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

Proposed Decision and Findings of Compliance for the

Hayden Gulch Loadout
C-1992-081

Permit Revision No. 2

November 22, 2021

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Introduction

This document is the decision package prepared by the Colorado Division of Reclamation, Mining and Safety (the Division) for the Hayden Gulch Loadout. This document includes: 1) the proposed decision to approve the permit revision application; 2) a summary which includes a history of the review of the application, a description of the environment affected by the operation and a description of the mining and reclamation plan; and 3) the written findings of compliance the Division has made as required by the Colorado Surface Coal Mining Reclamation Act. Detailed information concerning the findings of compliance can be found in the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining.

The Division has received an application for a permit revision to conduct surface coal mining and reclamation operations at the Hayden Gulch Loadout. The application was submitted by Hayden Gulch Terminal, LLC. The Loadout will be operated by Hayden Gulch Terminal, LLC. The Loadout is located on state and private lands within Routt County, Colorado. The legal description of the lands included within the permit area is:

Township 6 North, Range 88 West of the 6th Principal Meridian
Section 10 Portions of E1/2
Section 14 Portions of W1/2, SE1/4, and SW1/4
Section 15 Portions of E1/2E1/2
Section 22 Portions of NE1/4
Section 23 Portions of N1/2N1/2NW1/4
Section 24 Portions of S1/2N1/2, NW1/4

Township 6 North, Range 87 West of the 6th Principal Meridian
Section 17 Portions of SW1/4, SE1/4, and NE1/4
Section 18 Portions of SE1/4
Section 19 Portions of N1/2

Proposed Decision

The Colorado Division of Reclamation, Mining and Safety proposes to **approve,** the application for a permit revision (PR-02) for the Hayden Gulch Loadout.

The application was submitted by Hayden Gulch Terminal, LLC for the Loadout. This decision is based on a finding that the operations will comply with all requirements of the Colorado State Program as found in the Colorado Surface Coal Mining Reclamation Act, Section 34-33-101 *et seq*., C.R.S., 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. Upon submittal of acceptable surety by the applicant, the revision will be issued. The revision application, all supporting documentation and any stipulations or conditions will become a binding part of the permit.

No coal mining operations may be conducted on any Federal surface or coal until the Secretary of the Interior has approved the proposed mining plan.

Summary

The Review Process

This review consisted of a detailed review of the following document:

- The Hayden Gulch Loadout (Loadout) PR-02 application, including any stipulations and responses
- All revisions made to the permit since the last midterm (MT-6)
- The Hayden Gulch Loadout annual reclamation and hydrology reports
- Bond surety and reclamation cost estimate
- The Division findings documents and previous midterm and renewal reviews
- The Division's inspection reports
- Any notices of violations since the last permit renewal (RN-5)

The Division of Reclamation, Mining and Safety (Division) received Hayden Gulch Terminal, LLC (HGL) application for PR-2 for the Hayden Gulch Loadout on September 22, 2020. PR-02 was deemed complete on October 2, 2020. HGL published a notice of the application in the *Steamboat Pilot,* on October 2, 2020. The Division reviewed the PR-02 submittal and provided the operator adequacy items on November 24, 2020. HGL provided responses to the Division's adequacy letter on November 10, 2021. All adequacy concerns have been resolved.

No comments or objections were received regarding this application.

The Office of Surface Mining's applicant violator system (AVS) was queried on October 30, 2020 and no violations were noted. A follow-up AVS query was conducted on November 17, 2021.

The Loadout permit includes 391.20 acres. PR-02 has proposed to change the post mining land use of 170.3 acres to recreational use. Of those acres, 103.2 acres are recorded by the Division as disturbed. The remaining acres in the permit consist of 6.8 acres to remain as agricultural /hayland along Hwy 40 of which 2.3 acres are disturbed and 214.1 acres associated with the tie-across haul road (TAHR) that is planned to be transferred to Routt County as a County Road, of which 96.6 acres are disturbed.

Coal was handled and shipped from this facility through 1987. The last active use of the facility was temporary coal storage in 1992. The loadout facilities were removed, and received a bond release from the Division with SL-1 in September of 2012. The former rail spur area has been, and will continue to be, converted to a recreational trail for the use of residents and visitors to the town of Hayden under a locally managed "Tracks to Trails" program. Between 2016 and 2019, the railroad spur track and ties were removed and a parking area was constructed to access the trail. In January of 2020, the Town of Hayden entered a lease with the Hayden Gulch Terminal, LLC and Sage Creek Land & Reserve for 170.3 acres of the permitted area for recreational use. Under the lease, the Town of Hayden has substantially commenced the recreation status of the

land. The area is currently available to the public for both summer and winter recreational activities such as running, walking, snow shoeing and cross-country skiing. During the Division's inspections over the last year, the Division has noted recreational use of this area for by the public. The town of Hayden has provided a letter of intent to the Division, dated May 18, 2021. The letter states that the use of this area as recreational space is deemed acceptable by the Town of Hayden zoning designations and "will align with the intent of the Town to further develop and utilize the recreational area as part of our overall recreational master plan. The town has made sizeable plans related to the Rail Loop as well, this includes placing a dedicated budget line for the Rail Loop maintenance, contracting with vendors to manage weeds, repair fences, etc."

HGL will be donating the property proposed to be designated as recreational to the Town of Hayden. HGL will not be releasing the land to the Town of Hayden until the proposed SL-2 bond release has been issued by the Division. The SL-2 bond release application is currently under review by the Division, and will not receive a proposed decision until after the issuance of PR-02.

The Truck Loop Pond and the Rail Loop pond will remain as permanent structures. HGL will retain access to these ponds for required sampling as required by the active CDPHE discharge permit. The sediment ponds are no longer a part of the DRMS monitoring program. The ponds do not expose groundwater and are designed for the control of surface runoff. No water rights or augmentation plan are associated with these ponds. The monitoring well HGDAL3, an alluvial monitoring well, will be removed and abandoned by HGL prior to the approval of SL-02 or is to be transferred to the Town of Hayden. These changes have been reflected within the Loadout's permit application package (PAP).

Description of the Environment

The Loadout is located in Routt County, approximately two miles southeast of the town of Hayden, Colorado. The Loadout was originally a part of the Hayden Gulch Mine (CDRMS Permit No. C-1980-003), located approximately seven miles to the south of the Loadout. The permit for the Hayden Gulch Mine was terminated on October 23, 2006. Land use within and adjacent to the permit area include agricultural, rangeland, industrial/commercial, residential, and wildlife. Permit Exhibit 20-1 of the PAP identifies the PR-02 post-mining land use.

The history of the Loadout's permit is listed below.

Previous Permit

- Construction of Loadout begins — March, 1978
- Hayden Gulch Mine begins operations — August, 1978
- Hayden Gulch Company submits application for reclamation Permit for Hayden Gulch Mine and Loadout — December 16, 1980
- Division issues Permit No. C-1980-003 for Hayden Gulch Mine and Loadout — January 4, 1981
- Permit No. C-1980-003 renewed — January 4, 1987

- Coal shipping from Loadout ceases — January 13, 1987
- Permit No. C-1980-003 renewed — January 4, 1992
- Hayden Gulch Terminal, Inc. purchases Loadout from Hayden Gulch Coal Company — September 28, 1992

<u>New permit (C-1992-081)</u>

- Division receives Hayden Gulch Terminal, Inc.'s application — December 15, 1992
- Division issues Proposed Decision to Approve new permit C-1992-081 — April 22, 1993
- Permit No. C-1992-081 renewed (RN-01) — May 29, 1998
- Permit No. C-1992-081 renewed (RN-02) — May 19, 2003
- Permit No. C-1992-081 renewed (RN-03) — December 3, 2008
- Permit No. C-1992-081 renewed (RN-04) — February 11, 2014
- Permit No. C-1992-081 renewed (RN-05) — February 5, 2018

The most recent Midterm Review was completed on November 20, 2020.

