

STATE OF
COLORADO

Wein - DNR, Clayton <clayton.wein@state.co.us>

Roadside Mine, C-1981-041, Midterm Review No. 9

1 message

Wein - DNR, Clayton <clayton.wein@state.co.us>
To: Tonya Hammond <tonya.snowcap@gmail.com>

Tue, Jul 1, 2025 at 2:57 PM

Good afternoon Tonya,

Attached with this email is the Division's Midterm Review No. 9 for the Roadside Mine. The review was conducted as per Rule 2.08.3. Please note the adequacy Items outlined in the findings. If you have any questions or concerns, please feel free to contact me.

Sincerely,
Clayton Wein
Environmental Protection Specialist

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

P 720.762.6156 | F 303.832.8106
1313 Sherman Street, Room 215, Denver, CO 80203
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C-1981-041, Roadside Mine Midterm Review No. 9 Findings.pdf
1023K



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

July 1, 2025

Tonya Hammond
Snowcap Coal Company, Inc.
743 Horizon Ct., Suite 334
Grand Junction, CO 81506

RE: Roadside Portals Mine, Permit No. C-1981-041, Midterm Review No. 9

Dear Ms. Hammond,

The Division has completed its review of the Roadside Portals Mine permit as required by Rule 2.08.3(1). The Division's staff reviewed the currently approved Permit Application Package, previous Proposed Decision and Findings of Compliance documents, permit stipulations, revisions to the permit, variances, Inspection Reports and monitoring reports. The enclosed document is a summary of the Division's findings as a result of this review. If you have any questions or comments, please contact me at (720)-762-6156 or at clayton.wein@state.co.us.

Sincerely,

Clayton Wein
Environmental Protection Specialist

Cc: Travis Marshall, Senior Environmental Protection Specialist GJFO



Midterm Permit Review
for the
Roadside Portals Mine
Snowcap Coal Company Inc.

Permit No. C-1981-041



Conducted by
Colorado Division of Reclamation, Mining and Safety 1313 Sherman Street, Room 215
Denver, CO 80203
303-866-3567
Michael Cunningham, Director

Clayton Wein Environmental Protection Specialist

July 1, 2025

InFulfillment of C.R.S. 34-33-115(3), and the following Regulations of the Colorado Mined Land
Reclamation Board for Coal Mining:
2.08.3, 2.06.2(10), 2.06.3(4)(a), 2.06.5(3)(c), 2.06.7(5) and 3.02.2(4)

Midterm Review

Roadside Portals Mine C-1981-041

This document presents the results of the Midterm Permit Review No. 9 (MT-9) of the Snowcap Coal Company Inc.'s Roadside Portals Mine. The Colorado Division of Reclamation, Mining and Safety (Division) conducted this review for the purpose of fulfilling the requirements of the Colorado Surface Coal Mining Reclamation Act and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining.

This Midterm Review was conducted to fulfill the requirements of Sections 2.08.3, 2.06.2(10), 2.06.3(4)(a), 2.06.5(3), 2.06.7(5) and 3.02.2(4).

Section 2.08.3 of the Regulations requires that the Division conduct a review of each permit issued, prior to its midterm. Based on this review, for good cause shown, the Division may require reasonable revisions or modifications of the permit provisions to ensure compliance with the Act and Regulations.

Section 3.02.2(4) requires that the Division review the amount of the bond and the terms of acceptance of the bond every 2 1/2 years.

Sections 2.06.2(10), 2.06.3(4)(a), 2.06.5(3) and 2.06.7(5) require experimental practices, mountaintop removal variances, variances from approximate original contour (AOC) for steep slope mining and variances from contemporaneous reclamation for combined surface and underground mining, respectively, be reviewed by the Division where applicable during the Midterm Review.

This Midterm Review consisted of a detailed review of the following documents:

- The Roadside Portals Mine permit application, including stipulations and responses,
- All revisions made to the permit since the issuance of the permit,
- The Roadside Portals Mine annual reclamation and hydrology reports,
- Bond surety and reclamation cost estimate,
- The Division findings document,
- The Division's inspection reports,
- Any notices of violations since the issuance of the permit

SECTION - HISTORY

The Roadside Portals Mine (formerly known as the Roadside and Cameo Mines) is an underground coal mining operation located in Mesa County, approximately three miles northeast of Palisade, Colorado, adjacent to Interstate 70 and the Colorado River, at the Cameo exit in De Beque Canyon. Underground mining operations began in 1974. On February 17, 1981, GEX Colorado, Inc. submitted the original application for a permit under the Colorado permanent program. On December 31, 1981, the Roadside and Cameo Mines were purchased by Powderhorn Coal Company.

