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

Phase II Bond Release
SL24

Proposed Decision
and
Findings of Compliance
for the
Trapper Mine
Permit Number C1981010

Michael A. Cunningham, Director

Prepared by:

Robin A. Reilley, GISP
Environmental Protection Specialist
22 March 2024

Introduction

This document is the proposed decision and findings of the Colorado Division of Reclamation, Mining and Safety (the Division) in response to a request for Phase II bond release at the Trapper Mine, Division file number C-1981-010. The package comprises the following four parts:

1. Introduction
2. Procedures and summary of the bond release process
3. Criteria and schedule for bond release
4. Written observations and findings of compliance the Division prepared as required by the Colorado Surface Coal Mining and Reclamation Act.
5. The Division's proposed decision.

Purpose of this Document

This document presents the findings of compliance in support of a proposed decision to approve a Phase II bond release on a portion of the Trapper Mine. These findings and the proposed decision are made in response to a request (SL24), for the partial release of reclamation liability at the Trapper Mine. Trapper Mine is a surface coal mine, permitted and operated by Trapper Mining, Inc. (TMI). With this application, TMI requests Phase II bond release of 298.3 acres. Reclamation work for the Phase II bond release block occurred between 2017 and 2019. Phase I (SL21) release of the SL24 parcels occurred as per Table 2 below.

Background Information Sources

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 and in the *Guidelines Regarding Selected Coal Mine Bond Release Issues*, dated April 18, 1995. All "Sections" referenced within this document are contained within the Regulations, unless otherwise noted. Detailed information about the mining and reclamation operations at the Trapper Mine are available in the Trapper Mine Permit Application Package, on file at the Division's offices (1313 Sherman Street, Room 215, Denver, Colorado) and accessible on the Division web site:
https://www.colorado.gov/drms

Location of Trapper Mine

Trapper Mine is a surface coal mine, permitted and operated by TMI and located 6.5 miles south of the town of Craig, Colorado.

The specific sections applicable to the Phase II bond release request are:

- T5N, R90W portions of Sections 5 and 6
- T6N, R90W portions of Sections 31 and 32
- T6N, R91W portions of Section 36.

The bond release blocks requested in the above legal description comprise areas of the East Flintlock (Z), Flintlock (Z) and Lancaster (L) pits.

Land and Coal Ownership

The ownership of the land for which bond release has been requested is state and private, and the coal ownership mined was federal and state.

Summary of Current Activities at Trapper Mine

Trapper Mine is an active mine with five pits (C, I, J, L and N), where TMI actively mines coal and includes pits (Ashmore, Derringer and Enfield) approved to receive coal combustion residues from the Craig Station power plant. Reclamation at the Trapper Mine continues as the mining of pits progresses eastward. On active mine areas, backfilling and grading, topsoil redistribution and seeding occur contemporaneously.

II. SUMMARY OF THE BOND RELEASE PROCESS

Photo 1: Parcel LA18 illustrating the well established and diverse vegetation.

History of Previous Bond Release Submittals

The Division approved a full release of reclamation liability for the Craig Generation Plant Loadout in December 1985. That approval was for release of reclamation liability only. No money was returned; that is, there was no reduction in the amount of actual bond monies held by the Division.

Other bond release submittals (SL01 through SL23) are summarized in Table 1, including a history of liability reductions requested by TMI. None of the prior bond releases resulted in an immediate change in the amount of actual bond monies held by the Division but did lead to changes in monies held during subsequent actions such as permit renewals. TMI has re-disturbed reclaimed acres over the years. TMI provides a summary of the re-disturbance acres in Table 1.2 of their annual reclamation reports. The re-disturbance noted below takes into account re-disturbance acres through 2023.

