

May 6, 2020

Cita Cisse CEMEX, Inc. P.O. Box 529 Lyons, CO 80540

Re: Dowe Flats Mine, Permit No. M-1993-041, Technical Revision No. 4 (TR-04), Adequacy Review No. 4 - Bond Estimate

Mr. Cisse:

The Division of Reclamation, Mining and Safety (Division) has reviewed your adequacy response #3 received on May 4, 2020 for TR-04, and has the following comments/questions:

1) For the backfilling and retopsoiling tasks, the Division input the material volumes provided by the operator as compact cubic yards (CCY) since the material will come from stockpiles which will have compacted over time. It is the Division's practice to use CCY for material obtained from stockpiles, unless the initial (loose) volumes are known. Are you indicating the material volumes provided represent the initial volumes in loose cubic yards (LCY)?

The Division's bond calculating software (CIRCES) is based on LCY volumes, and therefore, CCY volumes entered are converted into LCY volumes based on the material description chosen and its corresponding swell factor (see enclosed screen capture of Task 007 in CIRCES). In this case, the Division chose a material description of "Decomposed rock – 50% rock, 50% earth" for material coming from overburden and/or waste rock stockpiles, which has a corresponding swell factor of "1.165", and a material description of "Topsoil" for material coming from topsoil stockpiles, which has a corresponding swell factor of "1.215". For the excavation tasks #12, #14, and #15, the Division chose a material description of "Decomposed rock – 25% rock, 75% earth", which has a corresponding swell factor of "1.125".

The material descriptions chosen for the backfilling and retopsoiling tasks are common practice for describing the typical overburden, waste rock, and topsoil material stockpiled on similar mine sites. However, the Division is open to choosing a different material description if you can provide more information on the stockpiled material present at the site. Some examples of material descriptions available in CIRCES and their corresponding swell factors are as follows:

Caliche	1.410
Clay and gravel – dry	1.090
Decomposed rock – 75% rock, 25% earth	1.215
Decomposed rock – 50% rock, 50% earth	1.165



Decomposed rock – 25% rock, 75% earth	1.125
Earth – dry packed	1.125
Earth – loam	1.115
Earth – wet excavated	1.135
Granite – broken	1.320
Gravel – pitrun	1.060
Gravel – dry	1.060
Gravel – dry (1/4"-2" diam)	1.060
Gravel – wet (1/4"-2" diam)	1.060
Gypsum – broken (or crushed)	1.375
Limestone – broken (or crushed)	1.345
Sand – dry, loose	1.060
Sand and clay – compacted	1.180
Sand and clay – loose	1.135
Sand and gravel – dry	1.060
Sand and gravel – wet	1.050
Sandstone	1.335
Shale	1.165
Slag – broken	1.335
Stone – crushed	1.335
Topsoil	1.215
Traprock – broken	1.245

- 2) The Division has revised the revegetation tasks with the upland seed mixture (tasks # 39-41 and 43-48) to reflect the drill seeding rates listed in the 1st column of Table E-1. The Division also revised the estimated seeding failure rate for these tasks to 10%, based on the monitoring data provided for previously revegetated areas at the site. <u>These revisions resulted in a decrease in costs</u>. The revised bond estimate is enclosed for your review.
- 3) The revised bond estimate also includes revisions to grading tasks # 16-21 to reduce the grader blade angle to 30°, which is more consistent with CAT recommendations for the expected site conditions. These revisions resulted in a decrease in costs.
- 4) The wetland seed mixture provided in Table E-2 includes three seeding species (Swamp milkweed, Alkali Bulrush, and Broadleaf Cattail) and four planting species (Baltic Rush, Common Arrowhead, Hardstem Bulrush, and Threesquare). The Division's bond calculating software, CIRCES does not include the seeding species Broadleaf Cattail, therefore the species Common Rush was selected as a substitution. The Division believes the seeding costs for this substitution species do not differ significantly if at all from the proposed species.

Additionally, the Division does not have the option in CIRCES to select the four planting species in stems/acre. Therefore, the Division selected what it believed to be a comparable seeding rate for these species. In your May 4, 2020 adequacy response, you state the wetland seed mixture should consist of only the three seeding species (and not the full seeding mixture provided in Table E-2).

May 6, 2020 Cita Cisse CEMEX, Inc. Page **3** of **3**

> Does this mean you are proposing to remove the four planting species from the wetland seed mixture provided in Table E-2? If this is the case, please provide a revised table for the proposed wetland seed mixture so this change can be easily tracked in the permit file for future bond estimates and/or revisions. Please note, in the revised bond estimate enclosed, the Division has preemptively removed the four planting species from Task #42. However, this change will be reversed if a revised wetland seed mixture is not provided. Also note the fertilizer and mulching costs have been removed from Task #42.

5) In your April 21, 2020 adequacy response, you provided copies of Tables E-1 through E-4 with seeding mixtures that were approved for the site in Amendment No. 1 (AM-01, approved in 1994). You specify the upland and wetland seed mixtures used to calculate the bond for TR-04 are from Tables E-1 (Plant Material Mixes – Grassland) and E-2 (Plant Material Mixes – Herbaceous Wetland). There is no mention in TR-04 of Table E-3 – Cover Crops for Use in Revegetation. Please clarify whether TR-04 proposes using cover crops for revegetation of the site, as approved in AM-01. If so, please ensure costs for planting a cover crop are included in the bond estimate. If you propose removing cover crops from the revegetation plan, please clearly state this in your response.

The decision date for TR-04 is currently set for **June 9, 2020**. If additional time is needed to respond to the items listed above, an extension request must be received by our office prior to the decision date. If the Division receives no comments from you by the decision date, and no extension has been requested by that time, TR-04 will be approved and a notice of surety increase will be issued in the amount of \$9,656,908.00. You will have 60 days from the date of the notice of surety increase to post the additional required financial warranty.

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

Sincerely,

any Erchluger

Amy Eschberger Environmental Protection Specialist

- Encl: Screen capture of Task 007 in CIRCES Division's bond estimate revised on 5/5/2020
- CC: Uwe Lubjuhn, CEMEX, Inc. Scott Harcus, CEMEX, Inc. Robin Bay, Habitat Management, Inc. Michael Cunningham, DRMS

M-1993-041 CEMEX, Inc. / Dowe Flats Mine								
Annual Fees Application Archive Permit Archive Syst	m Bond CIRCES	Compliance Requirem	ent Correspondence	Enforcement Financia	History Inspection	s Location Minor Infrac	tions Other Addresses Reports	Revisions
Air Tools Blasting Borehole Compactor Cost Su	mary Demolition	Detoxification Dozer	Drilling Excavator	Generator Grader	Lifting Loader Min	Misc. Equipment	Misc. Truck Mobilization Net J	ob Hours Pumping
Revegetation Ripper Scraper Shovel Status Re	ort Track Loader	Truck Vat Leach De	etoxification Site Mai	ntenance Post Mining	Dozer Grader Adm	in		
Operator Cost/hour \$45.58	9.98	0	0	\$45.39	\$0.00			
Unit Subtotals \$409.98 \$	57.31	0	0	\$169.53	\$27.98			
Number of Units 2	1	0	0	1	1			
Group Subtotals Work: \$1,087.27		Support: \$0.0	D	Maintenance:	\$197.51			
Total Work Team Co	/Hour: \$	1,284.78						
Material Quantities Initial Volume Units	Material De	scription	Swell	Factor Loose Volume	•			
894,130 Compact cubic yards (0	CY) V Decompos	ed rock - 50% Rock, 50%	Earth V	1.165 1,04	41,661 LCY	<		
Source of Quantity Take-Off	Source of E	stimated Swell Factor						
Operator bond estimate	Cat Handbe	ook						
Hourly Production Hauling Capacity:				Average S	te Altitude 53	50 feet		
Scraper Payload (Weight) Basis:				Average 5				
Material Weight 2,900 lb	LCY	Scraper Bow	I (Volume) Basis:	Job Cor Scrap	er Push Dozer	Source		
Rated Pavload 81.600 Po	unds	Struck Volume	24.00 LCY	Altitude 1.000	1.000	(Cat HB)		
Payload Capacity 28.14 LC	(Heaped Volume	34.00 LCY	Job Efficiency 0.830		shift/day)		
		Average Volume	29.00 LCY	Net Competing 0.020		(and day)		
Cycle Time:	,	Adjusted Capacity	28.14 LCY	Net Correction 0.830	INA NA			
Scraper Loading Time 1.00 M	utes							
Maneuver and Spread Time 0.60 M	utes							
Travel Time: Road Condition Description Firm, smooth. rolling. dirt.	. surfaced, watered,	maintained 3.0		~				
Haul Route: (hit ESC key to cancel edits)								

COST SUMMARY WORK

	Fask descrip	otion:	Cost Su	mmary					
Site:	Dowe Fla	ts Mine		Per	rmit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>	
<u>P</u>	ROJECT Task #: Date: User:	IDENTIFIC 000 Rev 5/5/202 AME	<u>ATION</u>	State: County:	Colorado Boulder		Abbreviation: Filename:	None M041-000	

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Tock		Form	Fleet	Task	
1 455	Description	Used	Size	Hours	Cost
001	Demolition of structures	DEMOLISH	1	40.00	\$77,080
002	Demolition of conveyor supports 6x2x6(457), on-	NA	1	30.00	\$14,214
	site disposal		_		
003	Demolition of conveyor system 9,718x4x4, off-site	NA	1	20.00	\$144,781
	disposal		_		
004	Demolition of conveyor walkways 2,558x3x4, off-	NA	1	20.00	\$28,582
005	site disposal	27.4		20.00	
005	Demolition of conveyor structures 6-20(44), off-	NA	1	20.00	\$53,203
000	Site disposa	NIA	1	10.00	¢1.662
000	site disposa	NA	1	10.00	\$1,005
007	Backfill Hi Cal/2nd Ridge nit with in nit stockniles	SCP APEP 1	1	1.018.42	\$1 308 442
007	Backfill Hi Cal/2nd Ridge pit with crusher	TRUCK1	1	2 3/3 9/	\$1,508,442
000	stockniles	INCON	1	2,3+3.7+	φ+,230,020
009	Backfill Hi-Cal/2nd Ridge pit with Mt George	TRUCK1	1	1 059 92	\$1 925 743
007	stockpile	incont	-	1,009.92	¢1,520,710
010	Backfill 3rd Ridge pit with in-pit stockpiles	SCRAPER1	1	89.66	\$115,188
011	Backfill 3rd Ridge pit with Mt. George stockpile	TRUCK1	1	445.37	\$809,172
012	3rd Ridge pit wetland excavation	SCRAPER1	1	500.17	\$642,609
013	Backfill 4th Ridge pit with in-pit stockpiles	DOZER	2	0.28	\$149
014	Wetland topsoil stripping	SCRAPER1	1	10.47	\$13,450
015	Crusher area topsoil stripping	SCRAPER1	1	8.75	\$11,239
016	Hi-Cal/2nd Ridge pit rough grade	GRADER	2	12.71	\$5,040
017	Hi-Cal/2nd Ridge pit final grade	GRADER	2	27.55	\$10,920
018	3rd Ridge pit rough grade	GRADER	2	3.53	\$1,400
019	3rd Ridge pit final grade	GRADER	2	7.65	\$3,033
020	4th Ridge pit rough grade	GRADER	1	1.65	\$329
021	4th Ridge pit final grade	GRADER	1	3.59	\$712
022	Rip office/maintenance/equipment/fuel areas	GRADER	1	1.65	\$343
023	Rip roads and other disturbances	GRADER	2	13.83	\$5,716
024	Retopsoil Hi-Cal/2nd Ridge pit with NE/N	SCRAPER1	1	20.55	\$26,403
	stockpile				
025	Retopsoil Hi-Cal/2nd Ridge pit with NE/middle	SCRAPER1	1	45.69	\$58,706
	stockpile				
026	Retopsoil Hi-Cal/2nd Ridge pit with NW stockpile	SCRAPER1	1	4.27	\$5,480
027	Retopsoil Hi-Cal/2nd Ridge pit with High-Cal	SCRAPER1	1	6.46	\$8,302
	stockpile		4.		
028	Retopsoil 3rd Ridge pit with NE/middle stockpile	SCRAPER1	1	0.64	\$817
029	Retopsoil 3rd Ridge pit with NE/S stockpile	SCRAPER1	1	10.46	\$13,442

030	3rd Ridge wetland area excavation	SCRAPER1	1	8.18	\$10,513
031	Retopsoil 4th Ridge pit wetland area excavation	SCRAPER1	1	3.66	\$4,699
032	Retopsoil wetland area excavation	SCRAPER1	1	5.49	\$7,050
033	Retopsoil crusher area with reclaimed area stripping	SCRAPER1	1	9.17	\$11,781
034	Retopsoil crusher area with SE stockpile	SCRAPER1	1	24.92	\$32,015
035	Retopsoil office/maint/equip/fuel areas with SE stockpile	SCRAPER1	1	4.68	\$6,009
036	Retopsoil roads and other disturbances with NE/S stockpile	SCRAPER1	1	25.51	\$32,771
037	Retopsoil roads and other disturbances with SE stockpile	SCRAPER1	1	27.11	\$34,831
038	Retopsoil roads and other disturbances with wetland excav	SCRAPER1	1	0.34	\$431
039	Revegetate Hi-Cal/2nd Ridge pit (107.3 ac)	REVEGE	1	107.30	\$146,239
040	Revegetate 3rd Ridge pit minus wetland (25 ac)	REVEGE	1	25.00	\$34,073
041	Revegetate 4th Ridge pit (2.3 ac)	REVEGE	1	2.30	\$3,135
042	Revegetate wetland area (20 ac)	REVEGE	1	20.00	\$44,243
043	Revegetate crusher area (47.4 ac)	REVEGE	1	47.40	\$64,602
044	Revegetate Mt. George stockpile area (22.9 ac)	REVEGE	1	22.90	\$31,210
045	Revegetate topsoil stockpile areas (27.7 ac)	REVEGE	1	27.70	\$37,752
046	Revegetate office/maint/equip/fuel areas (3.8 ac)	REVEGE	1	3.80	\$5,179
047	Revegetate conveyor corridor (4.6 ac)	REVEGE	1	4.60	\$6,269
048	Revegetate roads and other disturbances (63.4 ac)	REVEGE	1	63.40	\$86,408
049	Mobilization/Demobilization	MOBILIZE	1	47.00	\$398,572
		6257.67	\$10,542,567		

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$212,960
Performance bond:	1.05	Total =	\$110,697
Job superintendent:	300.00	Total =	\$20,817
Profit:	10.00	Total =	\$1,054,257
		TOTAL O & P =	\$1,398,730
		CONTRACT AMOUNT (direct + O & P) = $($	\$11,941,298

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$507,505
Reclamation management and/or administration:	5.00		\$597,065
CONTINGENCY:	0.00	Total =	\$0
	TOTAL IN	NDIRECT COST =	\$2,503,801
TOTAL BO	ND AMOUNT (d	lirect + indirect) =	\$13,046,368

DEMOLITION WORK

	Task description:	Demolition	of structures			
Site:	Dowe Flats Mine		Permit Action:	TR-04 Bond Estimate	Permit/J	ob#: <u>M1993041</u>
<u>PROJE</u>	CT IDENTIFICATION	N				
Task #	: 001	State:	Colorado	A	Abbreviation:	None
Date	: 4/21/2020	County:	Boulder		Filename:	M041-001
User	: AME					

Agency or organization name: _____DRMS

UNIT COSTS

Location adjustment: 103.60 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demolish Crusher Slab	35 x 31 x 1	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 200 ft. push	1,085.00	SF	\$1.79	\$1,936.83
Demolish Crusher Metal Roof	23 x 35 x 30	Bldg. (MC) demo./off- site disposal in approved landfill - Max. 5 mile haul	24,150.00	CF	\$0.59	\$14,190.54
Demolish Office Trailer	50 x 12 x 9	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 5 mile haul	5,400.00	CF	\$0.30	\$1,625.40
Demolish Break Room Trailer	50 x 12 x 9	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 5 mile haul	5,400.00	CF	\$0.30	\$1,625.40
Demolish Trailer Steps (2)	10 x 14 x 1 (2x)	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 200 ft. push	280.00	SF	\$1.79	\$499.83
Demolish Office & Breakroom Slabs (2)	51 x 13 x 1 (2x)	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 200 ft. push	1,326.00	SF	\$1.79	\$2,367.04
Demolish Maintenance Buildings (2)	40 x 68 / 25 x 13	Bldg. (MC) demo./off- site disposal in approved landfill - Max. 5 mile haul	84,850.00	CF	\$0.59	\$49,857.86
Demolish Maintenance Building Slab	25 x 13	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 200 ft. push	325.00	SF	\$1.79	\$580.16
Demolish/Remove Fuel Island (2)	40 x 52 / 20 x 30	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	2,680.00	CF	\$0.25	\$668.66
Remove Fuel Tank	28 x 16 x 16	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00

		Subtotal		Total Cost	
Job Hours:	40.00	(unadjusted):	\$74,401.72	(adjusted for	\$77,080.18

