

MINERALS PROGRAM INSPECTION REPORT PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME:	MINE/PROSPECTING ID#:	MINERAL:	COUNTY:
Cañon Dolomite Quarry	M-1977-376	Dolomite	Fremont
INSPECTION TYPE:	WEATHER: Clear	INSP. DATE:	INSP. TIME:
Surety-Related Inspection		September 14, 2023	10:20
OPERATOR:	OPERATOR REPRESENTATIVE:	TYPE OF OPERAT	TION:
Holcim - WCR, Inc.	Lu Toxvard & Kurt Thurmann	112c - Construction I	Regular Operation
REASON FOR INSPECTION:	BOND CALCULATION TYPE:	BOND AMOUNT:	
Surety Related	Complete Bond	\$232,000.00	
DATE OF COMPLAINT.	POST INSP. CONTACTS:	JOINT INSP AGE	NCV

None

SIGNATURE DATE:

February 1, 2024

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTOR'S SIGNATURE:

None

INSPECTION TOPIC: Sediment Control

NA

INSPECTOR(S):

Timothy Cazier, P.E.

PROBLEM/POSSIBLE VIOLATION: Problem: Erosion features were observed on the repaired Old Fines Disposal area slope leading to possible offsite sediment discharge. This is a problem at this time for failure to protect the outside the affected land pursuant to C.R.S. 34-32.5-116 (4) (i).

CORRECTIVE ACTIONS: The operator shall implement BMPs to prevent possible offsite siltation and provide photo documentation to the Division demonstrating such BMPs have been installed/implemented by the corrective action date.

CORRECTIVE ACTION DUE DATE: 4/01/24

OBSERVATIONS

This inspection was conducted as part of a Succession of Operator (SO) application. The SO application was called complete for the purpose of filing on 9/5/2023. A draft bond estimate was generated prior to this inspection and provided to Mr. Thurmann during the inspection. A copy is attached to this report.

The Cañon Dolomite Quarry is typically accessed from Hwy 50 and is located approximately one mile west of Hwy 50 and about 0.8 miles north of Tunnel Drive. For this inspection, the site was accessed from the Aggregate Source pit (M-1977-193) to the south of the Cañon Dolomite site. This is a 112c dolomite mine. Haul truck traffic was observed on the access road at the time of the inspection. Site representatives indicated the pit is open for sales twice a month on Thursdays.

<u>Availability of Records</u>: Annual reports are current, having been filed through December 2023, stating the last mining activity was August 23, 2023. The previous inspection was on August 11, 2020. The approved post-mine land use is rangeland. There were no open infractions prior to the inspection. Both the surface and minerals are privately owned.

Acid And Toxic Materials: No acid or toxic materials are involved in or stored at this operation.

<u>Backfilling and Grading</u>: Benches are to be ~30 feet high by ~60 feet wide to be backfilled at 4H:1V with crusher fines available onsite (see **Photo 1**).

Excess Spoil and Dev. Waste: No overburden piles were observed.

<u>Financial Warranty:</u> The DRMS currently holds a \$232,000 bond which was last updated in 20193. As part of the SO review process, the bond was reviewed and updated with current unit costs. A draft estimate for a \$280,471 bond was provided to Mr. Thurmann during the inspection. This estimate included a \$600 line item for the removal of a water tank. As a water tank could not be located during the inspection, it has been removed from the estimate. The <u>revised bond estimate is \$279,730</u> and is attached to this report. Subsequent to this inspection, Holcim-WCR indicated that they accept this revised bond estimate. <u>This report will accompany a surety increase letter</u>.

Fish and Wildlife: No impact to wildlife was observed.

Hydrologic Balance: No standing water was observed in the pit and no exposed groundwater was observed.

<u>Gen. Compliance with Mine Plan:</u> The operation appeared to be in compliance with the approved mine plan. The maximum allowed disturbed area is 41 acres (ref. TR-2). Google Earth was used to measure the disturbed area, which was approximately 15.9 acres in the active pit area (see **Photos 2 - 5**) and 1.4 acres in the Fines Disposal Area (including the access road from below on the east side), based on older 2019 imagery. The Old Quarry Disposal Area (see **Photo 6**) is also considered disturbed but is in the process of "self-reclamation" due to the lack of ongoing disturbance. TR-3 was approved in 2018 to address the severe erosion issues observed in the Fines Disposal Area (see **Photo 7**) during the 2018 inspection.

Highwalls were estimated to vary between 15 and 20 feet in height and appeared stable (see **Photo 8**).

<u>Off-site Damage</u>: The operation appeared to be confined to the permit boundary, based on Google Earth review and site observations.

<u>Processing Waste:</u> All observed stockpiles (including crusher fines) were characterized by site representatives as product. No processing waste was observed.

<u>Roads:</u> Haul and access roads did not appear to be a source of sediment that could be tracked offsite.

<u>Right of Entry</u>: Holcim-WCR demonstrated ownership of the site as part of the SO application process.

<u>Reclamation Success</u>: As stated above, the Old Quarry Disposal area is in the process of self-reclamation. However, the recycled asphalt will need to be removed prior to release from reclamation liability. Grading to repair the erosion in the Fines Disposal Area was completed ca. 2020 by the previous Permittee. Some minor repair is advised prior to reseeding this area. No reclamation has been initiated in the active mine area.

<u>Revegetation</u>: No noxious weeds were observed. No successful revegetation (see Fines Disposal area discussion above) was observed.

<u>Sediment Control</u>: No significant erosion was observed in either the active mine area or the Old Quarry Disposal area. However, the establishment of vegetation on the regraded Fines Disposal Area is proving to be a challenge (see **Photo 9**) and it appears sediment could be exiting the site via the riprap-lined downchute channel below the old access road. Insufficient sediment control is cited as a problem on p. 1 of this report.

Support Facilities On-site: A truck scale, scale house and loader were observed on site.

<u>Signs and Markers</u>: The permit sign was properly posted (see **Photo 10**). Based on previous inspections, it is known that the western boundary of the active area is inconsistently marked using a mix of access roads and pre-law disturbance highwalls. <u>The DRMS advises a more recognizable means of marking the west boundary be implemented before any bench mining proceeds to the west</u>.

Permit Stipulations: There are no open permit stipulations.

<u>Storm Water MGT Plan</u>: No oil or fuel spills observed. No culvert maintenance was required at the time of the inspection.

<u>Topsoil</u>: The approved reclamation plan acknowledges there is no topsoil on site due to limited topsoil in the general area and pre-law disturbance. As such, the reclamation plan committed to using "unmarketable quarry fines" for growth media and augmenting this material with "fertilizer and mulch". <u>Given the change in the market for crusher fines, the DRMS recommends Holcim-WCR review the AM-1 approved reclamation plan and either reserve sufficient crusher fines for growth media or submit a technical revision proposing an alternate plan.</u>

<u>Structures:</u> No structures were observed within 200 feet of the affected area.

Post Inspection Meeting: The following issues were discussed during the closeout meeting:

- Problem cited Insufficient sediment control below the Fines Disposal area. We discussed BMPs (best management practices) needing to be implemented and considered a sediment trap in the old access road above the riprap-lined downchute channel might be the best option.
- Bond Mr. Thurmann requested the line item for water tank removal be struck from the reclamation cost estimate. The attached revised bond estimate includes the removal of that line item.

Please contact Tim Cazier (303)328-5229 or email at <u>tim.cazier@state.co.us</u> if you have any questions regarding this report.

PHOTOGRAPHS



Photo 1. Crusher fines stockpile east of pit floor access road on the south end (looking SE).



Photo 2. First bench (looking south).



Photo 3. First bench (looking north).



Photo 4. Pit floor (looking SSW from the east side).



Photo 5. Pit floor (looking NNW from the east side).



Photo 6. Old Quarry Disposal area (looking south from access road, note circled RAP stockpile).



Photo 7. Upper portion of repaired Fines Disposal area (looking NE from crest).



Photo 8. Typical highwalls (looking west from pit floor).



Photo 9. Lower repaired Fines Disposal area (looking east from crest) needing a sediment trap as noted.



Photo 10. Permit sign on gate at bottom of access road.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS <u>Y</u>	(FN) FINANCIAL WARRANTY Y	(RD) ROADS <u>Y</u>
(HB) HYDROLOGIC BALANCE <u>Y</u>	(BG) BACKFILL & GRADING <u>Y</u>	(EX) EXPLOSIVES <u>Y</u>
(PW) PROCESSING WASTE/TAILING <u>Y</u>	(SF) PROCESSING FACILITIES <u>Y</u>	(TS) TOPSOIL <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE <u>Y</u>	(RV) REVEGETATION <u>Y</u>
(SM) SIGNS AND MARKERS <u>Y</u>	(SP) STORM WATER MGT PLAN <u>N</u>	(RS) RECL PLAN/COMP <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE <u>Y</u>	(SC) EROSION/SEDIMENTATION PB	(ST) STIPULATIONS <u>Y</u>
(AT) ACID OR TOXIC MATERIALS <u>Y</u>	(OD) OFF-SITE DAMAGE <u>Y</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

Inspection Contact Address

Kurt Thurmann Holcim - WCR, Inc. 1687 Cole Blvd, Suite 300 Golden, CO 80401

Enclosure: Reclamation Cost Estimate

ec: Hunter Ridley, DRMS DRMS file

COST SUMMARY WORK

Task descrip	tion:	Cost Summary					
Site: Cañon Do	lomite Quar	ry Per	mit Action:	SO-5	Permit/Jol	o#: <u>M1977376</u>	
PROJECT Task #:	DENTIFIC	CATION State:	Colorado		Abbreviation:	None	
Date: User:	9/28/2023 TC1	County:	Fremont		Filename:	M77-3762019	

