



April 12, 2023

Phillip Courtney
Rocky Mountain Materials and Asphalt, Inc.
c/o Martin Marietta Materials, Inc.
1627 Cole Boulevard, Suite 200
Lakewood, CO 80401

**Re: Penrose Ranch's - File No. M-1992-016;
Technical Revision (TR-2) Preliminary Adequacy Review**

Dear Mr. Courtney:

The Division of Reclamation, Mining and Safety (DRMS) received a request for a Technical Revision (TR-2) addressing the following:

Update Mine Plan.

The submittal was called complete for the purpose of filing on March 31, 2023. The **decision date for TR-2 is May 1, 2023**. Please be advised that if you are unable to satisfactorily address any concerns identified in this review before the decision date, **it will be your responsibility to request an extension of the review period**. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, the Division may deny this Technical Revision.

The following comments are based on the DRMS review of the request for TR-2:

- 1) Reclaimed area delineation: The TR-2 submittal indicates 86.2 acres of the 105 acres deemed reclaimed (but not released from the permit) with the approval of surety reduction SR-1 have not been redisturbed. How will these areas outlined in blue on the TR-2 map submitted be delineated in the field to prevent redisturbance?
- 2) Future mining: There are 201.6 acres outlined in orange designated as future mining areas, and not to be covered by any bond update associated with TR-2. Please be aware a new technical revision will need to be submitted and should be received by the DRMS at least 90 days prior to initiating mining in any future mining area to allow for timely review of

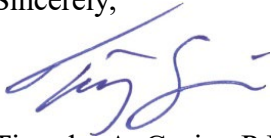


the TR and submittal of any associated additional financial warranty. No response is necessary

- 3) Revised bond estimate: The bond currently held by the DRMS for this permit is \$281,284.00. The DRMS has updated the estimated reclamation cost based on the information provided in TR-2. Please review the attached bond estimate. If you do not provide any comments on this estimate prior to DRMS approving TR-2, the additional \$1,397,986 bond will be due within 60 days of the approval of TR-2.

Please remember that the decision date for this application is May 1, 2023. As previously mentioned if you are unable to provide satisfactory responses to any inadequacies prior to this date, it will be your responsibility to request an extension of time to allow for continued review of this application. If there are still unresolved issues when the decision date arrives and no extension has been requested, the application may be denied. If you have any questions, please contact me at (303) 328-5229.

Sincerely,



Timothy A. Cazier, P.E.
Environmental Protection Specialist

Enclosure: DRMS Reclamation Cost Estimate

ec: Michael Cunningham, DRMS
DRMS file

COST SUMMARY WORK

Task description: Cost Summary

Site: Penrose Ranch's

Permit Action: TR-2

Permit/Job#: M1992016

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 4/11/2023

County: Fremont

Filename: M016-000

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
10	Flatten highwalls to 3:1	DOZER	1	40.81	\$8,709
11	Dozer backfill ponds	DOZER	1	340.40	\$72,646
20	Place 6" of overburden on Current Mining & Disturbed Areas	SCRAPER1	1	352.81	\$369,560
21	Place 6" of topsoil on Current Mining & Disturbed Area	SCRAPER1	1	337.12	\$353,122
30	Rip plant and stockpile areas	RIPPER	1	49.24	\$11,166
40	Reveg 265 acres	REVEGE	1	265.00	\$429,313
41	Weed mgt on remaining 86.2-Ac SR-1 Revegetated area	REVEGE	1	43.00	\$25,032
42	Reveg 25% of remaining 86.2 SR-1 reclaimed acres	REVEGE	1	25.00	\$36,721
50	Mob/demob equipment	MOBILIZE	1	2.33	\$3,316
B00	Rip Burton Stone area	RIPPER	1	1.14	\$261
B01	Reveg Burton Stone area	REVEGE	1	1.00	\$1,134
<u>SUBTOTALS:</u>				1457.85	\$1,310,980

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$26,482

Performance bond: 1.05

Total = \$13,765

Job superintendent: 728.93

Total = \$54,764

Profit: 10.00

Total = \$131,098

TOTAL O & P = \$226,109

CONTRACT AMOUNT (direct + O & P) = \$1,537,089

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$65,326

Reclamation management and/or administration: 5.00

\$76,854

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$368,290

TOTAL BOND AMOUNT (direct + indirect) = \$1,679,270

BULLDOZER WORKTask description: **Flatten highwalls to 3:1**Site: **Penrose Ranch's**Permit Action: **TR-2**Permit/Job#: **M1992016****PROJECT IDENTIFICATION**Task #: **10**State: **Colorado**Abbreviation: **None**Date: **4/11/2023**County: **Fremont**

