

STATE OF
COLORADO

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Revised findings for Bowie No. 1 SL-09

1 message

Zuber - DNR, Rob <rob.zuber@state.co.us>

Thu, Dec 7, 2023 at 7:15 AM

To: Daniel MacKinnon <dmackinnon@osmre.gov>, Howard Strand <hstrand@osmre.gov>

Good morning -

Attached you will find the Division's Revised Findings document for SL-09 for Bowie No. 1, M-1981-038.

The reason for the revision is that we found an error with the released amount of acreage. The applicant asked for 58.84 acres, but during the adequacy process this was changed to 59.29 acres.

This error could have also changed the release amount, but because the change would have been very small (less than one percent), and because the applicant, Bowie Resources Limited (BRL), requested that we proceed with the bond release without a delay, the Division made the choice to not change the release amount in our decision.

In the Revised Findings, you will still see the amount of 58.84 acres (e.g., on page 4). That is because BRL requested that amount and the Findings document that request. Text on page 5 explains the change in the acreage amount to 59.29 acres during the adequacy process. The value of 59.29 acres is also stated on page 10 as the official amount released.

Please let me know if you need more information.

Thank you,
Rob

Rob Zuber, P.E.
Environmental Protection Specialist
Active Mines Regulatory Program



COLORADO
Division of Reclamation,
Mining and Safety
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Phase III Bond Release (SL-09)

Proposed Decision and
Findings of Compliance for the

Bowie No. 1 Mine
PERMIT NUMBER C-1981-038



East Mine, October 4, 2023

Michael Cunningham, Acting Director

Prepared by
Robert D. Zuber, P.E.
Environmental Protection Specialist

Decision date - October 26, 2023
REVISED DECEMBER 7, 2023

Introduction

This document is the proposed decision of the Colorado Division of Reclamation, Mining and Safety (the Division) in response to a request for Phase III bond release at the Bowie No. 1 Mine, Division file number C-1981-038. The package contains four parts. These include: 1) procedures and summary of the bond release process; 2) criteria and schedule for bond release; 3) observations and findings of the Division regarding compliance with the bond release requirements of the Colorado Surface Coal Mining and Reclamation Act and regulations promulgated thereunder; and 4) the Division's proposed decision on the request for bond release.

Detailed information about the review process can be found in the Act and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. All Rules referenced within this document are contained within the Regulations. Also, additional information regarding the bond release process can be found in the Division's *Guideline Regarding Selected Coal Mine Bond Release Issues*, dated April 18, 1995. Detailed information about the mining and reclamation operations can be obtained by contacting the Division at (303) 866-3567.

The Bowie No. 1 Mine is an underground mine, permitted and operated by Bowie Resources, LLC (BRL). The ownership of the land for which bond release has been requested is private and federal (Bureau of Land Management, aka BLM), and the coal ownership is private and federal. Reclamation for which bond release has been requested was conducted from 2008 to 2011 at the area known as the East Mine.

I. PROCEDURES AND SUMMARY OF THE REVIEW PROCESS

BRL applied for bond release under the Colorado Surface Coal Mining and Reclamation Act following reclamation of the Bowie No. 1 Mine. The mine is located in Delta County, in all or portions of the following:

- Township 13 South, Range 92 West of the 6th P.M.
 - Section 1: SW $\frac{1}{4}$
 - Section 2: SE $\frac{1}{4}$
 - Section 10: Lots 1-3, 6-11, 13, 14-16, E $\frac{1}{2}$ Lot 13
 - Section 11: All
 - Section 12: Lots 3-6, 11-15, SW $\frac{1}{4}$ SW $\frac{1}{4}$
 - Section 13: All
 - Section 14: All
 - Section 15: Lots 1-3, 6-11, 14-16, 17-22
 - Section 22: Lots 1-3, 6-8
 - Section 23: Lots 1-8 (N $\frac{1}{2}$), Parcel 7 and a portion of Parcel 9
 - Section 24: Lots 1-6, 8, 9, 11, 12, eastern portion of Lot 10, western portion of Lots 7 & 13, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$
 - Section 25: Parcels 1, 2, 3 and 8.
- Township 13 South, Range 91 West of the 6th P.M.
 - Section 17: SW $\frac{1}{4}$
 - Section 18: Lots 3-4, E $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$
 - Section 19: NE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$
 - Section 29: A portion of Parcel 6
 - Section 30: Parcels 4, 5 and a portion of Parcel 10
 - Section 31: A portion of Parcel 10
 - Section 32: A portion of Parcel 10.

