



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

March 14, 2024

Michael B. Toelle
Holcim (US) Inc.
3500 Highway 120
Florence, CO 81226

**Re: Portland Limestone Quarries - File No. M-1977-344
Holcim (US) Inc.
Surety Increase (SI-2)
Surety increase to \$21,320,092.00**

Dear Michael B. Toelle:

On March 14, 2024 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$21,320,092.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$16,051,542.00.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter (March 14, 2024).

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit after May 13, 2024, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	\$5,268,550.00
Prior Liability:	\$5,268,550.00
Change in Liability:	\$16,051,542.00
Revised Liability:	\$21,320,092.00
Prior Permit Acreage:	5,615.34
Change in Permit Acreage:	0.00



Revised Permit Acreage:	5,615.34
Prior Affected Acreage:	5,615.34
Change in Affected Acreage:	0.00
Revised Affected Acreage:	5,615.34

If you have any questions, please contact me by telephone at (303) 866-3567 x 8176, or by email at Hunter.ridley@state.co.us.

Sincerely,



Hunter C. Ridley
Environmental Protection Specialist

cc: Timothy Smith

M-GR-04

COST SUMMARY WORK

Task description: Reclamation Cost Summary (AM-2)

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: 0000

State: Colorado

Abbreviation: None

Date: 2/27/2024

County: Fremont

Filename: M344-0000

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
B010	BCQ - Slope benched highwalls 3H:1V	TRUCK1	2	698.05	\$1,504,899
B030	Rip BCQ Plant, Arkansas River Crossing Area and interior roa	RIPPER	1	235.77	\$105,665
B040	Finish grade disturbed areas (BCQ)	GRADER	1	470.55	\$74,724
B041	Construct Remaining BCQ Channel 1400'x8'x24'	TRUCK1	1	68.54	\$55,298
B050	Distribute 4" topsoil over affected areas (776 Ac)	TRUCK1	1	935.42	\$750,986
B060	BCQ Reseed disturbed area (1,277.6 Ac)	REVEGE	1	1,277.00	\$3,389,636
M130	Mob/Demob Equipment	MOBILIZE	1	3.50	\$13,750
P010	Demo 2 Plant Site CKD related structures	DEMOLISH	1	323.00	\$263,394
R070	RCQ - Backfill 2 bench highwalls 3H:1V	TRUCK1	2	2,919.58	\$5,830,541
R080	RCQ Demolish/Remove Structures	DEMOLISH	1	1,511.00	\$1,761,065
R090	RCQ Rip facility area (18 acres)	RIPPER	1	26.19	\$11,741
R100	Finish grade disturbed areas (RCQ)	GRADER	1	394.16	\$62,594
R110	Distribute 6" topsoil over RCQ affected areas (645 Ac)	TRUCK1	1	1,166.27	\$936,313
R120	RCQ Reseed disturbed area (645 Ac)	REVEGE	1	2,654.00	\$1,711,268
<u>SUBTOTALS:</u>				12683.03	\$16,471,874

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$332,732

Performance bond: 1.05

Total = \$172,955

Job superintendent: 13,678.70

Total = \$890,210

Profit: 10.00

Total = \$1,647,187

TOTAL O & P = \$3,043,084

CONTRACT AMOUNT (direct + O & P) = \$19,514,958

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$829,386

Reclamation management and/or administration: 5.00

\$975,748

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$4,848,217

TOTAL BOND AMOUNT (direct + indirect) = \$21,320,091

TRUCK/LOADER TEAM WORKTask description: **BCQ - Slope benched highwalls 3H:1V**Site: **Portland Limestone Quarries**Permit Action: **AM-2**Permit/Job#: **M1977344****PROJECT IDENTIFICATION**Task #: **B010**State: **Colorado**Abbreviation: **None**Date: **2/27/2024**County: **Fremont**Filename: **M344-B010**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 12M
-Water Truck:	Water Tanker, 2,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	100	100	100	100
Ownership cost/hour:	\$108.06	\$49.32	\$241.38	\$241.38	\$74.98	\$11.35
Operating cost/hour:	\$71.88	\$39.80	\$143.92	\$143.92	\$55.26	\$22.92
% 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:	\$32.54	\$40.71	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$212.48	\$129.83	\$426.60	\$426.60	\$158.80	\$34.27
Number of Units:	4	2	1	1	1	1
Group Subtotals:	Work: \$1,109.58		Support: \$853.20		Maint: \$193.07	