Filename: _____

User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D7R DS Series II LGP**Horsepower: **240**Blade Type: **Straight**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$213.41	
Total Fleet Cost/Hour:	\$213.41	

MATERIAL QUANTITIESInitial Volume: **13,503**Swell factor: **1.250**Loose volume: **16,879 LCY**Source of estimated volume: **3,000 feet of 20-ft tall highwalls @ 0.5H:1V (see Task 10.1)**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **800.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **-15 %**Average site altitude: **5,300 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5170

Adjusted unit
production: 413.60 LCY/hr
Adjusted fleet
production: **413.6 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.516/LCY

Total job time: **40.81 Hours**
Total job cost: **\$8,709**

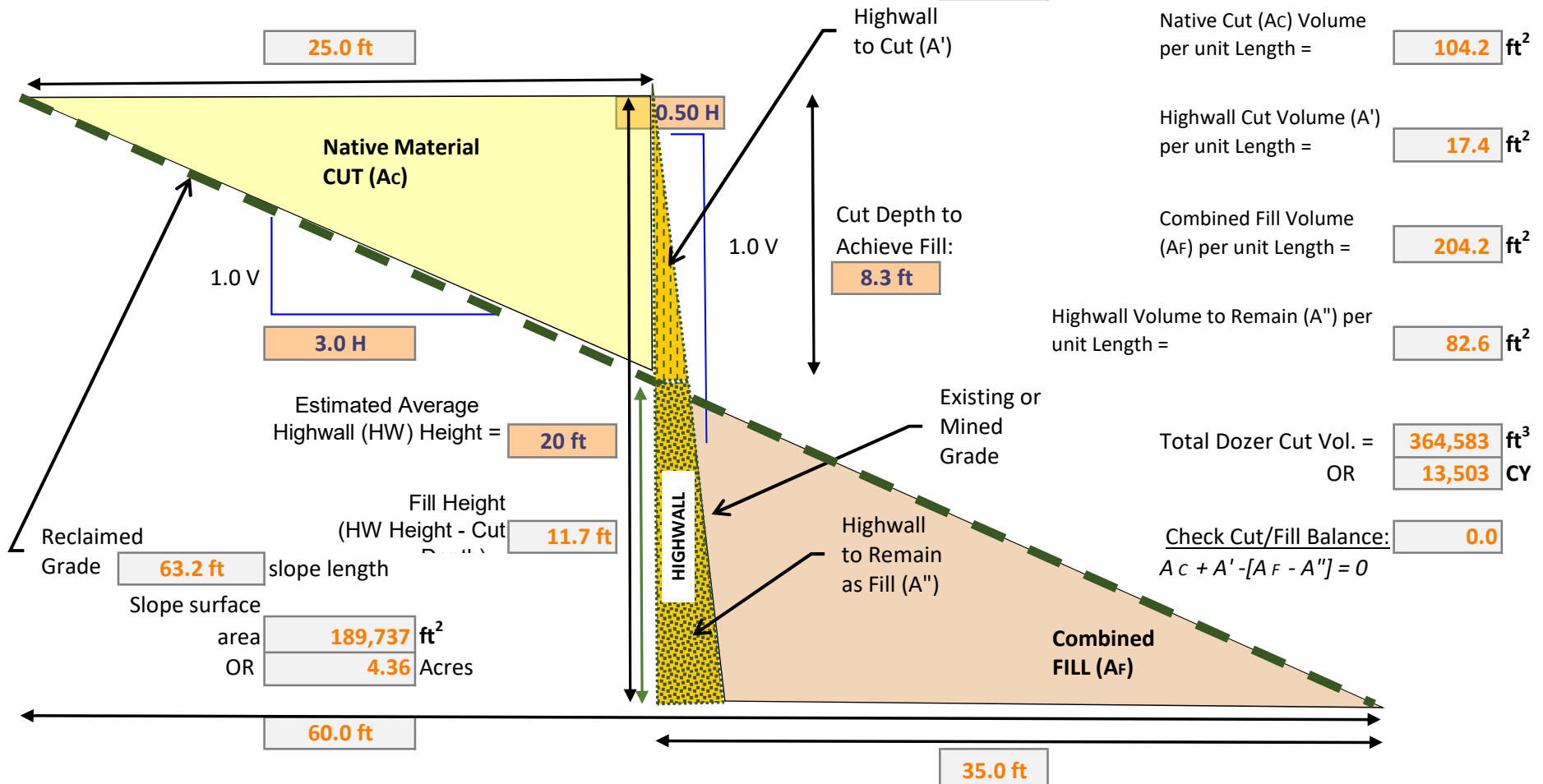
Task # 10.1 Highwall Backfill Volume Estimate