Bond release application SL-01 for the Bowie No. 1 Mine was submitted on March 19, 2001. The SL-01 bond release requested Phase I bond release on 14.9 disturbed acres associated with the West Mine Portal and fill, and 2.0 disturbed acres associated with the fan site and access road. The Division received a request for withdraw of the SL-01 application on July 1, 2002, and the Division approved the withdraw request on July 10, 2002.

BRL bond release application SL-02 for the Bowie No. 1 Mine was submitted on September 26, 2002, and found complete on November 18, 2002. SL-2 originally requested Phase I bond release on 16.4 reclaimed acres of backfilling and grading at the West Mine and structural demolition at the East and West Mines. During the review process of SL-02, the size of the backfilled and graded areas associated with the West Mine was reduced from 16.4 acres to 13.1 acres. SL-02 was approved on August 10, 2004, which approved the release of \$1,143,807.00 in liability.

The SL-03 bond release application for the Bowie No. 1 Mine was received by the Division on June 28, 2007, and found complete on August 9, 2007. BRL initially requested the Phase I release for the structural demolition and removal of facilities located at the Bowie No. 1 Train Loadout. On March 31,

2008, the Division approved Phase I reclamation liability release for the structural demolition of facilities located at the Train Loadout. The Division approved a liability release of \$1,136,354.00 with the approval of SL-03.

The SL-04 bond release application for the Bowie No. 1 Mine requested a partial Phase I bond release. The application was received on March 14, 2012, and found complete on May 4, 2012. The application requested Phase I release on 40.15 acres. The areas requested for release were designated by zones delineated by areas of cut and fill and facility pads. SL-04 was approved on June 3, 2013, which approved the release of \$1,278,543.70.

The SL-05 bond release application was received by the Division on September 23, 2014. The application was deemed complete on October 23, 2014. The application initially requested the Phase I bond release of 0.45 acres and Phase II bond release of 24.0 acres. The 24.0 acres of Phase II requested lands were areas that had received Phase I release under SL-02 and SL-04. During the review process of SL-05, the number of Phase I acres was increased to 1.0 acre and the Phase II request of 24.0 acres was reduced to 23.3 acres. SL-05 was approved on April 28, 2016, and reclamation liability of \$175,373.56 was released.

The SL-06 application for a partial Phase I and partial Phase II bond release was received by the Division on July 5, 2017. The application was deemed complete on August 21, 2017. The initial application included 59.4 acres associated with the East Mine and the ROM area pond. The request was adjusted to a partial Phase I request for 2.31 acres associated with five ponds at the East Mine and one pond at the ROM area, and a partial Phase II request of 58.84 acres associated with the backfilled and graded areas at the East Mine. SL-06 was approved on February 15, 2018, and reclamation liability of \$484,986.72 was released.

The SL-07 application for Phase II and Phase III bond release was received by the Division on April 1, 2021. The application was deemed complete on April 14, 2021. The initial application included 10.72 acres associated with the ROM area (the Phase II portion of this application included the pond). The request was adjusted to Phase III release of 10.38 acres because the road to the ROM was not released (a change in land use is required). SL-07 was approved on June 15, 2021, and reclamation liability of \$50,653.84 was released.

The SL-08 application for Phase III bond release was received by the Division on May 24, 2022. The application was deemed complete on June 23, 2022. The area in the SL-08 application is 13.1 acres and includes much of the West Mine. The West Mine ponds were not included in the SL-08 area, as the reclamation of these structures has not been completed. The access corridor to the ponds was also excluded. SL-08 was approved on November 23, 2022, and reclamation liability of \$60,430.00 was released.

