#### INTEROFFICE MEMORANDUM

TO:	ROB ZUBER
FROM:	JANET BINNS
SUBJECT:	NEW ELK MINE, C1981-012, RN7 RECLAMATION COST ESTIMATE
DATE:	NOVEMBER 30, 2018
CC:	

I have reviewed and updated New Elk Coal Company's (NECC) Reclamation Cost Estimate (RCE).

The last full RCE conducted was dated August 2, 2016, during the Midterm 7 review. Two revisions have been approved since MT7 that revised the reclamation liability. MR124 was approved May 2, 2017, and adjusted NECC's estimate to concur with the Division's.

In July 2017, the Division approved TR72 that incorporated the NW vent shaft (Golden Eagle vent shaft) into the New Elk permit, and added additional reclamation liability of \$9,698.51. These additional tasks have been incorporated into the RN7 RCE.

The current permitted liability for the New Elk permit as shown in the Division's permit system is \$4,044,696.58.

The Division holds surety in the amount of \$4,133,137.02.

The update RN7 RCE is **\$4,166,596.08**. This value reflects costs updated in July 2018 in the Division's CIRCES estimating program. NECC will need to submit an additional \$33,459.06 to the surety to bring it into agreement with the Division's estimate.

Some unit costs went down, but revegetation costs, and mine sealing costs increased significantly. In 2017 and 2018 the CIRCES program was updated using seed unit costs, and seeding equipment costs obtained by seed supply companies, and R.S. Means equipment cost guide. The Division believes that these unit costs reflect actual costs that would be incurred should the State be in a position to complete reclamation activities at the mine site.

I am attaching a PDF document of the reclamation cost estimate. In addition I am attaching two excel attachments that show, 1) the changes in unit calculation for demolition of powerlines, and conveyors, and explains tasks incorporated into others (combining Demolition tasks into task 695), and 2) a comparison of MT7 task values to RN7 values for each task that illustrates which unit costs increased or decreased.

Please let me know if you have questions.

# COST SUMMARY WORK

Task description:		Summary of Rec	lamation and maintenance tasks		
Site: New Elk Mine		Per	mit Action: Permit Renewal 07	Permit/Job#	C1981012
Tas	<b>JECT IDENTIFI</b> sk #: 000 Date: 11/30/2018	CATION State: County:	Colorado Las Animas	Abbreviation: Filename:	None C012-000

Agency or organization name: DRMS

# TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	~
	Description	Used	Size	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

681	Replace Topsoil to Bates Portal Face-Up	SCRAPER1	1	3.01	\$2,877.00
685	Reseed Facilities Area with Rangeland Mix	REVEGE	1	178.00	\$122,437.00
686	Reseed Disturbed Areas with Riparian Habitat	REVEGE	] 1	21.14	\$15,100.00
687	Reseed RDA	REVEGE	1	95.25	\$38,498.00
688	Reseed DWP with Rangeland Mix	REVEGE	1	11.24	\$7,107.00
689	Plant 6 Shrub Clumps	REVEGE	1	5.60	\$2,353.00
690	Weed Control - Assume 1/4 of Area Three Times	REVEGE	1	102.71	\$19,369.00
695	Demolish and Remove All Structures	DEMOLISH	1	1,009.00	\$1,722,075.46
700	Seal Portals and Vent Shafts	MINESEAL	1	270.00	\$183,255.76
701	Backfill East Portal Face	DOZER	2	1.39	\$744.00
702	Backfill West Portal Face	DOZER	2	1.39	\$722.00
703	Backfill Bates Portal Face	DOZER	2	38.69	\$20,122.00
704	Plug and Seal All Boreholes and Monitoring Wells	BOREHOLE	1	73.00	\$76,205.10
706	Clean Ponds 004, 007, and 008 Twice During Liability Period	TRUCK1	1	121.05	\$87,955.00
733	Regrade Areas from MR-99, MR-107, MR-111, MR-114	DOZER	3	1.43	\$1,065.00
734	Seed Rangeland Seed Mix on MR Areas	REVEGE	1	2.22	\$4,274.00
738	Replace Topsoil on D26 Extension	DOZER	1	0.24	\$58.00
741	Backfill and Regrade DWDA Expansion	DOZER	2	2.68	\$1,437.00
747	Replace Topsoil on Six Drill Pads and Mud Pits	DOZER	1	3.88	\$962.00
750	Demolish and Remove Structures @ C&W area	DEMOLISH		24.00	\$67,500.24
751	Rip and Regrade C&W Train Shop Area	DOZER	2	12.74	\$6,825.00
753	Reseed C&W Facilities Area with Rangeland Mix	REVEGE	1	12.00	\$7,553.00
759	Replace Topsoil to Zig Zag Road	EXCAVATE	1	0.47	\$51.00
760	Rip Zig Zag Road and Slurry Line Road	RIPPER	3	0.44	\$359.00
761	Reseed Zig Zag with Rangeland Mix	REVEGE	1	1.60	\$2,049.00
762	Replace Topsoil to West DWDA	SCRAPER1	1	67.00	\$64,558.00
76 <u>4</u>	Finish Grade West DWDA Area	GRADER	1	8.35	\$1,167.00
765	Reseed West DWDA Expansion Area with Rangeland Mix	REVEGE	1	20.40	\$12,840.00
766	Replace Topsoil on NW vent Fan Area (TR72)	TRUCK1	1	5.95	\$2,000.00
767	Regrade Access Road to NW Vent Shaft (TR72)	DOZER	1	2.33	\$510.00
768	Seed NW Vent Fan and Access Road (TR72)	REVEGE	1	1.55	\$2,127.00
772	Seal Additional Wells	BOREHOLE	1	36.00	\$22,805.23
773	Site Maintenance during the 10 year liability	SITEMAINT	1	400.00	\$34,540.00
115	period	ENANCE	1	+00.00	ψυτ,υτυ.υυ
774	Import Topsoil for RDA	TRUCK1	1	18.47	\$155,997.00
790	Mobilize/Demobilize Equipment for Initial	MOBILIZE	1	5.00	\$12,233.00
	Reclamation				
791	Mobilize/Demobilize Equipment for Pond Cleaning	MOBILIZE	1	5.00	\$1,755.00
792	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	5.00	\$1,550.00
793	Mobilize/Demobilize Equipment for Site	MOBILIZE	1	3.90	\$4,027.00
	Maintenance		-		, ,
		<u>SUBTO</u>	TALS:	3338.45	\$3,312,994

# **INDIRECT COSTS**

# OVERHEAD AND PROFIT:

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

Job superintendent:	1,615.87	Total =	\$118,039.30			
Profit:	10.00	Total =	\$331,299.40			
		TOTAL O & P =	\$551,047.62			
	CON	TRACT AMOUNT (direct + O & P) =	\$3,864,041.62			
LEGAL - ENGINEERING - PROJECT MANAGEMENT:						
Financial warranty process	sing (legal/related costs):	Total =	0.00			

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 BO	OND A	MOUNT (direct + indirect) =	\$4,166,596.08

# Page 4 of 162

BULLDOZER	WORK

Task description:	Вас	kfill and Reg	auc East I	or tur micu		
: New Elk Mine		Perr	nit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDEN	TIFICAT	<u>ION</u>				
Task #: 601		State:	Colorado		Abbreviation:	None
Date: 11/14	/2018	County:	Las Anima	18	Filename:	C07-601
User: JHB						
Agency or	organization	n name: DR	MS			
HOURLY EQUI	PMENT C	OST				
Basic Machine:	Cat D9T -	9SU				
Horsepower:	405					
Blade Type:	Semi-Univ	versal				
Attachment:	3-shank ri					
Shift Basis:	1 per day	pper				
Data Source:	(CRG)					
Cost Breakdown:				Litilization 04		
Ownership Cost/H	[01]#!		\$110.70	<u>Utilization %</u> NA		
Operating Cost/H			\$95.46	100		
Ripper own. Cost/H			\$12.36			
Ripper op. Cost/H			\$7.88	NA 100		
				100		
Operator Cost/H	lour:		\$41.52	NA		
Total unit Cost/Hou	ır: \$267	7.92				
Total Fleet Cost/Ho						
MATERIAL QU	ANTITIES	5				
Initial Volume:	144,850					
Swell factor:	1.125	W				
Loose volume:	162,956 LC	, Y				
Source of estimated	volume:	PAP Exhi	bit 28			
Source of estimated	swell factor	: Operator	Estimate			
HOURLY PROI	DUCTION					
Average push distan		100 feet	7.4			
Average push distar Unadjusted hourly j		100 feet 1,243.2 LCY	//hr			
	production:	1,243.2 LCY		mbankment 0.9		
Unadjusted hourly p Materials consisten	production: cy descriptio	1,243.2 LCY		mbankment 0.9		
Unadjusted hourly p Materials consistent Average push gradi	production: cy descriptio ent: _5 %	1,243.2 LCY n: <u>Compac</u>		mbankment 0.9		
Unadjusted hourly p Materials consisten	production: cy descriptio ent: _5 %	1,243.2 LCY		mbankment 0.9		
Unadjusted hourly p Materials consistent Average push gradi	production: cy descriptio ent: $5 \%$ e: $7,50$	1,243.2 LCY n: <u>Compac</u>		mbankment 0.9		
Unadjusted hourly p Materials consistent Average push gradi Average site altitud	production: cy descriptio ent: $5\%$ e: $7,50$ 2,13	1,243.2 LCY n:Compac 0 feet		mbankment 0.9		
Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description:	production: cy descriptio ent: <u>5 %</u> e: <u>7,50</u> <u>2,13</u> <u>User</u>	1,243.2 LCY n: Compac 0 feet 2 lbs/LCY • Provided				
Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre	production: cy descriptio ent: 5 % e: 7,50 2,13 User ection Factor	1,243.2 LCY         n:       Compace         0 feet         2 lbs/LCY         • Provided	cted fill or e	Source		
Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope	production: cy descriptio ent: <u>5 %</u> e: <u>7,50</u> <u>2,13</u> <u>User</u>	1,243.2 LCY         n:       Compace         0 feet         2 lbs/LCY         Provided				

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)

Adjusted unit production:	651.44 LCY/hr
Adjusted fleet production:	<b>1954.32</b> LCY/hr

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				Cock Dust Cut Sl	-	001012
Site: New Elk Mine		Permit	Actio	on: Permit Rene	wal 07	Permit/Job#: <u>C1</u>	981012
PROJECT IDEN	TIFICATION	ſ					
Task #: 603		State: C	olora	do	Δh	breviation: Nor	16
Date: $\frac{1003}{11/19}$	/2018		as Ar		A0		12-603
User: JHB							
Agency or	organization nar	ne: DRMS	5				
HOURLY EQUI	PMENT COST	<u> </u>			Shift bas	is: <u>1 per day</u>	
			E	Equipment Descri	ption		
Т	Truck Loader Tea	m -Truck:		eric 10-12 cy, 6x4	4		
		-Loader:		C 950H			
Supp	ort Equipment -L	oad Area:		D9T - 9SU D9T - 9SU			
Road M	aintenance – Mot			14M			
itouu ivi		ter Truck:		er Tanker, 5,000	Gal.		
		4					
Cost Breakdown:		ader Team		11	Equipment		ce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	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 cos	st/hour: <u>\$955.85</u>	5					
MATERIAL QU	ANTITIES						
Initial volume:			CCY	Swell	factor: 1.125		
Loose volume:	19,68	8	LCY				
So	urce of estimated	volume:	Divis	ion of Reclamatio	on, Mining & Safe	ety	
Source	of estimated swe			ator Estimate			
	Material Purch		\$0.00				
	10	otal Cost:	\$0.00				
HOURLY PRO	DUCTION						
Truck Capacity:	-14) D'						
Truck Payload (wei) Material v				Pounds/LCY			
		rovided					
Rated Pa				Pounds			

Truck Bed (volume) Basis:						
Struck Volume:	10.00	LCY				
Heaped Volume:	12.00	LCY				
Average Volume:	11.00	LCY				
Adjusted Volume:	12.00	LCY				
Final	Truck Volume	e Based on Number of	of Loader Passes:	9.46	LCY	
Loading Tool Capacity						
				ket Size Class: <u>N</u>	NA	
Rated Capacity:	4.300	LCY (heaped)		1200() 1 100		_
Bucket Fill Factor:	1.100	Other - rock/di	irt mixtures (100	)-120%) 1.100		-
Adjusted Capacity:	4.730	LCY				
Job Condition Corrections:	_	S	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)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Numbe	r of Loading Tool P	asses Required to	Fill Truck:	2 1	passes
Excavators and Front Shovel	<u>s:</u>					
		on Rating: NA				
Excavators and Front Shovel Machine Cycle Time vs Selected Value v	s. Job Conditio					
Machine Cycle Time v Selected Value v	s. Job Conditio within this Basi	ic Rating: NA				
Machine Cycle Time v Selected Value v Track Loaders –	s. Job Conditio vithin this Basi Material Desci	ic Rating: NA				
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.):	s. Job Conditio vithin this Basi Material Descr	ic Rating: NA				
Machine Cycle Time v Selected Value v Track Loaders –	s. Job Conditio vithin this Basi Material Descr	ic Rating: NA		 Dump:0.10	0	
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.):	s. Job Conditio vithin this Basi Material Descr 	ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u>	ime (load, dump, 1	·	0 0.500 min	utes
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders -	s. Job Conditio vithin this Basi Material Descr 	ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u>	ime (load, dump, 1	maneuver): (	).500 min	utes
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u>	s. Job Conditio vithin this Basi Material Descr Material Descr Unadjusted Ba	ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u>		·		utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors	s. Job Conditio vithin this Basi Material Descr  Unadjusted Ba  Material 3/4'	ic Rating: <u>NA</u> ription: Aaneuver: <u>NA</u> asic Loader Cycle T	)	maneuver):( Factor (min.)	0.500 min Source	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow	ic Rating: <u>NA</u> ription: <u>NA</u> asic Loader Cycle T <u>' to 6" diameter 0.00</u> dozer piled 10 ft. hi mership of trucks an	) gh or less 0.01	maneuver):( Factor (min.) 0.000	0.500 min Source (Cat HB)	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow Constant ope	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04	) gh or less 0.01	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040	0.500 min Source (Cat HB) (Cat HB)	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow	ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi mership of trucks an eration -0.04 get 0.00	) gh or less 0.01 d loaders -0.04	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000	0.500minSource(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow Constant ope	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	) gh or less 0.01 d loaders -0.04 ime Adjustment:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	SourceSource(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)minutes	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow Constant ope	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa	) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time:	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500     min       Source       (Cat HB)       minutes       minutes	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow Constant ope	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa	) gh or less 0.01 d loaders -0.04 ime Adjustment:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	SourceSource(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)(Cat HB)minutes	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4' Conveyor or Common ow Constant ope	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa	) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time:	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500     min       Source       (Cat HB)       minutes       minutes	utes 
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr Material Descr Material 3/4 <sup>2</sup> Conveyor or Common ow Constant ope Nominal targ	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa	gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck:	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500     min       Source       (Cat HB)       minutes       minutes	
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr N Unadjusted Ba Material 3/4' Conveyor or Conveyor or Common ow Constant ope Nominal targ	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load '	) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck: Adjusted	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530	0.500     min       Source     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     minutes       minutes     minutes       minutes     minutes	   
Machine Cycle Time ver Selected Value ver Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time	s. Job Condition vithin this Basis Material Description Unadjusted Basis Material 3/4' Conveyor or Common ow Constant ope Nominal targ	ic Rating: NA ription: Maneuver: NA asic Loader Cycle T ' to 6" diameter 0.00 dozer piled 10 ft. hi nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load ' Minutes	) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530 for site altitude:	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.500	utes — — — — — — — Minutes — Minutes
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	s. Job Condition vithin this Basis Material Description Unadjusted Basis Material 3/4' Conveyor or Common ow Constant ope Nominal targ	ic Rating: NA ription:	) gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530 for site altitude: for site altitude:	).500     min       Source     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     minutes       minutes     minutes       0.500     0.530	      Minutes
Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	s. Job Condition vithin this Basis Material Descri	ic Rating: NA ription:	gh or less 0.01 d loaders -0.04 ime Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	maneuver):( Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530 for site altitude: for site altitude:	0.500     min       Source     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       (Cat HB)     (Cat HB)       0.500     0.530       0.900     0.900	      Minutes

ſ	Haul Rou Seg #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
		(Ft)			(%)	(%)	(fpm)	Time (min)		
-	1	1500.00	)	4.00	3.00	7.00	1568	0.989		
						Haul Time:	0.989	mi	nutes	
-	Return Ro	oute:								
	Seg #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
		(Ft)			(%)	(%)	(fpm)	Time (min)		
	1	1500.00		-4.00	3.00	-1.00	2938	0.567		
						Return Time:	0.567	n	ninutes	
					Total Tru	ck Cycle Time:	3.486	n	ninutes	
L	oading Too	ol unit								
	Produ		551.07	LCY/Hour		Adjusted for j	ob efficiency:	457	7.39	LCY/Hour
Truck	Unit Produ	iction								
			162.82	LCY/Hour		Adjusted for j	ob efficiency:	135	5.14	LCY/Hour
Optima	al No. of Tr	ucks:		LCY/Hour Truck(s)		Adjusted for j Selected Numl	·		5.14 3	LCY/Hour Truck(s)
Optima	al No. of Tr	ucks:		Truck(s)	d hourly true	5 5	per of Trucks:	43		Truck(s)
Optima	al No. of Tr	ucks:	3	Truck(s) Adjuste Adjusted sing	le truck/loade	Selected Numl k team productio r team productio	oer of Trucks: on: 405 on: 405	43 43	3 LCY/H LCY/H	Truck(s)
Optima	al No. of Tr		3	Truck(s) Adjuste	le truck/loade	Selected Numl k team productio r team productio	oer of Trucks: on: 405 on: 405	43 43	3 LCY/H	Truck(s)
Optima			3	Truck(s) Adjuste Adjusted sing	le truck/loade	Selected Numl k team productio r team productio	oer of Trucks: on: 405 on: 405	43 43	3 LCY/H LCY/H	Truck(s)
Optima	al No. of Tr JOB TIN		3	Truck(s) Adjuste Adjusted sing Adjusted multip	le truck/loade le truck/loade	Selected Numl k team productio er team productio er team productio	oer of Trucks: on: <u>405</u> on: <u>405</u> on: <u>405</u>	43 43 43 43	3 LCY/H LCY/H	Truck(s)
Optima		ME AND	3	Truck(s) Adjuste Adjusted sing	le truck/loade le truck/loade	Selected Numl k team productio r team productio	oer of Trucks: on: <u>405</u> on: <u>405</u> on: <u>405</u>	43 43 43 43	3 LCY/H LCY/H	Truck(s) four four

## Page 9 of 162

# BULLDOZER WORK

Task description:	Pus	h Temporary	CuarStock			
New Elk Mine		Perm	nit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDEN	NTIFICAT	ION				
Task #: 606		State:	Colorado		Abbreviation:	None
Date: 11/14	4/2018	County:	Las Anima	s	Filename:	C012-606
User: JHB					-	
Agency of	r organization	n name: DRM	MS			
HOURLY EQU	IPMENT C	<u>OST</u>				
Basic Machine:	Cat D9T -	9SU		_		
Horsepower:	405			_		
Blade Type:	Semi-Univ	versal		_		
Attachment:	NA			_		
Shift Basis:	1 per day			_		
Data Source:	(CRG)			_		
Cost Breakdown:						
	_			<u>Utilization %</u>		
Ownership Cost/H			\$110.70	NA		
Operating Cost/H			\$95.46	100		
Ripper Cost/H			\$0.00	NA		
Ripper op. Cost/H			\$0.00	0		
Tupper op. cosur	Iour.			0		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU	ur: \$247 our: <b>\$743</b>	.05	\$41.52	NA		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume:	ur: <u>\$247</u> our: <b>\$743</b> J <b>ANTITIES</b> 13,250	.05		NA		
Operator Cost/H Fotal unit Cost/Hou Fotal Fleet Cost/Hou MATERIAL QU	ur: \$247 our: <b>\$743</b> J <b>ANTITIES</b>	.05 5	\$41.52	NA		
Operator Cost/H Fotal unit Cost/Hou Fotal Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor:	ur: \$247 our: <b>\$743</b> JANTITIES 13,250 1.000 <b>13,250</b> LCY	.05 5 7				
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	ur: \$247 our: <b>\$743</b> JANTITIES 13,250 1.000 <b>13,250</b> LCY d volume:	.05 5 7	- - - 4a Table 18a	NA		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume: Swell factor: Loose volume:	ur: \$247 our: <b>\$743</b> JANTITIES 13,250 1.000 <b>13,250</b> LCY d volume:	.05 5 7 PAP 2.05-4	- - - 4a Table 18a			
Operator Cost/Hot Total unit Cost/Hot Total Fleet Cost/Hot MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor:	ur: \$247 our: <b>\$743</b> JANTITIES 13,250 1.000 <b>13,250</b> LCY d volume: d swell	.05 5 7 PAP 2.05-4	- - - 4a Table 18a			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	ur: \$247 our: <b>\$743</b> JANTITIES 13,250 1.000 <b>13,250</b> LCY d volume: d swell	.05 5 7 PAP 2.05-4	- - - 4a Table 18a			
Operator Cost/Hot Total unit Cost/Hot Total Fleet Cost/Hot MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor:	ur: <u>\$247</u> our: <u>\$743</u> JANTITIES 13,250 1.000 13,250 LCY d volume: d swell DUCTION	.05 5 7 PAP 2.05-4	- - - 4a Table 18a			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor: HOURLY PROI Average push dista Jnadjusted hourly	ur: <u>\$247</u> our: <u>\$743</u> JANTITIES 13,250 1.000 13,250 LCY d volume: d swell DUCTION	.05 5 7 7 2 2 2 2 2 2 3 2 3 2 3 2 3 2 3 2 3 2	- - - 4a Table 18a ook			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor: HOURLY PROI Average push dista	ur: <u>\$247</u> our: <u>\$743</u> JANTITIES 13,250 1.000 13,250 LCY d volume: d swell DUCTION	.05 2 7 7 7 7 7 7 7 7 7 7 7 7 7	- - - 4a Table 18a ook			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor: HOURLY PROI Average push dista Jnadjusted hourly	ur: <u>\$247</u> our: <u>\$743</u> JANTITIES 13,250 1.000 13,250 LCY d volume: d swell DUCTION nce:	.05 2 2 2 2 3 3 3 3 3 5 .6 4 00 feet 3 05.6 1 CY/h	- - 4a Table 18a ook			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated actor: HOURLY PROI Average push dista Jnadjusted hourly production: Materials consisten	ur: <u>\$247</u> our: <u>\$743</u> JANTITIES 13,250 1.000 13,250 LCY d volume: d swell DUCTION nce:	.05 2 2 2 2 3 3 3 3 3 5 .6 4 00 feet 3 05.6 1 CY/h	- - 4a Table 18a ook	a. Push to conveyor		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou <b>MATERIAL OU</b> Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated actor: <b>HOURLY PROI</b> Average push dista Jnadjusted hourly production:	ur: <u>\$247</u> our: <u>\$743</u> <u>JANTITIES</u> <u>13,250</u> <u>1,000</u> <b>13,250</b> LCY d volume: d swell <u>DUCTION</u> nce: nce:	.05 2 2 2 2 3 3 3 3 3 5 .6 4 00 feet 3 05.6 1 CY/h	- - 4a Table 18a ook	a. Push to conveyor		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Source of estimated actor: HOURLY PROI Average push dista Inadjusted hourly production: Materials consisten Average push gradi	ur: $$247$ bur: $$743$ JANTITIES         13,250         1.000         13,250 LCY         d volume:         d swell         DUCTION         nce:         acy description         ient:       0 %         e:       7,000	.05 2 2 2 2 2 2 2 2 2 2 2 2 2	- - 4a Table 18a ook	a. Push to conveyor		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of esti	ur: $\$247$ pur: $\$743$ JANTITIES         13,250         1.000         13,250         LCY         d volume:         d swell         DUCTION         nce:         acy description         ient:       0 %         1,600	.05 2 ( PAP 2.05-4 Cat Handbo 400 feet 305.6 LCY/h n: Partly co D feet		a. Push to conveyor		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou <b>MATERIAL OU</b> Initial Volume: Swell factor: Loose volume: Cource of estimated Source of es	ur: $\$247$ bur: $\$743$ JANTITIES         13,250         1.000         13,250 LCY         d volume:         d swell         DUCTION         nce:         ncy description         ient:       0 %         1,600         :       Coal	.05 2 2 2 2 2 2 2 2 2 2 2 2 2		a. Push to conveyor		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of esti	ur: $\$247$ bur: $\$743$ JANTITIES         13,250         1.000         13,250 LCY         d volume:         d swell         DUCTION         nce:         ncy description         ient:       0 %         1,600         :       Coal	.05 2 2 2 2 2 2 2 2 2 2 2 2 2	- - - 4a Table 18a ook ur msolidated s	a. Push to conveyor	)	
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of esti	ur: $\$247$ \$743JANTITIES13,2501.00013,250 LCYd volume:d swellDUCTIONnce:nce:nce:nce:ient:0 % 7,0001,600:Coal rection Factor	.05 2 ( PAP 2.05 Cat Handbo 400 feet 305.6 LCY/h n: Partly co ) feet ) lbs/LCY - Bituminous, 1		a. Push to conveyor		

## Page 10 of 162

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

#### Page 11 of 162

### SCRAPER TEAM WORK

Site:	New Elk Mine	Mine         Permit Action:         Permit Revision 07			07 Per	mit/Job#:	C1981	012	
]	PROJECT IDEN	<b>TIFICATION</b>							
	Task #: 608			olorado			viation:	None	
	Date: <u>11/15/2</u> User: JHB	Co	unty: La	s Anim	as	Fil	ename:	C012-6	08
	Agency or o	rganization name:	DRMS						
]	HOURLY EQUIP	MENT_			COSTSI	nift basis: <u>1 per d</u>	lay_		
			F	Equipme	ent Description				
			-	Cat 627					
	Suppor	t Equipment -Loa		Cat D9	Г - 9SU				
	Suppor	1 1		NA					
	Road Mai	ntenance – Motor	Grader:	CAT 14					
		-Water	Truck:	Water 7	Fanker, 5,000 Gal.				
	Cost Breakdown:	Scraper Wo	rk Team		Support Equip	oment	Mai	ntenance	Equipment
		Scraper	Doze	r	Load Area	Dump Area	Motor	Grader	Water Tr
%U	tilization-machine:	100		45	NA	NA		50	
Ov	vnership cost/hour:	\$102.39	\$11	10.70	NA	NA		\$60.13	\$2
0	perating cost/hour:	\$125.30	\$4	42.96	NA	NA		\$25.43	\$1
%	Utilization-ripper:	NA		20	NA	NA		NA	
Rip	per own. cost/hour:	NA	\$1	12.36	NA	NA		\$0.00	\$
Ri	pper op. cost/hour:	NA	9	\$1.58	NA	NA		\$0.00	\$
(	Operator cost/hour:	\$31.05	\$4	41.52	NA	NA		\$28.69	\$2
	Unit Subtotals:	\$258.73	\$20	)9.12	NA	NA	\$	\$114.26	\$6
	Number of Units:	2		1	0	0		1	
	Group Subtotals:	Work:	\$726.5	58	Support:	\$0.00		Maint:	\$179.0

Total work team cost/hour: \$905.67

## **MATERIAL QUANTITIES**

Initial volume:	5,900
Loose volume:	6,992

\_ LCY 6,992

CCY

Swell factor: 1.185

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

## **HOURLY PRODUCTION**

		Scraper Bowl (volu		
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:

#### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

#### <u>0.40</u> Minutes <u>0.60</u> Minutes

Site Altitude: 7500 feet

Haul Time: 1.43 minutes

	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	3.00	3.00	6.00	1855	1.43

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-3.00	3.00	0.00	2921	0.95
				Return Time:	0.95	minutes
		3.38	minutes			
			Adjusted f	for job conditions:	277.73	LCY/Hour
Selected Number of Scrapers:					2	Scraper(s)
	Adjusted	555.46	LCY/Hour			
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	555.46	LCY/Hour

Unadjusted unit production/hour: <u>334.62</u> LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	12.59	Hours
Unit cost:	\$1.630	/LCY	Total job cost:	\$11,400	