PROJECT: Penrose Ranch's
 PERMIT No.: M-1992-016 / TR-2
 HIGHWALL LOCATION: Typical Highwall

LEGEND

Input

Result



HIGHWALL CUT - FILL VOLUME ESTIMATE

BULLDOZER WORKTask description: **Dozer backfill ponds**Site: **Penrose Ranch's**Permit Action: **TR-2**Permit/Job#: **M1992016****PROJECT IDENTIFICATION**Task #: **11**State: **Colorado**Abbreviation: **None**Date: **4/11/2023**County: **Fremont**Filename: **-**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D7R DS Series II LGP**Horsepower: **240**Blade Type: **Straight**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$213.41	
Total Fleet Cost/Hour:	\$213.41	

MATERIAL QUANTITIESInitial Volume: **70,341**Swell factor: **1.125**Loose volume: **79,134 LCY**Source of estimated volume: **5.45 pond surface acres, average depth = 6 Ft**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **80 feet**Unadjusted hourly production: **575.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,300 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4043

Adjusted unit
production: 232.47 LCY/hr

Adjusted fleet
production: **232.47** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.918/LCY

Total job time: **340.40** Hours

Total job cost: **\$72,646**

M-1992-016 Penrose Ranch's Ponds

TR-2, Task 11 Pond Areas
Satellite imagery from 6/1/2018

Legend

- M-77-344 2021 Pit-B
- M-92-16 2013 Sed Pond Area
- M-92-16 Disturbed Area
- M-92-16 Pond
- SR01 Area

Assumed Average Pond Depth:			8 ft		
Ponds	Area (Ac)	Area (ft2)	Vol. (CF)	Vol. (CY)	
A	0.85	37,026	296,208	10,971	
B	1.71	74,488	595,901	22,070	
C	0.85	37,026	296,208	10,971	
D	1.1	47,916	383,328	14,197	
E	0.94	40,946	327,571	12,132	
TOTAL:	5.45	237,402	1,899,216	70,341	

Google Earth



600 ft

SCRAPER TEAM WORKTask description: **Place 6" of overburden on Current Mining & Disturbed Areas**Site: **Penrose Ranch's**Permit Action: TR-2Permit/Job#: M1992016**PROJECT IDENTIFICATION**Task #: 20State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: - -User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 623G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	NA	NA
Ownership cost/hour:	\$222.02	NA	NA	\$92.78	NA	NA
Operating cost/hour:	\$164.11	NA	NA	\$79.33	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Operator cost/hour:	\$30.90	NA	NA	\$41.30	NA	NA
Unit Subtotals:	\$417.03	NA	NA	\$213.41	NA	NA
Number of Units:	2	0	0	1	0	0
Group Subtotals:	Work:	\$834.06	Support:	\$213.41	Maint:	\$0.00

Total work team cost/hour: **\$1,047.47****MATERIAL QUANTITIES**Initial volume: 197,633

CCY

Swell factor: 1.125Loose volume: **222,337**

LCY

Source of estimated volume: 6 inches over 245 acres [excl. 20 Ac. of Pond Areas]Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY
 Material description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 55,200 pounds
 Payload Capacity: 20.83 LCY

Struck Volume: 18.00 LCY
 Heaped Volume: 23.00 LCY
 Average Volume: 20.50 LCY
 Adjusted Capacity: **20.50** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 5300 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

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	1000.00	0.50	5.00	5.50	1098	0.98

Haul Time: 0.98 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-0.50	5.00	4.50	2562	0.66

