



COLORADO

Division of Reclamation,
Mining and Safety


Department of Natural Resources

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: Parkdale Quarry	MINE/PROSPECTING ID#: M-1997-054	MINERAL: Sandstone (silica, stone, quartzite), gravel and granite, granite gneiss	COUNTY: Fremont
INSPECTION TYPE: Monitoring	WEATHER: Clear	INSP. DATE: January 29, 2025	INSP. TIME: 12:50
OPERATOR: Front Range Aggregates, LLC	OPERATOR REPRESENTATIVE: Mr. Philip Courtney & Mr. Chris Scheeley	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$7,156,889.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
INSPECTOR(S): Jocelyn Carter	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: March 13, 2025

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.

INSPECTION TOPIC: Financial Warranty

PROBLEM: The financial warranty is not adequate to reclaim the site in accordance with the approved reclamation plan. This is a failure to maintain the proper financial warranty amount to complete reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) of the Act.

CORRECTIVE ACTIONS: The operator shall submit comments to the Division regarding the attached reclamation cost estimate by the corrective action date. If the Division does not receive a response by the corrective action date, the Division will be sending a separate surety increase notice to the operator regarding the increase of the financial warranty. The operator will have 60 days from the date on the surety increase notice to post the additional financial warranty.

CORRECTIVE ACTION DUE DATE: 3/28/25

OBSERVATIONS

The Parkdale Quarry, Permit No. M-1997-054, inspection was conducted by me, Jocelyn Carter, on behalf of the Division of Reclamation, Mining, and Safety (Division/DRMS). Front Range Aggregates, LLC is the permittee for the permit and is a subsidiary of Martin Marietta Materials. Messrs. Philip Courtney and Chris Scheeley were present during the inspection on behalf of the permittee. The weather was clear, and the temperatures were cool.

Parkdale Quarry is located approximately ten miles west of Canon City, Colorado in Fremont County on the north side of U.S. Hwy 50 and just upstream from confluence of the Arkansas River with Tallahassee Creek. The operation mines sand, gravel, and granite for the purposes of construction aggregate. There is a Union Pacific railroad that runs along the south perimeter of the permitted area. There are a couple of spurs of rail that go onto the permitted area for the purposes of loading and transporting material. Several different pieces and types of equipment were on site at the time of the site visit and processing plant was in operation.

As part of this inspection, a complete bond calculation was done to verify the adequacy of the financial warranty. The results of the calculation showed that the currently held bond is inadequate, and a problem is being cited in this report for the financial warranty. Details of the calculation are given below, and details of the corrective action are provided above.

Photos taken during the site visit are included in this report. Questions regarding this inspection report should be directed to me by email at Jocelyn.carter@state.co.us or by phone at (720) 666-1065.

Records

There are no open infractions or enforcement items with this permit. The surface and mineral rights are privately and federally owned. The last inspection was performed August 9, 2021, during the Amendment application (AM-2) that was submitted to the Division May 10, 2021. The approval of AM-2 on December 29, 2021, increased the permitted area by 1,400 acres and the disturbed area by 700 acres. Since the approval of AM-2, the MMM has submitted two Technical Revisions, TR-7 and TR-8. The TR-7 application moved monitoring points of Currant Creek and Tallahassee Creek and was approved on December 16, 2022. The TR-8 application modified the surface and groundwater monitoring plan and was approved on March 1, 2024.

Hydrological Balance

There did not appear to be a disturbance with the hydrologic balance in the area.

General Mine Plan Compliance

The mining operation appeared to be following the approved mining plan.

Signs and Markers

The mine sign at the time of the inspection was not in compliance with Rule 3.1.12(1); the sign did not display the MLRB permit number, see Photo #1. The issue was brought to the attention of Messrs. Courtney and Scheeley during the inspection. Mr. Courtney posted a sign in compliance with Rule 3.1.12(1), to include the permit number and the operator's name, see Photo #2. The monument used to mark the southern permit boundary is a fence and it appeared to be in good condition.

Overburden/Developed Waste

The overburden that is stored on the northwestern portion of the alluvial area appeared stable and in good condition, see Photo #3. Stockpiles are vegetated and situated on the west end of the alluvial pit area.

Acid or Toxic Materials

Fuel is kept on site in a large tank on a concrete pad with fencing surrounding the fuel storage. Spill kits were observed around the mine facilities, and there was no evidence of spills on site, see Photo #9.

Financial Warranty

The current bond held by the Division for this permit is \$7,156,889. An updated reclamation cost estimate (RCE) was calculated as part of this inspection. The calculation was done using the approved current RCE, the currently disturbed areas, and the reclamation activities that have been completed according to the 2025 annual report. According to the calculation, the required financial warranty for this permit is \$8,855,791, an increase of \$1,698,902; the currently held amount is no longer adequate. A problem is being cited in this report regarding the financial warranty and the calculated RCE is attached to this report.

Backfill & Grading

According to the annual map, some areas of the granite pit have been backfilled and graded, the slopes appear stable, with no erosional issues, and vegetation has started to become established, see Photo #6.

Processing Facilities

The process facility was in good condition and running at the time of inspection, see Photo #10.

Fish & Wildlife

There did not appear to be a negative impact on the wildlife in the area.

Stormwater Management Plan

The drainage ditches along the road and berms appeared to be in good condition, see Photo #5.

Erosion/Sedimentation

There were no areas of sedimentation or erosion occurring.

Off-site Damage

No off-site damages were observed to be occurring or were at risk of occurring.

Roads

The roads appeared to be in good condition, see Photos #3, #5, and #6.

Explosives

A blast plan is approved with the permit. Blasting is done by a third party, Buckley Powder Company, so explosives and blasting equipment are not stored on site. The next planned blast was for the week after the site inspection was conducted.

Topsoil

Topsoil is stockpiled and stored in two areas of the permit. One stockpile is located to the west of the Alluvial Reservoir area and another on the southwest side of the Alluvial Reservoir area. The stockpiles appeared to be stable, well vegetated, undisturbed, and adequate for reclamation activities, see Photo #3.

Revegetation

There did not appear to be any noxious weeds growing on the permit site. Fremont County does spray the area for noxious weeds.

PHOTOGRAPHS



Photo #1: Mine sign showing the operation name.



Photo #2: A corrected mine sign posted after the site visit on a fence along the entrance road for the site with the remaining required information required by Rule 3.1.12(1), photo provided by the operator.



Photo #3: Fence marking the permit boundary along the south perimeter, the Union Pacific railroad line can be seen on the other side of the fence. An overburden and topsoil stockpile can be seen on the left side of the internal road.



Photo #4: A view of the alluvial pit reservoir area, looking southwest.



Photo #5: A view of the road north of the alluvial pit reservoir, a drainage ditch can be seen between the road and the berm; looking west.



Photo #6: A view of the granite pit area, looking to the north-northeast. The upper portions are the areas that have been backfilled, graded, and seeded; the lower benches will be blasted and then backfilled and graded as the operator progresses.



Photo #7: A view of the recent remanence of the last blast and the next highwall that will be backfilled; looking to the south.



Photo #8: View of the office structure.



Photo #9: View of facility structures and conex storage containers, an example of a spill kit barrel can be seen between storage containers.



Photo #10: View of the alluvial pit reservoir, looking to the southeast. The active processing area can be seen in the background, a flag is posted on the top of the most recently processed material stockpile and the conveyor.