#### Page 13 of 162

### SCRAPER TEAM WORK

Site: New Elk Mine Permi			Permit Action	on: <u>F</u>	Permit Revision	rmit Revision 07 Permit/Jo			ob#: <u>C1981012</u>	
<u>]</u>	PROJECT IDEN	<b>TIFICATION</b>								
	Task #: 609		state: <u>Colora</u>				viation:	None		
	Date: <u>11/15/2</u> User: JHB	2018 Cou	unty: Las Ai	nimas		Fil	ename:	C012-60	09	
	Agency or o	rganization name:	DRMS							
]	HOURLY EQUIP	MENT			COSTSI	hift basis: <u>1 per c</u>	<u>lay</u>			
					Description					
			1	627G	0011					
	Suppor	- rt Equipment -Load		D9T -	980					
	Suppor	1 1	p Area: NA							
	Road Mai	ntenance – Motor (	Grader: CA	Г 14М						
		-Water	Truck: Wat	er Tan	nker, 5,000 Gal.					
(	Cost Breakdown:	Scraper Wo	rk Team		Support Equip	oment	Mai	ntenance	Equipment	
		Scraper	Dozer		Load Area	Dump Area		Grader	Water Tr	
%U	tilization-machine:	100	3	5	NA	NA		50		
Ov	vnership cost/hour:	\$102.39	\$110.7	0	NA	NA		\$60.13	\$2	
	perating cost/hour:	\$125.30	\$33.4	1	NA	NA		\$25.43	\$1	
%	Utilization-ripper:	NA	2	0	NA	NA		NA		
Ripp	ber own. cost/hour:	NA	\$12.3	6	NA	NA		\$0.00	\$	
Ri	pper op. cost/hour:	NA	\$1.5	8	NA	NA		\$0.00	\$	
(	Operator cost/hour:	\$31.05	\$41.5	2	NA	NA		\$28.69	\$2	
	Unit Subtotals:	\$258.73	\$199.5	7	NA	NA	\$	5114.26	\$6	
	Number of Units:	2		1	0	0		1		
-	Group Subtotals:	Work:	\$717.03		Support:	\$0.00		Maint:	\$179.0	

Total work team cost/hour: <u>\$896.12</u>

## **MATERIAL QUANTITIES**

Initial volume:	7,600
Loose volume:	9,006

6 LCY

CCY

Swell factor: 1.185

Source of estimated volume: Division of Re Source of estimated swell factor: Cat Handbook

Division of Reclamation, Mining & Safety

### **HOURLY PRODUCTION**

		Scraper Bowl (volu	me) 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:

#### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

#### 0.40 Minutes 0.60 Minutes

Site Altitude: 7500 feet

Haul Time: **1.97** minutes

	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

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
		4.26	minutes			
	Adjusted for job conditions:				220.36	LCY/Hour
Selected Number of Scrapers:					2	<b>S</b> omomon(a)
			Selected Nu	moter of Scrapers:	2	Scraper(s)
	Adjusted	l single scraj		nourly production:	440.72	LCY/Hour

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

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

#### Page 15 of 162

### SCRAPER TEAM WORK

Site:	New Elk Mine		Permi	t Action:	Permit Revision	07 Per	mit/Job#:	C1981	012
<u>P</u>	PROJECT IDENT	<b>TIFICATION</b>							
	Task #: 614			Colorado		Abbrev	-	None	
	Date: <u>11/16/2</u> User: JHB	2018 Co	unty: _]	Las Anin	las	File	ename:	C012-6	14
	Agency or o	organization name:	DRM	IS					
H	HOURLY EQUIP	MENT			COSTSh	ift basis: <u>1 per d</u>	<u>ay</u>		
				Equipm	ent Description				
			Scraper:	Cat 62'					
	Suppor	rt Equipment -Loa	-Dozer:	Cat D9 NA	T - 9SU				
	Suppor		p Area:	NA					
	Road Mai	intenance – Motor	Grader:	CAT 1					
		-Water	Truck:	Water'	Tanker, 5,000 Gal.				
<u>C</u>	<u>Cost Breakdown</u> :	Scraper Wo	ork Team		Support Equip	ment	Main	ntenance	Equipment
		Scraper	Do	zer	Load Area	Dump Area	Motor	Grader	Water Truck
%Ut	ilization-machine:	100		100	NA	NA		50	50
Ow	nership cost/hour:	\$102.39	\$	5110.70	NA	NA		\$60.13	\$25.30
Op	perating cost/hour:	\$125.30		\$95.46	NA	NA		\$25.43	\$18.30
%	Utilization-ripper:	NA		0	NA	NA		NA	NA
Ripp	er own. cost/hour:	NA		\$12.36	NA	NA		\$0.00	\$0.00
Rip	oper op. cost/hour:	NA		\$0.00	NA	NA		\$0.00	\$0.00
С	Deprator cost/hour:	\$31.05		\$41.52	NA	NA		\$28.69	\$21.23
	Unit Subtotals:	\$258.73	\$	6260.05	NA	NA	\$	5114.26	\$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/hour: \$956.60

### **MATERIAL QUANTITIES**

Initial volume:	146,813
Loose volume:	165,165

LCY 165,165

Swell factor: 1.125

Source of estimated volume: Source of estimated swell factor: Operator Estimate

Map 11, page 2.05-21, Exhibit 28

## **HOURLY PRODUCTION**

		Scraper Bowl (volu	me) Basis:	
Material weight:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 LCY	Adjusted Capacity:	18.85	LCY

CCY

Cycle Time:

#### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

#### <u>0.40</u> Minutes <u>0.60</u> Minutes

Site Altitude: 7500 feet

Haul Time: 1.31 minutes

	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

**Return Route:** 

Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
700.00	-18.00	3.00	-15.00	1749	0.51
			Return Time:	0.51	minutes
		-	•	<b>2.82</b> 332.88	minutes LCY/Hour
		(%)	(%)         (%)           700.00         -18.00         3.00   Total Scrape	(%)         (%)         (%)           700.00         -18.00         3.00         -15.00	(%)         (%)         (%)           700.00         -18.00         3.00         -15.00         1749           Return Time: 0.51           Total Scraper team cycle time: 2.82

Adjusted for job conditions:332.88LCY/HourSelected Number of Scrapers:2Scraper(s) 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:

Fleet size:	1	Team(s)	Total job time:	248.08	Hours
Unit cost:	\$1.437	/LCY	Total job cost:	\$237,315	

## Page 17 of 162

# COMPACTION WORK

NI 1711- N.4.	Compact Final RDA	Jullace				
New Elk Mine	Permit A	ction: <u>Pe</u>	ermit Renev	val 07 P	ermit/Job#: <u>C</u>	21981012
PROJECT IDENTIFI	CATION					
Task #: 615		lorado		Abb	reviation: No	one
Date: 11/19/2018 User: JHB		s Animas		I	Filename: CO	012-615
Agency or organi	ization name: DRMS					
HOURLY EQUIPME	NT COST					
Basic Machine:	CAT 815F			Horsepower:	240	
Compactor Type:	Soil - tamping foot			Shift Basis:	1 per d	
				Data Source:	(CRG	)
Cost Breakdown:				Utilization %		
Owner	ship Cost/Hour:	\$56.28		NA		
Opera	ting Cost/Hour:	\$65.66		100	-	
-	cator Cost/Hour:	\$26.14		NA	-	
Total	Unit Cost/Hour:	\$148.08	3			
Total F	Fleet Cost/Hour:	\$148.08	8			
MATERIAL QUANT	ITIES					
Loose volume			LCY	Shi	inkage factor:	0.870
Compacted volume			CCY		U	
	rce of estimated volume: imated shrinkage factor:	8.13 acr Cat Han		face X 2 ft. lift		
HOURLY PRODUCT	<u>'ION</u>		Unadjust	ed hourly product	$ion - (W \times S \times S)$	
				/ I		<u>L x C) / P</u>
Com	pacted width per pass (W		6.50	feet	<u>1011 – (W X S X</u>	<u>L x C) / P</u>
Comj Aver	rage Compactor Speed (S	):	4.00	feet mph		<u>L x C) / P</u>
Comj Aver Compacted	rage Compactor Speed (S d thickness of each lift (L	): .):	4.00 8.00	feet mph inches		
Comj Aver Compacted	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C	): 	4.00 8.00 16.3	feet mph inches (5,280ft	:./12in./27cu.ft.)	
Comj Aver Compacted Required num	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C iber of machine passes (P	): ): (): ():	4.00 8.00 16.3 4	feet mph inches (5,280ft passes	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C aber of machine passes (P ed Hourly Unit Production	): ): (): ():	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes CCY/ho	:./12in./27cu.ft.)	
Comj Aver Compacted Required num	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C aber of machine passes (P ed Hourly Unit Production	): ): ): ): n:	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C aber of machine passes (P ed Hourly Unit Production Factors	): ): (): ():	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes CCY/ho	:./12in./27cu.ft.)	
Comj Aver Compacted Required num Unadjuste Job Condition Correction	rage Compactor Speed (S         d thickness of each lift (L         Conversion Constant (C         aber of machine passes (P         ed Hourly Unit Production         Factors         1.00	): ): ): ): n: Source	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes CCY/ho	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste Job Condition Correction 1 Altitude Adj:	rage Compactor Speed (S         d thickness of each lift (L         Conversion Constant (C         aber of machine passes (P         ad Hourly Unit Production         Factors         1.00       (C         0.83       (1	): ): ): n: Source CAT HB)	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes CCY/ho	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction:	rage Compactor Speed (S         d thickness of each lift (L         Conversion Constant (C         aber of machine passes (P         ad Hourly Unit Production         Factors         1.00       (C         0.83       (1	): ): ): ): ): n: Source CAT HB) shift/day) ultiplier	4.00 8.00 16.3 4 847.60	feet mph inches (5,280ft passes CCY/ho	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste Job Condition Correction I Job Efficiency: Net Correction: Ad	rage Compactor Speed (S         d thickness of each lift (L         Conversion Constant (C         aber of machine passes (P         ed Hourly Unit Production         Factors         1.00       (C         0.83       (1         0.8300       mt	): ): ): n: Source CAT HB) shift/day) ultiplier uction:	4.00 8.00 16.3 4 847.60 Site Altit	feet mph inches (5,280ff passes CCY/ho rude: <u>7,500</u> feet	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste Job Condition Correction I Job Efficiency: Net Correction: Ad	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C aber of machine passes (P ed Hourly Unit Production Factors 1.00 (C 0.83 (1 0.8300 mu djusted Hourly Unit Production justed Hourly Fleet Production	): ): ): n: Source CAT HB) shift/day) ultiplier uction:	4.00 8.00 16.3 4 847.60 Site Altit	feet feet inches (5,280fi passes CCY/ho rude: <u>7,500</u> feet	:./12in./27cu.ft.)	
Comp Aver Compacted Required num Unadjuste Job Condition Correction Job Efficiency: Net Correction: Ad Ad	rage Compactor Speed (S d thickness of each lift (L Conversion Constant (C aber of machine passes (P ed Hourly Unit Production Factors 1.00 (C 0.83 (1 0.8300 mu djusted Hourly Unit Production justed Hourly Fleet Production	): ): ): n: Source CAT HB) shift/day) ultiplier uction:	4.00 8.00 16.3 4 847.60 Site Altit	feet feet inches (5,280fi passes CCY/ho rude: <u>7,500</u> feet	:./12in./27cu.ft.)	

## Page 18 of 162

	Task description:	<b>Rip Mine Entry Area Pri</b>	for to Regrading		
Site:	New Elk Mine	Permit Actic	on: Permit Renew	val 07 Permit/Jo	b#: <u>C1981012</u>
	PROJECT IDE	<b>NTIFICATION</b>			
	Task #: 623	State: Colora	do	Abbreviation	n: None
		9/2018 County: Las An		Filename	
	User: JHB				
	Agency of	or organization name: DRMS			
	HOURLY EQU	JIPMENT COST			
	Basic M	Iachine: Cat D9T - 9SU		Horsepower:	405
	Ripper Atta	chment: 3-Shank Ripper		Shift Basis:	1 per day
				Data Source:	(CRG)
	Cost Breakdown:				
		Ormenshin Cost/Horm	¢110.70	Utilization %	
		Ownership Cost/Hour: Operating Cost/Hour:	\$110.70 \$95.46	<u>NA</u> 100	
	Rinner	r Ownership Cost/Hour:	\$12.36	NA	
		er Operating Cost/Hour:	\$7.88	100	
	- app	Operator Cost/Hour:	\$41.52	NA	
		Total Unit Cost/Hour:	\$267.92		
		Total Fleet Cost/Hour:	\$803.77		
	MATERIAL O				
	MATERIAL Q		Selected estimatin	g method: Area	
	Alternate Methods	<u>).</u>			
	NA	Bank Volume		BCY	NA
	NA 17.86	Bank VolumeacresRip Depth (ft)		BCY Volume: 57,628	
mic: Area:	17.86		): 2.00		
area:	17.86	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u>	): 2.00		
rea:	17.86	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u>	): 2.00		
rea:		acres Rip Depth (ft Source of estimated quantity: <u>Ma</u>	): 2.00		
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u>	): 2.00 p 11	Volume: 57,628	
rea:		acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity:	): 2.00 p 11	Volume: 57,628	
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u>	): 2.00 p 11 NA	Volume: 57,628	
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: Average Ripping Depth:	): 2.00 p 11 NA 4.05	Volume: 57,628	
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Dozer Speed: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00	Volume: 57,628 feet/second mph degrees feet feet feet	
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Dozer Speed: <u></u> Average Maneuver Time: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25	Volume: 57,628 feet/second mph degrees feet feet feet feet feet	
rea:	17.86 HOURLY PRO Seismic:	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Dozer Speed: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00	Volume: 57,628 feet/second mph degrees feet feet feet	
rea:	17.86 HOURLY PRO Seismic:	acres       Rip Depth (ft         Source of estimated quantity:       Ma         DUCTION       Seismic Velocity:         Average Ripping Depth:       Average Ripping Width:         Average Ripping Length:       Average Dozer Speed:         Average Maneuver Time:       Production per unit area:	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25	Volume: 57,628 feet/second mph degrees feet feet feet feet feet	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Rip Depth (ft         Source of estimated quantity:       Ma         DUCTION       Seismic Velocity:         Average Ripping Depth:       Average Ripping Width:         Average Ripping Length:       Average Dozer Speed:         Average Maneuver Time:       Production per unit area:	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25	Volume: 57,628 feet/second mph degrees feet feet feet feet feet	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838	Volume: 57,628 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u></u> Altitude Adj:	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00	Volume: 57,628 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB)	NA BCY or 0
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u></u> Altitude Adj: <u></u> Job Efficiency: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83	Volume: 57,628 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB) (1 shift/day)	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u></u> Altitude Adj:	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00	Volume: 57,628 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB)	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u>Altitude Adj</u> : <u></u> Job Efficiency: <u></u> Net Correction: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 0.83 0.83 0.83 0.83	Volume: 57,628 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB) (1 shift/day)	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Uength: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u>Altitude Adj</u> : <u></u> Job Efficiency: <u></u> Net Correction: <u></u>	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 0.83 0.83 0.83 0.83	Volume:       57,628         feet/second       mph         degrees       feet         feet       feet         feet       feet         acres/hour       Acres/hr         feet       (CAT HB)         (1 shift/day)       multiplier	
rea:	17.86 HOURLY PRO Seismic: Area: Job Condition Cor	acres Rip Depth (ft Source of estimated quantity: <u>Ma</u> DUCTION Seismic Velocity: <u></u> Average Ripping Depth: <u></u> Average Ripping Width: <u></u> Average Ripping Length: <u></u> Average Ripping Length: <u></u> Average Maneuver Time: <u></u> Production per unit area: <u></u> <u>rection Factors</u> djusted Hourly Unit Production: <u></u> Site Altitude: <u>Altitude Adj</u> : <u></u> Job Efficiency: <u></u> Net Correction: <u></u> Adjusted Hourly Unit Production	): 2.00 p 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 0.83 0.83 0.83 0.83	Volume:       57,628         feet/second       mph         degrees       feet         feet       feet         feet       feet         acres/hour       Acres/hr         feet       (CAT HB)         (1 shift/day)       multiplier         Acres/hr       Mathematical state	

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

## Page 20 of 162

	Task description	n: Rip Wedge Area Prior to R	Regrading			
Site	: New Elk Mi	ne Permit Action:	Permit Renewa	al 07 Permit/Job	o#: <u>C198101</u>	2
	PROJECT II	DENTIFICATION				
	Date: 1	24State:Colorado1/19/2018County:Las AninIBImage: State stat		Abbreviation Filename	-	
	Agenc	y or organization name: DRMS				
	HOURLY EQ	<u>DUIPMENT COST</u>				
		Machine: Cat D9T - 9SU		Horsepower:	405	
	Ripper A	ttachment: <u>3-Shank Ripper</u>		Shift Basis:1 Data Source:	l per day (CRG)	
	Cost Breakdown	1:			(end)	
			¢110.70	Utilization %		
		Ownership Cost/Hour: Operating Cost/Hour:	\$110.70 \$95.46	<u>NA</u> 100		
	Rip	per Ownership Cost/Hour:	\$12.36	NA		
	Rip	oper Operating Cost/Hour:	\$7.88	100		
		Operator Cost/Hour: Total Unit Cost/Hour:	\$41.52 \$267.92	NA		
			03.77			
	MATERIAL	QUANTITIES Se	elected estimating	method: Area		
	Alternate Metho	ods:				
Seismic:	NA	Bank Volume:	NA	BCY	NA	
Area:	1.60	acres Rip Depth (ft):	2.00	Volume: <u>5,163</u>	·	BCY or CCY
		Source of estimated quantity: <u>Map</u>	11			
	HOURLY PR	<u>RODUCTION</u>				
	Seismic:		NT A	foot/accord		
		Seismic Velocity:	NA	feet/second		
	<u>Area:</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		
		Correction Factors				
	U	nadjusted Hourly Unit Production:	0.838	Acres/hr		
		Site Altitude:	7,500	feet		
		Altitude Adj:	1.00	(CAT HB)		
		Job Efficiency: Net Correction:	0.83	(1 shift/day) multiplier		
		Adjusted Hourly Unit Production		Acres/hr		
		Adjusted Hourly Fleet Production		Acres/hr		
	JOB TIME A	ND COST				
	Fleet size:	3 Grader(s)	Total job time	e:0.77	Hour	S

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

## Page 22 of 162

	Task description:	<b>Rip Prep Plant Area Prior</b>	0 0			
Site:	New Elk Mine	Permit Action:	Permit Renew	val 07 Perm	it/Job#:	C1981012
	PROJECT IDE	<b>NTIFICATION</b>				
	Task #: 625	State: Colorado	)	Abbrevi	ation: No	one
	Date: 11/1	9/2018 County: Las Anin	nas	File	name: C	)12-625
	User: JHB					
	Agency of	or organization name: DRMS				
	HOURLY EQU	JIPMENT COST				
	Basic N	Iachine: Cat D9T - 9SU		Horsepower:	405	
	Ripper Atta	chment: 3-Shank Ripper		Shift Basis:	1 per d	
				Data Source:	(CRG	()
	Cost Breakdown:					
				Utilization %		
		Ownership Cost/Hour:	\$110.70	NA		
	D	Operating Cost/Hour:	\$95.46	100		
		r Ownership Cost/Hour: er Operating Cost/Hour:	\$12.36 \$7.88	<u>NA</u> 100		
	Kippe	Operator Cost/Hour:	\$41.52	 NA		
		Total Unit Cost/Hour:	\$267.92			
			φ201.92			
	Alternate Methods	<u>s:</u> Bank Volume:	NA	BCY	NA	
nic: rea:	NA 5.37	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map	2.00	BCY Volume: 17,3		
nic: rea:	<u>NA</u> 5.37 HOURLY PRO	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map	2.00			
nic: rea:	NA 5.37	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map	2.00		327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO	Bank Volume: acres Rip Depth (ft): Source of estimated quantity: Map	2.00	Volume: 17,	327	
nic: rea:	NA 5.37 HOURLY PRO Seismic:		2.00 11 NA 4.05	Volume: 17,	327	
nic: rea:	NA 5.37 HOURLY PRO Seismic:	Bank Volume:          Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67	Volume: 17,3	327	
nic: rea:	NA 5.37 HOURLY PRO Seismic:	Bank Volume:          Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67 200.00	Volume: <u>17,3</u> feet/second mph degrees feet	327	
nic: rea:	NA 5.37 HOURLY PRO Seismic:	Bank Volume:          Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67 200.00 88.00	Volume: 17,3 feet/second mph degrees feet feet feet	327	
nic: rea:	NA 5.37 HOURLY PRO Seismic:	Bank Volume:          Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25	Volume: 17,3 feet/second mph degrees feet feet feet feet feet	327	
nic: rea:	<u>NA</u> 5.37 <u>HOURLY PRO</u> <u>Seismic:</u> <u>Area:</u>	acres       Bank Volume:         Rip Depth (ft):       Source of estimated quantity:       Map         DDUCTION       Seismic Velocity:          Average Ripping Depth:          Average Ripping Width:          Average Ripping Length:	2.00 11 NA 4.05 7.67 200.00 88.00	Volume: 17,3 feet/second mph degrees feet feet feet	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume:         Rip Depth (ft):       Source of estimated quantity:       Map         DDUCTION       Seismic Velocity:          Average Ripping Depth:          Average Ripping Width:          Average Ripping Length:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25	Volume: 17,3 feet/second mph degrees feet feet feet feet feet	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	Bank Volume:         acres       Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hour Acres/hr	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume:        acres       Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:          Seismic Velocity:          Average Ripping Depth:          Average Ripping Uength:          Average Ripping Length:          Average Dozer Speed:          Average Maneuver Time:          Production per unit area:          Tection Factors         djusted Hourly Unit Production:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500	Volume: 17,3	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume:         Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION         Seismic Velocity:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB)	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume:        acres       Rip Depth (ft):         Source of estimated quantity:       Map         DUCTION       Seismic Velocity:          Seismic Velocity:          Average Ripping Depth:          Average Ripping Uength:          Average Ripping Length:          Average Dozer Speed:          Average Maneuver Time:          Production per unit area:          Tection Factors         djusted Hourly Unit Production:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00	Volume: 17,3	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume: Rip Depth (ft):         Source of estimated quantity:      Map         DUCTION       Seismic Velocity:         DUCTION          Average Ripping Depth:          Average Ripping Width:          Average Ripping Length:          Average Ripping Length:          Average Maneuver Time:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 0.83	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume:         Rip Depth (ft):       Source of estimated quantity:Map         DUCTION       Seismic Velocity:         Average Ripping Depth:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 2,500 1.00 0.83 0.00 0.25 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.50 0.00 0.25 0.83 0.83 0.83 0.83 0.00 0.25 0.00 0.83 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.00 0.25 0.83 0.00 0.00 0.83 0.83 0.00 0.00 0.83 0.8	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hur Acres/hr feet (CAT HB) (1 shift/day multiplier Acres/hr	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor Una	acres       Bank Volume: Rip Depth (ft):         Source of estimated quantity:      Map         DUCTION       Seismic Velocity:         DUCTION       Seismic Velocity:         Average Ripping Depth:          Average Ripping Uength:          Average Ripping Length:          Average Ripping Length:          Average Maneuver Time:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 2,500 1.00 0.83 0.00 0.25 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.50 0.00 0.25 0.83 0.83 0.83 0.83 0.00 0.25 0.00 0.83 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.00 0.25 0.83 0.00 0.00 0.83 0.83 0.00 0.00 0.83 0.8	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier	327	
nic: rea:	<u>NA</u> 5.37 HOURLY PRO Seismic: Area: Job Condition Cor	acres       Bank Volume: Rip Depth (ft):         Source of estimated quantity:      Map         DUCTION       Seismic Velocity:         DUCTION       Seismic Velocity:         Average Ripping Depth:          Average Ripping Uength:          Average Ripping Length:          Average Ripping Length:          Average Maneuver Time:	2.00 11 NA 4.05 7.67 200.00 88.00 0.25 0.838 0.838 7,500 1.00 0.83 0.83 2,500 1.00 0.83 0.00 0.25 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.50 0.00 0.25 0.83 0.83 0.83 0.83 0.00 0.25 0.00 0.83 0.00 0.25 0.83 0.83 0.00 0.25 0.83 0.00 0.25 0.83 0.00 0.00 0.83 0.83 0.00 0.00 0.83 0.8	Volume: 17,3 feet/second mph degrees feet feet feet feet acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier Acres/hr Acres/hr	)	BCY or (

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

## Page 24 of 162

	Task description:	Rip West Port	al DNR Areas	8			
Site	: New Elk Mine	P	ermit Action:	Permit Renew	val 07 Per	mit/Job#: <u>C1981</u>	.012
	PROJECT IDE	<b>ENTIFICATION</b>					
	Task #:         627           Date:         11/2           User:         JHE	19/2018 County		as		viation: <u>None</u> ename: <u>C012-6</u>	27
	Agency	or organization name: <u>I</u>	ORMS				
	HOURLY EQU	JIPMENT COST					
	Basic N	Aachine: Cat D9T - 9SU	J		Horsepower:	405	
	Ripper Atta	chment: 3-Shank Rippe	er	_	Shift Basis:	1 per day	
					Data Source:	(CRG)	
	Cost Breakdown:				Utilization %		
		Ownership Cost/Hour:		\$110.70	NA		
		Operating Cost/Hour:		\$95.46	100		
		r Ownership Cost/Hour:		\$12.36	NA		
	Ripp	er Operating Cost/Hour: Operator Cost/Hour:		\$7.88 \$41.52	100 NA		
		Total Unit Cost/Hour:		\$267.92	1111		
		Total Fleet Cost/Hour:	\$80	3 77			
	MATEDIALO	-					
	MATERIAL Q		Sel	ected estimatin	g method: Area		
	Alternate Method						
Seismic: Area:	NA 24.92		nk Volume: p Depth (ft):	NA 1.50	BCY Volume: 60	NA ),306	BCY or CCY
nica.							
		Source of estimated quan	tity: <u>Map 1</u>	b (substract out	DWDA#3 area Ma	ip12)	
	HOURLY PRO	DUCTION					
	Seismic:					_	
		Seismic Ve	locity:	NA	feet/secor	nd	
	Area:						
		Average Ripping Average Ripping		4.05 7.67	mph		
		Average Ripping		200.00	degrees feet		
		Average Dozer		88.00	feet		
		Average Maneuver	·	0.25	feet		
		Production per uni		0.838	acres/hou	r	
	Job Condition Co	rrection Factors					
	Una	djusted Hourly Unit Produ	iction:	0.838	Acres/hr		
		Site Al	titude:	7,500	feet		
		Altitud		1.00	(CAT HB	5)	
		Job Effic	iency:	0.83	(1 shift/da	ay)	
		Net Corre	ection:	0.83	multiplier	•	
		Adjusted Hourly Un	it Production:	0.70	Acres/hr		
		Adjusted Hourly Flee	et Production:	2.09	Acres/hr		
	JOB TIME AN	D COST					
	Fleet size:	3 Grader(s	)	Total job tin	ne: <u>11</u>	<b>.95</b> H	lours

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

## Page 26 of 162

	Task description:	<b>Rip East Portal</b>	- Only DNR	Area			
Site	: New Elk Mine	Pe	rmit Action:	Permit Renew	val 07 Perm	nit/Job#: <u>C1981012</u>	2
	PROJECT IDE	NTIFICATION					
	Task #:       628         Date:       11/19         User:       JHB	State:0/2018County:	Colorado Las Animas	3	Abbrevi File	ation: None name: C012-628	
	Agency of	r organization name: <u>D</u>	RMS				
	HOURLY EQU	IPMENT COST					
	Basic M	achine: Cat D9T - 9SU			Horsepower:	405	
	Ripper Attac	hment: 3-Shank Rippe	•	_	Shift Basis:	1 per day	_
					Data Source:	(CRG)	
	Cost Breakdown:			1	Utilization %		
		Ownership Cost/Hour:		\$110.70	NA		
		Operating Cost/Hour:		\$95.46	100		
		Ownership Cost/Hour: r Operating Cost/Hour:		\$12.36 \$7.88	<u>NA</u> 100		
	Кірреі	Operator Cost/Hour:		\$41.52	NA		
		Total Unit Cost/Hour:		\$267.92			
		Total Fleet Cost/Hour:	\$803	.77			
	MATERIAL QU	JANTITIES	Sele	cted estimating	g method: Area		
	Alternate Methods:		Sele	eteu estimuting			
Seismic:	NA	-	nk Volume:	NA	BCY	NA	
Area:	35.00			2.00			BCY or CCY
	5	Source of estimated quant	ty: <u>Map 11</u>				
	HOURLY PRO	DUCTION					
	Seismic:						
	<u>beishile:</u>	Seismic Vel	ocity:	NA	feet/second	l	
	Area:						
		Average Ripping D		4.05	mph		
		Average Ripping W		7.67	degrees		
		Average Ripping Le Average Dozer S		200.00 88.00	feet		
		Average Maneuver	L	0.25	feet feet		
		Production per unit		0.23	acres/hour		
	Job Condition Corr	_					
		justed Hourly Unit Produ	ction:	0.838	Acres/hr		
		Site Alt	tude:	7,500	feet		
		Altitude		1.00	(CAT HB)		
		Job Effici	•	0.83	(1 shift/day		
		Net Corre	ction:	0.83	multiplier		
		Adjusted Hourly Uni	Production:	0.70	Acres/hr		
		Adjusted Hourly Flee	Production:	2.09	Acres/hr		
	JOB TIME ANI	COST					
	JOD TIME AN	00001					

