Proposed Decision and Findings of Compliance for the **Trapper Mine** C1981010

Permit Revision No. 12 **REVISED**



2 May 2025



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Introduction		1
Proposed Decision		
Summary		2
The Review Process		
Description of the Environment Description of the Operation and Reclamation Plans		
Findings of the	Colorado Division of Reclamation, Mining and Safety	10
Section A -	Rule 2.07.6	10
Section B -	Rule 4	12
I.	Roads	12
II.	Support Facilities	13
III.	Hydrologic Balance	13
IV.	Topsoil	15
V.	Sealing of Drilled Holes and Underground Openings	15
VI.	Use of Explosives	16
VII.	Disposal of Excess Spoil	16
VIII.	Coal Mine Waste Banks	16
IX.	Coal Mine Waste	16
Χ.	Backfilling and Grading	16
XI.	Revegetation	16
XII.	Post-mining Land Use	17
XIII.	Protection of Fish, Wildlife and Related Environmental Values	17
XIV.	Protection of Underground Mining	17
XV.	Subsidence Control	17
XVI.	Concurrent Surface and Underground Mining	17
XVII.	Auger Mining	17
XVIII.	Operations on Alluvial Valley Floors	18
XIX.	Operations on Prime Farmland	19
XX.	Mountaintop Removal	19
XXI.	Operations on Steep Slopes	19
XXII	In Situ Processing	20

Introduction

The Colorado Division of Reclamation, Mining and Safety (the Division), received an application for a permit revision to conduct surface coal mining and reclamation operations at the Trapper Mine Inc. The application was submitted by Trapper Mining, Inc. (TMI) who operates the mine. The Trapper mine is located on federal, state and private lands within Moffat County, Colorado.

The review process for permit revisions as well as detailed information concerning the findings of compliance are described in the Colorado Surface Coal Mining Reclamation Act (C.R.S. 34-33-101 et seq.) and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. Rules referred to in this document are contained within those regulations. Specific information about TMI's mining and reclamation operations can be found in the permit application and permit revision applications on file with the Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203 and, in DRMS's document management system at the following website:

http://drmsweblink.state.co.us/drmsweblink/search.aspx?dbid=0

This Findings document comprises the decision package prepared by the Colorado Division of Reclamation, Mining and Safety (the Division) for TMI, Permit Revision No. 12(PR12), and includes:

- 1. The proposed decision to approve the permit revision application.
- 2. A summary constituting:
 - a. A history of the review of the permit revision application.
 - b. A description of the environment affected by the operation.
 - c. A description of the mining and reclamation plan.
- 3. The written findings of compliance the Division prepared as required by the

Colorado Surface Coal Mining Reclamation Act.

This permit revision (PR12), application comprises an updated mining and reclamation plan during the permit term (2023-2027). This permit revision proposes no new disturbance within the approved permit area with this application

This PR12 revision proposes to update the mining and reclamation plans with the addition of one cut in the L-Dip pit. With this change the final Post Mine Topography (PMT) as proposed on Map M-12, has been altered to reflect the final regrade of this area. Changes in the N Pit comprise a revised ground control plan to allow top down highwall mining on the north wall of the remaining two panels of N-Pit. This diverges with the current operations where the pit is excavated to the Q-Seam and then highwall mining begins to the north and south of the pit with backfilling to the next higher minable seam and so on. Out of pit spoil will be replaced once mining is complete and the affected land within this area will be reclaimed as rangeland for livestock grazing and wildlife habitat. Trapper Mine also proposes removing the seismic monitoring unit as L-Pit continues to move away from the archeological site for the remainder of the mine life.

Proposed Decision

The Colorado Division of Reclamation, Mining and Safety Proposes to APPROVE the Application for Permit Revision No 12 (PR12).

The application was submitted by Trapper Mining, Inc. ("TMI"). This decision is based on a finding that the operations comply with all requirements of the Colorado State Program as found in the Colorado Surface Coal Mining Reclamation Act, C.R.S. 34-33-101 et seq., and the Regulations promulgated pursuant to the Act. If no request for a formal hearing is made within thirty (30) days of the first publication of the issuance of this proposed decision, then this decision becomes final. The permit revision will be finalized upon submittal to DRMS of acceptable surety by the applicant if necessary. The permit application, all supporting documentation and any stipulations or conditions become a binding part of the permit.

No coal mining operations may be conducted on any Federal surface or coal until the Assistant Secretary for Lands and Minerals Management ("ASLM") with the U.S. Department of the Interior has approved any required federal mining plan or modification thereof.

This proposed decision proposes to update the mining and reclamation plans with the addition of one cut in the L-Dip pit. With this change the final PMT as proposed on Map M-12, Post Mining Topography, has been altered to reflect the final regrade of this area. No new acres of disturbance are proposed and the worst case bond scenario does not change with this revision.

In previous findings document, the Division made no distinction between disturbance acreage and affected acreage. However, upon review of these definitions (Rule 1.04(7) and (36)) the Division in PR11 found this distinction appropriate since surface disturbance is not associated with the underground activities associated with highwall/auger mining. The affected acreage at the Trapper Mine now includes the areas above the highwall/auger mine workings. Much of the affected area underlies the disturbance area at the Trapper Mine. The proposed decision form for PR12 reflects this distinction as the affected area will not equal the disturbance area.

Status of Stipulations

The stipulation history for the Trapper Mine was reviewed with this permit revision application. The review included an investigation of any stipulations imposed, and any responses to existing stipulations received, since the last permit renewal. Any stipulations associated with this permit and issued over the life of this operation which are not discussed in this findings document have been complied with or have been terminated.

Summary

Utah International Inc. began exploration drilling operations for Trapper Mine in 1954 to obtain geologic information on the structure of coalbeds and estimates of mineable coal reserves. In 1973, Utah International Inc. and four electric utilities signed a contract for delivery of coal to fuel the Craig Generating Station. This coal delivery obligation of approximately 111 million tons over a 52 year period required strip mining six to seven thousand acres of land since the mining activities began in 1976.

Environmental studies for the Trapper Mine began in 1972 and intensified in 1973 and 1974. Most of those studies will continue throughout the life of the project. Trapper Mine endeavors to reclaim disturbed lands to as good as or better condition than before mining. TMI attaches a high priority to the reclamation programs, all of which are designed to protect wildlife, water, air quality and other environmental resources of the mine area.