Task # 007

Page 1 of 2

SCRAPER TEAM WORK

Site: Dowe Flats Mine		Permit	Action:	TR-04 Bond Est	imate Peri	mit/Job#: <u>M199</u>	3041
PROJECT IDENT	TIFICATION						
Task #: 007 Date: $4/21/20$	S)20 Cou	tate: <u>(</u> inty: <u>1</u>	Colorado Boulder		Abbrev Fil	viation: <u>None</u> ename: <u>M041-</u>	007
User: <u>AME</u>	·	עתס	C				
Agency of (organization name.		.5				
HOURLY EQUIP	<u>MENT</u>			COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>	
	c	aranari	Equipme	ent Description			
	-3	Craper: Dozer:	Cat 03	T - 9SU			
Suppo	rt Equipment -Load	d Area:	NA	1 /20			
D1)/(-Dump	Area:	NA				
Road Ma	intenance –Motor (-Water	Jrader: Truck	CAT I Water 7	5M Fanker 3 500 Gal			
	··· utor	TTUCK.	Water	<u>iunker, 3,300 Gui.</u>			
Cost Breakdown:	Scraper Wor	k Team		Support Equip	oment	Maintenance	Equipment
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		100	NA	NA	50	5
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA	\$82.71	\$13.5
Operating cost/hour:	\$190.35	\$	105.84	NA	NA	\$35.04	\$14.4
%Utilization-ripper:	NA		NA	NA	NA	50	NZ
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4.44	\$0.0
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$1.96	\$0.0
Operator cost/hour:	\$45.58		\$39.98	NA	NA	\$45.39	\$0.0
Unit Subtotals:	\$409.98	\$	267.31	NA	NA	\$169.53	\$27.9
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$1,08	7.27	Support:	\$0.00	Maint:	\$197.51
Total work team cost	/hour: \$1,284.78						
MATERIAL QUA	NTITIES						
Initial volume:	894,130		CCY	Swell fact	or: 1.165		
Loose volume:	1,041,661		LCY				
Sou	rce of estimated vo	lume:	Operator	bond estimate			
Source of	of estimated swell f	actor:	Cat Han	dbook			
HOURLY PROD	UCTION						
				Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weight:	2,900 lbs/LCY			Struck V	Volume: 24.00	L	СҮ
Material description:	Decomposed rock 50% Earth	k - 50% I	Rock,	Heaped V	Volume: 34.00	L	CY
Rated Payload:	81,600 pounds			Average	Volume: 29.00	L	CY
Payload Capacity:	28.14 LCY			Adjusted C	apacity: 28.14	L	CY

<u>1.00</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1000.00	0.00	3.00	3.00	2800	0.65

Haul Time: **0.65** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2949	0.49

Return Time:	0.49	minutes
Total Scraper team cycle time:	2.74	minutes
Adjusted for job conditions:	1,022.82	LCY/Hour
Selected Number of Scrapers:	2	Scraper(s)
Adjusted single scraper team (unit) hourly production:	1,022.82	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	1,022.82	LCY/Hour

Unadjusted unit production/hour: <u>1,232.32</u> LCY/Hour Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	1,018.42	Hours
Unit cost:	\$1.256	/LCY	Total job cost:	\$1,308,442	

TRUCK/LOADER TEAM WORK

Task description:	Backfill	Hi-Cal/2nd	l Ridge	pit with crush	er stockpiles		
Site: Dowe Flats Min	e	Permi	t Action	: TR-04 Bond	l Estimate	Permit/Job#: <u>M</u>	1993041
DDAIECT IDEN	NTIFICATION						
Tesk #: 008		- Stata:	Colorad		۸h	braviation: No.	20
Date: $\frac{4/21}{7}$	2020	County:	Boulder	0	A0	Filename: MO	ne 41-008
User: AME							
Agency of	r organization nar	ne: DRM	IS				
HOURLY FOU	IPMENT COST	<u></u> г			Shift bas	sis: 1 per day	
<u>HOURLI LQU</u>		<u> </u>	Ea	winmont Docori	intion	ns. <u>I per day</u>	
	Fruck Loader Tea	m -Truck:	Cat 77	77F	puoli		
		-Loader:	CAT	992K			
Supp	ort Equipment -L	.oad Area:	Cat D	9T - 9SU			
Road M	-Di laintenance –Mot	or Grader:	CAT	16M			
	-Wa	ter Truck:	Water	Tanker, 3,500	Gal.		
				<i>a</i>			-
<u>Cost Breakdown</u> :	Truck/Loa Truck	ader Team		Support I	Equipment Dump Area	Maintenan Motor Grader	ce Equipment Water Truck
	100	Louder	100	100	Dumprindu	50	50
% Utilization-machine:	100 \$150.52	\$20	100	<u> </u>	NA NA	50 \$92.71	\$12.51
Ownership cost/hour:	\$139.32	\$20	0.58	\$121.49	INA NA	\$82.71	\$13.31
%Utilization-riper:	\$130.41 NA	φ17	0.58	\$103.84 NA	NA	\$35.04 NA	\$14.47 NA
Ripper own. cost/hour:	NA	\$	0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$	0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$24.79	\$3.	5.93	\$39.98	NA	\$45.39	\$0.00
Unit Subtotals:	\$314.71	\$41	4.31	\$267.31	NA	\$163.14	\$27.98
Number of Units:	3		1	1	0	1	1
Group Subtotals:	Work:	\$1,358.44		Support:	\$267.31	Maint:	\$191.12
Total work team co	st/hour: <u>\$1,816.</u>	87					
<u>MATERIAL QU</u>	ANTITIES						
Initial volume	: 2,444,646	10	CCY	Swell	factor: <u>1.165</u>		
Loose volume	2,848,0	013	LCY				
Sc	ource of estimated	volume:	Operate	or bond estimate	e		
Source	e of estimated swe Material Purch	ase Cost: _	\$0.00	nabook			
	To	tal Cost:	\$0.00				
HOURLY PRO	DUCTION						
Truck Capacity:							
Truck Payload (wei	ight) Basis:			Dounde/I CV			
Desci	ription: 2,900	posed rock	- 50% R	cock, 50% Earth	1		
Rated Pa	ayload: 200,00	0	/ • •	Pounds			
Payload Ca	pacity: 68.97			LCY			

Truck Bed (volume) Basis:						
Struck Volume:	60.60	LCY				
Heaped Volume:	78.80	LCY				
Average Volume:	69.70	LCY				
Adjusted Volume:	68.97	LCY				
Final	Fruck Volume	Based on Number of L	oader Passes:	65.60	LCY	
Loading Tool Capacity						
			Buck	tet Size Class: N	А	_
Rated Capacity:	16.000	LCY (heaped)				_
Bucket Fill Factor:	1.025	Rock - Earth Mixt	ure (100%-105	5%) 1.025		_
Adjusted Capacity:	16.400	LCY				
Job Condition Corrections:		Site	Altitude (ft.): 5	<u>350</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB)		
Net Comestion:	0.920	0.920				
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Passe	es Required to I	Fill Truck:	4 1	basses
Excavators and Front Shovel	s.	-				
	<u>.</u>					
Machine Cycle Time vs Selected Value w	. Job Condition vithin this Basic	n Rating: <u>NA</u> c Rating: <u>NA</u>				
Track Loaders – N	Material Descri	ption:				
Cycle Time Elements (min.):						
Load: NA	М	aneuver: NA		Dump: 0.100	1	
	-					
Wheel and Track Loaders -	Unadjusted Bas	sic Loader Cycle Time	(load, dump, n	naneuver): 0	. <u>625</u> min	utes
Cycle Time Factors				Factor (min.)	Source	_
Material:	Mixed materia	al 0.02		0.020	(Cat HB)	_
Stockpile:	Dumped by tr	uck 0.02		0.020	(Cat HB)	
Truck Ownership:	Common own	ership of trucks and lo	aders -0.04	-0.040	(Cat HB)	_
Operation:	Constant oper	ation -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal targe	et 0.00	A 1	0.000	(Cat HB)	_
		Net Cycle Time	Augustment:	-0.040	minutes	
		Not Load Tim	Cycle Time:	0.585	minutes	
		net Load Thi	e per fruck.	1.055		
Truck Cycle Time:						
Truck Exchange Time:	0.80	Minutes	Adjusted	for site altitude:	0.800	Minute
Truck Load Time:	1.855	Minutes	Adjusted	for site altitude:	1.855	Minute
ck Maneuver and Dump Time:	1.20	Minutes	Adjusted	for site altitude:	1.200	Minute
Truck Travel (Haul & Return)	Time:	Road Condition: <u>Fir</u>	m, smooth, rol	ling, dirt/lt. surfaced	l, watered,	_

Hau	l Route	:							
Seg	#	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time	
		(11)			(70)	(70)	(ipiii)	(min)	
1		5000.	00	0.00	3.00	3.00	2409	2.512	
Dat		to				Haul Time:	2.512	minutes	
Ket Sog		Uou11	Distance	$C_{rada}(0/)$	Poll Pos	Total Dag	Valoaity	Travel	
Seg	#	(Ft)	Distance	Grade (%)	(%)	(%)	(fpm)	Time (min)	
1		5000.	00	0.00	3.00	3.00	3503	1.699	
					Total Tm	Return Time:	1.699	minute	es
					Total Tru	ck Cycle Tille:	0.000		28
Loadir	ng Tool Produc	unit tion	1,482.49	LCY/Hour		Adjusted for j	ob efficiency:	1,230.46	LCY/Hour
Truck Unit	Produc	tion -	487.97	LCY/Hour		Adjusted for j	ob efficiency:	405.02	LCY/Hour
Optimal No	. of Tru	cks:	3	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
				Adjuste	d hourly truc	k team production	on: 1,215	5.06 LCY	Y/Hour
				Adjusted sing	le truck/loade	er team production	on: 1,215	5.06 LCY	Y/Hour
				Adjusted multip	le truck/loade	er team production	on: 1,21 5	5.06 LCY	Y/Hour
JO	B TIM	E AN	D COST						
					r	D . 1 . 1	2 2 4 2		
	Fleet si	ze:	1	Team(s)		l otal job time:	2,343.	94 H	ours
	Unit co	ost:	\$1.495	/LCY		Total job cost:	\$4,258,	626	

TRUCK/LOADER TEAM WORK

Site: Dowo Floto Min	<u> </u>	Dermit Activ	and TR 04 Road	E Estimate	Permit/Joh#• M	19930/11
Sile. Dowe Flats Mill		remit Acu	$\frac{11.11}{11.04}$		rennit/J00#. <u>N</u>	1993041
PROJECT IDEN	NTIFICATION					
Task #:009		State: Colora	ado	Ab	breviation: Nor	ne
Date: $\frac{4}{21}$	2020	County: Bould	er		Filename: M0	41-009
User: <u>AME</u>	5					
Agency of	r organization nan	ne: DRMS				
HOURLY EQU	IPMENT COST	<u>[</u>		Shift bas	is: <u>1 per day</u>	
]	Equipment Descri	ption		
,	Truck Loader Tea	m -Truck: Cat	777F	T • -		
	ant Equipment I	-Loader: CA	T 992K			
Sup	Dit Equipment -L	imp Area: NA	D91 - 950			
Road N	laintenance – Mote	or Grader: CA	Т 16М			
. <u></u>	-Wa	ter Truck: Wat	ter Tanker, 3,500	Gal.		
Cost Breakdown	Truck/Lo	nder Team	Support	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	50	50
Ownership cost/hour:	\$159.52	\$207.81	\$121.49	NA	\$82.71	\$13.51
Operating cost/hour:	\$130.41	\$170.58	\$105.84	NA	\$35.04	\$14.47
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$24.79	\$35.93	\$39.98	NA	\$45.39	\$0.00
Unit Subtotals:	\$314.71	\$414.31	\$267.31	NA	\$163.14	\$27.98
Group Subtotals:	J Work:	<u>\$1 258 //</u>	Support	\$267.31	l Maint:	\$101.12
Group Subiolais:	WOIK:	\$1,538.44	Support:	\$207.51	wiant:	\$191.12
Total work team co	st/hour: <u>\$1,816.8</u>	87				
MATERIAL OI	IANTITIES					
Initial ashuma	1.050.401	COV		fastar: 1165		
Loose volume	$\frac{1,039,491}{1.234.3}$	LCY	Swell	1actor: 1.165		
Sc	ource of estimated	volume: Oper	ator bond estimat	9		
Source	e of estimated swe	ell factor: Cat H	Handbook	C		
	Material Purcha	ase Cost: \$0.00)			
	То	otal Cost: \$0.00)			
HOURIVPRO	DUCTION					
<u>Truck Capacity:</u> Truck Pavload (we	ight) Basis:					
Material	weight: <u>2,900</u>		Pounds/LCY			
Desc	ription: Decom	posed rock - 50%	Rock, 50% Earth	1		
Rated P	ayload: <u>200,00</u>	U	Pounds			
Fayload Ca	ipacity. 00.97					

Truck Bed (volume) Basis:						
Struck Volume:	60.60 I	LCY				
Heaped Volume:	78.80 I	LCY				
Average Volume:	<u>69.70</u> I	.CY				
Adjusted Volume:	<u>68.97</u> I	LCY				
Final '	Truck Volume I	Based on Number of	Loader Passes:	65.60	LCY	
Loading Tool Capacity						
Detal Constitut	16 000		Bucl	ket Size Class: <u>N</u>	A	_
Rated Capacity:	16.000	LCY (neaped)	(1000/ 10/	50() 1 025		-
Adjusted Capacity:	1.025 16.400	LCY	xture (100%-103	5%) 1.025		-
Lab Condition Connections			a Altituda (ft.):	5250 faat		
Job Condition Corrections:	True als	Leader	Samua	<u>5550</u> leet		
Altitudo Adi	1 FUCK	Loader				
Lob Efficiency	0.820	1.000	(CAT HE	5) 2)		
JOB Efficiency:	0.830	0.830	(CAT HE	•)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Pas	ses Required to	Fill Truck:	4 p	asses
Excavators and Front Shovels	<u>s:</u>	-	-		*	
Machine Cycle Time vs	Job Condition	Rating: NA				
Selected Value w	ithin this Basic	Rating: NA				
Track Loaders – I	Material Descrip	otion:				
Cycle Time Elements (min.):						
Load: NA	Ma	aneuver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadjusted Bas	ic Loader Cycle Tim	ne (load, dump, r	naneuver): 0	.625 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed materia	1 0.02		0.020	(Cat HB)	_
Stockpile:	Dumped by tru	ıck 0.02		0.020	(Cat HB)	
Truck Ownership:	Common own	ership of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant opera	ation -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal targe	t 0.00		0.000	(Cat HB)	_
		Net Cycle Tim	e Adjustment:	-0.040	minutes	
		Adjusted Loade	r Cycle Time:	0.585	minutes	
		Net Load Ti	me per Truck:	1.855	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.80	Minutes	Adjusted	for site altitude:	0.800	Minute
Truck Load Time:	1.855	Minutes	Adjusted	for site altitude:	1.855	Minute
ck Maneuver and Dump Time:	1.20	Minutes	Adjusted	for site altitude:	1.200	Minute
Truck Travel (Haul & Return) maintained 3.0) Time:	Road Condition: <u>F</u>	irm, smooth, rol	ling, dirt/lt. surfaced	d, watered,	

Haul I	Route:							
Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time	
	()			(,-)	(,,,,,	()	(min)	
1	5500.	00	0.00	3.00	3.00	2409	2.719	
Retur	Route:				Haul Time:	2.719	minutes	
Seg #	Haul	Distance	Grade (%)	Roll Res	Total Res	Velocity	Travel	
50g #	(Ft)	Distance	Grade (70)	(%)	(%)	(fpm)	Time (min)	
1	5500.	00	0.00	3.00	3.00	3503	1.842	
				Total Tru	Return Time: ck Cycle Time:	1.842 8.416	minute	es es
Loading Pi Truck Unit Pi	Tool unit coduction	1,482.49	LCY/Hour		Adjusted for j	ob efficiency:	1,230.46	LCY/Hour
		467.68	LCY/Hour		Adjusted for j	ob efficiency:	388.17	LCY/Hour
Optimal No. o	f Trucks:	3	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
			Adjuste Adjusted sing	ed hourly truc le truck/loade	k team productions team productions	on: <u>1,164</u> on: <u>1,164</u>	4.52 LCY 4.52 LCY	//Hour //Hour
			Adjusted multip	le truck/loade	er team production	on: 1,16 4	4.52 LCY	//Hour
JOB	TIME AN	ND COST						
Fl	eet size: _	1	Team(s)]	Fotal job time:	1,059.	92 He	ours
U	nit cost:	\$1.560	/LCY	,	Total job cost:	\$1,925,	743	

Page 1 of 2

SCRAPER TEAM WORK

Site: Dowe Flats Mine		Permit	t Action:	TR-04 Bond Es	timate Per	mit/Job#: <u>N</u>	M19930	41
PROJECT IDENT	TIFICATION							
Task #: 010	S	State: (Colorado		Abbre	viation: N	one	
Date: 4/21/20	020 Cor	unty: 1	Boulder		Fil	lename: M	041-01	0
User: <u>AME</u>								
Agency or o	organization name:	DRM	IS					
HOURLY EQUIP	MENT			COSTS	hift basis: <u>1 per d</u>	lay		
			Equipme	ent Description				
	-S	craper:	Cat 637	G w/push-pull				
Suppo	- rt Fauinment -I oa	Dozer:	Cat D9	r - 9SU				
Suppo	-Dum	p Area:	NA					
Road Ma	intenance – Motor	Grader:	CAT 16	5M				
	-Water	Truck:	Water '	l'anker, 3,500 Gal	•			
Cost Breakdown:	Scraper Wor	rk Team		Support Equi	oment	Mainter	nance E	quipmen
	Scraper	Doz	zer	Load Area	Dump Area	Motor Gra	ader	Water 7
%Utilization-machine:	100		100	NA	NA		50	
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA	\$82	2.71	\$
Operating cost/hour:	\$190.35	\$	105.84	NA	NA	\$3:	5.04	\$
%Utilization-ripper:	NA		NA	NA	NA		50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4	4.44	
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$	1.96	
Operator cost/hour:	\$45.58		\$39.98	NA	NA	\$4:	5.39	
Unit Subtotals:	\$409.98	\$	267.31	NA	NA	\$16	9.53	\$
Number of Units:	2		1	0	0		1	
Group Subtotals:	Work:	\$1,08	37.27	Support:	\$0.00	Ma	aint:	\$197.
Total work team cost	/hour: <u>\$1,284.78</u>							
MATERIAL QUA	NTITIES							
Initial volume:	78,714		CCY	Swell fact	tor: <u>1.165</u>			
Loose volume:	91,702		LCY					
Sou	rce of estimated vo	lume:	Operator	bond estimate				
Source of	of estimated swell f	actor:	Cat Hand	lbook				
HOURLY PRODU	UCTION							
				Scraper Bo	owl (volume) Bas	is:		
Material weight:	2,900 lbs/LCY			Struck	Volume: 24.00		LC	Y
Material description:	Decomposed rock	k - 50% I	Rock,	Heaped	Volume: 34.00			ľ
Rated Payload:	81,600 pounds			Average	Volume: 29.00			ľ
Payload Capacity:	28.14 LCY			Adjusted C	<i>apacity:</i> 28.14		- LC'	Y

1.00 Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1000.00	0.00	3.00	3.00	2800	0.65