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----- PB	(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>N</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>NA</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>NA</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

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

Inspection Contact Address

Mr. Philip Courtney & Mr. Chris Scheeley
Front Range Aggregates, LLC
C/o MartinMarietta Materials, Inc.
Lakewood, CO 80401

Enclosure: Division of Reclamation, Mining, and Safety's Reclamation Cost Estimate

CC: Amy Eschberger, DRMS

COST SUMMARY WORK

Task description: _____

Site: Parkdale Quarry

Permit Action: 2025 Inspection

Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 2/27/2025

County: Fremont

Filename: M054-000

User: JLC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
A010	Backfill alluvial pit (Source A: overburden/waste)	SCRAPER1	1	818.79	\$2,236,622
A011	Backfill alluvial pit (Source B: blasted from private granit	TRUCK1	1	1,127.85	\$2,721,160
A012	Place topsoil on 131 acres @ 9" depth	TRUCK1	1	414.02	\$487,939
A013	Reveg 131-Ac Alluvial Pit Area	REVEGE	1	268.00	\$118,438
AR10	Rip pit floor for 90% of liner	RIPPER	1	160.53	\$77,413
AR15	Recompact ripped reservoir floor	COMPACT	1	23.27	\$11,128
AR20	Transport/place 90% reservoir liner from alluvial pit floor	SCRAPER1	1	189.09	\$395,093
AR22	Transport/place 10% reservoir liner from onsite stockpile	SCRAPER1	1	12.96	\$22,559
E100	Backfill 4,000 ft of benches not concurrently reclaimed	TRUCK1	1	138.65	\$162,684
E105	Hydroseed 4,000 ft of benches not concurrently reclaimed	REVEGE	1	8.00	\$8,979
E110	Rip pit floor of Phase 1	RIPPER	1	34.32	\$16,628
E112	Construct drainage channels - Remove blasted material	TRUCK1	1	24.82	\$30,842
E115	Topsoil pit floor of Phase 1 (9 inches)	TRUCK1	1	70.97	\$83,637
E120	Reveg pit floor of Phase 1	REVEGE	1	50.00	\$46,535
G100	Backfill 1,000 ft of benches not concurrently reclaimed	TRUCK1	1	25.68	\$34,528
G105	Hydroseed 1,000 ft of benches not concurrently reclaimed	REVEGE	1	4.00	\$2,362
G110	Rip existing granite pit floor	RIPPER	1	26.28	\$12,734
G115	Topsoil existing pit floor (9 inches x 23.14 Ac)	TRUCK1	1	61.42	\$85,469
G120	Reveg existing granite pit floor	REVEGE	1	40.00	\$35,637
SW01	Sitewide cleanup - 151 hrs of Compactor work	COMPACT	1	151.18	\$14,370
SW02	Sitewide cleanup ~\$215/hr grader	GRADER	1	150.31	\$32,275
SW03	Sitewide cleanup D7 dozer	DOZERGRADER	1	151.00	\$31,375
SW04	Sitewide cleanup Water Truck	MISCTRUK	1	151.00	\$26,840
SW99	Mob/Demob equipment	MOBILIZE	1	14.38	\$85,753
WG02	Demo plant concrete support structures & conveyor	DEMOLISH	1	12.00	\$12,593
WG04	Scarify compacted ground	RIPPER	1	36.16	\$17,517
WG05	Replace topsoil (6 in x 26 Ac)	TRUCK1	1	42.95	\$57,992

WG06	Seed and Mulch plant area	REVEGE	1	50.00	\$49,024
A014	Soil Testing for Fertilizer Assessment (LS)	NA	1	2.00	\$1,500
AR21	Purchase, deliver FOB offsite 6,600 CY clay (\$7/ton @1.8T/C)	NA	1	0.00	\$83,160
E111	Construct drainage channels - Blasting (LS: 9,778 CY @ \$1.40	NA	1	80.00	\$13,689
<u>SUBTOTALS:</u>				4339.63	\$7,016,475

INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$141,733
Performance bond:	1.05	Total =	\$73,673
Job superintendent:	2,169.82	Total =	\$172,001
Profit:	10.00	Total =	\$701,648
		TOTAL O & P =	\$1,089,055
		CONTRACT AMOUNT (direct + O & P) =	\$8,105,530

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$344,485
Reclamation management and/or administration:	5.00		\$405,276
CONTINGENCY: 0.00		Total =	\$0

TOTAL INDIRECT COST = \$1,839,316

TOTAL BOND AMOUNT (direct + indirect) = \$8,855,791

Task Outline

Axxx	Alluvial Pit Area	5 tasks
ARxx	Alluvial Pit Reservoir	5 tasks
E1xx	Expansion Area	7 tasks
Gxxx	Granite Pit Area	5 tasks
SWxx	Sitewide Cleanup	5 tasks
WGxx	Wash Plant Removal	4 tasks

SCRAPER TEAM WORKTask description: **Backfill alluvial pit (Source A: overburden/waste)**Site: **Parkdale Quarry**Permit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: A010State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: A010User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D9T - 9SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$329.66	\$253.16	NA	\$253.16	\$129.81	\$73.42
Operating cost/hour:	\$347.48	\$164.35	NA	\$164.35	\$89.13	\$83.21
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$38.59	NA	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$708.04	\$456.10	NA	\$456.10	\$246.70	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work:	\$1,872.18	Support:	\$456.10	Maint:	\$403.33

Total work team cost/hour: **\$2,731.61****MATERIAL QUANTITIES**Initial volume: 550,000

CCY

Swell factor: 1.250Loose volume: **687,500**

LCY

Source of estimated volume: AM-2, Exh L, p. 7Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock,</u>	Heaped Volume:	<u>34.00</u>	LCY
	<u>75% Earth</u>			
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>30.79 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.60 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 5800 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	-5.00	5.00	0.00	2965	0.84

Haul Time: 0.84 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	5.00	5.00	10.00	1476	1.40

Return Time: 1.40 minutesTotal Scraper team cycle time: 3.44 minutesAdjusted for job conditions: 419.83 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 839.65 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 839.65 LCY/HourUnadjusted unit production/hour: 505.81 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 818.79 HoursUnit cost: \$3.253 /LCYTotal job cost: \$2,236,622

TRUCK/LOADER TEAM WORKTask description: **Backfill alluvial pit (Source B: blasted from private granit**Site: **Parkdale Quarry**Permit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: A011State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: A011User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 775F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D9T - 9SU
Road Maintenance –Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$121.08	\$115.73	NA	\$253.16	\$104.47	\$73.42
Operating cost/hour:	\$101.43	\$130.33	NA	\$164.35	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$247.75	\$282.91	NA	\$456.10	\$214.71	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$778.41		Support: \$456.10		Maint: \$371.34	

Total work team cost/hour: **\$1,605.85****MATERIAL QUANTITIES**Initial volume: 650,000

CCY

Swell factor: 1.000Loose volume: **650,000**

LCY

Source of estimated volume: AM-2, Exh L, p. 7/ Material cost is for blasting (\$1.40/CY)Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$1.40Total Cost: \$910,000.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 3,250

Pounds/LCY

Description: Gravel - PitrunRated Payload: 141,220

Pounds

Payload Capacity: 43.45

LCY

Truck Bed (volume) Basis:

Struck Volume:	43.30	LCY
Heaped Volume:	55.60	LCY
Average Volume:	49.45	LCY
Adjusted Volume:	43.45	LCY

Final Truck Volume Based on Number of Loader Passes: 37.13 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	11.250	LCY (heaped)
Bucket Fill Factor:	0.825	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	9.281	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 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 Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		0.560	minutes
Net Load Time per Truck:		1.780	minutes

Truck Cycle Time:

Truck Exchange Time:	0.80	Minutes	Adjusted for site altitude:	0.800	Minutes
Truck Load Time:	1.780	Minutes	Adjusted for site altitude:	1.780	Minutes
Truck Maneuver and Dump Time:	1.20	Minutes	Adjusted for site altitude:	1.200	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	-3.00	4.00	1.00	3550	1.284