Table 1. Summary of Bond Release and Redisturbance Acreages at Trapper Mine

Submittal	Proposed Decision Date(s)	Released Area Ph I (acres)	Released Area Ph II (acres)	Released Area Ph III (acres)	Reduction in Liability
Loadout	5-Dec-85	2	2	2	$0.00
SL-01	12-Feb-98 (PhI)14-Dec-98 (Ph II)	2,511.7	1,548.0	0	$0.00
SL-02	23-Dec-99	0	319.5	0	$0.00
SL-03	19-Apr-02	0	592.7	0	$0.00
SL-04	18-Nov-03	0	0	1,857.7	$82,659.00
SL-05	11-Jun-04	823.9	0	0	$0.00
SL-06	6-Sep-05	0	819.6	0	$2,587,606.00
SL-07	16-May-06	0	0	762.8	$371,146.00
SL-08	21-Nov-08	476.6	0	0	$0.00
SL-09	2-Dec-08	0	294.6	0	$898,333.00
SL-10	17-Nov-08	0	0	305.0	$228,664.00
SL-11	7-Jan-11	57.8	0	0	$0.00
SL-12	27-Mar-12	0	165.5	0	$695,081.66
SL-13	27-Mar-12	0	0	323.5	$0.00
SL-14	5-Dec-13	417.8	0	0	$2,068,397.69
SL-15	10-Jan-14	120.4	0	0	$520,670.46
SL-16	21-Jan-15	0	277.8	0	$376,228.82
SL-17	29-Nov-16	0	0	448.4	$696,737.41
SL-18	25-Jul-19	175.3	0	0	$858,015.48
SL19	10-Nov-19	0	376.1	0	$767,029.62
SL20	20-May-20	0	0	162.1	$162,813.80
SL21	11-Dec-20	298.3	0	0	$1,796,589.94
SL22	11-Dec-20	0	175	0	$439,038.32
SL23	9-Dec-22	0	0	265.5	$400,745.80
TOTALS	Not including Loadout	4,881.8	4,568.8	4,125.00	$12,624,129.40
TMI Re-disturbance (TR136)		612.4	602.4	579.5	
NET Bond Release Acres		**4,269.4**	**3,966.4**	**3,545.5**	

Submittal of Bond Release Application and Completeness Determination by the Division

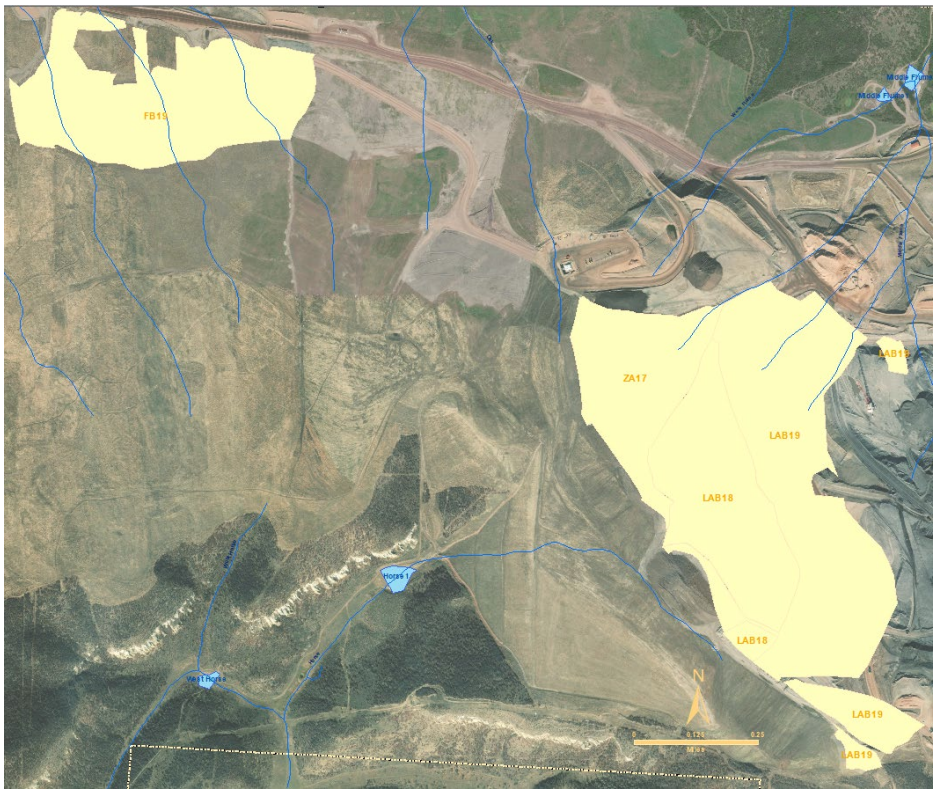
TMI submitted the bond release application following the procedures described in the Act and Regulations. The application also utilized the Division's *Guideline Regarding Selected Coal Mine Bond Release Issues*, dated April 18, 1995.

The Division received TMI's Phase II bond release application SL24, on 5 September 2023, and found the application complete on 7 September 2023, after the Division received proof of publication of the applicant's public notice. The Applicant published the permitting action beginning on 4 August 2023

in the Craig Daily Press. The completeness determination was made in accordance with Section 3.03.2(1)(d). Maps 1 and 2, entitled *SL24 Phase II Bond Release Area Delineation* and submitted with the application, show the location of each proposed bond release parcel.

Bond Release Parcels

SL24 requests Phase II bond release for the following four parcels as per Table 2 and Map 1, below.