No stipulations have been terminated or added to Permit C-1992-081 since the last permit renewal (RN-05). The permit has one active stipulation, attached to TR-10 as follows:

> **Stipulation 9:** *The permittee shall submit a technical revision and receive approval to the permit to establish a post-mining land use reclamation plan, measurement methodologies, and reclamation success requirements for lands associated with the Tie-Across Haul Road with the approved post-mining land use of Cropland.*
>
> *Prior to initiation of reclamation for lands associated with the Tie-Across Haul Road, the permittee shall submit a technical revision to the permit which provides a reclamation plan, sampling methodologies and reclamation success requirements for the cropland areas in accordance with Rule 2.05.4(2)(e), Rule 4.15.1(2)(c), Rule 4.15.9 and Rule 4.15.7(2). The technical revision needs to be approved prior to initiation of reclamation activities associated with the Tie -Across Haul Road cropland areas.*

HGL plans to address Stipulation 9 with a subsequent PR specifically addressing the Tie-Across Haul Road. The area of the permit associated with this stipulation is not being revised with the PR-02 proposed revisions and will remain an active stipulation.

There are no specific variances and approvals by the Division for the Loadout.

As of November 8, 2021, the Division estimates liability at the Loadout is $1,443,270. This amount is sufficient to assure completion of the remaining reclamation work at the site if the work had to be performed by the Division, including the cost of re-establishing vegetation on any revegetated areas, should those areas fail. This amount was determined using the reclamation tasks from MT-6 completed in November of 2020 and the current CIRCES estimated costs updated by the Division in July of 2021.

The Loadout and TAHR are located in the Dry Creek and Sage Creek drainages approximately two miles north of the Williams Fork Mountains. The permit area is underlain by the Lewis shale, a predominantly dark-gray to bluish, marine shale of Cretaceous age. The Lewis shale dips a few degrees generally northward into the Sand Wash Basin. The shale beds have weathered out to form gently sloping hillsides on either side of the nearly level alluvial valley floors and terraces found along Dry Creek.

Surface waters do not appear to be in hydrologic communication with the Twentymile Sandstone, a significant regional aquifer that underlies the Lewis shale. Ground water movement is described below and in Tabs 7, 14 and 15 of the PAP.

More detailed geologic information, including geologic maps and a generalized geologic cross-section, can be found in Tab 6 of the PAP.

Soils

Soils in the Dry Creek area range from clays to loams. The soils are of limited agricultural use due to high concentrations of sodium and salt. Information on soils can be found in Tabs 9 and 19 of the PAP specific findings related to soils are described in Section B, Item IV of this document.

Surface Water Hydrology

Surface water information is found in the following sections of the PAP: Tabs 7, 12, 13, 14, 15 and 16 and Exhibits 12-2, 12-3, and 12-4. A summary of this information is included below, in the Description of the Operations Plan and in Section B, Item III of this document.

The majority of the permit area associated with the Loadout drains to Dry Creek. A small, northern portion of the railroad loop drains directly into the Yampa River. Three drainages, Stokes Gulch, Dry Creek, and Sage Creek, run through the permit area associated with the TAHR. The Walker irrigation ditch crosses the northern portion of the permit area. The Yampa River lies about one mile north of the permit area.

Precipitation averages approximately 16 inches annually in the permit area and the volume of runoff is limited. Most runoff comes from snowmelt or intense thunderstorm events. Flows in Dry Creek have ranged from 0 to 126 cfs (cubic feet per second) upstream of the Loadout to from 0 to 225 cfs downstream. Two sediment ponds handle runoff at the loadout: the Truck Loop Pond usually discharges during spring snowmelt; the Rail Loop Pond has rarely discharged.

Stream flow in Dry Creek generally increases downstream although some sections are ephemeral. During the growing season, diversions of water from Dry Creek above the permit can significantly reduce and even periodically eliminate streamflow in the vicinity of the Loadout, while at the same time return flows from surrounding irrigated fields can discharge small volumes of water to Dry Creek below the Loadout.

The dominant cations in Dry Creek water are magnesium, calcium and sodium. The dominant anion is sulfate. The pH is generally around 8.2. The concentrations of the major cations, total dissolved solids, and nitrate (possibly due to agricultural return flow) increase during periods of low flow (baseflow). Total suspended solids (TSS), aluminum and total iron increase during high flows. Average values for total dissolved solids (TDS) are higher downstream than upstream of the loadout, with average values of 2,439 and 3,175 mg/l (milligrams per liter), respectively.

Please see Section B, Item III of this document for a discussion of the probable hydrologic consequences (PHC) of the Loadout on surface water quantity and quality and for a further discussion of the surface water monitoring plan. Alluvial valley floors (AVF's) are discussed in Section B, Item XIV of this document.

Ground Water

Ground water information is located in Tabs 7, 13, 14 and 15 of the PAP. A summary of this information can be found in Section B, Item III of this document, along with specific findings related to ground water hydrology.

The reclaimed coal storage and tipple area of the Loadout was situated on alluvial and colluvial materials overlying the Lewis shale. Waters from the Lewis shale are primarily calcium or sodium bicarbonate type although sulfate type water also occurs in the Lewis shale. The source of sulfate is the reduction of sulfide minerals and organic materials in the shales.

The Lewis shale has low hydraulic conductivity. It is generally considered to be an aquitard that retards transmission of surface water to the underlying regional aquifer, the Twentymile Sandstone. This low conductivity results in low well yields which, along with poor water quality characteristics, preclude the use of Lewis shale waters for use other than stock watering (Seneca II-W Permit Application, HGTI application Attachment 7-1).

The alluvial material also has relatively low hydraulic conductivity (approximately 0.1 to 0.01 feet/day) due to its high composition of silts and clays. These alluvial waters are of poor quality due to the proximity of the Lewis shale, contributions from agriculture, and the ephemeral nature of Dry Creek (although the applicant reports that water is taken from Dry Creek below the Loadout and used for irrigation).

Please see Section B, Item III of this document for discussion of the probable hydrologic consequences (PHC) of the Loadout and railroad loop on ground water quantity and quality and for a further discussion of the ground water monitoring plan.

Climate

The region is characterized by a semi-arid steppe climatic regime with cold winters and mild to cool summers. The prevailing wind is from the northwest (reversing at night due to southeasterly upslope winds). Average annual precipitation is 16 inches and the growing season

in the region is approximately 94 days. Climatic information was collected from Hayden Station, one mile away, and the Seneca II-W Mine, six miles south of the loadout.

More detailed climatic information can be found in Tab 8 of the PAP.

Vegetation

Baseline vegetation information is found in Tab 10, Exhibits 10-1 and 10-2 of the PAP. Land Use of the area is depicted on Exhibit 4-1

Existing vegetative communities within the permit area consist primarily of dryland pasture, improved pasturelands, and native rangelands. A detailed list of vegetation types is discussed in Tab 10 of the PAP. Pasturelands that were disturbed during construction of the Loadout have been revegetated to intermediate wheatgrass, crested wheatgrass, western wheatgrass, slender wheatgrass, Russian wildrye, timothy, alfalfa, and yellow sweet clover. Undisturbed native rangelands are dominated by sagebrush, greasewood, and rubber rabbit brush communities. These latter plant species tend to be adapted to alkaline soils.