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Tack		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
A12	Reveg fines disposal area - hydrospray	REVEGE	1	6.00	\$16,777
B01	Fill 1,000 ft of bench @4H:1V	TRUCK1	1	39.92	\$24,499
B02	Fill half of 2nd flat bench (10" over 6 ac)	TRUCK1	1	20.50	\$21,244
B04	Fill half of 1st flat bench (10" over 4 ac)	TRUCK1	1	12.88	\$16,087
B06	Haul/dump fines @ east edge of bench (10" over 3	TRUCK1	1	10.25	\$12,837
	ac)				
B07	Reveg #1 face - hydrospray	REVEGE	1	2.00	\$7,829
B89	Reveg benches #2 & 4 - Drill Seed	REVEGE	1	20.00	\$25,212
C01	Haul rock for Old Quarry Fines DA riprap channel	TRUCK1	1	2.47	\$2,043
C02	Construct 450 ft rock-lined channel	POSTMINING	1	167.46	\$73,805
C03	Reveg old quarry fines disposal slope area -	REVEGE	1	2.00	\$5,592
	hydrospray				
C04	Reveg Old Quarry fines disposal open area - Drill	REVEGE	1	4.00	\$5,042
	Seed				
M10	Mob/Demob Equipment	MOBILIZE	1	1.53	\$6,992
		SUBTO	TALS:	289.01	\$217,959

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02		Total =	\$4 403
Performance bond:	1.05		Total =	\$2 280
Leb superintendent:	1.05		Total –	\$0,500
Job superintendent.	147.30		Total =	\$9,399
Profit:	10.00		Total =	\$21,796
			TOTAL O & $P =$	\$38,087
	CONT	RACT AMOUNT	(direct + O & P) =	\$256,046
LEGAL - ENGINEERING - PRO	DJECT MANAGEMENT	:		
Financial warranty process	ing (legal/related costs):	\$0	Total =	\$0
Engineering work and/or c	contract/bid preparation:	4.25	Total =	\$10,882
Reclamation management	t and/or administration:	5.00		\$12,802
	CONTINGENCY:	0.00	Total =	\$0
		TOTAL IN	DIRECT COST =	\$61,771
	TOTAL BO	ND AMOUNT (di	rect + indirect) =	\$279,730

REVEGETATION WORK

Task descri	ption:	Reveg fines disposal area - h	ydrospray		
ite: <u>Cañon E</u>	olomite Quari	Permit Action:	SO-5	Permit/Job	o#: <u>M1977376</u>
PROJECT	IDENTIFIC	ATION			
Task #: Date:	A12 9/12/2023	State: Colorado County: Fremont		Abbreviation: Filename:	None A12
User:	TC1				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	380.00	pound	\$0.50	\$188.75
			Total Fertilizer Materials Cost/Acre	\$188.75

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$247.86
Total Fertilizer Application Cost/Acre	\$247.86

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	3.00	9.71	\$33.38
Crown Vetch - Emerald	2.00	5.05	\$25.97
Sand Dropseed	0.20	23.88	\$1.95
Mountain Brome - Bromar	3.40	5.46	\$12.92
Crested Wheatgrass - Nordan	1.40	6.43	\$5.46
Russian Wildrye - Bozoisky	2.00	8.03	\$12.96
Alfalfa - Ladak (inoculated)	0.20	0.96	\$0.51
Milk Vetch, Cicer - Lutana	1.40	4.66	\$11.48
Thickspike Wheatgrass - Critana	1.40	4.95	\$9.63
Rabbitbrush, Rubber	0.02	0.30	\$1.29
Needlegrass, Green - Lodorm	2.80	11.63	\$32.97

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Flax, Lewis Blue	1.00	6.63	\$16.50
Saltbush, Four Wing	1.00	1.38	\$12.50
Winter Fat	1.60	4.08	\$32.80
Penstemon, Palmer	1.40	30.96	\$76.30
Totals Seed Mix	22.82	124.11	\$286.61

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$1,313.33
	Total Seed Application Cost/Acre	\$1,313.33

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,306.80
Total Mulch Application Cost/Acre	\$1,306.80

NURSERY STOCK PLANTING

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

JOB TIME AND COST

	No. of Acres:	3	Cost /Acre:	\$4,541.72
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$4,202.92
*Selected Replanti	ng Work Items:	FERTILIZING, SEEDING	,	
		MULCHING		
Initial Job Cost:	\$13,625.16			
Reseeding Job Cost:	\$3,152.19			
Total Job Cost:	\$16,777			
Job Hours:	6.00			

Task description:	Fill 1,00	0 ft of bench @4	H:1V			
Site: Cañon Dolomite	e Quarry	Permit Acti	on: SO-5		Permit/Job#: <u>M</u>	1977376
PROJECT IDEN	NTIFICATION	[
Task #: B01 Date: 9/12/ User: TC1	2023	State: <u>Color</u> County: Fremo	ado	Ab	breviation: <u>No</u> Filename: <u>B0</u>	ne1
Agency of	r organization nar	ne: DRMS				
	DMENT COS	г		Shift has	vice 1 man days	
HOUKLY EQUI	PNIENT CUS	<u>l</u>	E	Sniit das	sis: <u>1 per day</u>	
	Fruck Loader Tea	m -Truck: Cat	730	iption		
		-Loader: CA	Т 966Н			
Supp	ort Equipment -I	Load Area: NA				
Road M	laintenance – Mot	or Grader: NA				
	-Wa	ter Truck: Wa	ter Tanker, 2,500	Gal.		
Cost Proakdown	Tmult/Lo	adar Taam	Sumort	Equipment	Maintanan	a Equipment
Cost Dreakdown.	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$108.06	\$65.69	NA	NA	NA	\$11.35
Operating cost/hour:	\$71.88	\$48.09	NA	NA	NA	\$22.92
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$212.48	\$154.49	NA	NA	NA	\$34.27
Group Subtotals:	Work	\$570.45	0 Support:	0 \$0.00	U Moint:	\$24.27
Group Subtotals.	WOIK.	\$379.43	Support.	\$0.00	Maint.	\$34.27
Total work team co	st/hour: <u>\$613.72</u>	2				
MATERIAL OI	ANTITIES					
	16.667	CON	C 11	6 4 1 000		
Loose volume	16,667	$\overline{7}$ LCY	Swell	factor: 1.000		
Sc	uree of estimated	volume: Exhi	bit I Tack P1 (T	D 2)		
Source	e of estimated swe	ell factor: Cat I	Handbook	K-2)		
	Material Purch	ase Cost: \$0.0	0			
	То	otal Cost: \$0.0	0			
ΗΟΠΒΙ Λ ΦΒΟ	DUCTION					
<u>Truck Capacity:</u> Truck Payload (wei	abt) Basis					
Material	weight: 2,700		Pounds/LCY	-		
Descr	ription: Sand a	nd clay - Loose				
Rated Pa	ayload: $62,000$	1	Pounds			
Payload Ca	pacity: <u>22.96</u>		LUI			

Truck Bed (volume) Basis:						
Struck Volume:	17.10 LC	CY				
Heaped Volume:	22.10 LO	CY				
Average Volume:	19.60 LO	CY				
Adjusted Volume:	LC	CY				
Final	Truck Volume Ba	ased on Number of I	Loader Passes:	20.63	LCY	
Loading Tool Capacity						
			Buck	et Size Class: <u>N</u>	A	
Rated Capacity:	5.000	LCY (heaped)				_
Bucket Fill Factor:	0.825	Blasted rock - av	g. blasted (75 -	90%) 0.825		_
Adjusted Capacity:	4.125	LCY				
Job Condition Corrections:	_	Site	Altitude (ft.): <u>6</u>	200 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB)		
Net Correction:	0.830	0.830				
			_			
Loading Tool Cycle Time:	Number of	f Loading Tool Pass	es Required to I	Fill Truck:	p	asses
Excavators and Front Shovel	<u>s:</u>					
Machine Cycle Time v	s. Job Condition F	Rating: <u>NA</u>				
Treals Leaders	Matarial Descript	iani				
Cycle Time Elements (min):	Material Descript					
Cycle Time Elements (mm.).				D 0.100		
Load: NA	_ Man	euver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadjusted Basic	c Loader Cycle Time	e (load, dump, n	naneuver): 0	.500 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:	Material up to 1	/8" diameter 0.02		0.020	(Cat HB)	-
Stockpile:	No adjustment -	factor not applicabl	le 0.00	0.000	(Cat HB)	-
Truck Ownership:	Common owner	ship of trucks and lo	paders -0.04	-0.040	(Cat HB)	
Operation:	Constant operat	ion -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal target	0.00		0.000	(Cat HB)	
		Net Cycle Time	Adjustment:	-0.060	minutes	
		Adjusted Loader	Cycle Time:	0.440	minutes	
		Net Load Tin	ne per Truck:	1.860	minutes	
Truck Cycle Time:						
Truck Exchange Time	0.60	Minutes	Adjusted	for site altitude:	0.600	Minute
Truck Load Time	1.860	Minutes	Adjusted	for site altitude:	1.860	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.000	Minute
Truck Travel (Haul & Return) Time:	Road Condition: <u>Ha</u>	ard, smooth, stal	bilized, surfaced, w	atered,	
maintained 2.0						

	Haul Rou	te:							
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	(min)	
_	1	1000	.00	5.00	2.00	7.00	1036	1.030	_
						Haul Time:	1.030	minute	es
_	Return Ro	oute:							
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	(min)	
	1	1000	.00	-5.00	2.00	-3.00	3080	0.391	
						Return Time:	0.391	minu	ites
					Total Tru	ck Cycle Time:	4.881	minu	ites
L	oading Too	l unit							
	Produ	iction	503.05	LCY/Hour		Adjusted for j	ob efficiency:	417.53	LCY/Hour
Truck	Unit Produ	iction					1 00 1		
			253.53	LCY/Hour		Adjusted for j	ob efficiency:	210.43	LCY/Hour
Optima	al No. of Tr	ucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
				Adjuste	d hourly true	k team production	on: 420	.87 LO	CY/Hour
				Adjusted sing	le truck/loade	er team production	on: 417	.53 LO	CY/Hour
				Adjusted multip	le truck/loade	er team production	on: 417	.53 LO	CY/Hour
			ID COST						
	JOD III	VIL AI	<u>ND COST</u>						
	Fleet	size:	1	Team(s)	1	Total job time:	39.92	2	Hours
	Unit	cost:	\$1.470	/LCY		Total job cost:	\$24,4	99	