An application for Phase III bond release (SL-09) was received by the Division on July 27, 2023, and the application included an affidavit of publication of the public notice. The area in the SL-09 application is 58.84 acres and includes much of the East Mine area. Four East Mine ponds (Ponds 1 – 4) are not included in the SL-09 area. The application was deemed complete by the Division on August 28, 2023. BRL published notice of the bond release application in *Delta County Independent* once weekly for four consecutive weeks, beginning June 21, 2023. BRL also notified landowners within and adjacent to the

mine permit area and other interested parties of the application for bond release, as required by Rule 3.03.2(1).

No comments, written objections, or requests for an informal conference regarding the bond release application were received by the Division.

The Division scheduled and conducted a bond release inspection on September 6, 2023. The site inspection was conducted in accordance with Rule 3.03.2(2). Attendees included:

- Basil Bear, BRL
- Ryan Wilson, Wolverine Fuels (parent company of BRL)
- Dan MacKinnon, Office of Surface Mining Reclamation and Enforcement (OSM)
- Rob Zuber, Joel Renfro, and Brock Bowles of the Division
- Marvin Pavlisick and Lisa McPherson, Pavlisick Mining Company.

During the bond release inspection, one issue was identified:

- Several white top plants were seen around the East Mine. Basil Bear committed to spraying these weeds, and he was observed doing that by Division staff the next day.

The Division's adequacy review (dated September 11, 2023) noted two items to be addressed:

1. BRL must clarify if the reclaimed pond below the Refuse Disposal Area was included in the area under consideration for the SL-09 application.
2. BRL must clarify what reclaimed pads for drill holes and boreholes are included in the area under consideration for the SL-09 application.

Both of these adequacy items were addressed in a response from Stover & Associates, Inc. (dated September 29, 2023). Figure 1 of the submittal for this bond release application was revised to clearly show that the pond and four drillhole pads (B-1, B-2, B-3, and B-4) are included in the SL-09 area.

The area to be released was increased from 58.84 acres to 59.29 acres because of the inclusion of the pond below the Refuse Disposal Area.

II. CRITERIA AND SCHEDULE FOR BOND RELEASE

PHASE I – not applicable for SL-09.

PHASE II – not applicable for SL-09.

PHASE III

Rule 3.03.1(2)(c) states that the final portion of performance bond, "shall be released when the permittee has successfully completed all surface coal mining reclamation operations in accordance with this approved reclamation plan, and the final inspection procedures of 3.03.2 have been satisfied. This shall

not be before the expiration of the period specified for revegetation responsibility in 3.02.3." Rule 3.03.1(4) states, "No bond shall be fully released until all reclamation requirements of these Rules and the Act are fully met...". The same rule goes on to state, "No acreage shall be released from the permit area until all surface coal mining and reclamation operations on that acreage have been completed in accordance with the approved reclamation plan."

Rule 3.03.1(5) indicates that reclaimed ponds (and other temporary drainage facilities) are not subject to the extended liability period of Rule 3.02.3(2).

In addition to the Rules, the Division used the Bowie No. 1 Mine PAP to assess reclamation success.

Drainage Control and Reestablishment

Per Rule 4.05.3(1), drainage channels and other drainage control structures must be designed, constructed, and maintained to:

- Not increase downstream flooding or otherwise endanger property or public safety
- Minimize adverse impacts to the hydrologic balance
- Be stable
- Not divert water into underground mines without approval from the Division.

Topsoil Replacement

For Phase III bond release applications, no particular criteria are considered for topsoil. However, the replacement of topsoil can be assessed in the context of the overall success of the reclamation, including the presence of erosion (or lack of erosion) and the health of the vegetation.