Total work team cost/hour: **\$2,155.85****MATERIAL QUANTITIES**Initial volume: **536,197**

CCY

Swell factor: **1.125**Loose volume: **603,222**

LCY

Source of estimated volume: **Exhibit L, Task 001**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **2,650** Pounds/LCYDescription: **Decomposed rock - 25% Rock, 75% Earth**Rated Payload: **62,000** PoundsPayload Capacity: **23.40** LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 22.04 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	4.408	LCY

Job Condition Corrections:

Site Altitude (ft.): 5263 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: 5 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): 0.500 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:		0.460	minutes
Net Load Time per Truck:		1.940	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.940	Minutes	Adjusted for site altitude:	1.940	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	3064	0.393

Haul Time: **0.393** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	1903	0.619

Return Time: **0.619** minutesTotal Truck Cycle Time: **4.552** minutes

Loading Tool unit

Production 520.57 LCY/Hour Adjusted for job efficiency: 432.07 LCY/HourTruck Unit Production 290.48 LCY/Hour Adjusted for job efficiency: 241.10 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 482.19 LCY/Hour
Adjusted single truck/loader team production: 432.07 LCY/Hour
Adjusted multiple truck/loader team production: **864.15** LCY/Hour

JOB TIME AND COSTFleet size: 2 Team(s) Total job time: **698.05** HoursUnit cost: \$2.495 /LCY Total job cost: **\$1,504,899**

BULLDOZER RIPPING WORK

Task description: Rip BCQ Plant, Arkansas River Crossing Area and interior roa

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: B030

State: Colorado

Abbreviation: None

Date: 2/29/2024

County: Fremont

Filename: M344-B030

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper Ownership Cost/Hour:	\$14.11	NA
Ripper Operating Cost/Hour:	\$7.45	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$448.16	
Total Fleet Cost/Hour:	\$448.16	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 162.00 acres Rip Depth (ft): 1.00 Volume: 261,360 BCY or CCY

Source of estimated quantity: AM-2, Exh. L, Task 003

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 600.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.828 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.828 Acres/hr
Site Altitude: 5,263 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.69 Acres/hr
Adjusted Hourly Fleet Production: **0.69** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **235.77** Hours

Unit cost: \$652.251 Per acre Total job cost: **\$105,665**

MOTOR GRADER WORK

Task description: Finish grade disturbed areas (BCQ)

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: B040

State: Colorado

Abbreviation: None

Date: 2/29/2024

County: Fremont

Filename: M344-B040

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M

Horsepower: 158

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$74.98	NA
Operating Cost/Hour:	\$55.26	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$158.80	
Total Fleet Cost/Hour:	\$158.80	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 770.00 acres

Source of estimated acreage: AM-2, Exh. L, Task 004

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>0</u>	degrees
Effective Blade Length:	<u>12.00</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.00</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8182</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5263 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 1.6364 acres/Hour

Adjusted Hourly Fleet Production: **1.6364** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **470.56** Hours

Unit cost: \$97.04 per acre Total job cost: **\$74,724**

TRUCK/LOADER TEAM WORKTask description: Construct Remaining BCQ Channel 1400'x8'x24'Site: Portland Limestone QuarriesPermit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: B041State: ColoradoAbbreviation: NoneDate: 2/29/2024County: FremontFilename: M344-B041User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	Cat D6T LGP
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	100	NA	NA	NA
Ownership cost/hour:	\$108.06	\$49.32	\$127.53	NA	NA	NA
Operating cost/hour:	\$71.88	\$39.80	\$83.13	NA	NA	NA
% Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	NA	NA
Operator cost/hour:	\$32.54	\$40.71	\$41.30	NA	NA	NA
Unit Subtotals:	\$212.48	\$129.83	\$251.96	NA	NA	NA
Number of Units:	2	1	1	0	0	0
Group Subtotals:	Work: \$554.79		Support: \$251.96		Maint: \$0.00	