Task description:	Fill half	of 2nd flat benc	ch (10" over 6 ac)			
Site: Cañon Dolomite	Quarry	Permit Acti	on: SO-5		Permit/Job#: <u>M</u>	1977376
PROJECT IDEN	TIFICATION					
Task #: B02 Date: 9/12/2 User: TC1	2023	State: <u>Color</u> County: <u>Frem</u>	ado ont	Ab	breviation: <u>No</u> Filename: <u>B0</u>	ne 2
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>[</u>		Shift bas	sis: <u>1 per day</u>	
			Equipment Descri	iption		
]	ruck Loader Tea	m -Truck: Cat	: 730	•		
Sunn	ort Equipment -I	-Loader: CA	Т 966Н			
Supp	-Dı	imp Area: NA	L			
Road M	aintenance – Mote	or Grader: CA	T 160M			
	-Wa	ter Truck: Wa	ter Tanker, 2,500	Gal.		
Cost Breakdown.	Truck/Lo:	ader Team	Support	Fauinment	Maintenan	ce Equipment
<u>Cost Di cando uni</u>	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	100	100
Ownership cost/hour:	\$108.06	\$65.69	NA	NA	\$102.08	\$11.35
Operating cost/hour:	\$71.88	\$48.09	NA	NA	\$79.65	\$22.92
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	\$28.56	\$0.00
Unit Subtotals:	\$212.48	\$154.49	NA	NA	\$210.29	\$34.27
Number of Units:	3	¢701.02	0	0		¢244.5(
Group Subtotals:	Work:	\$791.93	Support:	\$0.00	Maint:	\$244.56
Total work team co	st/hour: <u>\$1,036.</u>	49				
MATERIAL OU	ANTITIES					
MATERIAL QU	ANTITES		- ~			
Initial volume	: <u>8,067</u> · 8.06	CCY	Swell	factor: <u>1.000</u>		
				2		
Source	urce of estimated	volume: Exhi	bit L, Task B2 & Handbook	3, assume average	e of 10" (TR-2)	
504100	Material Purch	ase Cost: $\$0.0$	0			
	Tc	otal Cost: \$0.0	0			
	DUCTION					
<u>noukly pro</u>	DUCTION					
Truck Capacity:	abt) Davia					
<u>Truck Payload (wet</u> Material v	$\frac{gn() Basis:}{veight:} 2.700$		Pounds/LCY	-		
Descr	ription: Sand a	nd clay - Loose				
Rated Pa	yload: $62,000$		Pounds			
Payload Ca	pacity: 22.96		LCY			

Struck Volume:	17.10	LCY				
Heaped Volume:	22.10	LCY				
Average Volume:	19.60	LCY				
Adjusted Volume:	22.10	LCY				
Final	Truck Volume	Based on Number	of Loader Passes:	20.63	LCY	
Loading Tool Capacity						
	7 000		Buc	ket Size Class: <u>N</u>	JA	_
Rated Capacity:	5.000	LCY (heaped))	000() 0.025		-
Adjusted Capacity:	<u>0.825</u> 4.125	LCY	avg. blasted (75	- 90%) 0.825		_
Job Condition Corrections:		,	Site Altitude (ft): 1	6200 faat		
Job Condition Corrections.	- Truck	Loodon	Site Annude (it.).	<u>5200</u> leet		
Altitude Adie	1 000	1 000		2)		
Iob Efficiency:	0.830	0.830		2) R)		
JOU EIHOICHCY.	0.030	0.030		,		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Numbe	r of Loading Tool P	asses Required to	Fill Truck:	5 1	asses
Excavators and Front Shovel	s:	-	-			
Machine Cycle Time vs Selected Value w	s. Job Conditio vithin this Bas	on Rating: <u>NA</u> ic Rating: NA				
Machine Cycle Time vs Selected Value w Track Loaders – 1	s. Job Conditio vithin this Basi Material Desci	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription:				
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.):	s. Job Conditio vithin this Basi Material Descr	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription:				
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: <u>NA</u>	s. Job Conditio vithin this Basi Material Descr	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u>		 Dump:0.10	0	
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders -	s. Job Conditio vithin this Basi Material Descr Material Descr Unadiusted Ba	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u> asic Loader Cycle T	·ime (load, dump, 1	 Dump:0.10 maneuver):0	0	ıtes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders -	s. Job Conditio vithin this Basi Material Descr Material Descr Unadjusted Ba	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u> asic Loader Cycle T	ime (load, dump, 1	 Dump:0.10 maneuver):(Factor (min.)	0).500 min	ıtes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - <u>Cycle Time Factors</u> Material:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u> asic Loader Cycle T	ime (load, dump, 1	 Dump: 0.10 maneuver):(Factor (min.) 0.020	0 0.500 min Source (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors <u>Material:</u> Stockpile:	s. Job Conditio vithin this Basi Material Descr Material Descr Material up t	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u> asic Loader Cycle T <u>to 1/8" diameter 0.02</u> nt - factor not applic	Time (load, dump, 1 2 2 2	Dump: 0.10 maneuver): 0.10 Factor (min.) 0.020 0.000	0 .500 min Source (Cat HB) (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership:	s. Job Conditio vithin this Basi Material Descr - Unadjusted Ba Material up t No adjustme Common ow	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 nt - factor not applic nership of trucks an	Time (load, dump, 1 2 cable 0.00 id loaders -0.04	Dump: 0.10 maneuver):(Factor (min.) 0.020 0.000 -0.040	0 0.500 minute Source (Cat HB) (Cat HB) (Cat HB)	ites
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Conditio vithin this Basi Material Descr Material Descr Material Ba Material up t No adjustme Common ow	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T <u>o 1/8" diameter 0.02</u> nt - factor not applic mership of trucks an eration -0.04	Time (load, dump, 1 2 cable 0.00 id loaders -0.04	Dump: 0.100 maneuver): 0.100 Factor (min.) 0.020 0.000 -0.040 -0.040	0 .500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 nt - factor not applic nership of trucks an eration -0.04 get 0.00	ime (load, dump, 1 2 cable 0.00 d loaders -0.04	Dump: 0.10 maneuver): 0.10 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000	0 .500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	ites
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr Material Descr Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 <u>nt - factor not applic</u> mership of trucks an eration -0.04 get 0.00 Net Cycle Ti	Yime (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment:	Dump: 0.10 maneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060	0 .500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 nt - factor not applic nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time:	Dump: 0.100 maneuver): 0.100 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440	0 .500 minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB)	ites
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 nt - factor not applic nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck:	Dump: 0.10 maneuver): 0.10 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860	0 Source (Cat HB) (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: <u>Truck Cycle Time:</u>	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T <u>o 1/8" diameter 0.02</u> <u>nt - factor not applic</u> <u>nership of trucks an</u> eration -0.04 <u>get 0.00</u> Net Cycle Ti Adjusted Loa Net Load	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck:	Dump: 0.10 maneuver): 0.10 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860	0 Source (Cat HB) (Cat HB)	utes
Machine Cycle Time vs Selected Value w Track Loaders – I Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time:	s. Job Conditio vithin this Basi Material Descr Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T <u>o 1/8" diameter 0.02</u> <u>nt - factor not applic</u> mership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load Minutes	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck:	Dump:0.100 maneuver):0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude:	0 .500 minutes (Cat HB) (Cat HB)	utes Minute
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time: Truck Load Time:	s. Job Conditio vithin this Basi Material Descr Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T o 1/8" diameter 0.02 nt - factor not applic nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load Minutes Minutes	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck: Adjusted Adjusted	Dump: 0.100 maneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude:	0 .500 minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.860	utes Minute
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time: Truck Load Time: ck Maneuver and Dump Time:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Unadjusted Ba Material up t No adjustme: Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T <u>o 1/8" diameter 0.02</u> ot - factor not applic nership of trucks an eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load Minutes <u></u> Minutes <u></u> Minutes	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	Dump: 0.100 maneuver): 0.100 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude: for site altitude:	0 .500 minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.860 1.000	utes
Machine Cycle Time vs Selected Value w Track Loaders – 1 Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - <u>Cycle Time Factors</u> <u>Material:</u> Stockpile: <u>Truck Ownership:</u> <u>Operation:</u> Dump Target: <u>Truck Cycle Time:</u> Truck Exchange Time: Truck Load Time: ck Maneuver and Dump Time:	s. Job Conditio vithin this Basi Material Descr Unadjusted Ba Material up t No adjustme Common ow Constant ope Nominal targ	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle T <u>o 1/8" diameter 0.02</u> <u>ot - factor not applic</u> <u>nership of trucks an</u> eration -0.04 get 0.00 Net Cycle Ti Adjusted Loa Net Load Minutes <u>Minutes</u> Minutes <u>Minutes</u> Minutes	Time (load, dump, 1 2 cable 0.00 id loaders -0.04 ime Adjustment: ider Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	Dump: 0.100 maneuver): 0.100 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude: for site altitude:	0 .500 minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.860 1.000 Ete. no tire	utes

	Haul Rout	te:							
ſ	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time	
-	1	3500	.00	5.00	1.20	6.20	1122	3.191	-
L	_					Houl Time:	3 101	minute	_
	Return Ro	ute:					5.171		5
ſ	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel]
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	(Ft)	2		(%)	(%)	(fpm)	Time (min)	
	1	3500	.00	-5.00	1.20	-3.80	3064	1.178	
						Return Time:	1.178	minut	tes
					Total Tru	ck Cycle Time:	7.829	minut	tes
L	oading Too	lunit							
2	Produ	iction	503.05	LCY/Hour		Adjusted for j	ob efficiency:	417.53	LCY/Hour
Truck	Unit Produ	iction	158.07	LCY/Hour		Adjusted for j	ob efficiency:	131.19	LCY/Hour
Optima	al No. of Tr	ucks:	3	Truck(s)		Selected Numl	ber of Trucks:	3	Truck(s)
				Adjuste	d hourly true	k team production	on: 393	.58 LC	Y/Hour
				Adjusted sing	le truck/loade	er team production	on: 393	.58 LC	Y/Hour
				Adjusted multip	le truck/loade	er team production	on: 393	.58 LC	Y/Hour
	<u> JOR III</u>	VIE AI	ND COST						
	Fleet	size:	1	Team(s)	1	Fotal job time:	20.5	<u>0 </u>	Iours
	Unit o	cost: _	\$2.633	/LCY	,	Total job cost:	\$21,24	44	