Land Use

Land use information is found in Tab 4 and Exhibit 4-1 of the PAP. Regional land use patterns are shown in Figure 1, Tab 4 of the PAP. Specific findings regarding land use are described in Section B, Item XI of this document.

Land uses in the permit area and surrounding area are primarily agricultural, rangeland, industrial (a regional airport and Routt County maintenance facility), and wildlife habitat. Land is farmed along the north margin of the railroad spur and south of the Loadout facility, with winter wheat being the primary crop. Most of the disturbance associated with the construction of the Loadout occurred in areas historically utilized for crop production; however, they were taken out of production and seeded with introduced grasses prior to the construction of the Loadout.

Historically, grazing pressure has been heavy in the Dry Creek drainage and adjacent alkaline shrublands. A portion of the permit area is lightly grazed. A variety of wildlife species use the rangeland and seeded cropland areas. The Yampa Valley Airport is located one-quarter mile northeast of the permit area. The Loadout currently has a special use permit and is in compliance with the land use plans of both Routt County and the Town of Hayden. Portions of U.S. Highway 40 and Routt County Road 37 cross the permit area.

Postmining land uses will consist of recreation, livestock grazing on pasture land and rangeland, as well as wildlife habitat and cropland.

Wildlife

Detailed information on matters relating to fish and wildlife issues is found in Tabs 11 and 21 and Exhibit 11-1 of the PAP. A summary of that information is found both here and in Section B, Item XII of this document (along with findings relevant to fish and wildlife issues).

Four habitat types have been distinguished and described for the permit area: 1) aquatic areas associated with streams and impoundments, 2) saline/alkaline shrublands, 3) saline/alkaline meadows and 4) areas disturbed as a result of construction of the Loadout, abandoned croplands and lands improved for pasture. Lists of possible species of mammals, birds, reptiles and amphibians, of non-critical concern, have been constructed using distribution lat/long studies developed for the State of Colorado.

As a part of the TR10/RN4 application, HGL provided updates regarding threatened and endangered species and a discussion concerning the potential impacts to current State and Federal Threatened and Endangered plant and animal species.

A biological inventory of stream bottom fauna for Dry Creek was conducted in association with the permit application for the nearby Seneca II-W Mine (Permit C-1982-057). All listed threatened or endangered species in the area, as well as other species of concern, have been referred to in the PAP and their habitat requirements and potential for occurrence described (as requested by both the Division and USFWS). For information on protection afforded to Dry Creek's aquatic community and any threatened and endangered species and other species of concern possibly present, please refer to Section B, Item XII of this document.

Cultural Resources

Information on cultural resources can be found in Volume 1, Tab 5 of the PAP. A finding of no impact can be found in Section A, Item 5 of this document.

Description of the Loadout Operation Plan

Detailed information on the Loadout Operation Plan is found in Tab 12 of the PAP. Reclamation activities associated with the Loadout and rail loop are described in Tabs 16-20 and 23 of the PAP; and in Section B of this document.

Construction of the Loadout and rail loop began in 1978 and coal was shipped to market from the facility until spring of 1987. Coal was again stored at the Loadout beginning late in 1992. All remaining coal material has been removed and coal is no longer stored on site.

Technical Revision No. 5 (TR-5), approved July 24, 2000, allowed for utilizing the Loadout to off-load coal from incoming rail cars. Technical Revision No. 6 (TR-6) provided additional detail for load-in operations. The facilities approved in TR-6 were never constructed. The load-in facilities were approved to handle 2,000,000 tons of coal per year. Coal would have been hauled by truck along the TAHR to the Hayden Power Station. Prior to utilization as a load-in facility, HGL would have needed to construct support facilities as approved in the permit during TR-6. Air emissions permits would have been required to be renewed with the Colorado Air Pollution Control Division prior to implementation of "load-in" operations. Water control systems and sediment ponds throughout the permit area were appropriate for the load-in operation. The existing roads would be utilized for the load-in operations with the addition of a new haul road approved under TR-6.

HGL operated the loadout facility as discussed above, and was permitted to store up to 50,000 tons of coal at the Loadout and ship 1,000,000 tons of coal per year. In the summer/fall of 2011, HGL initiated reclamation of the facilities area. The load-in facilities were never constructed and the Loadout facilities were demolished and removed from the site. The affected area was graded, topsoiled and seeded. The Division granted Phase I bond release at the site during SL1.

Two existing sediment ponds (and associated NPDES outfalls) act as sediment control for the runoff from the Loadout area: the Truck Loop Pond (Pond A, NPDES Outfall 006) which received runoff from the truck loop and office area and the Rail Loop Pond (Pond B, NPDES Outfall 007) which received runoff from the coal crushing, storage and tipple areas. A system of ditches diverts freshwater around the disturbance and another system of culverts and ditches conveys water under roadways and to the sediment ponds.

Sixteen small area exemptions are permitted for the three topsoil stockpiles (TS-1, a portion of TS-2, and TS-3) associated with the Loadout, and six topsoil stockpiles (A, C, D, E, F, and G) and a temporary waste stockpile associated with the TAHR outside the sediment control system. A small area exemption has been approved for the electrical substation located in the northwest corner of the facilities area. The Office/Parking Lot/Leach field has been approved as a small area exemption. HGL has demonstrated that due to the revegetation efforts of the disturbance associated with the railroad loop, the peak settleable solids concentration is below the water quality effluent standard. The rail loop is considered as a small area exemption. Two additional areas designated as Areas 1 and 2 identified on Exhibit 12-2 in the PAP have been granted a small area exemption. A small area exemption has been granted for the H-G Shallow Well No. 1 and associated pipeline corridor.

Water Consumption

Water utilized for dust suppression, showers and other operations at the Loadout was piped in from a well in the Yampa River alluvium (H-G Shallow Well No, 1), located two miles north of the Loadout. HGL owns the water rights for H-G Shallow Well No. 1 well, including additional 90-acre feet of water rights in the downstream Walker Irrigation Ditch. These water rights were to be used to compensate any downstream users due to consumption of water at the Loadout. H-G Shallow Well No. 1 was abandoned and sealed in November of 2011 when the facilities area was reclaimed. An abandonment report is found in Appendix 7-4 of Tab 7 in the PAP. According to Hayden Gulch Terminal, LLC personnel, water utilized for dust suppression on the TAHR is supplied by the Hayden Power Station. Please refer to Volume 2, Tab 21 of the PAP and Sections A, Item 15 and B, Item XII of this document.

Waste Disposal

There is no acid-forming or toxic-forming waste generated at the Loadout. All non-coal waste has been disposed of offsite. All necessary measures have been taken to insure that all materials used at the Loadout do not impact surface or ground water systems.

Description of the Reclamation Plan

The reclamation plan for the Loadout is found in Tabs 16 through 20 and 23 of the PAP.

Backfilling and Grading

Facilities have been removed during reclamation. Drilled holes and underground openings will be closed when no longer needed for approved mine operations. No coal was mined at the site; therefore, there is no acid-forming or toxic forming coal mine waste being generated at the site to dispose of. Processed coal was shipped from the site and all debris and coal fines were buried with a minimum of four feet of nontoxic, noncombustible material during the process of backfilling and grading. This material was then covered with topsoil to facilitate vegetative growth and prevent contamination of surface and groundwater.

The facilities area was returned to approximate original contour representative of the topography that existed prior to construction of the Loadout. No streams were, or are proposed to be, relocated as a result of the operation.

The TAHR was originally included in the Seneca II-W permit (C-1982-057). The road is currently approved to remain un-reclaimed until year 2030.

Topsoil Handling and Revegetation

Suitable topsoil was stripped prior to construction of the Loadout in 1978. Topsoil will be salvaged from any future ground disturbance.