Haul Time: **0.65** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2949	0.49

Return Time:	0.49	minutes	
Total Scraper team cycle time:	2.74	minutes	
Adjusted for job conditions:	1,022.82	LCY/Hour	
Selected Number of Scrapers:	2	Scraper(s)	
Adjusted single scraper team (unit) hourly production:	1,022.82	LCY/Hour	
Adjusted multiple scraper team (fleet) hourly production:	1,022.82	LCY/Hour	

Unadjusted unit production/hour: <u>1,232.32</u> LCY/Hour Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	89.66	Hours
Unit cost:	\$1.256	/LCY	Total job cost:	\$115,188	_

TRUCK/LOADER TEAM WORK

Task description:	Backfill	3rd Ridge p	it with I	Mt. George st	ockpile		
Site: Dowe Flats Min	e	Permit	Action:	TR-04 Bond	Estimate	Permit/Job#: <u>M</u>	1993041
PROJECT IDEN	TIFICATION						
Task #: 011 Date: $4/21/2$	2020	State: <u>C</u> County: <u>B</u>	olorado oulder		Ab	breviation: No Filename: M0	ne 41-011
User: <u>AME</u>							
Agency of	r organization nan	ne: DRMS	5				
HOURLY EQU	PMENT COST	<u>[</u>			Shift bas	is: <u>1 per day</u>	
			Equ	ipment Descri	ption		
r	Fruck Loader Tea	m -Truck:	Cat 777	F			
Supr	ort Equipment -I	-Loader: oad Area:	CAT 95	92K T - 9SU			
	-Di	imp Area:	NA	1)50			
Road M	laintenance – Mot	or Grader:	CAT 16	5M	<u></u>		
	-Wa	ter Truck:	Water 1	l'anker, 3,500	Gal.		
Cost Breakdown:	Truck/Loa	der Team		Support I	Equipment	Maintenan	ce Equipment
	Truck	Loader	L	oad Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	100	100	NA	50	50
Ownership cost/hour:	\$159.52	\$207	.81	\$121.49	NA	\$82.71	\$13.51
Operating cost/hour:	\$130.41	\$170	.58	\$105.84	NA	\$35.04	\$14.47
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0	.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0	.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$24.79	\$35	.93	\$39.98	NA	\$45.39	\$0.00
Unit Subtotals:	\$314.71	\$414	.31	\$267.31	NA	\$163.14	\$27.98
Number of Units:	3		1	1	0	1	1
Group Subtotals:	Work:	\$1,358.44		Support:	\$267.31	Maint:	\$191.12
Total work team co	st/hour: <u>\$1,816.</u>	87					
<u>MATERIAL QU</u>	ANTITIES						
Initial volume	: 470,392		CCY	Swell	factor: <u>1.165</u>		
Loose volume	548,00)7	LCY				
So	ource of estimated	volume:	Operator	bond estimate	2		
Source	e of estimated swe	ase Cost:	$\frac{\text{Cat Hanc}}{\$0.00}$	lbook			
	To	tal Cost:	\$0.00 \$0.00				
HOURLY PRO	DUCTION						
Truck Capacity:							
Truck Payload (wei	ght) Basis:						
Material	weight: 2,900	nored as -1-	500/ D	Pounds/LCY			
Desci Rated Pa	avload: 200.00	poseu rock - 0	30% K0	Pounds	1		
Payload Ca	pacity: <u>68.97</u>	-		LCY			

Truck Bed (volume) Basis:						
Struck Volume:	60.60	LCY				
Heaped Volume:	78.80	LCY				
Average Volume:	69.70	LCY				
Adjusted Volume:	68.97	LCY				
Final	Fruck Volumo	Record on Number of I	onder Dassas	65 60	ICV	
Loading Tool Capacity	Truck volume	Dased on Number of I	Loader Tasses.	05.00		
v			Buck	et Size Class N	Δ	
Rated Canacity:	16,000	I CV (heaped)	Duer		1	
Bucket Fill Factor	1 025	Rock - Farth Mix	ture (100% - 105%)	(%) 1.025		-
Adjusted Capacity:	16.400	LCY	aure (10070-100	(70) 1.023		_
Job Condition Corrections:		Site	Altitude (ft) [,] 5	5350 feet		
sob condition corrections.	Tmuck	Loodon	Source	<u></u>		
Altitude Adi:	1 000	1 000				
Ioh Efficiency:	0.830	0.830				
Job Efficiency.	0.050	0.050	(CAT IID			
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Numbe	r of Loading Tool Pass	es Required to l	Fill Truck	4 1	nasses
Excavators and Front Shovels	s:	or 200011g 10011 000			I	
Machine Cycle Time vs Selected Value w	ithin this Basi	n Rating: <u>NA</u> c Rating: NA				
Track Loaders – N	Material Descr	intion [.]				
Cvcle Time Elements (min.):						
Load NA	ν	laneuver NA		Dump: 0.100	1	
	-					
Wheel and Track Loaders -	Unadjusted Ba	asic Loader Cycle Time	e (load, dump, n	naneuver): 0.	.625 min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed mater	ial 0.02		0.020	(Cat HB)	_
Stockpile:	Dumped by t	ruck 0.02		0.020	(Cat HB)	_
Truck Ownership:	Common ow	nership of trucks and lo	baders -0.04	-0.040	(Cat HB)	
Operation:	Constant ope	ration -0.04		-0.040	(Cat HB)	
Dump Target:	Nominal targ	et 0.00		0.000	(Cat HB)	_
		Net Cycle Time	Adjustment:	-0.040	minutes	
		Adjusted Loader	· Cycle Time:	0.585	minutes	
		Net Load Tin	ne per Truck:	1.855	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.80	Minutes	Adjusted	for site altitude:	0.800	Minute
Truck Load Time:	1.855	Minutes	Adjusted	for site altitude:	1.855	Minute
ck Maneuver and Dump Time:	1.20	Minutes	Adjusted	for site altitude:	1.200	Minute
Truck Travel (Haul & Return) maintained 3.0) Time:	Road Condition: <u>Fi</u>	rm, smooth, rol	ling, dirt/lt. surfaced	l, watered,	

	Haul Rout	te:							
	Seg #	Haul l	Distance	Grade (%)	Roll. Res	Total Res (0)	Velocity	Travel Time	
		(Гl)			(%)	(%)	(ipiii)	(min)	
	1	4000.	00	0.00	3.00	3.00	2409	2.096	
						Haul Time:	2.096	minutes	
	Return Ro	oute:							
	Seg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	(min)	
	1	4000.	00	0.00	3.00	3.00	3503	1.414	
						Return Time:	1.414	minute	es
					Total True	ck Cycle Time:	7.365	minute	es
Loa	ading Too	l unit							
	Produ	ction	1,482.49	LCY/Hour		Adjusted for j	ob efficiency:	1,230.46	LCY/Hour
Truck U	Jnit Produ	ction							
		-	534.42	LCY/Hour		Adjusted for j	ob efficiency:	443.57	LCY/Hour
Optimal	No. of Tr	ucks:	3	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
				Adjuste	d hourly truc	k team production	on: 1,330	0.70 LCY	/Hour
				Adjusted sing	le truck/loade	er team production	on: 1,230	0.46 LCY	//Hour
				Adjusted multip	le truck/loade	er team production	on: 1,23	0.46 LCY	/Hour
:	<u>JOB TIN</u>	ME AN	D COST						
	Fleet	size:	1	Team(s)	Т	Fotal job time:	445.3	37 Ho	ours
	Unit o	cost:	\$1.477	/LCY	r	Total job cost:	\$809,1	72	

Page 1 of 2

SCRAPER TEAM WORK

Site: Dowe Flats Mine		Permit	Action:	TR-04 Bond Es	timate Per	rmit/Job#:	M1993()41
PROJECT IDEN	TIFICATION							
Task #: 012	S	State: (<u>Colorado</u>		Abbre	eviation:	None M0/1-01	12
User: AME		unty. <u>1</u>	Boulder			ilename.	W1041-01	12
Agency or o	organization name:	DRM	S					
	0							
HOURLY EQUIP	MENT			COSTSI	nift basis: <u>1 per o</u>	<u>day</u>		
			Equipme	ent Description				
	-S	craper:	Cat 637	G w/push-pull				
Suppo	rt Equipment I og	-Dozer:	Cat D9	Г - 9SU				
Suppo	-Dum	p Area:	NA					
Road Ma	intenance – Motor	Grader:	CAT 16	бM				
	-Water	Truck:	Water 7	Tanker, 3,500 Gal.				
Cost Breakdown•	Scraper Wo	rk Team		Support Fauir	ment	Mair	itenance F	auinme
<u>Cost Dicardown</u> .	Scraper	Doz	zer	Load Area	Dump Area	Motor	Grader	Water
%Utilization-machine	100		100	NA	NA		50	
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA		\$82.71	
Operating cost/hour:	\$190.35	\$	105.84	NA	NA		\$35.04	
%Utilization-ripper:	NA	+	NA	NA	NA		50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA		\$4.44	
Ripper op. cost/hour:	NA		\$0.00	NA	NA		\$1.96	
Operator cost/hour:	\$45.58		\$39.98	NA	NA		\$45.39	
Unit Subtotals:	\$409.98	\$	267.31	NA	NA	\$	169.53	
Number of Units:	2		1	0	0		1	
Group Subtotals:	Work:	\$1,08	7.27	Support:	\$0.00		Maint:	\$197
Total work team cost	/hour: \$1,284.78							
MATERIAL QUA	NTITIES							
Initial volume: Loose volume:	470,392 529,191		CCY LCY	Swell fact	or: <u>1.125</u>			
Sou	rce of estimated vo	olume:	Operator	bond estimate				
Source of	of estimated swell f	factor:	Cat Hand	lbook				
	ICTION							
HUUKLY PKODU	JUTION			~	.			
				Scraper Bo	owl (volume) Ba	<u>sis:</u>		
Material weight:	2,650 lbs/LCY			Struck	Volume: 24.00			Y
Material description:	Decomposed roc	k - 25% l	Rock,	Heaped	Volume: 34.00		LC	Y
Rated Payload:	81,600 pounds			Average	Volume: 29.00)	LC	Y
Payload Capacity:	30.79 L CY			Adjusted (anacity: 29.00			v

<u>1.00</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1000.00	0.00	3.00	3.00	2800	0.64

Haul Time: **0.64** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2949	0.49

Return Time:	0.49	minutes
Total Scraper team cycle time:	2.73	minutes
Adjusted for job conditions:	1,058.02	LCY/Hour
Selected Number of Scrapers:	2	Scraper(s)
Adjusted single scraper team (unit) hourly production:	1,058.02	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	1,058.02	LCY/Hour

Unadjusted unit production/hour: <u>1,274.73</u> LCY/Hour Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	500.17	Hours
Unit cost:	\$1.214	/LCY	Total job cost:	\$642,609	

BULLDOZER WORK

Task description:	Backfill 4th Ridg	ge pit with ir	ı-pit stockpiles		
: Dowe Flats Mine	Per	mit Action:	TR-04 Bond Estimate	Permit/Job#:	M1993041
PROJECT IDENTI	FICATION				
Task #: 013	State:	Colorado		Abbreviation:	None
Date: Rev $5/5/2$	20 County:	Boulder		Filename:	M041-013
User: AME					
Agency or org	ganization name:	RMS			
HOURLY EQUIPM	<u>1ENT COST</u>				
Basic Machine:	Cat D9T - 9SU				
Horsepower: 4	.05				
Blade Type: S	emi-Universal				
Attachment: <u>N</u>	NA				
Shift Basis: 1	per day				
Data Source: (0	CRG)				
Cost Breakdown:		1			
			<u>Utilization %</u>		
Ownership Cost/Hour	ſ:	\$121.49	NA		
Operating Cost/Hour	f:	\$105.84	100		
Ripper own. Cost/Hour	ſ:	\$0.00	NA		
Ripper op. Cost/Hour		\$0.00	0		
Operator Cost/Hour	f:	\$39.98	NA		
MATERIAL QUAN	<u>NTITIES</u>				
Initial Volume:18Swell factor:1.1Loose volume:21	165 165 16 LCY				
Source of estimated vol Source of estimated sw	lume: Operator rell factor: Cat Hanc	bond estimat book	e		
HOURLY PRODUC	<u>CTION</u>				
Average push distance: Unadjusted hourly prod	300 feet duction: 437.8 LCY	/hr			
Materials consistency d	lescription: Consol	idated stockp	bile 1.0		
Average push gradient: Average site altitude:	-5 % 5,350 feet				
Material weight:	2,900 lbs/LCY			_	
Weight description:	Decomposed rock	- 50% Rock,	, 50% Earth		
Job Condition Correction	on Factor		Source		
Operato	or Skill: 1	.000	(EXCL.)		
Material consi	istency: 1	000	(CAT HB)		
Dozing n	netnod: 1	.200	(SLOT)		
V19		.000	(AVG.)		
Job effi	ciency: 0	.830	(1 SHIFT/DAY)	

Task # 013

Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.8807	
Adjusted unit production: 38	5.57 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.693/LCY

Adjusted fleet production: 771.14 LCY/hr

Total job time:	0.28 Hours
Total job cost:	\$149

Page 1 of 2

SCRAPER TEAM WORK

Site: Dowe Flats Mine	Pe	rmit Action:	TR-04 Bond Estir	nate Perr	nit/Job#: <u>M19</u>	93041
PROJECT IDEN	TIFICATION					
Task #∙ 014	State	Colorado		Abbrey	viation: None	
Date: $\frac{4/21/20}{2}$	020 County:	Boulder		File	ename: M04	1-014
User: <u>AME</u>						
Agency or o	organization name: D	RMS				
HOURLY EOUIP	MENT		COSTShif	ft basis: 1 per d	av	
		Fauinm	ent Description	<u> </u>	<u></u>	
	-Scrape	er: Cat 637	7G w/push-pull			
	-Doze	er: Cat D9	T - 9SU			
Suppo	-Dump Are	a: NA				
Road Ma	intenance – Motor Grade	er: CAT 1	6M			
	-Water Truc	k: Water	Tanker, 3,500 Gal.			
Cost Breakdown:	Scraper Work Te	am	Support Equipm	nent	Maintenand	e Equipment
<u> </u>	Scraper	Dozer	Load Area	Dump Area	Motor Grader	· Water True
%Utilization-machine:	100	100	NA	NA	5()
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$13
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA	NA	NA	NA	50	1 (
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	5 \$0
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$0
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	3 \$27
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work: \$	1,087.27	Support:	\$0.00	Maint	: \$197.51
Total work team cost	/hour: \$1,284.78					
MATERIAL QUA	ANTITIES					
Initial volume:	11,293	CCY	Swell factor	:: 1.125		
Loose volume:	12,705	LCY				
Sou	rce of estimated volume	: Operator	r bond estimate			
Source of	of estimated swell factor	: Cat Han	dbook			
HOURLY PROD	UCTION					
			Scraper Bow	/l (volume) Basi	is:	
Material weight:	2.650 lbs/LCY		Struck Vo	olume: 24.00		LCY
Material description:	Decomposed rock - 25 75% Earth	5% Rock,	Heaped Vo	olume: 34.00		LCY
Rated Payload:	81,600 pounds		Average Vo	olume: 29.00		LCY
Payload Capacity:	30.79 LCY		Adjusted Caj	pacity: 29.00		LCY

Cycle Time:

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:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2800	0.46

Haul Time: **0.46** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2949	0.32

Return Time:	0.32	minutes
Total Scraper team cycle time:	2.38	minutes
Adjusted for job conditions:	1,213.61	LCY/Hour
Selected Number of Scrapers:	2	Scraper(s)
Adjusted single scraper team (unit) hourly production:	1,213.61	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	1,213.61	LCY/Hour
Use directed with any direction from 1 462 19 I CV/Hours		

Unadjusted unit production/hour: 1,462.18 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	10.47	Hours
Unit cost:	\$1.059	/LCY	Total job cost:	\$13,450	_

<u>1.00</u> Minutes

<u>0.60</u> Minutes

Site Altitude: 5350 feet

Page 1 of 2

SCRAPER TEAM WORK

Site: Dowe Flats Mine		Permit Action:	TR-04 Bond Estin	nate Perr	mit/Job#: <u>M199</u>	3041
PROJECT IDEN	<u>FIFICATION</u>					
Task #: 015	St	ate: Colorado		Abbrey	viation: None	
Date: 4/21/20)20 Cou	nty: Boulder		Fil	ename: M041-	015
User: <u>AME</u>						
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT		COSTShif	t basis: <u>1 per d</u>	ay	
		Fauinm	ent Description	-		
	-Sc	raper: Cat 63	7G w/push-pull			
	-1	Dozer: Cat D9	T - 9SU			
Suppo	rt Equipment -Load -Dump	Area: NA Area: NA				
Road Ma	intenance – Motor G	rader: CAT 1	6M			
	-Water	Fruck: Water	Tanker, 3,500 Gal.			
Cost Breakdown:	Scraper Worl	c Team	Support Equipm	ent	Maintenance	Equipment
Cost Dicundown	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truc
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$13.
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$14.
%Utilization-ripper:	NA	NA	NA	NA	50	Ν
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$0.
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	\$0.
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$0.
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	\$27.
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$1,087.27	Support:	\$0.00	Maint:	\$197.51
Total work team cost	/hour: \$1,284.78					
MATERIAL OUA	NTITIES					
MATERIAL QUA				1.105		
Initial volume:	9,437		Swell factor	: 1.125		
Loose volume.			1 1			
Source of	of estimated vol	tor: Cat Han	dbook			
HOURLY PROD	UCTION					
			Scraper Bow	l (volume) Basi	<u>is:</u>	
Material weight:	2,650 lbs/LCY		Struck Vo	olume: 24.00	L	CY
Material description:	Decomposed rock 75% Earth	- 25% Rock,	Heaped Vo	olume: 34.00	L	CY
Rated Payload:	81,600 pounds		Average Vo	olume: 29.00	L	CY
Payload Capacity:	30.79 LCY		Adjusted Cap	bacity: 29.00	L	CY

<u>1.00</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	0.46

Haul Time: **0.46** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2949	0.32

Return Time:	0.32	minutes
Total Scraper team cycle time:	2.38	minutes
Adjusted for job conditions:	1,213.61	LCY/Hour
Selected Number of Scrapers:	2	Scraper(s)
Adjusted single scraper team (unit) hourly production:	1,213.61	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	1,213.61	LCY/Hour

