  $P = \frac{$551,047.62}{}$ 

CONTRACT AMOUNT (direct + O & P) = \$3,864,041.62

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00 Total = 0.00

Engineering work and/or contract/bid preparation: 4.25 Total = \$164,221.77

Reclamation management and/or administration: 3.58 \$138,332.69

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$853,602.08

TOTAL BOND AMOUNT (direct + indirect) = \$4,166,596.08

# **BULLDOZER WORK**

Task description:	Backfill and	l Regrade East P	ortal Area		
: New Elk Mine		Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDENTI	FICATION				
Task #: 601		ate: Colorado		Abbreviation:	None
Date: 11/14/20			20	Filename:	C07-601
User: JHB	16 Cour	iity. <u>Las Aiiiiii</u>	as	Thename.	C07-001
	<del></del>				
Agency or org	ganization name:	DRMS			
HOURLY EQUIPM	MENT COST				
Basic Machine: C	Cat D9T - 9SU				
	105				
	Semi-Universal				
<u></u>	s-shank ripper				
	per day		<del></del>		
	CRG)		<del></del>		
Cost Breakdown:					
			<u>Utilization %</u>		
Ownership Cost/Hour		\$110.70	NA		
Operating Cost/Hour		\$95.46	100		
Ripper own. Cost/Hour		\$12.36	NA		
Ripper op. Cost/Hour	f:	\$7.88	100		
Operator Cost/Hour	r:	\$41.52	NA		
MATERIAL QUAN Initial Volume: 14	<u></u>				
	14,850 125				
	62,956 LCY				
Loose volume. 10	12,930 LC 1				
Source of estimated vo		Exhibit 28			
Source of estimated sw	ell factor: Ope	rator Estimate			
HOURLY PRODU	<u>CTION</u>				
Average push distance:					
Unadjusted hourly produced	duction: 1,243.2	2 LCY/hr			
Materials consistency of	lescription: Co	ompacted fill or e	mbankment 0.9		
Average push gradient:	: 5 %				
Average site altitude:	7,500 feet				
Material weight:	2,132 lbs/LC	Y			
Weight description:	User Provide	d			
Job Condition Correcti			Source		
Operato		0.900	(AB.AVG.)		
Material consi		0.900	(CAT HB))		
Dozing r	nethod:	1.000	(GEN.)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit production: 651.44 LCY/hr
Adjusted fleet production: 1954.32 LCY/hr

#### **JOB TIME AND COST**

Fleet size: 3 Dozer(s)
Unit cost: \$0.411/LCY

Total job time: 83.38 Hours
Total job cost: \$67,020

# TRUCK/LOADER TEAM WORK

Task description:	Backfill	and Regrade Tra	nsformer and R	lock Dust Cut Slo	ope	
Site: New Elk Mine		Permit Actio	n: Permit Rene	wal 07	Permit/Job#: C1	981012
PROJECT IDE	NTIFICATION					
Task #: 603		State: Colora		Ab	breviation: No	
Date: 11/19 User: JHB	9/2018	County: Las An	imas		Filename: C0	12-603
	r organization nan	ne: DRMS				
HOURLY EQU	IPMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>	
			Equipment Descri			
	Truck Loader Tea		eric 10-12 cy, 6x4	1		
Sun	port Equipment -L		7 950H D9T - 9SU			
	-Dı	ımp Area: Cat l	D9T - 9SU			
Road M	Iaintenance – Mote		14M	G 1		
-	-Wa	ter Truck: Wate	er Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	nder Team	Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	50
Ownership cost/hour:	\$18.75	\$26.14	\$110.70	\$110.70	\$60.13	\$25.30
Operating cost/hour:	\$42.43	\$30.84	\$95.46	\$95.46	\$25.43	\$18.30
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$40.90	\$41.52	\$41.52	\$28.69	\$21.23
Unit Subtotals:	\$61.17	\$97.89	\$247.68	\$247.68	\$114.26	\$64.83
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work:	\$281.40	Support:	\$495.36	Maint:	\$179.09
Total work team co	ost/hour: <b>\$955.85</b>	<u> </u>				
MATERIAL QU	JANTITIES					
Initial volume Loose volume		CCY LCY	Swell	factor: 1.125		
So	ource of estimated	volume: Divisi	on of Reclamation	on, Mining & Safe	ety	
Source	e of estimated swe		tor Estimate			
	Material Purch	ase Cost: \$0.00 otal Cost: \$0.00				
	10	παι Cost				
<b>HOURLY PRO</b>	<u>DDUCTION</u>					
Truck Capacity:	_					
Truck Payload (we						
Material			Pounds/LCY			
Desc Rated P	<u> </u>	rovided	Pounds			
Payload Ca			LCY			

Struck Volume:	10.00	LCY				
Heaped Volume:	12.00	LCY				
Average Volume:	11.00	LCY				
Adjusted Volume:	12.00	LCY				
Fina	l Truck Volum	e Based on Number of	Loader Passes:	9.46	LCY	
Loading Tool Capacity						
Bouting 1001 Cupucity			Buc	ket Size Class: N	JΑ	
Rated Capacity:	4.300	LCY (heaped)	Buch	Ret Bize Cluss.	17.1	_
Bucket Fill Factor:	1.100		t mixtures (100	)-120%) 1.100		-
Adjusted Capacity:	4.730	LCY	t illineares (100	120,0) 1.100		_
Job Condition Corrections	<u>:</u>	Sit	te Altitude (ft.): <u>′</u>	7500 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				
Net Correction.	0.050	0.030				
	e <u>ls:</u> vs. Job Conditi		sses Required to	Fill Truck:	<u>2</u> I	passes
Selected Value Track Loaders - Cycle Time Elements (min.)	els:  vs. Job Conditive  within this Base  Material Descent  :	on Rating: NA sic Rating: NA cription:	sses Required to			oasses
Excavators and Front Shove  Machine Cycle Time of Selected Value  Track Loaders -  Cycle Time Elements (min.)  Load: NA	els: vs. Job Condition within this Base Material Descent :	on Rating: NA Sic Rating: NA Pription: NA Maneuver: NA		Dump:0.100	0	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders Cycle Time Elements (min.) Load: NA Wheel and Track Loaders	els: vs. Job Condition within this Base Material Descent :	on Rating: NA Sic Rating: NA Pription: NA Maneuver: NA		Dump: 0.100		
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders - Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors	els: vs. Job Condition within this Base Material Descent :  Unadjusted E	on Rating: NA Sic Rating: NA Surjection: NA Sasic Loader Cycle Tin		Dump: 0.100 maneuver): 0 Factor (min.)	0 0.500 minu   Source	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders - Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material:	els: vs. Job Condition within this Base Material Descent :  - Unadjusted B Material 3/4	on Rating: NA sic Rating: NA Pription: NA Pr	ne (load, dump, 1	Dump: 0.100 maneuver): 0.100 Factor (min.) 0.000	0 0.500 minu   Source   (Cat HB)	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders - Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile:	els: vs. Job Condition within this Base Material Descent :  - Unadjusted Base Material 3/4 Conveyor of	on Rating: NA Sic Rating: NA Seription: NA S	ne (load, dump, 1	Dump: 0.100 maneuver): 0.000 Factor (min.) 0.000 0.010	0	
Excavators and Front Shove  Machine Cycle Time of Selected Value  Track Loaders  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	els: vs. Job Condition within this Base Material Descent :  - Unadjusted Base Material 3/4 Conveyor of Common ow	on Rating: NA sic Rating: NA cription: NA  Maneuver: NA Basic Loader Cycle Tin To 6" diameter 0.00 r dozer piled 10 ft. high wnership of trucks and	ne (load, dump, 1	Dump: 0.100 maneuver): 0.000 Factor (min.) 0.000 0.010 -0.040	0	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Descent  - Unadjusted E Material 3/4 Conveyor or Common ow Constant op	on Rating: NA sic Rating: NA cription:  Maneuver: NA Basic Loader Cycle Tin To 6" diameter 0.00 r dozer piled 10 ft. high wnership of trucks and eration -0.04	ne (load, dump, 1	Dump: 0.100 maneuver): 0.000 Factor (min.) 0.000 0.010 -0.040 -0.040	0 minus	
Excavators and Front Shove  Machine Cycle Time of Selected Value  Track Loaders  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	els: vs. Job Condition within this Base Material Descent :  - Unadjusted Base Material 3/4 Conveyor of Common ow	on Rating: NA sic Rating: NA cription:  Maneuver: NA Basic Loader Cycle Tin To 6" diameter 0.00 r dozer piled 10 ft. high whership of trucks and eration -0.04 get 0.00	ne (load, dump, 1 h or less 0.01 loaders -0.04	Dump: 0.100 maneuver): 0.000 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000	0 minus Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
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Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Descent  - Unadjusted E Material 3/4 Conveyor or Common ow Constant op	on Rating: NA	ne (load, dump, 1 h or less 0.01 loaders -0.04 ne Adjustment: er Cycle Time:	Dump: 0.100 maneuver): 0 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Descent  - Unadjusted E Material 3/4 Conveyor or Common ow Constant op	on Rating: NA	ne (load, dump, ne h or less 0.01 loaders -0.04	Dump: 0.100 maneuver): 0 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	0	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Base Material Descent  - Unadjusted E Material 3/4 Conveyor or Common ow Constant op	on Rating: NA	ne (load, dump, 1 h or less 0.01 loaders -0.04 ne Adjustment: er Cycle Time:	Dump: 0.100 maneuver): 0 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders - Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Base Material Descent :  - Unadjusted B Material 3/4 Conveyor of Common ov Constant op Nominal tar	on Rating: NA	ne (load, dump, r h or less 0.01 loaders -0.04 ne Adjustment: er Cycle Time: ime per Truck:	Dump: 0.100 maneuver): 0 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes   
Excavators and Front Shove Machine Cycle Time of Selected Value Track Loaders - Cycle Time Elements (min.) Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	els:  vs. Job Condition within this Base- Material Descent  - Unadjusted Base- Material 3/4 Conveyor or Common ov Constant op Nominal tar	on Rating:  NA  Sic Rating:  Maneuver:  Maneuver:  NA  Basic Loader Cycle Ting  Y to 6" diameter 0.00  r dozer piled 10 ft. high  wnership of trucks and eration -0.04  get 0.00  Net Cycle Time  Adjusted Loader  Net Load Time  Net L	ne (load, dump, 1) h or less 0.01 loaders -0.04 ne Adjustment: er Cycle Time: ime per Truck:	Dump: 0.100 maneuver): 0 Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530	O.500 minutes minutes minutes	

maintained 3.0

** 1	-	
Hanl	Route	٠
Haui	NOUL	

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	4.00	3.00	7.00	1568	0.989

				Haul Time:	0.989	minutes
Return Ro	oute:					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-4.00	3.00	-1.00	2938	0.567

			Return Time: Total Truck Cycle Time:	0.567 3.486	minutes minutes	
Loading Tool unit Production Truck Unit Production	551.07	LCY/Hour	Adjusted for job e	efficiency:	457.39	LCY/Hour
-	162.82	LCY/Hour	Adjusted for job e	efficiency:	135.14	LCY/Hour
Optimal No. of Trucks:	3	Truck(s)	Selected Number of	of Trucks:	3	Truck(s)
		Adjusted single	hourly truck team production: truck/loader team production: truck/loader team production:	405.43 405.43 <b>405.43</b>	LCY/H LCY/H LCY/H	our

# **JOB TIME AND COST**

Fleet size: _	1	Team(s)	Total job time:	48.56	Hours
Unit cost:	\$2.358	/LCY	Total job cost:	\$46,416	

#### **BULLDOZER WORK**

New Elk	Mine			Permit Acti	on: _	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT	Γ IDEN	TIFICA	TION	[				
Task #:	606			State: Colora	ado		Abbreviation:	None
Date:	11/14/	/2018		County: Las A	nimas	3	Filename:	C012-606
User:	JHB						_	
Ag	gency or	organizat	tion nar	ne: DRMS				
<u>HOURLY</u>	EQUI	PMENT	COS	<u>r</u>				
Basic Ma	-	Cat D9	Γ - 9SU			-		
Horser		405		1		=		
	Type:	Semi-U NA	niversa	I		-		
	Basis:	1 per da	N. 7			=		
Data S	-	(CRG)	ıy			-		
	-	(CRG)				-		
Cost Breake	down:				1			
0 11	G ./II			<b>0110</b>	70	<u>Utilization %</u>		
Ownership				\$110.		NA 100		
Operating				\$95.	46	100		
	Ripper o			\$0.		NA		
Ripper op	. Cost/H	our.		\$0.	00	0		
					00			
Total Fleet	Cost/Hou: Cost/Hou: Cost/Hou	our: \$2 ur: \$7	247.68 <b>743.05</b>	\$41.	_	NA		
Total unit C Total Fleet	Cost/House Cost/House Cost/House AL QU	our: \$2 ur: \$7	743.05		_	NA		
Total unit C Total Fleet  MATERI  Initial Vol	Cost/House Cost/House AL QUsume: _ actor: _	our:	743.05 IES		_	NA		
Total unit C Total Fleet  MATERI  Initial Vol Swell fa Loose vol Source of es Source of es	Cost/Houring Cost/	our: \$2 ur: \$2 <b>ANTIT</b> 13,250 1.000 13,250 L  volume:	743.05 IES CCY	\$41.	52	. Push to conveyor		
Total unit C Total Fleet of  MATERIA  Initial Vol Swell fa Loose vol Source of es Source of es factor:	Cost/House Cost/House AL QU. lume:actor:lume:stimated	our: \$\frac{\$2}{\$7}\$  ANTITI  13,250  1.000  13,250 I  volume: swell	743.05 IES .CY	\$41. PAP 2.05-4a Tabl	52			
Total unit C Total Fleet of  MATERL  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average pu Unadjusted	Cost/House	our: \$2 ur: \$2 ur: \$7  ANTITI  13,250 1.000 13,250 I  volume: swell	743.05 IES .CY	\$41. PAP 2.05-4a Tabl	52			
Total unit C Total Fleet (  MATERIA  Initial Vol  Swell fa Loose vol  Source of es	Cost/Houring Cost/	our:	743.05 IES	PAP 2.05-4a Tabl Cat Handbook	52 le 18a	. Push to conveyor		
Total unit C Total Fleet of  MATERL  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average pu Unadjusted production:  Materials co	Cost/Hour Cost/H	our:	743.05 IES	PAP 2.05-4a Tabl Cat Handbook  0 feet 5.6 LCY/hr  Partly consolida	52 le 18a	. Push to conveyor		
Total unit C Total Fleet of MATERI  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average pu Unadjusted production:  Materials co Average pu Average site	Cost/Hour Cost/H	our:	743.05  IES  ON  40 30  ottion:	PAP 2.05-4a Tabl Cat Handbook  0 feet 5.6 LCY/hr  Partly consolidate	52 le 18a	. Push to conveyor		
Total unit C Total Fleet of  MATERI  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average put Unadjusted production:  Materials co Average put Average site Material we	Cost/Hour Cost/H	our:	743.05  IES  ON  40 30  otion: % 0000 fee	PAP 2.05-4a Tabl Cat Handbook  0 feet 5.6 LCY/hr  Partly consolidate	52 le 18a	. Push to conveyor		
Total unit C Total Fleet of MATERI  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average pu Unadjusted production: Materials co Average pu Average site Material we Weight desc	Cost/Hour Cost/H	our:	743.05  IES  ON  40 30  otion:  % 000 fee 600 lbs oal - Bi	PAP 2.05-4a Tabl Cat Handbook  0 feet 5.6 LCY/hr  Partly consolidat  t /LCY tuminous, Raw	52 le 18a	tockpile 1.1		
Total unit C Total Fleet of  MATERI  Initial Vol Swell fa Loose vol Source of es Source of es factor:  HOURLY  Average pu Unadjusted production:  Materials co Average pu Average site Material we Weight desc Job Condition	Cost/Hour Cost/H	our:	743.05  IES  ON  40 30  otion:  % 0000 fee 600 lbs oal - Bi	PAP 2.05-4a Tabl Cat Handbook  0 feet 5.6 LCY/hr  Partly consolidat  t	52 le 18a	tockpile 1.1		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.4179

Adjusted unit production: 433.31 LCY/hr
Adjusted fleet production: 1299.93 LCY/hr

# **JOB TIME AND COST**

Fleet size: 3 Dozer(s)
Unit cost: \$0.572/LCY

Total job time: 10.19 Hours
Total job cost: \$7,574

#### **SCRAPER TEAM WORK**

ite: New Elk Mine		Permit Action:	Permit Revision (	)7 Peri	mit/Job#: <u>C1981</u>	1012
PROJECT IDENTI	<b>IFICATION</b>					
Task #:608		ate: Colorado		Abbrev		
Date: 11/15/20 User: JHB	18 Cou	nty: Las Anim	as	File	ename: C012-6	08
	ganization name:	DRMS				
HOURLY EQUIPM	MENT_		COSTShi	ft basis: 1 per d	<u>ay</u>	
			ent Description			
		craper: Cat 627 Dozer: Cat D9				
Support	Equipment -Load	Area: NA				
Road Main	-Dump tenance –Motor G		1M			
	-Water		Tanker, 5,000 Gal.			
Cost Breakdown:	Scraper Wor	k Team	Support Equipr	nent	Maintenance	Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	45	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$42.96	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA	20	NA	NA	NA	N/
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$1.58	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$209.12	NA	NA	\$114.26	\$64.83
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$726.58	Support:	\$0.00	Maint:	\$179.09

#### **MATERIAL QUANTITIES**

Initial volume: 5,900 CCY Swell factor: 1.185

Loose volume: **6,992** LCY

Source of estimated volume:

Source of estimated swell factor:

Division of Reclamation, Mining & Safety

Cat Handbook

### **HOURLY PRODUCTION**

#### Scraper Bowl (volume) Basis:

Material weight:	1,600 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Coal - Bituminous, Raw	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	33.00 LCY	Adjusted Capacity:	18.85	LCY

Cycle Time: 0.40 Minutes Scraper Loading Time: Maneuver and Spread Time: 0.60 Minutes Job Condition Correction: Site Altitude: 7500 feet **Push Dozer** Scraper Source Altitude Adj: 1.000 1.000 (CAT HB) Job Efficiency: 0.830 0.830 (CAT HB) 0.830 0.830 Net Correction: **Travel Time:** Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0 Haul Route: Travel Time Seg# Haul Distance (Ft) Grade Roll. Res **Total Res** Velocity (fpm) (min) (%) (%) (%)2500.00 1.43 1 3.00 3.00 6.00 1855 1.43 Haul Time: minutes Return Route: Travel Time Roll. Res Seg# Haul Distance (Ft) Grade **Total Res** Velocity (fpm) (min) (%) (%)(%) 2500.00 -3.00 3.00 0.00 2921 0.95 Return Time: 0.95 minutes Total Scraper team cycle time: 3.38 minutes Adjusted for job conditions: 277.73 LCY/Hour Selected Number of Scrapers: Scraper(s) 2 Adjusted single scraper team (unit) hourly production: 555.46 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 555.46 LCY/Hour Unadjusted unit production/hour: 334.62 LCY/Hour Optimal Number of Scrapers per push dozer:

Total job time: 12.59

\$11,400

Total job cost:

**JOB TIME AND COST** 

Fleet size: 1

Unit cost: \$1.630 /LCY

Team(s)

Hours

### **SCRAPER TEAM WORK**

Task description:	Haul Clear			to Development '		*. /T 1 !!	G1001	012
Site: New Elk Mine	Site: New Elk Mine Perm			Permit Revision	n 07 Per	mit/Job#:	C1981	012
PROJECT IDENT	<b>TIFICATION</b>							
Task #: 609	S	State:	Colorado		Abbrev	viation:	None	
Date: 11/15/2			Las Anim			ename:	C012-60	)9
User: JHB								
Agency or of	rganization name:	DRM	IS					
HOURLY EQUIP	MENT_			COSTS	hift basis: 1 per c	<u>lay</u>		
				ent Description				
		craper:	Cat 627					
Suppor	t Equipment -Load	Dozer:	NA	T - 9SU				
Зиррог		p Area:	NA					
Road Mair	ntenance –Motor (		CAT 1	4M				
	-Water	Truck:	Water '	Tanker, 5,000 Gal				
	G W	1 70		g (F)				5
Cost Breakdown:	Scraper Wor	rk Team Do	7er	Support Equi Load Area	Dump Area	Motor (		Equipment Water Truck
	-				-	Motor		
%Utilization-machine:	100		35	NA	NA		50	50
Ownership cost/hour:	\$102.39		110.70	NA	NA		\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$33.41	NA	NA		\$25.43	\$18.30
%Utilization-ripper:	NA		20	NA	NA		NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA		\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$1.58	NA	NA		\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA		\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	199.57	NA	NA	\$	114.26	\$64.83
Number of Units:	2		1	0	0		1	1
Group Subtotals:	Work:	\$71	7.03	Support:	\$0.00		Maint:	\$179.09
Total work team cost/	hour: <u><b>\$896.12</b></u>							
MATERIAL QUA	NTITIES							
Initial volume:	7.600		CCY	Swell fac	tor: 1.185			
Loose volume:	9,006		LCY	Swen lac	1.103			
		1		of Doolomotion	M:: & C.f.4			
	ce of estimated vo f estimated swell f	_	Cat Han	of Reclamation, dbook	Mining & Safety			
**********	I COURT O N.							
HOURLY PRODU	JCTION							
				Scraper B	owl (volume) Bas	is:		

Material weight: \_1,600 lbs/LCY

Rated Payload: 52,800 pounds

Payload Capacity: 33.00 LCY

Coal - Bituminous, Raw

Material description:

#### CIRCES Cost Estimating Software

LCY

LCY LCY

LCY

Struck Volume: 15.70

22.00

18.85

Heaped Volume:

Average Volume:

Adjusted Capacity: 18.85

Site Altitude: 7500 feet

Cycle Time:	
Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	0.60 Minutes

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	3500.00	3.00	3.00	6.00	1855	1.97

Haul Time: **1.97** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	-3.00	3.00	0.00	2921	1.29

Return Time: 1.29 minutes Total Scraper team cycle time: 4.26 minutes Adjusted for job conditions: 220.36 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: LCY/Hour 440.72 Adjusted multiple scraper team (fleet) hourly production: 440.72 LCY/Hour

Unadjusted unit production/hour:	265.49	LCY/Hou
Optimal Number of Scrapers per push dozer:		

#### **JOB TIME AND COST**

Fleet size:	1	Team(s)	Total job time:	20.43	Hours
Unit cost:	\$2.033	/LCY	Total job cost:	\$18,312	

#### SCRAPER TEAM WORK

Site: New Elk Mine		Permit Action	on: Permit Revision	n 07 Per	mit/Job#: C198	1012
PROJECT IDENT	<u> </u>					
Task #: 614	5	State: Colora	ıdo	Abbrev	viation: None	
Date: 11/16/2		unty: Las A	nimas		ename: C012-6	514
User: JHB						
Agency or o	organization name:	DRMS				
HOURLY EQUIP	PMENT_		COSTS	Shift basis: 1 per d	l <u>ay</u>	
		Equi	pment Description			
		Scraper: Cat	627G			
			D9T - 9SU			
Suppor	rt Equipment -Loa Dum-	d Area: NA p Area: NA				
Road Mai	intenance –Motor		Г 14М			
-	-Water	Truck: Wat	er Tanker, 5,000 Gal			
Cost Breakdown:	Scraper Wo	ark Team	Support Equi	nment	Maintenance	Fauinment
Cost Bicardown.	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	10	0 NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.7	0 NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.4	6 NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0 NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$12.3	6 NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.0	0 NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.5	2 NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$260.0	5 NA	NA	\$114.26	\$64.83
Number of Units:	2		1 0	0	1	1
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost	/hour: <b><u>\$956.60</u></b>					
MATERIAL QUA	ANTITIES					
Initial volume:	146,813	CCY	Swell fac	tor: 1.125		
Loose volume:	165,165	LCY				
Sour	rce of estimated vo		11, page 2.05-21, Ex	hibit 28		
Source of	of estimated swell	factor: Oper	ator Estimate			
HOURLY PRODU	<u>UCTION</u>					
			Scraper B	owl (volume) Bas	sis:	
Material weight:	2,055 lbs/LCY		Struck	Volume: 15.70	L	CY

Material description: User Provided

Payload Capacity: 25.69 LCY

Rated Payload: 52,800 pounds

LCY LCY

LCY

22.00

18.85

Heaped Volume:

Average Volume:

Adjusted Capacity: 18.85

Site Altitude: 7500 feet

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \\ \end{array}$ 

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	18.00	3.00	21.00	537	1.31

Haul Time: 1.31 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-18.00	3.00	-15.00	1749	0.51

Return Time: **0.51** minutes 2.82 Total Scraper team cycle time: minutes Adjusted for job conditions: 332.88 LCY/Hour Selected Number of Scrapers: Scraper(s) 2 Adjusted single scraper team (unit) hourly production: 665.77 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 665.77 LCY/Hour

Unadjusted unit production/hour: 401.06 LCY/Hour Optimal Number of Scrapers per push dozer:

**JOB TIME AND COST** 

 Fleet size:
 1
 Team(s)
 Total job time:
 248.08
 Hours

 Unit cost:
 \$1.437
 /LCY
 Total job cost:
 \$237,315

# **COMPACTION WORK**

Task description:	Compact Fina	l RDA Surface				
: New Elk Mine	P	ermit Action: _ F	ermit Rene	wal 07 Pe	ermit/Job#:	C1981012
PROJECT IDENTII	FICATION					
Task #: 615	State	: Colorado		Abbr	eviation:	None
Date: 11/19/201 User: JHB	8 County	: Las Animas		F	ilename:	C012-615
Agency or orga	anization name:l	ORMS				
<b>HOURLY EQUIPM</b>	ENT COST					
Basic Machin	ne: CAT 815F			Horsepower:	2	240
Compactor Typ		g foot		Shift Basis:	1 pc	er day
				Data Source:	(C	RG)
Cost Breakdown:						
	11. 6	Φ.Σ.ς. Ο	3	Utilization %		
	ership Cost/Hour: erating Cost/Hour:	\$56.23 \$65.60		NA 100		
	perator Cost/Hour:	\$26.14		NA		
-	al Unit Cost/Hour:	\$148.0		1171		
Tota	l Fleet Cost/Hour:	\$148.0	8	J		
MATERIAL QUAN	TITIFS					
Loose volum		C 250	LCV	Cl	:1	0.970
Compacted volui		6,250 <b>2,838</b>	_ LCY CCY	SIII	inkage facto	or: 0.870
-		,	_			
	ource of estimated versimated shrinkage		re RDA sur ndbook	face X 2 ft. lift		
Source of c	stillaced silillikage	ractor. Cat Ha	IIdook			
HOURLY PRODUC	<u>CTION</u>		Unadjus	ted hourly product	ion = (W x)	S x L x C) / P
Co	mpacted width per p	pass (W)·	6.50	feet		
	verage Compactor S		4.00	mph		
	ted thickness of eac		8.00	inches		
	Conversion Con	` ′	16.3		./12in./27cu	ı.ft.)
	imber of machine pa		4	passes		
Job Condition Correctio	sted Hourly Unit Pro	oduction:	847.60 Site Alti	CCY/ho tude: <u>7,500</u> feet	ur	
soo condition correction	II I detois	Source	Site 7 Hi	rade: <u>7,500</u> feet		
Altitude Adj:	1.00	(CAT HB)				
Job Efficiency:	0.83	(1 shift/day)	<del></del>			
Net Correction:	0.8300	multiplier				
	Adjusted Hourly Un Adjusted Hourly Fle		703.51 <b>703.51</b>	CCY/Hour		
P	ajusted Hourry File	et i ioduction.	103.31	CC1/110til		
JOB TIME AND CO	<u>OST</u>					
Fleet size:	1 Compac	ctor(s)	T	otal job time:	32.46	Hours
Unit cost: \$0	.210 per CC	Y	T	otal job cost:	\$4,807	

