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

Proposed Decision and Findings of Compliance for the

New Horizon North Mine
C-2010-089

Permit Renewal No. 2

April 29, 2022

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Table of Contents

Introduction

This document is the decision package prepared by the Colorado Division of Reclamation, Mining and Safety (the Division) for the New Horizon North Mine. This document includes: 1) the proposed decision to approve the renewal application; 2) a summary which includes a history of the review of the permit 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 renewal to a permit to conduct surface coal mining and reclamation operations at the New Horizon North Mine. The application was submitted by Elk Ridge Mining and Reclamation, LLC. The mine will be operated by Elk Ridge Mining and Reclamation, LLC. The mine is located on private lands within Montrose County, Colorado. The legal description of the lands included within the permit area is located on the USGS 7.5 minute Nucla Quadrangle map:

Township 47 North, Range 16 West, New Mexico Principal Meridian
Section 25: W 1/2
Section 36: Portions of the NW 1/4 and the NW 1/4 NW 1/4 SW ¼

The permit area of the New Horizon North Mine consists of 234.6 acres.

Revisions to the Permit

The following revisions have been submitted since the last midterm review of the New Horizon North Mine permit application package.

Minor Revisions: MR30; approved 8/9/2020, updated the certificate of insurance.

MR31; approved 8/4/2021, updated the certificate of insurance.

Technical Revisions: TR22; approved 3/12/2020, TR22 provided an updated as-built for pond NHN-001.

TR23; approved 3/23/2020, TR23 approved removal of lining in the NHN-001 east ditch.

TR24; approved 4/15/2021, TR24 approved a reduction in surface and groundwater monitoring.

Permit Revisions There have been no new permit revisions since February 2018.

Surety Releases SL3; ERMR submitted an application for a partial Phase II and a partial Phase III bond release on 1/20/2022. The Division conducted a bond release inspection on February 24, 2022. Due to a snowstorm the preceding day and the day of the bond release inspection, portions of the bond release request area were difficult to observe. The Division continued the inspection on March 16, 2022, in order to observe those areas that had been covered with too much snow at the time of the February inspection. The Division is currently evaluating the SL3 application.

Status of Stipulations

There are no stipulations currently attached to the New Horizon North Permit.

Enforcement Actions

There have been no enforcement actions for the New Horizon Mine in the past three years.

Proposed Decision

The Colorado Division of Reclamation, Mining and Safety proposes to approve an application for permit renewal.

The application was submitted by Elk Ridge Mining and Reclamation, LLC for the mine. 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, 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. Upon submittal of acceptable surety by the applicant, the permit will be issued. The permit 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.

The New Horizon North Mine is currently is reclamation status and is no longer mining coal. No new disturbances, and no new mining activities are proposed with this permit renewal application.

Summary

The Review Process

The initial permit application was submitted on September 28, 2010 by Western Fuels-Colorado, and assigned application number C-2010-089. The application was deemed complete on October 26, 2010. The Division proposed its decision to approve the permit application on May 4, 2012 and the permit was issued on June 20, 2012. The operator's name for the New Horizon North Mine (NHN) changed from Western Fuels-Colorado (WFC) to Elk Ridge Mining and Reclamation, LLC (ERMR) with the approval of SO-1, approved October 3, 2016. References to WFC will be used in this findings document for historical purposes.

Since the permit was issued on June 20, 2012, 61 revisions to the permit have been submitted. These revisions consist of: 2 Permit Revisions, 1 Succession of Operator, 24 Technical Revisions and 31 Minor Revisions, and 3 Bond Release applications. The following is a short description of each.

Permit Revision

PR-1 removed the East and Northwest haul roads, installed the North haul road and South access road, revised the post mining topography, revised the post mining land use configuration, updated irrigation designs and updated culverts and stockpile locations. PR-1 was issued on December 13, 2016.

PR-2 approved a change to the post mining land use and irrigation system configuration on Garvey & Co Property. The topsoil handling plan, revegetation plan and irrigation design will also be changed to accommodate the revised post mining land use. PR-2 was issued on March 20, 2018.

Succession of Operator

SO-1 changed the name of the operator from Western Fuels-Colorado, LLC to Elk Ridge Mining and Reclamation, LLC. SO-1 was issued on November 3, 2016.