Following the review process for the initial permanent program permit application, a Proposed

Decision and Findings of Compliance for permit approval was written on November 4, 1982. The Division issued a five-year-term permit with stipulations on January 3, 1983 and designated Permit Number C-1981-041 for the Roadside Portals Mine. Snowcap Coal Company acquired the mine from Powderhorn Coal Company in 2002. The Transfer of Permit/Succession of Operator (S0-2) became final on April 14, 2002. The official status of the operation is 'permanent cessation' as there has been no coal extraction at the mine since December 1999. Extensive reclamation work has been conducted at the mine since coal extraction ceased, much of the work was performed after acquisition of the operation by Snowcap Coal Company (SCC) in 2002.

With the exception of the train loadout facility, ongoing activity is limited to monitoring, maintenance and reclamation. With approval of Permit Revision No. 4 (PR-4), the unit train loadout, a portion of the railroad spur and overland conveyor corridor north of I 9/10 Road was converted from 'Fish and Wildlife Habitat' to 'Industrial or Commercial' for the Unit Train Loadout area. The land use change allowed for long term post-mine use of the loadout area and various associated facilities for rail loading, unloading and storage of construction materials. SCC entered into a purchase and sale agreement with Halliburton Energy Services, Inc. (Halliburton) in 2006 for the loadout and a portion of the railroad spur and overland conveyor. Halliburton finalized the purchase of the property in September 2009 and obtained the necessary Conditional Use Permit (CUP) from Mesa County in 2009. Following approval of PR-4 and the CUP from Mesa County, Halliburton has been actively using the site as the Cameo Sand Offloading Facility.

During active operations, mine portals, coal processing facilities and a coal mine waste disposal area were located south and east of the Interstate-70 and the Colorado River. Additional mine portals, coal handling facilities, two coal mine waste disposal areas and a rail loadout facility were located north and west of the Colorado River. At present, the North Portals have been sealed and backfilled, North Portal facilities demolished, and backfilling and grading of the North Portal Facilities area is complete. The two coal waste disposal areas north and west of the river in Coal Canyon have been fully reclaimed. The South Mine, located south and east of Interstate-70, the South Portal has been sealed, the coal processing plant and various other facilities have been demolished and removed. Earthwork and revegetation at the South Portal facilities have been completed and the refuse disposal area has been reclaimed. Final reclamation plans for the South Portal facilities were modified by Permit Revision No. 3 (PR-3), approved in September 2007. PR-3 incorporated a variance from approximate original contour (AOC) and allowed for retention of certain buildings and facilities in order to accommodate a commercial post-mining land use. All major reclamation tasks have been completed.

The original permit has been granted renewal for successive five year permit terms eight times and the most recent renewal decision was finalized in December 2022. An application for permit renewal was submitted by Snowcap Coal Company on June 22, 2022 and deemed administratively complete on June 27, 2022. On October 26, 2022, the Division approved the permit renewal without stipulations for another five year term.

Since the permit renewal issuance date of December 3, 2022 for RN-8, no Notices of Violation have been issued, one minor revision (MR) has been submitted and processed, and one bond release has been submitted and processed.

The recent permitting actions are summarized below in Section II of this document.

The permit area of the Roadside North and South Portal Mines is 317 acres.

SECTION II-REVISIONS TO THE PERMIT

The following is a summary of the revisions to the permit since the RN-8 Findings Document dated October 28, 2022.

<u>Revision No.</u>	<u>Approval Date</u>	<u>Nature of Revision</u>	<u>Bond</u>
MR-89	5/3/2023	Update Alternate Water Supply Text and Exhibit.	No Change
SI-2	8/19/2024	Surety increased following a Bond Compliance Inspection.	Increased by \$4,179.00
MR-90	2/6/2025	Updated the identification of interests in/tab 3.	No Change

SECTION III - STATUS OF STIPULATIONS

Since the submittal of the original permit application, there have been a total of twenty four stipulations issued. All the stipulations have been terminated or complied with. There are no active stipulations placed on the permit at this time.

SECTION IV - MIDTERM ADEQUACY QUESTIONS

Pursuant to 2.08.3, the Division finds that the permit application C-1981-041 contains deficiencies following the review for the purpose of fulfilling the requirements of the Colorado Surface Coal Mining Reclamation Act, and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. The Division requests that the permittee correct the deficiencies by submission of revised permit pages under appropriate revision applications, or by activities on the ground, by August 29, 2025.