Haul Time: **1.284** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	3.00	4.00	7.00	2453	1.352

Return Time: **1.352** minutesTotal Truck Cycle Time: **6.416** minutes

Loading Tool unit

Production 863.37 LCY/Hour Adjusted for job efficiency: 716.60 LCY/Hour
 Truck Unit Production 347.18 LCY/Hour Adjusted for job efficiency: 288.16 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 576.32 LCY/Hour
 Adjusted single truck/loader team production: 576.32 LCY/Hour
 Adjusted multiple truck/loader team production: **576.32** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **1,127.85** HoursUnit cost: \$2.786 /LCY Total job cost: **\$2,721,160**

TRUCK/LOADER TEAM WORKTask description: Place topsoil on 131 acres @ 9" depthSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: A012State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: A012User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	CAT 160M
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$108.25	\$69.00	NA	\$104.47	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$82.48	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$27.76	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$214.71	\$214.71	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$592.48		Support: \$214.71		Maint: \$371.34	

Total work team cost/hour: \$1,178.53**MATERIAL QUANTITIES**Initial volume: 158,510

CCY

Swell factor: 1.429Loose volume: 226,447

LCY

Source of estimated volume: AM-2, Exh L, pp. 3 & 9Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 87,000

Pounds

Payload Capacity: 54.38

LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
2	2000.00	-1.00	4.00	3.00	3005	1.458

Haul Time: **1.458** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	1.00	4.00	5.00	3005	0.905

Return Time: **0.905** minutesTotal Truck Cycle Time: **5.600** minutes

Loading Tool unit

Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
Truck Unit Production 329.48 LCY/Hour Adjusted for job efficiency: 273.47 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 546.94 LCY/Hour
Adjusted single truck/loader team production: 546.94 LCY/Hour
Adjusted multiple truck/loader team production: **546.94** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **414.02** HoursUnit cost: \$2.155 /LCY Total job cost: **\$487,939**

REVEGETATION WORKTask description: Reveg 131-Ac Alluvial Pit AreaSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: A013State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: A013User: JLCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Total Tilling Cost/Acre	\$117.61

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.20	0.96	\$0.80
Blue Grama - Native	1.10	17.95	\$23.46
Indian Ricegrass - Native	2.10	6.80	\$36.31
Canby Bluegrass - Canbar	0.20	4.25	\$3.00
Sand Dropseed	0.05	5.97	\$0.65
Sideoats Grama - Vaughn	1.80	5.91	\$44.26
Sheep Fescue - Bighorn	0.40	6.24	\$1.98
Thickspike Wheatgrass - Critana	1.60	5.66	\$13.04
Western Wheatgrass - Native	2.00	5.05	\$18.01
Sage, Fringed	0.03	2.51	\$2.98

Sagebrush, Louisiana or Prairie	0.03	3.02	\$5.55
Saltbush, Four Wing	0.10	0.14	\$1.99
Spike Muhly	0.20	7.35	\$2.27
Sumac, Skunkbrush	0.10	0.05	\$4.51
Purple Three-Awn	0.10	1.15	\$8.54
Totals Seed Mix	10.01	73.01	\$167.35

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.13	\$4.13
Total Mulch Materials Cost/Acre				\$4.13

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Total Mulch Application Cost/Acre	\$85.37

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: 131 Cost /Acre: \$823.31
 Estimated Failure Rate: 20% Cost /Acre*: \$403.99
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$107,853.61**
 Reseeding Job Cost: **\$10,584.54**
 Total Job Cost: **\$118,438**
 Job Hours: **268.00**

BULLDOZER RIPPING WORK

Task description: Rip pit floor for 90% of liner

Site: Parkdale Quarry

Permit Action: 2025 Inspection

Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: AR10

State: Colorado

Abbreviation: None

Date: 2/27/2025

County: Fremont

Filename: AR10

User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Ripper Attachment: 1-Shank Ripper

Horsepower: 405

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper Ownership Cost/Hour:	\$15.77	NA
Ripper Operating Cost/Hour:	\$10.35	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$482.22	
Total Fleet Cost/Hour:	\$482.22	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 59,400 BCY Bank Volume: 59,400 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: AM-2 Exh L - 90% of 66,000 CY req'd volume

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 445.80 Cu. yds./hr

Site Altitude: 6,800 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 370.01 Cu. yds./hr

Adjusted Hourly Fleet Production: **370.01** Cu. yds./hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **160.53** Hours

Unit cost: \$1.303 Per cu. yd. Total job cost: **\$77,413**

COMPACTION WORK

Task description: Recompact ripped reservoir floor

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: AR15 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: AR15
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 836H Horsepower: 499
Compactor Type: Sanitation - chopper foot Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$211.62	Utilization %
Operating Cost/Hour:	\$240.90	NA
Operator Cost/Hour:	\$25.60	100
Total Unit Cost/Hour:	\$478.12	NA
Total Fleet Cost/Hour:	\$478.12	

MATERIAL QUANTITIES

Loose volume: 7,911 LCY Shrinkage factor: 0.875
Compacted volume: 6,922 CCY
Source of estimated volume: Exh F, 9.81 Ac floor x 6" depth
Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W): 9.16 feet
Average Compactor Speed (S): 2.00 mph
Compacted thickness of each lift (L): 6.00 inches
Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
Required number of machine passes (P): 5 passes
Unadjusted Hourly Unit Production: 358.34 CCY/hour

Job Condition Correction Factors

Site Altitude: 6,800 feet

Altitude Adj:	<u>1.00</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.8300</u>	(1 shift/day)
		multiplier

Adjusted Hourly Unit Production: 297.42 CCY/Hour
Adjusted Hourly Fleet Production: 297.42 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 23.27 Hours
Unit cost: \$1.608 per CCY Total job cost: \$11,128

SCRAPER TEAM WORKTask description: Transport/place 90% reservoir liner from alluvial pit floorSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: AR20State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: AR20User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	CAT 815F
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$217.39	\$253.16	NA	\$107.16	\$104.47	\$73.42
Operating cost/hour:	\$257.76	\$164.35	NA	\$117.19	\$82.48	\$83.21
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$38.59	NA	\$25.60	\$27.76	\$0.00
Unit Subtotals:	\$506.05	\$456.10	NA	\$249.95	\$214.71	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work:	\$1,468.20	Support:	\$249.95	Maint:	\$371.34

Total work team cost/hour: \$2,089.49**MATERIAL QUANTITIES**Initial volume: 59,400

CCY

Swell factor: 1.165Loose volume: 69,201

LCY

Source of estimated volume: AM-2, Exh L, p. 4Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight: 2,100 lbs/LCY
 Material description: Shale
 Rated Payload: 52,800 pounds
 Payload Capacity: 25.14 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: 18.85 LCY

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 5800 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: Soft, rutted dirt, no maintenance or water, 8" tire penetration 14Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	5.00	14.00	19.00	578	3.12

Haul Time: 3.12 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	-5.00	14.00	9.00	1930	1.01

Return Time: 1.01 minutesTotal Scraper team cycle time: 5.13 minutesAdjusted for job conditions: 182.99 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 365.98 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 365.98 LCY/HourUnadjusted unit production/hour: 220.47 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 189.09 HoursUnit cost: \$5.709 /LCYTotal job cost: \$395,093