The shop and warehouse buildings were completed in November 1975, while the office complex was completed in November of 1976. The construction of the first of three, 30 cubic yard walking draglines started in February 1976. Actual mining operations began in May 1977, and coal deliveries started in August 1978.

The original owner of Trapper Mine was Utah International, Inc. an international mining company. All initial permitting and mining efforts were performed by Utah International. In July 1982, Utah International formed the subsidiary, Trapper Mining Inc. to consolidate and hold the properties and rights that make up Trapper Mine. The owners of the Craig Generating Station, the electric utility receiving its coal from Trapper Mine, purchased Trapper Mining Inc. in July of 1983.

This findings document replaces Trapper Mine's previous findings document associated with Permit Revision PR11. Please note that much of the information in this document is derived from previous findings documents.

The Review Process: Permit History and Revisions

The following revisions have been approved since the last permit renewal (RN8) issued in February 2023.

Permit Revisions:PR11Technical Revisions:TR133, TR134, TR135, TR136Surety Releases:SL24, SL25Minor RevisionsMR227, MR228, R229

For details regarding prior revision history please refer to the RN8 Findings document available on the Laserfiche weblink here:

https://dnrweblink.state.co.us/drms/search.aspx?cr=1

Enforcement Actions

Since the last midterm review, MT8 issued in 2021 one enforcement action was undertaken. This action; CO2023001 comprised stripping outside of permitted stripping area. The infraction has been adequately resolved.

The PR12 Review Chronology

- DRMS received TMI's application 10 October 2024.
- DRMS found the application complete 16 October 2024.
- TMI published its public notice weekly for four consecutive weeks beginning 23 October 2024.
- No objections or requests for informal conferences were received by DRMS during the public comment period.
- The State Historical Preservation officer, through History Colorado, provided a letter of concurrence to DRMS on 13 October 2024.
- o DRMS conducted AVS checks on 4 December 2024, 4 February 2025 and 26 February 2025,

10 April 2025 and 2 May2025.

- DRMS reviewed the application and sent TMI preliminary adequacy questions on 9 December 2024. DRMS received TMI's responses to preliminary adequacy on 16 January 2025. DRMS reviewed TMI's response and determined that no outstanding questions remained.
- o DRMS proposed the decision to approve the PR12 permitting action on 2 May 2025

Description of the Environment

Location of Permit Area

The Castor Gulch and Breeze Mountain USGS 7.5-minute quadrangle maps contain the location of the affected area. The legal description of the lands included within the permit area of the Trapper Mine follows:

Township 5 North, Range 90 West

Section 4 W¹/₂NW¹/₄, W¹/₂SW¹/₄, SE¹/₄SW¹/₄, NE¹/₄SW¹/₄ southwest of Moffat County Road 33, W¹/₂W¹/₂NE¹/₄NW¹/₄, W¹/₂SE¹/₄NW¹/₄

Section 5 All

Section 6 N¹/₂, N¹/₂ S¹/₂ Section 8 N¹/₂NW¹/₄, N¹/₂NE¹/₄

Section 9 N¹/₂NW¹/₄, NW¹/₄NW¹/₄ southwest of Moffat County Road 33

Township 5 North, Range 91 West

Section 1 N¹/2, SW¹/4, N¹/2 SE¹/4, SW¹/4 SE¹/4

Section 2, Section 3 All

Section 4 E¹/2, E¹/2E¹/2 SW¹/4, E¹/2SE¹/4NW¹/4, NE¹/4NW¹/4

Section 5 NE¹/₄

Township 6 North, Range 90 West Section 30 SW¹/4

Section 31 All

Section 32 S¹/₂, S¹/₂ N¹/₂, NW¹/₄NW¹/₄

Section 33 That portion which lies west of the ROW of Moffat County Road 33

Township 6 North, Range 91 West

Section 21 That portion containing Trapper Mining Inc. access

Section 25 S¹/₂, S¹/₂ N¹/₂

Section 26 S¹/₂, S¹/₂ N¹/₂

Section 27 S¹/₂, S¹/₂ N¹/₂, S¹/₂ N¹/₂ NE¹/₄, SE¹/₄ NE¹/₄ NW¹/₄

Section 28 S¹/₂, N¹/₂ east of County Road 107 excluding the portion north of the Trapper Mine access road

Section 29 SE¹/₄, E¹/₂ SW¹/₄, E 150' W¹/₂ SW¹/₄. Section 32 E¹/₂, E¹/₂ W¹/₂, E 150' W¹/₂ W¹/₂ Section 33, Section 34. Section 35 and Section 36 All.

Trapper Mine is located in northwest Colorado along the northern slope of the Williams Fork Mountains, approximately six miles southwest of the City of Craig. The boundaries of the permit area are about six miles long (east to west) by two miles wide (north to south) as shown on Map 1 below.



Map 1: The 11.294 acre Trapper Mine permit boundary and the area's typical pre mine dendritic drainage pattern as per the NHD Hydrology Dataset

Physiographic Setting

Trapper Mine extends across the northern slope of the Williams Fork Mountains between elevations of 6,500 ft. and 7,800 ft. The crest of the Williams Fork Mountains forms a long ridge extending east/west at elevations between 7,400 and 7,800 ft. The Yampa River flows generally from east to west a short distance north of the permit area. The Williams Fork River skirts the south side of the mine site and flows into the Yampa River one mile west of the mine.

Geologic Setting

The bedrock at the ground surface in the Trapper permit area is an interbedded sequence of sandstones, siltstones, shale, and coals comprised of the Cretaceous-age Williams Fork Formation. The Williams Fork Formation forms part of the regionally extensive Mesa Verde Group. Younger unconsolidated alluvial deposits of Quaternary age form a thin mantle over the Williams Fork Formation in stream drainages. Structurally, the mine is situated on the south limb of the northwest-plunging Big Bottom syncline. Major faults extend across the region, but none have been found in the permit area.