	Task description:	Rip Mine Entry Area Prior	to Regrading			
Site	: New Elk Mine	Permit Action:	Permit Renew	al 07 Permit	/Job#: <u>C19</u>	81012
	PROJECT IDEN	NTIFICATION .				
	Task #: 623	State: Colorado	1	Abbreviat	ion: None	
		/2018 County: Las Anin	nas	Filena		
	User: JHB					
	Agency or	organization name: DRMS				
	HOURLY EQUI					
	Basic Ma			Horsepower:	405	
	Ripper Attac			Shift Basis:	1 per day	
	rapper ratio			Data Source:	(CRG)	
	Cost Breakdown:					<del></del>
	Cost Breakdown.			Utilization %		
	1	Ownership Cost/Hour:	\$110.70	NA		
		Operating Cost/Hour:	\$95.46	100		
	* *	Ownership Cost/Hour:	\$12.36	NA		
	Ripper	Operating Cost/Hour:	\$7.88	100		
		Operator Cost/Hour: Total Unit Cost/Hour:	\$41.52 \$267.92	NA		
		Total Unit Cost/Hour:	\$207.92			
		Total Fleet Cost/Hour: <b>\$8</b>	03.77			
	MATERIAL QU	JANTITIES Se	elected estimating	g method: Area		
	Alternate Methods:			, <u></u>		
a · ·		B 1 W 1	27.4	D.C.V.	27.4	
Seismic: Area:	NA 17.86	Bank Volume: acres Rip Depth (ft):	NA 2.00	BCY Volume: 57,62	NA NA	BCY or CC
Aica.	-	<del></del>		volume	,0	BCT 01 CC
	S	Source of estimated quantity: <u>Map</u>	11			
	<b>HOURLY PROI</b>	<u>DUCTION</u>				
	Seismic:					
		Seismic Velocity:	NA	feet/second		
	Area:					
	<u>riicu.</u>	Average Ripping Depth:	4.05	mph		
		Average Ripping Width:	7.67	degrees		
		Average Ripping Length:	200.00	feet		
		Average Dozer Speed:	88.00	feet		
		Average Maneuver Time:	0.25	feet		
		Production per unit area:	0.838	acres/hour		
	Job Condition Corr	ection Factors				
	Unad	justed Hourly Unit Production:	0.838	Acres/hr		
		Site Altitude:	7,500	feet		
		Altitude Adj:	1.00	(CAT HB)		
		Job Efficiency:	0.83	(1 shift/day)		
		Net Correction:	0.83	multiplier		
		Adjusted Hourly Unit Production		Acres/hr		
		Adjusted Hourly Fleet Production	2.09	Acres/hr		
	JOB TIME AND	COST				
	Fleet size:	3 Grader(s)	Total job tim	e: <b>8.56</b>		Hours
	I ICCL SIZC.	J Grauci(s)	i otai joo iiiii	c. <u>0.30</u>		110015

Unit cost:	\$385.397	Per acre	Total job cost:	\$6,883

	Task description:	Rip Wedge Area Prior to R	egrading		
Site:	: New Elk Mine	Permit Action:	Permit Renev	wal 07 Permit/Jo	b#: <u>C1981012</u>
	PROJECT IDE	NTIFICATION			
	Task #: 624	State: Colorado		Abbreviation	n: None
		9/2018 County: Las Anim		Filename	
	User: JHB				
	Agency o	r organization name: DRMS			
	HOURLY EQU	IPMENT COST			<u> </u>
	Basic M	achine: Cat D9T - 9SU		Horsepower:	405
	Ripper Attac				1 per day
	11		<del></del> ,	Data Source:	(CRG)
	Cost Breakdown:				
				Utilization %	
		Ownership Cost/Hour:	\$110.70	NA 100	
	D.	Operating Cost/Hour:	\$95.46	100	
		Ownership Cost/Hour:	\$12.36 \$7.88	NA 100	
	кірре	r Operating Cost/Hour: Operator Cost/Hour:	\$41.52	100 NA	
		Total Unit Cost/Hour:	\$267.92	IVA	
			03.77		
	MATERIAL QU		elected estimatin	ng method: Area	
	Alternate Methods	<u>:</u>			
Seismic:	NA	Bank Volume:	NA	BCY	NA
Area:	1.60	acres Rip Depth (ft):	2.00	Volume: 5,163	BCY or CC
		Source of estimated quantity: Map	11		
	HOURLY PRO	DUCTION			
	Seismic:				
	<u>Seisinic.</u>	Seismic Velocity:	NA	feet/second	
	A mag.				
	Area:	Average Ripping Depth:	4.05	mph	
		Average Ripping Width:	7.67	degrees	
		Average Ripping Length:	200.00	feet	
		Average Dozer Speed:	88.00	feet	
		Average Maneuver Time:	0.25	feet	
		Production per unit area:	0.838	acres/hour	
	Job Condition Corr	rection Factors			
	Unac	ljusted Hourly Unit Production:	0.838	Acres/hr	
		Site Altitude:	7,500	feet	
		Altitude Adj:	1.00	(CAT HB)	
		Job Efficiency:	0.83	(1 shift/day)	
		Net Correction:	0.83	multiplier	
		Adjusted Hourly Unit Production	0.70	Acres/hr	
		Adjusted Hourly Fleet Production		Acres/hr	
	JOB TIME ANI	O COST			
	Fleet size:	3 Grader(s)	Total job tir	me: <b>0.77</b>	Hours
	1 1001 5120.	J Grader(s)	rotar job tir	U•//	110015

Unit cost:	\$385.397	Per acre	Total job cost:	\$617

Task description					
Site: New Elk Min	ne Permit Action	e: Permit Renewa	al 07 Perm	it/Job#: C1981012	
PROJECT II	<u>DENTIFICATION</u>				
Task #: 62	25 State: Colorad	0	Abbrevia	ation: None	
Date: 1	1/19/2018 County: Las Ani:	mas	Filer	name: C012-625	
User: JI	HB				
Agenc	ey or organization name: _ DRMS				
HOURLY EC	QUIPMENT COST				
Basic	c Machine: Cat D9T - 9SU		Horsepower:	405	
Ripper A	ttachment: 3-Shank Ripper		Shift Basis:	1 per day	
			Data Source:	(CRG)	
Cost Breakdow	<u>n:</u>				
			Utilization %		
	Ownership Cost/Hour:	\$110.70	NA		
Din	Operating Cost/Hours	\$95.46	100 NA		
	per Ownership Cost/Hour: pper Operating Cost/Hour:	\$12.36 \$7.88	NA 100		
Kij	Operator Cost/Hour:	\$41.52	NA		
	Total Unit Cost/Hour:	\$267.92	1171		
		803.77			
mic: NA	ods: Bank Volume: acres Rip Denth (ft):		BCY 17.3	NA 827 BCY	Y or
rea: 5.37	Bank Volume acres Rip Depth (ft):  Source of estimated quantity: Map	2.00	BCY BCY		<del>Y</del> or
HOURLY PE	Bank Volume acres Rip Depth (ft):	2.00			Y or
rea: 5.37	Bank Volume acres Rip Depth (ft):  Source of estimated quantity: Map	2.00			Y or
HOURLY PE	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map  RODUCTION	2.00	Volume: 17,3		Y or
HOURLY PE Seismic:	Bank Volume: acres Rip Depth (ft): Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth:	2.00 111 NA 4.05	Volume: 17,3  feet/second  mph		Y or
HOURLY PE Seismic:	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width:	2.00 11 NA 4.05 7.67	Volume: 17,3  feet/second  mph degrees		Y or
HOURLY PE Seismic:	Bank Volume:     acres Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length:	2.00 111 NA 4.05 7.67 200.00	feet/second mph degrees feet		Y or
HOURLY PE Seismic:	Bank Volume:     acres Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth:     Average Ripping Width:     Average Ripping Length:     Average Dozer Speed:	2.00 NA 4.05 7.67 200.00 88.00	feet/second  mph degrees feet feet		Y or
HOURLY PE Seismic:	Bank Volume:     acres Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length:	2.00 111 NA 4.05 7.67 200.00	feet/second mph degrees feet		Y or
HOURLY PF Seismic: Area:	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time:	2.00 NA 4.05 7.67 200.00 88.00 0.25	feet/second mph degrees feet feet feet feet		Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:	2.00 NA 4.05 7.67 200.00 88.00 0.25	feet/second mph degrees feet feet feet feet		Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:	2.00  NA  4.05  7.67  200.00  88.00  0.25  0.838	feet/second  mph degrees feet feet feet feet acres/hour		Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Inadjusted Hourly Unit Production: Site Altitude: Altitude Adj:	2.00  111  NA  4.05  7.67  200.00  88.00  0.25  0.838  0.838  7,500  1.00	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB)	BCY	Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency:	2.00  111  NA  4.05  7.67  200.00  88.00  0.25  0.838  7,500  1.00  0.83	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB) (1 shift/day)	BCY	Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Inadjusted Hourly Unit Production: Site Altitude: Altitude Adj:	2.00  111  NA  4.05  7.67  200.00  88.00  0.25  0.838  0.838  7,500  1.00	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB)	BCY	Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency:	2.00  111  NA  4.05  7.67  200.00  88.00  0.25  0.838  7,500  1.00  0.83  0.83  0.83	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB) (1 shift/day)	BCY	Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Inadjusted Hourly Unit Production:  Site Altitude: Altitude Adj: Job Efficiency: Net Correction:	NA  4.05 7.67 200.00 88.00 0.25 0.838  7,500 1.00 0.83 0.83 0.83 n: 0.70	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB) (1 shift/day multiplier	BCY	Y or
HOURLY PE Seismic: Area:  Job Condition C	Bank Volume: Rip Depth (ft):  Source of estimated quantity:Map  RODUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  Correction Factors  Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction:  Adjusted Hourly Unit Production  Adjusted Hourly Fleet Production	NA  4.05 7.67 200.00 88.00 0.25 0.838  7,500 1.00 0.83 0.83 0.83 n: 0.70	feet/second  mph degrees feet feet feet acres/hour  Acres/hr feet (CAT HB) (1 shift/day multiplier Acres/hr	BCY	Y or

Unit cost:	\$385.397	Per acre	Total job cost:	\$2,070

	Task description:	Rip West Portal DNR Area	S			
Site:	New Elk Mine	Permit Action:	Permit Renew	val 07 Permit/J	Job#: <u>C19810</u>	12
	PROJECT IDE	NTIFICATION				
	Task #: 627	State: Colorado		Abbreviation	on: None	
		9/2018 County: Las Anim	as	Filenan		7
	User: JHB					
	Agency o	r organization name: DRMS				
		IPMENT COST				
	Basic M			Horsepower:	405	
	Ripper Attac			Shift Basis:	1 per day	<del></del>
	11			Data Source:	(CRG)	
	Cost Breakdown:					
	Cost Bicardown.			Utilization %		
		Ownership Cost/Hour:	\$110.70	NA		
		Operating Cost/Hour:	\$95.46	100		
		Ownership Cost/Hour:	\$12.36	NA		
	Rippe	r Operating Cost/Hour:	\$7.88	100		
		Operator Cost/Hour:	\$41.52	NA		
		Total Unit Cost/Hour:	\$267.92			
		Total Fleet Cost/Hour: \$80	3.77			
	MATERIAL QU	<u>UANTITIES</u> Sei	lected estimating	g method: Area		
	Alternate Methods	<u>.</u>				
Seismic:	NA	Bank Volume:	NA	BCY	NA	
Area:	24.92	acres Rip Depth (ft):	1.50	Volume: 60,306		BCY or CC
			6 (aubatmant out	DWD 4 #2 area Mar 12)		
		Source of estimated quantity: Map 1	o (substract out	DWDA#3 area Map12)	)	
	<b>HOURLY PRO</b>	<u>DUCTION</u>				
	Seismic:					
		Seismic Velocity:	NA	feet/second		
	Area:					
	<u>riicu.</u>	Average Ripping Depth:	4.05	mph		
		Average Ripping Width:	7.67	degrees		
		Average Ripping Length:	200.00	feet		
		Average Dozer Speed:	88.00	feet		
		Average Maneuver Time:	0.25	feet		
		Production per unit area:	0.838	acres/hour		
	Job Condition Corn	rection Factors				
	Unac	ljusted Hourly Unit Production:	0.838	Acres/hr		
		Site Altitude:	7,500	feet		
		Altitude Adj:	1.00	(CAT HB)		
		Job Efficiency:	0.83	(1 shift/day)		
		Net Correction:	0.83	multiplier		
		Adjusted Hourly Unit Production:	0.70	Acres/hr		
		Adjusted Hourly Fleet Production:		Acres/hr		
	JOB TIME ANI	· ·		_		
			Total: 1.4	1105	**	
	Fleet size:	3 Grader(s)	Total job tim	ne: 11.95	Но	urs

Unit cost:	\$385.397	Per acre	Total job cost:	\$9,604

T	ask description:	Rip East Portal - Only DNF	R Area		
Site:	New Elk Mine	Permit Action:	Permit Renewa	al 07 Permit/Job#	#: C1981012
<u>P</u>	PROJECT IDE	NTIFICATION			
	Task #: 628	State: Colorado		Abbreviation:	None
		9/2018 County: Las Anim	as	Filename:	C012-628
	User: JHB				
	Agency o	r organization name: DRMS			
Н		IPMENT COST			
_	Basic M	achine: Cat D9T - 9SU		Horsepower:	405
	Ripper Attac				per day
	11				(CRG)
C	Cost Breakdown:				<u> </u>
<u></u>	ost Breakdown.			Utilization %	
		Ownership Cost/Hour:	\$110.70	NA	
		Operating Cost/Hour:	\$95.46	100	
		Ownership Cost/Hour:	\$12.36	NA	
	Rippe	r Operating Cost/Hour:	\$7.88	100	
		Operator Cost/Hour:	\$41.52	NA	
		Total Unit Cost/Hour:	\$267.92		
		Total Fleet Cost/Hour: \$80	3.77		
<u>N</u>	MATERIAL QU	<u>UANTITIES</u> Se	lected estimating	method: Area	
<u>A</u>	Alternate Methods	<u>:</u>			
mic:	NA	Bank Volume:	NA	BCY	NA
rea:	35.00	acres Rip Depth (ft):	2.00	Volume: 112,933	BCY or
		Source of estimated quantity: Map 1	.1		
H	HOURLY PRO	• •			
	eismic:				
5	ocisime.	Seismic Velocity:	NA	feet/second	
٨	l raat	·			
<u>A</u>	Area:	Average Ripping Depth:	4.05	mph	
		Average Ripping Width:	7.67	degrees	
		Average Ripping Length:	200.00	feet	
		Average Dozer Speed:	88.00	feet	
		Average Maneuver Time:	0.25	feet	
		Production per unit area:	0.838	acres/hour	
<u>Jo</u>	ob Condition Cor	rection Factors			
	Unac	ljusted Hourly Unit Production:	0.838	Acres/hr	
		Site Altitude:	7,500	feet	
		Altitude Adj:	1.00	(CAT HB)	
		Job Efficiency:	0.83	(1 shift/day)	
		Net Correction:	0.83	multiplier	
		Adjusted Hourly Unit Production:	0.70	Acres/hr	
		Adjusted Hourly Fleet Production:	Acres/hr		
	OB TIME ANI	O COST			
J	OD THVIE ANI	<u> </u>			

 Unit cost:
 \$385.397
 Per acre
 Total job cost:
 \$13,489

# MOTOR GRADER WORK

Task description:	Finish Grade Refuse	Disposal Area				
: New Elk Mine	Permit A	Action: Permit Renev	wal 07 Per	Permit/Job#: <u>C1981012</u>		
PROJECT IDENT	<u>IFICATION</u>					
Task #: 639 Date: 11/20/20 User: JHB		olorado s Animas		viation: None C012-639		
Agency or or	ganization name:DRMS					
<b>HOURLY EQUIPM</b>	MENT COST					
Basic Mach			Horsepower:	259		
Ripper Attachm	ent:		Shift Basis:	1 per day (CRG)		
			Data Source:	(CRG)		
Cost Breakdown:			Utilization %			
Ow	nership Cost/Hour:	\$60.13	NA			
Oj	perating Cost/Hour:	\$50.87	100			
	vnership Cost/Hour:	\$0.00	NA			
	perating Cost/Hour:  Operator Cost/Hour:	\$0.00 \$28.69	NA			
	tal Unit Cost/Hour:	\$139.69	NA			
To	tal Fleet Cost/Hour:	\$139.69				
MATERIAL OHA						
MATERIAL QUAI		0.00				
Total Ar	ea to be graded or ripped:	8.30		acres		
Sou	rce of estimated acreage:	Map 11				
HOURLY PRODU	<u>CTION</u>					
	Average Grader Speed:	-	mph			
	Selected Application:		grading (0-2.5 mph	) - 1.5		
	Selected Blade Angle: Effective Blade Length:	30 12.10	degrees feet			
Wid	th of blade overlap per pass:		feet			
	g or ripping width per pass:	10.10	feet			
Unadjus	ted Hourly Unit Production:	1.8364	acres/hour	r		
Job Condition Correct	ion Factors		Site Altitude: 7500 fe	eet		
Altitudo Adi	1.00	Source CAT HB)				
Altitude Adj: Job Efficiency:		sh/d, mod.)				
Net Correction:		ultiplier				
	Adjusted Hourly Unit Prod	luction: 1.5609	acres/Hour			
	Adjusted Hourly Fleet Prod		acres/Hour			
JOB TIME AND C	OST					
Fleet size:	1 Grader(s)	Total job time	e: 5.32	Hours		
Unit cost: \$	89.49 per acre	Total job cos	st: <b>\$743</b>			
O 1111 COSt	per dere	10th job cos	π. φ/43			

### **BULLDOZER WORK**

Task description:	Regrade Pond 004			
: New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDENTI	FICATION			
Task #: 643	State: Colorado		Abbreviation:	None
Date: 11/15/201	County: Las Anim	ias	Filename:	C012-643
User: JHB				
Agency or org	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machine: C	at D9T - 9SU			
Horsepower: 40	)5	_		
	emi-Universal			
	shank ripper			
	per day			
	CRG)	<u> </u>		
Cost Breakdown:		Utilization %		
Ownership Cost/Hour	: \$110.70	NA		
Operating Cost/Hour		100		
Ripper own				
Cost/Hour		NA		
Ripper op. Cost/Hour	\$7.88	100		
Operator Cost/Hour		NA		
MATERIAL QUAN  Initial Volume: 3,8  Swell factor: 1.1  Loose volume: 4,3	440			
Source of estimated vol		tion, Mining & Safety		
Source of estimated swe factor:	ell Cat Handbook			
HOURLY PRODUC	CTION			
Average push distance: Unadjusted hourly	125 feet 1,055.6 LCY/hr			
production:	-	<u></u>		
Materials consistency d	escription: Compacted fill or e	embankment 0.9		
Average push gradient:				
Average site altitude:	7,500 feet			
Material weight:	2,132 lbs/LCY		<u> </u>	
Weight description:	User Provided			

Job Condition Correction Factor	_	<u>Source</u>		
Operator Skill:	0.900	(AB.AVG.)		
Material consistency:	0.900	(CAT HB))		
Dozing method:	1.000	(GEN.)		
Visibility:	1.000	(AVG.)		
Job efficiency:	0.830	(1 SHIFT/DAY)		
Spoil pile:	0.800	(FND-RF)		
Push gradient:	0.903	(CAT HB)		
Altitude:	1.000	(CAT HB)		
Material Weight:	1.079	(CAT HB)		
Blade type:	1.000	(PAT)		

Net correction: 0.5240

Adjusted unit production: 553.13 LCY/hr
Adjusted fleet production: 553.13 LCY/hr

# **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.484/LCY

Total job time: 7.81 Hours \$2,093

### **BULLDOZER WORK**

Task description:	Regrade Pond 0	06			
: New Elk Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#	: C1981012
PROJECT IDENTI	FICATION				
Task #: 645	State:	Colorado		Abbreviation:	None
Date: 11/15/201	8 County:	Las Anima	S	Filename:	C012-645
User: JHB					
Agency or org	anization name: DF	RMS			
HOURLY EQUIPM	ENT COST				
Basic Machine: Ca	at D9T - 9SU				
Horsepower: 40			=		
	emi-Universal		=		
Attachment: 3-	shank ripper		_		
	per day		_		
Data Source: (C	CRG)		_		
Cost Breakdown:		ĺ	TIV'1' - (' 0/		
O		¢110.70	<u>Utilization %</u> NA		
Ownership Cost/Hour: Operating Cost/Hour:		\$110.70 \$95.46	100		
Ripper own. Cost/Hours		\$12.36	NA	<u>-</u>	
Ripper op. Cost/Hour:		\$0.00	0	<u></u>	
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUAN  Initial Volume: 6,1  Swell factor: 1.1	60 25				
Loose volume: 6,9	30 LCY				
Source of estimated vol			on, Mining & Safety		
Source of estimated swe	ell Operator	Estimate			
factor:	-				
HOURLY PRODUC	<u>CTION</u>				
Average push distance:	75 feet				
Unadjusted hourly	1,514.3 LC	Y/hr			
production:					
Materials consistency d	escription: Compa	cted fill or en	nbankment 0.9		
Average push gradient:	5 %				
Average push gradient.  Average site altitude:	7,500 feet				
riverage site attitude.	7,500 1001				
Material weight:	2,132 lbs/LCY			_	
Weight description:	User Provided				
Job Condition Correction	on Factor		Source		

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit production: 793.49 LCY/hr
Adjusted fleet production: 793.49 LCY/hr

# **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.328/LCY

Total job time:
Total job cost:

8.73 Hours
\$2,271

# **BULLDOZER WORK**

Task description:	Regr	ade Pond 00	7			
: New Elk Mine		Perr	nit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDEN	TIFICATION	ON				
Task #: 646		State:	Colorado		Abbreviation:	None
Date: 11/15	/2018	County:	Las Anima	as	Filename:	C012-646
User: JHB	2010	county.	Las / Hilling		i nenume.	2012 010
CSC1						
Agency or	organization	name: DR	MS			
HOURLY EQUI	PMENT CO	<u>DST</u>				
Basic Machine:	Cat D9T - 9	SU				
Horsepower:	405	-		<del>_</del>		
Blade Type:	Semi-Unive	rsal		_		
Attachment:	3-shank ripp			_		
Shift Basis:	1 per day	<u> </u>		<del>_</del>		
Data Source:	(CRG)			_		
Cost Breakdown:				ı		
				<u>Utilization %</u>		
Ownership Cost/H	our:		\$110.70	NA		
Operating Cost/H	our:		\$95.46	100		
Ripper o			¢10.26	NT A	<del></del>	
Cost/H			\$12.36	NA		
Ripper op. Cost/H	our:		\$0.00	0		
Operator Cost/H			\$41.52	NA		
m . 1	Φ2.50.4			I	<del></del>	
Total unit Cost/Hou						
Total Fleet Cost/Ho	ur: <b>\$260.0</b>	)5				
MATERIAL QU	ANTITIES					
MATERIAL QU	ANTITES					
Initial Volume:	9,120					
Swell factor:	1.125	-	<del>_</del>			
Loose volume:	<b>10,260</b> LCY	-	=			
_	<u> </u>		_			
Source of estimated				on, Mining & Safety		
Source of estimated	swell	Cat Handb	ook			
factor:						
<b>HOURLY PROD</b>	<b>DUCTION</b>					
Average push distar	-	150 feet				
Unadjusted hourly		910.5 LCY/ł	П			
production:	_					
Materials consistence	cy description	: Compac	eted fill or e	mbankment 0.9		
Average push gradi						
Average site altitude	e: 7,500	feet				
	_					
Material weight:		lbs/LCY				
Weight description:	User I	Provided				

Net correction: 0.6288

Adjusted unit production: 572.52 LCY/hr
Adjusted fleet production: 572.52 LCY/hr

# **JOB TIME AND COST**

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

Total job time: Total job cost: 17.92 Hours \$4,660

## **BULLDOZER WORK**

Task description:	Regrade Pond 0	08; Rip and	Regrade Spillway		
: New Elk Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#	: C1981012
PROJECT IDENTI	FICATION				
Task #: 647	State:	Colorado		Abbreviation:	None
Date: 11/15/201	8 County:	Las Anima	ıs	Filename:	C012-647
User: JHB	<u> </u>				
Agency or orga	anization name: DF	RMS			
HOURLY EQUIPM	ENT COST				
	at D9T - 9SU				
Horsepower: 40	)5		<del>_</del>		
	emi-Universal		<del>_</del>		
Attachment: 3-	shank ripper		<u> </u>		
Shift Basis: 1	per day		<del>_</del>		
	CRG)		_		
Cost Breakdown:			_		
			<u>Utilization %</u>		
Ownership Cost/Hour:		\$110.70	NA		
Operating Cost/Hour:		\$95.46	100		
Ripper own. Cost/Hour:		\$12.36	NA		
Ripper op. Cost/Hour:		\$3.94	50	<u></u>	
Operator Cost/Hour:		\$41.52	NA		
Swell factor: 1.1	300 25 <b>838</b> LCY ume:Division		on, Mining & Safety		
factor:	— — — — — — — — — — — — — — — — — — —	Estimate			
HOURLY PRODUC	<u>CTION</u>				
Average push distance: Unadjusted hourly production:	125 feet 1,055.6 LC	Y/hr			
Materials consistency de	escription: Compa	cted fill or e	mbankment 0.9		
Avaraga nuch andi	10.0/				
Average push gradient: Average site altitude:	10 % 7,500 feet				
Material weight:	2,132 lbs/LCY			_	
Weight description:	User Provided				
Job Condition Correction	on Factor		Source		

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit production: 481.46 LCY/hr
Adjusted fleet production: 481.46 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.548/LCY

Total job time: 66.13 Hours
Total job cost: \$17,457

## **BULLDOZER WORK**

Task description:	Regrade West Po	rtal Contai	nment Area 1		
e: New Elk Mine	New Elk Mine Permit Action: Permit Renewal 0		Permit Renewal 07	Permit/Job#	C1981012
PROJECT IDENTIF	<u>ICATION</u>				
Task #: 648	State:	Colorado		Abbreviation:	None
Date: 11/15/2018		Las Anima	ns	Filename:	C012-648
User: JHB		200 1 111111		1 1101111111	0012 0.0
Agency or organ	nization name: DRI	MS			
HOURLY EQUIPME	ENT COST				
	D9T - 9SU				
Horsepower: 405			<del>_</del>		
	ni-Universal		<del>_</del>		
Attachment: 3-sh	hank ripper		<del>_</del>		
Shift Basis: 1 pe	er day		<del>_</del>		
Data Source: (CR			_		
Cost Breakdown:		ı			
			<u>Utilization %</u>		
Ownership Cost/Hour:		\$110.70	NA		
Operating Cost/Hour:		\$95.46	100		
Ripper own.		\$12.36	NA		
Cost/Hour:					
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Total unit Cost/Hour:	\$260.05				
Total Fleet Cost/Hour:	\$260.05				
MATERIAL QUANT	<u> TITIES</u>				
Initial Volume: 3,34	0				
Swell factor: $\frac{1.12}{1.12}$		=			
	8 LCY	=			
C C .: . 1 1	D: ::	- :D 1 .:			
Source of estimated volumes Source of estimated swell			on, Mining & Safety		
factor:					
	ELON				
HOURLY PRODUCT	<del></del>				
Average push distance:	100 feet				
Unadjusted hourly production:	1,243.2 LCY	/hr			
Materials consistency des	scription: Compac	ted fill or e	mbankment 0.9		
Average push gradient:	0 %				
Average site altitude:	7,500 feet	_			
11.01ago bito aititudo.	.,500 1001	<u> </u>			
Material weight:	2,132 lbs/LCY			_	

Job Condition Correction Factor

Source

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5803

Adjusted unit production: 721.43 LCY/hr
Adjusted fleet production: 721.43 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.360/LCY

Total job time: 5.21 Hours
Total job cost: \$1,354

## **BULLDOZER WORK**

Task description:	Regrade temporary Di	itches at West	t Portal		
e: New Elk Mine	Elk Mine Permit Action: Permit Renewal 07			Permit/Job#	: C1981012
PROJECT IDENTIF	<u>ICATION</u>				
Task #: 651	State: Colo	orado		Abbreviation:	None
Date: 11/15/2018		Animas		Filename:	C012-651
User: JHB					
Agency or organ	nization name: DRMS				
HOURLY EQUIPME	ENT COST				
Basic Machine: Cat	: D9T - 9SU				
Horsepower: 405					
	ni-Universal				
Attachment: NA					
	er day	<del></del>			
Data Source: (CR					
Cost Breakdown:	,				
<u>Cost Browned was</u>			Utilization %		
Ownership Cost/Hour:	\$11	0.70	NA		
Operating Cost/Hour:		5.46	100		
Ripper own.	·				
Cost/Hour:	\$	0.00	NA		
Ripper op. Cost/Hour:		0.00	0		
Operator Cost/Hour:		1.52	NA	<del></del>	
Total unit Cost/Hour:	\$247.68				
Total Fleet Cost/Hour:	\$247.68	<del></del>			
MATERIAL QUANT	<u> TITIES</u>				
Initial Volume: 217					
Swell factor: 1.12	5				
Loose volume: <b>244</b>	LCY				
Source of estimated volume	me: 1300 ft. D29 &	D29R			
Source of estimated swell					
factor:	1 Operator Estima	ne			
HOURLY PRODUCT					
Average push distance:	75 feet				
Unadjusted hourly production:	1,514.3 LCY/hr				
Materials consistency des	scription: Compacted fi	ll or embankm	ent 0.9		
Average push gradient:	5 %				
Average site altitude:	7,500 feet				
Material weight:	2,132 lbs/LCY			_	

Job Condition Correction Factor

Source

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit production: 793.49 LCY/hr
Adjusted fleet production: 793.49 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.312/LCY

Total job time: 0.31 Hours
Total job cost: \$76

Task description:		0 . 0 = ====	ceriai on	DWDA #2			
Site: New Elk Mine		Permi	t Action:	Permit Renewa	1 07 Per	mit/Job#: C198	1012
PROJECT IDEN	<u>TIFICATION</u>						
Task #: 661		State: 0	Colorado		Abbrev	viation: None	
Date: 11/20/	2018 Co	unty:	Las Anim	as	Fil	ename: C012-6	661
User: JHB							
Agency or	organization name:	DRM	IS				
HOURLY EQUI	PMENT _			COSTS	hift basis: 1 per d	lay	
				ent Description			
		Scraper:	Cat 627				
Suppo	ort Equipment -Loa	Dozer:	NA	T - 9SU			
Suppo		p Area:	NA				
Road Ma	intenance –Motor	Grader:	CAT 14				
	-Water	Truck:	Water	Γanker, 5,000 Gal			
Cost Breakdown:	Scraper Wo	rlr Toom		Support Equi	nmant	Maintenance	Equipment
Cost Dreakdown.	Scraper Wo	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		100	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	5110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	4	\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	6260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$77	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cos							
Initial volume:	1,613		CCY	Swell fact	tor: 1.125		
Loose volume:	1,815		LCY	5 wen nec	1.123		
Sou	rce of estimated vo	duma:	Man 11	PAP cover requir	ramant		
	of estimated swell t			Estimate	cment.		
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	2,132 lbs/LCY				Volume: 15.70		CY
Material description:	User Provided				Volume: 22.00		CY
Rated Payload:	52,800 pounds			Average	Volume: 18.85		CY CY