Map 1: *SL24 proposed Phase II bond release parcels are shown in yellow.*

Table 2. Summary of Bond Release Parcels and Associated Acres

Parcel	*Acres*	*Phase I*
FB19	78.9	SL21
LAB18	57.6	SL21
LAB19	117.8	SL21
ZA17	44.0	SL21

Table 2 lists the parcels requested in SL24, the acreages associated and the permitting action releasing the parcels from phase I liability.

Public Notice

TMI published notice of the bond release applications in the *Craig Daily Press* once weekly for four consecutive weeks beginning on 4 August 2023. TMI also notified landowners within and adjacent to the mine permit area, and other interested parties of the application for bond release, as required by section 3.03.2(1). The Division received no written comments, objections, or requests for an informal conference regarding the bond release application. DRMS verified topsoil depths for the SL24 parcels in October 2017, September 2018, and October 2019.

Bond Release Inspection

As the SL24 application was deemed complete as submitted and no adequacy questions were posed by DRMS at that time, the Division conducted a bond release inspection on 11 October 2023. The site

inspection was conducted in accordance with Section 3.03.2(2). The Division notified the operator, surface owners, Bureau of Land Management (BLM), the Office of Surface Mining (OSM), and the Colorado State Land Board of the inspection via certified mail. Attendees included:

- Graham Roberts, Trapper Mining, Inc. (TMI)
- Daniel MacKinnon, and Haley Hampstead, Office of Surface Mining Reclamation and Enforcement (OSMRE)
- Robin Reilley, M.S. GISP; Colorado Division of Reclamation, Mining, and Safety (DRMS)
- Hunter Ridley, Colorado Division of Reclamation, Mining, and Safety (DRMS).

DRMS conducted the bond release inspection with available sister agencies in attendance on 11 October 2023 and provided the associated inspection report to TMI, BLM, OSM and the Colorado State Land Board via electronic transmission. DRMS received the OSMRE inspection report from Daniel MacKinnon on 8 November 2023.

Adequacy Review

- The Division sent one adequacy review letter to TMI on December 12, 2023, regarding a discrepancy in Phase I bond release acreage accounting. TMI responded to the Division's adequacy review letter on February 8, 2024. TMI addressed the Division's concern.
- Minor maintenance issues such as rills and gullies were identified on inspection and discussed with the operator at the time of inspection and were noted in DRMS's October 2023 inspection report.

The above mentioned maintenance items were repaired by the operator. DRMS confirmed resolution of all items during the course of the November 2023 inspection. All adequacy review items have been addressed to the Division's satisfaction.

III. APPROVAL CRITERIA FOR BOND RELEASE

Phase I Bond Release
Rule 3.03.1(2)(a) states:

> "Up to sixty percent of the applicable bond amount shall be released when the permittee successfully completes backfilling, regrading, and drainage control in accordance with the approved reclamation plan."

Trapper Mine accomplishes backfilling of the mined pits primarily with draglines, using overburden and inter-burden material from a cut to backfill a previous adjacent cut. Other equipment such as bulldozers, scrapers, backhoes, front-end loaders, and trucks are also used to backfill areas. Once backfilled, bulldozers and/or graders grade the area to achieve approximate original contour. The approved reclamation plan for the Trapper Mine calls for backfilling and grading mine excavations and shaping the backfilled areas to the approximate configurations shown on the *Postmining Topography Map*, *Map M12* in the permit. Graded areas are to blend into the surrounding adjacent areas. Every year TMI submits to the Division their *Annual Reclamation Report* (ARR) revising *Appendix W* of the permit. Each ARR includes a map showing actual post-mining topography from the previous year.

Topographic cross sections, drainage profiles comparing as built and approved drainage profiles will

be the same as those given in the permit. All reestablished drainages are delineated on Map 1 of the bond release application, entitled; *SL24 Phase II Bond Release Area Delineation*. TMI has put in significant efforts in constructing drainages, effectively controlling erosion and downstream sediment deposition. Various sediment control materials and methods and sediment reducing measures have been implemented on reestablished drainages. Drainages at Trapper Mine are trapezoidal in shape with a bottom width of approximately 20 feet, grass lined with regularly spaced check dams. Rock check structures dissipate the energy of flowing water within channels. Debris and sediment deposition occurs upstream of structures allowing vegetation to establish behind structures, further stabilizing the channels. This configuration results in shallow flow depths for the design storm and low flow velocities. Rock Channel slopes are generally 10 percent. Detailed engineering criteria regarding drainage reconstruction practices can be found in TMI's permit Appendix Q Section XXXVII.

All lands requested in the current Phase II bond release application, SL24, received Phase I bond release as per Table 2 above.