Topsoil will be replaced on areas disturbed by construction or operation to a minimum depth of six inches. Approximately 55,100 cubic yards (34.2 ac-ft) of topsoil were salvaged prior to loadout construction for this purpose and stored in three topsoil piles located in the permit area. Approximately 117,289 cubic yards (73.1 ac-ft) of topsoil were salvaged for replacement on the TAHR. Vegetative cover was established on these piles to aid in stabilization of the resource.

Three permanent separate seed mixes and one temporary stabilization seed mix are permitted to establish three separate communities: dryland pasture, improved pasture, and rangeland. The seed mixes proposed incorporate native and site-adapted species with several introduced species being included. In pastureland designations, this is necessary for the utility of the lands. The introduced species proposed for the rangeland areas are a low percentage of the entire mix, generally exhibit quick establishment, or have nitrogen-fixing characteristics.

Due to the narrow configuration of the area to be reclaimed as rangeland, the proximity of concentrated shrublands, and the creation of "edge" effect, the Division will not require reestablishment of woody plants on rangeland sites.

A fifth seed mix was approved for the reclamation of portions of the Tie-Across Haul Road. Exhibit 20-2 of the PAP depicts portions of the Tie-Across Haul Road to be revegetated as cropland using small grains.

Findings of the Colorado Division of Reclamation, Mining, and Safety for the Hayden Gulch Loadout

Explanation of Findings

Pursuant 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 demonstrate 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 and specific approvals required by Section 2.07.6(2)(m) and Rule 4 are listed in this document in the same order as they are listed in Rule 4, and are organized under subject or discipline subtitles.

These findings were reevaluated and updated from the previous findings document to reflect changes which have occurred since the approval of Permit Renewal No. 5 (RN-5) on February 5, 2018. 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 Section 2.07.6

1. The permit application is accurate and complete. All requirements of the Act and the Regulations promulgated thereunder 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 Hayden Gulch Loadout (2.07.6(2)(b)).

3. The assessment of the probable cumulative impacts on the hydrologic balance by all anticipated coal mining in the general area, as described in 2.05.6(3), has been made by the Division. This assessment, titled Yampa River Cumulative Hydrologic Impact Assessment (CHIA), is available for inspection at the Division's Denver office. The Tie-Across Haul Road (TAHR) was approved as part of the Seneca II-W permit through TR-02 (June 23, 1989). Eleven revisions of the Yampa River CHIA have occurred since the approval of the TAHR, with May 4, 2010 as the most recent revision. The TAHR was removed from the Seneca II West permit with the approval of PR6 (January 6, 2012), and incorporated into the Loadout permit with the approval of PR1 (November 28, 2011). The Division finds that the operations proposed in the application have been designed to prevent damage to the hydrologic balance outside the permit area. Please refer to Section B. III of the PAP for additional discussion of the probable hydrologic consequences of the Loadout (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));

A public notice for PR-2 was published on October 2, 2020. The public notice included information that the proposed permit area crosses US Highway 40 and Routt County Road 37. The public notice provided the opportunity for written comments, objections, and requests for a public hearing within thirty (30) days of the publication. No comments, objections, or requests for a public hearing were received within the thirty day comment period.

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. Information pertaining to cultural and historic resources can be found in Tab 5 of Volume 1 of the revised PAP.

On the basis of information submitted by HGL in the form of a 1980 records and file search of known historical sites, as well as letters of concurrence from the Colorado Historical Society (November 11, 1992 and again on December 12, 2002 for RN2) and Bureau of Land Management, Little Snake Field Office (November 18, 1992 and again on February 3, 2003 for RN2), the Division finds that, subject to valid existing rights as of August 3, l977, the mining operation will not adversely affect any publicly owned park or place listed on or eligible for listing in the National Register of Historic Places as determined by the State Historic Preservation Office (2.07.6(2)(e)(i)).

6. For this Loadout, rail loop operation, and haul road, the private mineral estate has been severed from the private surface estate. The permittee is not proposing to mine coal within the permit boundary. (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, based on information received from the Office of Surface Mining Applicant Violator System, operations owned or controlled by HGL do 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)).

   AVS was checked on October 30, 2020 and no outstanding enforcement actions were reported nor were there any problems noted with the ownership and control information. AVS was rechecked on November 17, 2021.

8. HGL 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 intent not to comply with the provisions of the Act. (2.07.6(2)(h)).

9. 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)).

10. The Division has determined the total bond liability for the site is $1,443,270.

11. The Division has made a negative determination for the presence of prime farmland within the permit area. The decision was based on a letter from the Soil Conservation Service that demonstrates that no prime farmland mapping units are found within the permit area. This letter is dated April 13, 1978 and can be found in Volume 1, Tab 9, Attachment 9-3 of the PAP (2.07.6(2)(k)).

12. Based on information provided in the application, the Division has determined that alluvial valley floors exist within or adjacent to the permit area. The alluvial valley floors are known as the Dry Creek and Sage Creek Alluvial Valley Floors (2.07.6(2)(k) and 2.06.8(3)(c)).

    For additional information concerning the presence of alluvial valley floors along Dry Creek and Sage Creek, please see Volume 1, Tab 7 of the PAP and Section B, Item XIV of this document.

13. The Division hereby approves the post-mining land uses proposed for this operation. It was determined that the proposed postmining land uses, recreation, grazing lands (consisting of

dryland pasture, improved pasture, and rangeland),wildlife habitat, and cropland meet the requirements of Rule 4.16 for the permit area (2.07.6(2)(1)).

14. Specific approvals have been granted or are proposed. These approvals are addressed in the following section, Section B. (2.07.6(2)(m)).

15. Both the Colorado Parks and Wildlife (formerly Colorado Division of Wildlife) and the United States Fish and Wildlife Service (USFWS) were notified of PR-2. Their comments were requested regarding potential impacts to threatened and endangered species. No responses were received.

    The Division finds that the activities proposed by the applicant would not affect the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitats (2.07.6(2)(n)). Please refer to Section B, Item XII of this document for details.

16. The Division has contacted the Office of Surface Mining, Reclamation Fees Branch. As of this time, HGL is current in the payment of reclamation fees required by 30 CFR Chapter VII, subchapter R. (2.07.6(2)(O)).

Section B

The following findings and specific approvals are required by Rule 4.

I. Roads - Rule 4.03

Information on roads is presented in Volume 2, Tab 12 and Exhibit 12-1 of the PAP. The only road within the permit boundary is the 4.1 mile TAHR. The railroad spur is approximately 3.3 miles long and begins 0.3 miles from the town of Hayden; it served as a connection to the existing Denver and Rio Grande Railroad (see Exhibit 12-1, "Facilities Map" of the PAP). Haul road HGLF-HR1 and the access road were reclaimed in 2011 to the approved post mining topography. A partial phase I bond release including reclamation of the HGLF-HR1 and access road was approved on July 27, 2012. The remaining TAHR and parking lot will be reclaimed to AOC and revegetated unless retention of a road is approved as part of the approved post-mining land use, the road complies with all applicable performance standards, and the landowner requests in writing to the Division that the road (or a segment of it) is to be left open for further use.

The TAHR was designed and constructed during 1989 in preparation for coal haulage in 1990 from the Seneca II-W Mine area to the Hayden Station Power Plant. The TAHR was originally approved as part of the Seneca II-W Permit No. C-1982-057 and was transferred to HGL as a part of PR1.

The TAHR begins at the junction of the former location of HGLF-HR1 haul road (station 25+90) located at the original entrance gate and proceeds approximately 4.1

miles easterly to the intersection with Routt County Road 51B on the coal haul road entrance to the Hayden Station.