Unadjusted unit production/hour: <u>1,462.18</u> LCY/Hour Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	8.75	Hours
Unit cost:	\$1.059	/LCY	Total job cost:	\$11,239	

Dowo Flots Mino				
Dowe Flats Mille	Permit Actio	on: <u>TR-04 Bond I</u>	Estimate P	ermit/Job#: <u>M199304</u>
PROJECT IDENTIFI	ICATION			
Task #: 016	State: Colora	ado	Abb	reviation: None
Date: Rev 5/5/20	County: Bould	er		Filename: M041-016
User: AME				
A gap av or organ	nization name: DPMS			
Agency of organ				
HOURLY EQUIPME	NT COST			
Basic Machine	: CAT 16M		Horsepower:	297
Ripper Attachment	:		Shift Basis:	1 per dav
	·		Data Source:	(CRG)
Cast Due als dessues				
<u>ost Breakdown:</u>			Utilization %	
	rshin Cost/Hour	\$82.71	NA	
Owner	ating Cost/Hour	\$70.09	100	-
Ripper Owner	rship Cost/Hour:	\$0.00	NA	-
Ripper Opera	ating Cost/Hour:	\$0.00		-
Ope	rator Cost/Hour:	\$45.39	NA	-
Total	Unit Cost/Hour:	\$198.18		-
T . 11		\$20 <i>4</i> .24		
Total Area	to be graded or ripped: <u>10</u>	7.30		acres
Source	e of estimated acreage:Op	erator bond estimat	e	
HOURLY PRODUCT	<u>TION</u>			
		3 25	mnh	
	Average Grader Speed:	3.23	mpn	
	Average Grader Speed: Selected Application:	Heavy	blading (0-6 mp	h) - 3.25
	Average Grader Speed: Selected Application: Selected Blade Angle:	Heavy 30	blading (0-6 mp degrees	h) - 3.25
****	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length:	Heavy 30 13.90	blading (0-6 mp degrees feet	h) - 3.25
Width o	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass:	Heavy 30 13.90 2.00	blading (0-6 mp degrees feet feet	h) - 3.25
Width o Net grading o Unadjusted	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass: or ripping width per pass: Hourly Unit Production:	Heavy 30 13.90 2.00 11.90 4 6879	blading (0-6 mp degrees feet feet feet feet	h) - 3.25
Width o Net grading o Unadjusted ob Condition Correction	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass: or ripping width per pass: Hourly Unit Production: Factors	Heavy 30 13.90 2.00 11.90 4.6879	blading (0-6 mp degrees feet feet feet acres/h te Altitude: 5350	h) - 3.25
Width o Net grading o Unadjusted Iob Condition Correction	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass: or ripping width per pass: Hourly Unit Production: Factors Son	Heavy 30 13.90 2.00 11.90 4.6879 Si	blading (0-6 mp degrees feet feet feet acres/h te Altitude: <u>5350</u>	h) - 3.25 bur feet
Width o Net grading o Unadjusted <u>lob Condition Correction</u> Altitude Adj:	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass: or ripping width per pass: Hourly Unit Production: Factors South 1.00 (CAT)	<u>Heavy</u> <u>30</u> <u>13.90</u> <u>2.00</u> <u>11.90</u> <u>4.6879</u> Si urce Г HB)	blading (0-6 mp degrees feet feet feet acres/h te Altitude: <u>5350</u>	h) - 3.25 bur feet
Width o Net grading o Unadjusted <u>ob Condition Correction</u> Altitude Adj: Job Efficiency:	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass: or ripping width per pass: Hourly Unit Production: Factors South the second seco	Heavy 30 13.90 2.00 11.90 4.6879 Si Irce Γ HB) I, fav.)	blading (0-6 mp degrees feet feet feet feet acres/h te Altitude: <u>5350</u>	h) - 3.25 Dur geet
Width o Net grading o Unadjusted <u>Tob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction:	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: of blade overlap per pass:	<u>Heavy</u> <u>30</u> <u>13.90</u> <u>2.00</u> <u>11.90</u> <u>4.6879</u> <u>Si</u> urce <u>Г HB)</u> <u>I, fav.)</u> plier	blading (0-6 mp degrees feet feet feet acres/h te Altitude: <u>5350</u>	h) - 3.25 bur feet
Width of Net grading of Unadjusted <u>Iob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction:	Average Grader Speed:	3.25 Heavy 30 13.90 2.00 11.90 4.6879 Si irce Γ HB) 1, fav.) plier	acres/Hour	h) - 3.25 our feet
Width o Net grading o Unadjusted <u>fob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction:	Average Grader Speed:	3.25 Heavy 30 13.90 2.00 11.90 4.6879 Si Irce Г HB) I, fav.) Dlier on: 4.2191 on: 8.4382	hiph blading (0-6 mp degrees feet feet feet acres/h te Altitude: <u>5350</u> acres/Hour	h) - 3.25 bur feet
Width o Net grading o Unadjusted <u>Iob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction: A Add	Average Grader Speed:	3.23 Heavy 30 13.90 2.00 11.90 4.6879 Si Irce Γ HB) I, fav.) plier on: 4.2191 son: 8.4382	inprible in the second	h) - 3.25 bur feet
Width o Net grading o Unadjusted <u>Iob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction: A Ado IOB TIME AND COS	Average Grader Speed:	Heavy 30 13.90 2.00 11.90 4.6879 Si Irce Γ HB) 1, fav.) plier on: 4.2191 on: 8.4382	inprible in the second	h) - 3.25 bur feet
Width o Net grading o Unadjusted <u>Iob Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction: A A JOB TIME AND COS Fleet size:2	Average Grader Speed:	3.23 Heavy 30 13.90 2.00 11.90 4.6879 Si Irce Γ HB) I, fav.) plier on: 4.2191 son: 8.4382 Total job time	inprible in the second	h) - 3.25 bur 1 feet 2 Hours

Task descri	ption:	Hi-Cal/2nd Ric	lge pit final gi	ade			
: Dowe Fl	ats Mine	Pe	ermit Action:	TR-04 Bond	Estimate	Permit/Job#:	M1993041
PROJEC [*]	T IDENTII	FICATION					
Task #∙	017	State	· Colorado		A	bbreviation.	None
Date:	Rev 5/5/2	0 County	Boulder			Filename:	M041-017
User:	AME		<u> </u>			i nonune.	
0.5011							
A	gency or org	anization name: <u>I</u>	DRMS				
HOURLY	EQUIPM	ENT COST					
Ι	Basic Machir	ne: CAT 16M			Horsepower	r: 2	297
Ripp	er Attachmer	nt:			Shift Basis	s: 1 p	er day
11					Data Source	$\frac{1}{(0)}$	CRG)
G . D 1							
Cost Break	down:			1			
	O	ershin Cost/Usur		¢Q7 71	Unization %)	
	Own	crising Cost/Hour:		φο2./1 \$70.00	1NA 100		
	Rinner Our	ershin Cost/Hour:		\$70.09 \$0.00	100 NA		
	Rinner One	erating Cost/Hour		\$0.00 \$0.00	11174		
		perator Cost/Hour		\$45.30	NΔ		
	Up Tote	al Unit Cost/Hour		\$108 18	11/7		
	100			φ190.10			
	Tota	l Fleet Cost/Hour:	\$390	5.36			
	Sour	ce of estimated acre	age: Operat	or bond estima	te		
HOURLY	PRODUC	TION					
noemi	IRODUC	Average Grader	Speed:	1 50	mph		
		Selected Appli	cation:	Finish	grading (0-2.5	mph) - 1.5	
		Selected Blade	Angle:	30	degre	es	
		Effective Blade L	ength:	13.90	feet		
	Width	of blade overlap pe	r pass:	2.00	feet		
	Net grading	or ripping width pe	r pass:	11.90	feet		
	Unadjuste	d Hourly Unit Produ	uction:	2.1636	acres	/hour	
Job Conditi	on Correctio	n Factors		S	ite Altitude: <u>53</u>	<u>50</u> feet	
			Source				
A	ltitude Adj:	1.00	(CAT HE	3)			
Job	Efficiency:	0.90	(1sh/d, fa	v.)			
Net	Correction:	0.9000	multiplier				
		Adjusted Hourly Un	it Production.	1 9473	acres/Ho	ur	
	-	Adjusted Hourly Flag	et Production	3.8945	acres/Ho	ur	
	1	rajustica mourry mo	et i roudenom.	0.0710			
JOB TIM	E AND CC	<u>DST</u>					
Fleet si	ze:	2 Grader(s	s)	Total job time	e:27	7.55	Hours
Unit or	vet ¢1/	1.77 per sere		Total job cos	¢11	020	
Unit co	JSL: \$10	per acre		Total Job Cos	a. 31 0	J,920	

Task description:	3rd Ridge pit rough grade			
: Dowe Flats Mine	Permit Action	: TR-04 Bond E	stimate Peri	mit/Job#: <u>M1993041</u>
PROJECT IDENTI	FICATION			
Task #: 018	State: Colorad	0	Abbrey	viation: None
Date: Rev $5/5/2$	0 County: Boulder	0	Fil	ename: M041-018
User: AME	<u> </u>			
Agency or org	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machin	ne: CAT 16M		Horsepower:	297
Ripper Attachme	nt:		Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:				
COSt DICardowii.			Utilization %	
Owr	ership Cost/Hour:	\$82.71	NA	
Op	erating Cost/Hour:	\$70.09	100	
Ripper Owr	ership Cost/Hour:	\$0.00	NA	
Ripper Op	erating Cost/Hour:	\$0.00		
Ol	perator Cost/Hour:	\$45.39	NA	
Tota	al Unit Cost/Hour:	\$198.18		
Tota	l Fleet Cost/Hour: \$3	396.36		
MATERIAL QUAN	<u>TITIES</u>			
Total Are	a to be graded or ripped: 29.8	0		acres
Sou	ce of estimated acreage:Oper	ator bond estimate	2	
HOURLY PRODUC	TION			
<u>III III III III III III III III III II</u>	Average Grader Speed:	3 25	mph	
	Selected Application:	J.25 Heavy	blading (0-6 mph)	- 3 25
	Selected Blade Angle:	30	degrees	5.25
	Effective Blade Length:	13.90	feet	
Width	of blade overlap per pass:	2.00	feet	
Net grading	g or ripping width per pass:	11.90	feet	
Unadjuste	ed Hourly Unit Production:	4.6879	acres/hour	
Job Condition Correction	on Factors	Sit	te Altitude: <u>5350</u> fe	et
	Sour	ce		
Altitude Adj:	1.00 (CAT)	HB)		
Job Efficiency:	0.90 (1sh/d,	fav.)		
Net Correction:	0.9000 multipli	ler		
	Adjusted Hourly Unit Production	n· <u>4</u> 2101	acres/Hour	
	Adjusted Hourly Fleet Production	n: 8.4382	acres/Hour	
1		0,1002		
JOB TIME AND CO	<u>DST</u>			
Fleet size:	2 Grader(s)	Total job time	3.53	Hours
Unit cost:	607 per sero	Total job cost	. ¢1 /00	
$\bigcirc \text{Int cost:} \qquad \qquad 54$	per acre	i otal job cost	. 71,400	

		al grade				
Dowe Flats Mine	Per	mit Action:	TR-04 Bond H	Estimate	Permit/Job#:	M1993041
PROJECT IDENTIF	ICATION					
Task #: 019 Date: Rev 5/5/20 User: AME	State: County:	Colorado Boulder		/	Abbreviation: Filename:	None M041-019
Agency or orga	nization name:	RMS				
HOURLY EQUIPME	ENT COST					
Basic Machine	e: CAT 16M			Horsepowe	er:	297
Ripper Attachmen	it:			Shift Basi	is: 1 p	er day
				Data Sourc	e: (0	CRG)
Cost Breakdown:						
				Utilization 9	%	
Owne	ership Cost/Hour:		\$82.71	NA		
Oper	rating Cost/Hour:		\$70.09	100		
Ripper Owne	ership Cost/Hour:		\$0.00	NA		
Ripper Oper	rating Cost/Hour:		\$0.00	ΝA		
Tota	1 Unit Cost/Hour:		\$43.39	INA		
Total			φ190.10			
Total Area Sourc	to be graded or rippe ce of estimated acreag	ed: <u>29.80</u> ge: Operat	or bond estimat	e		acres
	-					
HOURLY PRODUC	TION					
HOURLY PRODUC	TION Average Grader Sp	beed:	1.50	mph	L	
HOURLY PRODUC	<mark>TION</mark> Average Grader S _F Selected Applica	beed:	1.50 Finish	mph grading (0-2.:	5 mph) - 1.5	
HOURLY PRODUC	TION Average Grader Sp Selected Applica Selected Blade A	beed: tion: ngle:	1.50 Finish 30	mph grading (0-2. degr	5 mph) - 1.5 rees	
HOURLY PRODUC	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler	beed: tion: ngle: ngth:	1.50 Finish 30 13.90	mph grading (0-2.: degn feet	5 mph) - 1.5 rees	
HOURLY PRODUC' Width	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p	beed: tion: ngle: ngth: pass:	1.50 Finish 30 13.90 2.00 11.90	mph grading (0-2.: degr feet feet	5 mph) - 1.5 rees	
HOURLY PRODUC Width Net grading Unadjusted	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produc	beed: tion: ngle: ngth: pass: tion:	1.50 Finish 30 13.90 2.00 11.90 2.1636	mph grading (0-2.: degr feet feet feet	5 mph) - 1.5 rees s/hour	
HOURLY PRODUC Width Net grading Unadjusted Job Condition Correctior	TION Average Grader Sp Selected Applica Selected Blade An Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produc	beed: ngle: ngth: pass: pass: tion:	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si	mph grading (0-2.: degr feet feet feet acre ite Altitude: 5	5 mph) - 1.5 rees s/hour <u>350</u> feet	
HOURLY PRODUC' Width Net grading Unadjusted Job Condition Correction	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce	beed: ngle: ngth: pass: tion:	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si	mph grading (0-2.: degr feet feet feet feet acre	5 mph) - 1.5 rees s/hour <u>350</u> feet	
HOURLY PRODUC' Width Net grading Unadjusted Job Condition Correction Altitude Adj:	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> 1.00	beed: tion: ngth: pass: tion: Source (CAT HE	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si	mph grading (0-2.: degr feet feet feet acre ite Altitude: <u>5</u>	5 mph) - 1.5 rees s/hour <u>350</u> feet	
HOURLY PRODUC Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency:	TION Average Grader Sp Selected Applica Selected Blade An Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> <u>1.00</u> 0.90	beed: ngle: ngth: pass: tion: Source (CAT HE (1sh/d, fav	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 3)	mph grading (0-2.: degn feet feet feet acre ite Altitude: <u>5</u>	5 mph) - 1.5 rees s/hour 350 feet	
HOURLY PRODUC' Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> <u>1.00</u> 0.90	beed: ngle: pass: pass: tion: Source (CAT HE (1sh/d, fav multiplier	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 3) 7.)	mph grading (0-2.: degn feet feet feet acre	5 mph) - 1.5 rees s/hour <u>350</u> feet	
HOURLY PRODUC Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> <u>1.00</u> 0.900 Adjusted Hourly Unit	beed: ngle: ngth: pass: pass: tion: CAT HE (1sh/d, fav multiplier	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 3) 7.) 1.9473	mph grading (0-2.: degr feet feet feet acre ite Altitude: <u>5</u>	5 mph) - 1.5 rees s/hour 350 feet	
HOURLY PRODUC Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> <u>1.00</u> 0.900 Adjusted Hourly Unit Adjusted Hourly Fleet	beed: ngle: ngth: pass: tion: (CAT HE (1sh/d, fav multiplier Production: Production:	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 3) 7.) 1.9473 3.8945	mph grading (0-2.: degn feet feet feet feet acres/H acres/H acres/H	5 mph) - 1.5 rees s/hour 350 feet our	
HOURLY PRODUC Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: A Net Correction:	TION Average Grader Sp Selected Applica Selected Blade Ar Effective Blade Ler of blade overlap per p or ripping width per p d Hourly Unit Produce <u>n Factors</u> <u>1.00</u> <u>0.90</u> Adjusted Hourly Unit djusted Hourly Fleet	beed: ngle: pagh: pass: pass: tion: Source (CAT HE (1sh/d, fav multiplier Production: Production:	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 3) 1.9473 3.8945	mph grading (0-2.: degn feet feet feet acres/H acres/H acres/H	5 mph) - 1.5 rees s/hour <u>350</u> feet our our	
HOURLY PRODUC' Width Net grading Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: A JOB TIME AND CO Fleet size:	TION Average Grader Sp. Selected Applica Selected Blade Air Effective Blade Ler of blade overlap per por ripping width per por ripping width per por ripping width per por ripping width per por por por por por por por por por po	beed:	1.50 Finish 30 13.90 2.00 11.90 2.1636 Si 7.) 1.9473 3.8945	mph grading (0-2.: degn feet feet feet acres/H acres/H	5 mph) - 1.5 rees s/hour <u>350</u> feet our our	Hours