Cycle Tin	ne:						
	oading Time:				40 Minutes 60 Minutes		
Job Cond	ition Correcti	on:				Site	Altitude: 7500 feet
		Scr	aper	Push Dozer	Source	ee	
	Altitude Adj:	1.	000	1.000	(CAT H	IB)	
Jo	b Efficiency:	0.	830	0.830	(CAT H	IB)	
Ne	et Correction:	0.	830	0.830			
Travel Ti	me:						
		on: <u>Firm,</u>	smooth, rol	ling, dirt/lt. surfac	ced, watered, main	ntained 3.0	
Haul Rou	ite:						
Seg #	Haul Dista	nce (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpr	m) Travel Time (min)
1	1600.00		3.00	3.00	6.00	1855	0.96
Return Ro	oute:				Haul Time:	0.96	minutes
Seg #	Haul Dista	nce (Ft)	Grade	Roll. Res	Total Res	Velocity (fpr	m) Travel Time
1	1000.00		(%)	(%)	(%)	2020	(min)
1	1000.00		-10.00	3.00	-7.00	2938	0.41
					Return Time:	0.41	minutes
				Total Scraper	team cycle time:	2.37	minutes
				Adjusted fo	Adjusted for job conditions:		LCY/Hour
					nber of Scrapers:	2	Scraper(s)
				per team (unit) ho	• 1	792.18	LCY/Hour
	A	djusted m	ultiple scrap	er team (fleet) ho	ourly production:	792.18	LCY/Hour
	Unadjuste	d unit prod	luction/hour	: 477.22	LCY/Hour		
Optimal	Number of S	crapers per	push dozer	:			
JOB TI	ME AND C	<u>OST</u>					
Fleet	size:	1	Team(s)	To	otal job time:	2.29	Hours
Unit	cost: \$	1.208	_ /LCY	То	otal job cost:	\$2,191	

Task description:	Replace To	psoil to DWI	OA #2			
Site: New Elk Mine	ite: New Elk Mine Permit Action: Permit Renewal 07				mit/Job#: <u>C1981</u>	.012
DDO IECT IDENT						
PROJECT IDENT	<u>ITFICATION</u>					
Task #: _ 662	St	ate: Colora	ado	Abbrev	viation: None	
Date: 11/20/2	2018 Cou	nty: Las A	nimas	File	ename: <u>C012-6</u>	62
User: JHB						
Agency or o	organization name:	DRMS				
<b>HOURLY EQUIP</b>	MENT		COSTS	Shift basis: 1 per d	la <u>y</u>	
			pment Description			
		1	627G			
Suppor	rt Equipment -Load		D9T - 9SU			
	-Dump	Area: NA				
Road Mai	intenance – Motor G		Γ 14M	1		
	-Water	Truck: wa	ter Tanker, 5,000 Ga	1.		
Cost Breakdown:	Scraper Worl	k Team	Support Equ	ipment	Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	10	0 NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.7	0 NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.4	6 NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0 NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$12.3		NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.0		NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.5		NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$260.0		NA	\$114.26	\$64.83
Number of Units:	2	ф <b>777 51</b>	1 0	0	1	¢170.00
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost	/hour: <b>\$956.60</b>					
MATERIAL QUA	NTITIES					
		CCV	G .11 C.	1.000		
Initial volume: Loose volume:	3,900 3,900	CCY LCY		tor: 1.000		
Sour	ce of estimated vol	ume: Divis	sion of Reclamation,	Mining & Safety		
	of estimated swell fa		ator Estimate			
HOURLY PRODU	<u>UCTION</u>					
	_		<u>Scrape</u> r E	Bowl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY		<del></del>	Volume: 15.70	<del></del>	CY
Material description:	User Provided			Volume: 22.00		CY
Rated Payload:	52,800 pounds			Volume: 18.85		CY
Payload Capacity:	25.69 LCY		Adjusted	Capacity: <b>18.85</b>	Lo	CY

Cvc	ا ما	Гin	20
V ( . I			10

<u>Job Condition Correction:</u> Site Altitude: 7500 feet

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

#### Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	3.00	3.00	6.00	1855	0.96

Haul Time: **0.96** minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	-3.00	3.00	0.00	2921	0.64

Return Time: \_\_\_\_\_\_ 0.64 \_\_\_\_ minutes

Total Scraper team cycle time:
Adjusted for job conditions:
Selected Number of Scrapers:
2
2
722.10

Adjusted single scraper team (unit) hourly production: 722.10 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 722.10 LCY/Hour

Unadjusted unit production/hour: 435.00 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 5.40
 Hours

 Unit cost:
 \$1.325
 /LCY
 Total job cost:
 \$5,167

minutes

LCY/Hour

Scraper(s)

Task description:	Replace To	opsoil to Area Ea	st of Pond 5			
Site: New Elk Mine		Permit Action:	Permit Revision	n 07 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDEN	<u> </u>					
Task #: 663	S	State: Colorado		Abbrev	viation: None	
Date: 11/16/2	2018 Cor	unty: Las Anim	as	File	ename: C012-6	63
User: JHB						
Agency or o	organization name:	DRMS				
HOURLY EQUIP	PMENT_		COSTS	hift basis: 1 per d	la <u>y</u>	
			ent Description			
		Scraper: Cat 627	7 <u>G</u> T - 9SU			
Suppo	rt Equipment -Loa		1 - 980			
Бирро		p Area: NA				
Road Ma	intenance –Motor					
	-Water	Truck: Water	Γanker, 5,000 Gal			
Cost Breakdown:	Scraper Wo	rk Team	Support Equi	nment	Maintenance	Fauinment
Cost Dicardown.	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost	/hour: <b>\$956.60</b>					
MATERIAL QUA	ANTITIES					
Initial volume:	425	CCY	Swell fac	tor: 1.000		
Loose volume:	425	LCY				
Sou	rce of estimated vo	olume: Division	of Reclamation,	Mining & Safety		
Source of	of estimated swell f	factor: Operator	Estimate			
HOURLY PROD	UCTION					
HOCKETTROE	<u>CCIIOI</u>		Scraper B	owl (volume) Bas	is:	
Matanial maial-to	2.055 lba/LCV		<del>-</del>			CV
Material weight: Material description:	2,055 lbs/LCY User Provided			Volume: 15.70 Volume: 22.00		CY CY
Rated Payload:	52,800 pounds		Average			CY
Payload Capacity:	25.69 LCY	_	Adjusted (			CY

Cycle Time:

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: **0.56** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	700.00	-5.00	3.00	-2.00	2938	0.30

Return Time: 0.30 minutes Total Scraper team cycle time: 1.86 minutes Adjusted for job conditions: 504.69 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,009.39 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 1,009.39

Unadjusted unit production/hour: 608.06 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	0.42	Hours
Unit cost:	\$0.948	/LCY	Total job cost:	\$403	

Task description:	Replace To	psoil to Pon	d 005			
Site: New Elk Mine		Permit Act	ion: Permit Revision	on 07 Per	mit/Job#: <u>C1981</u>	1012
PROJECT IDEN	<b>FIFICATION</b>					
Task #: 664  Date: 11/16/2  User: JHB		tate: Color inty: Las A	rado Animas		viation: None ename: C012-6	64
Agency or o	organization name:	DRMS				
HOURLY EQUIP	PMENT_		COST	Shift basis: 1 per c	<u>lay</u>	
Suppo		craper: Ca Dozer: Ca	t 627G t D9T - 9SU			
Road Ma	-Dumpintenance –Motor ( -Water		A AT 14M ater Tanker, 5,000 Ga	al.		
Cost Breakdown:	Scraper Wor	k Team Dozer	Support Equ Load Area	Dump Area	Maintenance Motor Grader	Equipment Water Truck
%Utilization-machine:	100		00 NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.		NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.		NA	\$25.43	\$18.30
%Utilization-ripper:	NA	N	IA NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.	00 NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.	00 NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.	52 NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$247.	68 NA	NA	\$114.26	\$64.83
Number of Units:	2		1 0	0	1	1
Group Subtotals:	Work:	\$765.14	Support:	\$0.00	Maint:	\$179.09
Total work team cost  MATERIAL QUA	ANTITIES					
Initial volume: Loose volume:	300 300	CC'		ctor: 1.000		
	rce of estimated vo of estimated swell f		ision of Reclamation rator Estimate	, Mining & Safety		
HOURLY PROD	<u>UCTION</u>		Scraper 3	Bowl (volume) Bas	sis:	
Material weight: Material description: Rated Payload: Payload Capacity:	2,055 lbs/LCY User Provided 52,800 pounds 25.69 LCY		Strucl Heaped	k Volume: 15.70 d Volume: 22.00 e Volume: 18.85 Capacity: 18.85	L	CY CY CY CY

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: **0.56** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	700.00	-5.00	3.00	-2.00	2938	0.30

Return Time: 0.30 minutes Total Scraper team cycle time: 1.86 minutes Adjusted for job conditions: 504.69 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,009.39 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 1,009.39

Unadjusted unit production/hour: 608.06 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	0.30	Hours
Unit cost:	\$0.935	/LCY	Total job cost:	\$281	

Task description:	Replace Top	osoil to Area	<b>Under Conveyor</b>				
Site: New Elk Mine		Permit Acti	on: Permit Revisio	on 07 Per	mit/Job#: <u>C1981</u>	.012	
PROJECT IDENT	CIFICATION						
	_						
Task #: 668		ate: Color			viation: None	<u></u>	
Date: <u>11/16/2</u> User: JHB	2018 Cour	nty: Las A	nimas	F1l	ename: <u>C012-6</u>	68	
	organization name:	DRMS					
		DKWIS					
HOURLY EQUIP	<u>PMENT</u>		COSTS	Shift basis: 1 per d	<u>lay</u>		
	Sa		ipment Description 627G				
		1	D9T - 9SU				
Suppor	rt Equipment -Load						
Dand Ma	-Dump		T 14M				
Road Mai	intenance –Motor G -Water T		ter Tanker, 5,000 Ga	1.			
			, .,				
Cost Breakdown:	Scraper Work		Support Equ		Maintenance		
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100	10	00 NA	NA	50	50	
Ownership cost/hour:	\$102.39	\$110.7	70 NA	NA	\$60.13	\$25.30	
Operating cost/hour:	\$125.30	\$95.4	6 NA	NA	\$25.43	\$18.30	
%Utilization-ripper:	NA		NA NA	NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.3		NA	\$0.00	\$0.00	
Ripper op. cost/hour:	NA	\$1.5		NA	\$0.00	\$0.00	
Operator cost/hour:	\$31.05	\$41.5		NA	\$28.69	\$21.23	
Unit Subtotals:	\$258.73	\$261.6		NA	\$114.26	\$64.83	
Number of Units:	2	Φ770.00	1 0	0	1	1	
Group Subtotals:	Work:	\$779.08	Support:	\$0.00	Maint:	\$179.09	
Total work team cost	/hour: <b>\$958.17</b>						
MATERIAL QUA	MTITIES						
Initial volume: Loose volume:	1,300 1,300	CCY		etor: 1.000			
Sour	ce of estimated volu	ume: Divi	sion of Reclamation,	Mining & Safety			
Source of	of estimated swell fa	ctor: Oper	rator Estimate				
HOURLY PRODU	<u>UCTION</u>						
			Scraper E	Bowl (volume) Bas	is:		
Material weight:	2,055 lbs/LCY		Struck	Volume: 15.70	L	CY	
Material description:	User Provided			Volume: 22.00		CY	
Rated Payload:	52,800 pounds			Volume: 18.85		CY	
Payload Capacity:	25.69 LCY		Adjusted	Adjusted Capacity: 18.85 LCY			

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \\ \end{array}$ 

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	200.00	5.00	3.00	8.00	1381	0.20

Haul Time: **0.20** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	200.00	-5.00	3.00	-2.00	2938	0.10

Return Time: **0.10** minutes Total Scraper team cycle time: 1.30 minutes 722.10 Adjusted for job conditions: LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,444.20 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 1,444.20

Unadjusted unit production/hour: 870.00 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size: _	1	Team(s)	Total job time:	0.90	Hours
Unit cost:	\$0.663	/LCY	Total job cost:	\$862	

Task description:	Replace To	opsoil to	Raw Coa	al Storage Stockj	pile		
Site: New Elk Mine		Permi	t Action:	Permit Revision	n 07 Per	mit/Job#: <u>C1981</u>	1012
PROJECT IDENT	<u> </u>						
Task #: _ 669		State:	Colorado		Abbrev		
Date: 11/16/2	2018 Co	unty:I	Las Anim	as	Fil	ename: <u>C012-6</u>	69
User: JHB							
Agency or o	organization name:	DRM	S				
HOURLY EQUIP	<u>MENT</u>			COSTS	hift basis: 1 per d	l <u>ay</u>	
				ent Description			
		Scraper:	Cat 627				
Suppor	rt Equipment -Loa	Dozer:	NA	T - 9SU			
Suppos		p Area:	NA				
Road Mai	intenance –Motor		CAT 14				
	-Water	Truck:	Water	Γanker, 5,000 Gal	•		
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	nment	Maintenance	Fauinment
Cost Bicanao vin	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		100	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$777	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost  MATERIAL QUA							
Initial volume:	1,060		CCY	Swell fact	tor: 1.000		
Loose volume:	1,060		LCY				
Sour	rce of estimated vo	olume:	Division	of Reclamation,	Mining & Safety		
	of estimated swell			Estimate			
HOURLY PRODU	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY			Struck	Volume: 15.70	L	CY
Material description:	User Provided			-	Volume: 22.00		CY
Rated Payload: Payload Capacity:	52,800 pounds 25,69 LCY			Average Adjusted (			CY CY

Cycle Time:

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2824	0.75

Haul Time: **0.75** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2874	0.67

Return Time: 0.67 minutes Total Scraper team cycle time: 2.42 minutes Adjusted for job conditions: 387.90 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 775.81 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 775.81

Unadjusted unit production/hour: 467.36 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size: _	1	Team(s)	Total job time:	1.37	Hours
Unit cost:	\$1.233	/LCY	Total job cost:	\$1,307	

Task description:	Replace To	opsoil to	Small D	R Area in Large	DNR Area		
Site: New Elk Mine		Permi	t Action:	Permit Revision	n 07 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDEN	<u> FIFICATION</u>						
Task #: 670		State:	Colorado			viation: None	
Date: 11/16/2	2018 Cor	unty:]	Las Anim	nas	Fil	ename: <u>C012-6</u>	570
User: JHB							
Agency or o	organization name:	DRM	IS				
HOURLY EQUIP	PMENT_			COSTS	hift basis: 1 per d	lay	
	_	-		ent Description			
		Scraper: -Dozer:	Cat DO	7G T - 9SU			
Suppo	rt Equipment -Loa		NA	1 - 930			
11	-Dum	p Area:	NA				
Road Ma	intenance –Motor (		CAT 1				
-	-Water	Truck:	Water	Γanker, 5,000 Gal			
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	pment	Maintenance	Equipment
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100		NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$77	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost  MATERIAL QUA							
Initial volume:	70		CCY	Swell fac	tor: 1.000		
Loose volume:	70		LCY	5 wen rae	1.000		
Sou	rce of estimated vo	duma:	Division	of Reclamation,	Mining & Safety		
	of estimated swell f			r Estimate	winning & Sarcty		
HOURLY PROD	<u>UCTION</u>			_			
				Scraper B	owl (volume) Bas	<u> </u>	
Material weight:	2,055 lbs/LCY				Volume: 15.70		CY
Material description:	User Provided		<del></del>		Volume: 22.00		CY
Rated Payload: Payload Capacity:	52,800 pounds 25 69 LCY			Average Adjusted (	Volume: 18.85		.CY .CY

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2824	0.90

Haul Time: **0.90** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2874	0.81

Return Time: 0.81 minutes Total Scraper team cycle time: 2.71 minutes Adjusted for job conditions: 346.39 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 692.79 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 692.79

Unadjusted unit production/hour:	417.34	LCY/Hou
Optimal Number of Scrapers per push dozer:		

Fleet size:	1	Team(s)	Total job time:	0.10	Hours
Unit cost:	\$1.381	/LCY	Total job cost:	<b>\$97</b>	

Task description:	Replace To	psoil to	Clean Co	oal Stockpile			
Site: New Elk Mine		Permi	t Action:	Permit Renewa	1 07 Per	mit/Job#: <u>C1981</u>	012
PROJECT IDEN	<b>FIFICATION</b>						
Task #: 672			Colorado			viation: None	70
Date: $\frac{11/16/2}{\text{User:}}$	2018 Cot	inty:	Las Anim	as	F1l	ename: <u>C012-6</u>	12
Agency or o	organization name:	DRM	IS				
HOURLY EQUIP	PMENT_			COSTS	hift basis: 1 per d	l <u>ay</u>	
			Equipme	ent Description			
		craper:	Cat 627	'G			
Suppo	rt Equipment -Load	Dozer: l Area:	Cat D9'	1 - 9SU			
	-Dump	Area:	NA				<del></del>
Road Ma	intenance –Motor ( -Water		CAT 14 Water 7	<del>1М</del> Гапкег, 5,000 Gal			
	· · · · · · · · · · · · · · · · · · ·	Truck.	vv ater 1	anker, 5,000 Gar	•		
Cost Breakdown:	Scraper Wor			Support Equi		Maintenance	
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100		100	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	5110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$77	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost	t/hour: <b>\$956.60</b>						
MATERIAL QUA	<u>ANTITIES</u>						
Initial volume:	600		CCY	Swell fact	tor: 1.000		
Loose volume:	600		LCY				
Sou	rce of estimated vo	lume:	Division	of Reclamation,	Mining & Safety		
Source of	of estimated swell fa	actor: _	Operator	Estimate			
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY			Struck	Volume: _15.70	Lo	CY
Material description:	User Provided				Volume: 22.00		CY
Rated Payload:	52,800 pounds			Average			CY
Payload Capacity:	25.69 LCY			Adjusted (	Capacity: <b>18.85</b>		CY

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2300.00	0.00	3.00	3.00	2824	1.00

Haul Time: 1.00 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	0.00	3.00	3.00	2874	0.91

Return Time: 0.91 minutes Total Scraper team cycle time: 2.91 minutes Adjusted for job conditions: 322.59 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 645.18 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 645.18

Unadjusted unit production/hour:	388.66	LCY/Hou
Optimal Number of Scrapers per push dozer:		<del>-</del>

Fleet size:	1	Team(s)	Total job time:	0.93	Hours
Unit cost:	\$1.483	/LCY	Total job cost:	\$890	

Task description:	Replace To	opsoil to	East Ext	ension of River I	Pumphouse			
Site: New Elk Mine Perm		Permi	nit Action: Permit Renewal 07		1 07 Per	Permit/Job#: <u>C1981012</u>		
PROJECT IDEN	<u> </u>							
Task #: 673	S	State: (	Colorado		Abbrev	viation: None		
Date: 11/16/2	2018 Co	unty: I	as Anim	as	Fil	ename: C012-6	573	
User: JHB								
Agency or o	organization name:	DRM	S					
HOURLY EQUIP	PMENT			COSTS	hift basis: 1 per d	<u>lay</u>		
				ent Description				
		Scraper:	Cat 627					
Sunno	rt Equipment -Loa	Dozer:	NA	T - 9SU				
Бирро		p Area:	NA					
Road Ma	intenance –Motor		CAT 1					
	-Water	Truck:	Water	Γanker, 5,000 Gal				
Cost Ducalidarum	Canaman Wa	ult Toom		Cummont Equi	mmont.	Maintenance	Equipment	
Cost Breakdown:	Scraper Wo Scraper	Doz	zer	Support Equi Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100		100	NA	NA	50	50	
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	\$25.30	
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30	
%Utilization-ripper:	NA NA		0	NA	NA	NA	NA	
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00	
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00	
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23	
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83	
Number of Units:	2		1	0	0	1	1	
Group Subtotals:	Work:	\$777	'.51	Support:	\$0.00	Maint:	\$179.09	
Total work team cost  MATERIAL QUA								
Initial volume:	180		CCY	Swell fact	tor: 1.000			
Loose volume:	180		LCY	Swell fact	1.000			
		1		. C.D 1	Minima e Gaca			
	rce of estimated vo of estimated swell t	_	Cat Han	of Reclamation, Idbook	willing & Salety			
HOURLY PROD	<u>UCTION</u>							
				Scraper B	owl (volume) Bas	<u>is:</u>		
Material weight:	2,055 lbs/LCY				Volume: <u>15.70</u>		CY	
Material description:	User Provided			-	Volume: 22.00		CY	
Rated Payload: Payload Capacity:	52,800 pounds 25,69 LCY			Average Adjusted (			CY CY	

Cycle Time:

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time
		(%)	(%)	(%)		(min)
1	1100.00	5.00	3.00	8.00	1381	0.85

Haul Time: **0.85** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	-5.00	3.00	-2.00	2938	0.44

Return Time: 0.44 minutes Total Scraper team cycle time: 2.29 minutes Adjusted for job conditions: 409.93 LCY/Hour Selected Number of Scrapers: Scraper(s) 2 Adjusted single scraper team (unit) hourly production: 819.85 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 819.85

Unadjusted unit production/hour: 493.89 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	0.22	Hours
Unit cost:	\$1.167	/LCY	Total job cost:	\$210	

Task description:	Replace To	psoil to	Embedde	ed Waste Area			
Site: New Elk Mine		Permi	t Action:	Permit Renewa	1 07 Per	rmit/Job#: C19	981012
PROJECT IDEN	<u>TIFICATION</u>						
Task #: 674		tate:	Colorado			viation: None	
Date: <u>11/16/2</u> User: JHB	2018 Cou	inty:	Las Anima	as	Fi	lename: C012	2-674
Agency or o	organization name:	DRM	IS				
HOURLY EQUIP	<u>PMENT</u>			COSTS	hift basis: 1 per	day	
			Equipme	ent Description			
		craper:	Cat 627	G			
Suppo	rt Equipment -Load	Dozer: l Area:	Cat D97	r - 98U			· <u>·</u> ·
	-Dump	Area:	NA				
Road Ma	intenance –Motor ( -Water		CAT 14 Water T	M Canker, 5,000 Gal			
					•		
Cost Breakdown:	Scraper Wor	k Team Do	70r	Support Equi Load Area	pment Dump Area	Maintenar Motor Grade	nce Equipment Water Truck
	-	D0			-		
% Utilization-machine:	100		100	NA	NA		50
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.1	
Operating cost/hour:	\$125.30		\$95.46	NA	NA NA	\$25.4	-
%Utilization-ripper:	NA NA		0 \$12.26	NA NA	NA NA	NA SO O	
Ripper own. cost/hour:  Ripper op. cost/hour:	NA NA		\$12.36 \$0.00	NA NA	NA NA	\$0.0 \$0.0	
Operator cost/hour:	\$31.05		\$41.52	NA NA	NA NA	\$28.6	
Unit Subtotals:	\$258.73	¢	260.05	NA NA	NA NA	\$114.2	
Number of Units:	\$238.73	4	1	0	0	-	1 1
Group Subtotals:	Work:	\$77		Support:	\$0.00	Main	
Total work team cost	t/hour: <b>\$956.60</b>			**			
Total Work total Cost	φ <b>νου</b>						
MATERIAL QUA	<u>ANTITIES</u>						
Initial volume:	1,950		CCY	Swell fact	tor: 1.000		
Loose volume:	1,950		LCY				
	rce of estimated vo	_		of Reclamation, l	Mining & Safety		
Source	of estimated swell f	actor: _	Operator	Estimate			
<b>HOURLY PROD</b>	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	sis:	
Material weight:	2,055 lbs/LCY			- <u>-</u>	Volume: 15.70		LCY
Material description:	User Provided				Volume: 22.00		LCY
Rated Payload:	52,800 pounds			Average	Volume: 18.85		LCY
Payload Capacity:	25.69 LCY			Adjusted (	Capacity: <b>18.85</b>	<u> </u>	LCY

Cycle Time:

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	3.00	3.00	2824	0.51

Haul Time: **0.51** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	3.00	3.00	2874	0.43

Return Time: **0.43** minutes Total Scraper team cycle time: 1.94 minutes Adjusted for job conditions: 483.88 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 967.76 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 967.76 LCY/Hour

Unadjusted unit production/hour: 582.99 LCY/Hour Optimal Number of Scrapers per push dozer:

**JOB TIME AND COST** 

 Fleet size:
 1
 Team(s)
 Total job time:
 2.01
 Hours

 Unit cost:
 \$0.988
 /LCY
 Total job cost:
 \$1,928

Task description:	Replace To	psoil to	RDA				
Site: New Elk Mine		Permi	t Action:	Permit Renewa	1 07 Peri	mit/Job#: <u>C1981</u>	012
PROJECT IDEN	<b>FIFICATION</b>						
Task #:676 Date:11/16/2 User: JHB			Colorado Las Anim	as	Abbrev	viation: None ename: $\frac{\text{None}}{\text{C012-6}}$	76
	organization name:	DRM	S				
HOURLY EQUIP	PMENT_			COSTS	hift basis: 1 per d	l <u>ay</u>	
Sunno		craper: Dozer:	Equipme Cat 627 Cat D97				
	-Dumpintenance –Motor ( -Water	Area: Grader:	NA CAT 14	M Canker, 5,000 Gal			
Cost Breakdown:	Scraper Wor	k Team Do	zer	Support Equi Load Area	pment Dump Area	Maintenance Motor Grader	Equipment Water Truck
%Utilization-machine:	100		100	NA NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$777	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost  MATERIAL QUA							
Initial volume: Loose volume:	27,824 <b>27,824</b>		CCY LCY	Swell fact	tor: 1.000		
				1 2 . D	2.05.20		
	rce of estimated voi of estimated swell fa	_		Sheet 3; Permit particular Permit Pe	age 2.05-38		
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY			Struck	Volume: 15.70	Lo	CY
Material description:	User Provided				Volume: 22.00		CY
Rated Payload:	52,800 pounds			Average			CY
Payload Capacity:	25.69 LCY			Adjusted (	Capacity: <b>18.85</b>	Lo	CY

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time
		(%)	(%)	(%)		(min)
1	500.00	-3.00	3.00	0.00	2921	0.30
2	650.00	2.00	3.00	5.00	2218	3.08
3	2200.00	7.00	3.00	10.00	1068	1.81
4	600.00	8.00	3.00	11.00	1018	0.59

Haul Time: 5.78 minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-8.00	3.00	-5.00	2938	0.27
2	2200.00	-7.00	3.00	-4.00	2938	0.80
3	650.00	-2.00	3.00	1.00	2913	0.22
4	500.00	3.00	3.00	6.00	2736	0.19

Return Time: 1.48 minutes Total Scraper team cycle time: 8.26 minutes Adjusted for job conditions: 113.65 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 227.30 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 227.30

Unadjusted unit production/hour:	136.92	LCY/Hour
Optimal Number of Scrapers per push dozer:		

Fleet size:	1	Team(s)	Total job time:	122.41	Hours
Unit cost:	\$4.209	/LCY	Total job cost:	\$117,101	

Task description:	Replace Top	osoil to Four I	Bench Slopes			
Site: New Elk Mine Perm			n: Permit Renewa	nl 07 Peri	mit/Job#: <u>C1981</u>	012
PROJECT IDENT	TIFICATION .					
TROJECT IDENT	THICATION					
Task #: 677		ate: Colorac		Abbrey		
Date: <u>11/16/2</u> User: JHB	2018 Cour	nty: Las An	mas	File	ename: <u>C012-6</u>	77
	organization name:	DRMS				
		DRIVIS				
<b>HOURLY EQUIP</b>	PMENT_		COSTS	Shift basis: 1 per d	<u>lay</u>	
	Cor		ment Description			
		1	97 - 9SU			
Suppor	rt Equipment -Load					
Poad Mai	-Dump intenance –Motor Gr		14M			
Road Wal	-Water T		r Tanker, 5,000 Ga	l.		
		,				
Cost Breakdown:	Scraper Work		Support Equi		Maintenance	Equipment Water Truck
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	water Truck
% Utilization-machine:	100	100		NA	50	50
Ownership cost/hour:	\$102.39	\$110.70	_	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.46		NA	\$25.43	\$18.30
%Utilization-ripper:	NA	100		NA	NA	NA
Ripper own. cost/hour:	NA NA	\$12.36		NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$7.88	_	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.52	_	NA NA	\$28.69	\$21.23
Unit Subtotals:  Number of Units:	\$258.73	\$267.92	+	NA 0	\$114.26	\$64.83
Group Subtotals:	Work:	\$785.38	Support:	\$0.00	Maint:	\$179.09
•		\$705.50	Support.	\$0.00	Maint.	\$179.09
Total work team cost	/hour: <b>\$964.47</b>					
MATERIAL QUA	ANTITIES					
Initial volume:	3,580	CCY	Swell fac	tor:1.000		
Loose volume:	3,580	LCY				
	rce of estimated volu of estimated swell fac		nap 11 sheet 3; 5.5 andbook	acres		
Source			·			<del></del>
HOURLY PRODU	<u>UCTION</u>					
			Scraper B	Bowl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY		_	Volume: 15.70		CY
Material description:	User Provided			Volume: 22.00		CY
Rated Payload:	52,800 pounds 25.69 LCY			Volume: 18.85		CY
Payload Capacity:	23.09 LC Y		Adjusted	Capacity: <b>18.85</b>		CY