SCRAPER TEAM WORKTask description: Transport/place 10% reservoir liner from onsite stockpileSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: AR22State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: AR22User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	CAT 815F
Road Maintenance -Motor Grader:	NA
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	100
Ownership cost/hour:	\$217.39	\$173.32	NA	\$107.16	NA	\$73.42
Operating cost/hour:	\$257.76	\$109.71	NA	\$117.19	NA	\$83.21
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	\$0.00
Operator cost/hour:	\$30.90	\$38.59	NA	\$25.60	NA	\$0.00
Unit Subtotals:	\$506.05	\$321.62	NA	\$249.95	NA	\$156.63
Number of Units:	2	1	0	1	0	1
Group Subtotals:	Work:	\$1,333.72	Support:	\$249.95	Maint:	\$156.63

Total work team cost/hour: \$1,740.30**MATERIAL QUANTITIES**Initial volume: 6,600

CCY

Swell factor: 1.250Loose volume: 8,250

LCY

Source of estimated volume: DRMS (place material from Task AR21)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight: 2,800 lbs/LCY
 Material description: Clay - Wet
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.86 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: 18.85 LCY

Cycle Time:Scraper Loading Time: 0.50 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 5800 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-3.00	8.00	5.00	2218	0.85

Haul Time: 0.85 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	3.00	8.00	11.00	1584	1.00

Return Time: 1.00 minutesTotal Scraper team cycle time: 2.95 minutesAdjusted for job conditions: 318.21 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 636.43 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 636.43 LCY/HourUnadjusted unit production/hour: 383.39 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.96 HoursUnit cost: \$2.734 /LCYTotal job cost: \$22,559

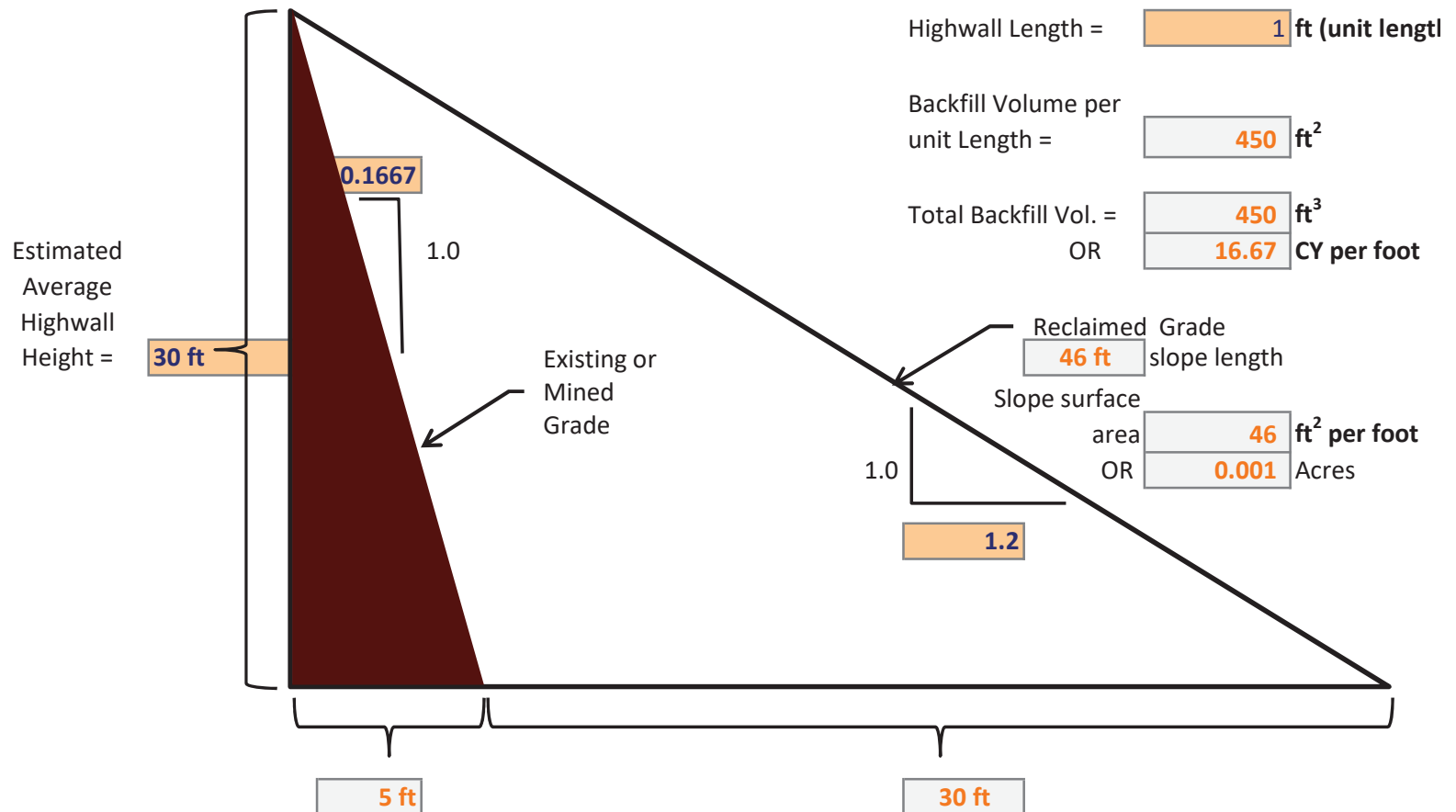
Task # E100.1 Highwall Backfill Volume Estimate

PROJECT: Parkdal Quarry
 PERMIT No.: M-1997-054: AM-2
 HIGHWALL LOCATION: Granite Quarries (Generic)

DATE: 12/13/2021

LEGEND

Input
Result



HIGHWALL BACKFILL VOLUME ESTIMATE

TRUCK/LOADER TEAM WORKTask description: Backfill 4,000 ft of benches not concurrently reclaimedSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054PROJECT IDENTIFICATIONTask #: E100State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: E100User: JLCAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D6T LGP
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance Equipment

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$108.25	\$69.00	NA	\$99.72	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$71.22	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$209.53	\$214.71	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$592.48		Support: \$209.53		Maint: \$371.34	

Total work team cost/hour: \$1,173.35MATERIAL QUANTITIESInitial volume: 66,680

CCY

Swell factor: 1.250Loose volume: 83,350

LCY

Source of estimated volume: AM2, Exh L, p. 2 - PAR resp.; Tsk E100.1Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:Truck Payload (weight) Basis:Material weight: 2,650 Pounds/LCYDescription: Decomposed rock - 25% Rock, 75% EarthRated Payload: 87,000 PoundsPayload Capacity: 32.83 LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	2.00	4.00	6.00	1566	1.213

Haul Time: **1.213** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-2.00	4.00	2.00	3005	0.645

Return Time: **0.645** minutesTotal Truck Cycle Time: **5.095** minutes

Loading Tool unit

Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
 Truck Unit Production 362.14 LCY/Hour Adjusted for job efficiency: 300.58 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 601.16 LCY/Hour
 Adjusted single truck/loader team production: 601.16 LCY/Hour
 Adjusted multiple truck/loader team production: **601.16** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **138.65** HoursUnit cost: \$1.952 /LCY Total job cost: **\$162,684**

REVEGETATION WORKTask description: Hydroseed 4,000 ft of benches not concurrently reclaimedSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: E105State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: E105User: JLCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.40	1.93	\$1.60
Blue Grama - Native	2.20	35.91	\$46.92
Indian Ricegrass - Native	4.20	13.60	\$72.63
Canby Bluegrass - Canbar	0.40	8.50	\$6.00
Sand Dropseed	0.10	11.94	\$1.30
Sideoats Grama - Vaughn	3.60	11.82	\$88.53
Sheep Fescue - Bighorn	0.80	12.49	\$3.97
Thickspike Wheatgrass - Critana	3.20	11.31	\$26.07
Western Wheatgrass - Native	4.00	10.10	\$36.02