Rule 2.03 – Legal, Financial and Compliance and Other Related Information

1. Please update as necessary the information contained in Tab 3. This section of the permit contains the names and addresses of the mine operator, the resident agent, surface landowners, subsurface landowners and contiguous surface and subsurface owners.
2. Rule 2.03.4: Please update as needed the officer and control information provided in Appendix 3-1 if necessary.
3. Please review the maps in Exhibits 3 and 4 of the permit and update related to section 2.03 as necessary to reflect any changes that may have occurred.
4. Rule 2.03.5: There have been no violations issued from the division since RN-08. Please review the information on page 3-4 (Tab 3) and update any text if necessary.

5. Please review the right of entry information on page 3-4, and Table 3-3 through 3-6 (Tab3). Please update any text or exhibit as necessary.

Rule 2.04.11 – Fish and Wildlife Resources Information

6. Please review Tab 11 of the permit and update as necessary. Please ensure that the Threatened and Endangered Species list is updated. Since the approval of Permit Renewal No. 8, Grey Wolves have been included on Colorado's list of threatened and endangered species. A Minor Revision will be required to update the C-089 Permit with this information and a consultation with Colorado Parks and Wildlife will be necessary at that time.

SECTION V - PERMIT VARIANCES AND SPECIFIC APPROVALS

The Division has granted a variance from the approximate original contour (AOC) restoration requirements for steep slope mining at the South Portal facilities area. Steep slopes as defined in Rule 1.04(125) exist in the South Portal disturbed area and they are depicted on Exhibit 6C of the permit document. As allowed for in Rule 2.06.5, SCC requested an AOC variance with Permit Revision No. 3 (PR-3) for these steep slopes to allow for an alternative commercial postmining land use.

Within PR-3, SCC requested, and the Division approved, a variance from the AOC restoration requirements for steep slope mining, pursuant to Rules 2.06.5 and 4.27.4. Approval of the variance has allowed SCC to retain the flat mine bench, the existing shop and warehouse, an access road and parking areas for the approved commercial postmining land use at the South Portal facilities area. The specific findings required by Rule 2.06.5 and by Rule 4.27.4 for the South Portal area are provided in Section B. VIII of the Proposed Decision and Findings of Compliance for Permit Revision No. 3 dated July 30, 2007.

There are no other permit variance requests or approvals for the Roadside North and South Portal Mines.

SECTION VI - BONDING SUMMARY

The Division currently holds a surety bond in the amount of \$76,229.00. This amount is enough to cover the Division's latest reclamation cost estimate calculated to be \$76,229.00 on August 1, 2024. The Division's CIRCES cost estimation program has not had any updates since the August 1, 2024 calculation was completed. Additionally, no revisions to the permit have increased the reclamation costs since this estimate was calculated. For detailed information regarding the cost estimate, please see the attached Reclamation Cost Estimate at the end of this document.

COST SUMMARY WORK

Task description: 2024 BCI Revised Cost Summary

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-000

User: CCW

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
121	Plug and Seal Boreholes	BOREHOLE	1	0.00	\$3,951
205	Mobilize Equipment for Remaining Reclamation	MOBILIZE	1	4.00	\$6,304
207	Topsoil salvage from TR69	LOADER	1	2.83	\$270
208	TR69 Topsoil salvage	GRADER	1	0.24	\$69
209	excavate and backfill TR69 air shaft repair	SITEMAINT ENANCE	1	48.00	\$30,523
213	TR69 Compacting fill in excavated hole	COMPACT	1	6.46	\$2,308
214	TR69 replace topsoil	LOADER	1	1.74	\$166
215	TR69 Topsoil replacement	GRADER	1	0.24	\$67
216	TR69 Install concrete seal in excavated hole	MINESEAL	1	8.00	\$7,812
217	Seed TR69 0.4 acre disturbance	REVEGE	1	3.40	\$883
218	water truck for TR69 activity	MISCTRUK	1	22.00	\$3,098
<u>SUBTOTALS:</u>				96.91	\$55,451

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$1,120

Performance bond: 1.05

Total = \$582

Job superintendent: 48.46

Total = \$3,841

Profit: 10.00

Total = \$5,545

TOTAL O & P = \$11,088

CONTRACT AMOUNT (direct + O & P) = \$66,539

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 8.00

Total = \$5,323

Reclamation management and/or administration: 5.81

\$3,866

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$20,778

TOTAL BOND AMOUNT (direct + indirect) = \$76,229

BOREHOLE SEALING WORK

Task description: Plug and Seal Boreholes

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 121
Date: 8/1/2024
User: CCW