Unit cost: \$385.397 Per acre

re

Total job cost:

\$13,489

# MOTOR GRADER WORK

New Elk Mine		use Disposa	ii iii cu		
	Perm	nit Action:	Permit Renew	val 07 Pe	rmit/Job#: <u>C1981012</u>
PROJECT IDENTI	<b>TICATION</b>				
Task #: 639	State:	Colorado		Abbre	viation: None
Date: 11/20/201	8 County:	Las Anima	S	Fi	lename: C012-639
User: JHB					
Agency or orga	nization name: DRI	MS			
HOURLY EQUIPM	<u>ENT COST</u>				
Basic Machin	e: CAT 14M			Horsepower:	259
Ripper Attachmer				Shift Basis:	1 per day
				Data Source:	(CRG)
Cost Breakdown:					
205t DICardowii.				Utilization %	
Own	ership Cost/Hour:		\$60.13	NA	
Ope	rating Cost/Hour:		\$50.87	100	
	ership Cost/Hour:		\$0.00	NA	
	rating Cost/Hour:		\$0.00		
1	erator Cost/Hour:		\$28.69	NA	
Tota	l Unit Cost/Hour:		\$139.69		
Tota	Fleet Cost/Hour:	\$139	9.69		
MATERIAL QUAN	TITIES				
		0.20			
Total Area	to be graded or ripped	l: <u>8.30</u>			acres
Sour	ce of estimated acreage	: Map 11	l		
HOURLY PRODUC	TION				
		1	1.50	1	
	Average Grader Spe Selected Applicati		1.50 Finish	mph grading (0-2.5 mp	b) 15
	Selected Application		30	degrees	1) - 1.5
	Effective Blade Leng		12.10	degrees	
Width	of blade overlap per pa		2.00	feet	
	or ripping width per pa		10.10	feet	
Unadjuste	d Hourly Unit Producti	on:	1.8364	acres/hou	ır
	n Factors		S		
Job Condition Correctio			G	ite Altitude: 7500	feet
Ob Condition Correctio		Source	5	ite Altitude: <u>7500</u>	feet
Altitude Adj:	1.00	Source (CAT HE		ite Altitude: <u>7500</u>	reet
Altitude Adj: Job Efficiency:	0.85	(CAT HE (1sh/d, mo	3) d.)	ite Altitude: <u>7500</u> ;	reet
Altitude Adj:		(CAT HE	3) d.)	ite Altitude: <u>7500</u> ;	feet
Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500	(CAT HE (1sh/d, mo multiplier	3) d.)		feet
Altitude Adj: Job Efficiency: Net Correction:	0.85	(CAT HE (1sh/d, mo multiplier Production:	3) d.)	ite Altitude: <u>7500</u> acres/Hour acres/Hour	reet
Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500 Adjusted Hourly Unit P	(CAT HE (1sh/d, mo multiplier Production:	3) d.) 1.5609	acres/Hour	feet
Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500 Adjusted Hourly Unit P Adjusted Hourly Fleet F	(CAT HE (1sh/d, mo multiplier Production:	3) d.) 1.5609	acres/Hour	feet
Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500 Adjusted Hourly Unit P Adjusted Hourly Fleet F	(CAT HE (1sh/d, mo multiplier Production:	3) d.) 1.5609	acres/Hour acres/Hour	Feet Hours

## BULLDOZER WORK

New Elk Mine       Permit Action:       Permit Renewal 07       Permit/Job#:       C198         PROJECT IDENTIFICATION       State:       Colorado       Abbreviation:       None         Task #:       643       State:       Colorado       Abbreviation:       None         Date:       11/15/2018       County:       Las Animas       Filename:       C012-6         User:       JHB       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Basic Machine:       Cat D9T - 9SU       Cat D9T - 9SU
Task #:       643       State:       Colorado       Abbreviation:       None         Date:       11/15/2018       County:       Las Animas       Filename:       C012-6         User:       JHB       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Image: Colorado       DRMS       County:       Dression
Task #:       643       State:       Colorado       Abbreviation:       None         Date:       11/15/2018       County:       Las Animas       Filename:       C012-6         User:       JHB       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Image: Colorado       DRMS       County:       Dression
Date:       11/15/2018       County:       Las Animas       Filename:       C012-6         User:       JHB       Agency or organization name:       DRMS         HOURLY EQUIPMENT COST       Image: County of the second
User: JHB Agency or organization name: DRMS HOURLY EQUIPMENT COST
Agency or organization name: DRMS HOURLY EQUIPMENT COST
HOURLY EQUIPMENT COST
Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)
Cost Breakdown:
Utilization %
Ownership Cost/Hour: \$110.70 NA
Operating Cost/Hour:         \$95.46         100
Ripper own
Cost/Hour: \$12.36 NA
Ripper op. Cost/Hour:         \$7.88         100
Operator Cost/Hour: \$41.52 NA
Sotal unit Cost/Hour:     \$267.92
Sotal Fleet Cost/Hour:   \$267.92
MATERIAL QUANTITIES
Initial Volume: 3,840
Swell factor: 1.125
Loose volume: 4,320 LCY
ource of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell Cat Handbook
actor:
HOURLY PRODUCTION
Average push distance: 125 feet
Jnadjusted hourly 1,055.6 LCY/hr
Jnadjusted hourly 1,055.6 LCY/hr roduction:
Jnadjusted hourly 1,055.6 LCY/hr
Jnadjusted hourly       1,055.6 LCY/hr         roduction:

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:	553.13 LCY/hr
Adjusted fleet production:	<b>553.13</b> LCY/hr

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

Total job time:	7.81 Hours
Total job cost:	\$2,093

# BULLDOZER WORK

Task description:	<b>Regrade Pond 006</b>			
: New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#	: C1981012
PROJECT IDENTIFI	CATION			
Task #: 645	State: Colorado		Abbreviation:	None
Date: 11/15/2018	County: Las Anima	is	Filename:	C012-645
User: JHB				
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D9T - 9SU			
Horsepower: 405		_		
<b>•</b> 1	ni-Universal			
	ank ripper	_		
	er day	_		
Data Source: (CR	<u>(G)</u>	_		
Cost Breakdown:		Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100		
Ripper own. Cost/Hour:	\$12.36	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
MATERIAL QUANT	ITIES			
Initial Volume: 6,160 Swell factor: 1.125				
	) LCY			
Source of estimated volur	ne: Division of Reclamati	on Mining & Safety		
Source of estimated swell		on, winning & Salety		
factor:				
HOURLY PRODUCT	TION			
Average push distance:	75 feet			
Unadjusted hourly production:	1,514.3 LCY/hr			
Materials consistency des	cription: Compacted fill or en	mbankment 0.9		
Average push gradient:	5 %			
Average site altitude:	7,500 feet			
Material weight:	2,132 lbs/LCY			
Weight description:	User Provided			
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	Net correction:		0.5240	
Adjusted unit production:	79	3.49 LCY/hr		

Adjusted unit production:	793.49 LCY/hr
Adjusted fleet production:	<b>793.49</b> LCY/hr

# JOB TIME AND COST

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

Total job time:8.73 HoursTotal job cost:\$2,271

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# BULLDOZER WORK

New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDENTIF	ICATION			
Task #: 646 Date: 11/15/2018 User: JHB	State:ColoradoCounty:Las Animas	3	Abbreviation: Filename:	None C012-646
Agency or orga	nization name: DRMS			
Agency of orga				
HOURLY EQUIPMI				
	D9T - 9SU	-		
Horsepower: 405		-		
51	ni-Universal	-		
	hank ripper	-		
	er day	-		
Data Source: (CI	RG)	-		
Cost Breakdown:				
		Utilization %		
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 Unit Cost/Hour: Total Fleet Cost/Hour:	\$260.05 <b>\$260.05</b>			
	\$200.05			
MATERIAL QUAN	TITIES			
Initial Volume: 9,12				
Swell factor: 1.12				
Loose volume: 10,2	60 LCY			
Source of estimated volu	me: Division of Reclamation	n, Mining & Safety		
Source of estimated swel				
factor:				
HOURLY PRODUC	ΓΙΟΝ			
Average push distance:	150 feet			
Unadjusted hourly	910.5 LCY/hr			
production:				
		1 1		
Materials consistency de	scription: Compacted fill or em	ibankment 0.9		
Average puch and int	5.0/			
Average push gradient:	<u>5 %</u>			
Average site altitude:	7,500 feet			
Matarial waisht.	2 122 lbs/I CV			
Material weight:	2,132 lbs/LCY			
Weight description:	User Provided			
weight description.				

Job Condition Correction Factor		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
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:	0.6288	

Adjusted unit production:	572.52 LCY/hr
Adjusted fleet production:	<b>572.52</b> LCY/hr

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

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

# Page 35 of 162

# BULLDOZER WORK

Task descrip	otion:	<b>Regrade Pond 0</b>	08; Rip and	Regrade Spillway		
: New Elk	Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#	: C1981012
<b>PROJECT</b>	<u>IDENTI</u>	FICATION				
Task #:	647	State:	Colorado		Abbreviation:	None
Date:	11/15/201		Las Anima	as	Filename:	C012-647
User:	JHB					
Age	ency or orga	anization name: <u>DI</u>	RMS			
HOURLY	EQUIPM	ENT COST				
Basic Ma		at D9T - 9SU				
Horsep						
Blade		emi-Universal				
Attach	J	shank ripper				
Shift I		per day				
Data So		(RG)				
Cost Breakd	<u>own</u> :					
0 1			¢110 <b>7</b> 0	Utilization %		
Ownership			\$110.70	NA		
	Cost/Hour:		\$95.46	100		
	Ripper own. Cost/Hour:		\$12.36	NA		
Ripper op.	Cost/Hour:		\$3.94	50		
Operator	Cost/Hour:		\$41.52	NA		
MATERIA Initial Volu Swell fa Loose volu Source of est Source of est factor: HOURLY Average pus Unadjusted I	ume: 28, ctor: 1.1 ume: 31, timated volu timated swee <b>PRODUC</b> th distance:	300 25 838 LCY ume: Division ell Operator	Estimate	ion, Mining & Safety		
production:	-			mbonkmont 0.0		
Materials co	•	·	icted fill or e	mbankment 0.9		
Average pus		10 %				
Average site	altitude:	7,500 feet				
Material wei	ight:	2,132 lbs/LCY				
Weight desc	ription:	User Provided				
Job Condition	on Correctio	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:	<b>481.46</b> 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

# Page 37 of 162

# BULLDOZER WORK

Cask description: New Elk Mine	Regrade West Porta		Permit Renewal 07	Permit/Job#:	C1001010
New Elk Mine	Permit	Action:	Permit Kenewal 07	Permit/Job#:	C1981012
PROJECT IDENTI	<b>FICATION</b>				
Task #: 648		olorado		Abbreviation:	None
Date: 11/15/20	18 County: La	as Anima	S	Filename:	C012-648
User: JHB					
Agency or org	anization name: <u>DRMS</u>				
HOURLY EQUIPM	IENT COST				
Basic Machine: C	at D9T - 9SU				
	05		_		
1	emi-Universal		_		
Attachment: 3-	-shank ripper		_		
Shift Basis: 1	per day		_		
Data Source: (0	CRG)		_		
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour		110.70	NA		
Operating Cost/Hour	:	\$95.46	100	_	
Ripper own Cost/Hour		\$12.36	NA		
Ripper op. Cost/Hour	:	\$0.00	0		
Operator Cost/Hour		\$41.52	NA		
Initial Volume:       3,3         Swell factor:       1.1         Loose volume:       3,7         Source of estimated vol       3,7         Source of estimated vol       3,7         Source of estimated vol       3,7	340 25 758 LCY lume: Division of R		on, Mining & Safety		
HOURLY PRODUC	<u>CTION</u>				
Average push distance:					
Jnadjusted hourly	1,243.2 LCY/hr				
roduction:					
Aaterials consistency d	escription: Compacted	fill or er	nbankment 0.9		
Average push gradient:	0 %				
Average site altitude:	7,500 feet				
reruge site annual.	1,000 1000				
Aaterial weight:	2,132 lbs/LCY				
Veight description:	User Provided				
	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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)
Not some stime.	0.5902	
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 HoursTotal job cost:\$1,354

# Page 39 of 162

# BULLDOZER WORK

Task description:	Regrade temporary Ditches a	t West Portal		
: New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#	: C1981012
PROJECT IDENTIF	FICATION			
Task #: 651	State: Colorado		Abbreviation:	None
Date: <u>11/15/2018</u>	8 County: Las Animas		Filename:	C012-651
User: JHB				
Agency or orga	nization name: DRMS			
HOURLY EQUIPM	<u>ENT COST</u>			
	t D9T - 9SU			
Horsepower: 40				
• 1	mi-Universal			
Attachment: NA Shift Basis: 1 p	er day			
	RG)			
Cost Breakdown:				
Cost breakdown:		Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100		
Ripper own.	\$0.00	NA		
Cost/Hour:				
Ripper op. Cost/Hour: Operator Cost/Hour:	\$0.00 \$41.52	0 NA		
Total Fleet Cost/Hour: MATERIAL QUAN	<u>\$247.68</u>			
Initial Volume: 217 Swell factor: 1.12				
Source of estimated volu Source of estimated swe factor:				
HOURLY PRODUC	TION			
Average push distance: Unadjusted hourly production:	75 feet 1,514.3 LCY/hr			
Materials consistency de	escription: <u>Compacted fill or em</u>	bankment 0.9		
Average push gradient:	5 %			
Average site altitude:	7,500 feet			
Material weight:	2,132 lbs/LCY			
Weight description:	User Provided			
Job Condition Correction	n 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	n: 0.5240	0.5240	
Adjusted unit production:	793.49 LCY/h	r	

Adjusted unit production:	793.49 LCY/hr
Adjusted fleet production:	<b>793.49</b> LCY/hr

# JOB TIME AND COST

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

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

Site: New Elk Mine	Pe	ermit Action:	Permit Renewal	07 Permi	t/Job#: <u>C198</u>	1012
PROJECT IDE	<b>INTIFICATION</b>					
Task #:661	State:	Colorado		Abbrevia	tion: None	
Date: <u>11/2</u> User: JHE	20/2018 County:	Las Anima	as	Filena	ame: <u>C012-6</u>	61
Agency	or organization name:	ORMS				
HOURLY EQU	JIPMENT		COSTSI	nift basis: <u>1 per day</u>		
			ent Description			
	-Scrap -Doz					
Sup	port Equipment -Load Are	ea: NA	,50			
	-Dump Are					
Road	Maintenance –Motor Grad Water True-		<u>M</u> anker, 5,000 Gal.			
		on water i	uniter, 2,000 Cui.			
Cost Breakdown	*		Support Equip		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water 7
%Utilization-machin	e: 100	100	NA	NA	50	
Ownership cost/hou	r: \$102.39	\$110.70	NA	NA	\$60.13	\$
Operating cost/hou	r: \$125.30	\$95.46	NA	NA	\$25.43	\$
%Utilization-rippe	r: NA	0	NA	NA	NA	
Ripper own. cost/hou	r: NA	\$12.36	NA	NA	\$0.00	
Ripper op. cost/hou	r: NA	\$0.00	NA	NA	\$0.00	
Operator cost/hou	r: \$31.05	\$41.52	NA	NA	\$28.69	\$
Unit Subtotal	s: \$258.73	\$260.05	NA	NA	\$114.26	\$
Number of Unit	s: 2	1	0	0	1	
Group Subtotal	s: Work:	\$777.51	Support:	\$0.00	Maint:	\$179.
Total work team of MATERIAL O Initial volun Loose volun	ue: 1,613	CCY LCY	Swell fact	or: <u>1.125</u>	_	
	ource of estimated volume ce of estimated swell facto		PAP cover require Estimate	ement.		
HOUDI V PRO	DUCTION					
				$1 \langle 1 \rangle \mathbf{D}'$		
<u>HOUKLI I K</u>			Scraper Bo	owl (volume) Basis:		
Material weigl			Struck '	Volume: <u>15.70</u>		CY
	n: User Provided			Volume:         15.70           Volume:         22.00	L	CY CY CY

Scraper Loading Time: Maneuver and Spread Time:

### Job Condition Correction:

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

<u>0.40</u> Minutes

<u>0.60</u> Minutes

Haul Time: **0.96** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (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 for	or job conditions:	396.09	LCY/Hour
			Selected Nur	nber of Scrapers:	2	Scraper(s)
	Adjusted	single scrape	er team (unit) he	ourly production:	792.18	LCY/Hour
	Adjusted m	ultiple scrape	r team (fleet) he	ourly production:	792.18	LCY/Hour
Optima	Unadjusted unit proc I Number of Scrapers per		477.22	LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	Team(s)	То	otal job time:	2.29	Hours
Uni	t cost: \$1.208	/LCY	Т	otal job cost:	\$2,191	

Site: New Elk Mine		Permit	t Action:	Permit Renewal	07 Peri	mit/Job#: <u>C198</u>	1012
PROJECT IDENT	St		Colorado		Abbrev		
Date: <u>11/20/2</u> User: JHB	.018 Cou	nty: <u>I</u>	Las Anim	as	File	ename: <u>C012-</u>	562
	rganization name:	DRM	S				
HOURLY EQUIP	C			COSTSH	ift basis: <u>1 per d</u>	0.V	
<u>HOUKLI EQUI</u>					int basis. <u>I per u</u>	<u>ay</u>	
	-\$6	craper:	Equipme Cat 627	ent Description			
		Dozer:		T - 9SU			
Suppor	t Equipment -Load		NA				
	-Dump		NA	43.4			
Road Mar	ntenance –Motor G -Water		CAT 14 Water 7	4M Fanker, 5,000 Gal.			
	, trater	i i delli	W ator 1				
Cost Breakdown:	Scraper Wor			Support Equip		Maintenance	e Equipment
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water Ti
% Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	\$2
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	\$1
%Utilization-ripper:	NA		0	NA	NA	NA	
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	\$
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	9
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	\$2
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	\$6
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$777	7.51	Support:	\$0.00	Maint:	\$179.0
Total work team cost	/hour: <b><u>\$956.60</u></b>						
MATERIAL QUA	NTITIES						
Initial volume: Loose volume:	3,900 <b>3,900</b>		CCY LCY	Swell facto	r: <u>1.000</u>		
	rce of estimated vol f estimated swell fa			of Reclamation, M Estimate	ining & Safety		
HOURLY PROD	UCTION						
				Scraper Boy	wl (volume) Bas	<u>is:</u>	
Material weight:	2,055 lbs/LCY			Struck V			LCY
Material description:	User Provided			Heaped V			LCY
Rated Payload:	52,800 pounds			Average V	olume: 18.85	Ι	LCY
Payload Capacity:	25.69 LCY			Adjusted Ca	apacity: 18.85	I	LCY

# Scraper Loading Time: Maneuver and Spread 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:

**Return 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

0.40 Minutes

0.60 Minutes

Haul Time: 0.96 minutes

Site Altitude: 7500 feet

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:	<b>0.64</b> r	ninutes
			Total Scrape	r team cycle time:	2.60	minutes
			Adjusted	for job conditions:	361.05	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	l single scrap	er team (unit) l	nourly production:	722.10	LCY/Hour
	Adjusted m	ultiple scrape	er team (fleet) l	nourly production:	722.10	LCY/Hour
Optima	Unadjusted unit proc I Number of Scrapers per			LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	Team(s)	Т	Total job time:	5.40	Hours
Uni	t cost: \$1.325	/LCY	r	Fotal job cost:	\$5,167	

Site: New Elk Mine	<u> </u>	Permit Action	on: Permit Revision	107 Per	mit/Job#: C198	31012
PROJECT IDENT	TIFICATION					
Task #: 663	St	ate: Colora	do	Abbrey	viation: None	
Date: 11/16/2	018 Cou	nty: Las An	nimas	Fil	ename: C012-	663
User: JHB						
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	hift basis: <u>1 per d</u>	lay	
			pment Description			
		1	627G D9T - 9SU			
Suppor	t Equipment -Load	Area: NA				
Dead Mai	-Dump ntenance –Motor G		Г 14М			
Koau wiai	-Water		er Tanker, 5,000 Gal			
		I	· · · ·			
Cost Breakdown:	Scraper Worl		Support Equi		Maintenanc	e Equip
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	wai
% Utilization-machine:	100	10	0 NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.7	0 NA	NA	\$60.13	
Operating cost/hour:	\$125.30	\$95.4	6 NA	NA	\$25.43	
%Utilization-ripper:	NA		0 NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.3		NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.0		NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.5		NA	\$28.69	
Unit Subtotals:	\$258.73	\$260.0		NA	\$114.26	
Number of Units:	2		1 0	0	1	
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$
Total work team cost/	'hour: <b>\$956.60</b>					
MATERIAL QUA	NTITIES					
Initial volume: Loose volume:	425 <b>425</b>	CCY LCY	Swell fact	or: <u>1.000</u>		
Sour	ce of estimated vol	ume: Divis	ion of Reclamation, I	Mining & Safety		
Source o	f estimated swell fa	ctor: Oper	ator Estimate			
HOURLY PRODU	JCTION					
			Scraper Be	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY		Struck	Volume: 15.70	]	LCY
Material description:	User Provided	-	** 1	Volume: 22.00		LCY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### <u>0.40</u> Minutes <u>0.60</u> Minutes

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	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: **0.56** minutes

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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:	<b>0.30</b> r	ninutes
			Total Scraper	team cycle time:	1.86	minutes
			Adjusted for	or job conditions:	504.69	LCY/Hour
			Selected Nur	nber of Scrapers:	2	Scraper(s)
	Adjusted	l single scrap	er team (unit) he	ourly production:	1,009.39	LCY/Hour
	Adjusted m	ultiple scrape	er team (fleet) he	ourly production:	1,009.39	LCY/Hour
Optima	Unadjusted unit proc I Number of Scrapers per			LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	_ Team(s)	То	otal job time:	0.42	Hours
Uni	t cost: \$0.948	/LCY	Т	otal job cost:	\$403	

Site: New Elk Mine		Permit	Action:	Permit Revision	07 Peri	nit/Job#: <u>C198</u>	31012
PROJECT IDEN	<b>FIFICATION</b>						
Task #: 664	Sta	te: C	olorado		Abbrev	viation: None	
Date: 11/16/2			as Anim	as		ename: C012-	664
User: JHB							
Agency or o	organization name: _	DRMS	5				
HOURLY EQUIP	MENT			COSTSh	uift basis: <u>1 per d</u>	ay	
			Fauinme	ent Description			
	-Scra	aper:	Cat 627				
		ozer:	Cat D9	Г - 9SU			
Suppo	rt Equipment -Load A -Dump A		NA NA				
Road Ma	intenance – Motor Gra		CAT 14	łM			
	-Water Ti	ruck:	Water 7	Tanker, 5,000 Gal.			
Cost Breakdown:	Scraper Work	Toom		Support Equip	ment	Maintenanc	e Equipme
<u>Cost Dicardown</u> .	Scraper	Doz	er	Load Area	Dump Area	Motor Grader	Water '
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$1	10.70	NA	NA	\$60.13	
Operating cost/hour:	\$125.30		95.46	NA	NA	\$25.43	
%Utilization-ripper:	NA		NA	NA	NA	NA	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$0.00	
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05	\$	41.52	NA	NA	\$28.69	5
Unit Subtotals:	\$258.73	\$2	47.68	NA	NA	\$114.26	9
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$765.	.14	Support:	\$0.00	Maint:	\$179
Total work team cost	/hour: <u><b>\$944.23</b></u>						
MATERIAL QUA	NTITIES						
Initial volume:	300		CCY	Swell facto	or: 1.000		
Loose volume:	300		LCY	5 wen fueto	1.000		
Sou	rce of estimated volu	me:	Division	of Reclamation, M	Aining & Safety		
	of estimated swell fac			Estimate	8		
HOURLY PROD	UCTION						
				Scraper Bo	owl (volume) Basi	is:	
Material weight:	2,055 lbs/LCY			Struck V			LCY
Material description:	User Provided			Heaped V			LCY
Rated Payload:	52,800 pounds			Average V	Volume: 18.85	]	LCY
Payload Capacity:	25.69 LCY			Adjusted C	apacity: 18.85		LCY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

# 0.40 Minutes 0.60 Minutes

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	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: **0.56** minutes

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Return F	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
			-	r team cycle time:	1.86	minutes

Adjusted for job conditions:504.69LCY/HourSelected Number of Scrapers:2Scraper(s)

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:	1,009.39	LCY/Hour

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	

Site: New Ell	k Mine		Permi	t Action:	Permit Revision	. 07 Per	mit/Job#: C198	1012
<b>PROJEC</b>	T IDEN	<b>TIFICATION</b>						
Task #:	668	S	tate: (	Colorado		Abbrey	viation: None	
Date:		2018 Cou	inty: l	Las Anim	as	File	ename: C012-6	568
User:	JHB							
А	gency or o	rganization name:	DRM	IS				
HOURL	Y EQUIP	MENT			COSTSI	nift basis: <u>1 per d</u>	lay	
					ent Description			
			craper: Dozer:	Cat 627	7 <u>G</u> T - 9SU			
	Suppor	- rt Equipment -Load		NA	1 - 930			
		-Dumj	Area:	NA				
	Road Mai	ntenance – Motor (		CAT 14				
		-Water	Truck:	water	Tanker, 5,000 Gal.			
<u>Cost Brea</u>	kdown:	Scraper Wor	k Team		Support Equip	oment	Maintenance	
		Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Wate
%Utilization-	machine:	100		100	NA	NA	50	
Ownership c	ost/hour:	\$102.39	\$	5110.70	NA	NA	\$60.13	
Operating c	ost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	
%Utilizatio	n-ripper:	NA		20	NA	NA	NA	
Ripper own. c	ost/hour:	NA		\$12.36	NA	NA	\$0.00	
Ripper op. c		NA		\$1.58	NA	NA	\$0.00	
Operator c		\$31.05		\$41.52	NA	NA	\$28.69	
	ubtotals:	\$258.73	\$	5261.62	NA	NA	\$114.26	
Number		2	<b>.</b>	1	0	0	1	
Group S	ubtotals:	Work:	\$779	9.08	Support:	\$0.00	Maint:	\$1
Total work	team cost	/hour: <u><b>\$958.17</b></u>						
MATER	IAL QUA	NTITIES						
	l volume:	1,300		CCY	Swell facto	or: <u>1.000</u>		
Loos	e volume:	1,300		LCY				
		ce of estimated vo			of Reclamation, N	Aining & Safety		
	Source o	f estimated swell f	actor:	Operator	r Estimate			
HOURL	Y PROD	UCTION						
					Scraper Bo	owl (volume) Bas	is:	
Materia	al weight:	2,055 lbs/LCY				Volume: 15.70		.CY
Material de	-	User Provided			Heaped V			CY
Rated	Payload:	52,800 pounds		<u> </u>	Average V		T	CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### 0.40 Minutes 0.60 Minutes

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	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 Scrape	r team cycle time:	1.30	minutes
			Adjusted f	for job conditions:	722.10	LCY/Hour
		2	Scraper(s)			
	Adjusted	1,444.20	LCY/Hour			
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	1,444.20	LCY/Hour

Unadjusted unit production/hour: <u>870.00</u> 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	

Site: New Elk Mine	P	ermit Action:	Permit Revision	07 Peri	mit/Job#: <u>C198</u> 1	1012
PROJECT IDENTIFI	CATION					
Task #:669	State			Abbrev		
Date: <u>11/16/2018</u> User: <u>JHB</u>	County	: Las Anim	as	File	ename: <u>C012-6</u>	69
Agency or organi	zation name: <u>I</u>	ORMS				
HOURLY EQUIPMEN	<u>NT</u>		COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>	
		Equipme	ent Description			
	-Scrap		/G T - 9SU			
Support Equ	-Doz ipment -Load Ar		1 - 980			
	-Dump Ar	rea: NA				
Road Maintena	nce –Motor Grad					
	-Water Tru	ck: water	Fanker, 5,000 Gal.			
Cost Breakdown:	Scraper Work T	eam	Support Equip	oment	Maintenance	Equipn
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Wate
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	
%Utilization-ripper:	NA	0	NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	
Unit Subtotals:	\$258.73	\$260.05	NA	NA	\$114.26	
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$1
Total work team cost/hour	<u>\$956.60</u>					
MATERIAL QUANTI	<u>TIES</u>					
Initial volume:1,0		CCY	Swell facto	or: <u>1.000</u>		
Loose volume:	1,060	LCY				
	estimated volum mated swell facto		of Reclamation, N Estimate	Aining & Safety		
HOURLY PRODUCT	<u>ION</u>					
			Scraper Bo	owl (volume) Bas	is:	
Material weight: 2,05	5 lbs/LCY			Volume: 15.70		CY
	r Provided		Heaped V			CY
	00 pounds		Average V			CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### 0.40 Minutes 0.60 Minutes