Total work team cost/hour: \$806.75**MATERIAL QUANTITIES**Initial volume: 19,911

CCY

Swell factor: 1.330Loose volume: 26,482

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900 Pounds/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 62,000 PoundsPayload Capacity: 21.38 LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	21.38	LCY

Final Truck Volume Based on Number of Loader Passes: **17.63** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	4.408	LCY

Job Condition Corrections:

Site Altitude (ft.): 5263 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): 0.500 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:		0.440	minutes
Net Load Time per Truck:		1.420	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.420	Minutes	Adjusted for site altitude:	1.420	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	2.00	5.00	7.00	1036	1.030

Haul Time: **1.030** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-2.00	5.00	3.00	2936	0.495

Return Time: **0.495** minutesTotal Truck Cycle Time: **4.545** minutes

Loading Tool unit

Production 523.66 LCY/Hour Adjusted for job efficiency: 434.64 LCY/HourTruck Unit Production 232.74 LCY/Hour Adjusted for job efficiency: 193.17 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 386.35 LCY/Hour
Adjusted single truck/loader team production: 386.35 LCY/Hour
Adjusted multiple truck/loader team production: **386.35** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **68.54** HoursUnit cost: \$2.088 /LCY Total job cost: **\$55,298**

TRUCK/LOADER TEAM WORKTask description: Distribute 4" topsoil over affected areas (776 Ac)Site: Portland Limestone QuarriesPermit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: B050State: ColoradoAbbreviation: NoneDate: 3/1/2024County: FremontFilename: M344-B050User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA	NA
Ownership cost/hour:	\$108.06	\$49.32	NA	\$114.76	NA	NA
Operating cost/hour:	\$71.88	\$39.80	NA	\$91.98	NA	NA
% Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$32.54	\$40.71	NA	\$41.30	NA	NA
Unit Subtotals:	\$212.48	\$129.83	NA	\$248.04	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$554.79		Support: \$248.04		Maint: \$0.00	

Total work team cost/hour: \$802.83**MATERIAL QUANTITIES**Initial volume: 417,316

CCY

Swell factor: 1.000Loose volume: 417,316

LCY

Source of estimated volume: AM-2, Exh. L, Task 005 (4" over 776 Ac); 1000' haulSource 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: 62,000 PoundsPayload Capacity: 23.40 LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: **22.04** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	4.408	LCY

Job Condition Corrections:

Site Altitude (ft.): 5263 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: 5 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): 0.500 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:		0.440	minutes
Net Load Time per Truck:		1.860	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.860	Minutes	Adjusted for site altitude:	1.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	5.00	5.00	1427	0.823

Haul Time: **0.823** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	5.00	5.00	2646	0.537

Return Time: **0.537** minutesTotal Truck Cycle Time: **4.820** minutes

Loading Tool unit

Production 537.50 LCY/Hour Adjusted for job efficiency: 446.13 LCY/Hour
Truck Unit Production 274.33 LCY/Hour Adjusted for job efficiency: 227.69 LCY/Hour

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

Adjusted hourly truck team production: 455.38 LCY/Hour
Adjusted single truck/loader team production: 446.13 LCY/Hour
Adjusted multiple truck/loader team production: **446.13** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **935.42** HoursUnit cost: \$1.800 /LCY Total job cost: **\$750,986**

REVEGETATION WORKTask description: BCQ Reseed disturbed area (1,277.6 Ac)Site: Portland Limestone QuarriesPermit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: B060State: ColoradoAbbreviation: NoneDate: 3/1/2024County: FremontFilename: M344-B060User: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$100.40
Total Tilling Cost/Acre	\$100.40

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	3.00	117.08	\$85.43
Indian Ricegrass - Nespar	12.50	40.46	\$110.94
Crested Wheatgrass - Hy-Crest	10.00	45.91	\$39.75
Great Basin Wildrye - Magnar	30.00	121.90	\$346.50
Sideoats Grama - El Reno	18.00	59.09	\$150.75
Alfalfa - Ladak (inoculated)	16.00	77.13	\$40.80
Streambank Wheatgrass - Sodar	22.00	71.72	\$125.40
Totals Seed Mix	111.50	533.30	\$899.56

Application

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

MULCHING and MISCELLANEOUS**Materials**

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

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
Total Mulch Application Cost/Acre	\$222.13