State: Colorado
County: Mesa

Abbreviation: None
Filename: C-041-121

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
GVMS-01A	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
GVMS-01B	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
GVMS-02A	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
GVMS-02B	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
GVMS-03A	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
GVMS-03B	Portland cement grout - 8 in. (labor, equip, materials)	8	33	33.00	LF	\$10.60	\$349.89
CRDA No. 1	Portland cement grout - 4 in. (labor, equip, materials)	6	90	90.00	LF	\$8.71	\$784.19
8" Bottom Plugs	PVC plug - 8 in. diameter borehole	6	NA	6.00	EA	\$89.31	\$535.84
Casing Removal	Exposed casing removal - Calculate Circumference in Linear Feet	7	33	33.00	LF	\$3.23	\$106.59
Hole Markers	Borehole location/identification marker (EA, material cost only)	NA	NA	7.00	EA	\$46.00	\$322.00
4" Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$36.06	\$36.06
Outfall 002, Plug pipe	PVC plug - 6 in. diameter borehole	6	NA	1.00	EA	\$65.19	\$65.19
Cut Outfall 002 Pipe	Exposed casing removal - Calculate Circumference in Linear Feet	6"	NA	0.50	LF	\$3.23	\$1.62

Job Hours: 0.00

Total Cost: \$3,951.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize Equipment for Remaining Reclamation**Site: **Roadside Portals**Permit Action: **2024 BCI Revised**Permit/Job#: **C1981041****PROJECT IDENTIFICATION**Task #: **205**State: **Colorado**Abbreviation: **None**Date: **8/1/2024**County: **Mesa**Filename: **C041-205**User: **CCW**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 14M	23.57	\$129.81	\$59.44	1	\$189.25	\$59.44	\$250.00
Cat 324D L 9'-8" Stick	27.33	\$281.20	\$122.78	1	\$403.98	\$122.78	\$250.00
CAT 914G	8.15	\$18.75	\$59.44	1	\$78.19	\$59.44	\$250.00
CAT 825H	36.08	\$164.53	\$122.78	1	\$287.31	\$122.78	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$191.64	\$59.44	1	\$251.08	\$59.44	\$250.00
Subtotals:					\$1,209.81	\$423.88	\$1,250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$53.90	1	\$53.90	\$53.90
Lube Truck, 6x4, 250 HP	\$53.90	1	\$53.90	\$53.90
Flatbed Truck, 6x4, 45K GVW	\$81.77	1	\$81.77	\$81.77
Light Duty Pickup, 4x4, 1 T. Crew	\$24.60	1	\$24.60	\$24.60
Water Tanker, 3,500 Gal.	\$53.90	1	\$53.90	\$53.90

Subtotals: **\$268.07** **\$268.07**

EQUIPMENT HAUL DISTANCE and Time

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

Total Non-Roadable Mob/Demob Cost *	<u>\$5,767.38</u>
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 '* two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$536.14</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.00</u>	<u>1.00</u>
Return Time (Hours):	<u>1.00</u>	<u>1.00</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>2.00</u>	<u>2.00</u>

JOB TIME AND COST

Total job time:	<u>4.00</u>	Hours
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Total job cost:	<u>\$6,304</u>
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WHEEL LOADER – LOAD AND CARRY WORKTask description: Topsoil salvage from TR69Site: Roadside PortalsPermit Action: 2024 BCI RevisedPermit/Job#: C1981041**PROJECT IDENTIFICATION**Task #: 207State: ColoradoAbbreviation: NoneDate: 8/1/2024County: MesaFilename: C041-207User: CCWAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 914GAttachment 1: ROPS CabHorsepower: 95Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$18.75	NA
Operating Cost/Hour:	\$19.99	100
Operator Cost/Hour:	\$56.64	NA
Total Unit Cost/Hour:	\$95.38	
Total Fleet Cost/Hour:	\$95.38	

MATERIAL QUANTITIESInitial volume: 325

CCY

Swell factor: 1.250Loose volume: 406

LCY

Source of estimated volume: TR69Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Loader Cycle Time:**Unadjusted Basic Cycle Time (load, dump,
maneuver):

0.450

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 Basic Cycle Time:		0.410	minutes