Coal Seam Stratigraphy

The Williams Fork Formation is stratigraphically subdivided into three units or members. These, in ascending order are:

- 1. the lower Williams Fork
- 2. the Twentymile sandstone
- 3. the upper Williams Fork

with individual thicknesses of 920 ft. 100 ft. and 680ft. respectively. The coal seams being mined at Trapper Mine are all in the upper Williams Fork member and their nomenclature, in descending order, consists of:

F \cap G2 0 Н 0 Ι 0 L 0 Μ 0 Q and Q rider 0 R and R rider. 0

Surface Water Hydrology

Drainages within and adjacent to the permit area (on the north facing slope) drain south to north in a dendritic pattern as illustrated in Map 1 above. Drainages flow primarily in response to snowmelt and /or heavy rains, eventually discharging to the Yampa River. Drainages in the southern portion of the permit area drain southward to the Williams Fork River. Natural surface waters are of a calcium-magnesium-sulfate type, with total dissolved solids content commonly greater than 1000 mg/1 in the smaller streams, and less than 1000 mg/1 in the largest streams. Total dissolved solids concentrations commonly peak during periods of low stream flows; during high flows, waters are diluted, resulting in low concentrations.

Ground Water Hydrology

Within the general area of the Trapper Mine, ground water exists in both bedrock and alluvial aquifers. Significant bedrock aquifers are the Trout Creek, Middle, Twentymile, and White sandstones. The Middle, Twentymile and White sandstones lie within the Williams Fork Formation; the Trout Creek sandstone is the uppermost member of the underlying Iles Formation. The major alluvial aquifers in the area are associated with the Yampa and Williams Fork Rivers. Many of the coal seams, discontinuous sandstones, siltstones and some of the smaller alluvial bodies in the area of the mine are also water bearing. These, however, characteristically contain insufficient quantities of water to be considered significant aquifers. Of the bedrock aquifers, the Twentymile sandstone produces the best quality ground water, a bicarbonate-type possessing a relatively low total dissolved solid content of less than 600 mg/1. Ground water in the White sandstone contains total dissolved solids generally greater than 600 mg/1 due to high levels of sulfate and bicarbonate. Ground water in the coal-seam aquifers and interbedded sandstones and siltstones is commonly of poor quality with total dissolved solids greater than 1000 mg/1 due to high levels of bicarbonate and sodium.

Regional Climate

The region has a highland continental climate characterized by low precipitation, large fluctuations in diurnal temperatures, low humidity, moderate wind speeds, and high levels of insolation (exposure to sunlight). The Craig area is in the rain/snow shadow of mountain ranges to the west and south and consequently has a high number of dry, clear days.

Local Climate

The climate of the Craig, Colorado area is characteristic of semi-arid steppe regions. Average annual precipitation for the town of Craig, six miles north of Trapper, is 13. 5 inches, of which over one third is snowfall (averaging 66.5 inches/year). Trapper Mine's average annual precipitation is 16.7 inches. Mean annual temperature in Craig is 43°F, with recorded extremes of -45°F and 100°F. Winds predominate from the west but are locally modified by topographic features. The growing

season for the area in the vicinity of Craig averages 77 frost-free days.

Soil Types, Characteristics and Distribution

Three soil orders are found in the permit area:

- 1. Aridisols
- 2. Entisols
- 3. Mollisols.

Characteristic of steep, semi-arid regions of northwestern Colorado, they represent soils grading from recently developed soil bodies with minimum horizon development (Entisols) to older soils comprising well defined diagnostic horizons (Mollisols). Overall, the soils found in the permit area are relatively deep and well drained exhibiting effective rooting depth ranges from two to sixty inches. The deepest soils yielding the greatest rooting depths occur in valleys and on the leeward sides of ridges. Soil reaction is slightly acid to moderately alkaline over the permit area with the exception of inclusions of small, scattered areas with saline substrata. These small areas have probably formed in place from weathered sodic shale.

Vegetation Distribution

Vegetation in the area grows largely in response to macro-climatic influences of the region. The north-facing slopes, having moderate to deep soils characterize a relatively mesic moisture regime and favorable levels of insolation throughout the year, exhibit well-developed mountain shrub communities. On colluvial toe slopes, communities dominated by sagebrush and grasses occur. On the south-facing slopes behind the ridgeline of the Williams Fork Mountains, vegetative communities are less developed with respect to cover, density, and production due to the less favorable soils, moisture regime, and increased solar insolation. The trend in these areas is toward communities dominated by juniper, pinon, mountain mahogany and xerophytes.

Historical farming and ranching within the current permit area modified, to varying degrees, natural vegetative communities. Much of the land along toe-slopes and valley bottoms was cleared of native vegetation and is currently used for dry land agriculture. Most of the north-facing slopes in the area have been historically used for the grazing of sheep and /or cattle. These activities produced a mosaic of vegetation communities in the permit area comprised of mountain shrub, sagebrush/grass, and pinon/juniper.

Wildlife

Fauna is diverse in and adjacent to the permit area due to the wide variety of habitat types and include: Antelope, Mule deer, Elk, Blue grouse, Columbian sharp-tail grouse, and Sage grouse. All are residents or occasional residents of the permit area, as are numerous types of waterfowl, songbirds and raptors. The area provides habitat and migration routes for antelope, elk and mule deer. Raptors, several species of game birds, and numerous smaller mammals are found in the Williams Fork Mountains and surrounding areas.

Land Uses

Land uses in the area are rangeland, wildlife habitat, and agriculture. Cattle and sheep graze in the Williams Fork Mountains. Dry land wheat is cultivated on colluvial toe slopes of the Williams Fork Mountains. Native hay and dry land wheat are cultivated on the soils of the Yampa and Williams Fork River valleys.

Description of the Operation and Reclamation Plans

The current permit area covers 11,293.79 acres. This PR12 application will allow the company to continue mining and reclamation as currently approved.

Mining Method

Total cumulative coal production over the life of the Trapper mine is projected to be a maximum of 74 million tons. Coal mining occurs at the Trapper Mine using surface mining methods and auger mining. For surface mining, draglines remove overburden and interburden, while front-end loaders and haul trucks remove the coal seams. Trapper Mining, Inc. has historically oriented the pits north-south, parallel to the downhill dip of the coal seams. PR5 reoriented pits G, F and Z (East F-Pit) parallel with the strike of the coal seams in an east-west direction. Strike line pits progress from north to south. Each successive pit cut occurs next to and parallel to the previous cut. When more than one seam is recovered in a pit, partings are removed by dozer, or backhoe, or similar equipment if thin: or by dragline, if thick.