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: 1277.6 Cost /Acre: \$2,313.66
 Estimated Failure Rate: 30% Cost /Acre*: \$1,131.56
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: \$2,955,932.02
 Reseeding Job Cost: \$433,704.32
 Total Job Cost: \$3,389,636
 Job Hours: 1,277.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob Equipment**Site: **Portland Limestone Quarries**Permit Action: **AM-2**Permit/Job#: **M1977344****PROJECT IDENTIFICATION**Task #: **M130**State: **Colorado**Abbreviation: **None**Date: **2/29/2024**County: **Fremont**Filename: **M344-M130**User: **TC1**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:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

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 D8T - 8SU	53.08	\$255.49	\$175.95	1	\$431.44	\$175.95	\$250.00
CAT 973D	29.07	\$146.11	\$158.17	1	\$304.28	\$158.17	\$250.00
Grove RT650E, 105', 45.4 MT	28.74	\$270.71	\$158.17	1	\$428.88	\$158.17	\$250.00
Cat D6T LGP	26.87	\$127.53	\$158.17	1	\$285.70	\$158.17	\$250.00
Cat D7R DS Series II LGP	34.57	\$114.76	\$158.17	1	\$272.93	\$158.17	\$250.00
Cat 730	25.19	\$108.06	\$82.29	4	\$761.40	\$329.16	\$1,000.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00

Subtotals: **\$2,681.88** **\$1,302.37** **\$2,750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$123.06	2	\$246.12	\$246.12
Fuel Tanker, 6x4, 210 HP	\$54.25	1	\$54.25	\$54.25

Lube Truck, 6x4, 250 HP	\$54.25	1	\$54.25	\$54.25
Flatbed Truck, 6x4, 45K GVW	\$61.15	1	\$61.15	\$61.15
Water Tanker, 3,500 Gal.	\$54.25	1	\$54.25	\$54.25
Subtotals:			\$470.02	\$470.02

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>PUEBLO</u>	
Total one-way travel distance:	<u>25.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$13,162.19</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$587.53</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.63</u>	<u>0.63</u>
Return Time (Hours):	<u>0.63</u>	<u>0.63</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>1.75</u>	<u>1.25</u>

JOB TIME AND COST

Total job time:	<u>3.50</u>	Hours
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Total job cost:	<u>\$13,750</u>
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DEMOLITION WORK

Task description: Demo 2 Plant Site CKD related structures

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: P010

State: Colorado

Abbreviation: None

Date: 2/27/2024

County: Fremont

Filename: M344-P010

User: TC1

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 87.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
ID#17: XFOBS 16 Raw Material Silo	2,625 ft2x90' {75% vol.}	Bldg. (MC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	177,187.00	CF	\$0.42	\$74,985.54
ID#46: Scrubber	970 ft2x189'	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	183,330.00	CF	\$0.74	\$134,949.21
ID#17: CKD disposal (onsite)	75% Struct. Vol	Load/haul/dump demolished materials/debris into pit - Max. 10,000 ft. haul	6,563.00	CY	\$1.97	\$12,902.86
ID#46: CKD disposal (onsite)	75% Struct. Vol	Load/haul/dump demolished materials/debris into pit - Max. 10,000 ft. haul	5,092.00	CY	\$1.97	\$10,010.87
Conveyor G {see AM-2 Facility Catalog}	1,360 ft	Conveyor, demolition, off-site disposal in approved landfill, 15 mile haul	87,040.00	CF	\$0.74	\$64,409.60
Conveyor G Footers	68 2'x3'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	204.00	LF	\$15.09	\$3,077.56

Job Hours: 323.00

Subtotal
(unadjusted): \$300,335.64

Total Cost
(adjusted for location): \$263,394.36

TRUCK/LOADER TEAM WORKTask description: **RCQ - Backfill 2 bench highwalls 3H:1V**Site: **Portland Limestone Quarries**Permit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: R070State: ColoradoAbbreviation: NoneDate: 3/1/2024County: FremontFilename: M344-R070User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	Water Tanker, 2,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	100	100	NA	100
Ownership cost/hour:	\$108.06	\$49.32	\$241.38	\$241.38	NA	\$11.35
Operating cost/hour:	\$71.88	\$39.80	\$143.92	\$143.92	NA	\$22.92
% Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	\$41.30	\$41.30	NA	\$0.00
Unit Subtotals:	\$212.48	\$129.83	\$426.60	\$426.60	NA	\$34.27
Number of Units:	4	2	1	1	0	1
Group Subtotals:	Work: \$1,109.58		Support: \$853.20		Maint: \$34.27	