Rolling Resistance – Road ConditionsHaul: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Return: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
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Haul Route:	150	3.00	3.00	6.00	0.1164	(Cat HB)
Return Route:	150	-3.00	3.00	0.00	0.0527	(Cat HB)

Total Travel Time: 0.1692 minutes
Total Cycle Time: **0.5792** minutes

Load Bucket Capacity

Rated Capacity: 1.80 LCY (heaped)
Bucket Fill Factor: 0.975 Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity: **1.76** LCY

Job Condition Correction Factors

Site Altitude: 5100 feet

		Source
Altitude Adj:	<u>0.95</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.79</u>	multiplier

Unadjusted Hourly Unit Production: 181.82 LCY/Hour
Adjusted Hourly Unit Production: 143.36 LCY/Hour
Adjusted Hourly Fleet Production: **143.36** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: **2.83** Hours
Unit cost: \$0.665 /LCY Total job cost: **\$270**

MOTOR GRADER WORK

Task description: TR69 Topsoil salvage

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 208

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-208

User: CCW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$5.75	NA
Ripper Operating Cost/Hour:	\$4.18	100
Operator Cost/Hour:	\$57.29	NA
Total Unit Cost/Hour:	\$286.16	
Total Fleet Cost/Hour:	\$286.16	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 0.40 acres

Source of estimated acreage: TR69

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>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5100 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: 1.6527 acres/Hour

Adjusted Hourly Fleet Production: **1.6527** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.24** Hours

Unit cost: \$173.14 per acre Total job cost: **\$69**

SITE MAINTENANCE

Task description: Excavate and backfill TR69 air shaft repair

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 209

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-209

User: CCW

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Excavate old air shaft for repair	16.00	Cat 324D L 9'-8" Stick	16.00	EA	\$540.52	\$8,648.32
backfill and compact plugged air shaft	32.00	Cat 324D L 9'-8" Stick	32.00	EA	\$540.52	\$17,296.64
Excavation from end loader support	16.00	CAT 914G	16.00	EA	\$95.38	\$1,526.08
backfill air shaft from end loader support	32.00	CAT 914G	32.00	EA	\$95.38	\$3,052.16

Job Hours: 48.00

Total Cost: \$30,523.20

COMPACTION WORK

Task description: TR69 Compacting fill in excavated hole

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 213

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-213

User: CCW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$31.50		NA
Total Unit Cost/Hour:	\$357.24		
Total Fleet Cost/Hour:	\$357.24		

MATERIAL QUANTITIES

Loose volume: 1,100

LCY

Shrinkage factor: 0.875

Compacted volume: 963

CCY

Source of estimated volume: TR69 SCC estimate

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>1.00</u>	mph
Compacted thickness of each lift (L):	<u>3.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>2</u>	passes
Unadjusted Hourly Unit Production:	<u>179.46</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 5,100 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: 148.95 CCY/Hour

Adjusted Hourly Fleet Production: 148.95 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 6.46 Hours

Unit cost: \$2.398 per CCY

Total job cost: \$2,308

WHEEL LOADER – LOAD AND CARRY WORKTask description: TR69 replace topsoilSite: Roadside PortalsPermit Action: 2024 BCI RevisedPermit/Job#: C1981041**PROJECT IDENTIFICATION**Task #: 214State: ColoradoAbbreviation: NoneDate: 8/1/2024County: MesaFilename: C041-214User: CCWAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 914GAttachment 1: ROPS CabHorsepower: 95Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$18.75	NA
Operating Cost/Hour:	\$19.99	100
Operator Cost/Hour:	\$56.64	NA
Total Unit Cost/Hour:	\$95.38	
Total Fleet Cost/Hour:	\$95.38	

MATERIAL QUANTITIESInitial volume: 325

CCY

Swell factor: 1.000Loose volume: 325

LCY

Source of estimated volume: TR69 SCC estimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Loader Cycle Time:**Unadjusted Basic Cycle Time (load, dump,
maneuver):

0.450

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 Basic Cycle Time:		0.390	minutes

Rolling Resistance – Road ConditionsHaul: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Return: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
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Haul Route:	100	0.00	3.00	3.00	0.0564	(Cat HB)
Return Route:	100	0.00	3.00	3.00	0.0564	(Cat HB)

Total Travel Time: 0.1128 minutes
Total Cycle Time: **0.5028** minutes

Load Bucket Capacity

Rated Capacity: 1.80 LCY (heaped)
Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity: **1.98** LCY