Sage, Fringed	0.06	5.01	\$5.95
Sagebrush, Louisiana or Prairie	0.06	6.05	\$11.09
Saltbush, Four Wing	0.20	0.28	\$3.97
Spike Muhly	0.40	14.69	\$4.54
Sumac, Skunkbrush	0.20	0.09	\$9.03
Purple Three-Awn	0.20	2.30	\$17.08
Totals Seed Mix	20.02	146.01	\$334.69

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,359.07
Total Seed Application Cost/Acre	\$1,359.07

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 Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres:	4	Cost /Acre:	\$1,905.97
Estimated Failure Rate:	20%	Cost /Acre*:	\$1,693.76
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$7,623.88
Reseeding Job Cost:	\$1,355.01
Total Job Cost:	\$8,979
Job Hours:	8.00

BULLDOZER RIPPING WORK

Task description: Rip pit floor of Phase 1

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: E110 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: E110
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper Ownership Cost/Hour:	\$18.79	NA
Ripper Operating Cost/Hour:	\$9.48	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$484.37	
Total Fleet Cost/Hour:	\$484.37	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 24.68 acres Rip Depth (ft): 1.00 Volume: 39,817 BCY or CCY

Source of estimated quantity: AM-2, Exh D2 Map

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.63 feet/pass
Average Ripping Width: 7.67 feet/pass
Average Ripping Length: 300.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.866 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.866 Acres/hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.72 Acres/hr
Adjusted Hourly Fleet Production: **0.72** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **34.33** Hours

Unit cost: \$673.740 Per acre Total job cost: **\$16,628**

TRUCK/LOADER TEAM WORKTask description: **Construct drainage channels - Remove blasted material**Site: **Parkdale Quarry**Permit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: E112State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: E112User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	Cat D7R DS XR Series II
-Dump Area:	CAT 928Hz
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	75	100	100	100
Ownership cost/hour:	\$108.25	\$69.00	\$90.24	\$27.62	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	\$59.21	\$26.31	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	\$38.59	\$36.85	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	\$188.04	\$90.78	\$214.71	\$156.63
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work: \$592.48		Support: \$278.82		Maint: \$371.34	

Total work team cost/hour: **\$1,242.64****MATERIAL QUANTITIES**Initial volume: 9,778

CCY

Swell factor: 1.320Loose volume: **12,907**

LCY

Source of estimated volume: AM2, Exh L, p. 2 - PAR resp. (assume trucked to conveyor)Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,800

Pounds/LCY

Description: Granite - BrokenRated Payload: 87,000

Pounds

Payload Capacity: 31.07

LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.07	LCY

Final Truck Volume Based on Number of Loader Passes: **26.25** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	0.875	Blasted rock - well blasted (80 - 95%) 0.875
Adjusted Capacity:	6.563	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		0.510	minutes
Net Load Time per Truck:		1.630	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.630	Minutes	Adjusted for site altitude:	1.630	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-2.00	4.00	2.00	3005	0.962

Haul Time: **0.962** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	2.00	4.00	6.00	2742	0.769

Return Time: **0.769** minutesTotal Truck Cycle Time: **5.028** minutes

Loading Tool unit

Production 698.45 LCY/Hour Adjusted for job efficiency: 579.71 LCY/Hour
Truck Unit Production 313.27 LCY/Hour Adjusted for job efficiency: 260.01 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 520.02 LCY/Hour
Adjusted single truck/loader team production: 520.02 LCY/Hour
Adjusted multiple truck/loader team production: **520.02** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **24.82** HoursUnit cost: \$2.390 /LCY Total job cost: **\$30,842**

TRUCK/LOADER TEAM WORKTask description: Topsoil pit floor of Phase 1 (9 inches)Site: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054PROJECT IDENTIFICATIONTask #: E115State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: E115User: JLCAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	CAT 160M
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance Equipment

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$108.25	\$69.00	NA	\$104.47	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$82.48	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$27.76	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$214.71	\$214.71	\$156.63
Number of Units:	2	1	0	1	1	1
Group Subtotals:	Work: \$592.48		Support: \$214.71		Maint: \$371.34	

Total work team cost/hour: \$1,178.53MATERIAL QUANTITIESInitial volume: 29,863

CCY

Swell factor: 1.429Loose volume: 42,662

LCY

Source of estimated volume: AM-2, Exh L, p. 3Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:Truck Payload (weight) Basis:Material weight: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 87,000

Pounds

Payload Capacity: 54.38

LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
2	1500.00	2.00	4.00	6.00	1566	1.213

Haul Time: **1.213** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-2.00	4.00	2.00	3005	0.645

Return Time: **0.645** minutesTotal Truck Cycle Time: **5.095** minutes

Loading Tool unit

Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
 Truck Unit Production 362.14 LCY/Hour Adjusted for job efficiency: 300.58 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 601.16 LCY/Hour
 Adjusted single truck/loader team production: 601.16 LCY/Hour
 Adjusted multiple truck/loader team production: **601.16** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **70.97** HoursUnit cost: \$1.960 /LCY Total job cost: **\$83,637**

REVEGETATION WORKTask description: Reveg pit floor of Phase 1Site: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: E120State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: E120User: JLCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Total Tilling Cost/Acre	\$117.61

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.20	0.96	\$0.80
Blue Grama - Native	1.10	17.95	\$23.46
Indian Ricegrass - Native	2.10	6.80	\$36.31
Canby Bluegrass - Canbar	0.20	4.25	\$3.00
Sand Dropseed	0.05	5.97	\$0.65
Sideoats Grama - Vaughn	1.80	5.91	\$44.26
Sheep Fescue - Bighorn	0.40	6.24	\$1.98
Thickspike Wheatgrass - Critana	1.60	5.66	\$13.04
Western Wheatgrass - Native	2.00	5.05	\$18.01
Sage, Fringed	0.03	2.51	\$2.98

Sagebrush, Louisiana or Prairie	0.03	3.02	\$5.55
Saltbush, Four Wing	0.10	0.14	\$1.99
Spike Muhly	0.20	7.35	\$2.27
Sumac, Skunkbrush	0.10	0.05	\$4.51
Purple Three-Awn	0.10	1.15	\$8.54
Totals Seed Mix	10.01	73.01	\$167.35

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Total Mulch Application Cost/Acre	\$85.37

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:	24.68	Cost /Acre:	\$1,804.74
Estimated Failure Rate:	20%	Cost /Acre*:	\$403.99
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$44,540.98		
Reseeding Job Cost:	\$1,994.09		
Total Job Cost:	\$46,535		
Job Hours:	50.00		