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	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 Scrape	r team cycle time:	2.42	minutes
			Adjusted f	for job conditions:	387.90	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	l single scra	per team (unit) h	nourly production:	775.81	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	nourly production:	775.81	LCY/Hour
Optima	Unadjusted unit proc Number of Scrapers per			LCY/Hour		
JOB T	ME AND COST					
Flee	t size: 1	Team(s)	Т	otal job time:	1.37	Hours

Unit cost: \$1.233 /LCY

Total job cost: \$1,307

Site: New Elk Mine		Permit Action	Permit Revision	07 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDENI	TIFICATION					
Task #: 670	St	tate: Colorad	0	Abbrev	viation: None	
Date: 11/16/2	018 Cou	nty: Las Ani	mas	File	ename: C012-6	70
User: JHB						
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	MENT_		COSTSI	nift basis: <u>1 per d</u>	ay	
			ment Description			
		craper: Cat 62				
Suppor	t Equipment -Load		9T - 9SU			
Suppor	-Dump					
Road Mai	ntenance – Motor C		14M			
	-Water	Truck: Water	Tanker, 5,000 Gal.			
Cost Breakdown:	Scraper Wor	k Team	Support Equip	oment	Maintenance	Equipmen
<u>Cost Breakdown</u> .	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water T
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	\$
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	\$
%Utilization-ripper:	NA	0	NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$
Unit Subtotals:	\$258.73	\$260.05	NA	NA	\$114.26	\$
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$179.
Total work team cost/	hour: <b>\$956.60</b>					
MATERIAL QUA	NTITIES					
Initial volume:	70	CCY	Swell facto	or: 1.000		
Loose volume:	70	LCY				
	ce of estimated vol f estimated swell fa		on of Reclamation, N	Aining & Safety		
Source o	i estimated swell Ia	operat	or Estimate			
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weight:	2,055 lbs/LCY			Volume: <u>15.70</u>		CY
Material description: Rated Payload:	User Provided 52,800 pounds		Heaped V Average V			CY CY
				1005	Ĭ	1 ' V

Scraper Loading Time:	
Maneuver and Spread Time:	

Job Condition Correction:

### <u>0.40</u> Minutes <u>0.60</u> Minutes

Site Altitude: 7500 feet

Haul Time: **0.90** minutes

	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

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 Scrape	r team cycle time:	2.71	minutes
			Adjusted f	for job conditions:	346.39	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	l single scra	per team (unit) h	nourly production:	692.79	LCY/Hour

Unadjusted unit production/hour: <u>417.34</u> LCY/Hour 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:	\$97	-

Site: New Elk Mine		Permit Action:	Permit Renewal (	)7 Perm	nit/Job#: <u>C198</u>	1012
PROJECT IDEN	<b>TIFICATION</b>					
Task #: 672	Sta	te: Colorado		Abbrev	iation: None	
Date: $11/16/2$			25		cname: C012-6	572
User: JHB		Lus mini	ab			,12
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT		COSTShi	ft basis: <u>1 per da</u>	ay	
		Equipme	ent Description			
		aper: Cat 627	'G			
Suppor	-D . rt Equipment -Load		T - 9SU			
Buppor	-Dump	Area: NA				
Road Mai	intenance – Motor Gr		4M Fanker, 5,000 Gal.			;
	-Water T	ruck: water	Tanker, 5,000 Gai.			
Cost Breakdown:	Scraper Work		Support Equip		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Wate
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	
%Utilization-ripper:	NA	0	NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	
Unit Subtotals:	\$258.73	\$260.05	NA	NA	\$114.26	
Number of Units:	2	1	0	0	1	¢.1/
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$1
Total work team cost	/hour: <u><b>\$956.60</b></u>					
MATERIAL QUA	NTITIES					
Initial volume:	600	CCY	Swell factor	r: <u>1.000</u>		
Loose volume:	600	LCY				
	rce of estimated volu		of Reclamation, M	ining & Safety		
Source o	f estimated swell fac	operator	Estimate			
HOURLY PROD	UCTION					
			Scraper Boy	wl (volume) Basi	<u>s:</u>	
Material weight:	2,055 lbs/LCY		Struck V			.CY
Material description:	User Provided		Heaped V			CY
Rated Payload:	52,800 pounds		Average V	olume: 18.85	L	.CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### <u>0.40</u> Minutes <u>0.60</u> Minutes

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	2300.00	0.00	3.00	3.00	2824	1.00

Haul Time: **1.00** minutes

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Return	Ro	oute:

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				
			1	r job conditions:	322.59	LCY/Hour				
		ber of Scrapers:	2	Scraper(s)						
	Adjusted	645.18	LCY/Hour							
	Adjusted m	ultiple scrape	er team (fleet) ho	urly production:	645.18	LCY/Hour				
Optima	Unadjusted unit prod l Number of Scrapers per	LCY/Hour								
JOB T	JOB TIME AND COST									
Flee	t size: 1	Team(s)	То	tal job time:	0.93	Hours				
Uni	t cost: \$1.483	/LCY	Тс	otal job cost:	\$890					

Site: New Elk Mine		Permi	t Action:	Permit Renewal	07 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDENT	<b>TIFICATION</b>						
Task #: 673	S++	ate: (	Colorado		Abbrev	viation: None	
Date: $\frac{075}{11/16/2}$			Las Anim	as		ename: $C012-6$	573
User: JHB		· · · · ·					
Agency or of	rganization name:	DRM	S				
HOURLY EQUIP	<u>MENT</u>			COSTSI	nift basis: <u>1 per d</u>	lay	
			Equipme	ent Description			
		raper:	Cat 627				
Suppor	-D t Equipment -Load	Dozer:	Cat D9' NA	1 - 980			
Suppor	-Dump		NA				
Road Main	ntenance – Motor Gi		CAT 14				
	-Water T	ruck:	Water 7	Fanker, 5,000 Gal.			
Cost Breakdown:	Scraper Work	Team		Support Equip	oment	Maintenance	Eauipn
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Wate
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$	110.70	NA	NA	\$60.13	
Operating cost/hour:	\$125.30		\$95.46	NA	NA	\$25.43	
%Utilization-ripper:	NA		0	NA	NA	NA	
Ripper own. cost/hour:	NA		\$12.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05		\$41.52	NA	NA	\$28.69	
Unit Subtotals:	\$258.73	\$	260.05	NA	NA	\$114.26	
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$777	7.51	Support:	\$0.00	Maint:	\$1
Total work team cost/	hour: <b>\$956.60</b>						
MATERIAL QUA	NTITIES						
Initial volume:	180		CCY	Swell fact	or: 1.000		
Loose volume:	180		LCY				
Sour	ce of estimated volu	ime:	Division	of Reclamation, M	Aining & Safety		
Source of	f estimated swell fac	ctor:	Cat Hand	lbook			
HOURLY PRODU	JCTION						
				Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weight:	2,055 lbs/LCY			Struck	Volume: 15.70	L	CY
Material description:	User Provided			Heaped			.CY
Rated Payload:	52,800 pounds			Average	Volume: 18.85		.CY

Scraper Loading Time:	
Maneuver and Spread Time:	

Job Condition Correction:

### <u>0.40</u> Minutes 0.60 Minutes

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	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	or job conditions:	409.93	LCY/Hour
			Selected Nun	nber of Scrapers:	2	Scraper(s)
	Adjusted	ourly production:	819.85	LCY/Hour		
	Adjusted m	ultiple scrape	er team (fleet) ho	ourly production:	819.85	LCY/Hour
Optima	Unadjusted unit prod l Number of Scrapers per			LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	Team(s)	To	tal job time:	0.22	Hours

 Unit cost:
 \$1.167
 /LCY
 Total job cost:
 \$210

Site: New Elk Mine		Permit Actio	on: Permit Renewa	107 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDENT	<b>IFICATION</b>					
Task #: 674	St	ate: Colora	do	Abbrev	viation: None	
Date: $\frac{074}{11/16/2}$					ename: $C012-6$	574
User: JHB						
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	MENT		COSTS	hift basis: <u>1 per d</u>	av	
<u>HOURLI LQUI</u>		Fauir	oment Description	init dusis. <u>I per u</u>	<u>ary</u>	
	-Sc		527G			
			D9T - 9SU			
Suppor	t Equipment -Load					<u>.</u>
Road Mai	-Dump ntenance –Motor G		14M			
	-Water 7		er Tanker, 5,000 Gal	•		
<u>Cost Breakdown</u> :	Scraper Work	<u>K Team</u> Dozer	Support Equi	pment Dump Area	Maintenance Motor Grader	Equipmer Water
	Scraper			Dunip Alea	Wotor Grader	water
%Utilization-machine:	100	100		NA	50	
Ownership cost/hour:	\$102.39	\$110.70		NA	\$60.13	\$
Operating cost/hour:	\$125.30	\$95.40	5 NA	NA	\$25.43	\$
%Utilization-ripper:	NA		) NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.30		NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.00		NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.52		NA	\$28.69	\$
Unit Subtotals:	\$258.73	\$260.05	5 NA	NA	\$114.26	\$
Number of Units:	2	-	· · · · · · · · · · · · · · · · · · ·	0	1	
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$179
Total work team cost/	hour: <u><b>\$956.60</b></u>					
MATERIAL QUA	<u>NTITIES</u>					
Initial volume:	1,950	CCY	Swell fact	tor: <u>1.000</u>		
Loose volume:	1,950	LCY				
	ce of estimated volu		on of Reclamation, 1	Mining & Safety		
Source o	f estimated swell fa	ctor: Opera	tor Estimate			
HOURLY PRODU	JCTION					
nothering			Saman D	ovil (volumo) Dog	:	
				owl (volume) Bas		~
Material weight:	2,055 lbs/LCY			Volume: <u>15.70</u>		CY
Material description: Rated Payload:	User Provided 52,800 pounds		Heaped Average	Volume: 22.00 Volume: 18.85		.CY .CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### 0.40 Minutes 0.60 Minutes

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	900.00	0.00	3.00	3.00	2824	0.51

Haul Time: 0.51 minutes

innates

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
		1.94	minutes			
		483.88	LCY/Hour			
		2	Scraper(s)			
	Adjusted	967.76	LCY/Hour			
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	967.76	LCY/Hour
Optima	Unadjusted unit proc Number of Scrapers per					
JOB TI	ME AND COST					
Fleet	t size: 1	Team(s)	Т	otal job time:	2.01	Hours

Unit cost: \$0.988 /LCY

Total job cost: \$1,928

Site: New Elk Mine		Permit A	Action:	Permit Renewal	07 Per	mit/Job#: <u>C198</u>	1012
PROJECT IDENT	<b>TIFICATION</b>						
Task #: 676	Sta	te: Co	lorado		Abbrev	viation: None	
Date: <u>11/16/2018</u> County:			s Anima	s	File	ename: C012-	676
User: JHB							
Agency or o	rganization name: _	DRMS					
HOURLY EQUIP	MENT_			COSTSI	nift basis: <u>1 per d</u>	lay	
	-Ser		quipmer Cat 6270	nt Description			
			Cat D9T				
Suppor	t Equipment -Load A		NA				
Road Mai	-Dump A ntenance –Motor Gra		NA CAT 141	М			
Road Mar	-Water Ti			anker, 5,000 Gal.			
		·					
<u>Cost Breakdown</u> :	Scraper Work Scraper	Team Doze	r	Support Equip Load Area	Dump Area	Maintenance Motor Grader	e Equipment Water T
	_	Doze			-		Water 1
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$102.39		0.70	NA	NA	\$60.13	\$
Operating cost/hour:	\$125.30	\$9	5.46	NA	NA	\$25.43	\$
%Utilization-ripper:	NA		0	NA	NA	NA	
Ripper own. cost/hour:	NA		2.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA #21.05		0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05		1.52	NA	NA	\$28.69	\$1
Unit Subtotals:	\$258.73	\$26	50.05	NA	NA	\$114.26	\$
Number of Units:	2 Work:	¢777 5	1	0 Summanti	00	1 Maint:	\$170
Group Subtotals:		\$777.5	1	Support:	\$0.00	Maint:	\$179.0
Total work team cost/	'hour: <u><b>\$956.60</b></u>						
MATERIAL QUA	NTITIES						
Initial volume: Loose volume:	27,824 <b>27,824</b>		CY CY	Swell facto	or: <u>1.000</u>		
	ce of estimated volu			neet 3; Permit pa	ge 2.05-38		
Source o	f estimated swell fac	tor: 0	perator l	Estimate			
HOURLY PRODU	JCTION						
				Scraper Bo	owl (volume) Bas	is:	
Material weight:	2,055 lbs/LCY			Struck V	Volume: 15.70	I	LCY
Material description:	User Provided			Heaped Y	Volume: 22.00	I	LCY
Rated Payload:	52,800 pounds			Average V	Volume: 18.85	т. Т	LCY

Scraper Loading Time:
Maneuver and Spread Time:

Job Condition Correction:

#### 0.40 Minutes 0.60 Minutes

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	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: Adjusted for job conditions: Selected Number of Scrapers: Adjusted single scraper team (unit) hourly production:	<b>8.26</b> 113.65 2 227.30	minutes LCY/Hour Scraper(s)
Adjusted single scraper team (unit) hourly production:	227.30	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	227.30	LCY/Hour

Unadjusted unit production/hour: <u>136.92</u> 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	_

Site: New Elk Mine		Permit Action:	Permit Renewal	107 Per	mit/Job#: <u>C198</u>	1012	
PROJECT IDEN	<b>FIFICATION</b>						
Task #:       677         Date:       11/16/2         User:       JHB		tate: Colorado Inty: Las Anim	as	Abbrev File	viation: None ename: C012-6	77	
Agency or o	organization name:	DRMS					
HOURLY EQUIP	MENT		COSTS	hift basis: <u>1 per d</u>	<u>ay</u>		
		Equipme	ent Description				
		craper: Cat 627	′G				
Suppo	- rt Equipment -Load		T - 9SU				
Suppo	-Dump						
Road Ma	intenance – Motor C						
	-Water	Truck: Water	Fanker, 5,000 Gal				
Cost Breakdown:	Scraper Wor	k Team	Support Equi	pment	Maintenance	Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Tru	
%Utilization-machine:	100	100	NA	NA	50		
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	\$2:	
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	\$18	
%Utilization-ripper:	NA	100	NA	NA	NA		
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	\$0	
Ripper op. cost/hour:	NA	\$7.88	NA	NA	\$0.00	\$0	
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21	
Unit Subtotals:	\$258.73	\$267.92	NA	NA	\$114.26	\$64	
Number of Units:	2	1	0	0	1		
Group Subtotals:	Work:	\$785.38	Support:	\$0.00	Maint:	\$179.09	
Total work team cost	/hour: <u><b>\$964.47</b></u>						
MATERIAL QUA	ANTITIES						
Initial volume: Loose volume:	3,580 3,580	CCY LCY					
	rce of estimated vol of estimated swell fa		p 11 sheet 3; 5.5 a dbook	icres			
HOURLY PROD	UCTION						
			Scraper B	owl (volume) Bas	is:		
Material weight:	2,055 lbs/LCY			Volume: 15.70		CY	
Material description:	User Provided			Volume: 13.70 Volume: 22.00		CY	
Rated Payload:	52,800 pounds		Average	Volume: 18.85	L	CY	
Payload Capacity:	25.69 LCY		Adjusted C	Capacity: <b>18.85</b>	I.	CY	

Scraper Loading Time:	
Maneuver and Spread Time:	

Job Condition Correction:

<u>0.40</u>	Minutes
0.60	Minutes

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	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

minutes

LCY/Hour

Scraper(s) LCY/Hour

LCY/Hour

Total Scraper team cycle time:	8.23
Adjusted for job conditions:	114.06
Selected Number of Scrapers:	2
Adjusted single scraper team (unit) hourly production:	228.12
Adjusted multiple scraper team (fleet) hourly production:	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	Hours
Unit cost:	\$4.228	/LCY	Total job cost:	\$15,136	

Site: New Elk Mine		Permit Action:	Permit Renewal (	)7 Perr	mit/Job#: <u>C198</u>	1012
PROJECT IDENT	<b>TIFICATION</b>					
Task #: 678	State	: Colorado		Abbrev	iation: None	
Date: 11/16/2	County	: Las Anim	as	File	ename: C012-6	578
User: JHB						
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	<u>MENT</u>		COSTShi	ft basis: <u>1 per d</u>	ay	
	9		ent Description			
	-Scrap -Doz					
Suppor	rt Equipment -Load Ai	rea: NA				
	-Dump Ai					
Road Mai	ntenance –Motor Grad -Water Tru		4M Γanker, 5,000 Gal.			
		iek. Water I	unker, 5,000 Gui.			
Cost Breakdown:	Scraper Work T		Support Equipr		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	\$25
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	\$18
%Utilization-ripper:	NA	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21
Unit Subtotals:	\$258.73	\$247.68	NA	NA	\$114.26	\$64
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$765.14	Support:	\$0.00	Maint:	\$179.09
Total work team cost	/hour: <u><b>\$944.23</b></u>					
MATERIAL QUA	NTITIES					
Initial volume:	1,975	CCY	Swell factor	r: <u>1.000</u>		
Loose volume:	1,975	LCY				
	ce of estimated volum f estimated swell facto		of Reclamation, M	ining & Safety		
			doook			
HOURLY PRODU	<u>UCTION</u>		Scraper Boy	vl (volume) Basi	c.	
M 1 1 .	2 055 11 J. C.V.					CV
Material weight: Material description:	2,055 lbs/LCY User Provided		Struck V Heaped V			CY CY
Rated Payload:	52,800 pounds	<u> </u>	Average V			CY
Payload Capacity:	25.69 LCY		Adjusted Ca			CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### <u>0.40</u> Minutes 0.60 Minutes

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	2500.00	10.00	3.00	13.00	834	3.01

Haul Time: **3.01** minutes

**Travel Time** 

Return F	Route:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Trave (min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90
				Return Time:	0.90	minutes
			Total Scrapa	r team cycle time.	/ 01	minut

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:	382.37	LCY/Hour

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

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

Task description:	Replace	-			k Dust Cut Slop	De		
Site: New Elk Mine	Site: New Elk Mine Permit				ewal 07	Permit/Job#: C198101		
PROJECT IDEN	<b>FIFICATION</b>							
Task #: 680		State: Co	lorado		A	obreviation: No	ne	
Date: 11/19/2	2018 0	County: La	s Anima	as		Filename: C0	12-680	
User: JHB								
Agency or o	organization nam	e: DRMS						
HOURLY EQUIP	MENT COST	-			Shift ba	asis: <u>1 per day</u>		
			Equi	ipment Descri	ption			
Tr	uck Loader Tear			10-12 cy, 6x4	1			
Suppo	rt Equipment -Lo		CAT 95 Cat D97					
Suppo			Cat D91					
Road Ma	intenance – Moto	r Grader:	CAT 14					
	-Wat	er Truck:	Water T	anker, 5,000	Gal.			
Cost Breakdown:	Truck/Loa	der Team		Support	Equipment	Maintena	nce Equipment	
Cost Dicaruowil.	Truck	Loader	L	bad Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100		65	100	100	50	50	
Ownership cost/hour:	\$18.75	\$26.		\$110.70	\$110.70	\$60.13	\$25.30	
Operating cost/hour:	\$42.43	\$20.		\$95.46	\$95.46	\$25.43	\$18.30	
%Utilization-riper:	NA	¢ <b>=</b> 01	0	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	\$0.0	00	\$0.00	\$0.00	\$0.00	\$0.00	
Ripper op. cost/hour:	NA	\$0.0	00	\$0.00	\$0.00	\$0.00	\$0.00	
Operator cost/hour:	\$0.00	\$40.9	90	\$41.52	\$41.52	\$28.69	\$21.23	
Unit Subtotals:	\$61.17	\$87.0	09	\$247.68	\$247.68	\$114.26	\$64.83	
Number of Units:	3		1	1	1	1	1	
Group Subtotals:	Work:	\$270.60		Support:	\$495.36	Maint:	\$179.09	
Total work team cost	/hour: <u><b>\$945.05</b></u>							
MATERIAL QUA	<b>NTITIES</b>							
Initial volume: Loose volume:	400 <b>400</b>		CY CY	Swell	factor: <u>1.000</u>			
Sou	rce of estimated	volume: D	vision	of Reclamatic	on, Mining & Sat	fetv		
	of estimated swel			Estimate	,			
	Material Purcha		0.00					
	10	tal Cost: \$	0.00					
HOURLY PRO	DUCTION							
Truck Capacity:								
Truck Payload (weig								
Material we		oride 1	<u> </u>	Pounds/LCY				
Descrij Rated Pay		ovided		Pounds				
itaicu I dy								

Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	12.00	LCY				
Final 7	Truck Volume	Based on Number of	of Loader Passes:	9.46	LCY	
Loading Tool Capacity						
			Buc	ket Size Class:	NA	
Rated Capacity:	4.300	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/di	rt mixtures (100	0-120%) 1.100		_
Adjusted Capacity:	4.730	LCY				
Job Condition Corrections:	-	S	Site Altitude (ft.):	<u>7500</u> feet		
	Truck	Loader	Source	1		
Altitude Adj:	1.000	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Leel's Teel Code Times		х	T. 1 D D	· 1		
Loading Tool Cycle Time:		Number of Loading	1001 Passes Requ	Truck:	2	passes
Excavators and Front Shovels	s:					
		Define NA				
Machine Cycle Time vs. Selected Value w						
Machine Cycle Time vs.	vithin this Basic	c Rating: NA				
Machine Cycle Time vs. Selected Value w	vithin this Basic	c Rating: NA				
Machine Cycle Time vs. Selected Value w Track Loaders – M	vithin this Basic Material Descri	c Rating: NA		 Dump: 0.10	00	
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: <u>NA</u>	vithin this Basic Material Descri M	c Rating: NA iption: Ianeuver: NA		·		
Machine Cycle Time vs. Selected Value w Track Loaders – N Cycle Time Elements (min.):	vithin this Basic Material Descri M	c Rating: NA iption: Ianeuver: NA	me (load, dump, 1	·		nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: <u>NA</u>	vithin this Basic Material Descri M - Unadjusted Ba	c Rating: <u>NA</u> iption: Ianeuver: <u>NA</u> asic Loader Cycle Ti		·		nutes
Machine Cycle Time vs. Selected Value w Track Loaders – N Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - N	vithin this Basic Material Descri M - Unadjusted Ba	c Rating: NA iption: Ianeuver: NA		maneuver):	0.500 min	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile:	vithin this Basic Material Descri - M Unadjusted Ba Material 3/4" Conveyor or	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig	gh or less 0.01	maneuver): Factor (min.) 0.000 0.010	0.500 min Source (Cat HB) (Cat HB)	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - <u>Cycle Time Factors</u> Material:	vithin this Basic Material Descri - M Unadjusted Ba Material 3/4" Conveyor or	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00	gh or less 0.01	maneuver): Factor (min.) 0.000	0.500 min Source (Cat HB)	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04	gh or less 0.01	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti 'to 6" diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 get 0.00	gh or less 0.01 d loaders -0.04	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000	0.500 min Source (Cat HB) (Cat HB) (Cat HB)	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 jet 0.00 Net Cycle Tin	gh or less 0.01 d loaders -0.04 me Adjustment:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	nutes 
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load	gh or less 0.01 d loaders -0.04 me Adjustment:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	nutes
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper Nominal targ	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck:	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	vithin this Basic Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper Nominal targ	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6'' diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load Net Load T	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck: Adjusted	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	   
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - M Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time:	Vithin this Basic Material Descrit Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper Nominal targ 0.50 0.530	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6" diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load Net Load T Minutes	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530 I for site altitude:	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.500	    Minute
Machine Cycle Time vs. Selected Value w Track Loaders – M Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time: Truck Load Time:	Aterial Descri Material Descri Unadjusted Ba Material 3/4" Conveyor or Common own Constant oper Nominal targ 0.50 0.530 0.90	c Rating: NA iption: Ianeuver: NA asic Loader Cycle Ti ' to 6" diameter 0.00 dozer piled 10 ft. hig nership of trucks and ration -0.04 yet 0.00 Net Cycle Tin Adjusted Load Net Load T Minutes Minutes Minutes	gh or less 0.01 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	maneuver): Factor (min.) 0.000 0.010 -0.040 -0.040 0.000 -0.070 0.430 0.530 for site altitude: for site altitude:	0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.500 0.530 0.900	nutes       

Seg #Haul DistanceGrade (%)Roll. ResTotal ResVelocityTravel(Ft)(%)(%)(fpm)Time	
1         3000.00         4.00         3.00         7.00         1568         1.946	
Haul Time: <b>1.946</b> minutes	
Return Route:	
Seg #Haul DistanceGrade (%)Roll. ResTotal ResVelocityTravel	
(Ft) (%) (%) (fpm) Time (min)	
1 3000.00 -4.00 3.00 -1.00 2938 1.064	
Return Time: <b>1.064</b> minutes	\$
Total Truck Cycle Time: 4.940 minutes	
Loading Tool unit	
Production 551.07 LCY/Hour Adjusted for job efficiency: 457.39	LCY/Hour
<u>114.90</u> LCY/Hour Adjusted for job efficiency: <u>95.37</u>	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
JOB TIME AND COST	
Fleet size:1Team(s)Total job time:1.40Ho	ours
Unit cost:         \$3.303         /LCY         Total job cost:         \$1,321	

Site: New Elk Mine		Permit Action:	Permit Renewal (	) <u>7</u> Peri	mit/Job#: <u>C198</u>	1012
PROJECT IDEN	<u> TIFICATION</u>					
Task #: 681		ate: Colorado		Abbrev		
Date: $\frac{11/16/2}{11}$	2018 Cour	nty: Las Anim	as	File	ename: <u>C012-6</u>	581
User: JHB						
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT		COSTShi	ft basis: <u>1 per d</u>	ay	
		Equipm	ent Description			
		raper: Cat 627	7G			
			T - 9SU			
Suppo	rt Equipment -Load -Dump					
Road Ma	intenance –Motor G		4M			
	-Water 7		Fanker, 5,000 Gal.			
Cost Breakdown:	Scraper Work		Support Equipr		Maintenance	Equipm Water
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	water
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$102.39	\$110.70	NA	NA	\$60.13	
Operating cost/hour:	\$125.30	\$95.46	NA	NA	\$25.43	
%Utilization-ripper:	NA	0	NA	NA	NA	
Ripper own. cost/hour:	NA	\$12.36	NA	NA	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	
Unit Subtotals:	\$258.73	\$260.05	NA	NA	\$114.26	
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$777.51	Support:	\$0.00	Maint:	\$17
Total work team cost	/hour: <u><b>\$956.60</b></u>					
MATERIAL QUA	NTITIES					
Initial volume:	1,150	CCY	Swell factor	r: <u>1.000</u>		
Loose volume:	1,150	LCY				
	rce of estimated volu of estimated swell fa		of Reclamation, M	ining & Safety		
			. 2000000			
HOURLY PROD	<u>UCTION</u>		0 5	1/ 1 ) 7		
				wl (volume) Bas		
Material weight:	2,055 lbs/LCY		Struck V			CY
Material description:	User Provided		Heaped V			CY CY
Rated Payload:	52,800 pounds		Average V	olume: 18.85	L	CY

### Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

### <u>0.40</u> Minutes 0.60 Minutes

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:

Return 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 R	oute:					
Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time
U		(%)	(%)	(%)		(min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90
				Return Time:	<b>0.90</b> n	ninutes
			Total Scraper	team cycle time:	4.91	minutes
			Adjusted for	or job conditions:	191.19	LCY/Hour
			Selected Nun	nber of Scrapers:	2	Scraper(s)
	Adjusted	single scrape	er team (unit) ho	ourly production:	382.37	LCY/Hour
	Adjusted m	ultiple scrape	r team (fleet) ho	ourly production:	382.37	LCY/Hour
Optimal	Unadjusted unit proc Number of Scrapers per		230.35	LCY/Hour		

Fleet size:	1	Team(s)	Total job time:	3.01	Hours				
Unit cost:	\$2.502	/LCY	Total job cost:	\$2,877	_				
				Rangeland Mix	Area with	Reseed Facilities	otion:	Task descrip	
------	--------------	----------	---------------	-------------------	-------------	-------------------	-------------------	--------------	-------
1012	C19810	it/Job#:	Permit/Job	Permit Renewal 07	mit Action:	Per	Mine	New Elk	Site:
					~		<u> IDENTIFIC</u>		]
	None		Abbreviation:		Colorado	State:	685	Task #:	
585	C012-68	iame:	Filename:	as	Las Anima	County:	11/19/2018	Date:	
							JHB	User:	
t	<u>C012-</u>	ame:	Filename:	15	Las Anima			User:	