Phase II Bond Release
Rule 3.03.1(2)(b) states:

> "Up to eighty-five percent of the applicable bond amount shall be released upon the establishment of vegetation supporting the approved post-mining land use and meeting the approved success standard for cover based on statistically valid data collected during a single year of the liability period."

And, regarding Phase II bond release, Rule 3.03.1(3)(b) states:

> "No more than (60) percent of the bond shall be released so long as the lands to which the release would be applicable are contributing suspended solids to streamflow or runoff outside the permit area in excess of premining levels as determined by baseline data or in excess of levels determined on adjacent nonmined areas."

Regarding Phase II bond release, the approved reclamation plan calls for:

- Specific topsoil replacement depth
- Vegetative cover standard
- Post-mining land use
- Sedimentology estimates.

The approved postmining land use for the land applicable to SL24 is rangeland/wildlife habitat and the 298.3 acre bond release block has been reclaimed as such. The revegetation plan is designed to achieve the approved postmining land use.

After final backfilling and grading, topsoil is required to be placed on the spoil to a depth of 18 inches on cropland and 12 inches on rangeland. A variation of +/- 2 inches is allowed due to compaction and operational considerations as per TMI's permit (page 4-256).

Trapper Mine Inc. maintains three different revegetation success criteria for rangeland to which the reclaimed parcels are compared, as discussed in section III of this document, Observation and

Findings: range sites A, B and C. TMI utilizes a technical standard for demonstrating revegetation success for vegetative cover on reclaimed parcels. TMI has identified specific percent effective cover standards for each range site category. The standards were calculated using the Universal Soil Loss Equation (USLE) and designed such that soil loss due to rill and sheet erosion will not exceed pre-mine levels.

The Division's *Guideline Regarding Selected Coal Mine Bond Release Issues* dated 18 April 1995 outlines what the Division may use to evaluate reclaimed lands proposed for Phase II bond release. In summary, the Division may evaluate the following:

- Topsoil replacement depths
- Vegetation cover success standard
- Species composition
- Re-establishment of essential hydrologic functions on Alluvial Valley Floors (AVF's).
- Erosional features
- Sediment transport
- The condition of sediment ponds and any needed maintenance on ponds receiving runoff from bond release parcels.

The Division evaluated topsoil depths in the field during 2017, 2018, and 2019 and found that topsoil was adequately spread. DRMS found depths to be within the range specified in the Trapper Permit. Results are presented on Table 1.3-1 of the application.

Details regarding revegetation success standards at the Trapper mine can be found in section 4.4.1 of Trapper's permit. Vegetation was sampled during the 2023 field season. Sampling was conducted in accordance with the approved sampling methodology. Vegetative cover was sampled to adequacy, in accordance with Rule 4.15.11(2).

The SL24 bond release block has been reclaimed with either Rangeland A or Rangeland B seed mixes. The rangeland revegetation success standard comprises permit Section 4.4. For both range sites A and B, the reclamation success standard for cover includes canopy cover of herbaceous vegetation plus vegetative litter. The successful vegetative cover standard was calculated using the Universal Soil Loss Equation (USLE), with the assumption that soil loss will not exceed 4 tons/acre/year. For Range Site A, vegetative cover will be acceptable when the site achieves at least 33% herbaceous cover plus 19% litter, and a total allowable cover value of at least 52%. Noxious weed species may not contribute to the reclamation success. Reclaimed Range Site B sites will be deemed successful when they achieve a minimum of 29% herbaceous cover, plus 23% litter, for total allowable cover of at least 52%.

Vegetation success was evaluated by Trapper Mine and submitted to The Division for review. DRMS reviewed the data and made field evaluations of the vegetation during the SL24 inspection and found that the vegetation cover success and species composition standards for the SL24 bond release block were met or exceeded as presented in tables 1.2-1, 1.2-2 and 1.2-3 of the application, and that sample adequacy was achieved (Appendix 2 of the application). Results are further discussed in the Observation and Findings section under the heading of Cover and Species Composition.

No alluvial valley floors exist in the proposed bond release block, so this criterion was not evaluated

by DRMS. The bond release blocks drain to the Middle Flume and East Pyeatt drainage systems. Ponds, dams and pond slopes were in good functioning order with adequate sediment storage capacity.

Erosional features and sediment transport were evaluated during the inspection. A number of erosional features were identified over the course of the inspection. The operator agreed to make the necessary repairs in a timely manner. DRMS evaluated sediment transport through both observation and analysis of the data submitted by TMI. TMI's data comprised vegetation data, an evaluation using the Universal Soil Loss Equation and SEDCAD analysis. DRMS's evaluation of the data found that sediment transport during surface runoff over the bond release block was equal to or less than sediment transport over the same area under pre-mining conditions. Results and methodology are further discussed in section: Observation and Findings, Sedimentology of this findings document.