The acreage of the TAHR is separate from the backfill and grading schedule and reclamation schedule. The road is currently approved to remain in place until year 2030.

II. Support Facilities - Rule 4.04

Information on mine support facilities is found in Volume 2, Tab 12 of the PAP. A summary is found in the Summary Section of this document under "Description of Operations and Reclamation Plan." Specific findings for Rule 4.04 are not applicable.

III. Hydrologic Balance - Rule 4.05

Volume 3, Tabs 13, 14 and 15 of the HGL permit application includes a hydrologic monitoring program, a description of how the hydrologic balance will be protected and an assessment of the probable hydrologic consequences of the proposed operation. Each year, HGL assesses the ongoing impacts to the hydrologic system in its annual hydrologic report. The probable hydrologic consequences as set forth in Volume 3, Tab 15 are summarized below. The small area exemption sites are listed in Volume 12, Tab 12 of the PAP.

A. Water Quality Standards and Effluent Limitations

Receiving stream standards for the Yampa River and its tributaries have been set by the Colorado Department of Health in their publication, "Classification and Numeric Standards for Upper Colorado River Basin and North Platte River (Planning Region)". Dry Creek is within segment 12 of the Upper Colorado River sub-basin and basin. Colorado Department of Health NPDES (National Pollution and Discharge and Elimination System) limitations on discharge and the Division's standards for determining material damage to the hydrologic balance ("Division Procedures for the Assessment of Material Damage with Respect to Alluvial Valley Floors, the Cumulative Hydrologic Impact Assessment and Subsidence at Coal Mines") are based in part on these standards.

l. Most disturbed area drainage passes through one of two existing sediment ponds (some disturbed area drainage passes through SAE's, described in # 2 below). Discharges from these ponds are monitored to verify compliance with water quality standards and effluent limitations (4.05.2(2)).

2. The Division has approved sixteen small areas (SAE's) to be exempted from the use of sediment ponds due to the limited size of areas and due to the fact that ponds and treatment facilities are not necessary for the drainage to meet the effluent limitations of Rule 4.05.2 and applicable State and Federal water quality

standards for receiving streams. These areas have also been exempted because no mixing of surface drainage with a discharge from underground workings will occur. Three small area exemptions are permitted for the three topsoil stockpiles (TS-1, a portion of TS-2, and TS-3) associated with the loadout and six topsoil stockpiles (A, C, D, E, F, and G) and one temporary waste stockpile (TWS) associated with the TAHR outside the sediment control system. The remaining SAEs consist of the rail loop, drainage from an electrical substation located at the previous office trailer location, the office/parking lot/leach field, two areas designated as "areas 1 and 2" on Exhibit 12-2 of the PAP, and H-G shallow well and associated pipeline corridor. Documentation of these exemptions is found in Volume 12, Tab 12 of the permit application (4.05.2(3)(b)(i)).

B. Diversions and Conveyance of Overland Flow

All diversions within the permit area are designed and constructed in accordance with Rule 4.05.3. Designs are discussed in the text and diversion locations are displayed in Exhibit 12-1 and Exhibit 12-2 of Volume 2, Tab 12 of the PAP (4.05.3).

C. Stream Channel Diversions

No stream channels are proposed to be permanently diverted.

D. Sedimentation Ponds

Two sediment ponds are in place as previously approved by the Division and have been treating disturbed area surface water runoff under the existing permit for the Loadout. These ponds are the Truck Loop Pond (Pond A) and Railway Loop Pond (Pond B). The Truck Loop Pond was fitted with a separate secondary spillway in 1992 (a separate secondary spillway was not necessary for the Rail Loop Pond due to the size and configuration of its single spillway). Designs for these ponds are included in Volume 2, Tab 12, Appendix 12-1 and locations of the ponds are displayed on Exhibit 12-2 of the PAP.

E. Acid-forming and Toxic-forming Spoil

No coal is being mined at the site; therefore, there is no acid-forming or toxic-forming spoil. Prior to backfilling the site, all debris and coal fines were disposed of in a manner that prevented contamination of surface and ground water

F. Impoundments

No impoundments other than two sediment ponds are proposed.

G. Surface and Ground Water Monitoring

Information on Surface and Ground Water Monitoring is found in Volume 3, Tab 13 of the PAP.

Ground Water Monitoring Plan

l. The applicant will conduct monitoring of ground water in a manner approved by the Division. Baseline data was collected in 1977 and 1978 with construction of the facility beginning in 1977. No ground water monitoring wells are associated with the TAHR. The ground water monitoring plan currently in operation at the loadout consists of taking samples in the spring and fall from wells HGDAL 3 and HGDAL 4. Well HGDAL 3 is completed in Dry Creek alluvium downstream from the Loadout facilities. HGDAL 4 is completed in shallow alluvium upstream of the Loadout adjacent to Dry Creek, below the confluence of Stokes Gulch and Dry Creek (4.05.3(l)). The list of parameters analyzed for both wells is found in Table 13-2 of Tab 13 of the PAP.

Ground Water Points of Compliance

Rule 4.05.13 requires establishment of groundwater points of compliance if, in the judgment of the Division, the operation has the potential to negatively impact the quality of ground water for which quality standards have been established by the Water Quality Control Commission. Groundwater points of compliance are unwarranted at the Loadout, as discussed below.

Alluvial Ground Water – Dry Creek alluvial ground water in the area down-gradient from the main surface disturbance of the Loadout can be classified as "Limited Use and Quality" based on natural TDS concentration being consistently above 10,000 mg/l in alluvial ground water well HGDAL-3. Ground water classified as "Limited Use and Quality" has limitations for only radioactive or organic pollutants. The Loadout is not likely to generate significant amounts of radioactive or organic pollutants; therefore, the operation does not have the potential to negatively impact the quality of ground water in the Dry Creek Alluvium.

Bedrock Ground Water – The Loadout does not have the potential to negatively impact bedrock ground water quality due to the fact that any leachate originating from the Loadout would lack sufficient hydraulic head to significantly invade the bedrock unit underlying the area (low permeability Lewis shale). This marine shale confines aquifer units in the underlying Mesaverde Group (Scott and Kaiser, 1994, Hydrologic Survey Resources Series 30, page 63). Several hundred feet of Lewis shale separate the Loadout from the deeper Mesaverde Group. As a loadout (rather than a mine), the operation will have no deep excavations or deep impoundments where water could develop significant hydraulic head. In addition, any leachate originating at the Loadout would likely be of better quality than

native ground water in the Lewis shale which has high concentrations of dissolved solids.

Surface Water Monitoring Plan

2. The applicant has conducted, and will continue to conduct, monitoring of surface water in a manner approved by the Division. The current monitoring regime began in 1985 one year before shipments ceased at the HG Loadout, was submitted under Rule 2.05.6(3)(b)(iv) and consists of the following (4.05.l3(2)):

Two surface sites are monitored in the spring and fall to sample high (snowmelt) and low water (base flow) conditions. Sites HGSD1 and HGSD3 were planned to sample conditions upstream and downstream of the loadout, respectively, along Dry Creek. The list of parameters sampled is found in Table 13-1 of Tab 13 of the PAP.

In addition to the monitoring discussed above, the operator is required to monitor discharges from two NPDES discharge points (sediment ponds) as required by the mine's NPDES permit.

H. Transfer of Wells

No transfer of wells is proposed.

I. Discharge of Water into an Underground Mine

No surface water will be discharged into underground mine workings (4.05.15).

J. Stream Buffer Zones

The PAP for the Loadout discusses buffer zones on pages 3 - 4 in Tab 14, but references the old version of Rule 4.05.18. The rule changed in March 2001, and the PAP will need to be updated to reflect the change in the rule (The old language of the rule requires buffer zones for perennial streams or streams with a biological community; in the revised language the rule applies to perennial, intermittent, or ephemeral streams with drainage area greater than one square mile).