## **FERTILIZING**

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
	Total Fertilizer Application Cost/Acre	\$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 2	Nursery Stoc	k Cost / Acre	\$0.00

	No. of Acres:	97.26	Cost /Acre:	\$1,140.66
Estimated	Failure Rate:	33%	Cost /Acre*:	\$358.18
*Selected Replanting	g Work Items:	SEEDING		
Initial Job Cost:	\$110,940.59			
Reseeding Job Cost:	\$11,496.07			
Total Job Cost: S	\$122,437			
Job Hours:	178.00			

New Ell	k Mine	Permit <i>L</i>	Action: Per	mit Renewal 07		Permit/Iob#	: C1981012
						1 011110 3001	. <u>c1)01012</u>
<u>ROJEC</u>	T IDENTIFICA	TION					
Task #:	686	State: Co	lorado		А	bbreviation:	None
Date:	11/19/2018		s Animas		_	Filename:	C012-686
User:	JHB						
А	gency or organizat	ion name: DRMS					
ERTIL	<u>IZING</u>						
Iaterials			<b>T</b> T <b>*</b> / /				
Descript	ion		Units / Acre	Unit	Cost	/ Unit	Cost /Acre
<b>I</b> **					¢		¢
					\$		\$
					Tota	al Fertilizer	
						Materials Cost/Acre	\$0.00
				<u> </u>		202011010	+ <b>* * * * *</b>
pplicatio	n						
Descript	ion						Cost /Acre
							\$
							Ψ
			Tota	l Fertilizer App	olication	n Cost/Acre	\$0.00
							φυισσ
ILLING							
Descript	ion						Cost /Acre
							\$
				Tota	l Tilling	g Cost/Acre	\$0.00
EEDIN	<u>G</u>						
				Ra	nte –		
						Seeds	Cost /Acre
Seed Mi	X			PL		nor SO	
	X			LE	BS /	per SQ. FT	
Seed Mi				LE Ac	BS / cre	FT	
Seed Mix Buffalog	<b>x</b> rass - Bison uma - Hachita			LE	<b>BS /</b> cre 00	<b>per SQ.</b> <b>FT</b> 0.96 21.87	\$11.79 \$22.32

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

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
	Total Mulch Application Cost/Acre	\$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	

	No. of Acres:	10.57	Cost /Acre:	\$1,257.15
Estimate	ed Failure Rate:	33%	Cost /Acre*:	\$519.59
*Selected Replanti	ng Work Items:	SEEDING		
Initial Job Cost:	\$13,288.08			
Reseeding Job Cost:	\$1,812.38			
Total Job Cost:	\$15,100			
Job Hours:	21.14			

Task description: Reseed RDA						
New Elk Mine	Permit Action:	Perm	nit Renewal 07		Permit/Job#	: C1981012
	_					
PROJECT IDENTIFICATION						
Task #: 687 State: Colorado Abbreviation:						None
Date:11/19/2018County:Las AnimasFilename:User:JHB						CO012-687
	DRMS					
FERTILIZING						
Materials	Unit	~ 1				
Description	Acre		Unit	Cos	st / Unit	Cost /Acre
				\$		\$
				То	tal Fertilizer Materials Cost/Acre	\$0.00
					Cost/Acre	<b>Φ0.</b> 00
Application						1
Description						Cost /Acre
						\$
	r 	Fotal	Fertilizer App	olicatio	on Cost/Acre	\$0.00
TILLING						
Description						Cost /Acre
						\$
			Tota	l Tillir	ng Cost/Acre	\$0.00
SEEDING						
				nte –	<b>a -</b>	<b>G</b> , (1)
Seed Mix			PI LE Ac	BS /	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison			0.5		0.48	\$5.90
Blue Grama - Hachita			0.6		10.94	\$11.16
Little Bluestem - Cimarron			1.2		7.16	\$17.62
Sideoats Grama - Butte			2.5		8.21	\$24.75
Milk Vetch, Cicer - Monarch			0.3		1.10	\$2.77
Streambank Wheatgrass - Sodar			1.5		4.89	\$9.35
Sainfoin - Remont			1.6		0.73	\$5.41
Thickspike Wheatgrass - Critana			0.5	50	1.77	\$2.94

Western Wheatgrass - Arriba

Rabbitbrush, Rubber

\$16.56

\$9.88

2.00

0.15

5.05

2.23

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 Mix	11.88	57.76	\$125.13

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

	No. of Acres:	31.75	Cost /Acre:	\$1,094.69
Estimate	ed Failure Rate:	33%	Cost /Acre*:	\$357.13
*Selected Replanting	ng Work Items:	SEEDING		
Initial Job Cost:	\$34,756.41			
Reseeding Job Cost:	\$3,741.83			
Total Job Cost:	\$38,498			
Job Hours:	95.25			

Task descri	ption:	<b>Reseed DWP with Rangeland Mix</b>	
te: New Elk Mine		Permit Action: Permit Re	newal 07 Permit/Job#: C198101
	<u>F IDENTIFI(</u>		
Task #:	688	State: Colorado	Abbreviation: None
Date:	11/20/2018	County: Las Animas	Filename: C012-688
	JHB		

## **FERTILIZING**

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
	Total Fertilizer Application Cost/Acre	\$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
		(1.00	
Totals Seed Mix	12.93	61.08	\$130.54

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

	No. of Acres:	5.62	Cost /Acre:	\$1,145.02
Estimate	ed Failure Rate:	33%	Cost /Acre*:	\$362.54
*Selected Replanti	ng Work Items:	SEEDING		
Initial Job Cost:	\$6,435.01			
Reseeding Job Cost:	\$672.37			
Total Job Cost:	\$7,107			
Job Hours:	11.24			

New Elk Mine	Permit A	Action: Per	rmit Renewa	1 07	Permit/Job#	: C1981012
<b>PROJECT IDENTIFICA</b>	TION					
Task #: 689   Date: 11/20/2018   User: JHB	State: Co	lorado s Animas			Abbreviation: Filename:	None C012-689
Agency or organizati	on name: DRMS					
FERTILIZING						
Materials						
Description		Units / Acre	Unit	Cos	st / Unit	Cost /Acre
				\$		\$
				То	tal Fertilizer Materials Cost/Acre	\$0.00
Application						
Description						Cost /Acre
						\$
		Tot	al Fertilizer	Applicatio	on Cost/Acre	\$0.00
<u>FILLING</u>						
Description						Cost /Acre
						\$
			,	Fotal Tillin	ng Cost/Acre	\$0.00
SEEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
						\$
		Totals	Seed Mix	0.00	0.00	\$0.00
Application						
Description						Cost /Acre
I I I						

Total Seed Application Cost/Acre \$0.00

# **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	Tubling, 10 cu. in. container {(MEANS)	\$4.40	\$2.40	\$325.60
		Tota	ls Nursery Stoo	ek Cost / Acre	\$1,120.36

No. of Acres:		1.4	Cost /Acre:	\$1,120.36
Estimate	d Failure Rate:	50%	Cost /Acre*:	\$1,120.36
*Selected Replanting Work Items:		NURSERY		
Initial Job Cost:	\$1,568.50			
Reseeding Job Cost:	\$784.25			
Total Job Cost:	\$2,353			
Job Hours:	5.60			

ite: New Elk Mine	Permit Act	tion: Perm	it Renewal 0	07 Pe	rmit/Job#	: <u>C1981012</u>
PROJECT IDENTIFIC	CATION					
Task #: 690   Date: 11/20/2018   User: JHB	State:ColoCounty:Las A	rado Animas			viation: lename:	None C012-690
Agency or organiz	zation name: DRMS					
<b>FERTILIZING</b>						
Materials						
Description		Units / Acre	Unit	Cost / Ui	nit	Cost /Acre
				\$		\$
					rtilizer aterials st/Acre	\$0.00
ication						
scription					Cost /A	Acre
					\$	
	Το	tal Fertilize	r Applicatio	on Cost/Acre	\$0.00	
LING	То	tal Fertilize	r Applicatio	on Cost/Acre	\$0.00	
	To	tal Fertilize	r Applicatio	on Cost/Acre	\$0.00 Cost /A	Acre
	To	tal Fertilize	r Applicatio	on Cost/Acre		Acre
	To	tal Fertilize		on Cost/Acre	Cost /A	Acre
LING scription	To	tal Fertilize			Cost /A \$	Acre
scription		tal Fertilize			Cost /A \$	
scription DING		tal Fertilize	Total Tillin Rate – PLS LBS /	ng Cost/Acre Seeds per SQ.	Cost /A \$ \$0.00	

Description	Cost /Acre
	\$

## 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
	Total Mulch Application Cost/Acre	\$184.32

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		<b>Totals</b>	Nursery Stoc	k 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:	\$19,369
Job Hours:	102.71

# **DEMOLITION WORK**

	Task description:	Demolish and Remove All Structures						
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/.	Job#: <u>C1981012</u>		
<u>PROJE</u>	CT IDENTIFICATION	<u>N</u>						
Task #	695	State:	Colorado		Abbreviation:	None		
Date	: 11/26/2018	County:	Las Animas		Filename:	C012-695		
User	JHB							

Agency or organization name: DRMS

### UNIT COSTS

## Location adjustment: 94.00 %

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 on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	250.00	SF	\$0.83	\$207.25
-Footers	1'X2'X88	Demo. and on- site 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 on- site 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

		haul				
-Pad	33'X32'X4"	Demo. and on- site disposal in existing pit, 4 in. thick - Max. 10,000 ft. haul	1,056.00	SF	\$0.55	\$583.97
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	СҮ	\$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	СҮ	\$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 on- site 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

		disposal in existing pit or cut - Max. 10,000 ft. haul				
Breaker Building	65'X45'X65'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	190,125.00	CF	\$0.19	\$35,743.50
-Pad	65'X45'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	217.00	CY	\$122.50	\$26,582.50
Slope Conveyor Drive House Building	50' x 37.5' x 15'h	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	28,125.00	CF	\$0.21	\$5,850.00
-Drive and Internal Equipment	3,706 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,706.00	CF	\$0.19	\$696.73
-Foundation	45'X37'X5'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	308.00	CY	\$122.50	\$37,730.00
-Slope Belt	1,000'L X 6'w x6'h	Conveyor, demolition, on- site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.21	\$7,560.00
-Transfer Belt	1,000'L x 6'wx6'h	Conveyor, demolition, on- site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.21	\$7,560.00
-Drive Belt	1000'Lx6'wx6'h	Conveyor, demolition, on- site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.21	\$7,560.00
-Retaining Wall	40'X6'X2'	Wall, concrete, demolition only, average reinforcing - 24 in. thick	240.00	SF	\$3.74	\$897.60
Breaker Building Rock Box	14'X24'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.19	\$631.68
-Pad	20 CY	Pavement,	20.00	CY	\$122.50	\$2,450.00

		concrete, demolition only, 7 in. to 24 in. thick - Reinforced				
-Retaining Wall	3.5'X12"X80 LF	Demo. and on- site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	280.00	SF	\$3.08	\$862.40
Sewage Plant Building	20'X20'X12'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,800.00	CF	\$0.19	\$902.40
-Pad	40 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	40.00	СҮ	\$122.50	\$4,900.00
-32,000 Gallon Sludge Tank	32,000 G	Comprehensive storage tank removal, non- leaking - 9,000 to 12,000 gal. tank	1.00	EA	\$7,608.95	\$7,608.95
-Pump Sudge From Tank	32,000 G	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$377.00	\$377.00
Water Pipe Vaults (fig.2a)	16' x 10' x 8'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	134.80	СҮ	\$122.50	\$16,513.00
-400,000 Gallon Water Tank	20'X43' Diameter	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	29,029.00	CF	\$0.19	\$5,457.45
-Pad	2'X44'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	113.00	СҮ	\$122.50	\$13,842.50
-25,000 Gallon Water Tank	21'X11' Diameter	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,995.00	CF	\$0.19	\$375.06
-Pad	2'X12'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	8.00	СҮ	\$122.50	\$980.00
Water Tank	21.5'X24'	Bldg. (SN) demo./on-site	8,714.00	CF	\$0.19	\$1,638.23

		disposal in existing pit or cut - Max. 10,000 ft. haul				
-Footers	67.5 LF (5)	Demo. and on- site 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. haul	8,000.00	CF	\$0.19	\$1,504.00
Prep Plant	78'X65'X82'	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	СҮ	\$122.50	\$46,060.00
-Footers	2'X3'	Demo. and on- site 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 on- site 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	СҮ	\$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	СҮ	\$122.50	\$69,825.00
-Footers	2'X3'X220 LF	Demo. and on- site 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 on- site 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	1.00	EA	\$2,082.20	\$2,082.20
Thickener Substation	15'DX12'	Removal Bldg. (SN) demo./on-site disposal in	2,120.00	CF	\$0.19	\$398.56
-Pad	15'DX12"	existing pit or cut - Max. 10,000 ft. haul Demo. and on- site 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 on- site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	285.00	SF	\$3.08	\$877.80
-Footer	6'X12"	Demo. and on- site 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	СҮ	\$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.				
		thick - Reinforced				
Bates Portal Conveyor	18'X18'X30'	Bldg. (SN) demo./on-site	9,720.00	CF	\$0.19	\$1,827.36
Transfer Bldg.		disposal in existing pit or cut				
		- Max. 10,000 ft. haul				
-Pad	18'X18'X2'	Pavement, concrete,	24.00	CY	\$122.50	\$2,940.00
		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.				
-Concrete	20'X10'X6"	haul Demo. and on-	200.00	SF	\$0.83	\$165.80
Portion		site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul				
-Fan Removal	5,000 lbs	USER PROVIDED ITEM	5,000.00	LBS	\$0.25	\$1,250.00
-Fan Motor	5,000 lbs	USER PROVIDED ITEM	5,000.00	LBS	\$0.25	\$1,250.00
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 Portion	22.4'X22.4'X6"	Demo. and on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	501.00	SF	\$0.83	\$415.33
-Fan Removal	3,500 lbs	USER PROVIDED ITEM	3,500.00	LBS	\$0.25	\$875.00
-Fan Motor	4,000 lbs	USER PROVIDED ITEM	4,000.00	LBS	\$0.25	\$1,000.00
West Portal Fan	8,000 lbs	NON-PCB Transformer	1.00	EA	\$2,082.20	\$2,082.20
Transformer		Removal				
- Pad	15'X12'X1'	Demo. and on- site disposal in existing pit, 12 in. thick - Max.	180.00	SF	\$1.66	\$298.62
Acid Tank	10'DX12'	10,000 ft. haul Comprehensive storage tank removal, non-	1.00	EA	\$5,286.80	\$5,286.80

		leaking - 6,000 to				
Fuel Containment Sumps (2)	17'X10'X3'X8"	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 Contaminated Soil Removal	10 cy	10,000 ft. haulDispose of contaminated soil at approved landfill - Minimum	10.00	СҮ	\$160.00	\$1,600.00
Antifreeze Tank Sump	39'X11'X4'X8"	Demo. and on- site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	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 on- site 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 L		Length	6.00		<b>#2.025.00</b>	¢1<050.00
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' Length	4.80	EA	\$2,825.00	\$13,560.00
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

		in. diameter pipe				
Culvert #12	21"	Pipe, corrugated metal (CMP) - 21	775.00	LF	\$4.35	\$3,368.15
0.1 ( 112	21"	in. diameter pipe	50.00		¢ 4.25	¢017.00
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
Curvent #20		metal (CMP) - 36	10100		<i>Qi</i> iee	<i><i><i></i></i></i>
		in. diameter pipe				
Culvert #28	12"	Pipe, corrugated	31.00	LF	\$2.81	\$87.11
Curvent #28	12	metal (CMP) - 12	51.00		Ψ2.01	ψ07.11
		in. diameter pipe				
Culvert #29	12"	Pipe, corrugated	38.00	LF	\$2.81	\$106.78
Curvert #2)	12	metal (CMP) - 12	50.00		φ2.01	\$100.70
		in. diameter pipe				
Culvert #31	18"	Pipe, corrugated	50.00	LF	\$3.78	\$189.05
Curvent #51	10	metal (CMP) - 18	50.00		\$5.78	\$109.05
		in. diameter pipe				
Culvert #32	33"	Pipe, corrugated	44.00	LF	\$6.29	\$276.80
Curvent #52	55	metal (CMP) - 30	44.00	LГ	φ0.29	\$270.80
		in. diameter pipe				
Culvert #33	12"		125.00	LF	\$2.81	\$351.25
Curvent #55	12	Pipe, corrugated	125.00	LГ	φ2.01	\$331.23
		metal (CMP) - 12 in. diameter pipe				
C1	15"	<b>1</b> 1	21.00	LE	\$2.29	¢101.74
Culvert #34	15"	Pipe, corrugated	31.00	LF	\$3.28	\$101.74
		metal (CMP) - 15				
G 1	~	in. diameter pipe	10.00		<b>\$2.1.1</b>	¢ 10, 50
Culvert #35	6"	Pipe, corrugated	19.00	LF	\$2.14	\$40.60
		metal (CMP) - 8				
		in. diameter pipe				
Culvert #36	12"	Pipe, corrugated	31.00	LF	\$2.81	\$87.11
		metal (CMP) - 12				
		in. diameter pipe				
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				
Culvert #47	15"	in. diameter pipe	13.00	LE	\$2.29	\$1267
Curvert #47	15	Pipe, corrugated metal (CMP) - 15	13.00	LF	\$3.28	\$42.67
Culvert #48	42"	in. diameter pipe Pipe, corrugated	313.00	LF	\$7.53	\$2,357.52
		metal (CMP) - 36 in. diameter pipe				
Culvert #50	18"	Pipe, corrugated	25.00	LF	\$3.78	\$94.53
	10	metal (CMP) - 18 in. diameter pipe	23.00		ψ3.76	Ψ/τ.55
Culvert #52	36"	Pipe, corrugated	50.00	LF	\$7.53	\$376.60
	50	metal (CMP) - 36 in. diameter pipe	50.00		φ1.55	\$370.00
Culvert #53	24"	Pipe, corrugated	60.00	LF	\$4.88	\$292.74
	27	metal (CMP) - 24 in. diameter pipe	00.00		φ <b></b> 00	ΨΖΊΖ.ΤΗ
Culvert #54	36"	Pipe, corrugated	50.00	LF	\$7.53	\$376.60
	50	metal (CMP) - 36 in. diameter pipe	50.00		φ1.55	\$370.00
Culvert #55	8"	Pipe, corrugated	25.00	LF	\$2.14	\$53.43
	0	metal (CMP) - 8 in. diameter pipe	23.00		ψ2.14	ψυυυ
Culvert #59	18"	Pipe, corrugated	28.00	LF	\$3.78	\$105.87
	10	metal (CMP) - 18 in. diameter pipe	20.00		ψ5.76	\$105.87
Culvert #60	24"	Pipe, corrugated	31.00	LF	\$4.88	\$151.25
Curvent #00	24	metal (CMP) - 24 in. diameter pipe	51.00		φ4.00	\$151.25
Culvert #61	8"	Pipe, corrugated	25.00	LF	\$2.14	\$53.43
	0	metal (CMP) - 8	25.00	1.1	φ2.14	φ55.45
		in. diameter pipe				
Culvert #62	12"	Pipe, corrugated	13.00	LF	\$2.81	\$36.53
		metal (CMP) - 12 in. diameter pipe				
Culvert #64	24"	Pipe, corrugated	50.00	LF	\$4.88	\$243.95
		metal (CMP) - 24 in. diameter pipe				1-1-10
Culvert #65	12"	Pipe, corrugated	19.00	LF	\$2.81	\$53.39
		metal (CMP) - 12 in. diameter pipe				
Culvert #66	18"	Pipe, corrugated	18.00	LF	\$3.78	\$68.06
		metal (CMP) - 18 in. diameter pipe				
Culvert #67	18"	Pipe, corrugated	22.00	LF	\$3.78	\$83.18
		metal (CMP) - 18 in. diameter pipe				
Culvert #68	18"	Pipe, corrugated	48.00	LF	\$3.78	\$181.49
		metal (CMP) - 18 in. diameter pipe				+
Culvert #69	18"	Pipe, corrugated	80.00	LF	\$3.78	\$302.48
-		metal (CMP) - 18 in. diameter pipe				
Bates Portal	8'X970 LF	Conveyor,	15.80	EA	\$2,825.00	\$44,635.00
Conveyor to		Horizontal Belt				
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				

		existing pit, 12 in. thick - Max. 10,000 ft. haul				
Jansen Coal Conveyor	2,740 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	44.50	EA	\$2,825.00	\$125,712.50
-Footers	45cy	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	45.00	СҮ	\$122.50	\$5,512.50
-Transfer Points	10'X10'X10' (3)	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,000.00	CF	\$0.21	\$624.00
-Footers	3'X2'	Demo. and on- site disposal in existing pit, 2.0 ft. x 3 ft Max. 10,000 ft. haul	120.00	LF	\$10.46	\$1,255.20
Jansen Loadout Bin	38'X35'X40'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	53,200.00	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	4,920.00	CF	\$0.21	\$1,023.36
Two Radial stackers @ RDA (p. 2.05- 27)	2(150'1)	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	4.90	EA	\$2,825.00	\$13,842.50
RDA portable belt (p. 2.05- 27)	500'Lx6'x8'	Conveyor, demolition, off- site disposal in approved landfill, 30 mile haul	24,000.00	CF	\$0.66	\$15,840.00
remove piping @ slurry wells	50 ft.	Pipe, steel, welded connections - 10 in. diameter pipe	50.00	LF	\$6.33	\$316.50
remove HPDE slurry line (MR 104)	9000 ft. 1	Pipe, steel, welded connections - 10 in. diameter pipe	9,000.00	LF	\$6.33	\$56,970.00
Culvert #C75	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	60.00	LF	\$7.53	\$451.92
Culvert #C76	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$7.53	\$301.28
Culvert #C14A	36"	Pipe, corrugated	70.00	LF	\$7.53	\$527.24

		metal (CMP) - 36				
		in. diameter pipe				
Culvert #C70	18"	Pipe, corrugated metal (CMP) - 18	68.00	LF	\$3.78	\$257.11
		in. diameter pipe				
Culvert #C71	18"	Pipe, corrugated metal (CMP) - 18	54.00	LF	\$3.78	\$204.17
		in. diameter pipe				
Culvert #C72	24"	Pipe, corrugated metal (CMP) - 24	120.00	LF	\$4.88	\$585.48
		in. diameter pipe				
Culvert #C73	24"	Pipe, corrugated metal (CMP) - 24	190.00	LF	\$4.88	\$927.01
		in. diameter pipe				
Culvert #C74	24"	Pipe, corrugated metal (CMP) - 24	40.00	LF	\$4.88	\$195.16
		in. diameter pipe				
Culvert #C16A	24"	Pipe, corrugated metal (CMP) - 24	45.00	LF	\$4.88	\$219.56
G 1	2.48	in. diameter pipe	220.00		<b>*</b> 1 00	¢1 0 <b>52 2</b> 0
Culvert #C16B	24"	Pipe, corrugated metal (CMP) - 24	220.00	LF	\$4.88	\$1,073.38
Culvert #C12A	36"	in. diameter pipe Pipe, corrugated	160.00	LF	\$7.53	\$1,205.12
Curvent #C12A	50	metal (CMP) - 36 in. diameter pipe	100.00	LF	\$7.33	\$1,203.12
Culvert #C17A	36"	Pipe, corrugated	20.00	LF	\$7.53	\$150.64
	50	metal (CMP) - 36 in. diameter pipe	20.00		ψ1.55	¢150.04
Culvert #C17B	36"	Pipe, corrugated	75.00	LF	\$7.53	\$564.90
		metal (CMP) - 36 in. diameter pipe	10.00		ψ <i>1.00</i>	<i>400</i> 1190
Culvert #C28	24"	Pipe, corrugated metal (CMP) - 24	46.00	LF	\$4.88	\$224.43
		in. diameter pipe				
Culvert #C28A	24"	Pipe, corrugated metal (CMP) - 24	60.00	LF	\$4.88	\$292.74
Culvert #C29	24"	in. diameter pipe Pipe, corrugated	34.00	LF	\$4.88	\$165.89
		metal (CMP) - 24				
Dathhan	<u>(011 - 01 - 1</u>	in. diameter pipe	15 (24.00		¢0.10	¢0.007.01
Bathhouse (TR61)	62'l x 21w' x 12'h	Bldg. (SN) demo./on-site disposal in	15,624.00	CF	\$0.19	\$2,937.31
		existing pit or cut - Max. 10,000 ft.				
		haul				
-bathhouse pad (TR61)	62/lx 21'w x 0.5'th	Demo. and on- site disposal in	1,302.00	SF	\$0.83	\$1,079.36
(1101)	0.5 11	existing pit, 6 in. thick - Max.				
		10,000 ft. haul				
Belt feeder (MR101)	35' x 12' x6'	Bldg. (SN) demo./on-site	2,520.00	CF	\$0.19	\$473.76
		disposal in existing pit or cut				
		- Max. 10,000 ft.				
		haul				
36" Belt	36" x 500 lf	Conveyor,	8.10	EA	\$2,825.00	\$22,882.50

(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 on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	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 on- site 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 on- site 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'l 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 on- site 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 on- site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	790.00	SF	\$3.08	\$2,433.20
Retaining Wall East Elev. (MR113)	12"thx 360'L	Demo. and on- site 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 on- site 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 on- site 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 on- site 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 on- site 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

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

## SAFEGUARDING UNDERGROUND OPENINGS

	Task description:	Seal Portals and Vent Shaft	ts			
Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012	
	PROJECT IDENTIFICA	ATION				

Task #:	700	State:	Colorado	Abbre	viation:	None	
Date:	11/20/2018	County:	Las Animas	Fil	lename:	C012-700	
User:	JHB						

Agency or organization name: DRMS

## 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

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Job Hours: 270.00

Total Cost: \$183,255.76

## BULLDOZER WORK

Task description:	Backfill East Por				
New Elk Mine	Peri	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDENTI	FICATION				
Task #: 701	State:	Colorado		Abbreviation:	None
Date: 11/15/201	8 County:	Las Anima	ıs	Filename:	C012-701
User: JHB					
Agency or org	anization name: DR	MS			
HOURLY EQUIPM	ENT COST				
	at D9T - 9SU				
Horsepower: 40			_		
	emi-Universal				
Attachment: 3-	shank ripper				
Shift Basis: 1	per day				
Data Source: (C	CRG)		_		
Cost Breakdown:		1	<b>TTTT</b>		
		¢110.70	<u>Utilization %</u>		
Ownership Cost/Hour:		\$110.70	NA 100		
Operating Cost/Hour:		\$95.46	100		
Ripper own. Cost/Hour:		\$12.36	NA		
Ripper op. Cost/Hour:	:	\$7.88	100		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANInitial Volume:1,4Swell factor:1.1Loose volume:1,5	00				
Source of estimated vol	ume: Division of	of Reclamati	on, Mining & Safety		
Source of estimated swe	Operator	Estimate			
factor:					
HOURLY PRODUC					
Average push distance:	100 feet				
Unadjusted hourly production:	1,243.2 LC	ť/hr			
Materials consistency d	escription: Compa	rted fill or a	mbankment 0.9		
•	comption. <u>Compa</u>				
Average push gradient:	10 %				
Average site altitude:	7,500 feet				
Material weight:	2,132 lbs/LCY				
Weight description:	User Provided				

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:1.39 HoursTotal job cost:\$744

## BULLDOZER WORK

Task description:	Backf	ill West Po	rtal Face			
: New Elk Mine		Per	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDENT	IFICATIO	N				
Task #: 702		State:	Colorado		Abbreviation:	None
Date: 11/15/20	018	County:	Las Anima	IS	Filename:	C012-702
User: JHB		•			-	
Agency or or	rganization n	ame: DF	RMS			
HOURLY EQUIP	MENT CO	ST				
	Cat D9T - 95					
	405	e		_		
	Semi-Univer	sal		_		
• • •	3-shank rippe			_		
	1 per day			_		
	(CRG)			_		
Cost Breakdown:	*			_		
				Utilization %		
Ownership Cost/Hou			\$110.70	NA		
Operating Cost/Hou			\$95.46	100		
Ripper ow Cost/Hou			\$12.36	NA		
Ripper op. Cost/Hou			\$0.00	0		
Operator Cost/Hou			\$41.52	NA		
Swell factor: 1.	NTITIES ,400 .125 ,575 LCY					
Source of estimated vo	olume:	Division	— of Reclamation	on, Mining & Safety		
Source of estimated sy		Operator		on, ming ee Sarety		
factor:	-					
HOURLY PRODU	CTION					
Average push distance Unadjusted hourly		100 feet 1,243.2 LC	Y/hr			
production:						
production: Materials consistency	description:	Compa	cted fill or er	nbankment 0.9		
Materials consistency	-	Compa	cted fill or er	nbankment 0.9		
-	-		cted fill or er	nbankment 0.9		
Materials consistency Average push gradient	t: <u>10 %</u> 7,500 f		cted fill or er 	nbankment 0.9		
Materials consistency Average push gradient Average site altitude:	t: <u>10 %</u> 7,500 f	eet bs/LCY	cted fill or er 	nbankment 0.9		