Task description:	Fill half	of 1st flat be	ench	(10" over 4 ac)			
Site: Cañon Dolomite	Quarry	Permit	Actio	on: SO-5		Permit/Job#: <u>M</u>	1977376
PROJECT IDEN	TIFICATION	[
Task #: <u>B04</u>		State: C	olora	ido	Ab	breviation: No	ne
Date: $9/12/2$	2023	County: <u>Fi</u>	remo	ont		Filename: <u>B0</u>	4
	• .•						
Agency or	organization nar	ne: DRMS	>				
HOURLY EQUI	PMENT COST	<u>[</u>			Shift bas	sis: <u>1 per day</u>	
				Equipment Descri	ption		
J	ruck Loader Tea	m - I ruck:	Cat CA	<u>/30</u> Г 966Н			
Supp	ort Equipment -L	Load Area:	NA	1 70011			
	-Di	ump Area:	NA				
Road M	aintenance – Mot	or Grader:	CA'	<u>F 160M</u>	Cal		
	- w a	ller Truck:	wat	ter Tanker, 2,500	Gal.		
Cost Breakdown:	Truck/Loa	ader Team		Support 1	Equipment	Maintenan	ce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	1	00	NA	NA	100	100
Ownership cost/hour:	\$108.06	\$65.	.69	NA	NA	\$102.08	\$11.35
Operating cost/hour:	\$71.88	\$48.	.09	NA	NA	\$79.65	\$22.92
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.	.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.	.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$40.	.71	NA	NA	\$28.56	\$0.00
Unit Subtotals:	\$212.48	\$154	.49	NA	NA	\$210.29	\$34.27
Number of Units:	4		1	0	0	1	1
Group Subtotals:	Work:	\$1,004.41		Support:	\$0.00	Maint:	\$244.56
Total work team cos MATERIAL QU	st/hour: <u>\$1,248.</u> ANTITIES	97					
Initial volume Loose volume	: <u>5,378</u> : 5,37 8	8 1	CCY LCY	Swell	factor: <u>1.000</u>		
So	urce of estimated	volume: <u>l</u>	Exhil	bit L, Task B4 & : Jandbook	5, assume average	e of 10"	
Source	Material Purch	ase Cost: 5	\$0.00)			
	To	otal Cost: 5	\$0.00)			
HOURLY PRO	DUCTION						
<u>Truck Capacity:</u> <u>Truck Payload (wei</u> Material v	$ \underline{ght) Basis:} \\ veight: 2,700 $	1 1 T		Pounds/LCY			
Descr Rated Pa	uvload: 62 000	nd clay - Loo	se	Pounds			
Payload Ca	pacity: 22.96			LCY			
,							

Struck volume:	1.7 1.7 1					
II 1V1	22.10					
Heaped Volume:	22.10					
Average Volume:	19.60					
Adjusted Volume:	22.10	LCY				
Final	Truck Volume	Based on Number of	of Loader Passes:	20.63	LCY	
Loading Tool Capacity			Buck	ket Size Class: N	JA	
Rated Capacity:	5.000	LCY (heaped)				_
Bucket Fill Factor:	0.825	Blasted rock -	avg. blasted (75 -	- 90%) 0.825		
Adjusted Capacity:	4.125	LCY	•			_
Job Condition Corrections	<u>:</u>	S	Site Altitude (ft.): <u>6</u>	5 <u>200</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	3)		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.830	0.830				
					-	
Loading Tool Cycle Time:	Number	of Loading Tool Pa	asses Required to	Fill Truck:	5	passes
Excavators and Front Shove	els:					
Excavators and Front Shove Machine Cycle Time v Selected Value	e <u>ls:</u> vs. Job Condition within this Basic	n Rating: <u>NA</u> 2 Rating: NA				
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders –	e <u>ls:</u> ys. Job Condition within this Basic Material Descri	n Rating: <u>NA</u> c Rating: <u>NA</u> ption:				
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.)	els: vs. Job Condition within this Basic Material Descri	n Rating: <u>NA</u> c Rating: <u>NA</u> ption:				
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA	e <u>ls:</u> vs. Job Condition within this Basic Material Descri : Material Material	n Rating: <u>NA</u> c Rating: <u>NA</u> ption: aneuver: NA		 Dump: 0.100	0	
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders –	e <u>ls:</u> vs. Job Condition within this Basic Material Descri : Unadjusted Bas	n Rating: <u>NA</u> c Rating: <u>NA</u> ption: aneuver: <u>NA</u> sic Loader Cycle Ti	ime (load, dump, r	 Dump:0.100 naneuver):0	0 0.500min	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors	e <u>ls:</u> vs. Job Condition within this Basic Material Descri : - Unadjusted Bas	n Rating: <u>NA</u> 2 Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti	ime (load, dump, r	 Dump:0.100 naneuver):0 Factor (min.)	0 0.500 min Source	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material:	els: vs. Job Condition within this Basic Material Descri : - Unadjusted Bas Material up to	n Rating: <u>NA</u> Rating: <u>NA</u> ption: aneuver: <u>NA</u> sic Loader Cycle Ti 0 1/8" diameter 0.02	ime (load, dump, r	Dump: 0.100 naneuver): 0 Factor (min.) 0.020	0 min 500 min Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile:	els: vs. Job Condition within this Basic Material Descri : - - Unadjusted Bas Material up to No adjustmen	n Rating: <u>NA</u> Rating: <u>NA</u> ption: aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> t - factor not applic	ime (load, dump, r	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000	0 min Source (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership:	els: vs. Job Condition within this Basic Material Descrip - - Unadjusted Basic Material up to No adjustmen Common own	a Rating: <u>NA</u> c Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>0 1/8" diameter 0.02</u> t - factor not applic	ime (load, dump, r 2 able 0.00 d loaders -0.04	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040	0 0.500 min Source (Cat HB) (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	els: vs. Job Condition within this Basic Material Description - Unadjusted Basic Material up to No adjustmen Common own Constant oper	a Rating: <u>NA</u> c Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>o 1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04	ime (load, dump, r 2 able 0.00 d loaders -0.04	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040	0 0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Basic Material Descri - - - - - - - - - - - - -	a Rating: <u>NA</u> Part Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04 et 0.00	ime (load, dump, r 2 able 0.00 d loaders -0.04	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000	0 0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Basic Material Descri Unadjusted Bas Material up to No adjustmen Common own Constant oper Nominal targe	a Rating: <u>NA</u> c Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04 ct 0.00 Net Cycle Timeson (Construction)	ime (load, dump, r 2 able 0.00 d loaders -0.04 me Adjustment:	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060	0 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Basic Material Descri - - - - - - - - - - - - -	a Rating: <u>NA</u> c Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>0.1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04 et 0.00 Net Cycle Tin Adjusted Load	ime (load, dump, r 2 able 0.00 d loaders -0.04 me Adjustment: der Cycle Time:	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440	0 .500 min Source (Cat HB) (Cat HB)	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Basic Material Description - Unadjusted Basic Material up to No adjustmen Common own Constant oper Nominal targe	a Rating: <u>NA</u> Parting: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> <u>t - factor not applic</u> tership of trucks and ation -0.04 <u>et 0.00</u> Net Cycle Tin Adjusted Load Net Load	ime (load, dump, r able 0.00 d loaders -0.04 me Adjustment: der Cycle Time:	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860	0 0.500 min Source (Cat HB) (Cat	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	els: vs. Job Condition within this Basic Material Descri - - - - - - - - - - - - -	a Rating: <u>NA</u> c Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04 et 0.00 Net Cycle Tin Adjusted Load Net Load T	ime (load, dump, r able 0.00 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck:	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860	0 500 min Source (Cat HB) (Cat HB) (Ca	utes
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time	els: vs. Job Condition within this Basic Material Description - Unadjusted Basic Material up to No adjustmen Common own Constant oper Nominal targe	a Rating: <u>NA</u> Part Rating: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> <u>t - factor not applic</u> tership of trucks and ation -0.04 <u>et 0.00</u> Net Cycle Tin Adjusted Load Net Load Tables	ime (load, dump, r able 0.00 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck:	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude:	0 0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.600	utes — — — — — Minute
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	els: vs. Job Condition within this Basic Material Descri - Unadjusted Bas Material up to No adjustmen Common own Constant oper Nominal targe e: 0.60 or 1.860	a Rating: <u>NA</u> Parting: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> <u>t - factor not applic</u> tership of trucks and ation -0.04 to 0.00 Net Cycle Tin Adjusted Load Net Load T	ime (load, dump, r able 0.00 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude:	0 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.860	utes — — — — — — — — — — — — — — — — — — —
Excavators and Front Shove Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders – Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	els: vs. Job Condition within this Basic Material Descri - Unadjusted Bas Material up to No adjustmen Common own Constant oper Nominal targe e: 0.60 e: 1.860 e: 1.00	a Rating: <u>NA</u> Parting: <u>NA</u> ption: <u>NA</u> aneuver: <u>NA</u> sic Loader Cycle Ti <u>1/8" diameter 0.02</u> t - factor not applic tership of trucks and ation -0.04 to 0.00 Net Cycle Tin Adjusted Load Net Load T Minutes Minutes Minutes Minutes	ime (load, dump, r able 0.00 d loaders -0.04 me Adjustment: der Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	Dump: 0.100 naneuver): 0 Factor (min.) 0.020 0.000 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude: for site altitude:	0 0.500 min Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.860 1.000	utes — — — — — — — — — — — — —