2024 Reclamation Map

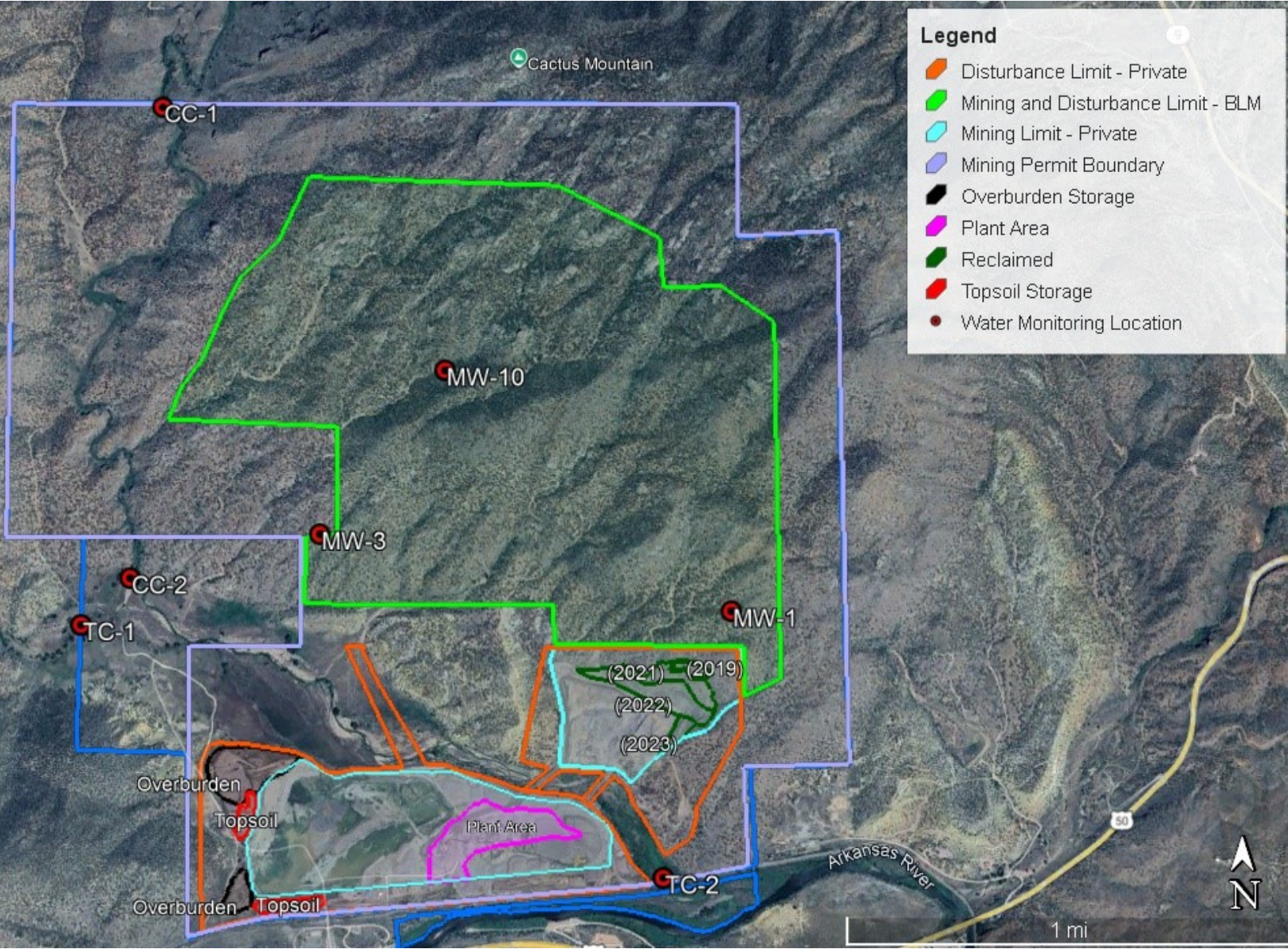
Parkdale Quarry
Permit M1997054
Fremont County, CO

Legend

- Disturbance Limit - Private
- Mining and Disturbance Limit - BLM
- Mining Limit - Private
- Mining Permit Boundary
- Overburden Storage
- Plant Area
- Reclaimed
- Topsoil Storage
- Water Monitoring Location

Google Earth

image © 2024 Airbus



TRUCK/LOADER TEAM WORKTask description: **Backfill 1,000 ft of benches not concurrently reclaimed**Site: **Parkdale Quarry**Permit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: G100State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: G100User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D6T LGP
Road Maintenance –Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$108.25	\$69.00	NA	\$99.72	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$71.22	\$82.48	\$41.61
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$209.53	\$214.71	\$115.03
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$805.51		Support: \$209.53		Maint: \$329.74	

Total work team cost/hour: **\$1,344.78****MATERIAL QUANTITIES**Initial volume: 12,003

CCY

Swell factor: 1.250Loose volume: **15,004**

LCY

Source of estimated volume: Assume 1,000 ft benches; Tsk E100.1Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,650 Pounds/LCYDescription: Decomposed rock - 25% Rock, 75% EarthRated Payload: 87,000 PoundsPayload Capacity: 32.83 LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	5.00	4.00	9.00	983	3.651

Haul Time: **3.651** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	-5.00	4.00	-1.00	3706	0.974

Return Time: **0.974** minutesTotal Truck Cycle Time: **7.862** minutes

Loading Tool unit

Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
Truck Unit Production 234.68 LCY/Hour Adjusted for job efficiency: 194.79 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 584.36 LCY/Hour
Adjusted single truck/loader team production: 584.36 LCY/Hour
Adjusted multiple truck/loader team production: **584.36** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **25.68** HoursUnit cost: \$2.301 /LCY Total job cost: **\$34,528**

REVEGETATION WORKTask description: Hydroseed 1,000 ft of benches not concurrently reclaimedSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: G105State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: G105User: JLCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Total Tilling Cost/Acre	\$117.61

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.40	1.93	\$1.60
Blue Grama - Native	2.20	35.91	\$46.92
Indian Ricegrass - Native	4.20	13.60	\$72.63
Canby Bluegrass - Canbar	0.40	8.50	\$6.00
Sand Dropseed	0.10	11.94	\$1.30
Sideoats Grama - Vaughn	3.60	11.82	\$88.53
Sheep Fescue - Bighorn	0.80	12.49	\$3.97
Thickspike Wheatgrass - Critana	3.20	11.31	\$26.07
Western Wheatgrass - Native	4.00	10.10	\$36.02
Sage, Fringed	0.06	5.01	\$5.95

Sagebrush, Louisiana or Prairie	0.06	6.05	\$11.09
Saltbush, Four Wing	0.20	0.28	\$3.97
Spike Muhly	0.40	14.69	\$4.54
Sumac, Skunkbrush	0.20	0.09	\$9.03
Purple Three-Awn	0.20	2.30	\$17.08
Totals Seed Mix	20.02	146.01	\$334.69

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,359.07
Total Seed Application Cost/Acre	\$1,359.07

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 Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres:	1	Cost /Acre:	\$2,023.58
Estimated Failure Rate:	20%	Cost /Acre*:	\$1,693.76
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$2,023.58
Reseeding Job Cost:	\$338.75
Total Job Cost:	\$2,362
Job Hours:	4.00

BULLDOZER RIPPING WORK

Task description: Rip existing granite pit floor

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: G110 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: G110
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$253.16</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$164.35</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$18.79</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$9.48</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$484.37</u>	
Total Fleet Cost/Hour:	<u>\$484.37</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 18.90 acres Rip Depth (ft): 1.00 Volume: 30,492 BCY or CCY

Source of estimated quantity: AM-2, Exh D2 Map & 2024 Annual Map w/ Reclamation Areas

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.63 feet/pass
Average Ripping Width: 7.67 feet/pass
Average Ripping Length: 300.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.866 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.866 Acres/hr
Site Altitude: 5,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.72 Acres/hr
Adjusted Hourly Fleet Production: 0.72 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 26.29 Hours

Unit cost: \$673.740 Per acre Total job cost: \$12,734

TRUCK/LOADER TEAM WORKTask description: Topsoil existing pit floor (9 inches x 23.14 Ac)Site: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: G115State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: G115User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	CAT 160M
Road Maintenance –Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	100
Ownership cost/hour:	\$108.25	\$69.00	NA	\$104.47	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$82.48	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$27.76	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$214.71	\$214.71	\$156.63
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$805.51		Support: \$214.71		Maint: \$371.34	

Total work team cost/hour: \$1,391.56**MATERIAL QUANTITIES**Initial volume: 22,869