Job Condition Correction Factors

Site Altitude: 5100 feet

Altitude Adj:	<u>0.95</u>	Source (CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.79</u>	multiplier

Unadjusted Hourly Unit Production: 236.28 LCY/Hour
Adjusted Hourly Unit Production: 186.30 LCY/Hour
Adjusted Hourly Fleet Production: **186.30** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: **1.74** Hours
Unit cost: \$0.512 /LCY Total job cost: **\$166**

MOTOR GRADER WORK

Task description: TR69 Topsoil replacement

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 215

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-215

User: CCW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$56.70	NA
Total Unit Cost/Hour:	\$275.64	
Total Fleet Cost/Hour:	\$275.64	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 0.40 acres

Source of estimated acreage: TR69

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>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5100 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: 1.6527 acres/Hour

Adjusted Hourly Fleet Production: **1.6527** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.24** Hours

Unit cost: \$166.78 per acre Total job cost: **\$67**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: TR69 Install concrete seal in excavated hole

Site: Roadside Portals Permit Action: 2024 BCI Revised Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 216 State: Colorado Abbreviation: None
Date: 8/1/2024 County: Mesa Filename: C041-216
User: CCW

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
pour concrete plug in excavated air shaft	15 CY	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	400.00	CF	\$19.53	\$7,812.00

Job Hours: 8.00

Total Cost: \$7,812.00

REVEGETATION WORKTask description: Seed TR69 0.4 acre disturbanceSite: Roadside PortalsPermit Action: 2024 BCI RevisedPermit/Job#: C1981041**PROJECT IDENTIFICATION**Task #: 217State: ColoradoAbbreviation: NoneDate: 8/1/2024County: MesaFilename: C041-217User: CCWAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-32-16, 16-20-0	50.00	pound	\$0.92	\$46.18
			Total Fertilizer Materials Cost/Acre	\$46.18

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$17.86
Total Fertilizer Application Cost/Acre	\$17.86

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$102.41
Total Tilling Cost/Acre	\$102.41

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.20	7.81	\$5.82
Indian Ricegrass - Paloma	2.00	6.47	\$41.06
Bluebunch Wheatgrass - Secar	2.00	6.43	\$21.03
Russian Wildrye - Bozoisky	1.00	4.02	\$11.07
Bottlebrush Squirreltail	0.50	2.20	\$12.70
Galleta	2.00	7.30	\$110.88
Slender Wheatgrass - San Luis	1.00	3.65	\$6.04
Thickspike Wheatgrass - Critana	2.00	7.07	\$16.30
Western Wheatgrass - Arriba	1.00	2.53	\$9.03
Needle and Thread	1.00	2.64	\$81.43
Saltbush, Four Wing	0.50	0.69	\$9.94

Saltbush, Shadscale	3.00	4.48	\$54.26
Winter Fat	2.00	5.10	\$93.45
Penstemon, Palmer	0.25	5.53	\$19.48
Primrose, Missouri Evening	0.50	2.03	\$32.78
Greasewood, Black	1.00	140.45	\$39.07
Kochia, Forage (Prostrate)	0.25	35.11	\$5.20
Totals Seed Mix	20.20	243.50	\$569.54

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
Hay, 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
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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:	0.4	Cost /Acre:	\$2,200.82
Estimated Failure Rate:	0.3%	Cost /Acre*:	\$2,200.82
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MU LCHING		
Initial Job Cost:	\$880.33		
Reseeding Job Cost:	\$2.64		
Total Job Cost:	\$883		
Job Hours:	3.40		

MISCELLANEOUS TRUCK WORK

Task description: Water truck for TR69 activity

Site: Roadside Portals

Permit Action: 2024 BCI Revised

Permit/Job#: C1981041

PROJECT IDENTIFICATION

Task #: 218

State: Colorado

Abbreviation: None

Date: 8/1/2024

County: Mesa

Filename: C041-218

User: CCW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Make and Model: Water Tanker, 5,000 Gal.

Horsepower: 175

Attachment 1: _____

Shift Basis: 1 per day

Attachment 2: _____

Weight: 15.00

Labor Unit 1: Tanker Driver - 1 rear axle

(US Tons)

Labor Unit 2: _____

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$51.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$50.22</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.91</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$140.83</u>	
Total Fleet Cost/Hour:	<u>\$140.83</u>	

JOB TIME AND COST

Fleet size: 1 Truck(s)

Total job time: 22.00 Hours

Unit cost: \$140.83 /Hour

Total job cost: \$3,098