### Cycle Time:

 $\begin{array}{ll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

#### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time
		(%)	(%)	(%)		(min)
1	500.00	-3.00	3.00	0.00	2921	0.30
2	650.00	2.00	3.00	5.00	2218	3.08
3	2200.00	7.00	3.00	10.00	1068	1.81
4	450.00	-15.00	3.00	-12.00	1749	0.36

Haul Time: 5.55 minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	450.00	15.00	3.00	18.00	990	0.47
2	2200.00	-7.00	3.00	-4.00	2938	0.80
3	650.00	-2.00	3.00	1.00	2913	0.22
4	500.00	3.00	3.00	6.00	2736	0.19

Return Time: 1.68 minutes Total Scraper team cycle time: 8.23 minutes Adjusted for job conditions: 114.06 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 228.12 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 228.12

Unadjusted unit production/hour:	137.42	LCY/Hour
Optimal Number of Scrapers per push dozer:		_

Fleet size:	1	Team(s)	Total job time:	15.69	Hour
Unit cost:	\$4.228	/LCY	Total job cost:	\$15,136	

Task description:	Replace To	psoil to RD	A Pond			
Site: New Elk Mine Perm			tion: Permit Renew	al 07 Per	mit/Job#: <u>C1981</u>	.012
DDA IECT IDENT	PIEICA TION					
PROJECT IDENT	ITTICATION					
Task #: 678		tate: Colo		Abbrev	viation: None	
Date: 11/16/2	2018 Cou	nty: Las A	Animas	Fil	ename: <u>C012-6</u>	78
User: JHB						
Agency or o	organization name:	DRMS				
<b>HOURLY EQUIP</b>	MENT		COST	Shift basis: 1 per d	<u>lay</u>	
	· ·		nipment Description t 627G			
		1	t D9T - 9SU			
Suppor	rt Equipment -Load					
Dand Ma	-Dump		A AT 14M			
Road Mai	intenance –Motor C -Water		ater Tanker, 5,000 Ga	n1.		
<b>Cost Breakdown:</b>	Scraper Wor		Support Equ	+	Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	00 NA	NA	50	50
Ownership cost/hour:	\$102.39	\$110.	70 NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30	\$95.	46 NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		NA NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.		NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.		NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.		NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$247.		NA	\$114.26	\$64.83
Number of Units:	2	Φ7.65.1.4	1 0	0	1	1
Group Subtotals:	Work:	\$765.14	Support:	\$0.00	Maint:	\$179.09
Total work team cost	/hour: <u>\$944.23</u>					
	NOTE					
MATERIAL QUA						
Initial volume: Loose volume:	1,975 <b>1,975</b>	CC'		ctor: 1.000		
Sour	rce of estimated vol	ume: Div	ision of Reclamation,	Mining & Safety		
Source of	of estimated swell fa	actor: Cat	Handbook			
HOURLY PRODU	<u>UCTION</u>					
			Scraper 1	Bowl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY		Struct	Volume: 15.70	L	CY
Material description:	User Provided			d Volume: 22.00		CY
Rated Payload:	52,800 pounds		Average	e Volume: 18.85		CY
Payload Capacity:	25.69 LCY		Adjusted	Capacity: <b>18.85</b>	L	CY

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	10.00	3.00	13.00	834	3.01

Haul Time: 3.01 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90

Return Time: 0.90 minutes Total Scraper team cycle time: 4.91 minutes Adjusted for job conditions: 191.19 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 382.37 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 382.37

Unadjusted unit production/hour:	230.35	LCY/Hou
Optimal Number of Scrapers per push dozer:		<del>-</del>

Fleet size:	1	Team(s)	Total job time:	5.17	Hours
Unit cost:	\$2.469	/LCY	Total job cost:	\$4,877	

# TRUCK/LOADER TEAM WORK

Ta	ask description:	Replace	Topsoil to T	ransfor	mer and Roc	k Dust C	ut Slope	e		
Site: _	Site: New Elk Mine		Permit	Action:	Permit Rene	ewal 07	Permit/Job#: <u>C1981012</u>		12	
<u>P</u>	ROJECT IDEN	NTIFICATION								
	Task #: 680 State: Date: 11/19/2018 County:				Colorado			breviation:	None	
					as			Filename:	C012-680	)
	User: JHB									
	Agency or	organization nan	ne: DRMS							
<u>H</u>	OURLY EQUI	PMENT COST	<u>r</u>				Shift bas	sis: <u>1 per day</u>		
	7		T 1		ipment Descri	•				
	Ţ	Truck Loader Tea	m -1 ruck: -Loader:	CAT 95	10-12 cy, 6x <sup>2</sup>	<del>!</del>				<u></u>
	Supp	ort Equipment -L		Cat D97						
			ımp Area:	Cat D97						
	Road M	aintenance –Moto	or Grader: ter Truck:	CAT 14	M anker, 5,000 (	Gal				
		- <b>vv</b> a	ter fruck.	water 1	alikel, 5,000 v	Gai.				
<u>C</u>	ost Breakdown:	Truck/Loa	ader Team		Support l	Equipmer	nt	Main	tenance Eq	
		Truck	Loader	Lo	oad Area	Dump .	Area	Motor Gra	der Wa	ter Truck
%Utiliz	zation-machine:	100		65	100		100		50	50
Owne	rship cost/hour:	\$18.75	\$26	.14	\$110.70	\$	110.70	\$60	0.13	\$25.30
Oper	ating cost/hour:	\$42.43	\$20	.05	\$95.46		\$95.46	\$25	.43	\$18.30
%L	Itilization-riper:	NA		0	NA		NA	]	NA	NA
	own. cost/hour:	NA		.00	\$0.00		\$0.00	\$0	.00	\$0.00
Rippe	er op. cost/hour:	NA	\$0	.00	\$0.00		\$0.00	\$0	.00	\$0.00
Ope	erator cost/hour:	\$0.00	\$40		\$41.52		\$41.52	\$28		\$21.23
	Unit Subtotals:	\$61.17	\$87	.09	\$247.68	\$	247.68	\$114	.26	\$64.83
	umber of Units:	3		1	1		1		1	1
C	Group Subtotals:	Work:	\$270.60		Support:	\$495.30	5	Ma	int: \$17	9.09
To	otal work team co	st/hour: <b>\$945.05</b>	<u> </u>							
$\underline{\mathbf{N}}$	IATERIAL QU	JANTITIES								
	Initial volume	: 400	(	CCY	Swell	factor:	1.000			
	Loose volume	-	I	LCY		_				
	So	urce of estimated	volume: I	Division	of Reclamation	on. Minin	g & Safe	etv		
		of estimated swe			Estimate	,	5 00 2410			
		Material Purcha		00.00						
		Тс	otal Cost:	80.00						
<u>H</u>	OURLY PRO	DUCTION								
T	ruck Capacity:									
	ruck Payload (wei									
	Material v				Pounds/LCY					
	Descr Rated Pa	ription: User Prayload: 35,400			Pounds					
	Naitu Fa	iyidad. 33,400			i ounus					

	10.00	LCY				
Heaped Volume:	12.00	LCY				
Average Volume:	11.00	LCY				
Adjusted Volume:	12.00	LCY				
	Truck Volume	e Based on Number	of Loader Passes:	9.46	LCY	
Loading Tool Capacity			<b>.</b>			
Data 1 Committee	4.200	LOW (boson 1)		ket Size Class: N	A	
Rated Capacity:	4.300	LCY (heaped)		1200/ \ 1 100		_
Bucket Fill Factor:	1.100	Other - rock/di	irt mixtures (100	0-120%) 1.100		_
Adjusted Capacity: _	4.730	LCY				
Job Condition Corrections:	<u>:</u>	5	Site Altitude (ft.): <u>′</u>	7500 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	3)		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.830	0.830				
Excavators and Front Shove  Machine Cycle Time vs.  Selected Value vs.	<u>ls:</u> s. Job Conditio		Tool Passes Requi	ired to Fill  Truck:	2	passes
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs.  Track Loaders –  Cycle Time Elements (min.):	ls: s. Job Conditio within this Basi Material Descr	on Rating: NA ic Rating: NA ription:	Tool Passes Requi	Truck:	2	passes
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs  Track Loaders –	ls: s. Job Conditio within this Basi Material Descr	on Rating: NA NA NA	Tool Passes Requi		2	passes
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs.  Track Loaders –  Cycle Time Elements (min.):	ls: s. Job Conditio within this Basi Material Descr  .	on Rating: NA ic Rating: NA ription: NA		Dump: 0.100		nutes
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA	ls: s. Job Conditio within this Basi Material Descr  .	on Rating: NA ic Rating: NA ription: NA		Dump: 0.100	2	
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –	ls: s. Job Conditio within this Basi Material Descr	on Rating: NA ic Rating: NA ription: NA	ime (load, dump, r	Dump: 0.100		
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors	s. Job Conditio within this Basi Material Descr	on Rating: NA ic Rating: NA ription: NA  Maneuver: NA asic Loader Cycle T	ime (load, dump, 1	Truck:  Dump:0.100  maneuver):0.  Factor (min.)	500 mir	
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:	s. Job Condition within this Basis Material Describes Material Describes Material 3/4° Conveyor or	on Rating: NA ic Rating: NA ription: NA  Maneuver: NA asic Loader Cycle T	ime (load, dump, r	Dump: 0.100 maneuver): 0.5000	500 mir Source (Cat HB)	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material: Stockpile:	s. Job Condition within this Basis Material Describes Material Describes Material 3/4° Conveyor or	on Rating: NA ic Rating: NA ription: NA asic Loader Cycle T to 6" diameter 0.00 dozer piled 10 ft. hi rership of trucks an	ime (load, dump, r	Dump: 0.100 maneuver): 0. Factor (min.) 0.000 0.010	500 mir Source (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material: Stockpile: Truck Ownership:	s. Job Condition within this Basis Material Described Material Described Material 3/4' Conveyor or Common ow	on Rating: NA ic Rating: NA ription: NA asic Loader Cycle T " to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04	ime (load, dump, r	Dump: 0.100 maneuver): 0. Factor (min.) 0.000 0.010 -0.040	500 mir Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:	s. Job Condition within this Basis Material Described Material Described Material 3/4° Conveyor or Common ow Constant open	on Rating: NA ic Ration: Nation ic Ration ic Ratio	ime (load, dump, r ) gh or less 0.01 d loaders -0.04	Dump: 0.100 maneuver): 0. Factor (min.) 0.000 0.010 -0.040 -0.040	500 mir Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:	s. Job Condition within this Basis Material Described Material Described Material 3/4° Conveyor or Common ow Constant open	on Rating: NA ic Ration: Nation ic Ration ic Ratio	ime (load, dump, r ) gh or less 0.01 d loaders -0.04	Dump: 0.100 maneuver): 0. Factor (min.) 0.000 0.010 -0.040 -0.040 0.000	500 mir Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:	s. Job Condition within this Basis Material Described Material Described Material 3/4° Conveyor or Common ow Constant open	on Rating: NA ic Rating: NA ription: NA  Maneuver: NA asic Loader Cycle T  to 6" diameter 0.00 dozer piled 10 ft. hi mership of trucks an eration -0.04 get 0.00  Net Cycle Ti Adjusted Loa	ime (load, dump, r ) gh or less 0.01 d loaders -0.04	Dump: 0.100 maneuver): 0. Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	500 mir Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	
Excavators and Front Shove  Machine Cycle Time vs. Selected Value vs. Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:	s. Job Condition within this Basis Material Described Material Described Material 3/4° Conveyor or Common ow Constant open	on Rating: NA ic Rating: NA ription: NA  Maneuver: NA asic Loader Cycle T  to 6" diameter 0.00 dozer piled 10 ft. hi mership of trucks an eration -0.04 get 0.00  Net Cycle Ti Adjusted Loa	ime (load, dump, r ) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time:	Truck:	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders –  Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	s. Job Condition within this Basis Material Described Material Described Material 3/4*  Conveyor or Common ow Constant open Nominal targetal material targetal material targetal material targetal material targetal material materi	on Rating: NA ic Rating: NA ription: NA  Maneuver: NA asic Loader Cycle T  to 6" diameter 0.00 dozer piled 10 ft. hi mership of trucks an eration -0.04 get 0.00  Net Cycle Ti Adjusted Loa	ime (load, dump, r ) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck:	Truck:	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	nutes
Excavators and Front Shove  Machine Cycle Time vs Selected Value vs Track Loaders –  Cycle Time Elements (min.):  Load: NA  Wheel and Track Loaders -  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:  Dump Target:	s. Job Condition within this Basis Material Described Material Described Material 3/4* Conveyor or Common ow Constant open Nominal targetter 1.50	on Rating: NA ic Rating: NA ription:  Maneuver: NA asic Loader Cycle T  to 6" diameter 0.00 dozer piled 10 ft. hi mership of trucks an eration -0.04 get 0.00  Net Cycle Ti Adjusted Loa Net Load	ime (load, dump, r gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck:	Truck:	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

maintained 3.0

Н	โลบใ	l R	Δī	ıte'
	au	ı 1\	w	115.

110011100						
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	4.00	3.00	7.00	1568	1.946

				Haul Time:	1.946	minutes
Return Ro	oute:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	-4.00	3.00	-1.00	2938	1.064

Return Time: 1.064 minutes
Total Truck Cycle Time: 4.940 minutes

Loading Tool unit

Production Truck Unit Production

Truck Unit Production

114.90 LCY/Hour Adjusted for job efficiency: 457.39 LCY/Hour Adjusted for job efficiency: 95.37 LCY/Hour Optimal No. of Trucks: 5 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 286.10 LCY/Hour Adjusted single truck/loader team production: 286.10 LCY/Hour Adjusted multiple truck/loader team production: 286.10 LCY/Hour

Fleet size:	1	Team(s)	Total job time:	1.40	Hours
Unit cost:	\$3.303	/LCY	Total job cost:	\$1,321	

Task description:	Replace To	opsoil to	Bates Po	ortal Face-Up			
Site: New Elk Mine		Permi	t Action:	Permit Renewa	nit Renewal 07 Permit/Job#: C198101		1012
PROJECT IDEN	<u> FIFICATION</u>						
Task #:681			Colorado			viation: None	
Date: 11/16/2	2018 Co	unty:l	Las Anim	ias	Fil	ename: <u>C012-6</u>	581
User: JHB							
Agency or o	organization name:	DRM	IS				
<b>HOURLY EQUIP</b>	PMENT_			COSTS	hift basis: 1 per c	la <u>y</u>	
				ent Description			
		Scraper:	Cat 627				
Suppo	rt Equipment -Loa	Dozer:	NA	T - 9SU			
<b>Б</b> арро		p Area:	NA				
Road Ma	intenance –Motor		CAT 1				
	-Water	Truck:	Water	Γanker, 5,000 Gal	•		
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	nment	Maintenance	Fauinment
Cost Breakdown.	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		100	NA	NA	50	50
Ownership cost/hour:	\$102.39	\$	5110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$21.23
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$64.83
Number of Units:	2		1	0	0	1	1
Group Subtotals:	Work:	\$77	7.51	Support:	\$0.00	Maint:	\$179.09
Total work team cost  MATERIAL QUA							
Initial volume:	1,150		CCY	Swell fact	tor: 1.000		
Loose volume:	1,150		LCY				
Sou	rce of estimated vo	olume:	Division	of Reclamation,	Mining & Safety		
	of estimated swell i	_		r Estimate			
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY			Struck	Volume: 15.70	L	.CY
Material description:	User Provided			-	Volume: 22.00		CY
Rated Payload: Payload Capacity:	52,800 pounds			Average Adjusted (			.CY .CY
EAVIDAGE CADACITY	7. J U7 I A . I			AUHISIPAT	AUGULLY IN AS		A . I

Site Altitude: 7500 feet

Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.40} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

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

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2500.00	10.00	3.00	13.00	834	3.01

Haul Time: 3.01 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90

Return Time: 0.90 minutes Total Scraper team cycle time: 4.91 minutes Adjusted for job conditions: 191.19 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 382.37 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: LCY/Hour 382.37

Unadjusted unit production/hour:	230.35	LCY/Hou
Optimal Number of Scrapers per push dozer:		

#### **JOB TIME AND COST**

Fleet size:	1	Team(s)	Total job time:	3.01	Hours
Unit cost:	\$2.502	/LCY	Total job cost:	\$2,877	

Task description:

Reseed Facilities Area with Rangeland Mix

Parmit Actions Remaid Parmit Pa

Site: New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012

### **PROJECT IDENTIFICATION**

Task #:685State:ColoradoAbbreviation:NoneDate:11/19/2018County:Las AnimasFilename:C012-685

User: JHB

Agency or organization name: DRMS

#### **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials	
			Cost/Acre	\$10.20

**Application** 

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

### **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$5.90
Blue Grama - Hachita	0.67	10.94	\$11.16
Little Bluestem - Cimarron	1.20	7.16	\$17.62
Sideoats Grama - Butte	2.50	8.21	\$24.75
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35
Sainfoin - Remont	1.67	0.73	\$5.41
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94
Western Wheatgrass - Arriba	2.00	5.05	\$16.56
Rabbitbrush, Rubber	0.15	2.23	\$9.88
Rose, Wood's	0.25	0.00	\$5.25
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.18

Flax, Lewis Blue	0.11	0.73	\$1.86
Spike Muhly	0.33	12.12	\$3.25
Penstemon, Rocky Mountain	0.11	1.72	\$3.32
Totals Seed Mix	11.93	57.76	\$126.18

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

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

### **JOB TIME AND COST**

No. of Acres:	97.26	Cost /Acre:	\$1,140.66
Estimated Failure Rate:	33%	Cost /Acre*:	\$358.18
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: \$110,940.59

Reseeding Job Cost: \$11,496.07

Total Job Cost: \$122,437

178.00

New Elk	Mine	Pern	nit Action: Pern	nit Renewal 07		Permit/Job#	: <u>C1981012</u>
PROJEC'	Γ IDENTIFICA	<u> FION</u>					
Task #:	686	State:	Colorado		A	Abbreviation:	None
Date:	11/19/2018	County:			Filename:	C012-686	
User:	JHB	_					
Aş	gency or organizati	on name: DR	MS				
ERTILI	<b>ZING</b>						
<b>Aaterials</b>			<b>T</b> T */ /				
Descripti	on		Units / Acre	Unit	Cost	t / Unit	Cost /Acre
Descripti	<u> </u>		Acre	Cint			
					\$		\$
					Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application	n						
Descripti	on						Cost /Acre
							\$
			Total	Fertilizer App	licatio	n Cost/Acre	\$0.00
TILLING	<u>.</u>						
Descripti	on						Cost /Acre
							\$
				Total	Tillin	g Cost/Acre	\$0.00
SEEDING	<u> </u>						
Seed Mix	<u> </u>			PL LB	S/	Seeds per SQ. FT	Cost /Acre
				<b>▲</b>			
Ruffoloor	ass - Bison			1.0		0.96	\$11.79

Little Bluestem - Cimarron Sideoats Grama - Butte

Milk Vetch, Cicer - Monarch

Sainfoin - Remont

Rabbitbrush, Rubber

Streambank Wheatgrass - Sodar

Thickspike Wheatgrass - Critana

Western Wheatgrass - Arriba

\$35.23

\$49.50

\$5.54

\$18.69

\$10.82

\$5.87

\$33.12

\$19.75

2.40

5.00

0.66

3.00

3.34

1.00

4.00

0.30

14.33

16.41

2.20

9.78

1.46

3.54

4.47

10.10

Totals Seed Mix	23.86	115.51	\$252.37
Penstemon, Rocky Mountain	0.22	3.45	\$6.65
Spike Muhly	0.66	24.24	\$6.51
Flax, Lewis Blue	0.22	1.46	\$3.72
Daisy or Sunflower, Maximillians	0.22	1.25	\$12.36
Rose, Wood's	0.50	0.00	\$10.50

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

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

## **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres:	10.57	Cost /Acre:	\$1,257.15
Estimated Failure Rate:	33%	Cost /Acre*:	\$519.59
*Calcated Danlanting Work Itams	CEEDING		

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$13,288.08

Reseeding Job Cost: \$1,812.38

Total Job Cost: Job Hours: \$21.14

Cost /Acre

\$

\$0.00

# **REVEGETATION WORK**

New Elk Mine		Peri	mit Action: Pern	nit Renewal 07	Permit/Job#	: C1981012
PROJECT IDI	ENTIFICATION	<u>ON</u>				
Task #: 687		State:	Colorado		Abbreviation:	None
Date: 11/	19/2018	County:	Las Animas		Filename:	CO012-687
User: JHI	3	-				
FERTILIZING	or organization	name: DR	RMS			
	•	name: <u>DR</u>	Units /	Unit	Cost / Unit	Cost /Acre
FERTILIZINO Materials	•	name: <u>DR</u>	Units /	Unit	Cost / Unit	Cost/Acre
FERTILIZINO Materials	•	name: <u>DR</u>	Units /	Unit		

# **TILLING**

Description

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

**Total Fertilizer Application Cost/Acre** 

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$5.90
Blue Grama - Hachita	0.67	10.94	\$11.16
Little Bluestem - Cimarron	1.20	7.16	\$17.62
Sideoats Grama - Butte	2.50	8.21	\$24.75
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35
Sainfoin - Remont	1.67	0.73	\$5.41
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94
Western Wheatgrass - Arriba	2.00	5.05	\$16.56
Rabbitbrush, Rubber	0.15	2.23	\$9.88

Rose, Wood's	0.20	0.00	\$4.20
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.18
Flax, Lewis Blue	0.11	0.73	\$1.86
Spike Muhly	0.33	12.12	\$3.25
Penstemon, Rocky Mountain	0.11	1.72	\$3.32
Totals Seed I	<b>Mix</b> 11.88	57.76	<b>\$125.13</b>

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

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

## **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:	31.75	Cost /Acre:	\$1,094.69
Estimated Failure Rate:	33%	Cost /Acre*:	\$357.13
*Coloated Donlanting Work Itams	CEEDING		·

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$34,756.41

Reseeding Job Cost: \$3,741.83

Total Job Cost: Job Hours: \$5.25

7	Task description:	Reseed DWP with Rangeland Mix				
Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012	

### **PROJECT IDENTIFICATION**

Task #:688State:ColoradoAbbreviation:NoneDate:11/20/2018County:Las AnimasFilename:C012-688

User: JHB

Agency or organization name: DRMS

### **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials	
			Cost/Acre	\$10.20

**Application** 

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

### **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$5.90
Blue Grama - Hachita	0.67	10.94	\$11.16
Little Bluestem - Cimarron	1.20	7.16	\$17.62
Sideoats Grama - Butte	2.50	8.21	\$24.75
Smooth Brome - Manchar	1.00	3.33	\$4.36
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35
Sainfoin - Remont	1.67	0.73	\$5.41
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94
Western Wheatgrass - Arriba	2.00	5.05	\$16.56
Rabbitbrush, Rubber	0.15	2.23	\$9.88
Rose, Wood's	0.25	0.00	\$5.25

Daisy or Sunflower, Maximillians	0.11	0.62	\$6.18
Flax, Lewis Blue	0.11	0.73	\$1.86
Spike Muhly	0.33	12.12	\$3.25
Penstemon, Rocky Mountain	0.11	1.72	\$3.32
Totals Seed Mix	12.93	61.08	\$130.54

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

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

### **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres:	5.62	Cost /Acre:	\$1,145.02
Estimated Failure Rate:	33%	Cost /Acre*:	\$362.54
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: \$6,435.01

Reseeding Job Cost:
Total Job Cost:
Job Hours:

\$672.37
\$7,107
\$11.24

New Elk Mine	Permit .	Action: Perr	nit Renewa	1 07	Permit/Job#	: <u>C1981012</u>
PROJECT IDENTIFICA	<u>TION</u>					
Task #: 689		olorado			Abbreviation:	None
Date: 11/20/2018	County: La	as Animas			Filename:	C012-689
User: JHB	_					
Agency or organizati	on name: DRMS	<u> </u>				
FERTILIZING						
Materials						
Description		Units / Acre	Unit	Cos	st / Unit	Cost /Acre
				\$		\$
				Tot	tal Fertilizer	
					Materials	\$0.00
					Cost/Acre	\$0.00
Application						
Description						Cost /Acre
						\$
		<b>T</b>	LE 491	A 1: 4:	G 44	
		10ta	Fertilizer	Application	on Cost/Acre	\$0.00
<u> </u>						
Description						Cost /Acre
						\$
						Ψ
			7	Fotal Tillir	ng Cost/Acre	\$0.00
<u>SEEDING</u>						
SEEDING Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
<u> </u>				PLS	Seeds per SQ. FT	
<u> </u>		Totals :	Seed Mix	PLS LBS /	Seeds per SQ. FT	\$
Seed Mix		Totals	Seed Mix	PLS LBS / Acre	per SQ. FT	
SEEDING Seed Mix Application Description		Totals	Seed Mix	PLS LBS / Acre	per SQ. FT	\$

	Total Seed Application Cost/Acre	\$0.00	l
--	----------------------------------	--------	---

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

Description		Cost /Acre
		\$
Total	Mulch Application Cost/Acre	\$0.00

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Juniper, Utah	74	Tubling, 10 cu. in. container {(MEANS)	\$2.38	\$2.40	\$176.12
Pine, Pinyon	74	Tubling, 10 cu. in. container {(MEANS)	\$2.38	\$2.40	\$176.12
Pine, Ponderosa	74	Tubling, 10 cu. in. container {(MEANS)	\$1.98	\$2.40	\$146.52
Mahogany, Mountain	74	Tubling, 10 cu. in. container {(MEANS)	\$2.00	\$2.40	\$148.00
Snowberry, Western	74	Tubling, 10 cu. in. container {(MEANS)	\$2.00	\$2.40	\$148.00
Sumac, Skunkbrush	74			\$325.60	

## **JOB TIME AND COST**

No. of Acres:	1.4	Cost /Acre:	\$1,120.36
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,120.36
*Coloated Danlanting Work Itams	MIIDCEDV		

\*Selected Replanting Work Items: NURSERY

Initial Job Cost:
Reseeding Job Cost:
Total Job Cost:
Job Hours:

\$1,568.50

\$784.25

\$2,353

5.60

: New Elk Mine	Permit	Action: Permi	t Renewal 07	Per	rmit/Job#	: <u>C198101</u>
PROJECT IDENTIFICATION	<u> </u>					
Task #:690		Colorado			viation:	None
Date: 11/20/2018 User: JHB	County: _I	Las Animas		_ Fi	lename:	C012-690
Agency or organization na	me: DRM	S				
		·				
FERTILIZING Materials						
Description		Units / Acre	Unit	Cost / Ur	nit	Cost /Acr
2 compros		Acit		\$		\$
				Total Fe	4:1!	Φ
					runzer iterials	
				Cos	st/Acre	\$0.00
ion						
ption					Cost /A	Acre
					\$	
		Total Fertilizer	Application	Cost/Acre	\$0.00	
					7 0000	
<u>G</u>						
ption					Cost /A	Acre
					\$	
				~		
			Total Tilling	g Cost/Acre	\$0.00	
NG						
Mix			Rate –	Seeds	Cost /A	Acre
VIIX			PLS LBS /	per SQ. FT	Cost /1	lere
			Acre	F I		
					\$	
	Т	otals Seed Mix	0.00	0.00	\$0.00	
			<u> </u>	1	ψυ•υυ	
ion						
cion ption					Cost /A	Acre

Total Seed Application Cost/Acre   \$0.00			٦.
	Total Seed Application Cost/Acre	\$0.00	

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	1.00		\$0.00	\$0.00
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.26	\$4.26
Total Mulch Materials Cost/Acre				\$4.26

**Application** 

Description		Cost /Acre
Weed spray, hand, non-aquatic area, nox. [DMG]		\$184.32
	<b>Total Mulch Application Cost/Acre</b>	\$184.32

### **NURSERY STOCK PLANTING**

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

#### **JOB TIME AND COST**

No. of Acres:	102.71	Cost /Acre:	\$188.58
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: \$19,369.05

Reseeding Job Cost: \$0.00

Total Job Cost: Job Hours: 102.71

Demo Worksheet Cont'd Task # TTT Page 84 of 162

# **DEMOLITION WORK**

	Task description:	Demolish a	nd Remove All	Structures		
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/J	Job#: C1981012
<u>PROJE</u>	CT IDENTIFICATION	<u>1</u>				
Task #	: 695	State:	Colorado		Abbreviation:	None
Date	: 11/26/2018	County:	Las Animas		Filename:	C012-695
User	: JHB					
	Agency or organizat	ion name:	DRMS			