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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 HoursTotal job cost:\$722

## BULLDOZER WORK

	Permit Action:	Permit Renewal 07	Permit/Job#	: <u>C1981012</u>
PROJECT IDENTIF	ICATION			
			Abbreviation:	Nega
Task #: $703$	State: Colorado			None C012 702
Date: $11/15/2018$	B County: Las Anim	as	Filename:	C012-703
User: JHB				
Agency or orga	nization name: DRMS			
HOURLY EQUIPMI	ENT COST			
	t D9T - 9SU			
Horsepower: 405				
1	ni-Universal			
• I	hank ripper			
	er day			
	RG)			
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100	—	
Ripper own. Cost/Hour:	\$12.36	NA		
	00.02	0		
Ripper op. Cost/Hour: Operator Cost/Hour:	\$0.00 \$41.52	0 NA		
Total Fleet Cost/Hour:				
MATERIAL QUANT	<u>TITIES</u>			
MATERIAL QUANT	00			
MATERIAL QUANT Initial Volume: 39,0 Swell factor: 1.12	00			
MATERIAL QUANTInitial Volume:39,0Swell factor:1.12Loose volume:43,8	00 5 75 LCY	ing Mining & Suffato		
MATERIAL QUANTInitial Volume:39,0Swell factor:1.12Loose volume:43,8Source of estimated volu	00 5 75 LCY me:Division of Reclamat	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   Source of estimated swell	00 5 75 LCY me:Division of Reclamat	ion, Mining & Safety		
MATERIAL QUANTInitial Volume:39,0Swell factor:1.12Loose volume:43,8Source of estimated volu	00 5 75 LCY me:Division of Reclamat	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   Source of estimated swell     Source of estimated swell   Source of estimated swell	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   Source of estimated swell	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   Source of estimated swell     Source of estimated swell   Source of estimated swell	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   39,0     Bource of estimated volu   39,0     Source of estimated volu   3,8     Source of estimated volu   30,0     Source of estimated vol	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION	ion, Mining & Safety		
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Average push distance:   39,0	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet	ion, Mining & Safety		
MATERIAL QUANT Initial Volume: 39,0 Swell factor: 1.12 Loose volume: 43,8 Source of estimated volu Source of estimated swell factor: HOURLY PRODUCC Average push distance: Jnadjusted hourly production:	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr			
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated swell   actor:     HOURLY PRODUC   Average push distance:     Jnadjusted hourly   1	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr			
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   43,8     Source of estimated volu   swell     Source of estimated swell   actor:     HOURLY PRODUCT   Average push distance:     Jnadjusted hourly   broduction:     Materials consistency de	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr scription: Compacted fill or e			
MATERIAL QUANT Initial Volume: 39,0 Swell factor: 1.12 Loose volume: 43,8 Source of estimated volu Source of estimated swell factor: HOURLY PRODUCC Average push distance: Jnadjusted hourly production:	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr			
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated swell   39,0     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated swell   39,0     Average push distance:   39,0     Jnadjusted hourly   39,0     Materials consistency de   43,8     Average push gradient:   43,8	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr scription: Compacted fill or e			
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   43,8     Source of estimated volu   Source of estimated swell     Source of estimated swell   actor:     HOURLY PRODUC   Average push distance:     Jnadjusted hourly   production:     Materials consistency de   Average site altitude:     Average site altitude:   Material weight:	00 5 75 LCY me: Division of Reclamat 1 Operator Estimate TION 100 feet 1,243.2 LCY/hr scription: Compacted fill or e 10 % 7,500 feet			
MATERIAL QUANT     Initial Volume:   39,0     Swell factor:   1.12     Loose volume:   43,8     Source of estimated volu   43,8     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated volu   43,8     Source of estimated swell   36,0     Source of estimated volu   39,0     Source of estimated volu   43,8     Source of estimated swell   36,0     Average push distance:   39,0     Jnadjusted hourly   39,0     Oroduction:   43,8     Materials consistency de   40,0     Average push gradient:   40,0     Average site altitude:   40,0	00 5 75 LCY me: Division of Reclamat Operator Estimate TION 100 feet 1,243.2 LCY/hr scription: Compacted fill or e 10 % 7,500 feet 2,132 lbs/LCY User Provided			

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:38.69 HoursTotal job cost:\$20,122
## BOREHOLE SEALING WORK

	Task description:	Plug and Seal All Boreholes	s and Monitoring Wells		
Site:	New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012

### **PROJECT IDENTIFICATION**

Task #:	704	State:	Colorado	Abbreviation:	None
Date:	11/29/2018	County:	Las Animas	Filename:	C012-704
User:	JHB				
		-			

Agency or organization name: DRMS

## **UNIT COSTS**

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	4	INA	4.00	LI	\$1.65	\$1.52
at Surface	Circumference in						
	Linear Feet						
-Borehole	Borehole	NA	NA	3.00	EA	\$3.67	\$11.01
Markers	location/identification	INA	INA	5.00	LA	\$5.07	\$11.01
WIAI KCI S	marker (EA, material						
	cost only)						
-Drill Rig	SCHRAMM	NA	NA	18.00	EA	\$232.72	\$4,188.96
Time	T450WS	INA	INA	18.00	LA	\$232.12	\$4,100.90
-Water Truck	Water Tanker, 2,500	NA	NA	18.00	EA	\$24.48	\$440.64
Time	Gal.	INA	INA	18.00	EA	\$24.40	\$440.04
RW1 & SW1 -	Portland cement	4"	161 LF	7.00	hag	\$13.80	\$96.60
SW6 Fill		4	101 LF	7.00	bag	\$15.80	\$90.00
w/Cement	grout (Bag, material						
	cost only94 lb. bag) PVC plug - 4 in.	4"	NA	7.00	EA	\$31.98	\$223.86
-Plug	diameter borehole	4	INA	7.00	EA	\$51.98	\$223.80
Cret Casima at		4"	NA	4.00	LF	¢1.02	¢7.22
-Cut Casing at	Exposed casing removal - Calculate	4	INA	4.00	LF	\$1.83	\$7.32
Surface							
	Circumference in						
D 1 . 1	Linear Feet	NT A	NIA	7.00	EA	¢2.67	¢25.00
-Borehole	Borehole	NA	NA	7.00	EA	\$3.67	\$25.69
Marker	location/identification						
	marker (EA, material						
D III DI	cost only)	N7.4		14.00		<b>*</b> 222.72	<b>#2.25</b> 0.00
-Drill Rig	SCHRAMM	NA	NA	14.00	EA	\$232.72	\$3,258.08
Time	T450WS			14.00		<b>*2</b> 4 40	<b>*</b> 2.12.52
-Water Truck	Water Tanker, 2,500	NA	NA	14.00	EA	\$24.48	\$342.72
Time	Gal.	4.11	4.50	10.00		<b>#12</b> .00	<b>*2 c2 2 0</b>
Dewatering	Portland cement	4"	450	19.00	bag	\$13.80	\$262.20
Holes Fill	grout (Bag, material						
w/Cement	cost only94 lb. bag)					<b>****</b>	<b>* 18</b> 0 1
-Plug	PVC plug - 4 in.	4"	NA	2.00	EA	\$31.98	\$63.96
	diameter borehole			1.00		<b>\$1.02</b>	<b>*= 2</b>
-Cut Casing at	Exposed casing	4"	NA	4.00	LF	\$1.83	\$7.32
Surface	removal - Calculate						
	Circumference in						
	Linear Feet					<b>*2 ·7</b>	* <b>=</b> = (
-Borehole	Borehole	NA	NA	2.00	EA	\$3.67	\$7.34
Marker	location/identification						
	marker (EA, material						
	cost only)						
-Drill Rig	SCHRAMM	NA	NA	10.00	EA	\$232.72	\$2,327.20
Time	T450WS		<b></b>	10.55			
-Water Truck	Water Tanker, 2,500	NA	NA	10.00	EA	\$24.48	\$244.80
Time	Gal.				-	h	
Seal 3 Slurry	Portland cement	9"	1350	298.00	bag	\$13.80	\$4,112.40
wells (MR95)	grout (Bag, material						
	cost only94 lb. bag)						
-Drill rig and	Atlas Capco	NA	NA	12.00	EA	\$244.31	\$2,931.72
labor	DM45/HP - 9.0"					<u> </u>	
-Water Truck	Water Tanker, 2,500	na	na	12.00	EA	\$24.48	\$293.76
time	Gal.					L .	
-slurry well	PVC plug - 8 in.	9"	NA	3.00	EA	\$79.19	\$237.57
plugs	diameter borehole						
-slurry hole	Borehole	NA	NA	3.00	EA	\$3.67	\$11.01
markers	location/identification						

	marker (EA, material						
Seal NE-16-11	cost only) Portland cement	9"	392	86.00	haa	\$13.80	¢1 196 90
(MR96)	grout (Bag, material cost only94 lb. bag)	9	392	80.00	bag	\$15.80	\$1,186.80
-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

#### Demo Worksheet Cont'd

-cut casing	Exposed casing removal - Calculate	9"	72	8.00	LF	\$1.83	\$14.64
	Circumference in						
	Linear Feet						
-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	NA	NA	45.00	EA	\$24.48	\$1,101.60
	Gal.						

Job Hours: 73.00

Total Cost: \$76,205.00

## TRUCK/LOADER TEAM WORK

Site: New Elk Mine		Permit Ac	tion: Permit Rene	ewal 07	Permit/Job#: C	1981012
PROJECT IDEN	TIFICATION	I				
Task #: 706		State: Cold		Abi	breviation: No	
Date: 11/19/ User: JHB	2018	County: Las	Animas		Filename: C02	12-706
Agency or	organization nar	ne: DRMS				
HOURLY EQUI	PMENT COS	<u>Γ</u>		Shift bas	sis: <u>1 per day</u>	
			Equipment Descri	ption		
Т	ruck Loader Tea		eneric 8-10 cy, 6x4			
Supp	ort Equipment -I		at 336D L 10'-6" S	tick		
Bupp			at D9T - 9SU			
Road Ma	aintenance –Mot		AT 14M			
	-Wa	ter Truck: W	ater Tanker, 5,000	Gal.		
Cost Breakdown:	Tmal/Lo	ader Team	Support	Equipment	Maintanan	nce Equipment
Cost Dreakuowii.	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
Utilization-machine:	100	75	i NA	100	50	50
Ownership cost/hour:	\$15.87	\$50.81		\$110.70	\$60.13	\$25.30
Operating cost/hour:	\$40.15	\$43.15		\$95.46	\$25.43	\$23.30
%Utilization-riper:	NA	\$ <del>4</del> 5.15		NA	\$25.43 NA	NA
ipper own. cost/hour:	NA	\$0.00		\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00		\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$37.79		\$41.52	\$28.69	\$21.23
Unit Subtotals:	\$56.02	\$131.75		\$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 cos MATERIAL QU		3				
Initial volume:	19,095	CC		factor: <u>1.000</u>		
Loose volume:	19,09	<b>5</b> LC	Y			
Sou	urce of estimated	volume: Div	vision of Reclamation	on, Mining & Safe	ety	
Source	of estimated swe		Handbook			
	Material Purch	ase Cost: \$0.0 otal Cost: \$0.0				
	10	μι Cost. <u>φ</u> υ.				
HOURLY PRO	DUCTION					
Truck Capacity: Truck Payload (weighted)						
Material w			Pounds/LCY			
Descr		Wet excavated				
	yload: 27,280		Pounds			
Rated Pa Payload Cap	-		LCY			

Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	10.00	LCY				
Final '	Fruck Volume	Based on Number of Loa	ler Passes	8.81	LCY	
Loading Tool Capacity	TTUCK VOTUINC	Dased on Number of Loa	ici i asses.	0.01		
Loading 1001 Capacity			Buc	ket Size Class: M	ledium	
Rated Capacity:	2.260	LCY (heaped)	Due			
Bucket Fill Factor:	0.975	Loose material - mix	ed moist ag	gregates (95-100%)	0.975	-
Adjusted Capacity:	2.204	LCY				-
Job Condition Corrections:		Site Al	itude (ft.): <u>'</u>	<u>7500</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	8)		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.830	0.830				
			D	1. 1.1		
Loading Tool Cycle Time:		Number of Loading Tool P	asses Requi	Truck:	4 p	asses
Excavators and Front Shovel	<u>s:</u>					
Selected Value w Track Loaders – M						
Cycle Time Elements (min.):						
Load: NA	M	Ianeuver: NA	_	Dump: 0.100		
Wheel and Track Loaders -	Unadjusted Ba	asic Loader Cycle Time (lo	ad, dump, r	naneuver):	NA min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	NA			NA	(Cat HB)	
Stockpile:	NA			NA	(Cat HB)	_
Truck Ownership:	NA			NA	(Cat HB)	_
Operation:	NA			NA	(Cat HB)	
Dump Target:	NA		•	NA	(Cat HB)	_
		Net Cycle Time Ad		NA	minutes	
		Adjusted Loader Cy		0.390	minutes	
		Net Load Time p	er Truck:	1.270	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Time:	1.270	Minutes	Adjusted	for site altitude:	1.270	Minute
k Maneuver and Dump Time:	0.80	Minutes	Adjusted	for site altitude:	0.800	Minute
Truck Travel (Haul & Return) penetration 4.0	Time:	Road Condition: <u>Rutter</u>	l dirt, little	maintenance, no wa	ter, <u>1" tire</u>	

-	Haul Kout	ю.							
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	U	(Ft)		~ /	(%)	(%)	(fpm)	Time	
		(11)			(70)	(70)	(ipili)	(min)	
	1	5000.	.00	5.00	4.00	9.00	1249	4.024	
						Haul Time:	4.024	minutes	
	Return Ro	oute:				<u> </u>	7.027		
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	-	(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	5000.	.00	-5.00	4.00	-1.00	2938	1.754	
						Return Time:	1.754	minutes	
					Total True	ck Cycle Time:	8.348	minutes	
					1011111	ek Cycle Tille.	0.540	minutes	
L	oading Too	l unit							
	Produ		298.78	LCY/Hour		Adjusted for i	job efficiency:	247.99	LCY/Hour
Truck	Unit Produ					j	,,		
Truck	comerioda	etion	63.35	LCY/Hour		Adjusted for i	job efficiency:	52.58	LCY/Hour
			05.55			rajusted for j	job efficiency.	52.50	
Optim	al No. of Tr	ucks:	5	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
				Adjusted	d hourly truck	team production	on: 157.	74 LCY/F	Hour
						r team production			
				Adjusted multipl		1			
				najustea manupi	e truck found	r team producine	<u> </u>		Iour
	JOB TIN	ME AN	ND COST						
	Fleet s	size:	1	Team(s)	Т	Total job time:	121.0	5 Hou	rs
	Unit c	cost:	\$4.606	/LCY	r	Fotal job cost:	\$87,9	55	

### BULLDOZER WORK

New Elk Mine	Permit Action	Permit Renewal 07	Permit/Job#:	C1081012
New EIK MINE		Terrific Kene war 07	I emit/joo#.	C1961012
PROJECT IDENTIF	<b>ICATION</b>			
Task #: 733	State: Colorado		Abbreviation:	None
Date: 11/15/2018	County: Las Anima	as	Filename:	C012-733
User: JHB				
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	INT COST			
	D9T - 9SU			
Horsepower: 405		_		
1	ni-Universal			
Attachment: NA				
	er day			
Data Source: (CR				
Cost Breakdown:	,			
See Divardo Will.		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	—	
Fotal unit Cost/Hour: Fotal Fleet Cost/Hour:	\$247.68 \$743.05			
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.123         Loose volume:       6,228         Source of estimated volume	<b>\$743.05 CITIES</b> 6 5 <b>8</b> LCY me:Exhibit 28- p. 232 ass	ume 4" "topsoil material	"	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.123         Loose volume:       6,228	<b>\$743.05 CITIES</b> 6 5 <b>8</b> LCY me: Exhibit 28- p. 232 ass	ume 4" "topsoil material	"	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.122         Loose volume:       6,228         Source of estimated volur         Source of estimated swell	\$743.05         CITIES       6         6       5         5       8         8       LCY         me:       Exhibit 28- p. 232 ass         1       Operator Estimate	ume 4" "topsoil material	"	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.125         Loose volume:       6,228         Source of estimated volur         Source of estimated swell         Source of estimated swell         Source of estimated swell	\$743.05         CITIES       6         6       5         5       8         8       LCY         me:       Exhibit 28- p. 232 ass         1       Operator Estimate	ume 4" "topsoil material	22	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.123         Loose volume:       6,228         Source of estimated volur         Source of estimated swell         Cource of estimated	\$743.05         CITIES       6         6       5         8 LCY		"	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.125         Loose volume:       6,228         Source of estimated volur         Source of estimated swell         actor:         HOURLY PRODUCT         Average push distance:         Jnadjusted hourly         production:	\$743.05         CITIES       6         6       5         8 LCY		<u>,,</u>	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.125         Loose volume:       6,228         Source of estimated volur         Source of estimated swell         actor:         HOURLY PRODUCT         Average push distance:         Jnadjusted hourly         oroduction:         Materials consistency des	\$743.05         CITIES         6         5         8 LCY         me:       Exhibit 28- p. 232 ass         1       Operator Estimate		<u>,</u>	
Fotal Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,536         Swell factor:       1.123         Loose volume:       6,228         Source of estimated volur         Source of estimated volur         Source of estimated swell         actor:         HOURLY PRODUCT         Average push distance:         Jnadjusted hourly         broduction:         Materials consistency des         Average push gradient:         Average site altitude:	\$743.05         CITIES         6         5         8 LCY         me:       Exhibit 28- p. 232 ass         1       Operator Estimate         FION         60 feet         1,872.0 LCY/hr         scription:       Loose stockpile 1.2         0 %         7,400 feet		»	

(CAT HB) (GEN.) (AVG.)
(AVG.)
(1 SHIFT/DAY)
(FND-RF)
(CAT HB)
(CAT HB)
(CAT HB)
(PAT)

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

### JOB TIME AND COST

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

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

## **REVEGETATION WORK**

Task desc	cription:	Seed Rangeland	Seed Mix or	n MR Areas		
Site: New E	lk Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012
<u>PROJE</u>	<u>CT IDENTIFI</u>	<u>CATION</u>				
Task # Date		State: County:	Colorado Las Anima	as	Abbreviation: Filename:	None C012-734
User	: JHB	·				
	Agency or organ	ization name:	RMS			

### **FERTILIZING**

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

### 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 Broadcast seeding [DMG]		<b>Cost /Acre</b> \$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
	<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
					\$
Totale Neuropeu Staale Cost / Asso					¢0.00
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: <b>\$3,893.70</b>			

miniai JOU COSt.	φ <b>3,0</b> 33.70
Reseeding Job Cost:	\$380.65
Total Job Cost:	\$4,274
Job Hours:	2.22

#### Task # TTT

# BULLDOZER WORK

Task description: Replace T	Opsoil on D26 Extension			_
New Elk Mine	Permit Action: Permit Re	enewal 07 Permit	Job#: <u>C1981012</u>	
PROJECT IDENTIFICATION				
Task #: 738	State: Colorado		Abbreviation:	None
Date: $11/15/2018$	County: Las Animas		Filename:	C012-738
User: JHB				
Agency or organization	n name: DRMS			
HOURLY EQUIPMENT COST				
Basic Machine: Cat D9T - 9S	IJ			
Horsepower: 405				
Blade Type: Semi-Univers	al			
Attachment: NA				
Shift Basis: 1 per day				
Data Source: (CRG)				
Cost Breakdown:		Litilization 0/		
Ownership Cost/Hour:	\$110.70	<u>Utilization %</u> 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		
-				
Total unit Cost/Hour: \$247.6				
Total Fleet Cost/Hour: \$247.6	8			
MATERIAL QUANTITIES				
Initial Volume: 264				
Swell factor: 1.250				
Loose volume: <u>330 LCY</u>				
Source of estimated volume:	Division of Reclamation, M	ining & Safety		
Source of estimated swell factor:	Operator Estimate			
HAUDI V DRADUCTIAN				
HOURLY PRODUCTION				
A	50 6			
Average push distance: Unadjusted hourly production:	50 feet 2,110.5 LCY/hr			
Average push distance: Unadjusted hourly production: Materials consistency description:	50 feet 2,110.5 LCY/hr Partly consolidated stock	 pile 1.1		
Unadjusted hourly production:	2,110.5 LCY/hr	pile 1.1		
Unadjusted hourly production:	2,110.5 LCY/hr Partly consolidated stock	pile 1.1		
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       5 %         Average site altitude:       7,500 f	2,110.5 LCY/hr Partly consolidated stock	 pile 1.1		
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       5 %         Average site altitude:       7,500 f	2,110.5 LCY/hr Partly consolidated stock eet bs/LCY	 pile 1.1	_	
Unadjusted hourly production:Materials consistency description:Average push gradient:5 %Average site altitude:7,500 fMaterial weight:2,055 1Weight description:User PrJob Condition Correction Factor	2,110.5 LCY/hr Partly consolidated stock eet bs/LCY rovided	Source	_	
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       5 %         Average site altitude:       7,500 f         Material weight:       2,055 1         Weight description:       User Pr         Job Condition Correction Factor       Operator Skill:	2,110.5 LCY/hr Partly consolidated stock eet bs/LCY rovided 0.900	Source (AB.AVG.)		
Unadjusted hourly production:Materials consistency description:Average push gradient:5 %Average site altitude:7,500 fMaterial weight:2,055 1Weight description:User PrJob Condition Correction Factor	2,110.5 LCY/hr Partly consolidated stock eet bs/LCY rovided	Source		

ncy: 0.830	(1 SHIFT/DAY)
oile: 0.800	(FND-RF)
ent: 0.903	(CAT HB)
ıde: 1.000	(CAT HB)
ght: 1.119	(CAT HB)
ype: 1.000	(PAT)
ion: 0.6642 <u>1,401.79 LCY/hr</u> <b>1401.79</b> LCY/hr	
	0.800         ent:       0.903         ide:       1.000         ght:       1.119         /pe:       1.000         ion:       0.6642

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

Total job time:	<b>0.24</b> Hours
Total job cost:	\$58

### BULLDOZER WORK

New Elk Mine	Permit Action: Permit R	enewal 07 Permit/Je	ob#: <u>C1981012</u>	
PROJECT IDENTIFICATION				
Task #: 741	State: Colorado		Abbreviation:	None
Date: $\frac{741}{11/15/2018}$	County: Las Animas		Filename:	C012-741
User: JHB	County. <u>Las Annuas</u>		T fieldfile.	012 / 11
Agency or organization	name: DRMS			
HOURLY EQUIPMENT COST				
Basic Machine: Cat D9T - 9S	Ü			
Horsepower: 405		_		
Blade Type: Semi-Univers		_		
Attachment: <u>3-shank ripper</u>	с	_		
Shift Basis: <u>1 per day</u>		_		
Data Source: (CRG)		-		
Cost Breakdown:	I	<b>T</b>		
	¢110 70	Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100		
Ripper own. Cost/Hour:	\$12.36	NA		
Ripper op. Cost/Hour:	\$7.88	100		
Operator Cost/Hour:	\$41.52	NA		
Total unit Cost/Hour:\$267.92Total Fleet Cost/Hour:\$535.85				
MATERIAL QUANTITIES				
Swell factor: 1.125				
Loose volume: <b>2,178</b> LCY				
Source of estimated volume:	Division of Reclamation, N	Aining & Safety		
Source of estimated swell factor:	Operator Estimate			
HOURLY PRODUCTION				
Average push distance:	200 feet			
Average push distance: Unadjusted hourly production:	200 feet 700.0 LCY/hr			
		hkment 0.9		
Unadjusted hourly production:	700.0 LCY/hr Compacted fill or embar	nkment 0.9		
Unadjusted hourly production:	700.0 LCY/hr Compacted fill or embar	nkment 0.9		
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       0 %         Average site altitude:       7,500 feet	700.0 LCY/hr Compacted fill or embar	ikment 0.9		
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       0 %         Average site altitude:       7,500 fr	700.0 LCY/hr Compacted fill or embar eet bs/LCY	hkment 0.9		
Unadjusted hourly production:Materials consistency description:Average push gradient:0 %Average site altitude:7,500 fdMaterial weight:2,132 llWeight description:User PrJob Condition Correction Factor	700.0 LCY/hr Compacted fill or embar eet bs/LCY rovided	Source		
Unadjusted hourly production:         Materials consistency description:         Average push gradient:       0 %         Average site altitude:       7,500 fr         Material weight:       2,132 ll         Weight description:       User Pr         Job Condition Correction Factor       Operator Skill:	700.0 LCY/hr Compacted fill or embar eet bs/LCY rovided 0.900	Source (AB.AVG.)		
Unadjusted hourly production:Materials consistency description:Average push gradient:0 %Average site altitude:7,500 fdMaterial weight:2,132 ldWeight description:User PrJob Condition Correction Factor	700.0 LCY/hr Compacted fill or embar eet bs/LCY rovided	Source		

ncy: 0.830	(1 SHIFT/DAY)
oile: 0.800	(FND-RF)
ent: 1.000	(CAT HB)
ide: 1.000	(CAT HB)
ght: 1.079	(CAT HB)
7pe: 1.000	(PAT)
ion:0.5803	
406.21 LCY/hr	
812.42 LCY/hr	
	ile:       0.800         ent:       1.000         ide:       1.000         ght:       1.079         rpe:       1.000         on:       0.5803

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

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

# BULLDOZER WORK

New Elk M	line		Permit Act	ion: Permit Re	enewal 07	Permit/Job#:	C1981012	
PROJECT	IDENTIFICA	TION						
Task #:	747		State:	Colorado			Abbreviation:	None
Date:	11/15/2018		County:	Las Animas			Filename:	C012-747
User:	JHB		5					
	Agency or org	anization na	me: DR	MS				
HOURLY	EQUIPMENT	COST						
Basic M		<u>09</u> T - 9SU						
	epower: $405$	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
		-Universal						
	chment: NA							
Shif	t Basis: 1 per	day						
Data	Source: (CRC	J)						
Cost Breakdov	<u>wn</u> :				T 14:1:			
Ownersh	nip Cost/Hour:			\$110.70	<u>Utilizatio</u> NA	<u>on %</u>		
	ng Cost/Hour:			\$95.46	100			
	vn. Cost/Hour:			\$0.00	NA			
	op. Cost/Hour:			\$0.00	0			
	or Cost/Hour:			\$41.52	NA			
-	-	** ** **		-				
Total unit Cos	-	\$247.68						
Total Fleet Co	ost/Hour:	\$247.68						
MATERIAI	L QUANTITI	ES						
Initial Vo								
Swell f		ICV						
Loose vo	olume: 2,475							
Source of estim	mated volume:	· · · ·	Division Es	stimate				
Source of estim	mated swell fact	or:	Operator E	stimate				
HOURLYP	PRODUCTIO	N						
	PRODUCTIO		5 feet					
Average push		12	5 feet 955.6 LCY/	hr				
Average push Unadjusted ho	distance:	:12	955.6 LCY/	hr lated stockpile 1	.0			
Average push Unadjusted ho	distance: ourly production sistency descript gradient:	:12	955.6 LCY/		.0			
Average push Unadjusted ho Materials cons Average push	distance: ourly production sistency descript gradient: altitude:	. <u>12</u> . <u>1,0</u> 	55.6 LCY/		.0			
Average push Unadjusted ho Materials cons Average push Average site a	distance: burly production sistency descript gradient: altitude: ht:	: <u>12</u> : <u>1,0</u> ion: <u>5 %</u> 7,600 feet	Consolic		.0			
Average push Unadjusted ho Materials cons Average push Average site a Material weig Weight descri	distance: burly production sistency descript gradient: altitude: ht: ption:	: <u>12</u> : <u>1,0</u> ion: <u>5 %</u> 7,600 feet 2,055 lbs/l User Provision	Consolic	ated stockpile 1	Source			
Average push Unadjusted ho Materials cons Average push Average site a Material weig Weight descri Job Condition	distance: ourly production sistency descript gradient: altitude: ht: ption: <u>Correction Fact</u> Operator	ion: 5 % 7,600 feet 2,055 lbs/l User Provi	Consolic Consolic	lated stockpile 1	Source (AB			
Average push Unadjusted ho Materials cons Average push Average site a Material weig Weight descri Job Condition	distance: burly production sistency descript gradient: altitude: ht: ption:	<u>12</u> ion: <u>5 %</u> 7,600 feet 2,055 lbs/l User Prove Skill: ency:	Consolic Consolic LCY ded 0 1	ated stockpile 1	Source AB	AVG.) AT HB) GEN.)		