Revegetation

Vegetation success standards for the East Mine area are follows, taken from Section 2.05.4 (2)(e)(vi) of the PAP:

- total plant cover of $\geq 90\%$ of the total plant cover standard of 40% (36%).
- annual herbaceous production levels of $\geq 90\%$ of 400 pounds per acre (360).
- woody plant density of $\geq 90\%$ of 100 shrub, sub-shrub or trees per acre (90).
- species diversity of ≥ 5 native or introduced, perennial herbaceous species with between 0.5% and 60% relative cover.
- species diversity of ≥ 3 native, cool-season perennial grass species with between 0.5% and 60% relative cover.
- species diversity of ≥ 2 native or introduced perennial forb species with between 0.5% and 60% relative cover.
- species diversity of ≥ 2 native shrub, tree or sub-shrub species, not exceeding a relative cover value of $\geq 80\%$.

Post-Mine Land Use

The approved post-mining land use is the same as the pre-mine land use of rangeland with wildlife habitat (as discussed in Section 2.05.5 of the PAP).

Protection of the Hydrologic Balance

Consideration of a Phase III bond release application must assess compliance with the Probable Hydrologic Consequences section of the PAP (Section 2.05.6 of the PAP), namely whether offsite impacts and material damage have been prevented.

III. OBSERVATIONS AND FINDINGS

PHASE I – not applicable for SL-08

PHASE II – not applicable for SL-08

PHASE III

Drainage Control and Reestablishment

The East Mine includes permanent drainage channels. The Division has inspected them for many years (including during the SL-09 bond release inspection) and found that the constructed channels:

- Are not causing downstream flooding
- Are not endangering property or public safety
- Do not appear to be negatively impacting the hydrologic balance
- Are stable
- Do not divert runoff water into the mine portals.

Topsoil Replacement

The success in terms of re-vegetation of the East Mine area (see discussion below) and the lack of erosion suggests that the replacement of topsoil was sufficient.

Revegetation

East Mine area reclamation work was last performed in 2011. Data collected on the reclaimed East Mine area in 2022 and 2023 demonstrate that the reclaimed vegetation community met the reclamation success standards for both years. The following details of the Division's assessment are based on the criteria listed above in Section II.

The standard for total plant cover is 40 percent, and achieving 90 percent of the standard, or 36

percent, is considered acceptable. Total plant cover in 2022 measured 50.6 percent. Total plant cover in 2023 measured 54.2 percent. Total plant cover exceeded the standard in both years of sampling.

Annual herbaceous production is considered successful if the data illustrate results greater than or equal to 400 pounds of herbaceous biomass per acre. Herbaceous production must meet 90 percent of the standard, or 360 pounds per acre. Herbaceous production in 2022 measured 804 pounds per acre. Herbaceous production in 2023 measured 706 pounds per acre. Herbaceous productivity in both years exceeded the minimum required standard for success.

Woody plant density for the reclaimed East Mine area includes live trees, shrub species, and sub-shrub species. The woody plant density standard is 100 stems or more per acre. The standard must be met at a 90 percent level, so a minimum of 90 stems per acre is considered successful. Rule 4.15.11 (3)(b)(i) requires a minimum of $75 \geq 100 \text{ m}^2$ transects in each unit collected to determine woody plant density values. The operator collected 82 woody plant density transects, exceeding the required amount. Woody plant density in 2022 measured 290 total woody plants per acre. Woody plant density in 2023 measured 306 total woody plants per acre. Woody plant density in both years exceeded the minimum required standards for success.

Four criteria need to be met for species diversity standards. First, the reclaimed vegetative community requires greater than or equal to five perennial non-noxious plant species to be established. Each of the five species must comprise at least 0.5 percent relative cover, yet no more than 60 percent relative cover. The list of five or more species may include either native or introduced species. Five species met this standard in 2022, and seven species met this standard in 2023. The data for both years demonstrated meeting this minimum required standard for success.

The second diversity criterion requires that a minimum of three native cool-season perennial grasses be established within the reclaimed community. Each of the three species must contribute a minimum of 0.5 percent relative cover, yet no greater than 60 percent relative cover. Three species met this standard in 2022, and four species met this standard in 2023. The data for both years demonstrated meeting this minimum standard required for success.