<u>UNIT COSTS</u> <u>Location adjustment: 94.00 %</u>

Structure or						
Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Pump House at North River Stockpile	25'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	5,000.00	CF	\$0.19	\$940.00
-Pad	25'X20'X6'	Demo. and onsite disposal in existing pit, 6 in. thick - Max.	250.00	SF	\$0.83	\$207.25
-Footers	1'X2'X88	Demo. and onsite disposal in existing pit, 1.0 ft. x 2 ft Max. 10,000 ft. haul	88.00	LF	\$3.49	\$307.12
East Portal Fan	30'X14'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,200.00	CF	\$0.19	\$789.60
-Pad	20'X10'X12"	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	200.00	SF	\$1.66	\$331.80
-Steel Duct Work	18'X18'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,240.00	CF	\$0.19	\$609.12
-Fan and Related Structures	10,000lbs	USER PROVIDED ITEM	10,000.00	LBS	\$0.25	\$2,500.00
Oil House	33'X32'X16'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft.	16,896.00	CF	\$0.19	\$3,176.45

-Pad	33'X32'X4"	haul Demo. and on-	1,056.00	SF	\$0.55	\$583.97
-rau	33 X32 X4	site disposal in existing pit, 4 in. thick - Max.	1,030.00	SF	\$0.55	\$383.97
Hoist House	54'X42'X24'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	54,432.00	CF	\$0.19	\$10,233.22
-Pad	51'X42'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	159.00	CY	\$122.50	\$19,477.50
-Hoist Unit and Controls	18,000lbs	USER PROVIDED ITEM	18,000.00	LBS	\$0.25	\$4,500.00
Hoist House 2	20'X40'X20'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	16,000.00	CF	\$0.19	\$3,008.00
-Sheave	30 Tons	USER PROVIDED ITEM	30.00	TON	\$24.34	\$730.20
-Pad	50'X30'X5.4"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	300.00	CY	\$122.50	\$36,750.00
Industrial Building - Segment 1	246'X50'X23'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	282,900.00	CF	\$0.19	\$53,185.20
Industrial Building - Segment 2	246'X49'X38'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	458,052.00	CF	\$0.19	\$86,113.78
Industrial Building - Segment 3	246'X40.5'X21'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	209,223.00	CF	\$0.19	\$39,333.92
-Pad	246'X139.5'X6"	Demo. and onsite disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	34,317.00	SF	\$0.83	\$28,448.79
Transfer Building	42'X22'X31.5'	Bldg. (SN) demo./on-site	29,106.00	CF	\$0.19	\$5,471.93

	T	T	1	T	ľ	T
		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
Breaker	65'X45'X65'	Bldg. (SN)	190,125.00	CF	\$0.19	\$35,743.50
Building		demo./on-site				
		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Pad	65'X45'X24"	Pavement,	217.00	CY	\$122.50	\$26,582.50
		concrete,				
		demolition only,				
		7 in. to 24 in.				
		thick - Reinforced				
Slope	50' x 37.5' x 15'h	Bldg. (MN)	28,125.00	CF	\$0.21	\$5,850.00
Conveyor		demo./on-site				
Drive House		disposal in				
Building		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Drive and	3,706 CF	Bldg. (SN)	3,706.00	CF	\$0.19	\$696.73
Internal		demo./on-site				
Equipment		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Foundation	45'X37'X5'	Pavement,	308.00	CY	\$122.50	\$37,730.00
		concrete,				
		demolition only,				
		7 in. to 24 in.				
~. ~.		thick - Reinforced			40.51	<b>*</b>
-Slope Belt	1,000'L X 6'w	Conveyor,	36,000.00	CF	\$0.21	\$7,560.00
	x6'h	demolition, on-				
		site disposal,				
		existing pit,				
T	1 0001	10,000 ft. haul	26,000,00	CE	¢0.21	\$7.5C0.00
-Transfer Belt	1,000'L x	Conveyor,	36,000.00	CF	\$0.21	\$7,560.00
	6'wx6'h	demolition, on-				
		site disposal,				
		existing pit,				
-Drive Belt	1000'Lx6'wx6'h	10,000 ft. haul	36,000.00	CF	\$0.21	\$7,560.00
-Drive Beit	1000 Lxo wxo n	Conveyor, demolition, on-	36,000.00	CF	\$0.21	\$7,500.00
		,				
		site disposal,				
		existing pit,				
Datainin	40'X6'X2'	10,000 ft. haul	240.00	SF	\$3.74	\$897.60
-Retaining Wall	40 A0 A2	Wall, concrete,	240.00	Sr	φ3./4	Φ097.0U
vv all		demolition only,				
		average				
		reinforcing - 24 in. thick				
Breaker	14'X24'X10'	Bldg. (SN)	3,360.00	CF	\$0.19	\$631.68
Building Rock	14 Λ24 Λ10	demo./on-site	3,300.00	CF	φ0.19	φυ31.08
Box		disposal in				
DOY		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Pad	20 CY	Pavement,	20.00	CY	\$122.50	\$2,450.00
1 44	20 0 1	i avenient,	20.00	CI	Ψ144.30	Ψ2, τ30.00

			I			
		concrete,				
		demolition only,				
		7 in. to 24 in. thick - Reinforced				
-Retaining	3.5'X12"X80 LF	Demo. and on-	280.00	SF	\$3.08	\$862.40
Wall	3.3 X12 X60 LI	site disposal in	280.00	31	φ3.06	\$602.40
νν απ		existing pit, 12 in.				
		thick - Max.				
		10,000 ft. haul				
Sewage Plant	20'X20'X12'	Bldg. (SN)	4,800.00	CF	\$0.19	\$902.40
Building	2011201112	demo./on-site	.,000.00		Ψ 0.12	Ψ>0 <b>2.</b> 0
8		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Pad	40 CY	Pavement,	40.00	CY	\$122.50	\$4,900.00
		concrete,				
		demolition only,				
		7 in. to 24 in.				
		thick - Reinforced				
-32,000 Gallon	32,000 G	Comprehensive	1.00	EA	\$7,608.95	\$7,608.95
Sludge Tank		storage tank				
		removal, non-				
		leaking - 9,000 to				
Dumm Cudas	32,000 G	12,000 gal. tank	1.00	EA	\$377.00	\$377.00
-Pump Sudge From Tank	32,000 G	Remove sludge, water, and rem.	1.00	EA	\$377.00	\$577.00
110III Talik		product from tank				
		- 9,000 to 12,000				
		gal.				
Water Pipe	16' x 10' x 8'	Pavement,	134.80	CY	\$122.50	\$16,513.00
Vaults (fig.2a)		concrete,				, ,
\ <b>U</b>		demolition only,				
		7 in. to 24 in.				
		thick - Reinforced				
-400,000	20'X43'	Bldg. (SN)	29,029.00	CF	\$0.19	\$5,457.45
Gallon Water	Diameter	demo./on-site				
Tank		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
-Pad	2'X44'	haul Pavement,	113.00	CY	\$122.50	\$13,842.50
-Pau	2 <b>A</b> 44	concrete,	113.00	CY	\$122.50	\$13,842.30
		demolition only,				
		7 in. to 24 in.				
		thick - Reinforced				
-25,000 Gallon	21'X11'	Bldg. (SN)	1,995.00	CF	\$0.19	\$375.06
Water Tank	Diameter	demo./on-site	,		, - , - ,	, , , , , , ,
		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Pad	2'X12'	Pavement,	8.00	CY	\$122.50	\$980.00
		concrete,				
		demolition only,				
		7 in. to 24 in.				
W	01.513/0.41	thick - Reinforced	0.714.00	OF.	¢0.10	Φ1 C20 22
Water Tank	21.5'X24'	Bldg. (SN)	8,714.00	CF	\$0.19	\$1,638.23
		demo./on-site				

		disposal in				
		existing pit or cut - Max. 10,000 ft. haul				
-Footers	67.5 LF (5)	Demo. and onsite disposal in existing pit, 1.0 ft. x 2 ft Max. 10,000 ft. haul	338.00	LF	\$3.49	\$1,179.62
Emergency Escape Hoist	20'X20'X20'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft.	8,000.00	CF	\$0.19	\$1,504.00
Prep Plant	78'X65'X82'	haul Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	415,740.00	CF	\$0.19	\$78,159.12
-Pad	78'X65'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	376.00	CY	\$122.50	\$46,060.00
-Footers	2'X3'	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	283.00	LF	\$10.46	\$2,960.18
Thickener Tank	100'DX12'	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	3,770.00	SF	\$1.66	\$6,254.43
-Pad	100'DX12"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	290.80	CY	\$122.50	\$35,623.00
Coal Silos (2)	70'X183'X3' (Each)	Explosive demolition, large projects - Concrete structures	1,408,600.00	CF	\$0.28	\$394,408.00
-Pad (2)	70'X24" (Each)	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	570.00	CY	\$122.50	\$69,825.00
-Footers	2'X3'X220 LF	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	440.00	LF	\$10.46	\$4,602.40
River Crossing Bridge (metal foot bridge)	30' x 4'w x 3'h	Bridge Demolition - Steel	120.00	SF	\$8.60	\$1,032.00

Slope Rail Track	1,325 LF	Railroad track - Ties and track	1,325.00	LF	\$9.19	\$12,176.75
-Fencing	500 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	500.00	LF	\$3.06	\$1,530.00
-Retaining Wall	3.5'X12"X150LF	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	525.00	SF	\$3.08	\$1,617.00
Rock Dust Bin	5,000 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	5,000.00	CF	\$0.19	\$940.00
-Pad	12'X12'X1'th	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	5.33	CY	\$122.50	\$652.93
-Compressor Building	20'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,000.00	CF	\$0.19	\$752.00
-Equipment Removal	20'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,000.00	CF	\$0.19	\$376.00
-Pad	20'X20'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	27.00	CY	\$122.50	\$3,307.50
Refuse Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.19	\$631.68
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,082.20	\$2,082.20
Plant Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.19	\$631.68
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,082.20	\$2,082.20
East Portal Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site	3,360.00	CF	\$0.19	\$631.68

		disposal in existing pit or cut				
		- Max. 10,000 ft. haul				
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,082.20	\$2,082.20
Thickener Substation	15'DX12'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,120.00	CF	\$0.19	\$398.56
-Pad	15'DX12"	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	176.70	SF	\$1.66	\$293.15
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,082.20	\$2,082.20
Electric House	9'X9'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	810.00	CF	\$0.19	\$152.28
-Concrete Portion	7'X7'X5'	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	245.00	CF	\$0.24	\$59.54
Electric Power Upgrade Equip. Removal	96 CY	USER PROVIDED ITEM	96.00	CY	\$24.34	\$2,336.64
Bates Portal Access Rd Retaining Walls	12"X8'X 285LF	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	285.00	SF	\$3.08	\$877.80
-Footer	6'X12"	Demo. and onsite disposal in excavated pit, 2.0 ft. x 3 ft Max. 200 ft. push	285.00	LF	\$10.75	\$3,063.75
Bates Portal Ditch 26 Retaining Wall	50 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	50.00	CY	\$122.50	\$6,125.00
Bates Portal Conveyor Drive Bldg.	24'X42'X30'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	30,240.00	CF	\$0.19	\$5,685.12
-Pad	24'X42'X2'	Pavement, concrete,	74.00	CY	\$122.50	\$9,065.00

		demolition only,				
		7 in. to 24 in.				
D . D . 1	1017/1017/201	thick - Reinforced	0.720.00	CE	Φ0.10	Φ1 0 <b>27</b> 26
Bates Portal Conveyor	18'X18'X30'	Bldg. (SN) demo./on-site	9,720.00	CF	\$0.19	\$1,827.36
Transfer Bldg.		disposal in				
Transfer Biag.		existing pit or cut				
		- Max. 10,000 ft.				
		haul				
-Pad	18'X18'X2'	Pavement,	24.00	CY	\$122.50	\$2,940.00
		concrete,				
		demolition only, 7 in. to 24 in.				
		thick - Reinforced				
Bates Portal	20'X20'X14'	Bldg. (SN)	1,520.00	CF	\$0.19	\$285.76
Vent Fan		demo./on-site				
		disposal in				
		existing pit or cut - Max. 10,000 ft.				
		haul				
-Concrete	20'X10'X6"	Demo. and on-	200.00	SF	\$0.83	\$165.80
Portion		site disposal in				
		existing pit, 6 in.				
		thick - Max.				
-Fan Removal	5,000 lbs	10,000 ft. haul USER	5,000.00	LBS	\$0.25	\$1,250.00
Tun Romo van	3,000 105	PROVIDED	3,000.00	LDS	Ψ0.25	Ψ1,230.00
		ITEM				
-Fan Motor	5,000 lbs	USER	5,000.00	LBS	\$0.25	\$1,250.00
		PROVIDED ITEM				
West Portal	20'X20'X14'	Bldg. (SN)	1,520.00	CF	\$0.19	\$285.76
Fan		demo./on-site	,			,
		disposal in				
		existing pit or cut				
		- Max. 10,000 ft. haul				
-Concrete	22.4'X22.4'X6"	Demo. and on-	501.00	SF	\$0.83	\$415.33
Portion		site disposal in				
		existing pit, 6 in.				
		thick - Max.				
-Fan Removal	3,500 lbs	10,000 ft. haul USER	3,500.00	LBS	\$0.25	\$875.00
Tun Removu	3,300 103	PROVIDED	3,500.00	LDS	Ψ0.23	ψ073.00
		ITEM				
-Fan Motor	4,000 lbs	USER	4,000.00	LBS	\$0.25	\$1,000.00
		PROVIDED ITEM				
West Portal	8,000 lbs	NON-PCB	1.00	EA	\$2,082.20	\$2,082.20
Fan	3,000 100	Transformer	1.00	2.1	\$2,00 <b>2</b> .20	<i>4</i> <b>2</b> ,00 <b>2</b> .20
Transformer		Removal				
- Pad	15'X12'X1'	Demo. and on-	180.00	SF	\$1.66	\$298.62
		site disposal in				
		existing pit, 12 in. thick - Max.				
		10,000 ft. haul				
Acid Tank	10'DX12'	Comprehensive	1.00	EA	\$5,286.80	\$5,286.80
		storage tank				
		removal, non-				

Fuel Containment Sumps (2)	17'X10'X3'X8"	leaking - 6,000 to 8,000 gal. tank Demo. and on- site disposal in existing pit, 8 in. thick - Max.	1,004.00	SF	\$1.11	\$1,110.42
-Petroleum	10 cy	10,000 ft. haul Dispose of	10.00	CY	\$160.00	\$1,600.00
Contaminated Soil Removal	10 cy	contaminated soil at approved landfill - Minimum	10.00	Ci	\$100.00	\$1,000.00
Antifreeze Tank Sump	39'X11'X4'X8"	Demo. and onsite disposal in existing pit, 8 in. thick - Max.	829.00	SF	\$1.11	\$916.87
Stacking Tube - Raw Coal	9'DX59'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,753.00	CF	\$0.19	\$705.56
Water Pumphouse Tank	20'DX15'X8"	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	950.00	CF	\$0.19	\$178.60
Scale House	6'X4'X8'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	192.00	CF	\$0.19	\$36.10
-Scale	12'X30'X4'	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	360.00	SF	\$1.66	\$597.24
Powerline Removal	19580 LF	Utility Poles, Wood 20' to 0' high (each pole)	50.00	EA	\$214.50	\$10,725.00
Sewage Treatment Tank - Buried	8.5'X5.5'X96'	Comprehensive storage tank removal, non- leaking - 9,000 to 12,000 gal. tank	1.00	EA	\$7,608.95	\$7,608.95
Slope Belt Conveyor	75 LF X 8'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.22	EA	\$2,825.00	\$3,446.50
Transfer Belt Conveyor	8'X85 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.38	EA	\$2,825.00	\$3,898.50
Tube Belt Conveyor	8'X582 LF	Conveyor, Horizontal Belt 24" Belt, 61.5'	9.50	EA	\$2,825.00	\$26,837.50

D C 1	CNOTALE	Length	6.00	Ε.	Φ2 025 00	Φ1.C 0.C 0.00
Raw Coal to Transfer Bldg	6'X374 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.00	EA	\$2,825.00	\$16,950.00
Raw Coal Reclaim to Prep Plant	6'X296 LF	Conveyor, Horizontal Belt 24" Belt, 61.5'	4.80	EA	\$2,825.00	\$13,560.00
1		Length				
Clean Coal Reclaim to Transfer Bldg.	6'X497 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	8.00	EA	\$2,825.00	\$22,600.00
Clean Coal from Prep Plant	6'X230 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.74	EA	\$2,825.00	\$10,565.50
Refuse Belt- Overland	6'X1,050 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	17.00	EA	\$2,825.00	\$48,025.00
Refuse Belt - Elevated	6'X406 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.60	EA	\$2,825.00	\$18,645.00
Truck Dump	6'X170 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.10	EA	\$2,825.00	\$3,107.50
Silo Loadout	8'X200 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$2,825.00	\$9,181.25
Transfer to Loadout	8'X114 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.85	EA	\$2,825.00	\$5,226.25
Raw Coal Reclaim Tunnel	12'D CMP*253'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	253.00	LF	\$49.49	\$12,519.71
Clean Coal Reclaim Tunnel	12'D CMP*275'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	275.00	LF	\$49.49	\$13,608.38
Culvert #1	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	25.00	LF	\$4.35	\$108.65
Culvert #5	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	38.00	LF	\$2.81	\$106.78
Culvert #6	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	17.00	LF	\$14.31	\$243.27
Culvert #7	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	75.00	LF	\$2.81	\$210.75
Culvert #11	12"	Pipe, corrugated metal (CMP) - 12	75.00	LF	\$2.81	\$210.75

Q 1	21"	in. diameter pipe	775.00		Φ4.25	ф2.250.1 <b>7</b>
Culvert #12	21"	Pipe, corrugated	775.00	LF	\$4.35	\$3,368.15
		metal (CMP) - 21				
~		in. diameter pipe	<b>70.00</b>			****
Culvert #13	21"	Pipe, corrugated	50.00	LF	\$4.35	\$217.30
		metal (CMP) - 21				
		in. diameter pipe				
Culvert #17	36"	Pipe, corrugated	69.00	LF	\$7.53	\$519.71
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #19	33"	Pipe, corrugated	38.00	LF	\$6.29	\$239.06
		metal (CMP) - 30				
		in. diameter pipe				
Culvert #21	36"	Pipe, corrugated	50.00	LF	\$7.53	\$376.60
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #22	12"	Pipe, corrugated	19.00	LF	\$2.81	\$53.39
		metal (CMP) - 12				
		in. diameter pipe				
Culvert #24	60"	Pipe, corrugated	160.00	LF	\$14.31	\$2,289.60
		metal (CMP) - 60				
		in. diameter pipe				
Culvert #25	60"	Pipe, corrugated	140.00	LF	\$14.31	\$2,003.40
		metal (CMP) - 60				·
		in. diameter pipe				
Culvert #26	42"	Pipe, corrugated	13.00	LF	\$7.53	\$97.92
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #28	12"	Pipe, corrugated	31.00	LF	\$2.81	\$87.11
Curvert #20	1-2	metal (CMP) - 12	21.00		Ψ2.01	φονιτι
		in. diameter pipe				
Culvert #29	12"	Pipe, corrugated	38.00	LF	\$2.81	\$106.78
Sur, 610 25	1-2	metal (CMP) - 12	20.00		Ψ2.01	Ψ1001/0
		in. diameter pipe				
Culvert #31	18"	Pipe, corrugated	50.00	LF	\$3.78	\$189.05
- Cu1, C10 C1		metal (CMP) - 18	20.00		ψοσ	Ψ103.00
		in. diameter pipe				
Culvert #32	33"	Pipe, corrugated	44.00	LF	\$6.29	\$276.80
Curvert #32	33	metal (CMP) - 30	44.00		ψ0.27	Ψ270.00
		in. diameter pipe				
Culvert #33	12"	Pipe, corrugated	125.00	LF	\$2.81	\$351.25
Curvert #33	12	metal (CMP) - 12	123.00	LI	\$2.61	\$331.23
		in. diameter pipe				
Culvert #34	15"		31.00	LF	\$3.28	\$101.74
Curvert #34	13	Pipe, corrugated	31.00	LF	\$5.28	\$101.74
		metal (CMP) - 15 in. diameter pipe				
Culvert #35	6"	1 1	10.00	TT	\$2.14	¢40.c0
Curvert #35	О	Pipe, corrugated	19.00	LF	\$2.14	\$40.60
		metal (CMP) - 8				
Culvert #26	12"	in. diameter pipe	21.00	1 17	¢2 01	¢07 11
Culvert #36	12	Pipe, corrugated	31.00	LF	\$2.81	\$87.11
		metal (CMP) - 12				
C 1 #27	2611	in. diameter pipe	50.00	1.5	ф7. <b>5</b> 2	Φ27.4.40
Culvert #37	36"	Pipe, corrugated	50.00	LF	\$7.53	\$376.60
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #41	48"	Pipe, corrugated	19.00	LF	\$10.75	\$204.33
		metal (CMP) - 48				
		in. diameter pipe				
Culvert #46	12"	Pipe, corrugated	19.00	LF	\$2.81	\$53.39

		metal (CMP) - 12				
		in. diameter pipe				
Culvert #47	15"	Pipe, corrugated metal (CMP) - 15	13.00	LF	\$3.28	\$42.67
		in. diameter pipe				
Culvert #48	42"	Pipe, corrugated metal (CMP) - 36	313.00	LF	\$7.53	\$2,357.52
		in. diameter pipe				
Culvert #50	18"	Pipe, corrugated metal (CMP) - 18	25.00	LF	\$3.78	\$94.53
G 1	2.611	in. diameter pipe	<b>7</b> 0.00		Φ7.52	ф <b>27</b> с с0
Culvert #52	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$7.53	\$376.60
Culvert #53	24"	Pipe, corrugated	60.00	LF	\$4.88	\$292.74
Curvert #33	24	metal (CMP) - 24 in. diameter pipe	00.00	LI	ψ4.00	\$292.T <del>4</del>
Culvert #54	36"	Pipe, corrugated	50.00	LF	\$7.53	\$376.60
curvert #3 1	30	metal (CMP) - 36 in. diameter pipe	30.00		Ψ1.55	ψ370.00
Culvert #55	8"	Pipe, corrugated	25.00	LF	\$2.14	\$53.43
Carvere nos		metal (CMP) - 8 in. diameter pipe	23.00		Ψ2.1 .	φ33.13
Culvert #59	18"	Pipe, corrugated	28.00	LF	\$3.78	\$105.87
		metal (CMP) - 18				,
~		in. diameter pipe			* 4 0 0	*****
Culvert #60	24"	Pipe, corrugated metal (CMP) - 24	31.00	LF	\$4.88	\$151.25
Culvert #61	8"	in. diameter pipe	25.00	LF	\$2.14	\$53.43
Curvert #61	8	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	25.00	LF	\$2.14	<b>\$</b> 33.43
Culvert #62	12"	Pipe, corrugated	13.00	LF	\$2.81	\$36.53
Curvert #02	12	metal (CMP) - 12 in. diameter pipe	13.00		Ψ2.01	Ψ30.33
Culvert #64	24"	Pipe, corrugated metal (CMP) - 24	50.00	LF	\$4.88	\$243.95
		in. diameter pipe				
Culvert #65	12"	Pipe, corrugated metal (CMP) - 12	19.00	LF	\$2.81	\$53.39
C-1	18"	in. diameter pipe	18.00	ID	¢2.70	\$60.06
Culvert #66	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	18.00	LF	\$3.78	\$68.06
Culvert #67	18"	Pipe, corrugated	22.00	LF	\$3.78	\$83.18
Curvert #07	10	metal (CMP) - 18	22.00	1.71	ψ3.76	ψ03.10
		in. diameter pipe				
Culvert #68	18"	Pipe, corrugated metal (CMP) - 18	48.00	LF	\$3.78	\$181.49
		in. diameter pipe				
Culvert #69	18"	Pipe, corrugated metal (CMP) - 18	80.00	LF	\$3.78	\$302.48
Bates Portal	8'X970 LF	in. diameter pipe	15.80	EA	\$2.925.00	\$44,635.00
Conveyor to	0 A 9 / U L F	Conveyor, Horizontal Belt	13.60	EA	\$2,825.00	\$44,033.00
Breaker Bldg.		24" Belt, 61.5' Length				
Jansen Loadout	15'X40'	Demo. and on-	600.00	SF	\$1.66	\$995.40
Truck Scale		site disposal in				· 

Jansen Coal 2,740 LF Conveyor, 44.50			
Conveyor Horizontal Belt 24" Belt, 61.5' Length	EA	\$2,825.00	\$125,712.50
concrete, demolition only, 7 in. to 24 in. thick - Reinforced	CY	\$122.50	\$5,512.50
-Transfer Points  Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	CF	\$0.21	\$624.00
site disposal in existing pit, 2.0 ft. x 3 ft Max.	LF	\$10.46	\$1,255.20
Jansen Loadout Bin  38'X35'X40' Bidg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	CF	\$0.21	\$11,065.60
Jansen Feed Hopper  20'X15'X16' Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	CF	\$0.21	\$1,023.36
Two Radial 2(150' l) Conveyor, 4.90 stackers @ Horizontal Belt RDA (p. 2.05- 27) Length	EA	\$2,825.00	\$13,842.50
	CF	\$0.66	\$15,840.00
remove piping @ slurry wells Pipe, steel, welded connections - 10 in. diameter pipe	LF	\$6.33	\$316.50
remove HPDE slurry line (MR 104)  9000 ft. 1  Pipe, steel, 9,000.00  welded connections - 10 in. diameter pipe	LF	\$6.33	\$56,970.00
	LF	\$7.53	\$451.92
	LF	\$7.53	\$301.28
metal (CMP) - 36 in. diameter pipe			

		metal (CMP) - 36				
		in. diameter pipe				
Culvert #C70	18"	Pipe, corrugated	68.00	LF	\$3.78	\$257.11
		metal (CMP) - 18				•
		in. diameter pipe				
Culvert #C71	18"	Pipe, corrugated	54.00	LF	\$3.78	\$204.17
Carvore #C71	10	metal (CMP) - 18	3 1.00		Ψ3.70	Ψ20 ,
		in. diameter pipe				
Culvert #C72	24"	Pipe, corrugated	120.00	LF	\$4.88	\$585.48
Curveit #C/2	24	metal (CMP) - 24	120.00	Li	Ψ00	Ψ303.40
		in. diameter pipe				
Culvert #C73	24"	Pipe, corrugated	190.00	LF	\$4.88	\$927.01
Curveit #C13	24	metal (CMP) - 24	190.00	LI	ψ4.66	Ψ927.01
		in. diameter pipe				
Culvert #C74	24"		40.00	LF	\$4.88	\$195.16
Curvert #C/4	24	Pipe, corrugated	40.00	LF	\$4.88	\$195.10
		metal (CMP) - 24				
0.1	0.411	in. diameter pipe	45.00		¢4.00	<b>\$210.56</b>
Culvert #C16A	24"	Pipe, corrugated	45.00	LF	\$4.88	\$219.56
		metal (CMP) - 24				
<u> </u>	2.411	in. diameter pipe	220.00		<b>*</b> 4.00	
Culvert #C16B	24"	Pipe, corrugated	220.00	LF	\$4.88	\$1,073.38
		metal (CMP) - 24				
		in. diameter pipe				
Culvert #C12A	36"	Pipe, corrugated	160.00	LF	\$7.53	\$1,205.12
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #C17A	36"	Pipe, corrugated	20.00	LF	\$7.53	\$150.64
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #C17B	36"	Pipe, corrugated	75.00	LF	\$7.53	\$564.90
		metal (CMP) - 36				
		in. diameter pipe				
Culvert #C28	24"	Pipe, corrugated	46.00	LF	\$4.88	\$224.43
		metal (CMP) - 24				,
		in. diameter pipe				
Culvert #C28A	24"	Pipe, corrugated	60.00	LF	\$4.88	\$292.74
Carvert # C2011	2.	metal (CMP) - 24	00.00		Ψ 1.00	Ψ2>2.7 .
		in. diameter pipe				
Culvert #C29	24"	Pipe, corrugated	34.00	LF	\$4.88	\$165.89
Curvert #C2)	24	metal (CMP) - 24	34.00	Li	Ψ00	Ψ105.67
		in. diameter pipe				
Bathhouse	62'l x 21w' x	Bldg. (SN)	15,624.00	CF	\$0.19	\$2,937.31
		demo./on-site	13,024.00	Cr	φ0.19	φ <b>∠,93</b> /. <b>3</b> 1
(TR61)	12'h					
		disposal in				
		existing pit or cut				
		- Max. 10,000 ft.				
	60 // 511	haul	1.000.00	~=	40.33	
-bathhouse pad	62/lx 21'w x	Demo. and on-	1,302.00	SF	\$0.83	\$1,079.36
(TR61)	0.5'th	site disposal in				
		existing pit, 6 in.				
		thick - Max.				
		10,000 ft. haul				
Belt feeder	35' x 12' x6'	Bldg. (SN)	2,520.00	CF	\$0.19	\$473.76
(MR101)		demo./on-site				
		disposal in				
		existing pit or cut				
	1	- Max. 10,000 ft.				
		- Max. 10,000 It.				
		haul				