Return Time: 0.66 minutesTotal Scraper team cycle time: 3.24 minutesAdjusted for job conditions: 315.09 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 630.19 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 630.19 LCY/HourUnadjusted unit production/hour: 379.63 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 352.81 HoursUnit cost: \$1.662 /LCYTotal job cost: \$369,560

SCRAPER TEAM WORKTask description: Place 6" of topsoil on Current Mining & Disturbed AreaSite: Penrose Ranch'sPermit Action: TR-2Permit/Job#: M1992016**PROJECT IDENTIFICATION**Task #: 21State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: ' 'User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 623G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	NA	NA
Ownership cost/hour:	\$222.02	NA	NA	\$92.78	NA	NA
Operating cost/hour:	\$164.11	NA	NA	\$79.33	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Operator cost/hour:	\$30.90	NA	NA	\$41.30	NA	NA
Unit Subtotals:	\$417.03	NA	NA	\$213.41	NA	NA
Number of Units:	2	0	0	1	0	0
Group Subtotals:	Work:	\$834.06	Support:	\$213.41	Maint:	\$0.00

Total work team cost/hour: \$1,047.47**MATERIAL QUANTITIES**Initial volume: 213,767

CCY

Swell factor: 1.000Loose volume: 213,767

LCY

Source of estimated volume: Place 6" topsoil in mine area (265 ac incl ponds/20 ac)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>18.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>23.00</u>	LCY
Rated Payload:	<u>55,200 pounds</u>	Average Volume:	<u>20.50</u>	LCY
Payload Capacity:	<u>34.50 LCY</u>	Adjusted Capacity:	<u>20.50</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 5300 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

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	1000.00	0.50	5.00	5.50	1098	0.96

Haul Time: 0.96 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-0.50	5.00	4.50	2562	0.66

Return Time: 0.66 minutesTotal Scraper team cycle time: 3.22 minutesAdjusted for job conditions: 317.05 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 634.10 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 634.10 LCY/HourUnadjusted unit production/hour: 381.99 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 337.12 HoursUnit cost: \$1.652 /LCYTotal job cost: \$353,122

BULLDOZER RIPPING WORK

Task description: Rip plant and stockpile areas

Site: Penrose Ranch's

Permit Action: TR-2

Permit/Job#: M1992016

PROJECT IDENTIFICATION

Task #: 30

State: Colorado

Abbreviation: None

Date: 4/11/2023

County: Fremont

Filename: " "

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D7R DS Series II LGP

Horsepower: 240

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper Ownership Cost/Hour:	\$8.37	NA
Ripper Operating Cost/Hour:	\$4.99	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$226.77	
Total Fleet Cost/Hour:	\$226.77	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 30.00 acres Rip Depth (ft): 1.00 Volume: 48,400 BCY or CCY

Source of estimated quantity: Draft area estimate w/optimized dozer

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.45 feet/pass
Average Ripping Width: 6.50 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: 0.734 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.734 Acres/hr

Site Altitude: 5,300 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr

Adjusted Hourly Fleet Production: **0.61** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **49.24** Hours

Unit cost: \$372.205 Per acre Total job cost: **\$11,166**

REVEGETATION WORKTask description: Reveg 265 acresSite: Penrose Ranch'sPermit Action: TR-2Permit/Job#: M1992016PROJECT IDENTIFICATIONTask #: 40State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: > <User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	90.00	pound	\$0.47	\$42.30
			Total Fertilizer Materials Cost/Acre	\$42.30

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.90	14.69	\$14.38
Sand Dropseed	0.03	3.58	\$0.29
Sideoats Grama - Butte	2.70	8.86	\$24.30
Galleta	0.40	1.46	\$8.94
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Totals Seed Mix	8.03	38.70	\$73.91

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

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: 265 Cost /Acre: \$1,543.57
 Estimated Failure Rate: 25% Cost /Acre*: \$305.91
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$409,046.05**
 Reseeding Job Cost: **\$20,266.54**
 Total Job Cost: **\$429,313**
 Job Hours: **265.00**

REVEGETATION WORKTask description: Weed mgt on remaining 86.2-Ac SR-1 Revegetated areaSite: Penrose Ranch'sPermit Action: TR-2Permit/Job#: M1992016PROJECT IDENTIFICATIONTask #: 41State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: I IUser: TC1Agency or organization name: DRMSFERTILIZING**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
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$290.40