Seg # (Ft)Haul Distance (Ft)Grade (%) (Ft)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)14500.005.001.206.2011224.083Haul Distance (Ft)Grade (%) (Ft)Roll. Res (%)Velocity (fpm)Travel Travel Time (fpm)14500.00-5.001.206.2011224.083Return Route:Seg # (Ft)Haul Distance (%)Grade (%) (%)Roll. Res (%)Velocity (fpm)Travel Travel Time (min)14500.00-5.001.20-3.8030641.514Return Time: Total Truck Cycle Time:1.514 9.057minutesLoading Tool unit ProductionProduction Truck Unit Production503.05 1 LCY/HourLCY/Hour Adjusted for job efficiency: 113.41LCY/Hour 417.53Adjusted for job efficiency: 417.53113.41 1 CY/Hour Adjusted hourly truck team production: 430.63 430.54LCY/Hour 417.53 400JOB TIME AND COSTFleet size: 1Team(s)Total job time: 12.88 400HoursUnit cost: \$2.991S2.991/LCYTotal job cost: S1.00	F	Haul Rou	ite:			П				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
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Seg #Haul Distance (Ft)Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)14500.00-5.001.20-3.8030641.514Return Time: Total Truck Cycle Time:1.514minutesDotation of the second sec		Return R	oute:				Haul Time: _	4.083	minutes	
$\begin{array}{ c c c c c c c c }\hline 1 & 4500.00 & -5.00 & 1.20 & -3.80 & 3064 & 1.514 \\ \hline & & & & & & & & & & & & & & & & & &$		Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
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Loading Tool unit Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Ho Truck Unit Production 136.63 LCY/Hour Adjusted for job efficiency: 113.41 LCY/Ho Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s Adjusted hourly truck team production: 453.63 LCY/Hour LCY/Hour Adjusted single truck/loader team production: 417.53 LCY/Hour Adjusted multiple truck/loader team production: 417.53 LCY/Hour JOB TIME AND COST LCY/Hour LCY/Hour LCY/Hour Fleet size: 1 Team(s) Total job time: 12.88 Hours Unit cost: \$2.991 /LCY Total job cost: \$16,087						Total Tru	Return Time: ack Cycle Time:	1.514 9.057	minute	es es
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Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s) Adjusted hourly truck team production: 453.63 LCY/Hour Adjusted single truck/loader team production: 417.53 LCY/Hour Adjusted multiple truck/loader team production: 417.53 LCY/Hour JOB TIME AND COST LCY/Hour LCY/Hour Fleet size: 1 Team(s) Total job time: 12.88 Unit cost: \$2.991 /LCY Total job cost: \$16,087				136.63	LCY/Hour		Adjusted for j	ob efficiency:	113.41	LCY/Hou
Adjusted hourly truck team production: 453.63 LCY/Hour Adjusted single truck/loader team production: 417.53 LCY/Hour Adjusted multiple truck/loader team production: 417.53 LCY/Hour JOB TIME AND COST Image: Comparison of the state of th	Optima	ıl No. of T	rucks:	4	Truck(s)		Selected Num	ber of Trucks:	4	Truck(s)
JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 12.88 Hours Unit cost: \$2.991 /LCY Total job cost: \$16,087					Adjuste Adjusted sing Adjusted multip	ed hourly truc le truck/loadd le truck/loadd	ek team production er team production er team production	on: 453 on: 417 on: 417	.63 LCY .53 LCY .53 LCY	7/Hour 7/Hour 7/Hour
Fleet size: 1 Team(s) Total job time: 12.88 Hours Unit cost: \$2.991 /LCY Total job cost: \$16,087		JOB TI	ME A	ND COST						
Unit cost: \$2.991 /LCY Total job cost: \$16,087		Fleet	size:	1	Team(s)	-	Total job time:	12.8	8 Ho	ours
		Unit	cost:	\$2.991	/LCY		Total job cost:	\$16,0	87	

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Site: Cañon Dolon	nite Quarry	Permit A	Action: SO-5]	Permit/Job#: <u>M</u>	1977376
PROJECT ID	ENTIFICATION	<u>I</u>				
Task #· B()6	State: Co	olorado	Ah	breviation: No	ne
Date: $\frac{9}{7}$	12/2023	County: Fr	emont	110	Filename: B0	6
User: TO	21	•				
Agenc	y or organization nar	ne: DRMS				
HOURLY EQ	UIPMENT COS	Г		Shift bas	is: 1 per day	
		-	Equipment Descri	iption	- <u>1</u>	
	Truck Loader Tea	ım -Truck:	Cat 730	·		
		-Loader:	<u>CAT 966H</u>			
5	-1 apport Equipment. D-	Load Area:	NA Cat D8T - 8SU			
Road	1 Maintenance – Mot	or Grader:	NA			
	-Wa	iter Truck:	Water Tanker, 2,500	Gal.		
Cost Breakdow	n: Truck/Lo	ader Team	Support	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine	: 100	10	00 NA	100	NA	100
Ownership cost/hour	: \$108.06	\$65.0	69 NA	\$241.38	NA	\$11.35
Operating cost/hour	:: \$71.88	\$48.0	09 NA	\$143.92	NA	\$22.92
%Utilization-riper	: NA		0 NA	NA	NA	NA
Ripper own. cost/hour	: NA	\$0.0	00 NA	\$0.00	NA	\$0.00
Ripper op. cost/hour	: NA	\$0.0	00 NA	\$0.00	NA	\$0.00
Operator cost/hour	: \$32.54	\$40.2	71 NA	\$41.30	NA	\$0.00
Unit Subtotals	: \$212.48	\$154.4	49 NA	\$426.60	NA	\$34.27
Number of Units	: 3		1 0	1	0	1
Group Subtotals	: Work:	\$791.93	Support:	\$426.60	Maint:	\$34.27
T (1)	01 01 050	0.0				
Total work team MATERIAL (Initial volu Loose volu	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated	80 3 Volume: E	CCY Swell CCY Exhibit L, Task B6, as	factor: <u>1.000</u> sume average of 1	.0"	
Total work team MATERIAL (Initial volu Loose volu Sou	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated rce of estimated swo	80 3 C 3 L ↓ volume: E ≫ll factor: C	CCY Swell CY Exhibit L, Task B6, as Cat Handbook	factor: <u>1.000</u> sume average of 1	0"	
Total work team MATERIAL (Initial volu Loose volu Sou	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated source of estimated swo Material Purch	$ \begin{array}{c} $	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00	factor: <u>1.000</u> sume average of 1	.0"	
Total work team MATERIAL (Initial volu Loose volu Sou	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated structure of estimated swow Material Purch Total	80 3 L l volume: E ell factor: C ase Cost: \$ otal Cost: \$	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00 0.00	factor: <u>1.000</u> sume average of 1	0"	
Total work team <u>MATERIAL</u> Initial volu Loose volu Sou <u>HOURLY P</u>	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated urce of estimated swo Material Purch To RODUCTION	80 C 3 L l volume: E ell factor: C ase Cost: \$ otal Cost: \$	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00 0.00	factor: <u>1.000</u> sume average of 1	.0"	
Total work team <u>MATERIAL</u> Initial volu Loose volu Sou <u>HOURLY P</u> Truck Canacity	cost/hour: <u>\$1,252.</u> <u>QUANTITIES</u> me: <u>4,033</u> me: <u>4,033</u> Source of estimated rce of estimated swo Material Purch To <u>RODUCTION</u>	80 C 3 L I volume: E ell factor: C ase Cost: \$ otal Cost: \$	CCY Swell CCY Exhibit L, Task B6, as Cat Handbook 0.00 0.00	factor: <u>1.000</u> sume average of 1		
Total work team <u>MATERIAL</u> Initial volu Loose volu Sou <u>HOURLY P</u> <u>Truck Capacity</u> <u>Truck Paylo</u> ad (cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 Source of estimated waterial Purch To RODUCTION :: weight) Basis:	80 3 1 volume: E 1 factor: C ase Cost: \$ otal Cost:	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00 0.00	factor: <u>1.000</u> sume average of 1	.0"	
Total work team <u>MATERIAL</u> Initial volu Loose volu Sou <u>HOURLY P</u> <u>Truck Capacity</u> <u>Truck Payload (</u> Materi	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 me: 4,033 Source of estimated source of estimated swo Material Purch To RODUCTION :: weight) Basis: al weight: 2,700	80 C 3 L 1 volume: E ell factor: C ase Cost: \$ otal Cost: \$	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00 0.00 0.00 Pounds/LCY	factor: <u>1.000</u>		
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Total work team <u>MATERIAL</u> Initial volu Loose volu Sou <u>HOURLY P</u> <u>Truck Capacity</u> <u>Truck Payload (</u> Materi Do Rateo	cost/hour: \$1,252. QUANTITIES me: 4,033 me: 4,033 source of estimated swo Material Purch To RODUCTION ': weight) Basis: al weight: 2,700 scription: Sand a I Payload: 62,000	80 C 3 L 1 volume: E 211 factor: C ase Cost: \$ otal Cost: \$ nd clay - Loos	CCY Swell CY Exhibit L, Task B6, as Cat Handbook 0.00 0.00 0.00 Pounds/LCY se Pounds	factor: <u>1.000</u> sume average of 1	.0"	