cy: 0.830	(1 SHIFT/DAY)
ile: 0.800	(FND-RF)
ent: 0.903	(CAT HB)
de: 1.000	(CAT HB)
th: 1.119	(CAT HB)
pe: 1.000	(PAT)
on: 0.6038	
637.37 LCY/hr	
637.37 LCY/hr	
	Ile:       0.800         nt:       0.903         de:       1.000         ht:       1.119         pe:       1.000         on:       0.6038         637.37 LCY/hr

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

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

Task # TTT

## **DEMOLITION WORK**

	Task description:	Demolish a	nd Remove Stru	ictures @ C&W area	l	
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/.	Job#: <u>C1981012</u>
<u>PROJE</u>	CT IDENTIFICATION	<u>N</u>				
Task # Date: User:	: 11/28/2018	State: County:	Colorado Las Animas		Abbreviation: Filename:	None C012-750

Agency or organization name: DRMS

### UNIT COSTS

### Location adjustment: 94.00 %

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

Office		demo./on-site disposal in existing				
		pit or cut - Max. 10,000 ft. haul				
Car Dept. Office Slab	56 X 20	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

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

### BULLDOZER WORK

Task description:	<b>Rip and Regrade C&amp;W Train</b>	n Shop Area		
: New Elk Mine	Permit Action:	Permit Renewal 07	Permit/Job#	: <u>C1981012</u>
PROJECT IDENTIF	ICATION			
Task #: 751	State: Colorado		Abbreviation:	None
Date: 11/15/2018		5	Filename:	C012-751
User: JHB				
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	<u>ENT COST</u>			
Basic Machine: Cat	D9T - 9SU			
Horsepower: 405		-		
	ni-Universal	_		
	nank ripper	-		
	er day	-		
Data Source: (CR	.G)	-		
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour:	\$110.70	NA		
Operating Cost/Hour:	\$95.46	100		
Ripper own. Cost/Hour:	\$12.36	NA		
Ripper op. Cost/Hour:	\$7.88	100		
Operator Cost/Hour:	\$41.52	NA		
MATERIAL QUANTInitial Volume:14,52Swell factor:1.122Loose volume:16,33	20			
Source of estimated volum				
Source of estimated swell	Operator Estimate			
factor:				
HOURLY PRODUCT	ΓΙΟΝ			
Average push distance: Unadjusted hourly production:	100 feet 1,243.2 LCY/hr			
Materials consistency des	cription: Dry, non-cohesive 0	8		
Average push gradient: Average site altitude:	0 % 7,500 feet			
Material weight:	2,132 lbs/LCY			
Weight description:	User Provided			
Job Condition Correction	Factor	Source		

\_\_\_\_\_

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.800	(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)

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** 

CIDCES	Cost	Estimating	Software
UIKUES	COSt	Esumating	Sonware

## **REVEGETATION WORK**

nit/Job#: C1981012
ation: None
name: C012-753
ľ

### **FERTILIZING**

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
	Total Fertilizer Application Cost/Acre	\$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
	Total Seed Application Cost/Acre	\$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
	Total Mulch Application Cost/Acre	\$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

	No. of Acres:	6	Cost /Acre:	\$1,140.66
Estimate	ed Failure Rate:	33%	Cost /Acre*:	\$358.18
*Selected Replantin	ng Work Items:	SEEDING		
Initial Job Cost: Reseeding Job Cost:	. ,			

eseeding Job Cost:	\$709.20
Total Job Cost:	\$7,553
Job Hours:	12.00

### HYDRAULIC EXCAVATOR WORK

Task description:	ReplaceTopsoil to Zig	Zag Road		
: New Elk Mine	Permit Ac	tion: Permit Renewal	07 Peri	nit/Job#: C1981012
PROJECT IDENTIFICA	TION			
Task #: 759	State: Colo	orado	Abbrev	iation: None
Date: 11/20/2018		Animas		ename: C012-759
User: JHB				
Agency or organizat	ion name: DRMS			
HOURLY EQUIPMENT	COST			
Basic Machine: Cat	320D L 9'-6" Stick		Horsepower:	148
Attachment 1: RO	PS Cab		Weight (MT):	21.55
			Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour	: \$33.90	NA		
Operating Cost/Hour		100	_	
Operator Cost/Hour	: \$37.79	NA	_	
Total Unit Cost/Hour	: \$107.69			
Total Fleet Cost/Hou	r: \$107.69			
MATERIAL QUANTITI				
Initial volume: 108	CC	Y Swell fact	or: 1.000	
Loose volume: 108	UC			
HOURLY PRODUCTIO		ump bucket, swing emp	ot <u>y):</u>	
	Basic	Job Condition Descript	ion: BELOW	AVERAGE
S		n within Basic Descript		
		Cycle Time Va	lue: 0.323	minutes
Load Bucket Capacity				
			Bucket Size Cla	ss: Medium
Rated Capacity:	1.54 LC	Y (heaped)		
Bucket Fill Factor:		her - rock/dirt mixtures	(100-120%) 1.1	00
Adjusted Capacity:	<b>1.69</b> LC	Y		
Job Condition Correction Fac	tors	Site	Altitude: 7700 fe	et
	1	ource		
Altitude Adj:		AT HB)		
Job Efficiency:		hift/day)		
Net Correction:	0.72 mul	tiplier		
	ted Hourly Unit Produc		LCY/Hour	
5	ted Hourly Unit Produc		LCY/Hour	
Adjust	ted Hourly Fleet Produc	etion: 227.23	LCY/Hour	
JOB TIME AND COST				
Fleet size: 1	Excavator	Total job time:	0.47	Hours
Unit acot: 00 474	ЛСУ	Total ish sector	₫ <b>₽</b> 1	
Unit cost: \$0.474	/LCY	Total job cost:	\$51	

### BULLDOZER RIPPING WORK

Site:	New Elk Mine		Perm	it Action:	Permit Renew	val 07 Pe	rmit/Job#	C198101	2
	PROJECT IDE	ENTIFICAT	TION						
	Task #: 760			Colorado			eviation:	None	
	Date: <u>11/2</u> User: JHE	19/2018	_ County: _	Las Anima	as	Fi	lename:	C012-760	
			-	10					
		or organizatio		48					
	HOURLY EQU	JIPMENT (	<u>COST</u>						
			at D9T - 9SU			Horsepower:		405	
	Ripper Atta	achment: <u>3</u> -	-Shank Ripper			Shift Basis: _ Data Source:	-	er day CRG)	
	Cost Breakdown:						(		
	COSt Dicardowii.					Utilization %			
		Ownership (			\$110.70	NA			
	Rinne	Operating ( or Ownership (			\$95.46 \$12.36	100 NA			
		er Operating (			\$7.88	100			
		-	Cost/Hour:		\$41.52	NA			
		Total Unit (	Cost/Hour:		\$267.92				
		Total Fleet (	Cost/Hour:	\$80	3.77				
	MATERIAL Q	UANTITIE	S	Sel	ected estimatin	g method: Area			
	Alternate Method	<u>s:</u>							
nic:	Alternate Method NA	<u>s:</u>	Bank	Volume:	NA	BCY		NA	
nic:		<u>s:</u> acres		Volume: epth (ft):	NA 1.00		,291	NA	BCY o
	NA	acres	Rip D	epth (ft):	1.00			NA	BCY o
nic: ea:	NA	acres Source of est	Rip D timated quantity	epth (ft):	1.00	Volume: 1		NA	BCY o
nic: ea:	NA 0.80	acres Source of est	Rip D timated quantity	epth (ft):	1.00	Volume: 1		NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est	Rip D timated quantity	epth (ft):	1.00	Volume: 1	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est	Rip D timated quantity Seismic Veloci	epth (ft): : <u>PAP P</u> ity:	1.00 age 2.05-7c, M NA	Volume:1 ap 12, Map 11-she	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est DDUCTION	Rip D timated quantity Seismic Veloci age Ripping Dep	epth (ft): : <u>PAP P</u> ity:	1.00 age 2.05-7c, M NA 2.63	Volume: <u>1</u> ap 12, Map 11-she feet/seco mph	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est DUCTION	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid	epth (ft): : <u>PAP P</u> ity: oth: th:	1.00 Page 2.05-7c, M NA 2.63 7.67	Volume: 1 ap 12, Map 11-she feet/seco mph degrees	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est DUCTION Avera Avera	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng	epth (ft): : <u>PAP P</u> ity: th: th:	1.00 rage 2.05-7c, M NA 2.63 7.67 75.00	Volume: <u>1</u> ap 12, Map 11-she feet/seco mph	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est DUCTION Avera Avera Avera Avera	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid	epth (ft): PAP P ty: th: th: ed:	1.00 Page 2.05-7c, M NA 2.63 7.67	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet	et 1	NA	BCY o
ic: ea:	NA 0.80 HOURLY PRO	acres Source of est DDUCTION Avera Avera Avera Avera Averag	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng erage Dozer Spe	epth (ft): PAP P ity: th: th: ed: ne:	1.00 age 2.05-7c, M NA 2.63 7.67 75.00 88.00	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet	et 1	NA	BCY o
iic: ea:	NA 0.80 HOURLY PRO	acres Source of est DUCTION Avera Avera Avera Averag Averag Produ	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng erage Dozer Sper ge Maneuver Tir action per unit ar	epth (ft): PAP P ity: th: th: ed: ne:	1.00           'age 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet feet	et 1	NA	BCY o
ic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng erage Dozer Sper ge Maneuver Tir action per unit ar	epth (ft):         :       PAP P         ity:	1.00           'age 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet feet	et 1 nd ır	NA	BCY o
ic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng erage Dozer Spe ge Maneuver Tin action per unit ar	epth (ft):         :       PAP P         ity:	1.00           rage 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet feet acres/hou	et 1 nd ır	NA	BCY o
ic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Wid ge Ripping Leng erage Dozer Spe ge Maneuver Tir iction per unit ar <u>ors</u> ly Unit Production Site Altitude A	epth (ft):         :       PAP P         ity:	I.00           rage 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet acres/hou Acres/hr feet (CAT HI	et 1 nd ır	NA	BCY o
iic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Dep age Ripping Leng erage Dozer Sper ge Maneuver Tir totion per unit ar ors ly Unit Production Site Altitude Altitude A Job Efficient	epth (ft):         :       PAP P         ity:	I.00           rage 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00           0.83	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet acres/hou Acres/hr feet (CAT HI (1 shift/d	et 1 nd Ir (3) (ay)	<u>NA</u>	BCY o
iic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ rrection Facto adjusted Hourl	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Uid ge Ripping Leng erage Dozer Spe ge Maneuver Tir iction per unit ar <u>ors</u> ly Unit Productio Site Altitude Altitude A Job Efficient Net Correctio	epth (ft):         :       PAP P         ity:	I.00           rage 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00           0.83           0.83	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet feet acres/hou Acres/hr feet (CAT HI (1 shift/d multiplie	et 1 nd Ir (3) (ay)	NA	BCY o
iic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ rrection Facto adjusted Hourl	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Dep age Ripping Leng erage Dozer Spe ge Maneuver Tir iction per unit ar ors ly Unit Production Site Altitude Altitude A Job Efficient Net Correction	epth (ft):         :       PAP P         ity:	I.00           age 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00           0.83           0.60	Volume: _1 ap 12, Map 11-she feet/seco feet/seco mph degrees feet feet feet feet Acres/hr feet (CAT HI (1 shift/d multiplie Acres/hr	et 1 nd Ir (3) (ay)	<u>NA</u>	BCY o
iic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co Una	acres Source of est DUCTION Avera Avera Avera Averag Produ rrection Facto adjusted Hourl	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Uid ge Ripping Leng erage Dozer Spe ge Maneuver Tir iction per unit ar <u>ors</u> ly Unit Productio Site Altitude Altitude A Job Efficient Net Correctio	epth (ft):         :       PAP P         ity:	I.00           rage 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00           0.83           0.83	Volume: 1 ap 12, Map 11-she feet/seco mph degrees feet feet feet feet acres/hou Acres/hr feet (CAT HI (1 shift/d multiplie	et 1 nd Ir (3) (ay)	NA	BCY o
iic: ea:	<u>NA</u> 0.80 HOURLY PRO Seismic: Area: Job Condition Co	acres Source of est DUCTION Avera Avera Avera Averag Produ rrection Facto adjusted Hourl	Rip D timated quantity Seismic Veloci age Ripping Dep age Ripping Dep age Ripping Leng erage Dozer Spe ge Maneuver Tir iction per unit ar ors ly Unit Production Site Altitude Altitude A Job Efficient Net Correction	epth (ft):         :       PAP P         ity:	I.00           age 2.05-7c, M           NA           2.63           7.67           75.00           88.00           0.25           0.719           7,700           1.00           0.83           0.60	Volume: _1 ap 12, Map 11-she feet/seco feet/seco mph degrees feet feet feet feet Acres/hr feet (CAT HI (1 shift/d multiplie Acres/hr	et 1 nd Ir (3) (ay)	<u>NA</u>	BCY of

Unit cost: \$449.051 Per acre

Total job cost: \$359

### **REVEGETATION WORK**

New Elk Mine	Permit A	Action: Peri	nit Renewal 07	Permit/Job#	t: <u>C1981012</u>
	TION				
<b>PROJECT IDENTIFICA</b>	<u>110N</u>				
Task #:761		olorado		Abbreviation:	None
Date: 11/20/2018	County: La	s Animas		Filename:	C012-761
User: JHB	_				
Agency or organization	on name: DRMS				
<b>TERTILIZING</b>					
<b>Aaterials</b>					
		Units /	<b>T</b> T •4	Cost / Unit	Cost /Acre
Description		Acre	Unit		
10-34-0, 18-46-0, 5-10-5		30.00	pound	\$0.34	\$10.20
				Total Fertilizer Materials Cost/Acre	\$10.20
Application		k			1
Description					Cost /Acre
NA-fertilizer application incl	l. with hydroseeding	ŗ			\$0.00
		Tota	l Fertilizer App	lication Cost/Acre	\$0.00
TILLING					
Description					Cost /Acre
<b>r</b>					
					<i><b></b></i>
					\$
			Total	Tilling Cost/Acre	\$ <b>\$0.00</b>
FEDINC			Total	Tilling Cost/Acre	
EEDING					
SEEDING			Ra	te –	\$0.00
EEDING Seed Mix			Ra PL	te – S Seeds	
			Ra PL LB	te – S Seeds S per SQ. FT	\$0.00
Seed Mix			Ra PL LB Act	te – S Seeds S / per SQ. FT	\$0.00 Cost /Acre
Seed Mix Buffalograss - Bison			Ra           PL           LB           Act           1.0	te – S Seeds S / Per SQ. FT 0 0.96	<b>\$0.00</b> Cost /Acre \$11.79
Seed Mix Buffalograss - Bison Blue Grama - Hachita			Ra           PL           LB           Acc           1.0           1.3	te – S Seeds per SQ. FT 0 0.96 4 21.87	\$0.00 Cost /Acre \$11.79 \$22.32
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron			Ra           PL           LB           Acc           1.0           1.3           2.4	te – S Seeds per SQ. FT 0 0.96 4 21.87 0 14.33	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte			Ra           PL           LB           Act           1.0           1.3           2.4           5.0	te –         Seeds           S         per SQ.           re         6           0         0.96           4         21.87           0         14.33           0         16.41	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23 \$49.50
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte Milk Vetch, Cicer - Monarch			Ra           PL           LB           Acc           1.0           1.3           2.4           5.0           0.6	te –         Seeds           S         per SQ.           FT         0           0         0.96           4         21.87           0         14.33           0         16.41           6         2.20	\$0.00 Cost/Acre \$11.79 \$22.32 \$35.23 \$49.50 \$5.54
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte Milk Vetch, Cicer - Monarch Streambank Wheatgrass - So			Ra           PL           LB           Acc           1.0           1.3           2.4           5.0           0.6           3.0	te –         Seeds           S         per SQ.           FT         FT           0         0.96           4         21.87           0         14.33           0         16.41           6         2.20           0         9.78	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23 \$49.50 \$5.54 \$18.69
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte Milk Vetch, Cicer - Monarch Streambank Wheatgrass - So Sainfoin - Remont	odar		Ra           PL           LB           Acc           1.0           1.3           2.4           5.0           0.6           3.0           3.3	te –         Seeds           S /         per SQ.           re         7           0         0.96           4         21.87           0         16.41           6         2.20           0         9.78           4         1.46	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23 \$49.50 \$5.54 \$18.69 \$10.82
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte Milk Vetch, Cicer - Monarch Streambank Wheatgrass - So Sainfoin - Remont Thickspike Wheatgrass - Cri	odar		Ra           PL           LB           Acc           1.0           1.3           2.4           5.0           0.6           3.0           3.3           1.0	te –         Seeds per SQ.           FT         0           0         0.96           4         21.87           0         14.33           0         16.41           6         2.20           0         9.78           4         1.46           0         3.54	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23 \$49.50 \$5.54 \$18.69 \$10.82 \$5.87
Seed Mix Buffalograss - Bison Blue Grama - Hachita Little Bluestem - Cimarron Sideoats Grama - Butte Milk Vetch, Cicer - Monarch Streambank Wheatgrass - So Sainfoin - Remont	odar		Ra           PL           LB           Acc           1.0           1.3           2.4           5.0           0.6           3.0           3.3	te –         Seeds per SQ. FT           0         0.96           4         21.87           0         14.33           0         16.41           6         2.20           0         9.78           4         1.46           0         3.54           0         10.10	\$0.00 Cost /Acre \$11.79 \$22.32 \$35.23 \$49.50 \$5.54 \$18.69 \$10.82

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
Total Seed Application Cost/Acre	\$919.12

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch, 1 ton/ac. rate {Materials Only}	2.00	ACRE	\$496.58	\$993.16
Total Mulch Materials Cost/Acre				\$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
					\$
	\$0.00				

	No. of Acres:	0.8	Cost /Ac	re: \$2,174.85
Estimate	ed Failure Rate:	33%	Cost /Acre	*: \$1,171.49
*Selected Replanting	ng Work Items:	SEEDING		
Initial Job Cost:	\$1,739.88			
Reseeding Job Cost:	\$309.27			
Total Job Cost:	\$2,049			
Job Hours:	1.60			

# SCRAPER TEAM WORK

Site: New Elk Mine	Per	rmit Action:	Permit Renewal	07 Peri	nit/Job#: <u>C1981</u>	012
PROJECT IDENT	<b>TIFICATION</b>					
Task #: 762	State:	Colorado		Abbrev	viation: None	
Date: 11/16/2	018 County:	Las Anima	as	File	ename: C012-76	52
User: JHB						
Agency or o	rganization name: D	RMS				
HOURLY EQUIP	MENT_		COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>	
			ent Description			
	-Scrape -Doze		G w/push-pull			
Suppor	t Equipment -Load Area		1 )50			
	-Dump Area					
Road Main	ntenance –Motor Grade Water Trucl-		M Tanker, 5,000 Gal.			
	Water Huer	K. Water I	<u>anker, 5,000 Gar.</u>			
<u>Cost Breakdown</u> :	Scraper Work Tea		Support Equip		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truc
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	\$60.13	\$25.
Operating cost/hour:	\$128.41	\$95.46	NA	NA	\$25.43	\$18.
%Utilization-ripper:	NA	NA	NA	NA	NA	Ν
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.
Operator cost/hour:	\$31.05	\$41.52	NA	NA	\$28.69	\$21.
Unit Subtotals:	\$268.41	\$247.68	NA	NA	\$114.26	\$64.
Number of Units: Group Subtotals:	2 Work: \$	1 0784.50	0 Support:	0	1 Maint:	\$179.09
•		784.30	Support.	\$0.00	Wiann.	\$175.05
Total work team cost/	nour: <u>\$963.59</u>					
MATERIAL QUA	<u>NTITIES</u>					
Initial volume:	39,912	_ CCY	Swell facto	or: <u>1.125</u>		
Loose volume:	44,901	LCY				
	ce of estimated volume: f estimated swell factor:		of Reclamation, N Estimate	Aining & Safety		
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Basi	is:	
Material weight:	2,055 lbs/LCY		Struck V	Volume: 15.70	LC	CY
Material description:	User Provided		Heaped Y			CY
Rated Payload:	52,800 pounds		Average V	Volume: 18.85	LC	

 $\frac{0.90}{0.60}$  Minutes

#### Cycle Time:

Scraper Loading Time:	
Maneuver and Spread Time:	

Job Condition Correction:

<u>ı:</u>		
Scraper	Push Dozer	Source
0.060	1.000	

 Altitude Adj:
 0.960
 1.000
 (CAT HB)

 Job Efficiency:
 0.830
 0.830
 (CAT HB)

 Net Correction:
 0.797
 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	1000.00	5.00	3.00	8.00	1381	0.78

Haul Time: **0.78** minutes

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:	<b>0.41</b> r	ninutes
			Total Scraper	team cycle time:	2.69	minutes
			Adjusted for	or job conditions:	670.19	LCY/Hour
			Selected Nun	nber of Scrapers:	2	Scraper(s)
	Adjusted	single scrape	er team (unit) ho	ourly production:	670.19	LCY/Hour
	Adjusted m	ultiple scrape	r team (fleet) ho	ourly production:	670.19	LCY/Hour
Optima	Unadjusted unit prod Number of Scrapers per		840.89	LCY/Hour		_
JOB TI	ME AND COST					

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

## MOTOR GRADER WORK

PROJECT IDENTI Task #: 764 Date: 11/20/201 User: JHB Agency or org HOURLY EQUIPM Basic Machin Ripper Attachme	State:       Co         8       County:       La:         anization name:       DRMS	lorado s Animas		reviation: None Filename: C012-764
Date: 11/20/201 User: JHB Agency or org HOURLY EQUIPM Basic Machin	8 County: La			
Date: 11/20/201 User: JHB Agency or org HOURLY EQUIPM Basic Machin	8 County: La			
Agency or org HOURLY EQUIPM Basic Machin				
HOURLY EQUIPM Basic Machin				
Basic Machin	<u>ENT CO</u> ST			
	ne: CAT 14M		Horsepower:	259
11			Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:			-	
			Utilization %	
	ership Cost/Hour:	\$60.13	NA	
	erating Cost/Hour:	\$50.87	100	
	ership Cost/Hour:	\$0.00	NA	
	erating Cost/Hour:	\$0.00		
	perator Cost/Hour: al Unit Cost/Hour:	\$28.69	NA	
100		\$139.69	-	
Tota	l Fleet Cost/Hour:	\$139.69		
	a to be graded or ripped: ce of estimated acreage:	10.20 NECC		acres
HOURLY PRODUC	CTION			
	Average Grader Speed:	1.50	mph	
	Selected Application:		h grading (0-2.5 mp	ph) - 1.5
	Selected Blade Angle:	45	degrees	
******	Effective Blade Length:	9.90	feet	
	of blade overlap per pass:	2.00	feet	
	or ripping width per pass: d Hourly Unit Production:	7.90	feet acres/ho	<b>11*</b>
Job Condition Correction	-		Site Altitude: <u>7680</u>	
	<u></u>	Source	····· · ······· <u>· · · · · · ·</u>	
Altitude Adj:	1.00 (0	CAT HB)		
Job Efficiency:		sh/d, mod.)		
Net Correction:		ultiplier		
		-		
	Adjusted Hourly Unit Prod Adjusted Hourly Fleet Prod			
	rujusicu mouny rieet riod	ucuon. <b>1.2209</b>	acres/nour	
	- *			
	· ·			

Unit cost: \$114.41 per acre

Total job cost:

\$1,167

## **REVEGETATION WORK**

: New E	lk Mine	Per	mit Action:	Permit Renewal 07	Permit/Job#:	C1981012
<u>PROJE</u>	<u>CT IDENTIFI</u>	<b>CATION</b>				
Task #	: 765	State:	Colorado		Abbreviation:	None
D	: 11/20/2018	County:	Las Anima	as	Filename:	C012-765
Date						

### **FERTILIZING**

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
	Total Fertilizer Application Cost/Acre	\$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
Total Seed Application Cost/Acre	\$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

ſ	No. of Acres:	10.2	Co	ost /Acre:	\$1,140.66
Estimated	Failure Rate:	33%	Cos	st /Acre*:	\$358.18
*Selected Replanting	Work Items:	SEEDING			
Initial Job Cost: \$	11,634.73				
Reseeding Job Cost: \$	1,205.63		_		
Total Job Cost: \$	12,840		_		
Job Hours: 2	0.40		_		

# TRUCK/LOADER TEAM WORK

Task description:	Replace	Topsoil on	n NW vo	ent Fan Area (T	<b>(R72)</b>		
Site: New Elk Mine		Permi	t Action	n: Permit Rene	wal 07	Permit/Job#: C	1981012
PROJECT IDEN	<b>TIFICATION</b>						
Task #: 766			Colorad	-	Abl	previation: Nor	-
Date: 11/30/	2018 0	County: _]	Las Ani	mas		Filename: C01	12-766
User: JHB							
	organization nan		15				
<u>HOURLY EQUI</u>	PMENT COST	<u>[</u>			Shift bas	is: <u>1 per day</u>	
				quipment Descri	ption		
T	ruck Loader Tea	m -Truck: -Loader:		ric 8-10 cy, 6x4 928Hz			
Suppo	ort Equipment -L		NA	920112			
	-Du	imp Area:		98T - 8SU			
Road Ma	aintenance – Moto		NA				
	-Wa	ter Truck:	NA				
Cost Breakdown:	Truck/Loa	ader Team		Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		45	NA	100	NA	NA
Ownership cost/hour:	\$15.87	\$1	9.87	NA	\$93.62	NA	NA
Operating cost/hour:	\$40.15		0.78	NA	\$73.35	NA	NA
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$	60.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$	0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$0.00	\$4	0.90	NA	\$41.52	NA	NA
Unit Subtotals:	\$56.02	\$7	1.56	NA	\$208.49	NA	NA
Number of Units:	1		1	0	1	0	(
Group Subtotals:	Work:	\$127.58		Support:	\$208.49	Maint:	\$0.00
Total work team cos	t/hour: <u>\$336.07</u>						
MATERIAL QUA	<u>ANTITIES</u>						
Initial volume:	694		CCY	Swell	factor: 1.215		
Loose volume:	843		LCY				
Sou	rce of estimated	volume:	Divisio	on of Reclamatio	on, Mining & Safe	ety	
Source	of estimated swe			ndbook			
	Material Purcha		\$0.00				
	10	otal Cost:	\$0.00				
	<b>DUCTION</b>						
HOUKLY PRO							
Truck Capacity:							
<u>Truck Capacity:</u> Truck Payload (weig							
Truck Capacity: Truck Payload (weig Material w	eight: 1,600	il		_ Pounds/LCY			
<u>Truck Capacity:</u> Truck Payload (weig	reight: 1,600 ption: Top So			Pounds/LCY Pounds			