Task description:	4th Ridge pit rou	igh grade				
: Dowe Flats Mine	Per	mit Action:	TR-04 Bond	Estimate	Permit/Job#:	M1993041
PROJECT IDENTI	FICATION					
Task #: 020	State:	Colorado			Abbreviation:	None
Date: Rev 5/5/2	20 County:	Boulder			Filename:	M041-020
User: AME	<u></u> County:					1110 11 020
Agency or org	ganization name: DF					
HOURLY EQUIPM	IENT COST					
Basic Machi	ine: CAT 16M			Horsepow	er:	297
Ripper Attachme	ent:			Shift Bas	sis: 1 p	er day
				Data Sour	ce: (C	CRG)
Cost Breakdown:						
Cost Divato mi				Utilization	%	
Ow	nership Cost/Hour:		\$82.71	NA		
Op	perating Cost/Hour:		\$70.09	100		
Ripper Ow	nership Cost/Hour:		\$0.00	NA		
Ripper Op	berating Cost/Hour:		\$0.00	X T A		
	perator Cost/Hour:		\$45.39	NA		
10	tai Unit Cost/Hour:		\$198.18			
Tot	al Fleet Cost/Hour:	\$19	8.18			
Sou	rce of estimated acreag	ge: Operat	or bond estima	ite		
HOURLY PRODU	CTION					
HOULITRODU	Average Greder Sr	and:	3 25	mp	h	
	Selected Applica	tion:	 Heavy	v blading (0-6	(mph) = 3.25	
	Selected Blade A	ngle:	30	deg	rees	
	Effective Blade Ler	ngth:	13.90	feet	Į	
Widt	h of blade overlap per	pass:	2.00	feet	ī.	
Net gradin	g or ripping width per	pass:	11.90	feet		
Unadjust	ed Hourly Unit Produc	tion:	4.6879	acre	es/hour	
Job Condition Correcti	on Factors		S	ite Altitude: <u>5</u>	5 <u>350</u> feet	
A 1444 - 1 - A 1'	1.00	Source	2)			
Altitude Adj: Job Efficionavi	1.00	(LAI HI (lsh/d_fe	<u>5)</u>			
Net Correction:	0.90	multiplier	<u>v.j</u>			
The Concention.	0.2000	manupiter				
	Adjusted Hourly Unit	Production:	4.2191	acres/H	lour	
	Adjusted Hourly Fleet	Production:	4.2191	acres/H	lour	
JOB TIME AND C	<u>OST</u>					
Fleet size:	Grader(s)		Total job time	e:	1.66	Hours
Unit cost: \$	46.97 per acre		Total job cos	st:	\$329	
φ	per dere		1 0 m j 0 0 0 0			

Task description:	4th Ridge pit fin	al grade				
Dowe Flats Mine	Per	mit Action:	TR-04 Bond I	Estimate	Permit/Job#:	M1993041
PROJECT IDENTI	FICATION					
Task #• 021	State:	Colorado			Abbreviation.	None
Date: Rev $5/5/$	20 County:	Boulder			Filename:	M041-021
User: AME	<u>county</u> .	Doulder			i ilename.	1010 11 021
Agency or or	ganization name: DF	RMS				
HOURLY EQUIPM	<u>IENT COST</u>					
Basic Machi	ine: CAT 16M			Horsepow	/er:	297
Ripper Attachme	ent:			Shift Ba	sis: <u>1 p</u>	er day
				Data Sour	rce: (C	CRG)
Cost Breakdown:						
				Utilization	%	
Ow	nership Cost/Hour:		\$82.71	NA		
Or Of	berating Cost/Hour:		\$70.09	100		
Ripper Ow	nership Cost/Hour:		\$0.00	NA		
Ripper Or	Derator Cost/Hour:		\$U.UU \$45.20	ΝA		
	tel Unit Cost/Hour:		\$43.39 \$109.19	INA		
10			\$190.10			
Tot	al Fleet Cost/Hour:	\$19	8.18			
Sou	rap of actimated acress	on Operat	or hand actima	to		
501	irce of estimated acreag	ge: <u>Operat</u>	or bond estima	le		
HOURLY PRODU	CTION					
	Average Grader Sp	eed:	1.50	mp	h	
	Selected Applica	tion:	Finish	grading (0-2	.5 mph) - 1.5	
	Selected Blade An	ngle:	30	deg	grees	
XX 7° 1.	Effective Blade Lei	ngth:	13.90	fee	t	
Widt Not gradin	h of blade overlap per	pass:	2.00	iee	t t	
Inet graum	g of ripping width per j	tion:	2 1636		l es/hour	
Job Condition Correcti	on Factors		2.1050	ite Altitude: 4	5350 feet	
		Source	5	<u>.</u>	<u>1001</u>	
Altitude Adi:	1.00	(CAT HI	3)			
Job Efficiency:	0.90	(1sh/d, fa	v.)			
Net Correction:	0.9000	multiplier	<u> </u>			
	A dimete d II and II II '	Duodent	1.0472		Iou#	
	Adjusted Hourly Unit	Production:	1.94/3	acres/F	10ur	
	Aujusted nourly Fleet	Froduction:	1.94/3	acres/F	iour	
JOB TIME AND C	OST					
Fleet size:	1 Grader(s)		Total job time	e:	3.59	Hours
TT •			ч ПС (1) 1		ф 710	
Unit cost: \$1	101.// per acre		Fotal job cos	st:	\$/12	

ask description:						
Dowe Flats Mine	Per	Permit Action:		Estimate	Permit/Job#:	M1993041
PROJECT IDENTI	FICATION					
Task #· 022	State	Colorado		Δ	bbreviation.	None
Date: $\frac{022}{4/21/2020}$	County:	Boulder			Filename:	M041_022
$\frac{4/21/202}{\text{MF}}$	<u> </u>	Doulder			Thename.	1041-022
User. ANIL						
Agency or org	ganization name: DI	RMS				
HOURLY EQUIPM	IENT COST					
Basic Machi	ne: CAT 16M			Horsepowe	r:	297
Ripper Attachme	ent: Multi-Shank Ri	pper		Shift Basi	s: 1 n	er dav
Tupper Trouvening		PP.		Data Source	e: ((CRG)
)
Cost Breakdown:			1			
			* • • • • •	Utilization %	Ď	
Ow	nership Cost/Hour:		\$82.71	NA		
Op	erating Cost/Hour:		\$70.09	100		
Ripper Ow	nership Cost/Hour:		\$4.44	NA		
Ripper Op	erating Cost/Hour:		\$3.92	100		
0	perator Cost/Hour:		\$45.39	NA		
Tot	al Unit Cost/Hour:		\$206.54			
		\$204	- E A			
Tot /IATERIAL QUAN	al Fleet Cost/Hour:	<u> </u>	.54			
Tota MATERIAL QUAN Total Are	al Fleet Cost/Hour:	ed: <u>3.80</u>	.54			acres
Tota <u>MATERIAL QUAN</u> Total Are Sou	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u>	or bond estimat	e		acres
Tot. <u>MATERIAL QUAN</u> Total Are Sou <u>HOURLY PRODU</u>	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u>	or bond estimat	e		acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u>	or bond estimat	e		acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed:	or bond estimat 1.50	e mph mph ping (0-3 mpt	n) - 1.50	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed: ation: ngle:	<u>or bond estimat</u> <u>1.50</u> <u>Rip</u> 0	e mph 0-3 mph degro	n) - 1.50 ees	acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed: ation: ngle: ngth:	0 1.50 0 1.50 0 16.00	e mph ping (0-3 mph degro feet	n) - 1.50 ees	acres
Tot. <u>MATERIAL QUAN</u> Total Are Sou <u>HOURLY PRODUC</u> Widt	al Fleet Cost/Hour: TITIES ea to be graded or ripper rce of estimated acrease CTION Average Grader Sp Selected Applica Selected Blade A Effective Blade Le h of blade overlap per	ed: <u>3.80</u> ge: <u>Operato</u> peed: <u></u> ation: <u></u> ngle: <u></u> ngth: <u></u> pass: <u></u>	0 1.50 1.50 0 16.00 2.00	e mph ping (0-3 mph degro feet feet feet	n) - 1.50 ees	acres
Tot <u>MATERIAL QUAN</u> Total Are Sou <u>HOURLY PRODU(</u> Widt Net gradin	al Fleet Cost/Hour:	9200 ed: 3.80 ge: Operato ation:	nr bond estimat 1.50 16.00 2.00 14.00	e mph ping (0-3 mph degro feet feet feet feet	n) - 1.50 ees	acres
Tot <u>MATERIAL QUAN</u> Total Are Sou <u>HOURLY PRODUC</u> Widt Net gradin Unadjust	al Fleet Cost/Hour:	9200 ed: 3.80 ge: Operato ation:	0 1.50 1.50 16.00 2.00 14.00 2.5455	e mph ping (0-3 mph degra feet feet feet acres	n) - 1.50 ees s/hour	acres
Tot <u>MATERIAL QUAN</u> Total Are Sou <u>HOURLY PRODUC</u> Widt Net gradin Unadjust ob Condition Correction	al Fleet Cost/Hour:	ed: 3.80 ge: Operato ation:	nr bond estimat 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si	e mph ping (0-3 mph degra feet feet feet feet acres te Altitude: <u>53</u>	n) - 1.50 ees 5/hour 8 <u>50</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction	al Fleet Cost/Hour:	ed:	<u>or bond estimat</u> <u>1.50</u> <u>Rip</u> 0 <u>16.00</u> <u>2.00</u> <u>14.00</u> <u>2.5455</u> Si	e mph ping (0-3 mph degro feet feet feet acres te Altitude: <u>53</u>	n) - <u>1.50</u> ees 5/hour 3 <u>50</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed: ation: ngle: pass: pass: ction: Source (CAT HB	<u>1.50</u> <u>1.50</u> <u>16.00</u> <u>2.00</u> <u>14.00</u> <u>2.5455</u> Si)	e mph ping (0-3 mph degro feet feet feet acres te Altitude: <u>53</u>	n) - 1.50 ees 5/hour 8 <u>50</u> feet	acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency:	al Fleet Cost/Hour:	ed: ge:Operato ge: ation: ngle: ngth: pass: pass: ction: Source (CAT HB (1sh/d, fav	<u>1.50</u> <u>1.50</u> <u>Rip</u> <u>0</u> <u>16.00</u> <u>2.00</u> <u>14.00</u> <u>2.5455</u> Si <u>0</u> <u>14.00</u> <u>2.5455</u>	e mph ping (0-3 mph degro feet feet feet acres te Altitude: <u>53</u>	n) - 1.50 ees s/hour 3 <u>50</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correctio Altitude Adj: Job Efficiency: Net Correction:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> geed: <u></u> ation: <u></u> ngle: <u></u> ngth: <u></u> pass: <u></u> pass: <u></u> ction: <u></u> Source (CAT HB (1sh/d, fav multiplier	Dr bond estimat 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si) ()	e mph ping (0-3 mph degro feet feet feet acres te Altitude: <u>53</u>	n) - 1.50 ees 5/hour <u>350</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> ge: <u>Operato</u> ation: <u></u> ngle: <u></u> ngth: <u></u> pass: <u></u> pass: <u></u> ction: <u></u> Source (CAT HB (1sh/d, fav multiplier	<u>1.50</u> <u>1.50</u> <u>16.00</u> <u>2.00</u> <u>14.00</u> <u>2.5455</u> <u>Si</u> <u>)</u> <u>2.2000</u>	e mph ping (0-3 mph degra feet feet feet te Altitude: <u>53</u>	n) - 1.50 ees 5/hour 8 <u>50</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> geed: <u></u> ation: <u></u> ngle: <u></u> pass: <u></u> pass: <u></u> pass: <u></u> ction: <u></u> Source (CAT HB (1sh/d, fav multiplier	1.50 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si) 2.2909	e mph ping (0-3 mph degra feet feet feet acres te Altitude: <u>53</u>	n) - 1.50 ees 5/hour 8 <u>50</u> feet	acres
Tot MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed: <u></u> ngle: <u></u> ngth: <u></u> pass: <u></u> pass: <u></u> ction: <u></u> ction: <u></u> (1sh/d, fav multiplier a Production:	0r bond estimat 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si) 2.2909 2.2909	e mph ping (0-3 mph degra feet feet feet acres te Altitude: 53	n) - 1.50 ees 5/hour 3 <u>50</u> feet	acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction: OB TIME AND CO	al Fleet Cost/Hour:	ed: ge: peed: ngte: ngth: pass: pass: ction: ction: Source (CAT HE (1sh/d, fav multiplier : Production: Production:	0r bond estimat 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si) 2.2909 2.2909	e mph ping (0-3 mph degrifeet feet feet acres te Altitude: 53 te Altitude: 53	n) - 1.50 ees 5/hour 3 <u>50</u> feet	acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction: OB TIME AND CO Fleet size:	A Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> ation: <u></u> ngle: <u></u> ngth: <u></u> pass: <u></u> ction: <u></u> ction: <u></u> Source (CAT HE (1sh/d, fav multiplier Production: Production:	0r bond estimat 1.50 Rip 0 16.00 2.00 14.00 2.5455 Si) 2.2909 2.2909 2.2909 Total job time	e mph ping (0-3 mph degra feet feet feet acres te Altitude: 53 te Altitude: 53	n) - 1.50 ees s/hour 3 <u>50</u> feet our our	acres
Tot. MATERIAL QUAN Total Are Sou HOURLY PRODUC Widt Net gradin Unadjust ob Condition Correction Altitude Adj: Job Efficiency: Net Correction: OB TIME AND CO Fleet size:	al Fleet Cost/Hour:	ed: <u>3.80</u> ge: <u>Operato</u> peed: <u></u> ation: <u></u> ngth: <u></u> pass: <u></u> pass: <u></u> ction: <u></u> Source (CAT HE (1sh/d, fav multiplier Production: Production:	1.50 1.50 0 16.00 2.00 14.00 2.5455 Si) 2.2909 2.2909 2.2909 2.2909 Total job time	e mph ping (0-3 mph degro feet feet feet acres te Altitude: 53 acres/Ho acres/Ho	n) - 1.50 ees 5/hour 350 feet our our	acres

Task description:	Rip roads and of	ther disturba	ances				
Dowe Flats Mine	Permit Action:		TR-04 Bond Estimate Permit/			Job#: <u>M1993041</u>	
PROJECT IDENTIFI	CATION						
Task #: 023	State:	Colorado		A	bbreviation:	None	
Date: 4/21/2020	County:	Boulder			Filename:	M041-023	
User: AME							
A gap at or organ	vization name: DI	DMC					
Agency of organ	lization name. Dr						
HOURLY EQUIPME	NT COST						
Basic Machine	: CAT 16M			Horsepower	:	297	
Ripper Attachment	: Multi-Shank Ri	oper		Shift Basis	s: 1j	per day	
				Data Source	. ((CRG)	
Cost Breakdown:							
Cost Dicardowii.				Utilization %			
Owne	rship Cost/Hour:		\$82.71	NA			
Oper	ating Cost/Hour:		\$70.09	100			
Ripper Owner	rship Cost/Hour:		\$4.44	NA			
Ripper Oper	ating Cost/Hour:		\$3.92	100	_		
Ope	rator Cost/Hour:		\$45.39	NA			
Total	Unit Cost/Hour:		\$206.54				
Source	e of estimated acreas	ge: Operat	or bond estima	te			
		<u></u>	<u>or cond count</u>				
HOURLY PRODUCT	ION						
Average Grader Speed: Selected Application: Selected Blade Apple:		1.50	1.50				
		Contraction (0-3 mpin) - 1.) - 1.50			
	Effective Blade Lei	ngth:	16.00	tegic			
Width of blade overlap per pass		2.00	feet				
Net grading or ripping width per pass:		14.00	feet				
Unadjusted	Hourly Unit Produc	tion:	2.5455	acres	/hour		
Job Condition Correction	Factors		S	ite Altitude: 53	<u>50</u> feet		
		Source					
Altitude Adi:	1.00	(CAT HE	3)				
Job Efficiency:	0.90	(1sh/d, fa	v.)				
Net Correction:	0.9000	multiplier					
	diusted Hourby Unit	Production	2 2000	acros/Ha	11#		
A A	ljusted Hourly Floot	isted Hourly Fleet Production		acres/Ho	ui iir		
A	ijusicu Hoully Fleet	r rouuction:	4.3010		ui		
JOB TIME AND COS	<u>ST</u>						
Fleet size: 2	Grader(s)		Total job time	e: <u>1</u> 3	3.84	Hours	
Unit cost: \$00	16 per soro		Total job cos		716		
590 bin cost.	per acre		rotar job cos	a. \$3	,/ 10	-	
Page 1 of 2

PROJECT IDENT:Task #:024Date:4/21/202User:AMEAgency or or	IFICATION Sta 20 Coun	ate: 0					
Task #: 024 Date: $4/21/202$ User:AMEAgency or or	Sta 20 Coun	ate: (
Date: 4/21/202 User: AME Agency or or	20 Coun		Colorado		Abbrev	viation: None	
Agency or or		nty: <u> </u>	Boulder		File	ename: <u>M041-(</u>)24
Agency or or			a				
	ganization name:	DRM	S				
HOURLY EQUIPM	<u>AENT</u>			COSTSh	ift basis: <u>1 per d</u>	<u>ay</u>	
			Equipme	ent Description			
	-Sci	raper:	Cat 637	<u>G w/push-pull</u>			
Support	Equipment -Load	Area:	NA	1-950			
	-Dump	Area:	NA				
Road Main	itenance –Motor Gi Water T	rader:	CAT 16 Water 7	M Fankar 3 500 Gal			
		TUCK.	water	anker, 5,500 Gai.			
Cost Breakdown:	Scraper Work	Team		Support Equip	ment	Maintenance	Equipment
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water Tr
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA	\$82.71	\$1.
Operating cost/hour:	\$190.35	\$	105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA		NA	NA	NA	50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4.44	\$
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$1.96	\$
Operator cost/hour:	\$45.58		\$39.98	NA	NA	\$45.39	\$
Unit Subtotals:	\$409.98	\$2	267.31	NA	NA	\$169.53	\$2
Number of Units:	2		1	0	0	1	<u> </u>
Group Subtotals:	Work:	\$1,08	7.27	Support:	\$0.00	Maint:	\$197.5
Total work team cost/h MATERIAL QUA! Initial volume:	nour: \$1,284.78 NTITIES 16,231		ССҮ	Swell facto	or: <u>1.215</u>		
Loose volume:	19,721		LCY				
Sourc Source of	e of estimated volu estimated swell fac	tor:	Operator Cat Hand	bond estimate lbook			
HOURLY PRODU	CTION						
				Scraper Bo	wl (volume) Basi	is:	
Material weight:	1,600 lbs/LCY			Struck V	Volume: 24.00	L	CY
<u> </u>	Ton Soil			Heaned V	Volume: 24.00	I <i>(</i>	γv
Material description:	100 2011			rieapeu V	volume. <u>34.00</u>		U I

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1500.00	0.00	3.00	3.00	2800	0.75