Struck Volume:						
	17.10 LC	CY				
Heaped Volume:	22.10 LC	CY				
Average Volume:	19.60 LO	CY				
Adjusted Volume:	22.10 LC	CY				
Final	Truck Volume B	ased on Number of I	Loader Passes:	20.63	LCY	
Loading Tool Canacity						
Loading Tool Capacity			D. 1			
	5 000		Buck	tet Size Class: <u>N</u>	A	_
Rated Capacity:	5.000	LCY (heaped)	11 4 1 (75	000() 0.925		-
Adjusted Capacity:	<u> </u>	I CV	g. blasted (75 -	90%) 0.825		-
Aujusieu Capaeny.	7,125	LUI				
Job Condition Corrections	<u>:</u>	Site	e Altitude (ft.): <u>6</u>	5 <u>200</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB			
Net Correction:	0.830	0.830				
Loading Tool Cycle Time	Number	f Looding Tool Door	an Dequired to 1	Eill Travela	5	
Loading 1001 Cycle Thile.	Inumber 0	I Loading Tool Fass	ses Required to I		p	asses
Excavators and Front Shove	<u>:ls:</u>					
Machine Cycle Time v	vs. Job Condition F	Rating: NA				
Selected Value	within this Basic I	Rating: NA				
Track Loaders –	Material Descript	ion:				
Cycle Time Elements (min.)	:					
		274		D 0.100	`	
Load: NA	Man	ieuver: NA		Dump: 0.100)	
Wheel and Track Loaders	- Unadiusted Basic	r Loader Cycle Tim	e (load dump r	naneuver): 0	500 minu	ites
Could Three Ecoders	Onadjusted Dask		e (load, dump, l	E star (min)	<u>Server</u> mine	1103
Cycle Time Factors	Matarial un ta 1	10" diamatan 0.02		Factor (min.)	Source (Cat UD)	_
Stockpile:	No adjustment	factor not applicab	le 0.00	0.020	(Cat HB)	_
	Common owner	ship of trucks and h		0.000		
Truck ()wnershin	Common owner		oaders -0.04	-0.040	(Cat HB)	
Truck Ownership: Operation	Constant operat	ion -0.04	oaders -0.04	-0.040	(Cat HB) (Cat HB)	_
Truck Ownership: Operation: Dump Target:	Constant operat	ion -0.04 0.00	oaders -0.04	-0.040 -0.040 0.000	(Cat HB) (Cat HB) (Cat HB)	_
Truck Ownership: Operation: Dump Target:	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time	oaders -0.04 e Adjustment:	-0.040 -0.040 0.000 -0.060	(Cat HB) (Cat HB) (Cat HB) minutes	
Operation: Dump Target:	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loader	e Adjustment: r Cycle Time:	-0.040 -0.040 0.000 -0.060 0.440	(Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	-
Truck Ownership: Operation: Dump Target:	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir	e Adjustment: r Cycle Time: ne per Truck:	-0.040 -0.040 0.000 -0.060 0.440 1.860	(Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	-
Truck Ownership: Operation: Dump Target:	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loaden Net Load Tir	e Adjustment: r Cycle Time: ne per Truck:	-0.040 -0.040 0.000 -0.060 0.440 1.860	(Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	-
Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir	e Adjustment: r Cycle Time: ne per Truck:	-0.040 -0.040 0.000 -0.060 0.440 1.860	(Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	-
Truck Ownership: Operation: Dump Target: <u>Truck Cycle Time:</u> Truck Exchange Time	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir Minutes	e Adjustment: r Cycle Time: ne per Truck:	-0.040 -0.040 0.000 -0.060 0.440 1.860	(Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.600	_ _ Minute
Truck Ownership: Operation: Dump Target: <u>Truck Cycle Time:</u> Truck Exchange Time Truck Load Time	Constant operat Nominal target *: 0.60 :: 1.860	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir Minutes Minutes	Adjustment: r Cycle Time: ne per Truck: Adjusted Adjusted	-0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude:	(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.600 1.860	- - - Minute: - Minute:
Truck Ownership: Operation: Dump Target: <u>Truck Cycle Time:</u> Truck Exchange Time Truck Load Time ck Maneuver and Dump Time	Constant operat Nominal target :: 0.60 :: 1.860 :: 1.00	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir Minutes Minutes Minutes	Adjustment: r Cycle Time: ne per Truck: Adjusted Adjusted Adjusted	-0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude:	(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.600 1.860 1.000	Minute Minute
Truck Ownership: Operation: Dump Target: <u>Truck Cycle Time:</u> Truck Exchange Time Truck Load Time ck Maneuver and Dump Time	Constant operat Nominal target *: 0.60 *: 1.860 *: 1.00	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir Minutes Minutes Minutes	Adjustment: r Cycle Time: me per Truck: Adjusted Adjusted	-0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude:	(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.600 1.860 1.000	Minutes Minutes
Truck Ownership: Operation: Dump Target: Truck Cycle Time: Truck Exchange Time Truck Load Time ck Maneuver and Dump Time	Constant operat Nominal target	ion -0.04 0.00 Net Cycle Time Adjusted Loader Net Load Tir Minutes Minutes Minutes	Adjustment: r Cycle Time: me per Truck: Adjusted Adjusted Adjusted	-0.040 -0.040 0.000 -0.060 0.440 1.860 for site altitude: for site altitude: for site altitude:	(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes 0.600 1.860 1.000	Minutes Minutes

Seg #Haul Distance (Pt)Grade (%) Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)13500.005.001.206.2011223.191Haul Distance (Ft)Grade (%) (Pt)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)13500.00-5.001.20-3.8030641.178Return Route:Seg # (Ft)Haul Distance (Pt)Grade (%) (%)Roll. Res (%)Velocity (fpm)Travel Time (min)13500.00-5.001.20-3.8030641.178Return Time: Total Truck Cycle Time:1.178 Total Truck Cycle Time:Display="4">Intravel Time (min)Intravel Time (min)Total Res (%)Return Time: Total Truck Cycle Time:Travel Time (min)Travel Time (min)Total Truck Cycle Time:Total Truck Cycle Time:Total Truck Cycle Time:Total Truck Cycle Time: Total Truck Cycle Time:Total Truck Cycle Time: Truck Unit Production1178Return Time: Truck Unit Production158.07LCY/HourAdjusted hourly truck team production: 393.58Adjusted hourly truck team production: 393.58	Haul Rot	ite:							
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		(Ft)			(%)	(%)	(fpm)	Time	
Image: Image	1	3500	00	5.00	1.20	6.20	1122	(min) 3 101	
Haul Time: 3.191 minutesReturn Route:Seg #Haul DistanceGrade (%)Roll. ResTotal ResVelocityTravel Time (min)13500.00-5.001.20-3.8030641.178Return Time:1.178minutesTotal Truck Cycle Time:7.829minutesTotal Truck Cycle Time:7.829minutesLoading Tool unit Production503.05LCY/HourAdjusted for job efficiency:417.53LCY/HourTuck Unit Production503.05LCY/HourAdjusted for job efficiency:131.19LCY/HourOptimal No. of Trucks:3Truck(s)Selected Number of Trucks:3Truck(s)Adjusted hourly truck team production:393.58LCY/HourAdjusted single truck/loader team production:393.58LCY/HourAdjusted multiple truck/loader team production:393.58LCY/HourJOB TIME AND COSTFleet size:1Team(s)Total job time:10.25HoursUnit cost:\$3.183/LCYTotal job cost:\$12,837	1	3500	.00	5.00	1.20	0.20	1122	5.191	
Return Route:Seg #Haul DistanceGrade (%)Roll. ResTotal ResVelocityTravel(%)(%)(%)(%)(fpm)Time (min)13500.00-5.001.20-3.8030641.178Return Time:1.178minutesTotal Truck Cycle Time:1.178minutesTotal Truck Cycle Time:1.178minutesTotal Truck Cycle Time:1.178minutesTotal Truck Cycle Time:1.178minutesDotating Tool unit Production503.05LCY/HourAdjusted for job efficiency:417.53LCY/HourOptimal No. of Trucks:3Truck(s)Selected Number of Trucks:3Truck(s)Adjusted hourly truck team production:393.58LCY/HourAdjusted single truck/loader team production:393.58LCY/HourAdjusted multiple truck/loader team production:393.58LCY/HourJOB TIME AND COSTFleet size:1Team(s)Total job time:10.25HoursUnit cost:\$3.183/LCYTotal job cost:\$12,837						Haul Time:	3.191	minutes	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Return R	oute:		1		I			
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
1 3500.00 -5.00 1.20 -3.80 3064 1.178 Return Time: 1.178 minutes Total Truck Cycle Time: 7.829 minutes Display the for job efficiency: 417.53 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Truck Unit Production		(Ft)			(%)	(%)	(fpm)	(min)	
Return Time: 1.178 minutes Total Truck Cycle Time: 7.829 minutes Loading Tool unit Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Truck Unit Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	1	3500	.00	-5.00	1.20	-3.80	3064	1.178	
Total Truck Cycle Time: T.829 minutes Total Truck Cycle Time: T.829 minutes Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Truck Unit Production 158.07 LCY/Hour Adjusted for job efficiency: 131.19 LCY/Hour Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837 \$12,837						Return Time:	1.178	minute	es
Loading Tool unit Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Truck Unit Production 158.07 LCY/Hour Adjusted for job efficiency: 131.19 LCY/Hour Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837					Total Tru	ck Cycle Time:	7.829	minute	es
Loading Tool unit Production 503.05 LCY/Hour Adjusted for job efficiency: 417.53 LCY/Hour Truck Unit Production 158.07 LCY/Hour Adjusted for job efficiency: 131.19 LCY/Hour Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	I. J. J. J. T.	-1:4				-			
Truck Unit Production		uction	503.05	LCY/Hour		Adjusted for j	ob efficiency:	417.53	LCY/Hour
158.07 LCY/Hour Adjusted for job efficiency: 131.19 LCY/Hour Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	Truck Unit Prod	uction							
Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s) Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Image: Comparison of the team production: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837			158.07	LCY/Hour		Adjusted for j	ob efficiency:	131.19	LCY/Hour
Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	Optimal No. of T	rucks:	3	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
Adjusted hourly truck team production: 393.58 LCY/Hour Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Image: Comparison of the truck/loader team production: 393.58 LCY/Hour Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	op		U						
Adjusted single truck/loader team production: 393.58 LCY/Hour Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837				Adjuste	d hourly truc	k team production	on: <u>393</u>	.58 LCY	/Hour
Adjusted multiple truck/loader team production: 393.58 LCY/Hour JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837				Adjusted sing	le truck/loade	er team production	on: 393	.58 LCY	/Hour
JOB TIME AND COST Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837				Adjusted multip	le truck/loade	er team production	on: <u>393</u>	.58 LC	f/Hour
Fleet size: 1 Team(s) Total job time: 10.25 Hours Unit cost: \$3.183 /LCY Total job cost: \$12,837	JOB TI	ME AI	ND COST						
Unit cost: \$3.183 /LCY Total job cost: \$12,837	Fleet	size:	1	Team(s)]	Fotal job time:	10.2	5 <u>H</u>	ours
	Unit	cost:	\$3.183	/LCY	,	Total job cost:	\$12,8	37	

REVEGETATION WORK

Т	ask descrip	otion:	Reveg #1 face - hy	ydrospray				
Site:	Cañon D	olomite Quarı	ry Perr	nit Action:	SO-5	Permi	t/Job#:	M1977376
<u>PF</u>	ROJECT	IDENTIFIC	ATION State:	Colorado		Abbreviatio	m N	one
	Date:	9/12/2023	County:	Fremont		Filenan	$\frac{1}{10}$	07
	User:	TC1						
	Age	ency or organiz	ation name: DRI	MS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	380.00	pound	\$0.50	\$188.75
			Total Fertilizer Materials Cost/Acre	\$188.75

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$247.86
Total Fertilizer Application Cost/Acre	\$247.86