The October 2006 landslide in the East Panel of Trapper Mine created a need for a change in mining methods for the East Panel area, resulting in Permit Revision PR6. The K-Pit and L-Pit (originally identified as G Pit) were originally planned as dragline pits, consistent with Trapper's historical mining method.

Strip Pits

Trapper mined or plans to mine coal from the following four pits during the 2023-2027 permit term:

- 1. Lancaster (L), Pit
- 2. Nighthawk (N) Pit
- 3. I Pits (East, Middle)
- 4. J Pit (West), and

Pits advance generally southward. Individual cuts in pits are as much as 6,000 ft. long. The maximum width of a cut is 200 feet. In 2002, D-Pit progressed to the point that it merged with E-Pit. This combination D/E-Pit is approved for ash disposal, however TMI has backfilled this pit and has received Phase I reclamation on it as there was no longer a need to utilize the D and E Pits for ash disposal. A (Ashmore) pit remains open for ash disposal (see description of ash disposal below). Highwall mining in I Pit began in 2021. I and J Pits comprise single seam pits to the F and G2 seams. N Pit was opened in 2021 for highwall mining in the L, M and Q seams. C Pit mining, proposed in PR11 has since been removed from the mine plan.

Auger/Higwall Mining

Auger or "highwall mining" is conducted in the end walls of the C, I, J, L and N pits. The pits are developed in sections from west to east with contemporaneous backfilling minimizing the out-of-pit spoil placement. An HW N800 Addcar System is utilized. A launch vehicle platform, sitting on the boxcut floor controls the systems functions, rigid conveyor cars each fitted with a belt conveyor are fed by a remote controlled underground continuous miner. Real Time feedback to the outside operator from video cameras and a HORTS guidance system provides three dimensional locations. Gamma sensors in the cutting head provide the ability to sense roof and floor rock to maintain the miner in the coal seam. Auger depth of penetration and coal recovery vary depending on coal seam splitting, thinning or pinching, coal quality, roof and floor integrity, and machine limitations.

Penetration depths at 1,200 feet or less are common. All highwall mining must comply with Rule 4.23.2. Changes to highwall mining methods is proposed with PR12 for the 2023-2027 permit term.

Removal of Topsoil and Overburden

Prior to disturbance, and in advance of pit construction, vegetation is cleared, and topsoil is removed and salvaged. Stockpiled soils are shaped and seeded to establish vegetation for protection from wind and water erosion. After topsoil removal, the overburden is drilled and blasted in advance of the pit. Overburden is then stripped by draglines, scrapers, truck/loader or bulldozers. Finally, frontend loaders load coal into 90-ton haul trucks, which deliver the raw coal to the Craig Power Plant.

Trapper removed 24.6 million cubic yards (BCY) of spoil material in the K-Pit and placed the material in a permanent fill that is known as Horse Gulch Fill. Additional spoil from the K-Pit is also placed north of the pit and elsewhere on the site to meet the requirements of the post-mine topography. The Horse Gulch fill is completed. The only portion of Trapper's operation located downslope from the Horse Gulch Fill is Trapper's Horse Gulch sediment control pond.

Backfilling of Pits

After removing coal from economically recoverable coal seams, associated pits are backfilled with spoil (overburden and interburden) and then graded by dragline and dozers. As a dragline removes overburden and interburden, spoil ridges are created by dumping the material from a recently open pit into a recently mined out pit. Dozers and graders then smooth the spoil ridges and blend the ridges into the existing topography.

Timing of Backfilling and Grading

The Operator committed to the regulatory requirements of contemporaneous reclamation: that there will never be more than four ungraded spoil rows (including the active one) at any one time.

Topsoiling and Seeding

After final grading of the spoil ridges, topsoil is 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. Areas are then seeded with one of three main seed mixes, depending on the elevation. Seed mixes contain various native grasses, forbs and shrubs, while the lowest elevation site seed mix contains only grasses and forbs. Shrub clumps of approximately 1.6 acres are also located throughout the reclaimed areas. Seeding occurs by both drill and broadcasting methods.

Long-Term Ash Disposal Plan

The applicant continues to backfill Ashmore pit with ash from the Craig Power Plant. Ash will not be disposed in Enfield/Derringer pits, as the power plant has reduced its coal consumption, shutting down one tower, with the closure of the power plant slated for 2028. The ash is approximately 60% fly ash, 20% bottom ash, and 20% scrubber sludge. A maximum of 5,250 tons per day of the waste will be disposed of at the Trapper Mine with an average of 1,222 tons per day expected. This is equivalent to an average annual volume of waste of about 231 acre-feet, after compaction. The applicant expects this waste burial process will continue for the life of the mine. Down-gradient ground water monitoring wells are in place to detect any potential degradation of the ground water due to leachate through the ash waste pile.

Findings of the Colorado Division of Reclamation, Mining and Safety for Trapper Mine

Explanation of Findings

Pursuant to Rule 2.07.6(2) of the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining, and the approved state program, the Division of Reclamation, Mining and Safety or the Board must make specific written findings prior to issuance of a permit, permit renewal or permit revision. These findings are based on information made available to the Division that demonstrates that the applicant will be able to operate in compliance with the Colorado Surface Coal Mining Reclamation Act and the Regulations promulgated pursuant to the Act.

The findings in the following sections required by Rule 2.07.6(2) are listed in accordance with that Rule. The findings and specific approvals required pursuant to Rule 2.07.6(2)(m) are listed in accordance with Rule 4 and are organized under subject or discipline subtitles.

This findings document has been updated for this permit revision (PR12). The following findings have been reevaluated and updated if necessary to reflect changes which will occur as a result of this permit revision. Any stipulations from the original permit and findings document or subsequent revisions that have been totally resolved to the satisfaction of the Division have been removed from this document.

Section A – Findings Required by Rule 2.07.6

- 1. The permit application is accurate and complete. All requirements of the Act and these rules have been complied with (2.07.6(2)(a)).
- 2. Based on information contained in the permit application and other information available to the Division, the Division finds that surface coal mining and reclamation can be feasibly accomplished at the Trapper Mine (2.07.6(2)(b)).
- 3. The assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance, as described in 2.05.6(3), has been reviewed for PR12 by the Division. This assessment, entitled Yampa River Cumulative Hydrologic Impact Assessment (CHIA), is available for inspection at the offices of the Division.

