



STATE OF  
COLORADO

Reilley - DNR, Robin <robin.reilley@state.co.us>

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## Kattenberg Pit

1 message

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**Reilley - DNR, Robin** <robin.reilley@state.co.us>

Wed, Jul 16, 2025 at 12:50 PM

To: Ben Langenfeld <benl@lewicki.biz>, Robin Reilley - DNR <robin.reilley@state.co.us>

Mr. Langenfeld,

Thank you for your timely responses to DRMS's adequacy for the above mentioned permitting action. DRMS recommends proposing the decision as all concerns have been adequately addressed.

Please review the attached RCE and let me know if you have any questions.

Thank you

Robin Reilley, M.S. GISP  
Environmental Protection Specialist II

image.png

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### 2 attachments

**RCE\_KattenbergTR2.pdf**  
502K

**Kattenberg\_ADQ\_Propose.pdf**  
205K



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

Ben Laganfeld  
Lewicki and Associates

16 July 2025

**RE: Kattenberg Pit M2004017**  
**RMS Adequacy Review of Groundwater Information TR2**

The Division has completed its preliminary review of Kattenberg Pit Technical Revision No. 2, TR2 received by the Division on 8 April 2025 via electronic submission. DRMS found the proposed revision complete on 21 April 2025. Preliminary Adequacy was provided 25 April 2025 and DRMS received the responses 8 May 2025. A second set of adequacy was provided 30 May and response received by DRMS 9 July 2025. DRMS reviewed the response and has no further questions and recommends proposing the decision.

Please find the reclamation cost estimate attached and let me know any question you may have.

Sincerely,

Robin Reilley M.S. GISP  
Environmental Protection Specialist II  
[Robin.reilley@state.co.us](mailto:Robin.reilley@state.co.us)



## COST SUMMARY WORK

Task description: Kattenberg Reclamation

Site: Kattenberg Pit

Permit Action: TR2

Permit/Job#: M2004017

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 5/28/2025

County: Grand

Filename: M017-000

User: RAR

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
024	Backfill 22,222 CY B/G FROM MINING TO FINAL CONDITION	DOZER	1	59.92	\$19,270
054	Topsoil Replacement 7" - 33.9 Acres	SCRAPER1	1	58.54	\$76,942
064	Final Grading - 33.39 Acres	GRADER	1	33.23	\$5,382
073	Revegetate - 33.9 Acres	REVEGE	1	40.00	\$76,066
<b><u>SUBTOTALS:</u></b>				<b>191.69</b>	<b>\$177,660</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$3,589

Performance bond: 1.05

Total = \$1,865

Job superintendent: 120.98

Total = \$9,590

Profit: 10.00

Total = \$17,766

TOTAL O & P = \$32,810

CONTRACT AMOUNT (direct + O & P) = \$210,470

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 2.00

Total = \$4,209

Reclamation management and/or administration: 5.00

\$10,524

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$48,043

**TOTAL BOND AMOUNT (direct + indirect) = \$225,703**

**BULLDOZER WORK**Task description: **Backfill 22,222 CY B/G FROM MINING TO FINAL CONDITION**Site: **Kattenberg Pit**Permit Action: TR2Permit/Job#: M2004017**PROJECT IDENTIFICATION**Task #: 024State: ColoradoAbbreviation: NoneDate: 5/28/2025County: GrandFilename: M017-024User: RARAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	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: \$321.62Total Fleet Cost/Hour: \$321.62**MATERIAL QUANTITIES**Initial Volume: 22,222Swell factor: 1.000Loose volume: 22,222 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 634.3 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -10 %Average site altitude: 7,966 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5847

Adjusted unit production: 370.88 LCY/hr

Adjusted fleet production: **370.88 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.867/LCY

Total job time: **59.92 Hours**

Total job cost: **\$19,270**

**SCRAPER TEAM WORK**Task description: Topsoil Replacement 7" - 33.9 AcresSite: Kattenberg PitPermit Action: TR2Permit/Job#: M2004017**PROJECT IDENTIFICATION**Task #: 054State: ColoradoAbbreviation: NoneDate: 5/28/2025County: GrandFilename: M017-054User: RARAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	Cat D6T LGP
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 140M
-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	50	50	NA	75	NA
Ownership cost/hour:	\$442.19	\$99.72	\$173.32	NA	\$77.29	NA
Operating cost/hour:	\$252.89	\$35.61	\$54.86	NA	\$42.65	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	NA
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	NA
Operator cost/hour:	\$30.90	\$38.59	\$38.59	NA	\$27.76	NA
Unit Subtotals:	\$725.98	\$173.92	\$266.76	NA	\$147.70	NA
Number of Units:	1	1	1	0	1	0
Group Subtotals:	Work: \$899.90		Support: \$266.76		Maint: \$147.70	

Total work team cost/hour: \$1,314.36**MATERIAL QUANTITIES**Initial volume: 31,903

CCY

Swell factor: 1.000Loose volume: 31,903

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 7966 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: Hard, smooth, stabilized, surfaced, watered, maintained 2.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	950.00	0.00	2.00	2.00	2806	0.63

Haul Time: 0.63 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	950.00	0.00	2.00	2.00	2914	0.52

Return Time: 0.52 minutesTotal Scraper team cycle time: 2.65 minutesAdjusted for job conditions: 544.98 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 544.98 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 544.98 LCY/HourUnadjusted unit production/hour: 656.60 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 58.54 HoursUnit cost: \$2.412 /LCYTotal job cost: \$76,942

## MOTOR GRADER WORK

Task description: Final Grading - 33.39 Acres

Site: Kattenberg Pit

Permit Action: TR2

Permit/Job#: M2004017

### PROJECT IDENTIFICATION

Task #: 064

State: Colorado

Abbreviation: None

Date: 5/28/2025

County: Grand

Filename: M017-064

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 140M

Horsepower: 183

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$77.29	NA
Operating Cost/Hour:	\$56.87	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$161.92	
Total Fleet Cost/Hour:	<b>\$161.92</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 33.39 acres

Source of estimated acreage: TR2 APPLICATION

### 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: 7966 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: **33.24** Hours

Unit cost: \$161.19 per acre Total job cost: **\$5,382**



**REVEGETATION WORK**Task description: Revegetate - 33.9 AcresSite: Kattenberg PitPermit Action: TR2Permit/Job#: M2004017**PROJECT IDENTIFICATION**Task #: 073State: ColoradoAbbreviation: NoneDate: 5/28/2025County: GrandFilename: TR2User: RARAgency or organization name: DRMS**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
<b>Total Tilling Cost/Acre</b>	<b>\$456.41</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Smooth Brome - Lincoln	3.50	11.65	\$17.00
Pubescent Wheatgrass - Luna	3.00	6.20	\$15.01
Slender Wheatgrass - Native	1.50	5.48	\$10.60
<b>Totals Seed Mix</b>	<b>8.00</b>	<b>23.32</b>	<b>\$42.61</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

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

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$85.37
Weed spray, truck, aquatic area, nox. [DMG]	\$79.77
<b>Total Mulch Application Cost/Acre</b>	<b>\$165.14</b>

No. of Acres: 33.9 Cost /Acre: \$1,886.36  
Estimated Failure Rate: 25% Cost /Acre\*: \$1,429.95  
\*Selected Replanting Work Items: SEEDING, MULCHING

Initial Job Cost: **\$63,947.60**  
Reseeding Job Cost: **\$12,118.83**  
Total Job Cost: **\$76,066**  
Job Hours: **40.00**