(MR101)		Horizontal Belt 24" Belt, 61.5'				
		Length				
Elevating belt (MR101)	36" x 100 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.62	EA	\$2,825.00	\$4,576.50
Office shop (MR105)	100'l x 50'w x 18'h	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	90,000.00	CF	\$0.21	\$18,720.00
-Office shop floor (MR105)	100'l x 50'w x 0.5'th	Demo. and onsite disposal in existing pit, 6 in. thick - Max.	5,000.00	SF	\$0.83	\$4,145.00
Pump house (MR105)	12'x 12'x 10'h	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,440.00	CF	\$0.19	\$270.72
-pump house floor	12'x12'x 0.5'th	Demo. and onsite disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	144.00	SF	\$0.83	\$119.38
Radial stacker pads (MR97)	3'x 3'x 1'	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 200 ft. push	9.00	SF	\$1.63	\$14.63
200 foot conveyor extension (MR97)	200 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$2,825.00	\$9,181.25
Conveyor tube (MR97)	80'1 x 10' dia	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	6,282.00	CF	\$0.19	\$1,181.02
Disposal of Powerline crossarms, cable, et.al.	19580 LF	Disposal of utility pole cross arms and hardware surplus material	19,580.00	LF	\$0.01	\$195.80
Fan and Duct (MR113)	(50'x12'x12')2	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	14,400.00	CF	\$0.21	\$2,995.20
8 Footers (MR113)	14'x 2'x6'	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	112.00	LF	\$10.46	\$1,171.52

42" temp belt	115'x3.5'x6'	Conveyor,	1.87	EA	\$2,825.00	\$5,282.75
conveyor (MR113)		Horizontal Belt 24" Belt, 61.5' Length				
42" Silo #1 conveyor (MR113)	165'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.68	EA	\$2,825.00	\$7,571.00
42" Silo #2 conveyor (MR113)	56'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	0.91	EA	\$2,825.00	\$2,570.75
Retaining Wall North Elev. (MR113)	12"th. x 790'L	Demo. and onsite disposal in existing pit, 12 in. thick - Max.	790.00	SF	\$3.08	\$2,433.20
Retaining Wall East Elev. (MR113)	12"thx 360'L	Demo. and onsite disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	360.00	SF	\$3.08	\$1,108.80
footer (MR113)	12"x?	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	110.00	LF	\$10.46	\$1,150.60
Truck Loadout (MR113)	9'x18'x22'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,564.00	CF	\$0.19	\$670.03
4 footers (MR113)	2'x4'x4'	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	16.00	LF	\$10.46	\$167.36
Silo Belt Transfer structure (MR113)	25'x 15'x 22' (MR113)	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	8,250.00	CF	\$0.21	\$1,716.00
4 footers (MR113)	2'x 4' x4' (MR113)	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	16.00	LF	\$10.46	\$167.36
35 Ton Coal Blending Bins (MR113)	30'x 12'x 22'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	7,920.00	CF	\$0.21	\$1,647.36
6 Footers (MR113)	2'x 4'x 4'	Demo. and onsite disposal in existing pit, 2.0 ft. x 3 ft Max.	24.00	LF	\$10.46	\$251.04

		10,000 ft. haul				
Culvert C23	30" X 50'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	50.00	LF	\$6.29	\$314.55
Culvert C82	30" X 25'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	25.00	LF	\$6.29	\$157.28
Culvert C83	18" x 20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$3.78	\$75.62
Culvert C84	18" X20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$3.78	\$75.62
Culvert C85	36" X 65'L	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	65.00	LF	\$7.53	\$489.58

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	1,009.00	(unadjusted):	\$1,831,995.17	location):	\$1,722,075.46

# SAFEGUARDING UNDERGROUND OPENINGS

: New E	Zlk Mine	P	ermit Action:	Permit Renewal 07	_ Pe	rmit/Job#:	C1981012
PROJI	ECT IDENTIF	<u>ICATION</u>					
Task #:	700	State:	Colorado	Abbre	viation:	None	
Date:	11/20/2018	County:	Las Animas	Fil	ename:	C012-700	)
User:	JHB						

# **UNIT COSTS**

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Seal East Portal	12'X10'	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	120.00	SF	\$136.51	\$16,381.20
Backfill East Portal	12'X10'X50'	Adit closure - backfilling (per cu. yd.)	222.00	CY	\$10.75	\$2,386.50
Drain Pipe	100 LF	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	100.00	LF	\$10.90	\$1,090.00
Seal West Portals (2)	15'X10'	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	300.00	SF	\$136.51	\$40,953.00
Backfill West Portals (2)	600 CY	Adit closure - backfilling (per cu. yd.)	600.00	CY	\$10.75	\$6,450.00
Drain Pipes	100 LF (2)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	200.00	LF	\$10.90	\$2,180.00
Seal Bates Portals (3)	14'X18'	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	756.00	SF	\$136.51	\$103,201.56
Backfill Bates Portals (3)	14'X18'X50'	Adit closure - backfilling (per cu. yd.)	466.00	CY	\$10.75	\$5,009.50
Drain Pipes (3)	100 LF (3)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	300.00	LF	\$10.90	\$3,270.00
East Portal Fan Shaft Concrete Cap	16' D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$3.89	\$778.00
Apache Canyon East Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$3.89	\$778.00
Apache Canyon West Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$3.89	\$778.00