Please refer to Section B.III. E (Probable Hydrologic Consequences), of this document for additional discussion of the predicted hydrologic consequences of mining operations at Trapper Mine. The Division finds that the operations proposed under PR12 are designed to prevent damage to the hydrologic balance outside the proposed permit area in accordance with Rule 2.07.6(2)(c).

- 4. The Division finds that the affected area is, subject to valid rights existing as of August 3, 1977, not within:
 - a) An area designated unsuitable for surface coal mining operations (2.07.6(2)(d)(i));

- b) An area under study for designation as unsuitable for surface coal mining operations (2.07.6(2)(d)(ii));
- c) The boundaries of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System including rivers under study for designation, and National Recreation Areas (2.07.6(2)(d)(iii)(A));
- d) Three hundred feet of any public building, school, church, community or institutional building, or public park (2.07.6(2)(d)(iii)(B));
- e) One hundred feet of a cemetery (2.07.6(2)(d)(iii)(C));
- f) The boundaries of any National Forest unless the required finding of compatibility has been made by the Secretary of the U.S. Department of Agriculture (2.07.6(2)(d)(iii)(D));
- g) One hundred feet of the outside right-of-way line of any public road except where mine access or haul roads join such line, and excepting any roads for which the necessary approvals have been received, notices published, public hearing opportunities provided, and written findings made (2.07.6(2)(d)(iv));
- h) Three hundred feet of an occupied dwelling unless a written waiver from the owner has been provided (2.07.6(2)(d)(v)).
- 5. The proposed permit area is not within an area designated unsuitable for surface coal mining operation and/or within an area under study for designation as unsuitable for surface coal mining operations in accordance with Rule 2.07.6(2)(e).
- 6. For this surface mining operation, private mineral estate has not been severed from private surface estate, therefore, the documentation specified by Rule 2.03.6(2) is not required (2.07.6(2)(f)).
- 7. On the basis of evidence submitted by the applicant and received from other state and federal agencies as a result of the Section 34-33-114(3) compliance review required by the Colorado Surface Coal Mining Reclamation Act, the Division finds that Trapper Mining, Inc. does not own or control any operations which are currently in violation of any law, rule, or regulation of the United States, or any State law, rule, or regulation, or any provision of the Surface Mining Control and Reclamation Act or the Colorado Surface Coal Mining Reclamation Act (2.07.6(2)(g)(i)).
- 8. Prior to proposing this decision, on 4 February 2025 the Division queried the Office of Surface Mining Applicant Violator System. The system recommendation for the proposed application was "adequate."
- 9. Trapper Mining, Inc. does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (2.07.6(2)(h)).
- 10. The Division finds that surface coal mining and reclamation operations to be performed under this permit will not be inconsistent with other such operations anticipated to be performed in areas adjacent to the permit area (2.07.6(2)(i)).

11. The division has calculated the required surety to reclaim the site to be \$40,040,610.17. Worst Case Bond Scenario (topography and mining area) was not altered in PR12. All acreages and liabilities have been accounted for in SL25.

The Division currently holds a bond of \$39,500,000, representing a deficit of **\$540,610** that would be required to reclaim the site. Therefore, an increase in performance bond of **\$540,610**.17 is required in accordance with Rule 2.07.6(2)(j).

- 12. The Division has made a negative determination for the presence of prime farmland within the permit area. The decision is based on a pre-application investigation of soils found within the proposed permit area. Pursuant to 2.04.12(2) criteria, the applicant has provided information demonstrating that lands within the permit area possessing cropland potential are not irrigated or naturally sub-irrigated, have no dependable water supply of adequate quality, and receive less than 14 inches of annual precipitation. Therefore, the Division hereby renders a negative determination for the presence of prime farmland within the permit area (2.07.6(2)(k)).
- 13. Based on information in the permit, the Division determined that two alluvial valley floors (AVFs) exist near the permit area:
 - a. the Yampa River AVF
 - b. Williams Fork River AVF.

The Division finds that the proposed surface coal mining operation will not affect either AVF. For additional specific findings concerning these AVFs, please refer to permit Section B, XVII.

- 14. The Division approved the post-mining land uses of rangeland, wildlife habitat and cropland as meeting the requirements of Rule 4.16 for the permit area (2.07.6(2)(l)).
- 15. Specific approvals have been granted or are proposed. These approvals are addressed in the following section, Section B (2.07.6(2)(m)).
- 16. The Division finds that the activities proposed by the PR12 application will not affect the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitats as determined under the Endangered Species Act of 1973 (16 USC Sec. 1531 et seq.) or the Nongame, Endangered or Threatened Species Conservation Act (Section 33-2-101 et seq., C.R.S), (2.07.6(2)(n)).
- 17. The Division finds that the applicant has satisfied the applicable requirements of Rules 4.23 through 4.29 regarding special categories of mining (2.07.6(2)(p)).

Section B - Findings Required Rule 4

- I. Roads Rule 4.03
 - A. Haul Roads Haul roads discussed in permit Section 3.7.2, Vol. III, occur upstream of adequate sediment control facilities (4. 03.1 (2)(c)).

- B. Access Roads Access roads, discussed in permit Section 3.7.3, Vol III, meet requirements of Rule 4.03.2(2)(c).
- II. Support Facilities Rule 4.04 Support facilities discussed in permit Section 3.8, Vol. III, meet requirements of Rule 4.04(6).
- III. Hydrologic Balance Rule 4.05

Volume 4 of the Trapper Mine permit application includes an assessment of the probable hydrologic consequences of the proposed mining operation. Each year, Trapper assesses the ongoing impacts to the hydrologic system in its annual hydrologic report submitted as Appendix W of the permit application. The probable hydrologic consequences as set forth in Volume 4 and Appendix W are summarized below.