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	3.00	9.71	\$33.38
Crown Vetch - Emerald	2.00	5.05	\$25.97
Sand Dropseed	0.20	23.88	\$1.95
Mountain Brome - Bromar	3.40	5.46	\$12.92
Crested Wheatgrass - Nordan	1.40	6.43	\$5.46
Russian Wildrye - Bozoisky	2.00	8.03	\$12.96
Alfalfa - Ladak (inoculated)	0.20	0.96	\$0.51
Milk Vetch, Cicer - Lutana	1.40	4.66	\$11.48
Thickspike Wheatgrass - Critana	1.40	4.95	\$9.63
Rabbitbrush, Rubber	0.02	0.30	\$1.29
Needlegrass, Green - Lodorm	2.80	11.63	\$32.97

-

Flax, Lewis Blue	1.00	6.63	\$16.50
Saltbush, Four Wing	1.00	1.38	\$12.50
Winter Fat	1.60	4.08	\$32.80
Penstemon, Palmer	1.40	30.96	\$76.30
Totals Seed Mix	22.82	124.11	\$286.61

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$1,313.33
	Total Seed Application Cost/Acre	\$1,313.33

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,306.80
Total Mulch Application Cost/Acre	\$1,306.80

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:	1.4 C	ost /Acre:	\$4,541.72
Estimated Failure Rate:	25% Co	st /Acre*:	\$4,202.92
*Selected Replanting Work Items:	FERTILIZING, SEEDING, MULCHI	NG	

Initial Job Cost:	\$6,358.41
Reseeding Job Cost:	\$1,471.02
Total Job Cost:	\$7,829
Job Hours:	2.00

REVEGETATION WORK

]	Fask descrip	otion:	Reveg benches #	2 & 4 - Drill	Seed		
Site:	Cañon De	olomite Quarı	y Per	mit Action:	SO-5	Permit/Job	o#: <u>M1977376</u>
<u>P</u>]	ROJECT	IDENTIFIC	ATION State:	Colorado		Abbraviation	None
	Date: User:	9/12/2023 TC1	County:	Fremont		Abbreviation. Filename:	B89
	Age	ency or organiz	ation name:	MS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	380.00	pound	\$0.50	\$188.75
			Total Fertilizer Materials Cost/Acre	\$188.75

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$247.86
Total Fertilizer Application Cost/Acre	\$247.86

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	1.50	4.86	\$16.69
Crown Vetch - Emerald	1.00	2.53	\$12.99
Sand Dropseed	0.10	11.94	\$0.98
Mountain Brome - Bromar	1.70	2.73	\$6.46
Crested Wheatgrass - Nordan	0.70	3.21	\$2.73
Russian Wildrye - Bozoisky	1.00	4.02	\$6.48
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.26
Milk Vetch, Cicer - Lutana	0.70	2.33	\$5.74
Thickspike Wheatgrass - Critana	0.70	2.47	\$4.81
Rabbitbrush, Rubber	0.01	0.15	\$0.64
Needlegrass, Green - Lodorm	1.40	5.82	\$16.49

Flax, Lewis Blue	0.50	3.32	\$8.25
Saltbush, Four Wing	0.50	0.69	\$6.25
Winter Fat	0.80	2.04	\$16.40
Penstemon, Palmer	0.70	15.48	\$38.15
Totals Seed Mix	11.41	62.06	\$143.30

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$74.46
	Total Mulch Application Cost/Acre	\$74.46

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	10	Cost /Acre:	\$2,084.74
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,745.94
*Selected Replanting Work Items:	FERTILIZING,SE	EDING,MULCHING	
Initial Job Cost: \$20 847 40			

Initial Job Cost:	\$20,847.40
Reseeding Job Cost:	\$4,364.85
Total Job Cost:	\$25,212
Job Hours:	20.00

Page 1 of 3

Task description:	Haul ro	ck for Old Quar	ry Fines DA ripr	ap channel		
Site: Cañon Dolomite	e Quarry]	Permit/Job#: <u>N</u>	11977376		
PROJECT IDEN	NTIFICATION					
Task #:C01Date: $9/12/$ User:TC1	2023	State: Colora County: Fremo	ado nt	Ab	breviation: <u>N</u> Filename: <u>C</u>	one D1
Agency of	r organization nar	ne: <u>DRMS</u>				
HOURLY EQU	IPMENT COS	<u>r</u>		Shift bas	sis: <u>1 per day</u>	
,	Fruelt London Too	m Trucky Cat	Equipment Descri	ption		
	THUCK LOADEL TEA	-Loader: CA	<u>730</u> Т 966Н			
Supp	oort Equipment -I	load Area: NA				
D1)	-Di	Imp Area: NA				
Koad IV	laintenance –Mot	or Grader: NA ter Truck: Wat	ter Tanker, 2.500	Gal.		
			<u>101 1011101, 2,2000</u>	Gui		
Cost Breakdown:	Truck/Los	ader Team	Support	Equipment	Maintena	nce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$108.06	\$65.69	NA	NA	NA	\$11.35
Operating cost/hour:	\$71.88	\$48.09	NA	NA	NA	\$22.92
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$212.48	\$154.49	NA	NA	NA	\$34.27
Crown Subtatals	3 Works	\$701.02	U Support:	0 00	U	<u> </u>
Group Subtotals:	work.	\$791.93	Support:	\$0.00	Maint:	\$34.27
Total work team co	st/hour: <u>\$826.20</u>)				
MATERIAL OU	JANTITIES					
Initial volume	x 1.000	CCV	Swell	factor: 1,000		
Loose volume	: 1,000 1,000	D LCY	Swell	1actor. 1.000		
Sc	urce of estimated	volume: TP.0	3 page Λ_{-1}			
Source	e of estimated swe	ell factor: Cat H	Handbook			
	Material Purch	ase Cost: \$0.00)			
	То	otal Cost: <u>\$0.00</u>)			
HOURLY PRO	DUCTION					
Truck Canacity.						
<u>Truck Capacity.</u> Truck Payload (we	ight) Basis:					
Material	weight: 2,800		Pounds/LCY	-		
Desc	ription: <u>Granite</u>	e - Broken	Dound-			
Rated Pavload Ca	ayload: $62,000$		LCY			
i uyioud Co						

Truck Bed (volume) Basis:	17.10 1	CV				
Struck Volume:	$\frac{17.10}{22.10}$ L					
Heaped Volume:	<u>22.10</u> L	CY				
Average Volume:	<u>19.60</u> L	CY				
Adjusted Volume:	22.10 L	СҮ				
Final	Truck Volume B	ased on Number of	Loader Passes:	20.63	LCY	
Loading Tool Capacity			_			
Dated Conseitu	5 000	I CV (heared)	Buch	ket Size Class: <u>N</u>	A	
Rated Capacity:	0.825	Diasted reals	ug blastad (75	0.00/1) 0.825		-
Adjusted Capacity:	4.125	LCY	vg. blasted (75	- 90%) 0.823		-
Job Condition Corrections:		Si	te Altitude (ft.): (5200 feet		
	Truck	Loader	Source	×		
Altitude Adj:	1.000	1.000	(CAT HE	<u>5)</u>		
Job Efficiency:	0.830	0.830	(CAT HE	5)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time	Number	of Loading Tool Pa	see Required to	Fill Truck	5 -	195505
Evaluating Tool Cycle Thine.	INUIIIDEI (of Loading 10011 as	sses Required to			045505
Excavators and Front Shover	<u>s:</u>					
Machine Cycle Time vs Selected Value w	. Job Condition	Rating: <u>NA</u> Rating: NA				
Track Loaders – I	Material Descrip	tion.				
Cycle Time Elements (min.):	1					
Load: NA	Ma	neuver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadiusted Basi	c Loader Cycle Tin	ne (load dump r	maneuver). 0	500 mini	ites
Cycle Time Factors	Ondajusted Dust		ne (roud, dump, r	Factor (min)	Source	
Material:	Material 6" and	l over diameter 0 02	3		(Cat HB)	_
Stocknile	Conveyor or do	zer niled 10 ft hig	h or less 0.01	0.010	(Cat HB)	_
Truck Ownershin	Common owne	rship of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant opera	tion -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal target	0.00		0.000	(Cat HB)	_
I 8 1		Net Cycle Tim	e Adjustment:	-0.040	minutes	_
		Adjusted Load	er Cycle Time:	0.460	minutes	
		Net Load T	ime per Truck:	1.940	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.600	Minute
Truck Load Time:	1.940	Minutes	Adjusted	for site altitude:	1.940	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.000	Minute
Truck Travel (Haul & Return)) Time:	Road Condition: <u>I</u>	Firm, smooth, rol	ling, dirt/lt. surfaced	l, watered,	

Haul Rou	te:							
Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	4000.	00	-5.00	3.00	-2.00	3064	1.360	
					Haul Time:	1.360	minutes	
Return Ro	oute:							
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
1	4000.	00	5.00	3.00	8.00	1903	2.195	
				Total Tru	Return Time: ack Cycle Time:	2.195 7.095	minute	2S 2S
Loading Too Brody	ol unit	187 20	I CV/Hour		A divisted for i	ah affiaianau	404 39	I CV/Hour
Truck Unit Produ		487.20			Adjusted for j	ob efficiency.	404.38	
		174.42	LCY/Hour		Adjusted for j	ob efficiency:	144.77	LCY/Hour
Optimal No. of Tr	rucks:	3	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
			Adjuste	d hourly true	k team production	on: 434	.30 LCY	//Hour
			Adjusted sing	le truck/loade	er team production	on: 404	.38 LCY	//Hour
			Adjusted multip	le truck/loade	er team production	on: 404.	.38 LCY	/Hour
JOB TI	ME AN	ND COST						
Fleet	size:	1	Team(s)	- -	Total job time:	2.47	He	ours
Unit	cost: _	\$2.043	/LCY		Total job cost:	\$2,04	3	

Post-Mining Drainage Channel Construction (Ditches)