The third diversity criterion requires that the reclaimed community must contain a minimum of two native or introduced forb species. Each of these species must contribute a minimum of 0.5 percent relative cover, but no greater than 60 percent relative cover. Two species met this standard in 2022, and three species met this standard in 2023. The data for both years demonstrated meeting this minimum standard required for success.

The fourth diversity standard requires a minimum of two native tree, shrub, or sub-shrub (woody) species be established in the reclaimed community. No one woody species may exceed greater than or equal to 80 percent relative cover. Two species met this standard in 2022, and four met this standard in 2023. The data for both years demonstrated meeting this minimum standard required for success.

The Division found the data collected on the reclaimed East Mine area in 2022 and 2023 accurately reflect the current site conditions, based on observations during the inspection.

Post-Mine Land Use

The approved post-mining land use is rangeland, with wildlife habitat as a secondary use. The seed mix used was developed to be an effective self-sustaining rangeland mix suitable for cattle grazing. The Division believes that the resulting reclamation at the East Mine will support the post-mining land use of rangeland and wildlife habitat.

Protection of the Hydrologic Balance

The Division's monthly inspections and annual reviews of Annual Hydrology reports did not reveal any evidence that the East Mine is causing offsite impacts or material damage to receiving waters. Sampling point SW-05 is downstream of the East Mine in Stevens Gulch, and no issues were observed in the data for this sampling location.

None of the wells in the current Bowie No. 1 Mine monitoring plan are in the vicinity of the East Mine, but the Division believes that the alluvium has not likely been significantly impacted since the surface water station reveals no impacts. Furthermore, recent activities at the site are not likely to impact deeper groundwater. Much of the groundwater monitoring that was done in the past has been discontinued; the Division determined that the mine site no longer presented a potential threat to the hydrologic balance of deeper aquifers.

Summary and Conclusions

Based upon a review of the mine permit, the applicant's bond release application, and site inspections, the Division finds that Bowie Resources, LLC has successfully completed all surface coal mining reclamation operations at the East Mine in accordance with the approved reclamation plan and met all requirements of the Act and the Rules.

IV. PROPOSED DECISION

Based on the observations above, the Division proposes to approve BRL's request for a Phase III bond release for the Bowie No. 1 Mine. This proposed decision for SL-09 will release the applicant from liability for a large part of the reclamation work in the East Mine. The SL-09 area does not include four ponds (Ponds 1 – 4), a pipeline corridor, and some drillhole pads. **The released area is 59.29 acres.**

When determining the amount to be released under a bond release request, the Division considers two factors (listed below) and the proposed release amount is the smaller of the two values.

1. The first consideration is the amount that can be released based on the Reclamation Cost Estimate using the Division's CIRCES software. This estimate ensures that the release amount does not result in the Division holding less bond than would be required to complete reclamation of the site in the event of a forfeiture (Rule 3.03.1(3)3(d)).
2. The second consideration is Rule 3.03.1(2) discussed in detail below.

The amount that can be released based on the Reclamation Cost Estimate (see enclosure) is \$280,090, which is the estimated cost to seed the East Mine, with the exception of the bin wall ponds (Ponds 1 – 4). (Note that the task description in the enclosure includes outdated information, including the word "ROM." This will be removed when the cost estimate is updated with the midterm in 2025.)

Rule 3.03.1(2) allows for a percentage of release of liability for three phases:

- Phase I release allows for a maximum of 60 percent of the total liability for the subject area.
- Phase II release allows for an additional 25 percent (for total of 85 percent).
- Phase III release allows for an additional 15 percent (for total of 100 percent).

For a given bond release application, the amount is also limited by the size of the subject area. The Division uses a percentage of area requested for release divided by total area. For SL-09, this application requests Phase III release on approximately 59 acres out of a total of 97.5 total acres for the East Mine. The result is approximately 60 percent of the total area.

The reclamation liability for the Bowie No. 1 Mine prior to any approved bond releases was calculated with Permit Renewal No. 4 (RN-04) to be \$6,879,590.12. Additional MRs and TRs added \$118,677.31 for a total of \$6,998,267.43. The breakdown between the three areas (East Mine, West Mine, and Loadout) shown in Table 1 is based on details within the Reclamation Cost Estimate for RN-04. The values for each area/phase combination (e.g., West Mine/Phase III) are the maximum amounts that should be considered when assessing the appropriate release of liability for a particular bond release.