- A. Water Quality Standards and Effluent Limitations Surface discharge at the Trapper Mine is monitored under CDPS permit #CO-0032115 issued by the Colorado Department of Public Health and Environment. In addition, the applicant has quarterly and monthly reporting requirements as part of its surface water monitoring program. WET testing through bio-monitoring sampling is required in the following drainages if mine-contaminated water is discharged.
 - 1. East Flume System 2. Middle Pyeatt System
- B. Stream Channel Diversions

Drainage way reconstruction is discussed under Section 4.8. 1.3, Vol. IV of the permit application. Channel lining structures, retention basins, and artificial channel roughness structures are proposed for use to control erosion. The applicant uses rock check structures, various geotextiles, and rapid growing vegetation within reconstructed drainages to control erosion. (4.05.4(2)(a)).

C. Sedimentation Ponds

Sediment ponds are discussed under Section 4.8.1.4, Vol. IV of the permit application. The applicant uses sedimentation ponds in all disturbed drainages to control increased sediment loads resulting from disturbance within the ephemeral drainages on the mine site. All sediment ponds are designed to contain or treat, at a minimum, the 10-year, 24-hour event and to safely pass the 25-year, 24-hour event. One MSHA size pond exists on the site in the Coyote drainage.

- D. Surface and Ground Water Monitoring
 - The applicant will conduct monitoring of ground water in a manner approved by the Division. The ground water monitoring plan can be found in Section 4.8.5.2a, Vol. IV of the permit application (4.05.13(1)). Baseline groundwater quality information is presented in Section 2.7.5.2 of the currently approved PAP (Page 2-

463). Water quality has been monitored at five different locations at the mine site; Sites GA, GB, GC, GD and GE.

2. The applicant will conduct monitoring of surface water in a manner approved by the Division. The monitoring plan was submitted under 2.05.6(3)(b)(iv) and can be found in Section 4.8.5.1a of the permit application, Vol. IV (4.05.13(2)).

The Division reviewed the surface and ground water monitoring plans as part of previous permit revision review processes and the most recent Annual Hydrology Report of 2023. DRMS deemed the monitoring plans in place adequate in monitoring for the development of impacts, if any should develop. Well GP-09 has been designated the groundwater point of compliance for the Third White Sandstone aquifer, and the Coy well is the point of compliance for the Flume Gulch alluvium. The applicable standard at the points of compliance is the Interim Narrative Standard from Regulation 41, The Basic Standards for Groundwater (Reg 41).

Water monitoring is in place down dip of the I and J pits near the Coyote Pond for the pits as they develop to the west. These wells have been drilled under the MR225 permitting action and monitor the First, Second and Third White Sandstone aquifers. New or revised surface water monitoring is in place associated with new pond construction in the East and West Buzzard drainages.

E. Probable Hydrologic Consequences

The model for leachate formation and migration at the Trapper Mine is based on a study conducted by the U.S. Geological Survey at the Seneca II Mine in Routt County, approximately 14 miles east of the Trapper Mine (U.S. Geological Survey Water Resources Investigations Report 92-4187). The model is described in the probable hydrologic consequences of the permit application (Section 4.8).

No drawdowns have been detected in aquifer wells within one mile from the permit boundary. Observed drawdowns have been temporary and are limited to the immediate vicinity of the pits. The operator expects such limited drawdowns to continue with future mining.

The proposed mining operation will have little if any effects on the post-mining recharge capacity. The applicant's studies concluded that the recharge capacity of the reclaimed spoils will be slightly higher than the pre-mine condition. The mine activities should not impact any regional aquifers except the Third White Sandstone. Mined strata dip far beneath the Yampa River alluvial aquifer and communication between these strata and the alluvial aquifer is negligible.

Permit section 4.8.2.2 discusses potential drawdown impacts to adjacent wells. A groundwater monitoring program is discussed in section 4.8.3.2 of the permit. Point of compliance wells are in place.

Surface Water Impacts

Surface water flow and quality are monitored in the Flume System, Johnson Gulch, No Name Gulch, Ute Gulch, Pyeatt System, Oak, Gulch, Horse Gulch and Deal Gulch. Generally, Johnson, No Name East Pyeatt and Middle Flume gulches exhibit flow over the course of the year. The most noticeable change in surface water quality resulting from mining activities constitutes increased levels of total dissolved solids (TDS). TMI expects higher TDS in some surface water runoff for a few years after reclamation in an area. Increased TDS levels occur periodically when the contribution from precipitation and snowmelt is at a minimum (base flow conditions).

Conductivity, TDS and major constituents tend to increase as the ground water contribution comprises a larger portion of flow. For a detailed analysis of surface water impacts, the 2021 Annual Hydrology Report, Section 2.5 of the permit presents the most current information.

Leachate that may discharge from the toe of the Horse Gulch Fill probably will cause an increase in the dissolved solids content of natural stream flows in Horse Gulch. Rain or snowmelt provides most natural surface water flows in Horse Gulch. Although loading of Horse Gulch surface flows with dissolved solids from the fill would be a local impact, it does not rise to the level of material damage because use or potential use is not likely to be impaired. An exceedance of an instream standard in Horse Gulch is unlikely because leachate from the fill will probably be alkaline (like all other Trapper leachates) and is not likely to contain high concentrations of the inorganic or metals constituents for which there are numeric standards in Horse Gulch.

Ground Water Impacts

The 2023 Annual Hydrology Report (AHR), Section 2.5 of the permit presents the most current information regarding springs and seps at TMI. Appendix B presents ground water quality data from 2012 through 2022. Flow from the springs and seeps is shown on Table B-2. A CD submitted with the AHR provides all historical data.

The NPDES permit #C0-0032115 issued by the Colorado Department of Public Health and Environment describes water quality monitoring requirements. Pit dewatering occurs in L, N Pits, and well dewatering in the G Pit wells. All pit water is routed to NPDES drainage systems with discharges monitored at the approved outfall. Dust suppression for the main haul road consumes most of the water yielded from dewatering activities. Currently a number of the listed outfalls encompass Phase III bond released areas and therefore are no longer subject to DRMS monitoring requirements.

IV. Topsoil

Soil information can be found in Section 2.6, Volume II and Section 4.9, Vol. IV.

The Division previously granted a variance from topsoil removal in accordance with Rule 4. 06.2(2)(a). Specific areas which the operator will not strip topsoil are limited to rocky areas which occur over limited areas throughout the mine area. Each area approved is handled separately as a minor revision to the permit and no general variance is currently approved.

V. Sealing of Drilled Holes and Underground Openings

Sealing of wells, holes, and other openings is discussed in permit Section 3. 3, Vol. III.