The PAP calls for buffer zones for Dry Creek and Sage Creek. The PAP does not discuss the need (or lack of need) for buffer zones along other creeks, such as Stokes Gulch and Grassy Creek. It is unclear if these other creeks are large enough to warrant having buffer zones. A buffer zone assessment of these creeks may be required and the discussion would be added to the PAP. Any assessment must consider the updated rule, which requires some ephemeral streams to have a buffer zone.

Exceptions to the buffer zone rule are listed for Dry Creek (railroad crossing and Pond 2) and Sage Creek (Tie-Across Haul Road). These have been accepted by the Division.

No Loadout activities are permitted to take place within 100 feet of Dry Creek or Sage Creek with the exception of:

1. The Rail Loop
2. The tracks and right of way for railway loop
3. Loadout facilities water line
4. Electric substation
5. TAHR

1. The Division approved surface mining activities within 100 feet of a perennial stream with a biological community. This decision was based on a finding that the original stream channel will be restored, water quality and quantity will not be adversely affected as a result of the disturbance, and appropriate riparian vegetation will be reestablished upon final reclamation. (4.05.18(1).

K. Probable Hydrologic Consequences

The probable hydrologic consequences of mining within the Loadout permit area are addressed within Volume 3, Tab 15 of the PAP. The permittee's statement of hydrologic effects has been reviewed by the Division for compliance with Rule 4.05.1 and 2.05.6(3).

1. Surface Water Impacts

Surface water runoff from the Loadout area passes through one of two sedimentation ponds. Discharges from these ponds are subject to effluent limitations identified in HGL's NPDES permit. The existing ponds have performed adequately and no discharges in excess of NPDES effluent limits have been reported to date.

Concentrations of total dissolved solids (TDS) are four times higher for water coming from the Rail Loop Pond than water from the Truck Loop Pond; however, TDS concentrations coming from the ponds are generally less than ambient concentrations in Dry Creek upstream. Existing water quality in Dry Creek is unsuitable for irrigation and only marginally suitable for livestock.

The majority of the runoff from the rail loop, as well as the runoff from the three small area exemptions in the Loadout area, is not treated; however, runoff from these sources passes through a vegetative filter and does not appear to affect water quality. No adverse impacts from mining operations were projected in the HGL PAP and none have been observed to date.

Runoff from the Loadout area that is not diverted around the area of disturbance is retained in sedimentation ponds for a maximum of 36 hours. Water retained in the two sedimentation ponds experiences some losses through evaporation and seepage. The Dry Creek diversion downstream could potentially be impacted by loses of water due to storage in the sediment ponds.

The acreage served by the two sediment ponds accounts for less than one-thousandth of the acreage drained by Dry Creek. Since the area to be affected is a fraction of the total watershed, the watershed will not be significantly affected and runoff from the permit area will continue to reach Dry Creek.

All waters utilized for dust suppression and other operations at the Loadout were piped in from a well in the Yampa River alluvium (H-G Shallow Well No. 1), located two miles north of the Loadout. H-G Shallow Well No. 1 was sealed in 2011. HGL owns an additional 90 acre-feet of water rights in the downstream Walker Ditch, which are not currently being utilized. Facilities have been dismantled in 2011, and the remaining office trailers were removed from the site in 2013. Plumbing to the trailer was dismantled during the removal of the office trailers.

These water rights were to be utilized to compensate any downstream users for loss of water due to consumption at the Loadout. In addition, HGL has an agreement with the United States Fish and Wildlife Service (USFWS) to mitigate against losses of water to the Yampa River as a result of water consumption at the Loadout. Please refer to Volume 3, Tab 21 of the PAPand Item XII of this document.

2. Ground Water Impacts

The Lewis shale has low conductivity values and is generally considered to be an aquitard that retards transmission of surface water to the Twentymile Sandstone, the underlying regional aquifer. This low conductivity unit results in low well yields that preclude the use of waters from the Lewis shale for other than stock watering (See Seneca II-W Permit, C-1982-057, Tab 7 of the PAP). Water samples from the two existing alluvial wells at the Loadout, which are completed in part in the underlying Lewis shale, often exceed water quality standards for stock watering. Operations at the Loadout should not impact this ground water.

Alluvial waters are of poor quality and may be unsuitable for use in irrigation. Leachate from coal stockpiled at the Loadout could have potentially infiltrated the alluvium and added dissolved chemical loads to the Dry Creek alluvial aquifer; however, impacts to Dry Creek alluvial water quality have been minimal due to the size of the operation and the

composition of the coal. Alluvial ground water monitoring was conducted utilizing wells installed prior to 1993 by the previous operator, HG Coal Company. Well HGDAL1 was completed in the alluvium up gradient of the Loadout and well HGDAL2 was located down gradient of the Loadout. Based on concerns by the Division that wells HGDAL1 and HGDAL2 may have been completed in the Lewis shale rather than the Dry Creek alluvium, two addition wells were constructed. In October of 1993, the HGDAL3 well was constructed down gradient from the rail loop to assure that potential ground water impacts from the Loadout could be assessed and in November of 2005, while well HGDAL4 was completed up gradient from the Loadout. Wells HGDAL1 and HGDAL2 were sealed in September of 2007 in accordance with Rule 4.07.3(3).

The Lewis shale is an aquitard and should not be significantly affected by any additional waters that might contribute to the site as a result of operations at the Loadout. Water used at the site is drawn from the Yampa River alluvium. It is conceivable that waters seeping from sediment ponds and from the operations leach field may contribute additional water to Dry Creek's alluvium, but is not expected to be significant.

Pursuant to Rule 2.07.6(2)(c), the assessment of the probable consequences of the proposed mining operation and the assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance, as described in Rule 2.05.6(3), have been made. The proposed operation has been found to be designed to prevent material damage to the hydrologic balance outside the permit area.

IV. Topsoil

Information regarding soil resources and salvage may be found in Tab 9, Tab 17, Tab 19, Attachments 9-1, 9-2, 9-3, 9-4, and Exhibits 9-1 and 9-2 of the PAP.

A. The Loadout and railroad spur were constructed from 1977 to 1979. These facilities were previously permitted under Permit No. C-80-003. Topsoil was stripped from the facilities site, railroad spur, and railroad loop, and stockpiled. All suitable A horizon topsoil and some upper B horizon subsoil material was salvaged.

Existing topsoil stockpiles were inventoried in November 1992 to confirm volumes and suitability of stockpile material. Results of this inventory are located in Attachment 9-1 of the PAP. Approximately 55,100 cubic yards of soil material have been stockpiled. Analyses of the stockpiled material indicate elevated SAR and increased salinity levels at lower depths of topsoil piles #1 and #3. Due to these factors, somewhat less than the 55,100 cubic yards of the stockpiles topsoil material will be redistributed on disturbed areas during reclamation of the facilities area. This volume will allow for replacement depths of 6 to 9 inches

over 54 acres of disturbance. In regards to the Tie-Across Haul Road, approximately 9 inches of topsoil will be spread of this disturbed area.

Three soil mapping units were identified during a Soil Conservation Service survey. They consist of Spicerton variant, an unnamed soil type occurring along the first terrace of Dry Creek, and Morapos soil types. The Spicerton variant soil exhibits elevated SAR values below 1-inch depth and high EC levels below 8 inches. The Spicerton variant soils are not recommended for topsoil salvage. The Morapos soils (7C) and the unnamed soil mapping unit (5AI) have loamy to silty clay loam textures and no limiting characteristics in the surface horizons. The Morapos soil is salvageable from 0- to 9- inch depths while the unnamed soil is suitable for topsoil salvage from 0 to 24 inches. An addition soil mapping unit, an additional Morapos soil type (7B), is identified for TAHR soil salvage.