Cañon Dolomite Quarr		ry	Permit Action	: <u>SO-5</u>		Permit/Jo	bb#: <u>M1977376</u>
PROJE	CT IDENTIFI	CATION					
Task # Date	$ \frac{1}{2} = \frac{C02}{9/12/2023} $	Sta	te: <u>Colorad</u> ty: <u>Fremon</u>	ot		Abbreviatio Filenam	n: None e: C02
User	r: <u>TC1</u>						
	Agency or organi	ization name:	DRMS				
Channe	el		Width	Side	Width	Excavated	Excavated
	Length	Depth	(bottom)	Slopes	(top)	Vol./LF	Vol.
	(ft)	(ft)	(ft)	(XH:1V)	(ft)	(CY)	(total) (CY)
	1 450	4.00	6.00	2.00	22.00	2.0741	933
Total	s: 450						933
Ripra	.p	Perimeter,	Area for	Ripra	vol.		
1	Riprap	Р	Geotextile	(C	Y)		
	Thickness	(ft)	(excl.				
	(2xD50)		anchor				
	(ft)		(sf)				
	2.50	23.89	10,750	99	5		
Total	s:		10,750	99	5		
Materials	Needed:						
Geotexti	le (SY incl. 15%	wastage):	1,374				
	Rip	orap (CY):	995				
~	Excavat	tion (CY):	933				
<u>Costs:</u>							
I	Material Costs:	Geotextile (S	Y): <u>\$3.30</u>	Riprap	(CY): <u>\$3</u>	4.50 Excav	vation (CY): $\$0.0$
E.	Labor Cost:		\$0.32		<u>\$1</u>	4.65	<u>\$2.8</u>
E0 M	ans Reference	31 32 1916 15	<u>\$0.00</u>			<u>5.10</u> 31.23	<u>\$2.3</u>
1010	cans Reference	51 52 1910 15	10	51 57 1510	0100	51 25	1042 0510
Totals	~ " (~~~	¢4.070.4	0				
<u>Totals:</u>		$X_{2} (Y_{1}) (Z_{1})$	0				
<u>Totals:</u>	Geotextile (SY):	\$62.051.6	<u>.</u>				
<u>Totals:</u>	Geotextile (SY): Riprap (CY): Excavation (CY):	\$63,951.6	$\frac{52}{3}$				
<u>Totals:</u> I Hours:	Geotextile (SY): Riprap (CY): Excavation (CY):	\$63,951.6 \$4,881.3	<u>52</u> 3				
<u>Totals:</u> H <u>Hours:</u>	Geotextile (SY): Riprap (CY): Excavation (CY):	\$63,951.6 \$4,881.3	<u>52</u> 3				
<u>Totals:</u> Hours:	Geotextile (SY): Riprap (CY): Excavation (CY): Geotextile (SY): 87.50 SY/HR	\$63,951.6 \$4,881.3 15.70	<u>52</u> 3				
<u>Totals:</u> Hours:	Geotextile (SY): Riprap (CY): Excavation (CY): Geotextile (SY): 87.50 SY/HR Riprap (CY): 7.75 CY/HR	\$63,951.6 \$4,881.3 15.70 128.43	<u>52</u> 3				

Total Post-Mining Channel Reconstruction Cost: \$73,805

REVEGETATION WORK

Task descri	ption:	Reveg old quarry fines dispo	sal slope area -	- hydrospray	
ite: <u>Cañon D</u>	olomite Quar	ry Permit Action:	SO-5	Permit/Job	o#: <u>M1977376</u>
PROJECT	IDENTIFIC	CATION			
Task #:	C03	State: Colorado		Abbreviation:	None
Date:	9/12/2023	County: Fremont		Filename:	C03
User:	TC1				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	380.00	pound	\$0.50	\$188.75
			Total Fertilizer Materials Cost/Acre	\$188.75

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$247.86
Total Fertilizer Application Cost/Acre	\$247.86

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	3.00	9.71	\$33.38
Crown Vetch - Emerald	2.00	5.05	\$25.97
Sand Dropseed	0.20	23.88	\$1.95
Mountain Brome - Bromar	3.40	5.46	\$12.92
Crested Wheatgrass - Nordan	1.40	6.43	\$5.46
Russian Wildrye - Bozoisky	2.00	8.03	\$12.96
Alfalfa - Ladak (inoculated)	0.20	0.96	\$0.51
Milk Vetch, Cicer - Lutana	1.40	4.66	\$11.48
Thickspike Wheatgrass - Critana	1.40	4.95	\$9.63
Rabbitbrush, Rubber	0.02	0.30	\$1.29
Needlegrass, Green - Lodorm	2.80	11.63	\$32.97

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Flax, Lewis Blue	1.00	6.63	\$16.50
Saltbush, Four Wing	1.00	1.38	\$12.50
Winter Fat	1.60	4.08	\$32.80
Penstemon, Palmer	1.40	30.96	\$76.30
Totals Seed Mix	22.82	124.11	\$286.61

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$1,313.33
	Total Seed Application Cost/Acre	\$1,313.33

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,306.80
Total Mulch Application Cost/Acre	\$1,306.80

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:	1	Cost /Ac	re: \$4,541.72
Estimate	ed Failure Rate:	25%	Cost /Acr	e*: \$4,202.92
*Selected Replanti	ng Work Items:	FERTILIZING, SEEDI	NG,	
-	-	MULCHING		
Initial Job Cost:	\$4,541.72			
Reseeding Job Cost:	\$1,050.73			
Total Job Cost:	\$5,592			
Job Hours:	2.00			

REVEGETATION WORK

Task descr	iption:	Reveg Old Quarry fines disp	osal open area	ı - Drill Seed	
Site: Cañon I	Dolomite Quar	ry Permit Action:	SO-5	Permit/Job	o#: <u>M1977376</u>
PROJECT	<u>IDENTIFIC</u>	ATION			
Task #:	C04	State: Colorado		Abbreviation:	None
Date:	9/12/2023	County: Fremont		Filename:	C04
User:	TC1				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	380.00	pound	\$0.50	\$188.75
			Total Fertilizer Materials Cost/Acre	\$188.75

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$247.86
Total Fertilizer Application Cost/Acre	\$247.86

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	1.50	4.86	\$16.69
Crown Vetch - Emerald	1.00	2.53	\$12.99
Sand Dropseed	0.10	11.94	\$0.98
Mountain Brome - Bromar	1.70	2.73	\$6.46
Crested Wheatgrass - Nordan	0.70	3.21	\$2.73
Russian Wildrye - Bozoisky	1.00	4.02	\$6.48
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.26
Milk Vetch, Cicer - Lutana	0.70	2.33	\$5.74
Thickspike Wheatgrass - Critana	0.70	2.47	\$4.81
Rabbitbrush, Rubber	0.01	0.15	\$0.64
Needlegrass, Green - Lodorm	1.40	5.82	\$16.49

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Flax, Lewis Blue	0.50	3.32	\$8.25
Saltbush, Four Wing	0.50	0.69	\$6.25
Winter Fat	0.80	2.04	\$16.40
Penstemon, Palmer	0.70	15.48	\$38.15
Totals Seed Mix	11.41	62.06	\$143.30

Application

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

MULCHING and MISCELLANEOUS

Materials

Acre	Unit	Cost / Unit	Cost /Acre
2.00	TON	\$429.79	\$859.57
			\$859 57
Ac 2.0	re)0	re Unit 00 TON	re Unit Cost / Unit 00 TON \$429.79

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Total Mulch Application Cost/Acre	\$74.46

NURSERY STOCK PLANTING

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

JOB TIME AND COST

	No. of Acres:	2	Cost /Acre:	\$2,084.74	
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$1,745.94	
*Selected Replanti	ng Work Items:	FERTILIZING, SEEDIN	G,		
		MULCHING			
Initial Job Cost:	\$4,169.48				
Reseeding Job Cost:	\$872.97				
Total Job Cost:	\$5,042				
Job Hours:	4.00				

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description	: <u>Mo</u>	b/Demob Equipm	ıent				
: Cañon Dolom	nite Quarry	Permit	Action: <u>SO-5</u>]	Permit/Job#: <u>M</u>	1977376
PROJECT IDE	NTIFICATI	<u>ION</u>					
Task #: M Date: 9/1 User: TC	10 2/2023 21	State: <u>Co</u> County: <u>Fr</u>	lorado emont		Abbre Fi	eviation: <u>None</u> ilename: <u>M10</u>	
Agency	or organization	n name: DRMS					
EQUIPMENT '	TRANSPOR	<u>T RIG COST</u>					
Truc	k Tractor Desc k Trailer Desc	rription: GENE	RIC ON-HIGH ENERIC FOLE	WAY TR <u>400 HI</u>)ING GO(TRAILER	Cost Data Sour UCK TRACTO <u>2 (2ND HALF,</u> OSENECK, DF 2 (25T, 50T, A)	ISIS: <u>I per da</u> rce: <u>CRG Da</u> DR, 6X4, DIESEL 2006) ROP DECK EQUI	y ta POWERED, IPMENT
Cost Breakdown:		0.25 Terra	26 50 T				
Available Kig C	-apacities	920 26	20-50 100s		+10ns		
Ownership	g Cost/Hour	\$20.20	\$30.04	<u>م</u>	292.95		
Operating	g Cost/Hour.	\$39.31	\$70.00		22.05		
	r Cost/Hour:	\$22.32	\$22.52	Q	22.32		
Total Uni	r Cost/Hour:	\$0.00	\$23.33 \$159.17	<u> </u>	175.05		
NON ROADAE	SLE EQUIPN	<u>MENT:</u>	\$136.17	Q]	175.75		
Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat 730	25.19	\$108.06	\$82.29	4	\$761.40	\$329.16	\$1,000.00
CAT 966H	25.80	\$65.69	\$82.29	1	\$147.98	\$82.29	\$250.00
CAT 160M	17.53	\$102.08	\$82.29	1	\$184.37	\$82.29	\$250.00
Cat D8T - 8SU	47.71	\$241.38	\$158.17	1	\$399.55	\$158.17	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00
Hydroseeder with	28 00	\$12.80	\$158.17	1	\$170 97	\$158.17	\$250.00

Subtotals: \$1,772.50 \$892.37 \$2,250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	\$34.27	1	\$34.27	\$34.27
		Subtotals:	\$34.27	\$34.27

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CAÑON CITY	
Total one-way travel distance:	4.00	miles
Average Travel Speed:	30.00	mph
Total Non-Roadable Mob/Demob Cost *	\$6,983.13	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$9.14	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.77	0.27

JOB TIME AND COST

Total job time: **1.53** Hours

Total job cost: \$6,992