CCY

Swell factor: 1.429Loose volume: 32,671

LCY

Source of estimated volume: AM-2, Exh D2 MapSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 87,000

Pounds

Payload Capacity: 54.38

LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
2	4800.00	3.00	4.00	7.00	1281	3.901

Haul Time: **3.901** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4800.00	-3.00	4.00	1.00	3706	1.499

Return Time: **1.499** minutesTotal Truck Cycle Time: **8.637** minutes

Loading Tool unit
 Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
 Truck Unit Production
213.62 LCY/Hour Adjusted for job efficiency: 177.31 LCY/Hour
 Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 531.92 LCY/Hour
 Adjusted single truck/loader team production: 531.92 LCY/Hour
 Adjusted multiple truck/loader team production: **531.92** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **61.42** HoursUnit cost: \$2.616 /LCY Total job cost: **\$85,469**

REVEGETATION WORKTask description: Reveg existing granite pit floorSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054PROJECT IDENTIFICATIONTask #: G120State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: G120User: JLCAgency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Total Tilling Cost/Acre	\$117.61

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.20	0.96	\$0.80
Blue Grama - Native	1.10	17.95	\$23.46
Indian Ricegrass - Native	2.10	6.80	\$36.31
Canby Bluegrass - Canbar	0.20	4.25	\$3.00
Sand Dropseed	0.05	5.97	\$0.65
Sideoats Grama - Vaughn	1.80	5.91	\$44.26
Sheep Fescue - Bighorn	0.40	6.24	\$1.98
Thickspike Wheatgrass - Critana	1.60	5.66	\$13.04
Western Wheatgrass - Native	2.00	5.05	\$18.01
Sage, Fringed	0.03	2.51	\$2.98

Sagebrush, Louisiana or Prairie	0.03	3.02	\$5.55
Saltbush, Four Wing	0.10	0.14	\$1.99
Spike Muhly	0.20	7.35	\$2.27
Sumac, Skunkbrush	0.10	0.05	\$4.51
Purple Three-Awn	0.10	1.15	\$8.54
Totals Seed Mix	10.01	73.01	\$167.35

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Total Mulch Application Cost/Acre	\$85.37

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: 18.9
 Estimated Failure Rate: 20%
 *Selected Replanting Work Items: SEEDING

Cost /Acre: \$1,804.74
 Cost /Acre*: \$403.99

Initial Job Cost: **\$34,109.59**
 Reseeding Job Cost: **\$1,527.08**
 Total Job Cost: **\$35,637**
 Job Hours: **40.00**

COMPACTION WORK

Task description: Sitewide cleanup - 151 hrs of Compactor work

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: SW01 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: SW01
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT PS-150C (2004) Horsepower: 96
Compactor Type: Pneumatic static (asphalt) Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	<u>\$33.65</u>	Utilization %
Operating Cost/Hour:	<u>\$35.80</u>	<u>NA</u>
Operator Cost/Hour:	<u>\$25.60</u>	<u>100</u>
Total Unit Cost/Hour:	<u>\$95.05</u>	<u>NA</u>
Total Fleet Cost/Hour:	<u>\$95.05</u>	

MATERIAL QUANTITIES

Loose volume: 167,000 LCY Shrinkage factor: 0.900
Compacted volume: 150,300 CCY

Source of estimated volume: Material vol. adjusted to get 151 hrs (1/hr per acre)
Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W): 5.67 feet
Average Compactor Speed (S): 4.00 mph
Compacted thickness of each lift (L): 8.00 inches
Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
Required number of machine passes (P): 2 passes
Unadjusted Hourly Unit Production: 1,478.74 CCY/hour

Job Condition Correction Factors

Site Altitude: 5,800 feet

Altitude Adj:	<u>0.81</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.6723</u>	(1 shift/day)
		multiplier

Adjusted Hourly Unit Production: 994.15 CCY/Hour
Adjusted Hourly Fleet Production: 994.15 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 151.18 Hours

Unit cost: \$0.096 per CCY Total job cost: \$14,370

MOTOR GRADER WORK

Task description: Sitewide cleanup ~\$215/hr grader

Site: Parkdale Quarry

Permit Action: 2025 Inspection

Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: SW02

State: Colorado

Abbreviation: None

Date: 2/27/2025

County: Fremont

Filename: SW02

User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 160M

Horsepower: 213

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$104.47	NA
Operating Cost/Hour:	\$82.48	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$214.71	
Total Fleet Cost/Hour:	\$214.71	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 151.00 acres

Source of estimated acreage: AM2 Exh L, p. 8

HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>45</u>	degrees
Effective Blade Length:	<u>8.50</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>6.50</u>	feet
Unadjusted Hourly Unit Production:	<u>1.1818</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5800 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.0045 acres/Hour

Adjusted Hourly Fleet Production: **1.0045** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **150.32** Hours

Unit cost: \$213.74 per acre Total job cost: **\$32,275**

DOZERGRADER WORKTask description: **Sitewide cleanup D7 dozer**Site: **Parkdale Quarry** Permit Action: **2025 Inspection** Permit/Job#: **M1997054****PROJECT IDENTIFICATION**

Task #:	SW03	State:	Colorado	Abbreviation:	None
Date:	2/27/2025	County:	Fremont	Filename:	SW03
User:	JLC				

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine:	Cat D7R DS Series II LGP
Horsepower:	
Blade Type:	
Attachment:	NA
Shift Basis:	1 per day
Data Source:	

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$90.24	NA
Operating Cost/Hour:	\$78.95	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour:	\$207.78
Total Fleet Cost/Hour:	\$207.78

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$207.78/LCY

Total job time:	151.00 Hours
Total job cost:	\$31,375

MISCELLANEOUS TRUCK WORK

Task description: Sitewide cleanup Water Truck

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: SW04 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: SW04
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Make and Model: Water Tanker, 7,000 Gal. Horsepower: 330
Attachment 1: _____ Shift Basis: 1 per day
Attachment 2: _____ Weight: 29.65
Labor Unit 1: Tanker Driver - 1 rear axle (US Tons)
Labor Unit 2: _____

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$73.42</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$83.21</u>	<u>100</u>
Operator Cost/Hour:	<u>\$21.12</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$177.75</u>	
Total Fleet Cost/Hour:	<u>\$177.75</u>	

JOB TIME AND COST

Fleet size: 1 Truck(s) Total job time: 151.00 Hours
Unit cost: \$177.75 /Hour Total job cost: \$26,840

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob equipment**Site: **Parkdale Quarry**Permit Action: **2025 Inspection**Permit/Job#: **M1997054****PROJECT IDENTIFICATION**Task #: **SW99**State: **Colorado**Abbreviation: **None**Date: **2/27/2025**County: **Fremont**Filename: **SW99**User: **JLC**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat 627G	41.80	\$217.39	\$122.78	2	\$680.34	\$245.56	\$500.00
Cat 637G	57.28	\$329.66	\$125.64	2	\$910.60	\$251.28	\$500.00
Cat D6T LGP	26.87	\$99.72	\$122.78	1	\$222.50	\$122.78	\$250.00
Cat D7R DS Series II LGP	34.57	\$90.24	\$122.78	1	\$213.02	\$122.78	\$250.00
Cat D8T - 8SU	47.71	\$173.32	\$122.78	1	\$296.10	\$122.78	\$250.00
Cat D9T - 9SU	60.01	\$253.16	\$125.64	1	\$378.80	\$125.64	\$250.00
Cat 740	36.49	\$108.25	\$122.78	3	\$693.09	\$368.34	\$750.00
Cat 775F	50.39	\$121.08	\$122.78	2	\$487.72	\$245.56	\$500.00
CAT 160M	17.53	\$104.47	\$59.44	2	\$327.82	\$118.88	\$500.00
Water Tanker, 7,000 Gal.	29.65	\$73.42	\$122.78	1	\$196.20	\$122.78	\$250.00
CAT 928Hz	13.91	\$27.62	\$59.44	1	\$87.06	\$59.44	\$250.00
CAT 980H	33.12	\$69.00	\$122.78	1	\$191.78	\$122.78	\$250.00
CAT 990H	83.34	\$115.73	\$125.64	1	\$241.37	\$125.64	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	2	\$200.92	\$118.88	\$250.00
CAT PS-150C (2004)	5.39	\$33.65	\$59.44	1	\$93.09	\$59.44	\$250.00
CAT 836H	54.88	\$211.62	\$125.64	1	\$337.26	\$125.64	\$250.00