Bond Release Blocks Delineation
As discussed in permit section 4.4.1, reclaimed parcels are compared to three different range standards based on elevation:

1. Range site A standards apply to elevations greater than 7200 feet.
2. Range site B standards apply to elevations between 6700 and 7200 feet.
3. Range site C standards apply to elevations below 6700 feet.

with parcels delineated based on:

1. Pit name.
2. Range site type.
3. Initial year of seeding.

In accordance with permit section 4.4.1.5, contiguous areas reclaimed as Range Site A and Range Site B seeded in the same year and receiving similar reclamation practices may be combined into one range site AB parcel. When Bond Release Blocks (BRB) are comprised of both Range Site A and Range Site B parcels, the more stringent reclamation success standards for Range Site A shall apply to the combined data.

Trapper Mining, Inc. provided, in the SL24 application, documentation of the seed mixtures planted for each parcel. Seed mixes used were in accordance with the approved reclamation plan. The four parcels making up the 298.3 acre bond release block in SL24 and shown on Map 1 of page 4 of this document, comprised a mix of range site A and B, and therefore were aggregated. The revegetation standard for range site A was used to evaluate revegetation success since this designation represents the most conservative standard in accordance with section 4.4.1.5 of Trapper's permit.

The reclaimed landscape was evaluated for evidence of erosional features. Evaluation of the post-mining land use was considered during the Division's review of the bond release application. The specific parcels within SL24, the seed mix used, verified topsoil depths, and the dates of previous Phase I bond releases indicated in the application and submitted to DRMS have been verified by DRMS.

IV. OBSERVATIONS and FINDINGS

During the bond release inspection conducted on 11 October 2023, the following observations were made. For all parcels, the vegetative cover was consistent with the vegetation sampling results reported

in the SL24 application.

Photo 2: Species diversity of the reclamation.

Species composition was generally consistent with the species reported in the application, with relatively large quantities of perennial grasses comprised of Wheatgrasses *(Agropyron spp.),* and Great Basin Wildrye *(Elymus cinereus)* observed. The dominant perennial forbs comprised Western Yarrow *(Achillea millefolium)* and Alfalfa *(Medicago satvia)* among others and perennials such as penstemon and flax were numerous throughout the BRBs. Rubber Rabbitbrush *(Chrysothamnus nauseosus),* Big Sagebursh *(Artemisia tridentate),* and Antelope bitterbrush *(Prushia tridentate),* depending on parcel, made up the dominant shrub species present. Noxious weeds such as Cheatgrass *(Bromus tectorum),* white top *(Lepidium draba),* and Canada thistle *(Cirsium arvense),* were observed during the inspection. Weed species comprised a small set, in both numbers and extent and did not appear to significantly impact the establishment of the desired vegetation. These isolated areas were noted and marked with GPS for future observation. These areas constituted an insignificant amount of the bond release area.

After final backfilling and grading, topsoil is required to be placed on the spoil. Permitted topsoil depth replacement on rangeland is 12 inches, with a variation of +/- 2 inches allowed to account for compaction and operational considerations as per TMI's permit (page 4-256). TMI verifies topsoil replacement thickness by scraper load counts. TMI included a load count and measured topsoil depth for each reclamation parcel in the bond release application. Post mining topography has been presented to and approved by the Division in annual reports (technical revisions) and verified by DRMS during monthly inspections and Phase I bond release requests. All parcels have achieved Phase I bond release.

Although erosional features were noted during the inspection, in general, erosion is not a problem in the SL24 bond release parcels. Erosional features were brought to the attention of the operator and were repaired in a timely manner as described in DRMS's November 2023 inspection report.

Cover and Species Composition

Vegetative cover was sampled in 2023 for all parcels included in the SL24 application. Vegetation cover was measured with systematically located transects and an optical point bar using a point-hit technique. A 10-point frame was placed at 10 locations along each 50-meter transect for a total of 100 data points per transect. The sampling method used meets the criteria outlined in Rule 4.15.11(1) and

the permit application.

The Bond Release Block consists of four parcels. The vegetative cover monitoring results from all four parcels included in the BRB were compiled. The actual herbaceous cover for the 298.3 acres was 84.8%, with vegetative litter measured at 11.7%. Based upon criteria defined in the permit, removal of cover attributed to noxious weed species, and allowing no more than 10% relative cover from annual and biennial species, the allowable cover from the 2023 sampling achieved 73.6% cover. The reclamation success standard for the BRB is 52%. The SL24 Bond Release Block meets the cover standard.