Haul Time: **0.75** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	3.00	3.00	2949	0.66
				Return Time:	0.66 r	ninutes
			Total Scraper	team cycle time:	3.01	minutes
			Adjusted for	or job conditions:	959.60	LCY/Hour
			Selected Nur	mber of Scrapers:	2	Scraper(s)
	Adjusted	i single scrap	ber team (unit) h	ourly production:	959.60	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	959.60	LCY/Hour
Optimal	Unadjusted unit prod Number of Scrapers pe	duction/hour: r push dozer:	1,156.15	LCY/Hour		

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	20.55	Hours
Unit cost:	\$1.339	/LCY	Total job cost:	\$26,403	

Site: Dowe Flats Mine		Permit Action:	TR-04 Bond Es	timate Perr	nit/Job#: <u>M</u>	1993041
PROJECT IDENT	TIFICATION					
Task #: 025	St	ate: <u>Colorado</u>		Abbrev	viation: <u>No</u>	ne
User: <u>AME</u>		iity. <u>Bouidei</u>				41-023
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTSI	hift basis: <u>1 per d</u>	<u>ay</u>	
		Equipme	ent Description			
	-Sc -I	Dozer: Cat 637	/G w/push-pull T - 9SU			
Suppo	rt Equipment -Load -Dump	Area: NA				
Road Ma	intenance –Motor G	Frader: CAT 10	5M			
	-Water	Iruck: Water	Fanker, 3,500 Gal			
Cost Breakdown:	Scraper Worl	c Team	Support Equip	oment	Maintena	nce Equipme
	Scraper	Dozer	Load Area	Dump Area	Motor Grad	er water
% Utilization-machine:	\$174.06	100 \$121.40	NA NA	NA NA	\$87	50 71
Operating cost/hour:	\$190.35	\$121.49	NA	NA	\$35.	04
%Utilization-ripper:	NA	NA	NA	NA		50
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.	44
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.	96
Upit Subtotals:	\$45.58	\$39.98	NA	NA NA	\$45.	39 53
Number of Units:	3409.98	\$207.31	0	0	\$109.	1
Group Subtotals:	Work:	\$1,087.27	Support:	\$0.00	Mai	nt: \$197
Total work team cost	/hour: <u>\$1,284.78</u> .NTITIES					
Initial volume: Loose volume:	32,329 39,280	CCY LCY	Swell fact	or: <u>1.215</u>		
Source of	rce of estimated vol of estimated swell fa	ume: Operator actor: Cat Hand	bond estimate dbook			
HOURLY PRODU	UCTION					
			Scraper Bo	owl (volume) Basi	<u>is:</u>	
Material weight: Material description: Rated Payload	1,600 lbs/LCY Top Soil 81,600 pounds		Struck Heaped Average	Volume: 24.00 Volume: 34.00 Volume: 29.00		LCY LCY LCY
Payload Capacity:	51.00 LCY		Adjusted C	Capacity: 29.00		LCY

1.00 Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	2000.00	0.00	3.00	3.00	2800	0.93

Haul Time: **0.93** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2949	0.83
				Return Time:	0.83	minutes
			Total Scrape	r team cycle time:	3.36	minutes
			Adjusted f	or job conditions:	859.64	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjuste	d single scrap	er team (unit) h	ourly production:	859.64	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	859.64	LCY/Hour
Optimal	Unadjusted unit prov Number of Scrapers pe	duction/hour: r push dozer:	1,035.71	LCY/Hour		
JOB TI	ME AND COST					

Fleet size:	1	Team(s)	Total job time:	45.69	Hours
Unit cost:	\$1.495	_ /LCY	Total job cost:	\$58,706	

Page 1 of 2

Site: Dowe Flats Mine	Pe	ermit Action:	TR-04 Bond Est	timate Peri	mit/Job#: <u>M199</u> 2	3041
PROJECT IDENT	TIFICATION					
Task #: 026	State	Colorado		Abbrev	viation: None	
Date: 4/21/20	20 County	Boulder		Fil	ename: M041-0	026
User: <u>AME</u>						
Agency or o	rganization name: <u>I</u>	DRMS				
HOURLY EQUIP	<u>MENT</u>		COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>	
		Equipme	ent Description			
	-Scrap	er: Cat 637	G w/push-pull			
Cunnor	-Doz	er: Cat D97	Γ - 9SU			
Suppor	Dump Ar	ea: NA ea: NA				
Road Mai	ntenance – Motor Grad	er: CAT 16	δM			
	-Water True	ck: Water T	Canker, 3,500 Gal.			
Cost Breakdown:	Scraper Work Te	am	Support Fauir	ment	Maintenance	Fauinment
<u>Cost Di cakdown</u> .	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$13
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA	NA	NA	NA	50	-
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	\$0
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$0
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	\$27
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work: \$	51,087.27	Support:	\$0.00	Maint:	\$197.51
Total work team cost/	/hour: \$1,284.78	_				
MATERIAL QUA	NTITIES					
Initial volume:	3,369	CCY	Swell fact	or: 1.215		
Loose volume:	4,093	LCY				
Sou	ce of estimated volume	e: Operator	bond estimate			
Source o	f estimated swell facto	r: Cat Hand	lbook			
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Bas	is:	
Material weight	1 600 lbs/LCY		Struck	Volume: 24.00	 T (CY
Material description:	Top Soil		Heaped '	Volume: 34.00	L	CY
Rated Payload:	81,600 pounds		Average	Volume: 29.00	L	CY
Payload Capacity:	51.00 LCY		Adjusted C	Capacity: 29.00	L	CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1500.00	0.00	3.00	3.00	2800	0.75

Haul Time: **0.75** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	3.00	3.00	2949	0.66
				Return Time:	0.66 r	ninutes
			Total Scraper	team cycle time:	3.01	minutes
			Adjusted for	or job conditions:	959.60	LCY/Hour
			Selected Nur	mber of Scrapers:	2	Scraper(s)
	Adjuste	d single scrap	er team (unit) h	ourly production:	959.60	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	959.60	LCY/Hour
Optimal	Unadjusted unit prov Number of Scrapers pe	duction/hour: r push dozer:	1,156.15	LCY/Hour		

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	4.27	Hours
Unit cost:	\$1.339	/LCY	Total job cost:	\$5,480	

Page 1 of 2

Site: Dowe Flats Mine	1	Permit	Action:	TR-04 Bond Es	timate Per	mit/Job#:	M1993	041
PROJECT IDENT	TIFICATION							
Task #: 027	Stat	e: C	Colorado		Abbre	viation:	None	
Date: 4/21/20	20 Count	y: B	oulder		Fil	ename:	M041-0	27
User: <u>AME</u>	·		-					
Agency or c	rganization name:	DRMS	5					
HOURLY EQUIP	MENT_			COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>		
			Equipme	ent Description				
	-Scra	per:	Cat 637	G w/push-pull				
Suppor	-Do t Equipment Load A	ozer:	Cat D97	Г - 9SU				
Suppor	-Dump A	rea:	NA					
Road Mai	ntenance – Motor Gra	der:	CAT 16	δM				
	-Water Tr	uck:	Water 'I	Canker, 3,500 Gal				
Cost Breakdown:	Scraper Work	Геат		Support Equip	oment	Main	tenance I	Equipme
	Scraper	Doz	er	Load Area	Dump Area	Motor (Grader	Water
%Utilization-machine:	100		100	NA	NA		50	
Ownership cost/hour:	\$174.06	\$1	21.49	NA	NA		\$82.71	
Operating cost/hour:	\$190.35	\$1	05.84	NA	NA	:	\$35.04	
%Utilization-ripper:	NA		NA	NA	NA		50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA		\$4.44	
Ripper op. cost/hour:	NA	4	\$0.00	NA	NA		\$1.96	
Operator cost/hour:	\$45.58	\$	539.98	NA	NA		\$45.39	
Unit Subtotals:	\$409.98	\$2	1	NA	NA	\$	169.53	
Group Subtotals:	Work:	\$1.087	1	0 Support:	0 00		I Maint:	\$10
Group Subiotais:	work:	\$1,087	1.21	Support:	\$0.00		Maint:	\$19
Total work team cost	hour: <u>\$1,284.78</u>							
MATERIAL OUA	NTITIES							
Initial volume:	5 775		CCV	Swell fact	or: 1.215			
Loose volume:	7,017]	LCY	Swell lact	01. 1.213			
Sour	ce of estimated volur	ne:	Operator	bond estimate				
Source of	f estimated swell fact	or:	Cat Hand	lbook				
								-
HOURLY PRODU	JCTION							
				Scraper Bo	owl (volume) Bas	<u>is:</u>		
Material weight:	1,600 lbs/LCY			Struck	Volume: 24.00		LC	ĊΥ
Material description:	Top Soil			Heaped	Volume: 34.00		LC	CY V
Raieu ravioau.	or,000 poullus			Average	volume. 29.00			/1

1.00 Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
	0.020	0.020	
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	1000.00	0.00	3.00	3.00	2800	0.57

Haul Time: **0.57** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time		
		(%)	(%)	(%)		(min)		
1	1000.00	0.00	3.00	3.00	2949	0.49		
				Return Time:	0.49 1	ninutes		
			Total Scraper	team cycle time:	2.66	minutes		
		or job conditions:	1,085.86	LCY/Hour				
			Selected Nur	nber of Scrapers:	2	Scraper(s)		
	Adjusted	l single scrap	er team (unit) h	ourly production:	1,085.86	LCY/Hour		
	Adjusted m	ultiple scrape	er team (fleet) h	ourly production:	1,085.86	LCY/Hour		
Optimal	Unadjusted unit production/hour: <u>1,308.27</u> LCY/Hour Optimal Number of Scrapers per push dozer:							
JOB TI	ME AND COST							

Fleet size:	1	Team(s)	Total job time:	6.46	Hours
Unit cost:	\$1.183	/LCY	Total job cost:	\$8,302	

Page 1 of 2

Site: Dowe Flats Mine		Permit	Action:	TR-04 Bond Est	timate Peri	mit/Job#: <u>M199</u>	3041
PROJECT IDENT	TIFICATION						
Task #: 028	S	tate: <u>C</u>	<u>Colorado</u>		Abbrev	viation: <u>None</u>	028
User: AME		inty: <u>r</u>	Soulder		FII		028
Agency or o	organization name:	DRM	S				
	MENT			COSTS	· (6 h · · · · · 1 · · · · 1		
HOUKLY EQUIP				005151	nit dasis: <u>1 per d</u>	<u>ay</u>	
	-S	craper:	Equipme Cat 637	nt Description G w/push-pull			
	-	Dozer:	Cat D97	<u>с нуразн ран</u> Г - 9SU			
Suppor	rt Equipment -Load	d Area:	NA				
Road Mai	-Dump	o Area: Grader:	NA CAT 16	М			
Road Ma	-Water	Truck:	Water T	anker, 3,500 Gal.			
Cost Breakdown:	Scraper Wor	k Team		Support Equip	Dumm A man	Maintenance	Equipment Water Tr
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	water 11
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA	\$82.71	\$1
Operating cost/hour:	\$190.35	\$	105.84	NA	NA	\$35.04	\$1
%Utilization-ripper:	NA		NA	NA	NA	50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4.44	\$
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$1.96	9
Operator cost/hour:	\$45.58		\$39.98	NA	NA	\$45.39	9
Unit Subtotals:	\$409.98	\$2	267.31	NA	NA	\$169.53	\$2
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$1,08	7.27	Support:	\$0.00	Maint:	\$197.5
Total work team cost	/hour: \$1,284.78						
MATERIAL QUA	NTITIES						
Initial volume:	450		CCY	Swell fact	or: <u>1.215</u>		
Loose volume:	547		LCY				
Sour	rce of estimated vo	lume:	Operator	bond estimate			
Source o	of estimated swell f	actor:	Cat Hand	lbook			
HOURLY PRODU	UCTION						
				Scraper Bo	owl (volume) Bas	is:	
Material weight:	1,600 lbs/LCY			Struck	Volume: 24.00	L	CY
Material description:	Top Soil			Heaped	Volume: 34.00	L	CY
Rated Payload:	81,600 pounds			Average '	Volume: 29.00	L	CY
D 1 1 2 1	F4 00 T 077						A 1

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	2000.00	0.00	3.00	3.00	2800	0.93

Haul Time: **0.93** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2949	0.83
				Return Time:	0.83	minutes
			Total Scraper	team cycle time:	3.36	minutes
		859.64	LCY/Hour			
			Selected Nur	nber of Scrapers:	2	Scraper(s)
	Adjuste	l single scrap	er team (unit) h	ourly production:	859.64	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	859.64	LCY/Hour
Optimal	Unadjusted unit prov Number of Scrapers pe	duction/hour: r push dozer:	1,035.71	LCY/Hour		
JOB TI	ME AND COST					

Fleet size: 1 Team(s) Total job time: 0.64 Hours Unit cost: \$1.495 /LCY Total job cost: \$817

Site: Dowe Flats Mine	Per	mit Action:	TR-04 Bond Estim	ate Perm	nit/Job#: <u>M199</u>	93041
PROJECT IDENT	TIFICATION					
Task #: 029	State:	Colorado		Abbrev	iation: None	
Date:4/21/2020County:BoulderFilename:M041-029User:AME						-029
User: <u>AME</u>						
Agency or o	organization name: D	KMS				
HOURLY EQUIP	MENT		COSTShift	basis: <u>1 per da</u>	<u>ly</u>	
		Equipme	ent Description			
	-Scrape	r: Cat 637	7G w/push-pull			
Suppo	-Doze- rt Equipment -Load Are	a: NA	T - 9SU			
	-Dump Are	a: NA				
Road Mai	intenance – Motor Grade	r: CAT 10	6M			
	-water Truck	k: Water	Tanker, 3,500 Gal.			
Cost Breakdown:	Scraper Work Tea	am	Support Equipme	ent	Maintenance	e Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$13
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA	NA	NA	NA	50	
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	\$0
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$0
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	\$27
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work: \$1	,087.27	Support:	\$0.00	Maint:	\$197.51
Total work team cost <u>MATERIAL QUA</u> Initial volume:	/hour: \$1,284.78	CCY	Swell factor:	1 215		
Loose volume:	10,040	_ LCY	Swell lactor.	1.215		
Source of	rce of estimated volume of estimated swell factor	Cat Hand	r bond estimate dbook			
HOURLY PRODU	UCTION					
			Scraper Bowl	(volume) Basis	<u>s:</u>	
Material weight:	1,600 lbs/LCY		Struck Vol	lume: 24.00	I	.CY
Material description:	Top Soil		Heaped Vol	lume: 34.00	I	.CY
Rated Payload:	81,600 pounds		Average Vol	lume: 29.00	Į	.CY
Payload Capacity:	51.00 LCY		Adjusted Capa	acity: 29.00	I	LΥ

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1500.00	0.00	3.00	3.00	2800	0.75

Haul Time: **0.75** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	3.00	3.00	2949	0.66
				Return Time:	0.66	ninutes
		3.01	minutes			
	Adjusted for job conditions:					LCY/Hour
			Selected Nur	mber of Scrapers:	2	Scraper(s)
	Adjusted	d single scrap	er team (unit) h	ourly production:	959.60	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:					959.60	LCY/Hour
Optimal	Unadjusted unit prod Number of Scrapers pe	duction/hour: r push dozer:	1,156.15	LCY/Hour		

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	10.46	Hours
Unit cost:	\$1.339	_ /LCY	Total job cost:	\$13,442	

Site: Dowe Flats Mine		Permit Action:	TR-04 Bond Es	timate Peri	mit/Job#: <u>M199</u>	3041
PROJECT IDENT	TIFICATION					
Task #: 030	S	tate: Colorado	1	Abbrev	viation: None	
Date:4/21/2020County:BoulderFilename:M041-030User:AME						030
	rganization name	DPMS				
Agency of t	rgamzation name.	DRMD				
HOURLY EQUIP	<u>MENT</u>		COSTS	hift basis: <u>1 per d</u>	<u>ay</u>	
		Equipm	ent Description			
	-50	Dozer: Cat 63	/G w/push-pull /T - 9SU			
Suppor	rt Equipment -Load	l Area: NA				
Road Mai	-Dump Intenance –Motor C	Grader: CAT 1	6M			
	-Water	Truck: Water	Tanker, 3,500 Gal			
Cost Breakdown:	Scraper Wor	k Team	Support Equi	oment	Maintenance	Equipme
<u>e opt Drumdown</u>	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	
%Utilization-ripper:	NA	NA	NA	NA	50	
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	
Number of Units:	2	¢1.097.07	0	0	1 Mainte	¢10
Group Subtotals:	WORK:	\$1,087.27	Support:	\$0.00	Maint:	\$197
MATERIAL QUA	nour: <u>\$1,284.78</u>		a			
Initial volume: Loose volume:	<u> </u>	LCY	Swell fact	tor: <u>1.215</u>		
Sour	ce of estimated vo	lume: Operato	r bond estimate			
Source of	of estimated swell fa	actor: Cat Han	dbook			
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Bas	is:	
Material weight:	1,600 lbs/LCY		Struck	Volume: <u>24.00</u>	L	CY
Material description:	Top Soil		Heaped	Volume: 34.00	L	CY
Kaled Payload:	or,000 pounds		Average	volume: 29.00		UI I

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	1000.00	0.00	3.00	3.00	2800	0.57

Haul Time: **0.57** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2949	0.49
				Return Time:	0.49 r	ninutes
			Total Scraper	team cycle time:	2.66	minutes
		1,085.86	LCY/Hour			
			Selected Nur	nber of Scrapers:	2	Scraper(s)
	Adjusted	l single scrap	er team (unit) he	ourly production:	1,085.86	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) he	ourly production:	1,085.86	LCY/Hour
Optimal	Unadjusted unit prod Number of Scrapers pe	luction/hour: r push dozer:	1,308.27	LCY/Hour		_
JOB TI	ME AND COST					

Fleet size: 1 Team(s)

