



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

March 8, 2024

Tony Tennyson  
Colowyo Coal Company L.P.  
5731 State Highway 13  
Meeker, CO 81641

**Re: Colowyo Coal Mine (Permit No. C-1981-019)**  
**Technical Revision No. 162 (TR-161)**  
**Adequacy Review**

Dear Mr. Tennyson:

After reviewing Colowyo Coal Company L.P. (Colowyo) Technical Revision No. 162, the Division has the following adequacy comments:

1. The following comment was provided by Rob Zuber, P.E. of the Division who assisted in the technical review of the proposed TR-162:

Colowyo Coal Company needs to revise Page 1 of the text in Appendix Exh. 7-14G, Gossard Pond (current revision date is 2/1/2024). **The explanation for the starting pool elevation in Gossard Pond needs to be improved.** The text “the 100 gpm already being in the pond” is confusing and should be revised (since gpm is a flow unit, not a volume unit). More importantly, the text needs to clearly state how the initial pool elevation for the Gossard Pond was determined. It is sufficient to state that this pool is based on many observations by Colowyo Coal Company staff. Alternatively, a calculation of infiltration through the bottom and sides of the pond could be performed.

If the need to reevaluate the amount of water in the initial pool leads to a change in the initial pool elevation, the SEDCAD model will need to be revised also.

2. The Division has performed a cost estimate to determine the reclamation liability associated with TR-162. This includes the reclamation of proposed ditch GD-3 and demolition of the associated culvert. The total amount of this estimate is **\$6,105.00** (see attached cost estimate). The Division’s cost estimate is consistent with previous cost estimates approved by both the Division and Colowyo. The Division respectfully requests a response from Colowyo with any questions regarding the cost estimate or an acceptance of the Division’s estimate.

Attached to this adequacy letter is the interoffice memo from Rob Zuber to Zach Trujillo regarding the review of TR-162 for Colowyo’s reference. This concludes the Division’s comments regarding the Colowyo Mine TR-162. If you have any questions, feel free to contact me.

Sincerely,



A handwritten signature in black ink, appearing to read 'ZTJ' with a stylized flourish.

Zach Trujillo  
Environmental Protection Specialist  
(303) 866-3567 ext. 8164  
Zach.Trujillo@state.co.us



## Interoffice Memorandum

To: Zach Trujillo and Amy Eschberger  
From: Rob Zuber *RZ*  
Date: March 7, 2024  
Subject: Colowyo Mine (DRMS permit C-1981-019), TR-162,  
RDZ review of surface water hydrology

I have reviewed the TR-162 application for the Colowyo Mine, including the revised text related to the Gossard Pond, the associated SEDCAD model, the map of sub-watersheds for this pond, and the Gossard Pond as-built drawing. I conducted calculations using MS Excel and the curve number methodology for runoff volumes and peak flows (Technical Release 55 by the NRCS) to check the results of the SEDCAD model. After my review, I have generally found that the proposed revisions to Volume 2D in the Colowyo Mine PAP are based on sound analyses and are accurate.

I do have one adequacy item:

1. Colowyo Coal Company needs to revise Page 1 of the text in Appendix Exh. 7-14G, Gossard Pond (current revision date is 2/1/2024). **The explanation for the starting pool elevation in Gossard Pond needs to be improved.** The text “the 100 gpm already being in the pond” is confusing and should be revised (since gpm is a flow unit, not a volume unit). More importantly, the text needs to clearly state how the initial pool elevation for the Gossard Pond was determined. It is sufficient to state that this pool is based on many observations by Colowyo Coal Company staff. Alternatively, a calculation of infiltration through the bottom and sides of the pond could be performed.

If the need to reevaluate the amount of water in the initial pool leads to a change in the initial pool elevation, the SEDCAD model will need to be revised also.