The Division requires each hole, well, or other underground opening be capped, sealed, backfilled or otherwise managed as per Rule 4.07.3.

VI. Use of Explosives

The blasting plan, as well as other items related to blasting, are discussed in permit Section 3.4, Vol. III.

The Division approved blasting at times other than those described in the blasting schedule due to unavoidable hazardous situations. These situations include elimination of misfires, adverse weather, equipment failure, and safety related reasons (4.08.3(2)(b)(v) and (4.08.4(2))).

TMI proposed proposes removing a seismic monitoring unit as L-Pit continues to move away from the archeological site (5MF948) for the remainder of the mine life. Previously, TMI conducted a study of possible damage resulting from the use of explosives and proposed a monitoring/mitigation plan of archeological site 5MF948. In 2015 an Instantel Micromate Seismic Vibration monitoring unit was installed to provide monitoring at the site. To date, hundreds of seismic events have been recorded without exceeding the seismic threshold. Present operations in the L-Pit are now more than 2,400 feet from the site. TMI requested to cease seismic monitoring for this specific purpose with PR12. After analyzing TMI's data DRMS finds TMI's proposal to remove the seismic monitoring unit and end monitoring reasonable and approves of the reduction in monitoring.

VII. Disposal of Excess Spoil

Permit section 3. 5.3, Vol. III of the application discusses disposal of excess spoil.

In accordance with TR106 and Appendix T, the K-Pit Buttress Fill is no longer required. The Horse Gulch Fill is described in Appendix T and inspected in accordance with Rule 4.09.1(11), and meets the definitions and regulations associated with valley fill and head of hollow construction. The Horse Gulch underdrain and runoff diversions were constructed in accordance with Rules 4.09.2(2), 4.09.3(1), and 4.09.2(7). The slope stability analysis for the Horse Gulch Fill demonstrates that the fill is designed to meet rules (4.09.1(7)) and (4.09.2(1)).

VIII. Coal Mine Waste Banks

No specific approvals are granted to the applicant under this section.

IX. Coal Mine Waste

No specific approvals are granted to the applicant under this section.

X. Backfilling and Grading

Backfilling and grading are discussed under Section 3.5, Vol. III of the permit application.

- 1. The applicant is bonded for a maximum of four (4) spoil ridges at any time within each pit area. Reclamation has historically been, and is proposed for completion, at approximately the same rate as disturbance of any new ground (4.14.1).
- 2. Trapper committed to a minimum safety factor of 1.5 to ensure long term global stability in both the L and Ash Pits, exceeding the minimum requirements (4.12.2 and 4.27.3)
- 3. The Post Mine Topography Map (Map M12) is a permit requirement in permit section 3.5.3.
- 4. During PR9, TMI requested a variance for backfilling and grading portions of the L and Ash Pits to the approximate original contour in accordance with Rule 2.06.5. Based on a stability

analysis provided by TMI with (PR9), they demonstrated that based on unique combinations of steepness of the pit floor, spoil thickness, spoil saturation, and the presence of a weak shale/clay layer in the floor of the pit, steep slopes for the final cut of the L Pit and Ash Pit should be identified as any slope over 16 degrees. For PR12, TMI proposed a modification of this variance and the post-mining contours in L pit, comprising a shift to the east. The proposed shift was found to be applicable to the original proposal when hydrology and sedimentology were reevaluated by DRMS. A stability analysis was again performed by DRMS and found conservative. Therefore, these areas qualify for a variance from the requirement to backfill and grade to the approximate original contour under the steep slope mining provision for the PR12 permitting action. The findings required for a variance in accordance with Rule 2.06.5 and Rule 4.27.4 are discussed below in the Operations on Steep Slopes, Section XX of this document.

XI. Revegetation

The Division previously approved Trapper's revegetation plan as set forth in permit Section 3.6, Vol. III of the application.

- 1. The applicant uses introduced species in the reclamation seed mix and submitted information illustrating the desirability and necessity of introduced species in achieving the approved post-mining land use illustrating that these species are not poisonous or noxious (4.15.2). In conjunction with Trapper's years of reclamation experience, Trapper has reduced the number of introduced species in the seed mixes utilized at the site. DRMS found the seed mix adjustments acceptable.
- 2. Methods to measure species diversity, woody plant density, herbaceous cover and production are discussed in permit section 4.4.1, Volume IV. Seed mixes and revegetation practices are designed to meet diversity standards set forth in the permit. The applicant will reestablish shrubs on Range Sites A and B by including various native shrubs in the seed mixes and by transplanting mature woody shrub clumps. There is no shrub density standard for Range Site C. (4.15.7(1)).

XII. Post-mining Land Use

Post-mining land use is discussed under Section 4.2, Vol. IV of the permit application.

Cropland, rangeland and wildlife habitat are currently approved post-mining land uses. These land uses meet the criteria of Rule 4.16.3.

XIII. Protection of Fish, Wildlife and Related Environmental Values Section 4. 6 of Vol. IV of the permit application discusses the protection of fish, wildlife and related environmental values.

Wildlife habitat is a planned post-mining land use. The applicant selected appropriate plant species and distributions to benefit fish and wildlife (4.18(4)(i)).

XIV. Protection of Underground Mining

Highwall mining occurs concurrently with surface mining operation at the Trapper Mine in

compliance with Rule 4.19.

XV. Subsidence Control

No specific approvals are granted to the applicant under this section.

XVI. Concurrent Surface and Underground Mining

No specific approvals are granted to the applicant under this section (Rule 4.22).

XVII. Auger Mining - Rule 4.23

Auger of highwall mining is planned in the C, I, J, L and N pits. Subsidence is not anticipated with any highwall mining activities at the site. Trapper is not currently aware of any abandoned or active underground mine workings in any of the pertinent coal seams in the proposed highwall mining areas. In the event abandoned or active underground mining operations are identified, no highwall mining will be conducted within 500 feet of previous workings in the applicable seams. Trapper is also not aware of any dwellings, buildings, tanks, impoundments or utilities overlying areas planned for highwall mining. Design criteria established by Agapito Associates Inc. will be utilized to ensure long-term stability of highwalls and mining areas based on seam and overburden thickness. Access to highwall miner entries will be blocked or buried within 30 days following coal extraction.