Total work team cost/hour: **\$1,997.05****MATERIAL QUANTITIES**Initial volume: 2,242,618

CCY

Swell factor: 1.125Loose volume: **2,522,945**

LCY

Source of estimated volume: AM-2 Exhibit L, Task 007, 10,571 LF max highwallSource 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: 62,000 PoundsPayload Capacity: 23.40 LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 22.04 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	4.408	LCY

Job Condition Corrections:

Site Altitude (ft.): 5263 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: 5 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): 0.500 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:		0.460	minutes
Net Load Time per Truck:		1.940	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.940	Minutes	Adjusted for site altitude:	1.940	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	3064	0.393

Haul Time: **0.393** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	1903	0.619

Return Time: **0.619** minutesTotal Truck Cycle Time: **4.552** minutes

Loading Tool unit

Production 520.57 LCY/Hour Adjusted for job efficiency: 432.07 LCY/HourTruck Unit Production 290.48 LCY/Hour Adjusted for job efficiency: 241.10 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 482.19 LCY/Hour
Adjusted single truck/loader team production: 432.07 LCY/Hour
Adjusted multiple truck/loader team production: **864.15** LCY/Hour

JOB TIME AND COSTFleet size: 2 Team(s) Total job time: **2,919.58** HoursUnit cost: \$2.311 /LCY Total job cost: **\$5,830,541**

DEMOLITION WORK

Task description: RCQ Demolish/Remove Structures

Site: Portland Limestone Quarry

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: R080

State: Colorado

Abbreviation: None

Date: 3/1/2024

County: Fremont

Filename: M344-R080

User: TC1

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 87.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Chain link fence - 13 miles	6 ft x 68,640 ft	Fencing, chain link, including posts and fabric - to 6 ft. high	68,640.00	LF	\$2.90	\$199,056.00
Septic Vault	2000 gal	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	1.00	EA	\$3,550.90	\$3,550.90
6.5 miles of conveyor (MTAC)	9ft H x 6.4ft W	Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul	1,976,832.00	CF	\$0.81	\$1,601,233.92
MTAC footers (486 footers, 8' long), 2mile Haul	8x0.75x0.75	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	3,888.00	LF	\$15.09	\$58,654.76
MTAC footers (last 1.5 mile haul to pit)	3,888 CF	Load/haul/dump demolished materials/debris into pit - Max. 10,000 ft. haul	144.00	CY	\$1.97	\$283.10
Office and Break Room - Metal	184x70x20	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 30 mile haul	257,600.00	CF	\$0.46	\$118,289.92
Concrete Slab	184x70x0.75	Demo. and on-site disposal in existing pit, 10 in. thick - Max. 10,000 ft. haul	12,880.00	SF	\$2.10	\$26,987.46

Job Hours: 1,511.00

Subtotal
(unadjusted): \$2,008,056.06

Total Cost
(adjusted for location): \$1,761,065.16

BULLDOZER RIPPING WORK

Task description: RCQ Rip facility area (18 acres)

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: R090

State: Colorado

Abbreviation: None

Date: 3/1/2024

County: Fremont

Filename: M344-R090

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper Ownership Cost/Hour:	\$14.11	NA
Ripper Operating Cost/Hour:	\$7.45	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$448.16	
Total Fleet Cost/Hour:	\$448.16	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 18.00 acres Rip Depth (ft): 1.00 Volume: 29,040 BCY or CCY

Source of estimated quantity: AM-2, Exh. L, Task 009

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 600.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.828 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.828 Acres/hr
Site Altitude: 5,263 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.69 Acres/hr

Adjusted Hourly Fleet Production: **0.69** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **26.20** Hours

Unit cost: \$652.251 Per acre Total job cost: **\$11,741**

MOTOR GRADER WORK

Task description: Finish grade disturbed areas (RCQ)