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

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

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	86.2	Cost /Acre:	\$290.40
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		
Initial Job Cost:	\$25,032.48		
Reseeding Job Cost:	\$0.00		
Total Job Cost:	\$25,032		
Job Hours:	43.00		

REVEGETATION WORKTask description: Reveg 25% of remaining 86.2 SR-1 reclaimed acresSite: Penrose Ranch'sPermit Action: TR-2Permit/Job#: M1992016PROJECT IDENTIFICATIONTask #: 42State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: < >User: TC1Agency or organization name: DRMSFERTILIZING**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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.90	14.69	\$14.38
Sand Dropseed	0.03	3.58	\$0.29
Sideoats Grama - Butte	2.70	8.86	\$24.30
Galleta	0.40	1.46	\$8.94
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Totals Seed Mix	8.03	38.70	\$73.91

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

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: 21.55 Cost /Acre: \$1,363.20
 Estimated Failure Rate: 25% Cost /Acre*: \$1,363.20
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$29,376.96**
 Reseeding Job Cost: **\$7,344.24**
 Total Job Cost: **\$36,721**
 Job Hours: **25.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/demob equipment**Site: **Penrose Ranch's**Permit Action: **TR-2**Permit/Job#: **M1992016****PROJECT IDENTIFICATION**

Task #: 50 State: Colorado Abbreviation: None
 Date: 4/11/2023 County: Fremont Filename:
 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

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 D7R DS Series II LGP	38.49	\$101.15	\$101.82	1	\$202.97	\$101.82	\$250.00
Cat 623G	41.35	\$222.02	\$101.82	2	\$647.68	\$203.64	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals: **\$925.12** **\$373.68** **\$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Power Mulcher (Bowie LD-90)	\$37.56	1	\$37.56	\$37.56

Subtotals: **\$37.56** **\$37.56**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CAÑON CITY	
Total one-way travel distance:	15.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	\$3,290.99
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$25.04
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.33	0.33
Return Time (Hours):	0.33	0.33
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.17	0.67

JOB TIME AND COST

Total job time:	2.33	Hours
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Total job cost:	\$3,316
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BULLDOZER RIPPING WORK

Task description: Rip Burton Stone area

Site: Penrose Ranch's

Permit Action: TR-2

Permit/Job#: M1992016

PROJECT IDENTIFICATION

Task #: B00

State: Colorado

Abbreviation: None

Date: 4/11/2023

County: Fremont

Filename: 0_0

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D7R DS Series II LGP

Horsepower: 240

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper Ownership Cost/Hour:	\$8.37	NA
Ripper Operating Cost/Hour:	\$4.99	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$226.77	
Total Fleet Cost/Hour:	\$226.77	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 0.70 acres

Rip Depth (ft): 1.00

Volume: 1,129

BCY or CCY

Source of estimated quantity: Draft area estimate w/optimized dozer

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.45</u>	feet/pass
Average Ripping Width:	<u>6.50</u>	feet/pass
Average Ripping Length:	<u>300.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.734</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.734 Acres/hr

Site Altitude: 5,300 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr

Adjusted Hourly Fleet Production: 0.61 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 1.15 Hours

Unit cost: \$372.205 Per acre Total job cost: \$261

REVEGETATION WORKTask description: Reveg Burton Stone areaSite: Penrose Ranch'sPermit Action: TR-2Permit/Job#: M1992016PROJECT IDENTIFICATIONTask #: B01State: ColoradoAbbreviation: NoneDate: 4/11/2023County: FremontFilename: B_1User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Triple superphosphate, 0-46-0	90.00	pound	\$0.47	\$42.30
			Total Fertilizer Materials Cost/Acre	\$42.30

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.90	14.69	\$14.38
Sand Dropseed	0.03	3.58	\$0.29
Sideoats Grama - Butte	2.70	8.86	\$24.30
Galleta	0.40	1.46	\$8.94
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Totals Seed Mix	8.03	38.70	\$73.91

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

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: 0.7 Cost /Acre: \$1,543.57
 Estimated Failure Rate: 25% Cost /Acre*: \$305.91
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$1,080.50**
 Reseeding Job Cost: **\$53.53**
 Total Job Cost: **\$1,134**
 Job Hours: **1.00**