Table 1

Maximum Bond Release Amounts per Rule 3.03.1(2)				
	East Mine	West Mine	Loadout	Total
Phase I - 60%	\$1,759,323.06	\$635,764.19	\$1,803,873.21	\$4,198,960.46
Phase II - 25 %	\$733,051.28	\$264,901.75	\$751,613.84	\$1,749,566.87
Phase III - 15%	\$439,830.77	\$158,941.05	\$450,968.30	\$1,049,740.12
Total	\$2,932,205.11	\$1,059,606.99	\$3,006,455.35	\$6,998,267.43

The maximum release amount for SL-09 based on Rule 3.03.1(2), calculated using the percentage of area and the Phase III bond release amount for the East Mine (\$439,830.77) is \$265,217.95.

Because this amount of \$265,217.95 is less than the amount from the cost estimate (discussed above), **the proposed release amount for SL-09 is \$265,217.95.**

Table 2 (next page) summarizes the initial liability and the nine bond release applications for the Bowie No. 1 Mine.

Any person with a valid legal interest which might be adversely affected by this proposed decision may request a formal public hearing before the Mined Land Reclamation Board in accordance with Rule 3.03.2(6). Public notice of this proposed decision will be published twice in the *Delta County Independent* as soon as possible. Requests for public hearing must be submitted to the Division in writing within thirty days of the first publication in the *Delta County Independent*. If no hearing is requested within those thirty days, the Division's decision will become final.

Table 2

Bowie No. 1 Mine Bond Release History					
Initial Liability	East Mine	West Mine	Loadout	Total	Comments
RN-04 Estimate	\$2,813,527.78	\$1,059,606.98	\$3,006,455.35	\$6,879,590.12	Includes indirect costs pro-rated for each area.
Revisions	\$118,677.31			\$118,677.31	All MRs/TRs after RN-04 and prior to SL-02
				\$6,998,267.43	
Surety Releases to Date	East Mine	West Mine	Loadout	Total	Comments
SL-01	\$0.00	\$0.00	\$0.00	\$0.00	Application Withdrawn
SL-02	\$434,803.00	\$709,004.00	\$0.00	\$1,143,807.00	Phase I release on portions of the East and West Mines (13.1 ac and structures on the West Mine and structures only on the East Mine).
SL-03	\$0.00	\$0.00	\$1,136,354.00	\$1,136,354.00	60% of total structural demolition costs for all structures included in bond release.
SL-04	\$1,278,543.70	\$0.00	\$0.00	\$1,278,543.70	Phase I release on 69.6 ac of the East Mine.
SL-05	\$76,677.16*	\$197,166.37*	\$0.00	\$175,373.56*	Phase II release on 13.1 ac of the West Mine and 10.2 ac of Phase II release on the East Mine; Phase I release of 1.0 acres of the West Mine Fan Area. *per Rule 3.03.1(2) \$98,469.97 was deducted to ensure the minimum retention amount was achieved.
SL-06	\$484,986.72	\$0.00	\$0.00	\$484,986.72	Phase I release on 2.31 acres associate with the West Ridge Pond, Binwall Ponds 1 through 4, and the ROM Pile Pond; Phase II release of 58.84 acres of the East Mine composed of the 48.88 acres of the East Mine and 9.96 acres of land associated with the Haul Road cut and fill.
SL-07	\$50,653.84	\$0.00	\$0.00	\$50,653.84	Phase II release on 0.51 acres of the East Mine ROM pond and 10.38 Phase III release of the ROM pond and pile area.
SL-08	\$0.00	\$60,430.00	\$0.00	\$60,430.00	Phase III release of 12.31 acres at the West Mine.
SL-09	\$265,217.95	\$0.00	\$0.00	\$265,217.95	Phase III release of East Mine, excluding Ponds 1 – 4.