## COST SUMMARY WORK

Task description: Reclaim Collom Ditch GD-3 and Culvert

Site: Colowyo Coal Mine

Permit Action: TR162

Permit/Job#: C1981019

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/8/2024

County: Moffat

Filename: C019-000

User: ZTT

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Demolish Collom Culvert GD-3	DEMOLISH	1	4.00	\$521
002	Regrade Ditch GD-3	DOZER	1	1.34	\$572
003	Reseed 3.2 Acres of Disturbance	REVEGE	1	1.50	\$3,906
<b><u>SUBTOTALS:</u></b>				<b>6.84</b>	<b>\$4,999</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$101

Performance bond: 1.05

Total = \$52

Job superintendent: 3.42

Total = \$223

Profit: 10.00

Total = \$500

TOTAL O & P = \$876

CONTRACT AMOUNT (direct + O & P) = \$5,875

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 2.00

Total = \$117

Reclamation management and/or administration: 1.91

\$112

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,106

**TOTAL BOND AMOUNT (direct + indirect) = \$6,105**

## DEMOLITION WORK

Task description: Demolish Collom Culvert GD-3

Site: Colowyo Coal Mine

Permit Action: TR162

Permit/Job#: C1981019

### PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 3/8/2024

County: Moffat

Filename: C019-001

User: ZTT

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demo GD-3 Culvert	24" x 75'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	75.00	LF	\$7.73	\$579.65

Job Hours: 4.00

Subtotal  
(unadjusted): \$579.65

Total Cost  
(adjusted for location): \$520.53

**BULLDOZER WORK**Task description: **Regrade Ditch GD-3**Site: **Colowyo Coal Mine**Permit Action: **TR162**Permit/Job#: **C1981019****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **3/8/2024**County: **Moffat**Filename: **C019-002**User: **ZTT**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	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: **\$426.60**Total Fleet Cost/Hour: **\$426.60****MATERIAL QUANTITIES**Initial Volume: **1,210**Swell factor: **1.000**Loose volume: **1,210 LCY**Source of estimated volume: **Exhibit 7-23B, Table 1, Exh. 7-item 23, Fig. B-1**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **1,400.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6445

Adjusted unit production: 902.30 LCY/hr

Adjusted fleet production: **902.3** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.473/LCY

Total job time: **1.34** Hours

Total job cost: **\$572**

**REVEGETATION WORK**Task description: Reseed 3.2 Acres of DisturbanceSite: Colowyo Coal MinePermit Action: TR162Permit/Job#: C1981019**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 3/8/2024County: MoffatFilename: C019-003User: ZTTAgency or organization name: DRMS**FERTILIZING****Materials**

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

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
	\$
<b>Total Tilling Cost/Acre</b>	<b>\$0.00</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluegrass - Sherman	0.40	8.26	\$3.39
Bluebunch Wheatgrass - Secar	4.00	12.86	\$43.50
Bitterbrush, Antelope	6.00	1.85	\$117.00
Mountain Brome - Bromar	2.00	3.21	\$7.60
Great Basin Wildrye - Magnar	1.00	4.06	\$11.55
Rocky Mountain Fescue	2.00	32.14	\$14.50
Slender Wheatgrass - Pryor	1.50	5.48	\$6.38
Milk Vetch, Cicer - Lutana	0.60	2.00	\$4.92
Thickspike Wheatgrass - Critana	2.50	8.84	\$17.19



Western Wheatgrass - Arriba	3.00	7.58	\$19.50
Rabbitbrush, Rubber	0.60	8.94	\$38.58
Needlegrass, Green - Lodorm	0.40	1.66	\$4.71
Sagebrush, Louisiana or Prairie	1.00	100.79	\$133.50
Sagebrush, Mountain or Big	4.00	211.20	\$79.00
Flax, Lewis Blue	0.50	3.32	\$8.25
Sagebrush, Silver	1.50	29.13	\$46.50
Saltbush, Four Wing	3.20	4.41	\$40.00
Snowberry, Mountain	1.50	2.58	\$75.75
Sumac, Skunkbrush	1.00	0.47	\$21.00
Penstemon, Palmer	0.20	4.42	\$10.90
Penstemon, Rocky Mountain	1.00	15.67	\$29.50
Yarrow, Western	0.40	24.32	\$16.72
<b>Totals Seed Mix</b>	<b>38.30</b>	<b>493.19</b>	<b>\$749.93</b>

**Application**

Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
<b>Total Seed Application Cost/Acre</b>	<b>\$267.22</b>

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

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

**Application**

Description	Cost /Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 3.2                      Cost /Acre: \$1,017.15  
 Estimated Failure Rate: 20%                      Cost /Acre\*: \$1,017.15  
 \*Selected Replanting Work Items: SEEDING  
 Initial Job Cost: \$3,254.88

Reseeding Job Cost:	<b>\$650.98</b>
Total Job Cost:	<b>\$3,906</b>
Job Hours:	<b>1.50</b>