Total job time: **8.18** Hours

Unit cost: _____\$1.183 /LCY

Total job cost: **\$10,513**

Site: Dowe Flats Mine		Permit Action:	TR-04 Bond Est	imate Peri	mit/Job#: <u>M199</u>	3041
PROJECT IDENT	TIFICATION					
Task #: 031	Sta	ate: Colorado		Abbrev	viation: None	
Date: $\frac{4/21/20}{4/21/20}$	20 Cour	ity: Boulder		Fil	ename: M041-	031
User: <u>AME</u>						
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	MENT		COSTSh	ift basis: <u>1 per d</u>	ay	
		Equipme	nt Description			
	-Sci	raper: Cat 637	G w/push-pull			
Suppor	-L rt Fauinment -L oad	Area: NA	r - 9SU			
Suppor	-Dump	Area: NA				
Road Mai	ntenance – Motor G	rader: CAT 16	М			
	-Water 1	ruck: Water 1	anker, 3,500 Gal.			
Cost Breakdown:	Scraper Work	Team	Support Equip	ment	Maintenance	Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	50	50
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$13.5
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$14.4
%Utilization-ripper:	NA	NA	NA	NA	50	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$0.0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	\$0.0
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$0.0
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	\$27.9
Number of Units:	2	1	0	0	1	* • • • * • • •
Group Subtotals:	Work:	\$1,087.27	Support:	\$0.00	Maint:	\$197.51
Total work team cost	/hour: \$1,284.78					
MATERIAL OIL	NITTER					
MATERIAL QUA	<u>NIIIES</u>					
Initial volume:	3,764	CCY	Swell facto	or: <u>1.215</u>		
Loose volume.	4,575					
Source o	ce of estimated volu	ime: <u>Operator</u>	bond estimate			
Source o			IUUUK			
HOURLY PRODU	JCTION					
			Scraper Bo	wl (volume) Bas	is:	
Material weight.	1 600 lbs/I CV		Struck V	/olume: 24.00	 T	CY
Material description:	Top Soil		Heaped V	/olume: 34.00	L	CY
Rated Payload:	81,600 pounds		Average V	/olume: 29.00		CY
Payload Canacity:	51.00 LCY		Adjusted C	anacity: 29.00	L	CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	0.39

Haul Time: **0.39** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2949	0.32
				Return Time:	0.32	ninutes
			Total Scrape	r team cycle time:	2.31	minutes
			Adjusted f	for job conditions:	1,250.39	LCY/Hour
		2	Scraper(s)			
	Adjuste	d single scrap	per team (unit) h	ourly production:	1,250.39	LCY/Hour
	Adjusted n	nultiple scrap	er team (fleet) h	ourly production:	1,250.39	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe	duction/hour er push dozer	1,506.49	LCY/Hour		
<u>JOB TI</u>	ME AND COST					
Fleet	t size: 1	Team(s)	Т	otal job time:	3.66	Hours

Unit cost: _____\$1.028 /LCY

Total job cost: ______\$4,699_____

Site: Dowe Flats Mine		Permit	Action:	TR-04 Bond Es	timate Per	mit/Job#:	M1993	8041
PROJECT IDEN	TIFICATION							
Task #: 032	St	tate: C	olorado		Abbre	viation:	None	
Date: 4/21/20	020 Cou	nty: B	oulder		Fil	ename:	M041-0)32
User: AME								
Agency or o	organization name:	DRMS	5					
				COST				
HOURLY EQUIP	<u>MENT</u>			COSTSI	hift basis: <u>I per d</u>	<u>ay</u>		
			Equipme	nt Description				
	-Sc	craper:	Cat 637	G w/push-pull				
Suppo	rt Equipment -Load	Area:	NA	1 - 950				
~~pp*	-Dump	Area:	NA					
Road Ma	intenance – Motor G	arader:	CAT 16	M				
	-Water	Truck:	Water T	anker, 3,500 Gal	•			
Cost Breakdown:	Scraper Worl	k Team		Support Equir	oment	Mair	itenance]	Equipme
	Scraper	Doz	er	Load Area	Dump Area	Motor	Grader	Water
%Utilization-machine:	100		100	NA	NA		50	
Ownership cost/hour:	\$174.06	\$1	21.49	NA	NA		\$82.71	
Operating cost/hour:	\$190.35	\$1	05.84	NA	NA		\$35.04	
%Utilization-ripper:	NA		NA	NA	NA		50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA		\$4.44	
Ripper op. cost/hour:	NA		\$0.00	NA	NA		\$1.96	
Operator cost/hour:	\$45.58	\$	539.98	NA	NA		\$45.39	
Unit Subtotals:	\$409.98	\$2	267.31	NA	NA	\$	169.53	
Number of Units:	2		1	0	0		1	
Group Subtotals:	Work:	\$1,087	7.27	Support:	\$0.00		Maint:	\$19
Total work team cost	/hour: <u>\$1,284.78</u>							
Initial volume: Loose volume:	5,647 6,861		CCY LCY	Swell fact	tor: <u>1.215</u>			
Sou	rce of estimated vol	ume:	Operator	bond estimate				
Source of	of estimated swell fa	actor:	Cat Hand	lbook				
HOURLY PROD	UCTION							
				Scraper Bo	owl (volume) Bas	<u>is:</u>		
Material weight:	1,600 lbs/LCY			Struck	Volume: 24.00		L	CY
Material description:	Top Soil			Heaped	Volume: 34.00			CY
Rated Payload:	81,600 pounds			Average	Volume: 29.00		LC	CY
Payload Capacity:	51.00 LCY			Adjusted C	Capacity: 29.00		LC	CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	0.39

Haul Time: **0.39** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time
		(%)	(%)	(%)		(min)
1	500.00	0.00	3.00	3.00	2949	0.32
				Return Time:	0.32 r	ninutes
			Total Scraper	team cycle time:	2.31	minutes
			Adjusted for	or job conditions:	1,250.39	LCY/Hour
		2	Scraper(s)			
	Adjusted	d single scrap	er team (unit) he	ourly production:	1,250.39	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) he	ourly production:	1,250.39	LCY/Hour
Optimal	Unadjusted unit prod Number of Scrapers pe					
JOB TI	ME AND COST					
Fleet	size: 1	Team(s)	То	tal job time:	5.49	Hours

Unit cost: \$1.028 /LCY

Total job cost: ______\$7,050_____

Page 1 of 2

Site: Dowe Flats Mine		Permit	Action:	TR-04 Bond Esti	mate Perr	nit/Job#: <u>M199</u>	3041
PROJECT IDENT	TIFICATION						
Task #:033	St	ate: _ (Colorado		Abbrev	viation: None	
Date: $\frac{4/21/20}{\text{ME}}$	20 Cour	nty: <u> </u>	Boulder		Fil	ename: M041-	033
Agency or o	rganization name:	DRM	S				
	MENT			COSTSH	ft basis: 1 par d	0.V.	
HOUKLI EQUIF.			г :	COSTSII	it basis: <u>i per u</u>	<u>ay</u>	
	-Sc	raper:	Cat 637	G w/push-pull			
	- <u>I</u>	Dozer:	Cat D9	T - 9SU			
Suppor	t Equipment -Load Dump-	Area: Area:	NA NA				
Road Mai	ntenance –Motor G	rader:	CAT 1	5M			
	-Water	l'ruck:	Water	Fanker, 3,500 Gal.			
Cost Breakdown:	Scraper Work	c Team		Support Equip	ment	Maintenance	Equipment
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$	121.49	NA	NA	\$82.71	\$13
Operating cost/hour:	\$190.35	\$	105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA		NA	NA	NA	50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4.44	\$0
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$1.96	\$
Unit Subtotele	\$45.58	¢	\$39.98 267.21	NA NA	NA NA	\$45.39 \$160.53)ر دی
Number of Units:	\$409.98	Ф.	207.51			\$109.55	\$Z
Group Subtotals:	Work:	\$1.08	7.27	Support:	\$0.00	Maint:	\$197.5
Total work teem cost	hour \$1 384 78	, ,					
	110u1. <u>\$1,204.70</u>						
MATERIAL QUA	NTITIES						
Initial volume:	9,437		CCY	Swell facto	r: 1.215		
Loose volume:	11,466		LCY				
Sour	ce of estimated vol	ume:	Operator	bond estimate			
Source o	f estimated swell fa	ctor:	Cat Han	dbook			
HOURLY PRODI	ICTION						
HOURDINGE				Scraper Boy	vl (volume) Basi		
Matarial mainte	1 (00 lbs/I CV			Struch V	alamaa 24.00	<u>13.</u> 1	CV
Material description:	Top Soil			Struck V Heaned V	olume: 24.00 olume: 34.00	L L	CY CY
Rated Payload:	81,600 pounds			Average V	olume: 29.00	L	CY
Payload Capacity:	51.00 LCY			Adjusted Ca	pacity: 29.00	L	CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	0.39

Haul Time: **0.39** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2949	0.32
				Return Time:	0.32	ninutes
			Total Scrape	r team cycle time:	2.31	minutes
			Adjusted f	for job conditions:	1,250.39	LCY/Hour
		2	Scraper(s)			
	Adjuste	d single scra	per team (unit) h	nourly production:	1,250.39	LCY/Hour
	Adjusted n	nultiple scrap	per team (fleet) h	nourly production:	1,250.39	LCY/Hour
Optima	Unadjusted unit pro l Number of Scrapers pe					
JOB TI	ME AND COST					
Fleet	size: 1	Team(s)	Т	otal job time:	9.17	Hours

Unit cost: \$1.028 /LCY

Total job cost: ______\$11,781_____

Site: Dowe Flats Mine	2	Permit Action:	TR-04 Bond Es	timate Peri	mit/Job#: <u>M199</u>	3041
PROJECT IDEN	TIFICATION					
Task #: 034 Date: $4/21/2$	Sta 020 Cour	ate: Colorado nty: Boulder		Abbrev	viation: None ename: M041-	034
Agency or	organization name:	DRMS				
HOURLY EOUI	PMENT		COSTS	hift basis: 1 per d	av	
<u> </u>		Fauinme	ent Description	<u> </u>	<u></u> ,	
	-Sc	raper: Cat 637	G w/push-pull			
Suppo	L- ort Equipment -Load	Area: NA	r - 9SU			
D1M	-Dump	Area: NA	24			
Koad Ma	aintenance – Motor G	rader: CAT Te	fanker, 3,500 Gal			
	a					
<u>Cost Breakdown</u> :	Scraper Work	Dozer	Load Area	Dump Area	Maintenance Motor Grader	Water
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	
%Utilization-ripper:	NA	NA	NA	NA	50	_
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$1,087.27	Support:	\$0.00	Maint:	\$197
MATERIAL QU. Initial volume: Loose volume:	ANTITIES <u>16,054</u> <u>19,506</u>	CCY LCY	Swell fact	or: <u>1.215</u>		
Sou	urce of estimated volu	ime: Operator	bond estimate			
Source	of estimated swell fa	ctor: Cat Hand	lbook			
HOURLY PROD	UCTION					
			Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	L	CY
	Tan Call		Hannel	V_{a} 24.00	т	CV
Material description:	1 op Soll		Heaped	Volume: 34.00	L	

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	1.10

Haul Time: **1.10** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	2500.00	0.00	3.00	3.00	2949	0.99
		0.99 r	ninutes			
			Total Scrape	r team cycle time:	3.69	minutes
			Adjusted f	or job conditions:	782.76	LCY/Hour
		2	Scraper(s)			
	Adjuste	782.76	LCY/Hour			
	Adjusted n	nultiple scrap	ber team (fleet) h	ourly production:	782.76	LCY/Hour
Optima	Unadjusted unit pro l Number of Scrapers pe					
JOB TI	ME AND COST					
Fleet	size: 1	Team(s)	T	otal job time:	24.92	Hours

Unit cost: _____\$1.641 /LCY

Total job cost: ______\$32,015_____

Site: Dowe Flat	s Mine		Permit	Action:	TR-04 Bond Esti	mate Pern	nit/Job#:	M1993	041
PROJECT	IDENT	IFICATION							
Task #:	035	S	State: C	Colorado		Abbrev	viation:	None	
Date:	4/21/202	20 Cor	unty: B	Boulder		File	ename:	M041-0	35
User:	AME						_		
Age	ency or or	ganization name:	DRM	S					
	FOLIDA	TENIT			COSTSI	fthesis, 1 and			
<u>HUUKLY</u>	EQUIPN				COSTSII	iit dasis: <u>1 per da</u>	<u>ay</u>		
. <u> </u>		C		Equipme	ent Description				
		د- -	-Dozer:	Cat 037	G w/pusn-pull T - 9SU				
	Support	Equipment -Loa	d Area:	NA					
	1363	-Dum	p Area:	NA	21				
K	load Main	itenance –Motor (-Water	Grader:	CAT 16 Water T	oM Fanker 3 500 Gal				
		, ator	Truck.	i ator 1					
Cost Breakd	own:	Scraper Wor	rk Team		Support Equip	nent	Main	tenance E	Equipment
		Scraper	Doz	er	Load Area	Dump Area	Motor (Grader	Water T
%Utilization-ma	chine:	100		100	NA	NA		50	
Ownership cost	t/hour:	\$174.06	\$1	121.49	NA	NA		\$82.71	\$1
Operating cost	t/hour:	\$190.35	\$1	105.84	NA	NA		\$35.04	\$1
%Utilization-	ripper:	NA		NA	NA	NA		50	
Ripper own. cost	t/hour:	NA		\$0.00	NA	NA		\$4.44	5
Ripper op. cost	t/hour:	NA		\$0.00	NA	NA		\$1.96	5
Operator cost	t/hour:	\$45.58	S	\$39.98	NA	NA		\$45.39	5
Unit Sub	totals:	\$409.98	\$2	267.31	NA	NA	\$	169.53	\$2
Number of	Units:	2		1	0	0		1	
Group Sub	ototals:	Work:	\$1,08	7.27	Support:	\$0.00		Maint:	\$197.5
Total work te	am cost/h	nour: <u>\$1,284.78</u>							
MATERIA	L QUA	NTITIES							
Initial v	olume:	2,044		CCY	Swell facto	r: <u>1.215</u>			
Loose v	olume:	2,483		LCY					
	Sourc	e of estimated vo	olume:	Operator	bond estimate				
	Source of	estimated swell f	factor:	Cat Hand	lbook				
HOURLY	PRODU	<u>CTION</u>							
					Scraper Boy	wl (volume) Basi	<u>s:</u>		
Material v	weight:	1,600 lbs/LCY			Struck V	olume: 24.00		LC	Y
Material waterial Material descri	weight:	1,600 lbs/LCY Top Soil			Struck V Heaped V	Yolume: 24.00 Yolume: 34.00		LC	Y Y

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	5000.00	0.00	3.00	3.00	2800	2.00

Haul Time: **2.00** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade	Roll. Res	Total Res	Velocity (fpm)	Travel Time	
		(%)	(%)	(%)		(min)	
1	5000.00	0.00	3.00	3.00	2949	1.84	
				Return Time:	1.84	ninutes	
		team cycle time:	5.44	minutes			
		or job conditions:	530.96	LCY/Hour			
		2	Scraper(s)				
	Adjusted	530.96	LCY/Hour				
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	530.96	LCY/Hour	
Unadjusted unit production/hour: <u>639.71</u> LCY/Hour Optimal Number of Scrapers per push dozer:							
JOB TI	ME AND COST						
Fleet	size: 1	Team(s)	Тс	otal job time:	4.68	Hours	

Unit cost: \$2.420 /LCY

Total job cost: ______\$6,009

Site: Dowe Flats Min	ne	Permit Action:	TR-04 Bond Est	timate Peri	mit/Job#: M199	93041
PROJECT IDE	NTIFICATION					
Task #: 036	S	tate: Colorado		Abbrev	viation: None	
Date: $\frac{4}{21}$	/ <u>2020</u> Cou	unty: Boulder		Fil	ename: M041-	-036
User: <u>Alvi</u>	<u> </u>	DDMC				
Agency	or organization name.	DKW5				
HOURLY EQU	IPMENT_		COSTSI	nift basis: <u>1 per d</u>	<u>ay</u>	
		Equipme	ent Description			
	-S -	Dozer: Cat 63	/G w/push-pull T - 9SU			
Sup	port Equipment -Load	d Area: NA				
Deed	-Dumj	p Area: NA				
Road	-Water	Truck: Water	Tanker, 3,500 Gal.			
			, ,			
Cost Breakdown	Scraper Woi	k Team	Support Equip	oment	Maintenance	e Equipmen
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	water
%Utilization-machine	: 100	100	NA	NA	50	
Ownership cost/hour	: \$174.06	\$121.49	NA	NA	\$82.71	5
Operating cost/hour	: \$190.35	\$105.84	NA	NA	\$35.04	9
%Utilization-ripper	: NA	NA	NA	NA	50	
Ripper own. cost/hour	: NA	\$0.00	NA	NA	\$4.44	
Ripper op. cost/hour	• • • • • • • • • • • • • • • • • • •	\$0.00	NA	NA	\$1.96	
Upit Subtotal	· \$40.08	\$39.98	NA NA		\$43.39 \$160.53	4
Number of Units	· \$409.98	\$207.51			\$109.33	۲ ا
Group Subtotals	· <u>2</u> · Work:	\$1 087 27	Support:	\$0.00	Maint [.]	\$197
Total work team c	ost/hour: <u>\$1,284.78</u>	\$1,007.27	Support	<i>\</i>		ψıγ
MATERIAL Q	UANTITIES					
Initial volum	e: <u>16,433</u>	ССҮ	Swell fact	or: <u>1.215</u>		
Loose volum	e: 19,966	LCY				
S	ource of estimated vo	lume: Operator	r bond estimate			
Source	e of estimated swell f	actor: Cat Han	dbook			
HOURLY PRO	DUCTION					
			Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weigh	t: 1,600 lbs/LCY		Struck	Volume: 24.00	I	.CY
Material description	n: Top Soil		Heaped Y	Volume: 34.00	I	.CY
- · - ·	1 04 622					017

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Maneuver and Spread Time

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	1.10

Haul Time: **1.10** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	0.00	3.00	3.00	2949	0.99
				Return Time:	0.99 1	minutes
			Total Scrape	er team cycle time:	3.69	minutes
		782.76	LCY/Hour			
		2	Scraper(s)			
	Adjuste	782.76	LCY/Hour			
	Adjusted n	nultiple scrap	per team (fleet)	nourly production:	782.76	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe	duction/hour er push dozer	:: <u>943.09</u> ::	LCY/Hour		
<u>JOB TI</u>	ME AND COST					
Fleet	t size: 1	Team(s)	Т	otal job time:	25.51	Hours