Topsoil replacement occurred once facilities were dismantled and the land re-contoured to blend with the surrounding topography in 2011. DRMS verified topsoil replacement thickness during an April 26, 2012 inspection. Seven holes were hand dug with a shovel on the topsoiled area. This area was found to have a mean topsoil replacement thickness of 14.5 inches. Topsoil replacement thickness of 6 to 9 inches is approved in the PAP.

The sediments ponds will remain as permanent structures, the rail loop has had all rail ties removed and will be transferred to the town the town of Hayden as recreational use. Structures that will remain following reclamation include Routt County Road 37, the sediment ponds, topsoil piles associated with the rail loop and ponds, and rail loop ballast.

No specific approvals are being granted concerning topsoil removal, storage and redistribution.

V. Sealing of Drilled Holes and Underground Openings

Sealing of wells, holes, and other openings is discussed in Tab 23, Attachment 23-3 of the PAP.

HGL sealed wells 22772-F, HGDAL1, and HGDAL2 in 2007. Well abandonment reports were submitted to the Division by HGL in November 2007. HG Shallow Well No. 1 was sealed in November 2011. The well abandonment reports are located in Appendix 7-14 of Tab 07.

A. The Division will require that each hole, well, or other underground opening be capped, sealed, backfilled, or otherwise properly managed (4.07.3).

VI. Use of Explosives

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

VII. Disposal of Excess Spoil

No specific approvals are granted to the applicant under this section

VIII. Coal Mine Waste

There was no coal mine waste generated by the proposed operations at the Loadout. Crushing and sizing operations were conducted at the Loadout; however, all coal was loaded onto trains or trucks and transported from the site.

A small temporary waste storage (TWS) pile has been previously permitted on the north side of the TAHR. This TWS pile was located west of the intersection with an access road to the Mesa Gravel Pit (Exhibit 13-11.5 of the PAP).

IX. Backfilling and Grading

Backfilling and grading is discussed under Tabs 17, 18, and 23 of the PAP.

Backfilling and grading operations will return the disturbed area associated with the Loadout to the approved post-mining topography in conjunction with the closure and final reclamation of the facility.

The truck and train loading structures were dismantled, removed and the facilities and coal stockpile area regraded in 2011. Backfill and grading of 11.9 acres of the facilities area was approved for Phase I bond release with SL1, July 27, 2012.

The TAHR was originally included in the Seneca II-W permit (C-1982-057). The acreage is separate from the backfill and grading schedule and reclamation schedule of the facilities located at the load out. The road is currently approved to remain in place until year 2030.

X. Revegetation

Vegetation baseline information can be found in Tab 10 with plant community types identified on Exhibit 10-1 of the application. Revegetation plan information and methods to be utilized in determinations of revegetation success are addressed in Tab 20 and Exhibit 18-1.

Post-operational revegetation plans correspond with existing and surrounding vegetative communities. Dryland cropping of small grains, dryland pasture, improved pasture, and native rangelands exist both on the permit area and in the general vicinity of the loadout. Soils associated with the Dry Creek drainage tend to be alkaline clay loams and loams. Plant species found in the area are adapted to saline and alkaline conditions.

Approximately 70 acres were revegetated with a temporary seed mix following construction of the loadout and rail loop facilities (1978). Plant species present in the revegetated areas

include intermediate wheatgrass, crested wheatgrass, western wheatgrass, slender wheatgrass, Russian wildrye, timothy, alfalfa, and yellow sweet clover.

Adjacent and undisturbed lands tend to have a high incidence of shrubs. Heavy use by livestock grazing has aided in the increase of shrub densities. Postmining vegetation communities will be: dryland pasture, improved pasture, cropland and rangeland. Due to the narrow configuration of the area designated as rangeland (approximately 200-250 ft wide), no woody plant density standard will be imposed on the rangeland area. The Division has received confirmation from the Colorado Division of Wildlife in a letter dated March 10, 1993 that the absence of a woody plant component in the rangeland area would not be detrimental to wildlife use and would increase the "edge" effect along adjacent shrublands.

Four seed mixes will be used in the Loadout area. Each mix has been formulated for adaptation to a particular land use and location for which it will be planted. HGL proposes to include an introduced legume, alfalfa, in the rangeland seed mix. The Division proposes to approve the use of a less aggressive species of alfalfa, such as Medicago falcata, in small quantities in the seed mix.

An additional seed mixture is approved for a portion of the TAHR: Seed mix No. 5. Seed mix No. 5 is designated for reclaimed lowland/meadow areas within the TAHR corridor. The mix has been designed for the wet saline or alkaline conditions and heavy textures soils which are likely to be present within this area. In particular, the western end of the TAHR corridor and many of the drainages were wet and saline/alkaline prior to construction of the TAHR. Given the uncertainty of the future of the Tie-Across Haul Road and the unknown cropping needs in 2030 when this road is designated to be reclaimed, the following stipulation was added to the permit:

> Stipulation No. 9: Prior to initiation of reclamation of the Tie-Across Haul Road, the permittee must submit and receive approval of a technical revision to update the revegetation plan for the cropland areas to comply with Rule 2.05.4(2)(e). This plan must include a description of the measures proposed to be used to determine revegetation success for the cropland area in accordance with Rule 4.15.7(2) and Rule 4.15.9.

Drill seeding will be the preferred method of planting. Broadcast or hydroseeding will be employed where steep slopes or small areas limit accessibility of the seed drill. Mulching will be achieved by use of a cover crop of winter wheat or barley. HGL has found that the use of straw mulch introduces undesirable weedy species into the reclaimed area and will thus not be required. 12.7 acres were reseeded at the facilities area in 2011.

Revegetation success will be monitored qualitatively through visual observations. Quantitative sampling shall occur in the 3rd and 6th years after reclamation (2014 and 2017) for cover, species, production, and woody plant density.

Reclamation success will be determined by comparison with associated reference areas. Cover in the reclaimed areas will be estimated by the point-intercept method and shall be deemed acceptable if it is greater or equal to 90% of the cover in the appropriate reference

area with 90% statistical confidence. There are four approved reference areas; Dryland pasture, Improved pasture, Rangeland and Meadow. The locations of the reference areas are shown on Map 20-1 in the PAP.

Vegetation production will be measured by harvesting 1/2 m^2 to 1 m^2 plots in both reclaimed and reference areas. If production in the reclaimed area is 90% or more of the production of the associated reference area at a 90% statistical confidence, it shall be deemed acceptable.

Neither dryland nor improved pasture designations will be required to meet a species diversity standard since post-operational land use will be for agricultural use. The rangeland areas will be differentiated by either upland rangeland or lowland rangeland. Upland rangeland will establish 5 perennial grasses with 50% or greater frequency each. Three of these grasses will contribute greater than 1% relative cover. A minimum of two forbs will be established with an occurrence of 50% or greater. At least one shrub will be established with a frequency of 10% or greater. On lowland rangeland, six grasses shall be established each with 50% or greater frequency (with four of the grasses contributing more than one percent relative cover each). A minimum of one forb, with greater than 50% frequency, will be present in the lowland rangeland type.