The vegetation report shows that the reclaimed parcels are dominated by native perennial grasses. Native perennial graminoids account for 36.1% absolute cover. Of the graminoid cover, 17.1% is composed of Wheatgrasses *(Agropyron spp.)*, Great Basin Wildrye *(Elymus cinereus)*, constituted 5.8%, .9% cover was Mountain Brome (*Bromus marginatus*), and 4.2% cover was attributed to *Poa spp.*. Perennial forbs accounted for 15.1% cover, annuals and biennial forbs made up 22.3% cover, woody species accounted for 2.2% cover. Noxious perennial weeds accounted for 0.5%. Cheatgrass *(Bromus tectorum),* accounted for 8.6% cover, however, given the established cover of desirable species, it is likely that cover from Cheatgrass decreases overtime. Table 1.2-2 in the SL24 application provides a summary of the sampling results. Although, species diversity is not a requirement for phase II bond release, the establishment of a diverse and effective reclaimed community that supports the post mining land use, allows the Division to confirm that the reclaimed area is moving towards final reclamation success.

Based on the perennial species of grasses, forbs and shrubs found at the site as indicated in the SL24 application, the species diversity and composition will likely support the post-mine land use. While noxious weeds were encountered at the site, they comprised a small percentage of the vegetative cover.

Post Mining Land Use

TMI's objective is to restore the affected areas to the land uses prior to mining as indicated in section 4.2 of the permit. There are three significant land uses within the permit boundary: farming, grazing of domestic livestock and use by wildlife. The bond release block does not contain farmland and thus will be used as rangeland for livestock and wildlife. The reclaimed lands have vegetative cover composed of a variety of grasses, forbs, and woody shrubs as described in the above sections. The species, seasonality and forage characteristics of the reclaimed vegetation are suitable for the approved post-mining land uses. The Division has observed livestock grazing and substantial wildlife use of previously reclaimed areas. The revegetation success standards were based on what would be necessary for the land to properly function to accommodate the post mine land uses. Based on the vegetation cover reported by TMI and DRMS' inspection observations, it appears that the revegetation in the SL24 bond release block is progressing towards achieving the post- mining land use.

Sedimentology

The condition of the sediment ponds and any needed maintenance on the ponds receiving runoff from the bond release parcels are systematically evaluated. Ponds receiving run-off from the bond release parcels are also receiving flow from affected lands not under consideration for bond release currently.

In accordance with Rule 3.03.1(3)(b) and with Section III.A.7.a. of the Division's 1995 *Guideline Regarding Selected Coal Mine Bond Release Issues*, Trapper submitted two evaluations to demonstrate that runoff from each bond release block will result in equivalent or lesser sediment contribution as compared to baseline conditions and similar undisturbed lands.

Trapper's bond release application compares pre and postmining sediment yields by calculating expected sediment yields for both conditions. Trapper used the USLE (Universal Soil Loss Equation), and SEDCAD 4 for Windows calculation methods. The USLE calculates expected average annual soil loss per acre of land (rate of erosion), based on slope, rainfall pattern, soil type and vegetation type. SEDCAD 4 calculates the expected settleable solids concentration in runoff from a precipitation event. Trapper's two sets of pre-mining and post-mining sediment control demonstration models comprise Appendix 3 (SEDCAD 4), and Section 1.4 (USLE), of the bond release application.

USLE Comparison: Only the "C" factor and the Curve Number varies between the pre-mining and the post-mining calculations; all other variables are constant for pre-and post-mining. The C factor takes into account land use, vegetative canopy cover, effective cover and grass type. The Curve Number represents vegetation. The pre-mining calculation utilized baseline vegetation cover values from the permit application (Table 2.3-13 and 4.4-2). The post-mining calculation uses vegetation cover data for the disturbed area collected in 2023.

The variables used in the calculations are reasonable for making the comparison. The comparison therefore is technically valid. A chief cause of soil loss is transport of solids in suspension. The comparison indicates the total drainage area does not yield more suspended solids than pre-mining conditions.

The USLE is an empirical formula approximating expected sediment yield from a parcel of land. It is reasonable to hypothesize that the USLE is useful for discriminating between two significantly different yield rates. However, it is not useful for discriminating between two yield rates of similar magnitude. For the bond release parcels in SL24, Trapper calculated a premining sediment yield rate of 2.74 tons per acre per year and a postmining rate of 1.34 tons per acre per year. The difference between these two calculated rates illustrates that the postmining rate is less than the premining rate. This conclusion is only valid if Trapper used reasonable variables in the USLE calculations. The variables employed in the USLE equation, and their definitions are presented in the Tables 3 and 4 below. The Division finds Trapper's selected USLE variables reasonable. The variables are similar to those found acceptable by the Division for Trapper's previous bond releases. The lands in SL24 are similar to lands in previous bond releases.