Site: Portland Limestone Quarries

Permit Action: AM-2

Permit/Job#: M1977344

PROJECT IDENTIFICATION

Task #: R100

State: Colorado

Abbreviation: None

Date: 3/1/2024

County: Fremont

Filename: M344-R100

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M

Horsepower: 158

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$74.98	NA
Operating Cost/Hour:	\$55.26	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$158.80	
Total Fleet Cost/Hour:	\$158.80	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 645.00 acres

Source of estimated acreage: AM-2, Exh. L, Task 010

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>0</u>	degrees
Effective Blade Length:	<u>12.00</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.00</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8182</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5263 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 1.6364 acres/Hour

Adjusted Hourly Fleet Production: **1.6364** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **394.17** Hours

Unit cost: \$97.04 per acre Total job cost: **\$62,594**

TRUCK/LOADER TEAM WORKTask description: Distribute 6" topsoil over RCQ affected areas (645 Ac)Site: Portland Limestone QuarriesPermit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: R110State: ColoradoAbbreviation: NoneDate: 3/1/2024County: FremontFilename: M344-R110User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA	NA
Ownership cost/hour:	\$108.06	\$49.32	NA	\$114.76	NA	NA
Operating cost/hour:	\$71.88	\$39.80	NA	\$91.98	NA	NA
% Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$32.54	\$40.71	NA	\$41.30	NA	NA
Unit Subtotals:	\$212.48	\$129.83	NA	\$248.04	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$554.79		Support: \$248.04		Maint: \$0.00	

Total work team cost/hour: \$802.83**MATERIAL QUANTITIES**Initial volume: 520,300

CCY

Swell factor: 1.000Loose volume: 520,300

LCY

Source of estimated volume: AM-2, Exh. L, Task 011 (6" over 645 Ac); 1000' haulSource 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: 62,000 PoundsPayload Capacity: 23.40 LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: **22.04** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.025	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	4.408	LCY

Job Condition Corrections:

Site Altitude (ft.): 5263 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: 5 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): 0.500 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:		0.440	minutes
Net Load Time per Truck:		1.860	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.860	Minutes	Adjusted for site altitude:	1.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	5.00	5.00	1427	0.823

Haul Time: **0.823** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	5.00	5.00	2646	0.537

Return Time: **0.537** minutesTotal Truck Cycle Time: **4.820** minutes

Loading Tool unit

Production	<u>537.50</u>	LCY/Hour	Adjusted for job efficiency:	<u>446.13</u>	LCY/Hour
Truck Unit Production	<u>274.33</u>	LCY/Hour	Adjusted for job efficiency:	<u>227.69</u>	LCY/Hour

Optimal No. of Trucks:	<u>2</u>	Truck(s)	Selected Number of Trucks:	<u>2</u>	Truck(s)
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Adjusted hourly truck team production:	<u>455.38</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>446.13</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>446.13</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>1,166.27</u>	Hours
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Unit cost:	<u>\$1.800</u>	/LCY	Total job cost:	<u>\$936,313</u>
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REVEGETATION WORKTask description: RCQ Reseed disturbed area (645 Ac)Site: Portland Limestone QuarriesPermit Action: AM-2Permit/Job#: M1977344**PROJECT IDENTIFICATION**Task #: R120State: ColoradoAbbreviation: NoneDate: 3/1/2024County: FremontFilename: M344-R120User: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$100.40
Total Tilling Cost/Acre	\$100.40

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	3.00	117.08	\$85.43
Indian Ricegrass - Nespar	12.50	40.46	\$110.94
Crested Wheatgrass - Hy-Crest	10.00	45.91	\$39.75
Great Basin Wildrye - Magnar	30.00	121.90	\$346.50
Sideoats Grama - El Reno	18.00	59.09	\$150.75
Alfalfa - Ladak (inoculated)	16.00	77.13	\$40.80
Streambank Wheatgrass - Sodar	22.00	71.72	\$125.40
Totals Seed Mix	111.50	533.30	\$899.56

Application

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

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
Total Mulch Application Cost/Acre	\$222.13

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:	645	Cost /Acre:	\$2,313.66
Estimated Failure Rate:	30%	Cost /Acre*:	\$1,131.56
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$1,492,310.70		
Reseeding Job Cost:	\$218,956.86		
Total Job Cost:	\$1,711,268		
Job Hours:	2,654.00		