Species diversity in the reclaimed areas along the TAHR corridor will be concentrated on the herbaceous component. The shrub component will rapidly reestablish naturally from the surrounding undisturbed vegetation. In the low sagebrush vegetation type associated with the TAHR, baseline studies identified three grasses with relative cover greater than three percent. No forbs with relative cover values of three percent or more were found in the baseline study. Thus, a minimum of three grasses will be established and each will contribute relative cover values of three percent or greater. Each species will not exceed 40 percent relative cover and the total of the three species will not exceed 75 percent relative cover. In addition, two forbs and one shrub will be established, but no relative cover values are specified.

In the meadow vegetation type of the TAHR, four grasses contributed relative cover greater than three percent in baseline studies. No forbs contributed relative cover values of three percent or more, and shrubs were not a notable component of the type. A minimum of four grasses each will contribute relative cover values of three percent or greater in the reclaimed plant communities. In addition, one forb will be established. Each species will not exceed 75 percent cover. Species diversity will not be evaluated on areas of the TAHR corridor returned to cropland.

Cool season species are expected to dominate due to the environmental conditions of the permit area. Species chosen in the seed mixes reflect cool season adaptations. Three warm season species are included in the rangeland mix.

Grazing will be permitted on the reclaimed areas with careful and proper management. Fencing will be installed to reflect logical management units.

Based on the information in the revegetation sections of the permit, the Division makes the following findings

A. The Division approves the use of certain introduced species in the reclamation seed mix. The applicant has submitted information which shows that the introduced species are desirable and necessary to achieve the approved post-mining land use of range and wildlife use and that the introduced plants are not poisonous or noxious (4.15.2).

B. The Division approves the use of cover crops as a means to meet soil stabilization requirements (4.15.4).

C. Methods to measure herbaceous cover and production, species diversity, and woody plant density are discussed in Tab 20 of the permit application. These techniques include the use of comparisons to reference areas to set standard for total cover, herbaceous productivity and species diversity. The Division has approved these techniques (4.15.7(1)).

D. Comparisons between reclaimed and undisturbed areas, in order to demonstrate that success criteria of 4.15.8, 4.15.9, or 4.15.10 have been met, will be based on the following values: 1) total cover, 2) herbaceous productivity, 3) species diversity, and 4) frequency (4.15.7(2)(d)).

E. The Division approves of the reference areas which the applicant has selected based on the requirements of Rule 4.15.7(3).

F. The reference areas will be utilized to determine revegetation success in a manner which the Division finds acceptable (4.15.7(4)). Four reference areas have been approved; Dryland pasture, Improved pasture, Rangeland, and Meadow reference areas.

G. The Division finds that the use of woody plant density standard is not appropriate for dryland pasture, improved pasture or rangeland portion of the Loadout, as discussed previously in this section (4.15.8(7)). Woody plant density will not be evaluated as a reclamation success standard within the haul road corridor.

XI. Post-mining Land Use

The Division finds that the revised post-mining land use to recreational areas met the regulations defined under Rule 4.16.3 Alternative Land Uses and the definition described under Rule 1.04.71(g) at the time the application was received and found complete by the Division. 1.04.71(g) defined “Recreation” land use of land for non-intensive public or private leisure-time uses, such as hiking, canoeing, and other undeveloped recreational uses.

The post-mining land use is discussed under Tab 20 and Exhibit 20-1 of the PAP. The town of Hayden entered into a lease in January of 2020, with the Hayden Gulch Terminal, LLC

and Sage Creek Land & Reserve for 170.3 acres of the permitted area for recreational use. Under the lease, the Town of Hayden has substantially commenced the recreation status of the land. The area is currently available to the public for recreational activities and has been incorporated into the towns' plan and budget for recreational areas.

XII. Protection of Fish, Wildlife and Related Environmental Values

Tabs 11, 21 and Exhibits 11-1 and 11-1A of the PAP discuss the protection of fish, wildlife and related environmental values.

The Loadout was originally permitted in 1981 in conjunction with the HG Mine (Permit C-1980-003). A comprehensive biological inventory was not conducted at the HGL during that period or since. The applicant has, however, done site reconnaissance at the site and referenced regional studies of the area.

In lieu of a comprehensive inventory, both the applicant and the Division have undertaken extensive consultation with the United States Fish and Wildlife Service (USFWS) and the Colorado Division of Wildlife (CDOW). This review of fish and wildlife concerns proceeded with the approval of both agencies. A biological assessment by the Division was forwarded to USFWS on February 25, 1993 as requested.

Measures for protecting fish and wildlife resources are incorporated into the permit beginning on page 2, Tab 21 of the permit application. These measures include but are not limited to 1) limiting additional disturbance to soils and vegetation, 2) prevention of the discharge of hazardous substances, 3) installing raptor protection on new transmission facilities, 4) adoption of a no firearms policy 5) compensation to the USFWS for depletion of waters to the Yampa River and 6) prompt reporting to the Division of any discovery of critical habitat or species of concern.

XIII. Protection of Underground Mining

There are no current or historic underground mining within the permit area.

XIV. Operations on Alluvial Valley Floors

The permit area and adjacent lands contain two stream channels – Sage Creek and Dry Creek– with enough associated alluvium to be considered as potential alluvial valley floors. Both channels cross the permit area as well as adjacent area. The permittee's alluvial valley floor analysis is contained in Tab 14 of the PAP.

Below is a detailed consideration of the alluvial valley floor potential of each of the following two drainages: Dry Creek and Sage Creek.

Evidence of vegetation and surface water quality at the loadout seems to suggest that the alluvial valley floor and surface water within the permit area is unsuitable for flood

irrigation or subirrigation of hay or other field crops. However, based upon information included in the PAP (including mapping of alluvial deposits, agricultural fields located below the rail loop which may be subirrigated, and alluvial waters from Dry Creek apparently being used to irrigate hay fields downstream) and previous findings by the Division for the Seneca II-W Mine concerning Dry Creek, those portions of Dry Creek mapped as alluvial deposits will continue to be designated as part of the Dry Creek alluvial valley floor.

The loadout has existed on the Dry Creek valley floor since early 1978. The area of the valley floor affected by the disturbance comprises approximately 4% of the area of unconsolidated alluvial deposits in the valley. None of the disturbance impinges upon the area of irrigated agriculture indicated by the applicant. No further disturbance is planned for this operation. Because of the small area involved and because the disturbance is contained with a sediment control system, the operation will have no significant effect on the integrity of surrounding agricultural activity.

Impacts on surface water quality due to disturbances at the loadout will be minimal due to the size of the permit area with respect to the surface area drained by Dry Creek. Furthermore, data provided by the applicant indicates that coal stockpiled at the loadout does not contain any chemical constituents at high enough concentrations to be of concern with respect to contamination of surface water. Surface water effects will be monitored during and after mining by surface monitoring stations on Dry Creek upstream and downstream of the disturbance to verify this conclusion.

A. The Division has determined that an alluvial valley floor exists within the affected or adjacent area. Therefore, the following findings are in order for the alluvial valley floor located on Dry Creek and Sage Creek.

1. The Division finds that activities proposed by the applicant will not interrupt, discontinue, or preclude farming on the alluvial valley floors that are irrigated or naturally sub-irrigated (4.24.3(1)).

   The only mining related activity which would interrupt farming on an alluvial valley floor is the TAHR which has already been completed.

2. The proposed activities will not materially damage the quantity or quality of water in the surface or ground water system described above (4.24.3(3) and 2.06.8(5)(a)(ii)).

   Due to the extremely limited acreage of proposed disturbance within the Sage Creek watershed, and the fact that regional ground water flow is to the west, the potential for material damage to the quality or quantity of water supplied to the AVF is negligible. No measurable impacts to the quantity or quality of water supplying the Sage Creek AVF are projected.

3. The proposed activities will comply with the requirements of the Act and the Regulations with respect to alluvial valley floors (2.06.8(5)(a)(iii)).

4. 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.