Photo 3: Recently repaired reconstructed drainage MF3 in parcel LA18, with check dam in upper right.

Table 3. USLE Variables and Definitions

Variable	Definition
R	Climatic erosivity factor due to precipitation
K	Soil erodibility under a standard condition
LS	Slope length and steepness factor
C	Cover management/ land use
P	Support practices factor

Table 4. USLE Variables and Basis for Selection

Pre-mining			
Variable	**Trapper's Selection**	**Trapper's Source**	**Division's Comment**
R	30	SCS Map: R factors for Colorado	Reasonable, as per Trapper's location on R factor map.
K	0.25	Trapper Permit C1981010 Appendix Q Section XIII, Table E3	Reasonable, as per soil types of bond release blocks delineated on map M29.
LS	8.11	SCS LS Table, 719 ft, 16.7% Slope	Reasonable based on the 16.7% slope and 719 ft. slope length.
C	0.05	SCS C factor table for specified conditions	Reasonable as per pre-mining rangeland conditions and applicable C value table 4.4-2.
P	1.0	SCS P factor table for specified conditions	Reasonable as per erosion control practice factor, consistent with premining practice on bond release blocks.

Table 4 cont. USLE Variables and Basis for Selection

Post-mining			
Variable	**Trapper's Selection**	**Trapper's Source**	**Division's Comment**
R	30	SCS Map: R factors for Colorado	Reasonable, as per Trapper's location on R factor map.
K	0.25	Trapper Permit C1981010 Appendix Q Section XIII	Reasonable, as per soil types on bond release blocks delineated on map M29.
LS	8.11	SCS LS Table, 719 ft, 16.7% Slope	Reasonable based on the 16.7% slope and 719 ft. slope length.
C	0.022	SCS C factor table for permanent pasture, rangeland, idle land and grazed woodland – 50% canopy, cover and 55% effective cover grass type (Permit Table 4.42).	Reasonable as per vegetation data submitted with SL24 application (Table 1.2-1).
P	1.0	SCS P factor table for specified conditions	Reasonable, as no control practices were utilized.

SEDCAD Comparison: Trapper utilized baseline data for selecting SEDCAD 4 parameters for modeling pre-mining conditions. Trapper utilized recent vegetative data in the bond release submittal for modeling post-mining conditions. The parameters employed in the SEDCAD model, and their definitions are presented in the table below:

Table 5. SEDCAD Parameters and their Definitions

Parameter	**Definition**
Design Event	Climatic erosivity factor due to precipitation
CN (Curve Number)	Soil erodibility as a function of land use and hydrologic soil group.
Land Use	Slope length and steepness factor
Hydrologic Condition	Cover management/ land use
Hydrologic Soil Group	Soil structure and infiltration rate
CP Factor (Control Practice Factor)	
Time of Concentration	Time for runoff in watershed to reach the watershed outlet.

The parameters reasonably represent the conditions in the field for pre and postmining conditions. Trapper used SEDCAD 4 to model 20 acre study areas possessing the following sedimentologic characteristics representative of each bond release parcel:

- Average slope
- Slope lengths.
- Soil erodibility factor.

- Land use.
- Land cover.

This methodology allows for applying each block's actual vegetative cover data of the SEDCAD run for that block. Run for pre- and post-mining conditions, SEDCAD 4 calculated the peak settleable solids concentration of runoff flowing to a single discharge point at the down-stream end of each 20 acre study area. The Division finds use of 20 acre study areas a valid approach for modeling sedimentation in reclaimed drainages in the bond release area.

The total sediment load calculated for the pre-mining block F, L and Z-AB 20 acre study area was 27.4 tons of sediment and for the same postmining block, 17.3 tons of sediment. TMI's SEDCAD 4 modeling concluded that the calculated postmining peak settleable solids generated from each block is less than the calculated premining value. The Division's review of each parameter is presented in the table below.