Job Hours:	270.00	Total Cost:	\$183,255.76

## **BULLDOZER WORK**

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#: C1981012
PROJECT IDENTIFICATION	<u>DN</u>		
Task #: 701	State: Colorado		Abbreviation: None
Date: 11/15/2018	County: Las Anima	ns	Filename: C012-701
User: JHB	•		
Agency or organization r	name: DRMS		
HOURLY EQUIPMENT CO	)ST		
Basic Machine: Cat D9T - 98			
Horsepower: 405	30	_	
Blade Type: Semi-Univer	·ca1	_	
Attachment: 3-shank ripp		=	
Shift Basis: 1 per day	<u>~1</u>	<u> </u>	
Data Source: (CRG)		_	
		_	
<u>Cost Breakdown</u> :			
		<u>Utilization %</u>	
Ownership Cost/Hour:	\$110.70	NA	
Operating Cost/Hour:	\$95.46	100	
Ripper own.	\$12.36	NA	
Cost/Hour:		IVA	
Ripper op. Cost/Hour:	\$7.88	100	
Operator Cost/Hour:	\$41.52	NA	
Initial Volume: Swell factor: Loose volume: Source of estimated volume: Source of estimated swell factor:  HOURLY PRODUCTION Average push distance:		on, Mining & Safety	
	1,243.2 LCY/hr		
production:	1,2 13.2 20 17 11		
Materials consistency description:	Compacted fill or en	mbankment 0.9	
Average push gradient: 10 %			
Average site altitude: $\frac{10.70}{7,500}$			
7,500 I			
Material weight: 2,132	bs/LCY		<u> </u>
Weight description: User P	rovided		
Job Condition Correction Factor		Source	
		~~~~~	

On a make in Clairle	0.000	(AD ANC)
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit production: 567.02 LCY/hr
Adjusted fleet production: 1134.04 LCY/hr

## **JOB TIME AND COST**

Fleet size: 2 Dozer(s)
Unit cost: \$0.473/LCY

Total job time: Total job cost: 1.39 Hours \$744

## **BULLDOZER WORK**

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#: C1981012
PROJECT IDENTIFICATION	<u>ON</u>		
Task #: 702	State: Colorado		Abbreviation: None
Date: 11/15/2018	County: Las Anima	as	Filename: C012-702
User: JHB	·		
Agency or organization	name: DRMS		
HOURLY EQUIPMENT CO			
Basic Machine: Cat D9T - 9	SU	_	
Horsepower: 405	1	_	
Blade Type: Semi-Unive		_	
Attachment: 3-shank ripp	per	_	
Shift Basis: 1 per day		_	
Data Source: (CRG)		<u> </u>	
Cost Breakdown:			
		Utilization %	
Ownership Cost/Hour:	\$110.70	NA	
Operating Cost/Hour:	\$95.46	100	
Ripper own.	¢12.26	NTA	
Cost/Hour:	\$12.36	NA	
Ripper op. Cost/Hour:	\$0.00	0	
Operator Cost/Hour:	\$41.52	NA	
Initial Volume: 1,400 Swell factor: 1.125 Loose volume: 1,575 LCY  Source of estimated volume: Source of estimated swell factor:  HOURLY PRODUCTION	Division of Reclamati Operator Estimate	on, Mining & Safety	
Average push distance:	100 feet		
Unadjusted hourly	1,243.2 LCY/hr		
production:	,		
_			
Materials consistency description	: Compacted fill or en	mbankment 0.9	
Average push gradient: 10 %			
Average site altitude: $\frac{70.70}{7,500}$	feet		
7,500			
Material weight: 2,132	lbs/LCY		
Weight description: User I	Provided		
Job Condition Correction Factor		Source	
JOO CONGROUNDIN CONTECTION FACTOR		Source	

On a make in Clairle	0.000	(AD ANC)
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit production: 567.02 LCY/hr
Adjusted fleet production: 1134.04 LCY/hr

## **JOB TIME AND COST**

Fleet size: 2 Dozer(s)
Unit cost: \$0.459/LCY

Total job time: 1.39 Hours
Total job cost: \$722

## **BULLDOZER WORK**

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#: C1981012
PROJECT IDENTIFICATI	<u>ON</u>		
Task #: 703	State: Colorado		Abbreviation: None
Date: 11/15/2018	County: Las Anima	ıs	Filename: C012-703
User: JHB			
Agency or organization	name: DRMS		
HOURLY EQUIPMENT CO	OST		
Basic Machine: Cat D9T - 9			
Horsepower: 405		<del>-</del>	
Blade Type: Semi-Unive	ersal	<del>-</del>	
Attachment: 3-shank rip	per	=	
Shift Basis: 1 per day	=	_	
Data Source: (CRG)		_	
		<u> </u>	
Cost Breakdown:		TT('1' - (' 0/	
Overnanshin Cost/II	¢110.70	<u>Utilization %</u>	
Ownership Cost/Hour:	\$110.70	NA 100	
Operating Cost/Hour:	\$95.46	100	
Ripper own.	\$12.36	NA	
Cost/Hour:		0	
Ripper op. Cost/Hour: Operator Cost/Hour:	\$0.00 \$41.52	0 NA	
MATERIAL QUANTITIES			
Loose volume: 43,875 LCY			
Source of estimated volume:	Division of Reclamati	on, Mining & Safety	
Source of estimated swell	Operator Estimate		
factor:			
<b>HOURLY PRODUCTION</b>			
	100.0		
Average push distance:	100 feet		
Unadjusted hourly	1,243.2 LCY/hr		
production:		<u></u>	
Materials consistency description	: Compacted fill or en	nbankment 0.9	
A			
Average push gradient: 10 %	<u>C </u>		
Average site altitude: $7,500$	teet		
Material weight: 2,132	lbs/LCY		<u> </u>
Weight description: User	Provided		
Job Condition Correction Factor		Source	
JOO COMUMICIN CONTECTION FACION		Source	

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit production: 567.02 LCY/hr
Adjusted fleet production: 1134.04 LCY/hr

## **JOB TIME AND COST**

Fleet size: 2 Dozer(s)
Unit cost: \$0.459/LCY

Total job time: Total job cost: 38.69 Hours \$20,122

# **BOREHOLE SEALING WORK**

	Task des	cription:	Plug and Seal	All Borehole	s and Monitoring V	Vells			
Site:	New El	k Mine	Pe	ermit Action:	Permit Renewal 07	7 Pe	rmit/Job#:	C1981012	
	<b>PROJE</b>	CT IDENTIF	<u>ICATION</u>						
	Task #: Date: User:	704 11/29/2018 JHB	State: County:	Colorado Las Animas		bbreviation: Filename:	None C012-704	<u> </u>	

# **UNIT COSTS**

Agency or organization name: DRMS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
MW1 - MW10 Fill w/Cement	Portland cement grout (Bag, material cost only94 lb. bag)	4"	150	7.00	bag	\$13.80	\$96.60
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	10.00	EA	\$31.98	\$319.80
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$1.83	\$7.32
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	10.00	EA	\$3.67	\$36.70
-Drill Rig Time	SCHRAMM T450WS	NA	NA	20.00	EA	\$232.72	\$4,654.40
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	20.00	EA	\$24.48	\$489.60
PAW1 - PAW4; PAW8,9 Fill w/Cement	Portland cement grout ( Bag, material cost only94 lb. bag)	4"	137 LF	6.00	bag	\$13.80	\$82.80
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	6.00	EA	\$31.98	\$191.88
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	NA	NA	4.00	LF	\$1.83	\$7.32
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	6.00	EA	\$3.67	\$22.02
-Drill Rig Time	SCHRAMM T450WS	NA	NA	12.00	EA	\$232.72	\$2,792.64
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	12.00	EA	\$24.48	\$293.76
NEW2 - NEW4 Fill w/Cement	Portland cement grout (Bag, material cost only94 lb. bag)	4"	1210 LF	53.00	bag	\$13.80	\$731.40
-Plug	PVC plug - 4 in.	4"	NA	3.00	EA	\$31.98	\$95.94

	diameter borehole						
-Cut Casings	Exposed casing	4"	NA	4.00	LF	\$1.83	\$7.32
at Surface	removal - Calculate		1,11			41.00	ψ, <u>-</u>
	Circumference in						
	Linear Feet						
-Borehole	Borehole	NA	NA	3.00	EA	\$3.67	\$11.01
Markers	location/identification	1,12	1,11	3.00		φεισ.	Ψ11.01
17101110110	marker (EA, material						
	cost only)						
-Drill Rig	SCHRAMM	NA	NA	18.00	EA	\$232.72	\$4,188.96
Time	T450WS	1,12	1,11	10.00		Ψ202172	ψ.,100.50
-Water Truck	Water Tanker, 2,500	NA	NA	18.00	EA	\$24.48	\$440.64
Time	Gal.	1,12	1,11	10.00		φ2σ	Ψσ.σ.
RW1 & SW1 -	Portland cement	4"	161 LF	7.00	bag	\$13.80	\$96.60
SW6 Fill	grout (Bag, material		101 22	7.00	05	415.00	φ>0.00
w/Cement	cost only94 lb. bag)						
-Plug	PVC plug - 4 in.	4"	NA	7.00	EA	\$31.98	\$223.86
11008	diameter borehole		1,11	7.00		φετινο	Ψ220.00
-Cut Casing at	Exposed casing	4"	NA	4.00	LF	\$1.83	\$7.32
Surface	removal - Calculate					7 - 1.00	
S 41144 C	Circumference in						
	Linear Feet						
-Borehole	Borehole	NA	NA	7.00	EA	\$3.67	\$25.69
Marker	location/identification					1	7-2107
	marker (EA, material						
	cost only)						
-Drill Rig	SCHRAMM	NA	NA	14.00	EA	\$232.72	\$3,258.08
Time	T450WS	1111	1,11	11.00		Ψ232.72	ψ3,230.00
-Water Truck	Water Tanker, 2,500	NA	NA	14.00	EA	\$24.48	\$342.72
Time	Gal.	1111	1111	11.00	L	φ21.10	ψ3 12.72
Dewatering	Portland cement	4"	450	19.00	bag	\$13.80	\$262.20
Holes Fill	grout (Bag, material		150	15.00	oug	Ψ13.00	Ψ202.20
w/Cement	cost only94 lb. bag)						
-Plug	PVC plug - 4 in.	4"	NA	2.00	EA	\$31.98	\$63.96
1145	diameter borehole		1171	2.00	1271	ψ31.90	Ψ03.70
-Cut Casing at	Exposed casing	4"	NA	4.00	LF	\$1.83	\$7.32
Surface	removal - Calculate	·	1111	1.00		Ψ1.03	Ψ7.32
Burrace	Circumference in						
	Linear Feet						
-Borehole	Borehole	NA	NA	2.00	EA	\$3.67	\$7.34
Marker	location/identification	1111	1171	2.00	Lit	ψ3.07	Ψ7.54
Murker	marker (EA, material						
	cost only)						
-Drill Rig	SCHRAMM	NA	NA	10.00	EA	\$232.72	\$2,327.20
Time	T450WS	11/1	11/1	10.00	LA	Ψ232.12	Ψ2,521.20
-Water Truck	Water Tanker, 2,500	NA	NA	10.00	EA	\$24.48	\$244.80
Time	Gal.	1 1/1 1	1111	10.00	12/1	Ψ2 1.70	Ψ211.00
Seal 3 Slurry	Portland cement	9"	1350	298.00	bag	\$13.80	\$4,112.40
wells (MR95)	grout ( Bag, material	´	1550	270.00	Jug	Ψ13.00	Ψ1,112.40
	cost only94 lb. bag)						
-Drill rig and	Atlas Capco	NA	NA	12.00	EA	\$244.31	\$2,931.72
labor	DM45/HP - 9.0"	11/1	11/4	12.00	LA	ΨΔΤΤ.31	Ψ2,731.72
-Water Truck	Water Tanker, 2,500	na	na	12.00	EA	\$24.48	\$293.76
time	Gal.	11a	11a	12.00	LA	ΨΔ4.40	φ293.10
-slurry well	PVC plug - 8 in.	9"	NA	3.00	EA	\$79.19	\$237.57
plugs	diameter borehole	)	11/1	3.00	LA	ψ12.17	υΔυ1.υ1
-slurry hole	Borehole	NA	NA	3.00	EA	\$3.67	\$11.01
		11/7	11/1	3.00	LA	ψ3.07	ψ11.01
markers	location/identification	<u> </u>				1	

	marker (EA, material						
Seal NE-16-11	cost only) Portland cement	9"	392	86.00	bag	\$13.80	\$1,186.80
(MR96)	grout (Bag, material cost only94 lb. bag)		372	80.00	bag	Ψ13.00	ψ1,100.00
-plug	PVC plug - 8 in. diameter borehole	9"	NA	1.00	EA	\$79.19	\$79.19
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
-Rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	4.00	EA	\$212.49	\$849.96
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	4.00	EA	\$24.48	\$97.92
Plug 6 "exploration" wells (MR114)	Portland cement grout ( Bag, material cost only94 lb. bag)	6"	2270	223.00	bag	\$13.80	\$3,077.40
-plugs	PVC plug - 6 in. diameter borehole	6"	NA	6.00	EA	\$57.81	\$346.86
-drill rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	36.00	EA	\$212.49	\$7,649.64
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	36.00	EA	\$24.48	\$881.28
Seal NE01-12, NE17-12, NE18-12 (MR107)	Portland cement grout (Bag, material cost only94 lb. bag)	6"	2500	245.00	bag	\$13.80	\$3,381.00
-plug	PVC plug - 6 in. diameter borehole	6"	NA	3.00	EA	\$57.81	\$173.43
-Mark holes	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$3.67	\$11.01
-Rig and Labor	Altas Capco DM25SP - 6-3/4"	NA	NA	6.00	EA	\$212.49	\$1,274.94
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	8.00	EA	\$24.48	\$195.84
Seal 2 alluvial wells (MR116)	Portland cement grout (Bag, material cost only94 lb. bag)	4"	60	2.62	bag	\$13.80	\$36.16
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$3.67	\$7.34
-labor	General laborer - Colorado (total incl. fringes, empl. burden)	na	na	2.00	HR	\$23.53	\$47.06
Plug and Seal NE-05-11 (4wells) and 08-11(4 wells)	Portland cement grout (Bag, material cost only94 lb. bag)	9"	5200	1,148.00	bag	\$13.80	\$15,842.40
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	8.00	EA	\$3.67	\$29.36

-cut casing	Exposed casing removal - Calculate Circumference in Linear Feet	9"	72	8.00	LF	\$1.83	\$14.64
-rig and labor	Atlas Capco DM45/HP - 9.0"	NA	NA	45.00	EA	\$244.31	\$10,993.95
-water tanker	Water Tanker, 2,500 Gal.	NA	NA	45.00	EA	\$24.48	\$1,101.60

Job Hours:	73.00	<b>Total Cost:</b>	\$76,205.00	
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## TRUCK/LOADER TEAM WORK

Task description:	Clean Ponds 004,	007, and 008 Twice During Liability Period					
te: New Elk Mine	Perm	nit Action:	Permit Renewal 07	Permit/Job#	: C1981012		
PROJECT IDENTI	FICATION						
Task #:706	State:	Colorado		Abbreviation:	None		
Date: 11/19/201 User: JHB	County:	Las Anima	as	Filename:	C012-706		
	anization name: DRI	MS					
Agency or org		MS		Shift basis: 1 per day	<u></u>		
			inment Description	Shift basis: 1 per day	<u></u>		
HOURLY EQUIPM		Equi	ipment Description 8-10 cy, 6x4	Shift basis: 1 per day	<u></u>		
HOURLY EQUIPM	IENT COST	Equi Generic	<u> </u>	Shift basis: 1 per day	<u>'</u>		
HOURLY EQUIPM	IENT COST k Loader Team -Truck:	Equi Generic Cat 336	8-10 cy, 6x4	Shift basis: 1 per day	<u>'</u>		
HOURLY EQUIPM	IENT COST  k Loader Team -Truck: -Loader:	Equi Generic Cat 336	8-10 cy, 6x4 D L 10'-6" Stick	Shift basis: 1 per day	<u>'</u>		
Truc Support I	K Loader Team -Truck: -Loader: Equipment -Load Area:	Equi Generic Cat 336 NA Cat D97	8-10 cy, 6x4 D L 10'-6" Stick	Shift basis: 1 per day	<u>/</u>		

<b>Cost Breakdown:</b>	Truck/Loa	ider Team	Support Equipment		Maintenan	ce Equipment
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	75	NA	100	50	50
Ownership cost/hour:	\$15.87	\$50.81	NA	\$110.70	\$60.13	\$25.30
Operating cost/hour:	\$40.15	\$43.15	NA	\$95.46	\$25.43	\$18.30
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$37.79	NA	\$41.52	\$28.69	\$21.23
Unit Subtotals:	\$56.02	\$131.75	NA	\$247.68	\$114.26	\$64.83
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work:	\$299.81	Support:	\$247.68	Maint:	\$179.09

Total work team cost/hour: \$726.58

### **MATERIAL QUANTITIES**

**CCY** Initial volume: Swell factor: 1.000

Loose volume: 19,095 LCY

> Source of estimated volume: Division of Reclamation, Mining & Safety Source of estimated swell factor: Cat Handbook

Material Purchase Cost: \$0.00

Total Cost: \$0.00

## **HOURLY PRODUCTION**

## **Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: 2,700 Pounds/LCY

Description: Earth - Wet excavated

Rated Payload: 27,280 **Pounds** Payload Capacity: 10.10 LCY

Truck Bed (volume) Basis						
Struck Volume:	8.00	LCY				
Heaped Volume:	10.00	LCY				
Average Volume:	9.00	LCY				
Adjusted Volume:	10.00	_ LCY				
<b></b>		<b>.</b>		0.01		
	nal Truck Volun	ne Based on Number	of Loader Passes:	8.81	LCY	
Loading Tool Capacity						
				ket Size Class:l	Medium	_
Rated Capacity:		LCY (heaped				
Bucket Fill Factor:	0.975		al - mixed moist ag	gregates (95-100%	) 0.975	
Adjusted Capacity:	2.204	LCY				
Job Condition Correction	ns:		Site Altitude (ft.):	7500 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE			
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Nat Camartian	0.020	0.020				
Net Correction:	0.830	0.830				
Excavators and Front Sho  Machine Cycle Time Selected Valu	vels:		OW AVERAGE	ired to Fill  Truck:	4 p	asses
Excavators and Front Sho Machine Cycle Time Selected Valu	e vs. Job Conditi e vs. Job Conditi e within this Ba – Material Des n.):	ion Rating: BELC SEVE	OW AVERAGE		4 .	asses
Excavators and Front Sho  Machine Cycle Time Selected Valu  Track Loaders  Cycle Time Elements (min  Load: NA	e vs. Job Conditi e within this Ba – Material Des	ion Rating: BELC SEVE cription:  Maneuver: NA	OW AVERAGE ERE	Dump: 0.10	0	
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penetration 4.0

Haul Route:

Huui Rou	ic.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5000.00	5.00	4.00	9.00	1249	4.024

Haul Time: **4.024** minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 5000.00 4.00 -1.00 2938 -5.00 1.754

Return Time: 1.754 minutes
Total Truck Cycle Time: 8.348 minutes

Loading Tool unit

Production Truck Unit Production

63.35 LCY/Hour Adjusted for job efficiency: 247.99 LCY/Hour Adjusted for job efficiency: 52.58 LCY/Hour Optimal No. of Trucks: 5 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 157.74 LCY/Hour Adjusted single truck/loader team production: 157.74 LCY/Hour Adjusted multiple truck/loader team production: 157.74 LCY/Hour

## **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 121.05
 Hours

 Unit cost:
 \$4.606
 /LCY
 Total job cost:
 \$87,955

## **BULLDOZER WORK**

New Elk Mine	Peri	nit Action:	Permit Renewal 07	Permit/Job#	: C1981012
· · · · · · · · · · · · · · · · · · ·					
PROJECT IDENTIF	<u>ICATION</u>				
Task #: 733	State:	Colorado		Abbreviation:	None
Date: 11/15/2018		Las Animas	-	Filename:	C012-733
User: JHB					
Agency or organ	nization name: DR	MS			
		WIS			
<b>HOURLY EQUIPME</b>	ENT COST				
Basic Machine: Cat	D9T - 9SU				
Horsepower: 405					
	ni-Universal				
Attachment: NA	•				
	er day				
Data Source: (CF					
Cost Breakdown:					
Cost Dicardowii.		ĺ	Utilization %		
Ownership Cost/Hour:		\$110.70	NA		
Operating Cost/Hour:		\$95.46	100	<del></del>	
Ripper own.		-			
Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:	-	\$41.52	NA NA		
MATERIAL QUANT Initial Volume: 5,53					
Swell factor: $1.12$					
Loose volume: 6,22	8 LCY	<del>_</del>			
Source of estimated volume	me: Evhihit 28	2 n 232 acciii	ne 4" "topsoil material"	,	
Source of estimated world			ne + topson material		
factor:	i Operator i	23tmate			
iuctor.					
HOURLY PRODUCT	ΓΙΩΝ				
Average push distance:	60 feet				
Unadjusted hourly	1,872.0 LCY	//hr			
production:			<u></u>		
Materials consistency des	scription: Loose s	tockpile 1.2			
A	0.0/				
Average push gradient:	0 %				
Average site altitude:	7,400 feet	<u></u>			
Material weight:	2,132 lbs/LCY				
_					
Weight description:	User Provided				
Job Condition Correction	Factor		Source		

0.900	(AB.AVG.)
1.200	(CAT HB)
1.000	(GEN.)
1.000	(AVG.)
0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
1.079	(CAT HB)
1.000	(PAT)
	1.200 1.000 1.000 0.830 0.800 1.000 1.000 1.079

Net correction: 0.7738

Adjusted unit production: 1,448.55 LCY/hr
Adjusted fleet production: 4345.65 LCY/hr

## **JOB TIME AND COST**

Fleet size: 3 Dozer(s)
Unit cost: \$0.171/LCY

Total job time: 1.43 Hours
Total job cost: \$1,065

## **REVEGETATION WORK**

Task description:	Seed Rangeland Seed Mix on MR Areas

Site: New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012

### **PROJECT IDENTIFICATION**

Task #:734State:ColoradoAbbreviation:NoneDate:11/20/2018County:Las AnimasFilename:C012-734

User: JHB

Agency or organization name: DRMS

### **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials Cost/Acre	<b>\$10.20</b>

**Application** 

Description	Cost /Acre
Hand spread (MEANS 32 01 90.13 0100)	\$579.35
Total Fertilizer Application Cost/Acre	\$579.35

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acr	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	1.00	0.96	\$11.79
Blue Grama - Hachita	1.34	21.87	\$22.32
Little Bluestem - Cimarron	2.40	14.33	\$35.23
Sideoats Grama - Butte	5.00	16.41	\$49.50
Milk Vetch, Cicer - Monarch	0.66	2.20	\$5.54
Streambank Wheatgrass - Sodar	3.00	9.78	\$18.69
Sainfoin - Remont	3.34	1.46	\$10.82
Thickspike Wheatgrass - Critana	1.00	3.54	\$5.87
Western Wheatgrass - Arriba	4.00	10.10	\$33.12
Rabbitbrush, Rubber	0.30	4.47	\$19.75
Rose, Wood's	0.50	0.00	\$10.50
Daisy or Sunflower, Maximillians	0.22	1.25	\$12.36

Flax, Lewis Blue	0.22	1.46	\$3.72
Spike Muhly	0.66	24.24	\$6.51
Penstemon, Rocky Mountain	0.22	3.45	\$6.65
Totals Seed Mix	23.86	115.51	\$252.37

**Application** 

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

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	<b>Total Mulch Application Cost/Acre</b>	\$68.78

## **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:	2.22	Cost /Acre:	\$1,753.92
Estimated Failure Rate:	33%	Cost /Acre*:	\$519.59
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: \$3,893.70

Reseeding Job Cost: \$380.65

Total Job Cost: Job Hours: \$2,22

## **BULLDOZER WORK**

New Elk Mine	permit Action: Permit Re	anawal 07 Da	rmit/Ioh# C1001012	_
New Elk Mine	Permit Action: Permit Re	enewaru/ Pe	rmit/Job#: C1981012	
PROJECT IDENTIFICATION				
Task #: 738	State: Colorado		Abbreviation:	None
Date: 11/15/2018	County: Las Animas		Filename:	C012-738
User: JHB	County. <u>Las riminas</u>		i nename.	C012 730
Agency or organization	name: DRMS			
HOURLY EQUIPMENT COST				
Basic Machine: Cat D9T - 9SU	T			
Horsepower: 405	)			
Blade Type: Semi-Universa				
Attachment: NA				
Shift Basis: 1 per day				
Data Source: (CRG)	<del></del>			
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
Tatal aid Cand/III and \$247.60				
Total unit Cost/Hour: \$247.68				
Total Fleet Cost/Hour: \$247.68				
MATERIAL QUANTITIES				
WATERIAL QUANTITIES				
Initial Volume: 264				
Swell factor: 1.250				
Loose volume: 330 LCY				
Source of estimated volume:	Division of Reclamation, M	lining & Safety		
Source of estimated swell factor:	Operator Estimate	anning & burety		
bource of estimated swell factor.	Operator Estimate			
HOURLY PRODUCTION				
	50 feet			
Unadjusted hourly production:	2,110.5 LCY/hr			
Materials consistency description:	Partly consolidated stock	pile 1.1		
Average push gradient: 5 %				
Average push gradient. $\frac{5\%}{7,500}$ fe	et			
7,500 le	<del>~~</del>			
Material weight: 2,055 lb	os/LCY			
Weight description: User Pro	ovided			
Job Condition Correction Factor		Source		
Operator Skill:	0.900	(AB.AVG		
Material consistency:	1.100	(CAT HE	<u> </u>	
Dozing method:	1.000	(GEN.)	-	
Visibility:	1.000	(AVG.)		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.119	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6642

Adjusted unit production: 1,401.79 LCY/hr
Adjusted fleet production: 1401.79 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.177/LCY

Total job time: 0.24 Hours
Total job cost: \$58

## **BULLDOZER WORK**

	Permit Action: Per		Darmit/Ioh#: C1001012	<del></del>
New Elk Mine	remm Action: Per	mit Kenewai U/	Permit/Job#: <u>C1981012</u>	
PROJECT IDENTIFICATION				
Task #: 741	State: Colorad	lo.	Abbreviation:	None
Date: 11/15/2018	County: Las Ani		Filename:	C012-741
User: JHB	County. Las Am	inas	I fictiante.	C012-741
Agency or organization r	ame: DRMS			
	mine. Divis			
HOURLY EQUIPMENT COST				
Basic Machine: Cat D9T - 9SU				
Horsepower: 405 Blade Type: Semi-Universal				
71 <u></u>				
Shift Basis: 1 per day Data Source: (CRG)				
<del>- ` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' </del>				
Cost Breakdown:		Utilization	%	
Ownership Cost/Hour:	\$110.	-	<u> </u>	
Operating Cost/Hour:	\$95.			
Ripper own. Cost/Hour:	\$12.	36 NA		
Ripper op. Cost/Hour:	\$7.			
Operator Cost/Hour:	\$41.	52 NA		
	·			
Total unit Cost/Hour: \$267.92				
Total Fleet Cost/Hour: \$535.85				
MATERIAL QUANTITIES				
Initial Volume: 1,936				
Swell factor: 1.125				
Loose volume: <b>2,178</b> LCY				
Source of estimated volume:	Division of Reclamat	ion, Mining & Safety		
Source of estimated swell factor:	Operator Estimate	ion, mining ee sureej		
_	- F			
HOURLY PRODUCTION				
Average push distance: 20	00 feet			
	00.0 LCY/hr			
Materials consistency description:	Compacted fill or	embankment 0.9		
Average push gradient: 0 %				
Average site altitude: 7,500 fee	<u>t</u>			
Material weight: 2,132 lbs	LCY			
Weight description: User Pro	vided			
Job Condition Correction Factor		Source		
	0.900	(AB.A	VG.)	
Operator Skill:	0.500			
Operator Skill: Material consistency:	0.900	(CAT		
			HB))	

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5803

Adjusted unit production: 406.21 LCY/hr
Adjusted fleet production: 812.42 LCY/hr

## **JOB TIME AND COST**

Fleet size: 2 Dozer(s)
Unit cost: \$0.660/LCY

Total job time: 2.68 Hours
Total job cost: \$1,437

## **BULLDOZER WORK**

Task Dat Use	#: 747 te: 11/15/2	<b>FICATION</b>						
Dat Use	te: 11/15/2							
Dat Use	te: 11/15/2		State: Co	olorado		А	bbreviation:	None
Use		2018		as Animas			Filename:	C012-747
нопрі								
нопрі	Agency	or organization	n name: DRMS					
HOUNL	Y EQUIPM	IENT COST						
	c Machine:	Cat D9T - 9S	U					
Н	orsepower:	405						
	Blade Type:	Semi-Univers	sal					
	Attachment:	NA						
5	Shift Basis:	1 per day						
$\mathbf{D}_{i}$	ata Source:	(CRG)						
Cost Break	kdown:			1	*****			
0	1: 6 ./5	T		¢110.70	<u>Utilization (</u>	<u>%</u>		
	ership Cost/F			\$110.70	NA 100			
	erating Cost/F			\$95.46 \$0.00	100			
	r own. Cost/F			\$0.00	NA 0			
	per op. Cost/F							
Оре	erator Cost/F	iour:		\$41.52	NA			
	Cost/Hour: t Cost/Hour:	\$247.6 <b>\$247.6</b>			_			
MATER	IAL QUAN	<u>TITIES</u>						
Initia <sup>1</sup>	l Volume:	2,200						
		1.125						
Loos	e volume:	<b>2,475</b> LCY	-					
Course of	estimated vol	lumai	Division Estima	ata				
	estimated swi		Operator Estima					
Source or	estimated swi	en racior.	Operator Estim	aie	<u> </u>			
	Y PRODUC							
	ush distance:		125 feet		<u> </u>			
Unadjuste	d hourly prod	iuction:	1,055.6 LCY/hr		<u></u>			
Materials	consistency d	escription:	Consolidated	stockpile 1.0				
	ush gradient: ite altitude:	5 % 7,600 f	eet					
Material w	veight:	2,055 1	bs/LCY					
Weight de	scription:	User P	rovided					
Job Condi	tion Correction				Source			
		erator Skill:	0.900		(AB.A		<u>—</u>	
		consistency:	1.000		(CAT		<u></u>	
	Doz	ring method: _ Visibility:	1.000 1.000		(GEI		<u></u>	

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.119	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6038

Adjusted unit production: 637.37 LCY/hr
Adjusted fleet production: 637.37 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.389/LCY

Total job time: 3.88 Hours
Total job cost: \$962

Demo Worksheet Cont'd Task # TTT Page 125 of 162

## **DEMOLITION WORK**

Demolish and Remove Structures @ C&W area

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012	
			-		
	New Elk Mine	New Elk Mine Permit Action:	New Elk Mine Permit Action: Permit Renewal 07	New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#:	New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012

## **PROJECT IDENTIFICATION**

Task description:

Task #:	750	State:	Colorado	Abbreviation:	None
Date:	11/28/2018	County:	Las Animas	Filename:	C012-750

User: JHB

Agency or organization name: DRMS

### **UNIT COSTS**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
C&W Train Shop	110 X 70 X 30	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	231,000.00	CF	\$0.19	\$43,428.00
C&W Train Shop Office	70 X 24 X 12	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	20,160.00	CF	\$0.19	\$3,790.08
C&W Train Shop Slab	134 X 70	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	9,380.00	SF	\$0.83	\$7,776.02
10 Stall Garage	100 X 24 X 20	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	48,000.00	CF	\$0.19	\$9,024.00
10 Stall Garage Slab	100 X 24	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	2,400.00	SF	\$0.83	\$1,989.60
10 Stall Garage Apron	100 X 10	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	1,000.00	SF	\$0.83	\$829.00
Train Sand Loading Building	30 X 16 X 20	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,600.00	CF	\$0.19	\$1,804.80
Train Sand Loading Slab	30 X 16	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	480.00	SF	\$0.83	\$397.92
Train Sand Loading Apron	35 X 5.7	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	200.00	SF	\$0.83	\$165.80
Car Department	40 X 15 X 12	Bldg. (SN)	7,200.00	CF	\$0.19	\$1,353.60

Location adjustment: 94.00 %

Office		demo./on-site disposal in existing pit or cut - Max.				
Car Dept. Office Slab	56 X 20	10,000 ft. haul Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	1,120.00	SF	\$0.83	\$928.48
Car Dept. Office Sidewalk	50 X 3.5	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	175.00	SF	\$0.83	\$145.08
Fire Hose Building	8 X 8 X 8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	512.00	CF	\$0.19	\$96.26
Fire Hose Building Slab	8 X 8	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	64.00	SF	\$0.83	\$53.06
Fire Hose Propane Tank	16 X 3	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	144.00	CF	\$0.19	\$27.07

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
Job Hours:	24.00	(unadjusted):	\$71,808.77	location):	\$67,500.24

## **BULLDOZER WORK**

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:C1981012
PROJECT IDENTIFICATION	<u>ON</u>		
Task #: 751	State: Colorado		Abbreviation: None
Date: 11/15/2018	County: Las Anima	ıs	Filename: C012-751
User: JHB		···	
Agency or organization	name' DRMS		
HOURLY EQUIPMENT CO	<u>OST</u>		
Basic Machine: Cat D9T - 9	SU	_	
Horsepower: 405		_	
Blade Type: Semi-Unive	rsal		
Attachment: 3-shank ripp	oer	<del>_</del>	
Shift Basis: 1 per day		_	
Data Source: (CRG)		=	
		_	
Cost Breakdown:	ı	TT-111 .1 0/	
0 1: 0	**** ==	<u>Utilization %</u>	
Ownership Cost/Hour:	\$110.70	NA	
Operating Cost/Hour:	\$95.46	100	
Ripper own.	\$12.36	NA	
Cost/Hour:		IVA	
Ripper op. Cost/Hour:	\$7.88	100	
Operator Cost/Hour:	\$41.52	NA	
MATERIAL QUANTITIES  Initial Volume: 14,520 Swell factor: 1.125 Loose volume: 16,335 LCY  Source of estimated volume: Source of estimated swell factor:  HOURLY PRODUCTION  Average push distance:	Map 11, Map 15 Operator Estimate		
Unadjusted hourly	1,243.2 LCY/hr	<del></del>	
production:			
Materials consistency description	Dry, non-cohesive (	).8	
Average push gradient: 0 %			
Average site altitude: 7,500	feet		
7,500			
Material weight: 2,132	lbs/LCY		<u> </u>
Weight description: User F	Provided		
Job Condition Correction Factor		Source	

0.900	(AB.AVG.)
0.800	(CAT HB)
1.000	(GEN.)
1.000	(AVG.)
0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
1.079	(CAT HB)
1.000	(PAT)
	0.800 1.000 1.000 0.830 0.800 1.000 1.000 1.079

Net correction: 0.5158

Adjusted unit production: 641.24 LCY/hr
Adjusted fleet production: 1282.48 LCY/hr

## **JOB TIME AND COST**

Fleet size: 2 Dozer(s)
Unit cost: \$0.418/LCY

Total job time: 12.74 Hours
Total job cost: \$6,825

Demo Worksheet Cont'd Task # TTT Page 129 of 162

## **REVEGETATION WORK**

7	ask description:	Reseed C&W Facilities Are	a with Rangeland Mix			:
Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012	

## **PROJECT IDENTIFICATION**

Task #:753State:ColoradoAbbreviation:NoneDate:11/20/2018County:Las AnimasFilename:C012-753

User: JHB

Agency or organization name: DRMS

## **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials	
			Cost/Acre	\$10.20

### **Application**

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

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre	
Buffalograss - Bison	0.50	0.48	\$5.90	
Blue Grama - Hachita	0.67	10.94	\$11.16	
Little Bluestem - Cimarron	1.20	7.16	\$17.62	
Sideoats Grama - Butte	2.50	8.21	\$24.75	
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77	
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35	
Sainfoin - Remont	1.67	0.73	\$5.41	
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94	
Western Wheatgrass - Arriba	2.00	5.05	\$16.56	
Rabbitbrush, Rubber	0.15	2.23	\$9.88	
Rose, Wood's	0.25	0.00	\$5.25	
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.18	

Flax, Lewis Blue	0.11	0.73	\$1.86
Spike Muhly	0.33	12.12	\$3.25
Penstemon, Rocky Mountain	0.11	1.72	\$3.32
Totals Seed Mix	11.93	57.76	\$126.18

**Application** 

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

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

### **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

			Φ <b>2 7 0 4 0</b>
Estimated Failure Rate: 339	3%	Cost /Acre*:	\$358.18

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$6,843.96

Reseeding Job Cost: 709.20

Total Job Cost: 57,553

12.00

## HYDRAULIC EXCAVATOR WORK

Task description:	ReplaceTopso	il to Zig Zag	Road			
: New Elk Mine	P	Permit Action:	Permit Renewal	1 07 I	Permit/Job#	#: <u>C1981012</u>
PROJECT IDENTIF	<u>ICATION</u>					
Task #: 759	State	: Colorado		Abb	reviation:	None
Date: 11/20/2018					Filename:	C012-759
User: JHB		-		<del></del>		
Agency or orga	nization name:	DRMS				
HOURLY EQUIPMI	ENT COST					
Basic Machine: Cat 320D L 9'-6" Stick			Horsepower:		148	
Attachment 1:	ROPS Cab			Weight (MT):		21.55
- -			Shift Basis:		1	per day
				Data Source:	(	CRG)
Cost Breakdown:						
			Utilization %			
Ownership Cost/l		3.90	NA			
Operating Cost/l	Hour: \$30	6.00	100	_		
Operator Cost/l		7.79	NA	_		
Total Unit Cost/l	Hour: \$10	7.69				
Total Fleet Cost	/Hour: \$1	07.69	-			
MATERIAL QUANT	TITIES					
	08	CCY	Swell fact	or: 1.000		
Loose volume: 1	08	LCY				
Source	of estimated volum	ne: 0.2 ac. X	X assume 4" topsoi	il		
Source of es	timated swell facto		r Estimate			
Excavator Cycle Time (le	<u>.</u>	<del>-</del>	bucket, swing emp		W AVERA	\GE
	Secondary Job	Condition wit	thin Basic Descript	tion: AVER	AGE	
			Cycle Time Va	alue: 0.323		minutes
Load Bucket Capacity						
				Bucket Size	Class: N	Medium
Rated Capacity		LCY (he	•			
Bucket Fill Factor			rock/dirt mixtures	(100-120%)	1.100	
Adjusted Capacity	7: <b>1.69</b>	LCY				
Job Condition Correction	Factors Factors		Site	e Altitude: 770	) feet	
		Sourc				
Altitude Adj:	0.87	(CAT H				
Job Efficiency:	0.83	(1 shift/c				
Net Correction:	0.72	multiplie	er			
	adjusted Hourly Ur			LCY/Hour		
	djusted Hourly Ur			LCY/Hour		
A	djusted Hourly Fle	et Production	227.23	LCY/Hour		
JOB TIME AND CO	<u>ST</u>					
Fleet size:	l Excav	ator 7	Total job time:	0.4	7	Hours
				-		_
Unit cost: \$0.	474 /LCY		Total job cost:	\$5	1	

## **BULLDOZER RIPPING WORK**

	Task description:	Rip Zig Zag Road and	l Slurry Lin	ne Road				
Site:	New Elk Mine	Permit A	ction: Peri	mit Renewal	1 07 Permit	/Job#:	C1981012	
	PROJECT IDE	<u>NTIFICATION</u>						
	Task #: 760	State: Col	orado		Abbreviat	ion:	None	
			Animas		Filena	_	C012-760	
	User: JHB					_	2012 700	
	Agency	or organization name: DRMS						
		JIPMENT COST						=
		Sachine: Cat D9T - 9SU			Horsepower:	40	05	
	Ripper Atta				Shift Basis:		r day	-
	Tupper Time				Data Source:		RG)	=
	Cost Breakdown:						,	=
					Utilization %			
		Ownership Cost/Hour:	\$	\$110.70	NA			
		Operating Cost/Hour:		\$95.46	100			
		Ownership Cost/Hour:		\$12.36	NA 100			
	Rippe	er Operating Cost/Hour:		\$7.88	100			
		Operator Cost/Hour: Total Unit Cost/Hour:		\$41.52 \$267.92	NA			
		Total Clift Cost/Hour.	4	0207.92				
		Total Fleet Cost/Hour:	\$803.77					
	MATERIAL Q	<u>UANTITIES</u>	Selected	estimating i	method: Area			
	Alternate Methods	<u>s:</u>						
mic:	NA	Bank Vol	ume: NA		BCY	1	NA	
Area:	0.80	acres Rip Depth	(ft): 1.00	)	Volume: 1,291		В	CY or (
		Source of estimated quantity:	PAP Page 2	.05-7c. Map	12. Map 11-sheet 1			
	HOURLY PRO			· · · · · · · · · · · · · · · · · · ·	,			=
	Seismic:	beerion						
	Seisilic.	Seismic Velocity:		NA	feet/second			
	<b>A</b>	<u> </u>						
	Area:	Average Ripping Depth:		2.63	mph			
		Average Ripping Depth.  Average Ripping Width:		7.67	degrees			
		Average Ripping Length:		75.00	feet			
		Average Dozer Speed:		88.00	feet			
		Average Maneuver Time:	-	0.25	feet			
		Production per unit area:		0.719	acres/hour			
	Job Condition Con	rection Factors						
	Una	djusted Hourly Unit Production:		0.719	Acres/hr			
		Site Altitude:		7,700	feet			
		Altitude Adj:		1.00	(CAT HB)			
		Job Efficiency:		0.83	(1 shift/day)			
		Net Correction:	-	0.83	multiplier			
			uction:	0.60	Acres/hr			
		Adjusted Hourly Unit Produ Adjusted Hourly Fleet Produ		1.79	Acres/hr Acres/hr			
	JOB TIME AN	·			<del></del>			
	Fleet size:	3 Grader(s)	То	tal job time:	0.45		Hours	
	1 1001 3120.	J Grader(s)	10	an joo mile.	. <u>v.+3</u>		110u18	

Unit cost: \$449.051 Per acre Total job cost: \$359

## **REVEGETATION WORK**

Task descri	ption:	Reseed Zig Zag	with Rangel	and Mix		
te: New Elk	Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJEC"	Γ IDENTIFI	<u>CATION</u>				
Task #:	761	State:	Colorado		Abbreviation:	None
	11/20/2010	County:	Las Anima	ac	Filename:	C012-761
Date:	11/20/2018	County.	Las Allilla	ro.	i ilciiailic.	C012 /01

## **FERTILIZING**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials	<b>\$10.20</b>
			Cost/Acre	\$10.20

Application

Description	Cost /Acre
NA-fertilizer application incl. with hydroseeding	\$0.00
Total Fertilizer Application Cost/Acre	\$0.00

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	1.00	0.96	\$11.79
Blue Grama - Hachita	1.34	21.87	\$22.32
Little Bluestem - Cimarron	2.40	14.33	\$35.23
Sideoats Grama - Butte	5.00	16.41	\$49.50
Milk Vetch, Cicer - Monarch	0.66	2.20	\$5.54
Streambank Wheatgrass - Sodar	3.00	9.78	\$18.69
Sainfoin - Remont	3.34	1.46	\$10.82
Thickspike Wheatgrass - Critana	1.00	3.54	\$5.87
Western Wheatgrass - Arriba	4.00	10.10	\$33.12
Rabbitbrush, Rubber	0.30	4.47	\$19.75
Rose, Wood's	0.50	0.00	\$10.50

Daisy or Sunflower, Maximillians	0.22	1.25	\$12.36
Flax, Lewis Blue	0.22	1.46	\$3.72