Struck Volume:									
Struck volume:	8.00	LCY							
Heaped Volume:	10.00	LCY							
Average Volume:	9.00	LCY							
Adjusted Volume:	10.00	LCY							
Fina	Truck Volum	no Poso	d on Number o	of Loador I	Deces	9.90		LCY	
		ne Daset	a oli inullidei o	DI LOAUEI F	asses.	9.90			
Loading Tool Capacity					Dual	et Size Class:	NI A		
Rated Capacity:	3.000	I	LCY (heaped)		Buck	tet Size Class:	NA		
Bucket Fill Factor:	1.100		Other - rock/di		(100-	-120%) 1.100			
Adjusted Capacity:	3.300		LCY		(200				
Job Condition Corrections	:_		S	Site Altitud	e (ft.): <u>7</u>	7 <u>350</u> feet			
	Truck		Loader	5	Source				
Altitude Adj:	1.000		1.000	(C	AT HB	)			
Job Efficiency:	0.830		0.830	(C	AT HB	)			
Net Correction:	0.830		0.830						
Loading Tool Cycle Time:	-	Numbe	er of Loading '	Tool Passe	s Requi	red to Fill Truck:	3	3	passes
Excavators and Front Shove	le.					TTUCK.			
	/15.								
		ion Rati	ng: NA						
Machine Cycle Time v Selected Value	s. Job Conditi								
Machine Cycle Time v	rs. Job Conditi within this Ba	isic Rati	ng: NA						
Machine Cycle Time v Selected Value	rs. Job Conditi within this Ba Material Des	isic Rati	ng: NA						
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.)	rs. Job Conditi within this Ba Material Des :	sic Ratin	ng: <u>NA</u>				0 100		
Machine Cycle Time v Selected Value Track Loaders –	rs. Job Conditi within this Ba Material Des :	isic Rati	ng: <u>NA</u> :			Dump:	0.100		
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.)	rs. Job Conditi within this Ba Material Des : 	sic Rations	ng: NA : ver: NA	ime (load, o	dump, n	·	0.100	/ <u>5                                    </u>	inutes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors	rs. Job Conditi within this Ba Material Des : - - - Unadjusted I	isic Ratin cription: Maneuv Basic Lo	ng: <u>NA</u> : ver: <u>NA</u> pader Cycle Ti	ime (load, d	dump, n	naneuver): Factor (min	0.47	Source	
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders <u>Cycle Time Factors</u> Material:	rs. Job Conditi within this Ba Material Des : - - Unadjusted I Mixed mate	usic Ratin cription: Maneuv Basic Lo erial 0.0	ng: <u>NA</u> : ver: <u>NA</u> pader Cycle Ti 2	ime (load, o	dump, n	naneuver): Factor (min 0.020	0.47	Source (Cat HB)	)
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders <u>Cycle Time Factors</u> <u>Material:</u> Stockpile:	rs. Job Conditi within this Ba Material Des : - - Unadjusted I Mixed mate Dumped by	usic Ratin cription: Maneuv Basic Lo erial 0.0 y truck 0	ng: NA ver: NA pader Cycle Ti 2 0.02			naneuver):	0.47	Source (Cat HB) (Cat HB)	)
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o	sic Rationary cription: Maneuv Basic Lo erial 0.0 y truck 0 wwnershi	ng: NA ver: NA oader Cycle Ti 2 0.02 p of trucks and			naneuver):	0.47	Source (Cat HB) (Cat HB) (Cat HB)	
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:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o Constant o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04			naneuver):	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	) ) )
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration	ng: NA ver: NA oader Cycle Ti 2 0.02 p of trucks and -0.04 0	d loaders -(	0.04	naneuver):	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	) ) )
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:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o Constant o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin	d loaders -( me Adjustr	0.04 nent:	naneuver):	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	) ) )
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:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o Constant o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load	d loaders -( me Adjustr	D.04	naneuver):	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o Constant o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load	d loaders -( me Adjustr der Cycle 7	D.04	naneuver): Factor (min 0.020 0.020 -0.040 0.000 -0.040 0.000 0.435	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
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:	rs. Job Conditi within this Ba Material Des : - Unadjusted I Mixed mate Dumped by Common o Constant o	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load	d loaders -( me Adjustr der Cycle 7	D.04	naneuver): Factor (min 0.020 0.020 -0.040 0.000 -0.040 0.000 0.435	0.47	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	rs. Job Conditi within this Ba Material Des - - Unadjusted I Mixed mate Dumped by Common o Constant oj Nominal ta	sic Ratin cription: Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load	d loaders -( me Adjustr der Cycle T Time per T	D.04 ment: Fime: ruck:	naneuver): Factor (min 0.020 0.020 -0.040 0.000 -0.040 0.000 0.435	0.47 1.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	rs. Job Conditi within this Ba Material Des - Unadjusted I - Unadjusted I Mixed mate Dumped by Common o Constant oj Nominal ta	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA oader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load Net Load T inutes inutes	d loaders -( me Adjustr der Cycle T Time per T Ad	D.04 ment: Time: ruck: djusted djusted	naneuver): Factor (min 0.020 0.020 -0.040 -0.040 0.000 -0.040 0.435 0.970 for site altitud	0.47 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.500 0.970	Minutes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders <u>Cycle Time Factors</u> Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time	rs. Job Conditi within this Ba Material Des - Unadjusted I - Unadjusted I Mixed mate Dumped by Common o Constant oj Nominal ta	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00	ng: NA ver: NA bader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load Net Load T	d loaders -( me Adjustr der Cycle T Time per T Ad	D.04 ment: Time: ruck: djusted djusted	naneuver):	0.47 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	Minutes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	e: 0.50 e: 0.970 e: 0.80	Maneuv Maneuv Basic Lo erial 0.0 y truck 0 wnershi peration rget 0.00 M M M M	ng: NA ver: NA oader Cycle Ti 2 0.02 p of trucks and -0.04 0 Net Cycle Tin Adjusted Load Net Load T inutes inutes	d loaders -( me Adjustr der Cycle T Time per T Ad Ad	D.04 ment: ruck: djusted djusted djusted	naneuver): Factor (min 0.020 0.020 -0.040 0.000 -0.040 0.435 0.970 for site altitud for site altitud	0.47 n.)	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.500 0.970 0.800	
Haul Route:

F	a iii			~				TT 1	
	Seg #	Haul D	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	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 R								
	Seg #	Haul D	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	-	(Ft)			(%)	(%)	(fpm)	Time	
		. ,					×1 /	(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	5
					Total True	ck Cycle Time:	3.479	minutes	
					100001110				, ,
Lo	oading Too	ol unit							
	Prod	uction	404.08	LCY/Hour		Adjusted for	job efficiency:	335.39	LCY/Hour
Truck	Unit Prod	uction				5 5	, 5		
	0		170.74	LCY/Hour		Adjusted for	job efficiency:	141.71	LCY/Hour
			170.71			i lajastea i oi j	job enhereney.		
Optima	l No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	1	Truck(s)
• F									
				Adjuste	d hourly truck	k team production	on: 141.	71 LCY/	Hour
				Adjusted singl	e truck/loade	r team productio	on: 141.	71 LCY/	Hour
			A	Adjusted multipl				71 LCY/	Hour
				J		<b>I</b>		<u> </u>	
	JOB TI	ME ANI	D COST						
	Fleet	size:	1	Team(s)	1	Fotal job time:	5.95	Ho	urs
	Unit	cost:	\$2.371	/LCY	r	Fotal job cost:	\$2,00	0	
						-			

### BULLDOZER WORK

New Elk Mine		Permit Action:	Permit Renewal 07	Permit/Job#:	C1981012
PROJECT IDEN	FIFICATI	ION			
	IIFICAL				
Task #: 767	2010	State: Colorado		Abbreviation:	None
Date: $11/30/2$	2018	County: Las Anim	las	Filename:	C012-767
User: JHB					
Agency or o	organization	name: DRMS			
HOURLY EQUIP	PMENT C	OST			
Basic Machine:	Cat D8T -				
Horsepower:	310				
Blade Type:	Semi-Univ	ersal			
Attachment:	3-shank rip				
Shift Basis:	1 per day	<b>I</b> -			
Data Source:	(CRG)				
—	. /				
Cost Breakdown:			Utilization %		
Ownership Cost/Ho	ur.	\$93.62	NA		
Operating Cost/Ho		\$73.35	100		
Ripper ov		•			
Cost/Ho		\$8.93	NA		
Ripper op. Cost/Ho		\$1.17	15		
Operator Cost/Ho		\$41.52	NA		
Total unit Cost/Hour Total Fleet Cost/Hou		.59			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume:	r: <b>\$218</b> ANTITIES 1,111				
Total Fleet Cost/Hou           MATERIAL QUA           Initial Volume:         1           Swell factor:         1	r: \$218				
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:	r: <b>\$218</b> ANTITIES 1,111 1.165 <b>1,294</b> LCY	<u>S</u>	ion Mining & Safety		
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated v	r: <b>\$218</b> ANTITIES 1,111 1.165 <b>1,294</b> LCY volume:	Division of Reclamat	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated y Source of estimated y	r: <b>\$218</b> ANTITIES 1,111 1.165 <b>1,294</b> LCY volume:	<u>S</u>	ion, Mining & Safety		
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated v	r: <b>\$218</b> ANTITIES 1,111 1.165 <b>1,294</b> LCY volume:	Division of Reclamat	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated s factor:	r: <b>\$218</b> <b>ANTITIES</b> 1,111 1.165 <b>1,294</b> LCY volume: swell	Division of Reclamat	ion, Mining & Safety		
Total Fleet Cost/Hou         MATERIAL QUA         Initial Volume:         Swell factor:         Loose volume:         Source of estimated v         Source of estimated v         Source of estimated v         HOURLY PRODUCT	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION	Division of Reclamat Cat Handbook	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated s factor: HOURLY PROD Average push distance	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION	Division of Reclamat Cat Handbook 50 feet	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated s factor: HOURLY PRODU Average push distance Unadjusted hourly	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION	Division of Reclamat Cat Handbook	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated s factor: HOURLY PROD Average push distance	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION	Division of Reclamat Cat Handbook 50 feet	ion, Mining & Safety		
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated s factor: HOURLY PRODU Average push distance Unadjusted hourly	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION ce:	Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of est	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION ce: y description	Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of est	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION ce: y description nt:5 %	Division of Reclamat Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr n: Compacted fill or e			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of est	r: <b>\$218</b> ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION ce: y description nt:5 %	Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of est	r: \$218 <b>ANTITIES</b> 1,111 1.165 <b>1,294</b> LCY volume: swell UCTION ce: y description nt:5 % 7,300	Division of Reclamat Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr n: Compacted fill or e			
Total Fleet Cost/Hou MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated v Source of estimated v Source of estimated s factor: HOURLY PRODI Average push distance Unadjusted hourly production: Materials consistency Average push gradient Average site altitude:	r: $$218$ ANTITIES 1,111 1.165 1,294 LCY volume: swell UCTION ce: y description nt: $-5 \%$ 7,300 2,900	Division of Reclamat Division of Reclamat Cat Handbook 50 feet 1,400.0 LCY/hr n:Compacted fill or e	embankment 0.9		

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)

Adjusted unit production:	554.82 LCY/hr
Adjusted fleet production:	<b>554.82</b> LCY/hr

### JOB TIME AND COST

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

Total job time:2.33 HoursTotal job cost:\$510

Little Bluestem - Native

### **REVEGETATION WORK**

Site: New Elk Mine	Permit A	ction: Pern	nit Renewal 07	Per	mit/Job#	: <u>C198101</u>
PROJECT IDENTIFIC	ATION					
Task #: 768	State: Col	orado		Abbre	viation:	None
Date: 11/30/2018		Animas		-	ename:	C012-768
User: JHB						
Agency or organiza	ation name: DRMS					
<b>FERTILIZING</b>						
Materials						
Description		Units / Acre	Unit	Cost / Un	it	Cost /Acre
		Aut		\$	-	\$
						Ψ
				Total Fe	rtilizer terials	
					st/Acre	\$0.00
ication		1			1	<u>.</u>
					~	
scription					Cost /A	cre
					\$	
	T	otal Fertiliz	er Application	Cost/Acre	\$0.00	
ING						
					0.44	
cription					Cost /A	cre
					\$	
			Total Tilling	Cost/Acre	\$0.00	
						-
DING						
			Rate –	<b>a</b> 1	a	
ed Mix			PLS	Seeds per SQ.	Cost /A	cre
			LBS / Acre	FT		
			AUC			
e Grama - Native			0.67	10.94	\$9.95	

1.20

7.16

\$19.36

Western Wheatgrass - Native	2.00	5.05	\$14.34
		47.40	
Totals Seed Mix	12.20	47.42	\$103.40

#### Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$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
	Total Mulch Application Cost/Acre	\$68.78

# **NURSERY STOCK PLANTING**

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

### JOB TIME AND COST

	No. of Acres:	1.55	Cost /Acre:	\$980.18
Estimate	ed Failure Rate:	40%	Cost /Acre*:	\$980.18
*Selected Replanti	ng Work Items:	SEEDING,MULC	HING	
Initial Job Cost: Reseeding Job Cost: Total Job Cost:	\$607.71			
Job Hours:	1.55			

Task # TTT

### BOREHOLE SEALING WORK

r	Task description:	Seal Additi	onal Wells			
Site:	New Elk Mine		Permit Action:	Permit Renewal 07	Permit/	Job#: <u>C1981012</u>
<u>PROJE</u>	CT IDENTIFICATION	<u>1</u>				
Task #:	772	State:	Colorado		Abbreviation:	None
Date:	11/20/2018	County:	Las Animas		Filename:	C012-772

Agency or organization name: DRMS

### **UNIT COSTS**

User:

JHB

Borehole	Sealing/Item Method						
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 Cost Estimating Software

CIRCES Cost Estimating Software

	Bag, material cost					T	
	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

Task # TTT

# SITE MAINTENANCE

			tenance during the 10 year liability per Permit Action: Permit Renewal 07		Permit/Job#: C1981012		
<u>PROJEC</u>	CT IDENTIFICAT	<u>ION</u>					
Task #:	773	State:	Colorado		Abbreviation:	None	
Date:	11/28/2018	County:	Las Animas		Filename:	C012-773	
User:	JHB						
	Agency or organ	ization name:	DRMS				

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 Actior	n: Permit Rene	ewal 07	Permit/Job#: C	1981012
PROJECT IDEN	TIFICATION	[					
Task #: 774	/2010		Colorad		Ab	breviation: Nor	
Date: <u>11/19</u> User: JHB	/2018	County: _]	Las Ani	mas		Filename: C02	12-774
	organization nan	ne: DRM	IS				
	-				Q1.10.1	· . 1 1.	
HOURLY EQUI	PMENT COS	<u>L</u>	Б	· (D ·		sis: <u>1 per day</u>	
	Truck Loader Tea	m -Truck		quipment Descri ric 15-18 cy, 6x4			
	Tuek Louder Tea	-Loader:		988H			
Supp	ort Equipment -L		NA				
Road M	-Du aintenance –Mote	imp Area:	NA NA				
Koad W		ter Truck:	NA				
<u>Cost Breakdown</u> :	Truck/Loa Truck	ader Team Loader		Support Load Area	Equipment Dump Area	Maintenar Motor Grader	ce Equipment Water Truck
		Loader			-		
%Utilization-machine:	100		0	NA	NA	NA	NA
Ownership cost/hour:	\$27.28		7.28	NA	NA	NA	NA
Operating cost/hour:	\$50.67	\$	0.00	NA	NA	NA	NA
%Utilization-riper: Ripper own. cost/hour:	NA NA	¢	0	NA NA	NA NA	NA NA	NA NA
Ripper op. cost/hour:	NA		0.00	NA	NA	NA	NA
Operator cost/hour:	\$30.37		0.90	NA	NA	NA	NA
Unit Subtotals:	\$108.31		8.18	NA	NA	NA	NA
Number of Units:	4	ψ1_	1	0	0	0	0
Group Subtotals:	Work:	\$561.42	_	Support:	\$0.00	Maint:	\$0.00
Total work team co	st/hour: \$561.42	)					
	<u>5011-42</u>						
MATERIAL QU	ANTITIES						
Initial volume	: 14,563		CCY	Swell	factor: 1.000		
Loose volume	: 14,56	3	LCY				
So	urce of estimated	volume:	Divisio	on of Reclamatio	on, Mining & Safe	ety	
Source	of estimated swe			undbook		•	
	Material Purcha		\$10.00				
	10	otal Cost:	\$145,6	50.00			
HOURLY PRO	DUCTION						
<b>Truck Capacity:</b>							
Truck Payload (wei							
Material v Descr	veight: 1,600 iption: Top Sc	vil		Pounds/LCY			
Rated Pa				Pounds			
Payload Ca	•			LCY			

Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	18.00 I	LCY				
Final	Truck Volume	Based on Number of	Loader Passes:	9.66	LCY	
Loading Tool Capacity						
			Buc	ket Size Class: N	A	
Rated Capacity:	9.200	LCY (heaped)	(100.1			-
Bucket Fill Factor:	1.050	Other - moist los	am (100-1	10%) 1.050		-
Adjusted Capacity:	9.660	LCY				
Job Condition Corrections:	-	Si	te Altitude (ft.):	<u>5000</u> 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				
	L					
Loading Tool Cycle Time:	N	umber of Loading T	ool Passes Requi		1 P	asses
Excavators and Front Shovel	I <u>S:</u>			Truck:		
Machine Cycle Time vs	Lob Condition	Rating: NA				
Selected Value v						
Track Loaders –	Material Descrit	ption:				
Cycle Time Elements (min.):	-	·				
Load: NA		aneuver: NA		Dump: 0.100		
Load: INA		aneuver: INA		Dump: 0.100		
Wheel and Track Loaders -	Unadjusted Bas	sic Loader Cycle Tin	ne (load, dump, 1	maneuver): 0.	575 min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	Material 1/8"	to 3/4" diameter -0.0	)2	-0.020	(Cat HB)	_
Stockpile:	Conveyor or d	lozer piled 10 ft. hig	h or less 0.01	0.010	(Cat HB)	
Truck Ownership:	Common own	ership of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant oper	ation -0.04		-0.040	(Cat HB)	
Dump Target:	Nominal targe			0.000	(Cat HB)	_
		Net Cycle Tim	•	-0.090	minutes	
		Adjusted Loade		0.485	minutes	
		Net Load T	ime per Truck:	0.100	minutes	
Truck Cycle Times						
<u>Truck Cycle Time:</u>			Adjusted	for site altitude:	0.500	Minutes
Truck Exchange Time:	0.50	Minutes	Aujusicu	ioi bite antitude.	0.500	
		Minutes Minutes	· ·	for site altitude:	0.100	Minutes
Truck Exchange Time	0.100		Adjusted			Minutes Minutes
Truck Exchange Time: Truck Load Time:	0.100	Minutes	Adjusted	for site altitude:	0.100	-
Truck Exchange Time: Truck Load Time:	: 0.100 : 0.90	Minutes Minutes	Adjusted Adjusted	for site altitude:	0.100 0.900	-

-	паш кои	te:							
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	U	(Ft)		· · /	(%)	(%)	(fpm)	Time	
		()					(	(min)	
	1	500.0	0	10.00	3.00	13.00	710	0.714	
						XX 1/0°		•	
						Haul Time:	0.714	minutes	
r	Return Ro								
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	500.0	0	-10.00	3.00	-7.00	2972	0.226	
-						D	0.000	•	
						Return Time:	0.226	minutes	
					Total Tru	ck Cycle Time:	2.440	minutes	
т	andina Tar	1							
L	oading Too		066.00			A 11 / 1.C	1 66	001 70	
_		uction	966.00	LCY/Hour		Adjusted for j	ob efficiency:	801.78	LCY/Hour
Truck	Unit Produ	uction							
			237.54	LCY/Hour		Adjusted for j	ob efficiency:	197.16	LCY/Hour
Optim	al No. of Ti	rucks:	4	Truck(s)		Selected Num	ber of Trucks:	4	Truck(s)
				Adjusted	d hourly trucl	k team productio	on: 788.	64 LCY/H	Hour
						r team production			Hour
			,	Adjusted multipl					
			1	agusted manipi	e truck/foude	i team productio	700.		Iour
	тор ти		ID COST						
	<u>IOR II</u>	VIE AP	ND COST						
	Fleet	size:	1	Team(s)	]	Fotal job time:	18.47	7 Hou	irs
	Unit	cost.	\$0.712	/LCY	,	Total job cost:	\$155,9	07	
	Unit		φ0.712			1 otal job cost.	ф <b>1</b> 55,9	71	

Task descr	iption:	Mobilize/De	emobilize	Equipment for	Initial R	eclamation			
: New Ell	x Mine		Permit Action: Permit Renewal 07				ermit/Job#	: <u>C198</u>	1012
PROJEC	T IDENTIFIC	CATION							
Task #:790State:Colorado					Abbı	eviation:	None		
Date:								C012-	790
User:	JHB		-						
А	gency or organiz	zation name:	DRMS						
<u>EQUIPM</u>	ENT TRANS	PORT RIG	COST						
						Shift b		1 per day	
						Cost Data Sou	irce: (	CRG Dat	a
	Truck Tractor	Description:	GENE	RIC ON-HIGH	WAY TR	UCK TRACT	OR. 6X4. I	DIESEL	POWERED.
	114011 1140101	2 comptioni	021.02			P (2ND HALF,			<u></u>
	Truck Trailer	Description:	GENE	RIC FOLDING				UIPMEN	IT TRAILER
	Truck Trunci	Description	OLI (LI			, 50T, AND 10	•	011 10121	
					(231	, 501, 11(2)1(	501)		
Cost Break	down:								
Available	<b>Rig Capacities</b>	0-25	Tons	26-50 Tons	51	+ Tons			
	nership Cost/Ho		6.63 \$18.37		\$22.33				
Op	erating Cost/Ho	ur: \$44	4.38 \$46.13		\$50.07				
	perator Cost/Ho		7.66	\$27.66	\$27.66				
	Helper Cost/Ho	ur: \$0.	.00	\$25.39	\$25.39				
	tal Unit Cost/Ho		3.67	\$117.55	\$	125.45			
			L.						
NON RO	ADABLE EQ	UIPMENT:	•						
Machine	Weig		er ship	Haul Rig	Fleet	Haul Trip	Return		DOT Permit
Description			/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr.	/ ileet	Cost/ fleet
	(TON					fleet			
Cat D9T - 9		\$110.		\$125.45	3	\$708.45	\$376.35		\$750.00
CAT 14M	23.57	\$60.1		\$88.67	1	\$148.80	\$88.67		\$250.00
Cat 627G	41.80	\$102.		\$117.55	2	\$439.88	\$235.10		\$500.00
Water Tanke	er, 15.00	\$25.3	30	\$88.67	1	\$113.97	\$88.67		\$250.00
5,000 Gal.									
Atlas Capco DM45/HP -		\$101.	.20	\$88.67	1	\$189.87	\$88.67		\$250.00

ROADABLE EQUIPMENT:

20.13

\$26.14

CAT 950H

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

\$88.67

1

Subtotals:

\$114.81

\$1,715.78

\$88.67

\$966.13

\$250.00

\$2,250.00

Nearest Major City or Town within project area region:	TRINIDAD	
Total one-way travel distance:	40.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$11,579.60 \$653.12	

Transportation Cycle Time:

Haul Time (Hours):	Non-Roadable Equipment	Roadable Equipment 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	Equipment	for Pond Cl	eaning			
e: New Elk Mine		Permit /	Action: Per	mit Renewal	<u>07</u> Pe	ermit/Job#:	C19810	)12
PROJECT IDE	NTIFICAT	ION						
Task #: 791		State: Co	olorado		Abbr	eviation:	None	
	9/2018	County: La	s Animas		F	ilename:	C012-79	1
Agency o	r organizatio	n name: DRMS						
EQUIPMENT 1	RANSPOR	<u>RT RIG COST</u>						
					Shift ba		per day	
					Cost Data Sou	rce: C	RG Data	
Truck	Tractor Desc	ription: GENI	ERIC ON-HI	GHWAY TR	UCK TRACTO	DR. 6X4. D	DIESEL PO	OWERED.
110011	1140101 2000				P (2ND HALF,	, ,		, <u> </u>
Truck	Trailer Desc	ription: GENE	RIC FOLDIN	NG GOOSEN	ECK, DROP I	DECK EQU	JIPMENT	TRAILER
		_		(257	, 50T, AND 10	(T0		
Cost Breakdown:								
	•.•							
Available Rig Ca		0-25 Tons	26-50 To		+ Tons			
Ownership		\$16.63	\$18.37		22.33			
	Operating Cost/Hour: \$44		\$46.13		50.07			
	Cost/Hour:	\$27.66	\$27.66		27.66			
1	Cost/Hour:	\$0.00	\$25.39 \$25.39					
Total Unit	Cost/Hour:	\$88.67	\$117.55	\$	125.45			
NON ROADAB	LE EQUIP	MENT:						
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return T	rip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/un		Cost/hr/	Cost/hr/	fleet	Cost/ fleet

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 336D L 10'-6"	32.23	\$50.81	\$117.55	1	\$168.36	\$117.55	\$250.00
Stick							
				~	<b>*</b> 1 (0 <b>*</b> (	<b>*</b> • • <b>* * *</b>	<b>****</b>
				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

Nearest Major City or Town within project area region: Total one-way travel distance:	TRINIDAD 40.00	miles
Average Travel Speed:	40.00	_ mph
Total Non-Roadable Mob/Demob Cost *	\$1,240.18	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$514.50	

Transportation Cycle Time:

Haul Time (Hours):	Non-Roadable Equipment 1.00	Roadable Equipment 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 descri	iption: Mo	bilize/Demobi	lize Equipm	ent for I	Pond Ren	noval			
: New Elk	x Mine	Peri	nit Action:	Permit F	Renewal 0	7 Pe	ermit/Job#:	C198	1012
PROJEC	T IDENTIFICAT	ION							
Task #:	792	State:	Colorado			Abbro	eviation:	None	
Date:	11/29/2018	County:	Las Animas	3		F	ilename:	C012-7	92
User:	JHB	· · ·					-		
А	gency or organization	n name: DR	MS						
11	geney of organization								
FOLIPM	ENT TRANSPOR	RT RIG COS	T						
			<u> </u>						
						Shift ba		per day	
					(	Cost Data Sou	rce: C	RG Data	1
	Truck Tractor Desc	ription G	ENERIC ON	HIGHV	VAY TRI	JCK TRACTO	)R 6X4 D	IESEL F	POWERED
		inpuon. O		mont		(2ND HALF,		ILSLL I	o ii Liteb,
	Truck Trailer Desc	ription: GI	ENERIC FOL	DING C		ECK, DROP D	· · · · · ·	IIPMEN	TTRAILER
	110011 1101101 200					50T, AND 10			
					( - )	7	- /		
Cost Break	<u>down:</u>								
Available I	Rig Capacities	0-25 Tons	26-50	Tons	51+	Tons			
	nership Cost/Hour:	\$16.63	\$18	3.37	\$2	2.33			
	erating Cost/Hour:	\$44.38	\$46	5.13	\$5	50.07			
Ô	perator Cost/Hour:	\$27.66	\$27	1.66	\$2	27.66			
		¢0.00	\$25	; 39	\$2	5 20			
	Helper Cost/Hour:	\$0.00	$\psi 20$		$\psi$	25.39			
	tal Unit Cost/Hour:	\$0.00 \$88.67	\$11			25.45			
	1								
Tot	1	\$88.67							
Tot	tal Unit Cost/Hour:	\$88.67 MENT:	\$117	7.55	\$1	25.45	Return T	rip	DOT Permit
Tot NON RO Machine	tal Ünit Cost/Hour:           ADABLE EQUIP           Weight/	\$88.67 MENT: Owner shi	\$117 p Haul R	7.55 Rig	Fleet	25.45 Haul Trip	Return T Cost/hr/		DOT Permit Cost/ fleet
Tot	tal Ünit Cost/Hour:           ADABLE EQUIP           Weight/	\$88.67 MENT:	\$117 p Haul R	7.55 Rig	\$1	25.45			

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

Nearest Major City or Town within project area region:	TRINIDAD	
Total one-way travel distance:	40.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$1,459.35	
<b>'*</b> two round trips with haul rig:	φ1, <del>τ</del> 57.55	
Total Roadable Mob/Demob Cost **	\$90.74	
** one round trip, no haul rig:	\$70.74	

Transportation Cycle Time:

Haul Time (Hours): Return Time (Hours):	Non-Roadable Equipment 1.00 1.00	Roadable Equipment 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	n: Mo	bilize/Demobilize	e Equipment for	Site Main	ntenance		
e: New Elk Min	ne	Permit A	Action: <u>Permit</u>	Renewal	07 Pe	ermit/Job#:	C1981012
PROJECT II	DENTIFICAT	ION					
Date: 1	93 1/29/2018 HB		olorado as Animas				None 2012-793
Agenc	y or organization	n name: DRMS					
EQUIPMEN'	T TRANSPOR	RT RIG COST					
					Shift ba Cost Data Sou	F	er day G Data
	uck Tractor Desc uck Trailer Desc			400 HE GOOSEN	(2ND HALF,	2006) DECK EQUIE	SEL POWERED, PMENT TRAILER
Cost Breakdow	<u>n:</u>						
Available Rig	Capacities	0-25 Tons	26-50 Tons	51	+ Tons		
Ų	nip Cost/Hour:	\$16.63	\$18.37		22.33		
Operati	ng Cost/Hour:	\$44.38	\$46.13	\$	50.07		
	tor Cost/Hour:	\$27.66	\$27.66	\$	27.66		
Help	per Cost/Hour:	\$0.00	\$25.39	\$	25.39		
Total U	nit Cost/Hour:	\$88.67	\$117.55	\$.	25.45		
NON ROADA	ABLE EQUIP	MENT:					
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Tri	
Description	Unit	Cost/hr/unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fle	et Cost/ fleet

Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/ fleet	Cost/hr/ fleet	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
		Subtotals:	\$0.00	\$0.00

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 \$0.00	

Transportation Cycle Time:

Harl Time (Hause)	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

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