Unit cost: _____\$1.641 /LCY

Total job cost: ______\$32,771_____

Page 1 of 2

Site: Dowe Flats Mine		Permit Action:	TR-04 Bond Estir	mate Perm	it/Job#: <u>M199</u>	93041
PROJECT IDENT	IFICATION					
Task #: 037	Sta	ate: <u>Colorado</u>		Abbrev	iation: None	007
Date: $\frac{4/21/20}{4/21/20}$	20 Cour	ity: Boulder		File	name: M041	-037
	·					
Agency or o	rganization name:	DRMS				
HOURLY EQUIP	MENT		COSTShi	ft basis: <u>1 per da</u>	Y	
		Equipme	nt Description			
	-Sc:	raper: Cat 637	G w/push-pull			
Suppor	-L rt Equipment -L oad	Dozer: Cat D91	r - 9SU			
Suppor	-Dump	Area: NA				
Road Mai	intenance – Motor G	rader: CAT 16	М			
	-Water T	Truck: Water T	anker, 3,500 Gal.			
Cost Breakdown•	Scraper Work	Team	Support Fauipp	nent	Maintenance	Fauinment
<u>Cost Dicardown</u> .	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water T
%Utilization-machine:	100	100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$1
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$35.04	\$1
%Utilization-ripper:	NA	NA	NA	NA	50	
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$4.44	\$
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$1.96	9
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$
Unit Subtotals:	\$409.98	\$267.31	NA	NA	\$169.53	\$2
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$1,087.27	Support:	\$0.00	Maint:	\$197.5
Total work team cost/ MATERIAL QUA	hour: <u>\$1,284.78</u>					
Initial volume:	17,466	CCY	Swell factor	r: 1.215		
Loose volume:	21,221	LCY				
Sour	rce of estimated volu	ime: Operator	bond estimate			
Carriera	of estimated swell far	ctor: Cat Hand	lbook			
Source c						
HOURLY PRODU	JCTION					
HOURLY PRODU	<u>JCTION</u>		Scraper Bow	vl (volume) Basis	<u>s:</u>	
HOURLY PRODU	J <u>CTION</u> 1,600 lbs/LCY		<u>Scraper Bow</u> Struck Vo	vl (volume) Basis olume: 24.00	<u>s:</u> I	.CY
Material weight: Material description:	JCTION 1,600 lbs/LCY Top Soil		<u>Scraper Bow</u> Struck Vo Heaped Vo	vl (volume) Basis olume: <u>24.00</u> olume: 34.00	<u></u> I	.CY .CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	1.10

Haul Time: **1.10** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	0.00	3.00	3.00	2949	0.99
				Return Time:	0.99	minutes
			Total Scrape	r team cycle time:	3.69	minutes
			Adjusted f	for job conditions:	782.76	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjuste	d single scra	per team (unit) h	ourly production:	782.76	LCY/Hour
	Adjusted n	nultiple scrap	ber team (fleet) h	ourly production:	782.76	LCY/Hour
Optima	Unadjusted unit pro l Number of Scrapers pe	duction/hour er push dozer	943.09	LCY/Hour		
JOB TI	ME AND COST					
Fleet	size:1	Team(s)	Т	otal job time:	27.11	Hours

Unit cost: _____\$1.641 /LCY

Total job cost: ______\$34,831_____

Page 1 of 2

Site: Dowe Flats Mine	e	Permi	t Action:	TR-04 Bond Es	timate Per	mit/Job#: <u>M19</u>	93041
PROJECT IDEN	TIFICATION						
Task #: 038	S	State:	Colorado		Abbre	viation: <u>None</u>	
$\begin{array}{c} \text{Date:} \underline{4/21/2} \\ \text{User:} \text{AME} \end{array}$	<u>2020</u> Cor	unty:	Boulder		Fil	ename: M041	-038
Agency or	organization name:	DRM	IS				
HOURLY EOUI	PMENT			COSTS	hift basis: 1 per d	av	
			Fauinme	ent Description			
	-S	craper:	Cat 637	G w/push-pull			
Supr	ort Fauinment -Loa	-Dozer:	Cat D97	Γ - 9SU			
	-Dum	p Area:	NA				
Road M	aintenance – Motor	Grader:	CAT 16	5M			
	-Water	Truck:	water I	anker, 3,500 Gal	•		
Cost Breakdown:	Scraper Wor	rk Team		Support Equi	pment	Maintenance	e Equipment
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine:	100		100	NA	NA	50	
Ownership cost/hour:	\$174.06	\$	5121.49	NA	NA	\$82.71	\$13
Operating cost/hour:	\$190.35	\$	5105.84	NA	NA	\$35.04	\$14
%Utilization-ripper:	NA		NA	NA	NA	50	
Ripper own. cost/hour:	NA		\$0.00	NA	NA	\$4.44	\$0
Ripper op. cost/hour:	NA		\$0.00	NA	NA	\$1.96	\$0
Operator cost/hour:	\$45.58		\$39.98	NA	NA	\$45.39	\$0
Unit Subtotals:	\$409.98	\$	267.31	NA	NA	\$169.53	\$27
Number of Units:	2 Work:	¢1 ∩9	1	0 Support:	0	l Moint:	\$107.51
Group Subtotais.	WOIK.	\$1,00	57.27	Support.	\$0.00	Iviaiiit.	\$197.31
Total work team co	st/hour: <u>\$1,284.78</u>						
MATERIAL OU	ANTITIES						
Initial volume	: 216		CCY	Swell fact	tor: 1.215		
Loose volume	: 262		LCY		· · · · · · · · · · · · · · · · · · ·		
So	urce of estimated vo	olume:	Operator	bond estimate			
Source	of estimated swell f	factor:	Cat Hand	lbook			
HOURLY PROI	DUCTION						
<u>moondi i noi</u>				Scraper B	owl (volume) Pos	ie.	
				Scraper Bo	Value 2100	<u>15.</u>	CV
Material weight	$\frac{1,600 \text{ lbs/LCY}}{\text{Top Soil}}$			Struck	Volume: 24.00 Volume: 34.00	ן ו	
Rated Payload	81,600 pounds			Average	Volume: 29.00	I	LCY
	51.00 L CV			Average Volume: 29.00 LCY			

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5350 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	0.00	3.00	3.00	2800	1.10

Haul Time: **1.10** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	0.00	3.00	3.00	2949	0.99
				Return Time:	0.99 r	ninutes
			Total Scrape	r team cycle time:	3.69	minutes
			Adjusted f	for job conditions:	782.76	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjuste	d single scra	per team (unit) h	ourly production:	782.76	LCY/Hour
	Adjusted n	nultiple scrap	ber team (fleet) h	ourly production:	782.76	LCY/Hour
Optima	Unadjusted unit pro l Number of Scrapers pe	duction/hour er push dozer	943.09 	LCY/Hour		
JOB TI	ME AND COST					
Fleet	size:1	Team(s)	Т	otal job time:	0.34	Hours

Unit cost: \$1.641 /LCY

Total job cost: \$431

REVEGETATION WORK

Task description:		Revegetate Hi-Cal/2nd Ridge pit (107.3 ac)					
Site: Dowe Flats Mine		Permit Action: TR-04 Bond Estimate		Permit/Job#	: <u>M1993041</u>		
PROJECT	<u>IDENTIFIC</u>	ATION					
Task #:	039	State:	Colorado		Abbreviation:	None	
Date:	Rev 5/5/2020	0 County:	Boulder		Filename:	M041-039	
User:	AME				_		
User:	AME ency or organiz	zation name:	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	107.3	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$141,009.37**

Reseeding Job Cost:	\$5,230.12
Total Job Cost:	\$146,239
Job Hours:	107.30

REVEGETATION WORK

Task descri	ption:	Revegetate 3rd Ridge pit minus wetland (25 ac)				
Site: Dowe Flats Mine		Pe	ermit Action:	TR-04 Bond Estimate	Permit/Job#	: <u>M1993041</u>
PROJECT	DENTIFIC	ATION	Colorado		Abbraviation	None
Date: User:	Rev 5/5/2020 AME	County:	Boulder		Filename:	M041-040
Ag	ency or organiz	zation name: D	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	25	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$32,854.00**

Reseeding Job Cost:	\$1,218.58						
Total Job Cost:	\$34,073						
Job Hours:	25.00						
Task description: Reve		Revegetate 4th	Ridge pit (2.3	3 ac)			
-------------------------------	---------	----------------	----------------	---------------------	-------------	--------------------	----------
Site: Dowe Flats Mine		Pe	ermit Action:	TR-04 Bond Estimate	Permit/Job#	t: <u>M1993041</u>	
<u> PF</u>	ROJECT	IDENTIFIC	ATION				
	Task #:	041	State:	Colorado		Abbreviation:	None
	Date:	Rev 5/5/2020	0 County:	Boulder		Filename:	M041-041
	Lagen	ΔME				_	

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	2.3	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$3,022.57**

Reseeding Job Cost:	\$112.11
Total Job Cost:	\$3,135
Job Hours:	2.30

Task description:	Revegetate wetl	and area (20	ac)		
te: Dowe Flats Mine	Pe	ermit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
PROJECT IDENTIF	CATION States	Colorado		Abbuorristion	None
$\begin{array}{c} \text{Task #:} & 042\\ \text{Date:} & \text{Rev } 5/5/2\\ \text{User:} & \text{AME} \end{array}$	20 County:	Boulder		Filename:	M041-042

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fortilizer Application Cost/Acro	* 0.00
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

Description	Cost /Acre
Subsoiling, light {(DMG}	\$175.31
Total Tilling Cost/Acre	\$175.31

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Bulrush	4.00	39.49	\$162.00
Common Rush	4.00	672.68	\$672.68
Milkweed, Swamp	0.50	0.77	\$149.60
Totals Seed Mix	8.50	712.94	\$984.28

Application

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

Total Seed Application Cost/Acre\$267.22

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
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
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

JOB TIME AND COST

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	20 10% SEEDING	Cost /Acre: Cost /Acre*:	\$1,426.81 \$1,251.50
Initial Job Cost: Reseeding Job Cost: Total Job Cost: Job Hours:	\$28,536.20 \$2,503.00 \$31,039 20.00			

Task descrip	otion:	Revegetate crus	sher area (47.	.4 ac)		
Site: Dowe Fla	ats Mine	Pe	ermit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
PROJECT	IDENTIFIC	ATION State:	Colorado		A bbreviation:	None
Date:	Rev 5/5/2020	0 County:	Boulder		Filename:	M041-043

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	47.4	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$62,291.18**

Reseeding Job Cost:	\$2,310.42
Total Job Cost:	\$64,602
Job Hours:	47.40

Task description:Revegetate Mt. George stockpile area (22.9 ac)						
Site: Dowe Fla	nts Mine	Pe	rmit Action:	TR-04 Bond Estimate	Permit/Job#	t: <u>M1993041</u>
PROJECT	IDENTIFIC	ATION State:	Colorado		Abbraviation	None
Date: User:	Rev 5/5/2020 AME	0 County:	Boulder		Filename:	M041-044
User: Age	AME ency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	22.9	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$30,094.26**

Reseeding Job Cost:	\$1,116.21
Total Job Cost:	\$31,210
Job Hours:	22.90

Task descri	Task description:Revegetate topsoil stockpile areas (27.7 ac)					
Site: Dowe Fl	ats Mine	Per	mit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
PROJECT	<u>DENTIFIC</u>	ATION	Calanda			Neg
Task #: Date:	045 Rev 5/5/2020 AME	0 County:	Boulder		Abbreviation: Filename:	M041-045

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	27.7	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$36,402.23**

Reseeding Job Cost:	\$1,350.18
Total Job Cost:	\$37,752
Job Hours:	27.70

		Task description: Revegetate office/maint/equip/fuel areas (3.8 ac)						
Site: Do	owe Flat	s Mine		Per	mit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
<u>PROJ</u>	<u>JECT I</u>	DENTIFIC.	<u>ATION</u>					
Ta	`ask #:	046		State:	Colorado		Abbreviation:	None
	Date:	Rev 5/5/2020	0 C	County:	Boulder		Filename:	M041-046
	User:	AME					-	

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/A	scre \$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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	3.8	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$4,993.81**

Reseeding Job Cost:	\$185.22
Total Job Cost:	\$5,179
Job Hours:	3.80

Task description: Revegetate conveyor corridor (4.6 ac)							
Site:	Dowe Fla	ts Mine	Pe	rmit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
<u>PI</u>	ROJECT	IDENTIFIC	ATION				
	Task #:	047	State:	Colorado		Abbreviation:	None
	Date:	Rev 5/5/2020	0 County:	Boulder		Filename:	M041-047
	User:	AME				_	

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	4.6	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: \$6,045.14

Reseeding Job Cost:	\$224.22
Total Job Cost:	\$6,269
Job Hours:	4.60

Task description: Revegetate roads and other disturbances (63.4 ac)						
Site: Dowe Fla	ats Mine	Pe	rmit Action:	TR-04 Bond Estimate	Permit/Job	#: <u>M1993041</u>
PROJECT	IDENTIFIC	ATION State:	Colorado		Abbraviation	Nona
Date:	Rev 5/5/2020 AME	0 County:	Boulder		Filename:	M041-048

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	67.00	pound	\$0.43	\$28.48
			Total Fertilizer Materials Cost/Acre	\$28.48

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$101.93
Total Tilling Cost/Acre	\$101.93

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.20	7.17	\$25.80
Arizona Fescue - Redondo	0.60	6.89	\$5.55
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Bluebunch Wheatgrass - Secar	1.90	6.11	\$20.66
Blue Grama - Native	0.20	3.26	\$2.75
Canby Bluegrass - Canbar	0.20	4.25	\$2.05
Buffalograss - Native/Plains	2.90	2.80	\$34.99
Prairie Clover, Purple - Kaneb	0.11	0.75	\$6.22
Aster, Smooth	0.06	1.04	\$8.79
Little Bluestem - Pastura	1.00	5.97	\$13.48
Alfalfa - Ladak (inoculated)	0.16	0.77	\$0.41

Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Coneflower, Prairie	0.03	0.82	\$0.99
Streambank Wheatgrass - Sodar	0.60	1.96	\$3.42
Thickspike Wheatgrass - Critana	0.40	1.41	\$2.75
Coreopsis, Plains	0.03	0.95	\$4.30
Western Wheatgrass - Arriba	1.50	3.79	\$9.75
Needle and Thread	1.40	3.70	\$58.59
Needlegrass, Green - Lodorm	0.90	3.74	\$10.60
Prairie Junegrass	0.03	1.59	\$0.78
Flax, Lewis Blue	0.11	0.73	\$1.82
Globemallow, Scarlet (or copper)	0.06	0.68	\$8.13
Penstemon, Palmer	0.05	1.11	\$2.73
Yarrow, Western	0.01	0.61	\$0.42
Goldeneye - Showy	0.03	0.34	\$1.80
Totals Seed Mix	17.28	69.54	\$255.43

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Ap	plication 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	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	63.4	Cost /Acre:	\$1,314.16
Estimated Failure Rate:	10%	Cost /Acre*:	\$487.43
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$83,317.74**

Reseeding Job Cost:	\$3,090.31
Total Job Cost:	\$86,408
Job Hours:	63.40

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description	: <u>Mo</u>	bilization/Demob	ilization				
Dowe F140.00	Mine	Permit	Action: <u>TR-0</u>	4 Bond Es	stimate	Permit/Job#: <u>M</u>	1993041
PROJECT IDE	NTIFICATI	ON					
Task #: 04	9	State: Co	olorado		Abbre	eviation: None	
Date: 4/2 User: Al	22/2020 ME	County: Bo	oulder		Fi	ilename: M041	-049
Agency	or organization	n name: DRMS					
EQUIPMENT	TRANSPOR	<u>T RIG COST</u>					
				1	Shift ba Cost Data Sou	sis: <u>1 per da</u> rce: <u>CRG Da</u>	iy ita
Truc	k Tractor Desc	ription: GENE	RIC ON-HIGH	WAY TR 400 HF	UCK TRACTO (2ND HALF,	OR, 6X4, DIESEI 2006)	L POWERED,
True	ck Trailer Desc	eription: G	ENERIC FOLD	DING GOO FRAILER	DSENECK, DF (25T, 50T, AN	ROP DECK EQU ND 100T)	IPMENT
Cost Breakdown:							
Available Rig (Capacities	0-25 Tons	26-50 Tons	51	+ Tons		
Ownershi	p Cost/Hour:	\$17.20	\$29.63	\$	38.69		
Operatin	g Cost/Hour:	\$26.56	\$47.02	\$	55.69		
Operato	or Cost/Hour:	\$23.63	\$23.63	\$	23.63		
Helpe	er Cost/Hour:	\$0.00	\$23.53	\$	23.53		
Total Un	it Cost/Hour:	\$67.39	\$123.81	\$1	41.54		
NON ROADAH	BLE EQUIPN	MENT:					
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
<u>r</u>	(TONS)		t		fleet		
Cat 637G w/push- pull	- 59.59	\$174.06	\$141.54	10	\$3,156.00	\$1,415.40	\$2,500.00
CAT 992K	107.88	\$207.81	\$141.54	4	\$1,397.40	\$566.16	\$1,000.00
Cat D9T - 9SU	60.01	\$121.49	\$141.54	6	\$1,578.18	\$849.24	\$1,500.00
CAT 16M	28.73	\$87.15	\$123.81	8	\$1,687.68	\$990.48	\$2,000.00
Drill/Broadcast Seeder with Tractor	25.00	\$18.15	\$67.39	4	\$342.16	\$269.56	\$1,000.00

Subtotals: **\$8,161.42 \$4,090.84 \$8,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/	Fleet Size	Haul Trip	Return Trip
	unit		Cost/hr/ fleet	Cost/hr/ fleet
Cat 777F	\$314.72	6	\$1,888.32	\$1,888.32
Water Tanker, 3,500 Gal.	\$42.46	3	\$127.38	\$127.38
Light Duty Pickup, 4x4, 3/4 T.	\$12.96	2	\$25.92	\$25.92
		Subtotals	\$2,041,62	\$2,041,62

CIRCES Cost Estimating Software

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	LONGMONT	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$397,551.45	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$1,020.81	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.25	0.25
Return Time (Hours):	0.25	0.25
Loading Time (Hours):	11.50	NA
Unloading Time (Hours):	11.50	NA
Subtotals:	23.50	0.50

JOB TIME AND COST

Total job time: **47.00** Hours

Total job cost: \$398,572