Spike Muhly	0.66	24.24	\$6.51
Penstemon, Rocky Mountain	0.22	3.45	\$6.65
Totals Seed Mix	23.86	115.51	\$252.37

**Application** 

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$919.12
	<b>Total Seed Application Cost/Acre</b>	\$919.12

## **MULCHING and MISCELLANEOUS**

#### Materials

Description  Hydromulch, 1 ton/ac. rate {Materials Only}	Units / Acre 2.00	Unit ACRE	Cost / Unit \$496.58	Cost /Acre \$993.16
Total Mulch Materials Cost/Acre	2.00	ACKE	\$490.38	\$993.16

**Application** 

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

## **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:	0.8	Cost /Acre:	\$2,174.85
Estimated Failure Rate:	33%	Cost /Acre*:	\$1,171.49
*Coloated Domlanting Work Itamer	CEEDING		

\*Selected Replanting Work Items: SEEDING

Initial Job Cost:
Reseeding Job Cost:
Total Job Cost:
Job Hours:

\$1,739.88

\$309.27

\$2,049

1.60

Demo Worksheet Cont'd Task # TTT Page 136 of 162

## SCRAPER TEAM WORK

		<u> </u>	121111 // 01111			
Task description:	Replace T	opsoil to West D	WDA			
Site: New Elk Mine		Permit Action	: Permit Renewa	1 07 Peri	mit/Job#: C1981	1012
PROJECT IDENT	<u> TIFICATION</u>					
Task #: 762	;	State: Colorad	0	Abbrev	viation: None	
Date: 11/16/2 User: JHB	2018 Co	unty: Las Ani	mas	File	ename: C012-7	62
	organization name	DRMS				
HOURLY EQUIP	MENT		COSTS	Shift basis: 1 per d	<u>ay</u>	
		Equip	ment Description			
			27G w/push-pull 9T - 9SU			
Suppor	rt Equipment -Loa	d Area: NA	71 - 750			
Road Mai	-Dum ntenance –Motor	p Area: NA Grader: CAT	14M			
			Tanker, 5,000 Gal			
Cost Breakdown:	Scraper Wo	ork Team	Support Equi	pment	Maintenance	Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	NA	NA	50	50
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	\$60.13	\$25.30
Operating cost/hour:	\$128.41	\$95.46	NA	NA	\$25.43	\$18.30
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21.23

Total work team cost/hour: \$963.59

#### **MATERIAL QUANTITIES**

Unit Subtotals:

Number of Units:

Group Subtotals:

Initial volume: 39,912 **CCY** Swell factor: 1.125

\$247.68

\$784.50

1

Loose volume: 44,901 LCY

\$268.41

Work:

Division of Reclamation, Mining & Safety Source of estimated volume:

Source of estimated swell factor: Operator Estimate

#### **HOURLY PRODUCTION**

#### Scraper Bowl (volume) Basis:

NA

Support:

0

NA

\$0.00

0

\$114.26

Maint:

1

\$21.23 \$64.83

\$179.09

1

Material weight: 2,055 lbs/LCY Struck Volume: 15.70 LCY 22.00 LCY Material description: User Provided Heaped Volume: Rated Payload: 52,800 pounds Average Volume: 18.85 LCY Payload Capacity: 25.69 LCY Adjusted Capacity: 18.85 LCY Cycle Time:

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.90} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \end{array}$ 

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

**Travel Time:** 

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	1381	0.78

Haul Time: **0.78** minutes

Site Altitude: 7600 feet

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	2938	0.41

Return Time: 0.41 minutes Total Scraper team cycle time: 2.69 minutes Adjusted for job conditions: 670.19 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 670.19 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 670.19 LCY/Hour

Unadjusted unit production/hour:	840.89	LCY/Hou
Optimal Number of Scrapers per push dozer:		

### **JOB TIME AND COST**

Fleet size:	1	_ Team(s)	Total job time:	67.00	Hours
Unit cost:	\$1.438	/LCY	Total job cost:	\$64,558	

Demo Worksheet Cont'd Task # TTT Page 138 of 162

# MOTOR GRADER WORK

		est DWDA A				
New Elk Mine	Per	mit Action:	Permit Renev	val 07 Pe	ermit/Job#:	C1981012
PROJECT IDENT	<u> </u>					
Task #: 764 Date: 11/20/20 User: JHB	State: County:	Colorado Las Anima	S		eviation: _ ilename: _	None C012-764
Agency or or	rganization name: DI	RMS				
HOURLY EQUIP	MENT COST					
Basic Mach			_	Horsepower:		59
Ripper Attachm	nent:		<u>—</u>	Shift Basis: Data Source:		r day RG)
Coot Dunal-day				Data Source.	(C)	NG)
Cost Breakdown:				Utilization %		
	wnership Cost/Hour:		\$60.13	NA		
	Operating Cost/Hour:		\$50.87 \$0.00	100 NA		
	wnership Cost/Hour:		\$0.00	NA		
	Operator Cost/Hour:		\$28.69	NA		
To	otal Unit Cost/Hour:		\$139.69			
To	otal Fleet Cost/Hour:	\$139	0.69			
			_			
MATERIAL QUA						
	NTITIES rea to be graded or rippe	ed: 10.20				acres
Total A		·				acres
Total Ai	rea to be graded or rippeource of estimated acreas	·				acres
Total A	rea to be graded or rippe ource of estimated acreas	ge: NECC	1.50	mph		acres
Total Ai	rea to be graded or rippeource of estimated acreas	ge: NECC	1.50 Finish	mph grading (0-2.5 mp	oh) - 1.5	acres
Total Ai	rea to be graded or rippe ource of estimated acreas UCTION Average Grader Sp Selected Applica Selected Blade A	peed:	Finish 45	grading (0-2.5 mg degrees	oh) - 1.5	acres
Total Ai So <u>HOURLY PRODU</u>	rea to be graded or rippe ource of estimated acreas UCTION  Average Grader Spansier Selected Applica Selected Blade A Effective Blade Lei	peed:	Finish 45 9.90	grading (0-2.5 mp degrees feet	oh) - 1.5	acres
Total Ai So <b>HOURLY PRODU</b> Wid	rea to be graded or rippe ource of estimated acrease SUCTION  Average Grader Spansier Selected Applicates Selected Blade Are Effective Blade Leadth of blade overlap per	ge: NECC  peed: ution: ngle: ngth: pass:	Finish 45 9.90 2.00	grading (0-2.5 mp degrees feet feet	oh) - 1.5	acres
Total Ai So HOURLY PRODU Wid Net gradii	rea to be graded or rippe ource of estimated acreas UCTION  Average Grader Spansier Selected Applica Selected Blade A Effective Blade Lei	peed:	Finish 45 9.90	grading (0-2.5 mp degrees feet		acres
Total Ai So HOURLY PRODU Wid Net gradii	rea to be graded or ripper purce of estimated acrease STATION  Average Grader Space Selected Applicate Selected Blade Acreate Blade Leadth of blade overlap per pag or ripping width per sted Hourly Unit Production.	peed:	Finish 45 9.90 2.00 7.90 1.4364	grading (0-2.5 mp degrees feet feet feet	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct	rea to be graded or ripper ource of estimated acreases.  JCTION  Average Grader Spaneted Applicated Blade Applicated Blade Applicated Blade Leadth of blade overlap per ang or ripping width per sted Hourly Unit Production Factors	ge: NECC  peed: tion: mgle: mgth: pass: pass: tion: Source	Finish 45 9.90 2.00 7.90 1.4364	grading (0-2.5 mp degrees feet feet feet acres/ho	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct	rea to be graded or ripper purce of estimated acrease of the purce of estimated acrease of the purce of estimated acrease of the purce	ge: NECC  peed: tion: mgle: mgth: pass: pass: tion: Source (CAT HE	Finish 45 9.90 2.00 7.90 1.4364 S	grading (0-2.5 mp degrees feet feet feet acres/ho	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct  Altitude Adj  Job Efficiency	rea to be graded or ripper purce of estimated acrease of the purce of estimated acrease of the purce of estimated acrease of the purce	ge: NECC  peed: tition: ngle: pass: pass: tition:  Source (CAT HE (1sh/d, mo	Finish 45 9.90 2.00 7.90 1.4364 S	grading (0-2.5 mp degrees feet feet feet acres/ho	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct	rea to be graded or ripper purce of estimated acrease ource of estimated Applicate Selected Blade Acres of Effective Blade Lendth of blade overlap per ing or ripping width per ested Hourly Unit Production Factors  j: 1.00	ge: NECC  peed: tion: ngle: ngth: pass: pass: tion:  Source (CAT HE (1sh/d, mo multiplier	Finish 45 9.90 2.00 7.90 1.4364  S 6)	grading (0-2.5 mp degrees feet feet feet acres/ho ite Altitude: 7680	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct  Altitude Adj  Job Efficiency	rea to be graded or ripper purce of estimated acrease ource of estimated Application Selected Application Blade Application of blade overlap per ingor ripping width per instead Hourly Unit Production Factors  j: 1.00  j: 0.85  j: 0.8500  Adjusted Hourly Unit	ge: NECC  peed:	Finish 45 9.90 2.00 7.90 1.4364 S 3) d.)	grading (0-2.5 mp degrees feet feet feet acres/ho ite Altitude: 7680	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct  Altitude Adj  Job Efficiency	rea to be graded or ripper purce of estimated acrease ource of estimated Applicate Selected Blade Acres of Effective Blade Lendth of blade overlap per ing or ripping width per ested Hourly Unit Production Factors  j: 1.00	ge: NECC  peed:	Finish 45 9.90 2.00 7.90 1.4364  S 6)	grading (0-2.5 mp degrees feet feet feet acres/ho ite Altitude: 7680	ur	acres
Total An So  HOURLY PRODU  Wid  Net gradin  Unadjus  Job Condition Correct  Altitude Adj  Job Efficiency	Average Grader Sp. Selected Applica Selected Blade A Effective Blade Ledth of blade overlap per ing or ripping width per isted Hourly Unit Production Factors  1.00 7: 0.85 1: 0.8500  Adjusted Hourly Unit Algusted Hourly Fleet	ge: NECC  peed:	Finish 45 9.90 2.00 7.90 1.4364 S 3) d.)	grading (0-2.5 mp degrees feet feet feet acres/ho ite Altitude: 7680	ur	acres

Unit cost: \$114.41 per acre Total job cost: \$1,167

Demo Worksheet Cont'd Task # TTT Page 140 of 162

# **REVEGETATION WORK**

: New Elk	Mine	Per	mit Action: Perm	nit Renewal 07	Permit/Job#:	C1981012
PROJEC'	Γ IDENTIFIC	CATION				
Task #:	765	State:	Colorado		Abbreviation:	None
Date:	11/20/2018	County:	Las Animas		Filename:	C012-765
User:	JHB				- -	

## **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.34	\$10.20
			Total Fertilizer Materials	
			Cost/Acre	\$10.20

Application

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

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$5.90
Blue Grama - Hachita	0.67	10.94	\$11.16
Little Bluestem - Cimarron	1.20	7.16	\$17.62
Sideoats Grama - Butte	2.50	8.21	\$24.75
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35
Sainfoin - Remont	1.67	0.73	\$5.41
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94
Western Wheatgrass - Arriba	2.00	5.05	\$16.56
Rabbitbrush, Rubber	0.15	2.23	\$9.88
Rose, Wood's	0.25	0.00	\$5.25
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.18

Flax, Lewis Blue		0.11	0.73	\$1.86
Spike Muhly		0.33	12.12	\$3.25
Penstemon, Rocky Mountain		0.11	1.72	\$3.32
	<b>Totals Seed Mix</b>	11.93	57.76	\$126.18

**Application** 

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

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	<b>Total Mulch Application Cost/Acre</b>	\$161.56

## **NURSERY STOCK PLANTING**

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

### **JOB TIME AND COST**

No. of Acres:	10.2	Cost /Acre:	\$1,140.66
Estimated Failure Rate:	33%	Cost /Acre*:	\$358.18
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: \$11,634.73

Reseeding Job Cost: \$1,205.63

Total Job Cost: Job Hours: 20.40

# TRUCK/LOADER TEAM WORK

Task description:	Replace Topsoil on	NW vent	Fan Area (T	R72)		
Site: New Elk Mine	Permi	t Action:	Permit Renev	val 07	Permit/Job#:	C1981012
PROJECT IDENTIFI	<u>CATION</u>					
Task #: 766 Date: 11/30/2018 User: JHB		Colorado Las Anima	.s	Ab	breviation: Filename:	None C012-766
Agency or organ  HOURLY EQUIPME		IS		Shift bas	sis: 1 per day	
		Equi	pment Descrip	otion		
Truck I	Loader Team -Truck:	Generic	8-10 cy, 6x4			
	-Loader:	CAT 92	8Hz			
Support Eq	uipment -Load Area:	NA				
	-Dump Area:	Cat D87	` - 8SU			
Road Mainten	ance –Motor Grader:	NA				
	-Water Truck:	NA				
Cost Breakdown:	Truck/Loader Team		Support E	quipment		tenance Equipment

Cost Breakdown:	Truck/Loa	Truck/Loader Team		Equipment	Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	45	NA	100	NA	NA
Ownership cost/hour:	\$15.87	\$19.87	NA	\$93.62	NA	NA
Operating cost/hour:	\$40.15	\$10.78	NA	\$73.35	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$0.00	\$40.90	NA	\$41.52	NA	NA
Unit Subtotals:	\$56.02	\$71.56	NA	\$208.49	NA	NA
Number of Units:	1	1	0	1	0	0
Group Subtotals:	Work:	\$127.58	Support:	\$208.49	Maint:	\$0.00

Total work team cost/hour: \$336.07

### **MATERIAL QUANTITIES**

Initial volume: 694 CCY Swell factor: 1.215

Loose volume: 843 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell factor: Cat Handbook

Material Purchase Cost: \$0.00

Total Cost: \$0.00

## **HOURLY PRODUCTION**

## **Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: 1,600 Pounds/LCY
Description: Top Soil

Rated Payload: 27,280 Pounds Payload Capacity: 17.05 LCY

Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume: _	10.00	LCY				
Eine	1 Tayal, Waluma	Dood on Number of Loo	dan Daggagi	0.00	LCV	
	i iruck volume	Based on Number of Load	ier Passes:	9.90	LCY	
Loading Tool Capacity			D	last Cias Classes	т <b>А</b>	
Rated Capacity:	3.000	LCY (heaped)	Вис	ket Size Class: N	NA	_
Bucket Fill Factor:	1.100	Other - rock/dirt mix	ures (100	0-120%) 1.100		_
Adjusted Capacity:	3.300	LCY	(100	120,0) 11100		=
Job Condition Corrections	<b>:</b> :	Site Alı	itude (ft.):	7350 feet		
goo conumon corrections	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE			
Job Efficiency:	0.830	0.830	(CAT HE	,		
Net Correction:	0.830	0.830				
	0.000	0.000				
<b>Loading Tool Cycle Time</b>	<u>:</u>	Number of Loading Tool P	asses Requ		3 p	asses
Excavators and Front Shove	els:			Truck:		
Machine Cycle Time v	vs. Job Condition	n Rating: NA				
-	within this Basic					
Track Loaders -	- Material Descri	iption:				
Cycle Time Elements (min.)		-				
Load: NA		Ianeuver: NA		Dump: 0.100	)	
Loud. 1471		1471	_	Dump. 0.100	<del>,</del>	
Wheel and Track Loaders	- Unadjusted Ba	asic Loader Cycle Time (lo	ad, dump,	maneuver):0	).475 min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed materi			0.020	(Cat HB)	
Stockpile:	Dumped by to			0.020	(Cat HB)	_
Truck Ownership:		nership of trucks and loade	ers -0.04	-0.040	(Cat HB)	
Operation:	Constant ope			-0.040	(Cat HB)	_
Dump Target:	Nominal targ		• , ,	0.000	(Cat HB)	
		Net Cycle Time Ad		-0.040	minutes	
		Adjusted Loader Cy		0.435	minutes	
		Net Load Time p	er Truck:	0.970	minutes	
Truck Cycle Time:						
Truck Exchange Time	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minu
Truck Load Time	e: 0.970	Minutes	Adjusted	for site altitude:	0.970	Minu
ck Maneuver and Dump Time	e: 0.80	Minutes	Adjusted	for site altitude:	0.800	Minut
Truck Travel (Haul & Return penetration 5.0	n) Time:	Road Condition: Rutter	d dirt, little	maintenance, no wa	ater, 2" tire	

#### Haul Route:

Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	8.00	5.00	13.00	834	0.607
2	250.00	6.00	5.00	11.00	1018	0.247

Haul Time: 0.854 minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-6.00	5.00	-1.00	2938	0.127
2	500.00	-8.00	5.00	-3.00	2938	0.228

Return Time: 0.355 minutes
Total Truck Cycle Time: 3.479 minutes

1	∠oadin	σТ	ററി	unit
	Daum	<u> </u>	OOI	umu

Adjusted hourly truck team production: 141.71 LCY/Hour Adjusted single truck/loader team production: 141.71 LCY/Hour Adjusted multiple truck/loader team production: 141.71 LCY/Hour

#### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 5.95
 Hours

 Unit cost:
 \$2.371
 /LCY
 Total job cost:
 \$2,000

## **BULLDOZER WORK**

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#: <u>C1981012</u>
PROJECT IDENTIFICATION	<u>N</u>		
Task #: 767	State: Colorado		Abbreviation: None
Date: 11/30/2018	County: Las Anima	ns	Filename: C012-767
User: JHB	•		
Agency or organization na	me: DRMS		
HOURLY EQUIPMENT COS	Т		
Basic Machine: Cat D8T - 8SU	<del></del> '		
Horsepower: 310		<del></del>	
Blade Type: Semi-Univers	al	<del></del>	
Attachment: 3-shank ripper	•	<del>_</del>	
Shift Basis: 1 per day		<del></del>	
Data Source: (CRG)		<u> </u>	
		<del>_</del>	
Cost Breakdown:		TT/11 - /1 - 0/	
Overnanskin Cost/H	¢02.62	<u>Utilization %</u>	
Ownership Cost/Hour:	\$93.62 \$73.35	NA 100	
Operating Cost/Hour:	\$73.35	100	
Ripper own. Cost/Hour:	\$8.93	NA	
	¢1 17	15	
Ripper op. Cost/Hour:  Operator Cost/Hour:	\$1.17 \$41.52	15 NA	
MATERIAL QUANTITIES			
Initial Volume: 1,111			
Initial Volume: 1,111 Swell factor: 1.165			
Loose volume: 1,294 LCY			
Source of estimated volume:	Division of Reclamati	on, Mining & Safety	
Source of estimated swell	Cat Handbook		
factor:			
HOURLY PRODUCTION			
	2.0		
<u></u>	) feet		
	400.0 LCY/hr		
production:			
Materials consistency description:	Compacted fill or e	mbankment 0.9	
A			
Average push gradient:5 %			
Average site altitude: 7,300 fe	et		
March Cale	ЛОУ		
Material weight: 2,900 lb	S/LCY		<u> </u>
Weight description: Decomp	osed rock - 50% Rock	, 50% Earth	
Job Condition Correction Factor		Source	

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3963

Adjusted unit production: 554.82 LCY/hr
Adjusted fleet production: 554.82 LCY/hr

## **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.394/LCY

Total job time: 2.33 Hours 5510

Demo Worksheet Cont'd Task # TTT Page 147 of 162

## **REVEGETATION WORK**

Γask description:	Seed NW Vent Fan and Acc	cess Road (TR72)		
New Elk Mine	Permit Action:	Permit Renewal 0	7 Permit/Job#	: C1981012
PROJECT IDENTIF	<u>ICATION</u>			
Task #:768	State: Colorado		Abbreviation:	None
Date: 11/30/2018	County: Las Anim	as	Filename:	C012-768
User: JHB				
FERTILIZING  Materials				
Description	Un Ac	its / re Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer	

**Application** 

	Cost /Acre
	\$
stal Fertilizer Application Cost/Acre	\$0.00
•	tal Fertilizer Application Cost/Acre

## **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.67	10.94	\$9.95
Buffalograss - Native/Plains	0.50	0.48	\$6.06
Little Bluestem - Native	1.20	7.16	\$19.36
Sideoats Grama - Vaughn	2.50	8.21	\$25.60
Smooth Brome - Lincoln	1.00	3.33	\$4.36
Kleingrass - Select 75	0.33	3.77	\$3.27
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.77
Streambank Wheatgrass - Sodar	1.50	4.89	\$9.35
Sainfoin - Remont	1.67	0.73	\$5.41
Thickspike Wheatgrass - Critana	0.50	1.77	\$2.94

Materials Cost/Acre

\$0.00

Western Wheatgrass - Native	2.00	5.05	\$14.34
TALGIN	12.20	47.42	
Totals Seed Mix	12.20	17.12	\$103.40

Application

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

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
	<b>Total Mulch Application Cost/Acre</b>	\$68.78

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	ek Cost / Acre	\$0.00

#### **JOB TIME AND COST**

No. of Acres:	1.55	Cost /Acre:	\$980.18	
Estimated Failure Rate:	40%	Cost /Acre*:	\$980.18	
*Selected Replanting Work Items:	SEEDING, MULCI	HING		

Initial Job Cost: \$1,519.28

Reseeding Job Cost: \$607.71

Total Job Cost: \$2,127

Job Hours: 1.55

Demo Worksheet Cont'd Task # TTT Page 149 of 162

## **BOREHOLE SEALING WORK**

	Task description:	Seal Additi	ional Wells			
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/	Job#: <u>C1981012</u>
<u>PROJE</u>	ECT IDENTIFICATIO	<u>ON</u>				
Task #	: _ 772	State:	Colorado		Abbreviation:	None
Date	: 11/20/2018	County:	Las Animas		Filename:	C012-772
User	: ЈНВ					
	Agency or organiz	ation name:	DRMS			

## **UNIT COSTS**

Borehole	Sealing/Item Method						T . 1 G .
Description		Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal SF2	Portland cement grout ( Bag, material cost only94 lb. bag)	7.625	700.6	122.28	bag	\$13.80	\$1,687.46
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$79.19	\$79.19
Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$1.83	\$1.83
Seal NM20	Portland cement grout ( Bag, material cost only94 lb. bag)	7.625	507	88.48	bag	\$13.80	\$1,221.02
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$79.19	\$79.19
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$1.83	\$1.83
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
Seal NM21	Portland cement grout ( Bag, material cost only94 lb. bag)	7.625	1244.5	217.21	bag	\$13.80	\$2,997.50
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$79.19	\$79.19
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$1.83	\$1.83
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
Seal NM22	Portland cement grout (	7.625	562.7	98.21	bag	\$13.80	\$1,355.30

Demo Worksheet Cont'd Task # TTT Page 150 of 162

	Bag, material cost only94 lb. bag)						
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$79.19	\$79.19
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$1.83	\$1.83
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
Seal NM23	Portland cement grout ( Bag, material cost only94 lb. bag)	7.625	1388.91	242.41	bag	\$13.80	\$3,345.26
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$79.19	\$79.19
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$1.83	\$1.83
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$3.67	\$3.67
Drill Rig	Atlas Capco DM45/HP - 9.0"	7.625	NA	36.00	EA	\$244.31	\$8,795.16
Flatbed Equipment Truck	Flatbed Truck, 4x2, 15K GVW	NA	NA	36.00	EA	\$20.88	\$751.68
Water Truck	Water Tanker, 5,000 Gal.	NA	NA	36.00	EA	\$61.90	\$2,228.40

Job Hours:	36.00	Total Cost:	\$22,805.00
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Demo Worksheet Cont'd Task # TTT Page 151 of 162

## SITE MAINTENANCE

	Task description:	Site Maint	enance during th	ne 10 year liability pe	eriod				
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/	Job#: <u>C1981012</u>			
<b>PROJE</b>	CT IDENTIFICATIO	<u>N</u>							
Task #: Date: User:	11/28/2018	State: County:			Abbreviation: Filename:	None C012-773			
Agency or organization name: DRMS									
LINIT C	OCTC								

### <u>UNIT COSTS</u>

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Rill and gully repair	400.00	Cat D3K LGP - 3P	400.00	EA	\$86.35	\$34,540.00

Job Hours: 400.00 Total Cost: \$34,540.00

### TRUCK/LOADER TEAM WORK

Task description: Import Topsoil for			RDA		
Site: New Elk Mine Permi			t Action: Permit Renewal 0	Permit/Job#:	C1981012
]	PROJECT IDENTIFIC	<u>CATION</u>			
	Task #: 774	State:	Colorado	Abbreviation:	None
	Date: 11/19/2018	County:	Las Animas	Filename:	C012-774
	User: JHB				
	Agency or organiz		IS		
]	<u>HOURLY EQUIPMEN</u>	NT COST		Shift basis: 1 per day	
			Equipment Description		
	Truck Lo	oader Team -Truck:	Generic 15-18 cy, 6x4		<del></del> ,
-Loader:			CAT 988H		
Support Equipment -Load Area:			NA		
-Dump Area:			NA		
	Road Maintena	nce –Motor Grader:	NA		
		-Water Truck:	NA		

Cost Breakdown:	eakdown: Truck/Loader Team		Support 1	Equipment	Maintenance Equipment		
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100	0	NA	NA	NA	NA	
Ownership cost/hour:	\$27.28	\$87.28	NA	NA	NA	NA	
Operating cost/hour:	\$50.67	\$0.00	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:	\$108.31	\$128.18	NA	NA	NA	NA	
Number of Units:	4	1	0	0	0	0	
Group Subtotals:	Work:	\$561.42	Support:	\$0.00	Maint:	\$0.00	

Total work team cost/hour: \$561.42

#### **MATERIAL QUANTITIES**

Initial volume: 14,563 CCY Swell factor: 1.000

Loose volume: 14,563 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell factor: Cat Handbook

Material Purchase Cost: \$10.00

Total Cost: \$145,630.00

## **HOURLY PRODUCTION**

### **Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: 1,600 Pounds/LCY

Description: Top Soil
Rated Payload: 63,980 Pounds
Payload Capacity: 39.99 LCY

Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	18.00	LCY				
Fina	l Truck Volume	Based on Number of	of Loader Passes:	9.66	LCY	
Loading Tool Capacity						
<del></del>			Bucl	ket Size Class:	NA	
Rated Capacity:	9.200	LCY (heaped)		<u>-</u>		
Bucket Fill Factor:	1.050	Other - moist l	oam (100-1	10%) 1.050		=
Adjusted Capacity:	9.660	LCY		,		_
Job Condition Corrections	<u>:</u>	S	Site Altitude (ft.): <u>{</u>	5000 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	,		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.830	0.830				
Net Correction.	0.030	0.050				
Excavators and Front Shove  Machine Cycle Time v  Selected Value	els: rs. Job Condition within this Basio	c Rating: NA	Tool Passes Requi	ired to Fill  Truck:	1	passes
Excavators and Front Shove  Machine Cycle Time v  Selected Value  Track Loaders –  Cycle Time Elements (min.)	els:  rs. Job Condition within this Basic Material Descri	n Rating: NA CRATING: NA	Tool Passes Requi	Truck:	1	passes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders —	els:  rs. Job Condition within this Basic Material Descri	n Rating: NA NA NA	Tool Passes Requi		1	oasses
Excavators and Front Shove  Machine Cycle Time v  Selected Value  Track Loaders –  Cycle Time Elements (min.)	els: rs. Job Condition within this Basic Material Descri :	n Rating: NA c Rating: NA iption: NA		Dump:0.1	100	oasses
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA	els: rs. Job Condition within this Basic Material Descri :	n Rating: NA c Rating: NA iption: NA		Dump: 0.1	1	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders –  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders	els:  rs. Job Condition within this Basic Material Descri :  M  Unadjusted Ba	n Rating: NA c Rating: NA iption: NA	ime (load, dump, r	Dump:0.1	1	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors	els: rs. Job Condition within this Basic Material Descri :  M - Unadjusted Ba	n Rating: NA	ime (load, dump, r	Truck: Dump:0.1 maneuver): Factor (min.)	1 00 0.575 mir	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	els:  rs. Job Condition within this Basic Material Descri :  M - Unadjusted Ba Material 1/8" Conveyor or	n Rating: NA	me (load, dump, r .02 gh or less 0.01	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040	0.575 mir Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	els:  s. Job Condition within this Basic Material Descri  Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open	n Rating: NA c Rating: NA iption: NA iption: NA isic Loader Cycle Ti dozer piled 10 ft. highership of trucks and ration -0.04	me (load, dump, r .02 gh or less 0.01	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040	0.575 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:	els:  s. Job Condition within this Basic Material Descri	n Rating: NA c Rating: NA iption: NA iption: NA isic Loader Cycle Ti dozer piled 10 ft. highership of trucks and ration -0.04 iet 0.00	.02 gh or less 0.01 d loaders -0.04	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000	0.575 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	els:  s. Job Condition within this Basic Material Descri  Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. highership of trucks and ration -0.04 jet 0.00  Net Cycle Ti	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090	0.575 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	els:  s. Job Condition within this Basic Material Descri  Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. his nership of trucks and ration -0.04 jet 0.00  Net Cycle Ti Adjusted Load	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090 0.485	0.575 mir    Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation:	els:  s. Job Condition within this Basic Material Descri  Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. his nership of trucks and ration -0.04 jet 0.00  Net Cycle Ti Adjusted Load	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090	0.575 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:  Dump Target:	els:  s. Job Condition within this Basic Material Descri  Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. his nership of trucks and ration -0.04 jet 0.00  Net Cycle Ti Adjusted Load	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090 0.485	0.575 mir    Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	els:  rs. Job Condition within this Basic Material Descri :  M - Unadjusted Ba Material 1/8" Conveyor or Common own Constant oper Nominal targ	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. highership of trucks and ration -0.04 tet 0.00  Net Cycle Ti Adjusted Load Net Load	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Fime per Truck:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090 0.485 0.100	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	nutes
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership:  Operation:  Dump Target:  Truck Cycle Time:  Truck Exchange Time	els:  rs. Job Condition within this Basic Material Descri   - Unadjusted Ba  Material 1/8" Conveyor or Common own Constant open Nominal targ	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti to 3/4" diameter -0 dozer piled 10 ft. highership of trucks and ration -0.04 tet 0.00  Net Cycle Ti Adjusted Load Net Load  Minutes	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Fime per Truck:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090 0.485 0.100  for site altitude:	Source   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   (Cat HB)   minutes   minutes   minutes   minutes	nutes
Excavators and Front Shove  Machine Cycle Time v Selected Value  Track Loaders —  Cycle Time Elements (min.)  Load: NA  Wheel and Track Loaders  Cycle Time Factors  Material:  Stockpile:  Truck Ownership: Operation: Dump Target:  Truck Cycle Time:	els:  rs. Job Condition within this Basic Material Descrit:  Modern Material 1/8"  Cunadjusted Basic Material 1/8"  Conveyor or Common own Constant open Nominal targ	n Rating: NA c Rating: NA iption: NA  Ianeuver: NA asic Loader Cycle Ti c 3/4" diameter -0 dozer piled 10 ft. highership of trucks and ration -0.04 tet 0.00  Net Cycle Ti Adjusted Load Net Load	me (load, dump, r .02 gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Fime per Truck:	Dump: 0.1 maneuver): Factor (min.) -0.020 0.010 -0.040 -0.040 0.000 -0.090 0.485 0.100	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

maintained 3.0

Haul Route:

Hauf Rou	ic.					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	10.00	3.00	13.00	710	0.714

Haul Time: **0.714** minutes Return Route: Haul Distance Grade (%) Roll. Res Total Res Velocity Travel Seg# Time (Ft) (%) (%) (fpm) (min) 500.00 -10.00 3.00 -7.00 2972 0.226

Return Time: 0.226 minutes
Total Truck Cycle Time: 2.440 minutes

Loading Tool unit

Adjusted hourly truck team production: 788.64 LCY/Hour Adjusted single truck/loader team production: 788.64 LCY/Hour Adjusted multiple truck/loader team production: 788.64 LCY/Hour

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 18.47
 Hours

 Unit cost:
 \$0.712
 /LCY
 Total job cost:
 \$155,997

Mobilize/Demobilize Equipment for Initial Reclamation

Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012

#### **PROJECT IDENTIFICATION**

Task description:

Task #:790State:ColoradoAbbreviation:NoneDate:11/29/2018County:Las AnimasFilename:C012-790

User: JHB

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/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)				fleet		
Cat D9T - 9SU	60.01	\$110.70	\$125.45	3	\$708.45	\$376.35	\$750.00
CAT 14M	23.57	\$60.13	\$88.67	1	\$148.80	\$88.67	\$250.00
Cat 627G	41.80	\$102.39	\$117.55	2	\$439.88	\$235.10	\$500.00
Water Tanker,	15.00	\$25.30	\$88.67	1	\$113.97	\$88.67	\$250.00
5,000 Gal.							
Atlas Capco	0.00	\$101.20	\$88.67	1	\$189.87	\$88.67	\$250.00
DM45/HP - 9.0"							
CAT 950H	20.13	\$26.14	\$88.67	1	\$114.81	\$88.67	\$250.00

Subtotals: \$1,715.78 \$966.13 \$2,250.00

#### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 10-12 cy, 6x4	\$90.91	3	\$272.73	\$272.73
Fuel Tanker, 4x2, 170 HP	\$24.48	1	\$24.48	\$24.48
Lube Truck, 4x2, 190 HP	\$29.35	1	\$29.35	\$29.35

Subtotals:	\$326.56	\$326.56

## **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:
Total one-way travel distance:
Average Travel Speed:
TRINIDAD
miles
40.00
mph

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

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	2.50	2.00

### **JOB TIME AND COST**

Total job time:	5.00	Hours

Total job cost: \$12,233

Task	description: Mo	bilize/Demobilize	e Equipr	nent for P	ond Cleaning		
ite: Ne	ew Elk Mine	Permit	Action:	Permit R	enewal 07	Permit/Job#:	C1981012
PRO	DJECT IDENTIFICAT	<u>TION</u>					
	ask #: 791 Date: 11/29/2018 User: JHB		colorado as Anima	as		Abbreviation: _ Filename: _	None C012-791
	Agency or organizatio	n name: DRMS	5				
<u>EQU</u>	JIPMENT TRANSPO	RT RIG COST					
							per day RG Data
	Truck Tractor Desc	cription: GEN	ERIC O	N-HIGHW	AY TRUCK TI 400 HP (2ND I		IESEL POWERED,
	Truck Trailer Desc	cription: GENI	ERIC FO	LDING G	OOSENECK, D (25T, 50T, A	•	JIPMENT TRAILER
Cost	Breakdown:						
Avai	lable Rig Capacities	0-25 Tons	26-5	0 Tons	51+ Tons		
	Ownership Cost/Hour:	\$16.63	\$1	8.37	\$22.33		
	Operating Cost/Hour:	\$44.38	\$4	6.13	\$50.07		

\$27.66

\$25.39

\$117.55

\$27.66

\$25.39

\$125.45

#### **NON ROADABLE EQUIPMENT:**

Operator Cost/Hour:

Total Unit Cost/Hour:

Helper Cost/Hour:

\$27.66

\$0.00

\$88.67

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat 336D L 10'-6" Stick	32.23	\$50.81	\$117.55	1	\$168.36	\$117.55	\$250.00

Subtotals: \$168.36 \$117.55 \$250.00

#### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$85.75	3	\$257.25	\$257.25

Subtotals: \$257.25 \$257.25

## **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

Total Non-Roadable Mob/Demob Cost \*

S1 240 18

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

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	2.50	2.00

### **JOB TIME AND COST**

Total job time:	5.00	Hours
Total job cost:	\$1.755	

Task description:	Mobilize/Demob	ilize Equipr	nent for Pond Rem	oval		
Site: New Elk Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012	
PROJECT IDENT	IFICATION					
Task #: 792	State:	Colorado		Abbreviation:	None	
Date: 11/29/20	County:	Las Anima	as	Filename:	C012-792	
User: JHB						
Agency or or	ganization name: DI	RMS				
<b>EQUIPMENT TRA</b>	NSPORT RIG CO	<u>ST</u>				
				Shift basis: 1	per day	
			C	ost Data Source: C	RG Data	
Truck Tra	ctor Description:	GENERIC O		CK TRACTOR, 6X4, D 2ND HALF, 2006)	DIESEL POWERED,	
Truck Tra	ailer Description: G	GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)				
			(251, 3	001, AND 1001)		
Cost Breakdown:						
Available Rig Capaci	ties 0-25 Tons	26-5	0 Tons 51+	Tons		

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 Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$110.70	\$125.45	1	\$236.15	\$125.45	\$250.00

Subtotals: \$236.15 \$125.45 \$250.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$45.37	1	\$45.37	\$45.37

Subtotals: \$45.37 \$45.37

## **EQUIPMENT HAUL DISTANCE and Time**

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

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	2.50	2.00

### **JOB TIME AND COST**

Total job time:	5.00	Hours

Total job cost: **\$1,550** 

Task description: M	lobilize/Demobil	lize Equipn	nent for S	ite Maintenance		
: New Elk Mine	Perm	nit Action:	Permit R	enewal 07	Permit/Job#:	C1981012
PROJECT IDENTIFICA	TION					
Task #: 793	State:	Colorado		$\mathbf{A}^{\cdot}$	bbreviation:	None
Date: 11/29/2018	County:	Las Anima	as		Filename:	C012-793
User: JHB	_				-	
				Shif Cost Data S		l per day CRG Data
Truck Tractor De	scription: GE	ENERIC O	N-HIGHW	AY TRUCK TRAC 400 HP (2ND HA)		DIESEL POWERED
Truck Trailer De	scription: GE	NERIC FO	LDING G		P DECK EQU	JIPMENT TRAILE
Cost Breakdown:						
Available Rig Capacities	0-25 Tons	26-5	0 Tons	51+ Tons	-	
Ownership Cost/Hour:	\$16.63	\$1	8.37	\$22.33	=	

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 Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D3K LGP - 3P	9.20	\$22.85	\$88.67	10	\$1,115.20	\$886.70	\$0.00

Subtotals: **\$1,115.20** \$886.70 \$0.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
		Subtotale	\$0.00	\$0.00

\*\* one round trip, no haul rig:

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

Nearest Major City or Town within project area region: TRINIDAD Total one-way travel distance: 40.00 miles Average Travel Speed: 55.00 mph Total Non-Roadable Mob/Demob Cost \* \$4,027.05 "\* two round trips with haul rig: Total Roadable Mob/Demob Cost \*\*

**Transportation Cycle Time:** 

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.73	0.73
Return Time (Hours):	0.73	0.73
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.95	1.45

### **JOB TIME AND COST**

Total job time: 3.91 Hours

\$0.00

Total job cost: **\$4,027**