Table 6. SEDCAD Variables and Basis for Selection

Premining			
Parameter	**Trapper's Selection**	**Trapper's basis for selection**	**Division's Comment**
Design Event	2.75 inches in 24 hours	Produces the minimum 0.5 inch of runoff necessary to maintaining program accuracy (SL24 application Sec 1.4.2).	A greater than 100-year event is necessary in modeling as SCS TR55 questions the accuracy of the Curve Number method when runoff depth is less than 0.5 inch.
CN	48 SedCad 4 68.2 B, W, H*	Trapper's selected cover, soil group, hydrologic conditions, and CP factor (see below).	Reasonable as per selections of cover, soil group, hydrologic conditions, and C factor.
Oak/Aspen – Sage/Grass		Permit application, Appendix Q Section XII	Reasonable as per pre-mining conditions.
"Fair" hydrologic condition		Permit application, Appendix Q Section XII	Reasonable as per description of "Fair" in SCS TR55
Hydrologic soil group classification "B'		Permit application, Appendix Q Section XII	Reasonable, as per soil types on bond release blocks delineated on map M29 & consistent with soil group B.
CP Factor: 0.025		Tables 2.3 & 4.4-2 of permit application C1981010	Selection accounts for total cover and canopy cover of premining vegetation.
Time of Concentration		Slope data on Summary pages in SEDCAD runs	Slope lengths and land use description inputs accurately matched field data.
Design Event	2.75 inches in 24 hours	Produces the minimum 0.5 inch of runoff necessary to maintaining program accuracy (SL24 application Sec 1.4.2).	Same event as used in preming model.
CN	61 SedCad, 78.8 B,W,H*	Trappers selected cover, soil group, hydrologic conditions, and CP factor (see below).	Reasonable as per selections of cover, soil group, hydrologic conditions, and C factor.
Pasture, Grassland & Rangeland		Postmining land use	Reasonable as per postmining land use.
"Good" hydrologic condition		None	Reasonable as per "Good" in SCS TR55 for other lands corresponding to.
Hydrologic soil group classification "B"		Permit application, Appendix Q Section XII	Reasonable, as per soil types on bond release blocks delineated on map M29 & consistent with soil group B.
CP Factor: 0.022		SeDCad 4 table for permanent pasture & rangeland	Cover values and treatment practices indicate reasonable selection of this variable.

* B, W, H: Barfield, Warner, Hann

Based on Trapper's SEDCAD 4 modeling using baseline data, the Division finds that the lands proposed for Phase II bond release are not contributing suspended solids to streamflow or runoff

outside the permit area in excess of premining levels. DRMS approves the SEDCAD evaluation of sediment production and yield as demonstrated by TMI with Phase II bond release of the SL24 parcels.

Acreage Discrepancy
Based on the Division's review there was a discrepancy between the Division's records and TMI's over how many acres had previously obtained Phase I bond release that were eligible for Phase II bond release. After working with TMI, it was found that an excess of acres had been counted as re-disturbed and that parcel FB-07 that has obtained Phase III bond release with SL20 had not been counted in the Division's total Phase Phase I released acres. Given this, there were sufficient acres found to have obtained Phase I bond release that are eligible for Phase II release. Table 7. below is reflective of the total acres that have been Phase I, II and III bond release assuming SL24 is approved.

Summary and Conclusions
Based upon a review of the mine permit, the applicant's bond release application, the 11 October 2023 bond release inspection and other prior site inspections, the Division finds that Trapper Mining, Inc. has replaced topsoil in accordance with the approved reclamation plan. Trapper Mining, Inc. has established vegetation which supports the approved post-mine land use and meets the applicable success standards. The Division finds that the reclaimed area subject to this bond release is not contributing suspended solids to streamflow or runoff outside the permit area in excess of pre-mining levels.

V. PROPOSED DECISION

Based on the above observations, the Division proposes to approve Trapper Mining, Inc.'s request for a partial Phase II bond release on the SL24 bond release block. This proposed decision will release the applicant from Phase II reclamation liability for those SL24 bond release parcels totaling 298.3 acres as per Table 2 of this document.

Table 7: Post SL24 Liability

Phase Bond Release Area Cost Accounting		Liability	Acres	Cost /Acre	%
	Worst Case Bond	$39,815,271.00	2902.30	$13,718.52	100 %
	Phase I Bond Release	$26,550.19	4.70	$5,648.98	40%
	Phase II Bond Release	$1,523,529.515	719.2	$2,118.37	15%
Requested Phase II acres	**298.3**				
Total	**Required Surety**	**$41,365,350.34**	**3626.20**		

Phase Bond Release	Acreage
Phase 1	4,269.4
Phase 2	4,264.7
Phase 3	3,545.5

The current bond held amounts to $45,100,000.00. The Division proposes to release reclamation liability in the amount of **$977,348.66** for the 298.3 acre SL24 bond release block (see Table 7). Trapper Mining, Inc. did not request a return of bond monies with the SL24 bond release application. However, should Trapper Mining, Inc. reduce its bond by **$977,348.66,** the remaining bond to retain constitutes

$44,122,651.34 which is sufficient to complete reclamation**.**

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 *Craig Daily Press* 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 *Craig Daily Press.* If no hearing is requested within those thirty days, the Division's decision becomes final.