Subtotals: **\$5,557.67** **\$2,458.20** **\$5,500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Hydroseeder with Tractor	\$89.08	2	\$178.16	\$178.16
Light Duty Pickup, 4x4, 1 T. Crew	\$108.47	1	\$108.47	\$108.47

Subtotals:

\$286.63	\$286.63
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EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>PUEBLO</u>	
Total one-way travel distance:	<u>51.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$85,221.71</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$531.57</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.93</u>	<u>0.93</u>
Return Time (Hours):	<u>0.93</u>	<u>0.93</u>
Loading Time (Hours):	<u>2.67</u>	<u>NA</u>
Unloading Time (Hours):	<u>2.67</u>	<u>NA</u>
Subtotals:	<u>7.19</u>	<u>1.85</u>

JOB TIME AND COST

Total job time:	<u>14.39</u>	Hours
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Total job cost:	<u>\$85,753</u>
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DEMOLITION WORK

Task description: Demo plant concrete support structures & conveyor

Site: Parkdale Quarry

Permit Action: 2025 Inspection

Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: WG02

State: Colorado

Abbreviation: None

Date: 2/27/2025

County: Fremont

Filename: WG02

User: JLC

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 88.00 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Concrete support structures	2' x 3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 50 ft. push	90.00	LF	\$14.21	\$1,278.84
Conveyor	232'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.75	EA	\$3,475.00	\$13,031.25

Job Hours: 12.00

Subtotal
(unadjusted): \$14,310.09

Total Cost
(adjusted for location): \$12,592.88

BULLDOZER RIPPING WORK

Task description: Scarify compacted ground

Site: Parkdale Quarry Permit Action: 2025 Inspection Permit/Job#: M1997054

PROJECT IDENTIFICATION

Task #: WG04 State: Colorado Abbreviation: None
Date: 2/27/2025 County: Fremont Filename: WG04
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper Ownership Cost/Hour:	\$18.79	NA
Ripper Operating Cost/Hour:	\$9.48	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$484.37	
Total Fleet Cost/Hour:	\$484.37	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 26.00 acres Rip Depth (ft): 1.00 Volume: 41,947 BCY or CCY

Source of estimated quantity: AM-1, Exh L, Aspect G

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.63 feet/pass
Average Ripping Width: 7.67 feet/pass
Average Ripping Length: 300.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.866 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.866 Acres/hr
Site Altitude: 5,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.72 Acres/hr
Adjusted Hourly Fleet Production: 0.72 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 36.16 Hours

Unit cost: \$673.740 Per acre Total job cost: \$17,517

TRUCK/LOADER TEAM WORKTask description: Replace topsoil (6 in x 26 Ac)Site: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: WG05State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: WG05User: JLCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 740
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	CAT 160M
Road Maintenance -Motor Grader:	CAT 160M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	50	100	100
Ownership cost/hour:	\$108.25	\$69.00	NA	\$104.47	\$104.47	\$73.42
Operating cost/hour:	\$79.54	\$60.57	NA	\$41.24	\$82.48	\$83.21
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$36.85	NA	\$27.76	\$27.76	\$0.00
Unit Subtotals:	\$213.03	\$166.42	NA	\$173.47	\$214.71	\$156.63
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$805.51		Support: \$173.47		Maint: \$371.34	

Total work team cost/hour: **\$1,350.32****MATERIAL QUANTITIES**Initial volume: 20,973

CCY

Swell factor: 1.429Loose volume: **29,962**

LCY

Source of estimated volume: AM-1, Exh L, Aspect GSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 87,000

Pounds

Payload Capacity: 54.38

LCY

Truck Bed (volume) Basis:

Struck Volume:	24.20	LCY
Heaped Volume:	31.40	LCY
Average Volume:	27.80	LCY
Adjusted Volume:	31.40	LCY

Final Truck Volume Based on Number of Loader Passes: 30.75 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	7.688	LCY

Job Condition Corrections:

Site Altitude (ft.): 5800 feet

	Truck	Loader	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -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:		0.490	minutes
Net Load Time per Truck:		1.570	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.625	Minutes
Truck Load Time:	1.570	Minutes	Adjusted for site altitude:	1.570	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.042	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
2	3000.00	0.00	4.00	4.00	2421	1.865

Haul Time: **1.865** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	0.00	4.00	4.00	3005	1.195

Return Time: **1.195** minutesTotal Truck Cycle Time: **6.297** minutes

Loading Tool unit

Production 840.55 LCY/Hour Adjusted for job efficiency: 697.65 LCY/Hour
Truck Unit Production 293.01 LCY/Hour Adjusted for job efficiency: 243.20 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 729.60 LCY/Hour
Adjusted single truck/loader team production: 697.65 LCY/Hour
Adjusted multiple truck/loader team production: **697.65** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **42.95** HoursUnit cost: \$1.936 /LCY Total job cost: **\$57,992**

REVEGETATION WORKTask description: Seed and Mulch plant areaSite: Parkdale QuarryPermit Action: 2025 InspectionPermit/Job#: M1997054**PROJECT IDENTIFICATION**Task #: WG06State: ColoradoAbbreviation: NoneDate: 2/27/2025County: FremontFilename: WG06User: JLCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	125.00	pound	\$0.64	\$80.25
Superphosphate, 0-20-0 with 12% S	125.00	pound	\$0.71	\$88.84
			Total Fertilizer Materials Cost/Acre	\$169.09

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
Total Fertilizer Application Cost/Acre	\$43.12

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Total Tilling Cost/Acre	\$117.61

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.20	0.96	\$0.80
Blue Grama - Native	1.10	17.95	\$23.46
Indian Ricegrass - Native	2.10	6.80	\$36.31
Canby Bluegrass - Canbar	0.20	4.25	\$3.00
Sand Dropseed	0.05	5.97	\$0.65
Sideoats Grama - Vaughn	1.80	5.91	\$44.26
Sheep Fescue - Bighorn	0.40	6.24	\$1.98
Thickspike Wheatgrass - Critana	1.60	5.66	\$13.04
Western Wheatgrass - Native	2.00	5.05	\$18.01
Sage, Fringed	0.03	2.51	\$2.98

Sagebrush, Louisiana or Prairie	0.03	3.02	\$5.55
Saltbush, Four Wing	0.10	0.14	\$1.99
Spike Muhly	0.20	7.35	\$2.27
Sumac, Skunkbrush	0.10	0.05	\$4.51
Purple Three-Awn	0.10	1.15	\$8.54
Totals Seed Mix	10.01	73.01	\$167.35

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Total Mulch Application Cost/Acre	\$85.37

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:	26	Cost /Acre:	\$1,804.74
Estimated Failure Rate:	20%	Cost /Acre*:	\$403.99
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$46,923.24		
Reseeding Job Cost:	\$2,100.75		
Total Job Cost:	\$49,024		
Job Hours:	50.00		