XVIII. Operations on Alluvial Valley Floors

Operations on alluvial valley floors (AVFs) are discussed in Section 4.8.4 of Vol. IV of the permit application.

1.	Yampa River	2.	Williams Fork River
3.	No Name Gulch	4.	Johnson Gulch
5.	Pyeatt Gulch	6.	Flume Gulch

The above alluvial valleys would meet the regulatory definition of an alluvial valley floor (AVF) if the valleys had water availability sufficient for flood-irrigated agricultural activities [Section 1.04(10)], or availability of water sufficient for sub-irrigated agricultural activities [Section 1.04(10)]. Flood irrigation is practiced on the valley floors of the Yampa River in the Big Bottom area and the Williams Fork River near its confluence with the Yampa. Based on the presence of unconsolidated stream-laid holding streams with water availability sufficient for flood-irrigated agricultural activities, the following two alluvial valleys have been determined to be alluvial valley floors:

- 1. the Yampa River in the Big Bottom area
- 2. the Williams Fork River near its confluence with the Yampa River.

Map 35A and Map 52 indicate the locations of AVF well sites and the location of alluvial valley floors. The Coy well drilled into the alluvium of Flume drainage functions as a point of compliance well. Four wells are drilled into the Pyeatt alluvium, well J1 is located in the Johnson drainage alluvium and one of the three GLEV wells in the Deacon drainage reached the alluvium at the very northeast corner of the permit. This GLEV well is located downgradient of any mining to the east that may occur in the future. These wells constitute an environmental monitoring system during surface coal mining and reclamation operations continuing until release of all bonds in accordance with Rule 3 (4.24.4).

Four gulches (No Name, Johnson, Pyeatt, and Flume) are determined not to be alluvial valley floors 18

based on their absence of water availability sufficient for flood-irrigation or sub-irrigation agricultural activities.

Potential impacts to the Yampa River AVF resulting from the proposed mining operation are negligible. Generally, the Yampa River AVF receives very little of its water supply (surface and ground water) from the proposed mine area. The majority of the flow in the river and subsequent recharge to the alluvial aquifer derive from the headwaters portions of the drainage, far upstream from Trapper. The applicant states that the contribution of surface water from the Trapper mine is insignificant as per page 2-533 of the permit application.

This is substantiated by seepage, runoff, and potentiometric studies in Appendix H of the permit application. Based on the information presented by the applicant, the Division finds that proposed surface coal mining operations will not interrupt, discontinue, or preclude farming on the Yampa River AVF, nor materially damage surface or ground water quantity or quality in systems supplying the Yampa River AVF (4. 24.3(1)), (4.24.3(3), and 2.06. 8(5)(a)(ii)).

The potential for impacts from mining to the Williams Fork AVF is also negligible. The Williams Fork River is located south of the proposed mining area. Almost exclusively, spring snowmelt comprises the only surface discharge from sediment ponds in the drainages flowing towards the Williams Fork River. It is likely that much of the discharge from these ponds infiltrate into the permeable Twentymile Sandstone outcrop prior to reaching the Williams Fork River. Therefore, the Division finds that the proposed surface coal mining operations will not interrupt, discontinue, or preclude farming on the Williams Fork AVF, and will not materially damage the quantity or quality of water in surface or ground water systems that supply the Williams Fork AVF (4.24. 3(1)), (4.24.3(3), and 2.06. 8(5)(a)(ii)).

The Division finds that:

1. Proposed mining activities comply with the requirements of the Act and the Regulations with respect to alluvial valley floors, (2. 06.8(5)(a)(iii)).

2. The surface coal mining and reclamation operations will be conducted to preserve the essential hydrologic functions of alluvial valley floors outside the permit area and to reestablish the essential hydrologic functions of alluvial valley floors within the affected area throughout the mining and reclamation process (4. 24.2).

XVIII. Operations on Prime Farmland

No prime farmlands currently exist within the proposed permit area. Therefore, any specific approvals under this section do not apply.

XIX. Mountaintop Removal

No specific approvals are granted to the applicant under this section.

XX. Operations on Steep Slopes

Trapper was approved for a variance from backfilling and grading to the approximate original contour in the L Pit and in the Ash Pit with PR9 and modified with PR12. The following

summarizes the findings required by Rule 2.06.5 for the incorporation of a variance from the approximate original contour restoration requirements for steep slope mining:

- 1. TMI is not revising the post-mining land use for rangeland, wildlife habitat and cropland. The L and Ash pits will be reclaimed to support the approved post mine land use of rangeland which will support grazing as an agricultural use.
- 2. The post-mine land use established by reclamation of the L and Ash pits constitutes an equal or better economic use.
- 3. The applicant is not proposing an alternative post-mining land use whereby this is not applicable.
- 4. TMI has demonstrated the watershed of lands within the proposed permit area and adjacent areas will be improved by the operation. TMI demonstrated there will be a reduction in the total suspended solids or other pollutants discharged to the surface waters from the permit area as compared to such discharges prior to mining in the L and Ash pits.
- 5. TMI provided documentation to the landowners of the affected land associated with the variance; TMI and the Colorado State Land Board have knowingly requested, in writing, as part of the (PR9) application, that a variance be granted in A Pit.
- 6. The applicant has demonstrated that the proposed operation will be conducted in accordance with Rule 4.27.4:
 - a. The L and Ash Pits highwalls will be eliminated and backfilled with spoil and the post mine configuration will exceed the required 1.3 factor of safety as required by the rule.
 - b. The watershed control of the area shall be improved. There will not be a significant change to the post-mining watershed areas that would impact seasonal or flood flows. The sediment yield per acre, postmining in the L and Ash pits shall be less than pre- mining levels.
 - c. The land above the highwalls in the Ash and L pits will only be disturbed in compliance with the approved mining and reclamation plan as depicted on map M10A and M10B and will be necessary for the establishment of the proposed post-mining topography as shown on Map M12.
 - d. The proposed plan, if implemented as described in the permit application package should allow compliance with Rule 2.06.5.
 - e. Not applicable to this operation.
- 7. The proposed operation should allow for other requirements of the Act, Rules and this regulatory program to be met should TMI conduct the operation as proposed.

XXI. In Situ Processing

No specific approvals are granted to the applicant under this section.