Technical Revisions

TR-1 incorporated the as-built configuration and the professional certification for Sediment Pond NHN-001 into the permit. TR-1 was issued on May 23, 2013.

TR-2 updated the overburden blasting section of the permit to include information related to pre-blast surveys and the use of explosives at the site. TR-2 was issued on August 6, 2013.

TR-3 incorporated two small areas (4.73 acres) for a pond outlet ditch, an access road and a pad for a pump. TR-3 was issued on September 17, 2013.

TR-4 incorporated the as-built configuration for collection ditches NHN-001 East and NHN-001 West. TR-4 was issued on October 15, 2013.

TR-5 incorporated groundwater monitoring wells GW-N56, GW-N57, GW-N58, modified mine facilities and haul road construction. TR-5 was issued on May 28, 2014.

TR-6 updated the design of Pond NHN-002, Pond NHN-002 ditches, surface water monitoring plan, pit limits, and due date for the Annual Reclamation Report. TR-6 was issued on November 18, 2014.

TR-7 updated the as-built information for the East and West Ditches of Pond NHN-001. TR-7 was issued on December 9, 2014.

TR-8 incorporated the construction certification for the Southeast Haul Road. TR-8 was issued on August 11, 2015.

TR-9 changed the inlet location of the north ditch into Pond NHN-002. TR-9 was issued on March 31, 2015.

TR-10 incorporated the as-built certification for Pond NHN-002. TR-10 was issued on October 6, 2015.

TR-11 incorporated responses to adequacy questions raised in the midterm review. TR-11 was issued on January 26, 2016.

TR-12 updated the blasting performance standards. TR-12 was issued on February 9, 2016.

TR-13 incorporated a new design for the upper segment of the NHN-001 East ditch. TR-13 was issued on August 23, 2016.

TR-14 incorporated a new dryland pasture reference area, updated interim vegetation monitoring schedule and updated seed mixtures. TR-14 was issued on June 27, 2017.

TR-15 updated the post mining topography and CCC 2nd Park Lateral pipeline location. TR-15 was issued on May 30, 2017.

TR-16 approved removal of the facilities area north of Meehan Draw including Pond NHN-003 and ditches, the North Haul Road, ground water monitoring wells, Pond NHN-002 north ditch, and updated the post mining topography. TR-16 was issued August 7, 2018.

TR-17 approved redesign of Ponds NHN-001 and NHN-002 to facilitate reclamation of their excess storage capacity. TR-17 was issued on August 7, 2018.

TR-18 approved reduction of the permit boundary by 94.1 acres on areas that had not been disturbed or affected by mining activities. TR-18 was issued December 4, 2018.

TR-19 updated the as-built map and appendix to reflect the downsizing reconstruction of Ponds NHN-001 and NHN-002. TR-19 was issued February 5, 2019.

TR-20 updated section 3.02.2 to reclamation cost estimate and bond schedule information and remove outdated references to Western Fuels-Colorado and New Horizon No. 1. TR-20 removed maps and an appendix from the permit that were no longer relevant. TR-20 was issued August 13, 2019.

TR-21 revised the water monitoring plan to remove two surface water monitoring sites. These two sampling sites were outside the permit area, and no longer relevant to the reduced permit area. TR-21 was issued November 12, 2019.

TR-22 proved an updated As-Built certification for Pond NHN-001. TR-22 was issued March 31, 2020.

TR-23 approved removal the east ditch liner in Segment 6 of the ditch. TR-23 was issued April 7, 2020.

TR-24 revised the surface and groundwater monitoring program at New Horizon North Mine. TR-24 was approved May 4, 2021.

Minor Revisions

MR-1 incorporated the Air Pollution Control Division's Compliance Order on Consent. MR-1 was issued on November 2, 2012.

MR-2 proposed to incorporate the As-Built configuration and professional certification for Sediment Pond NHN-001. MR-2 was withdrawn on January 30, 2013.

MR-3 proposed to add a new Section 2.05.3(6)(a) - Overburden Blasting to the permit. MR-3 was withdrawn on March 7, 2013.

MR-4 incorporated a Substitute Water Supply Plan into the permit. MR-4 was issued on April 10, 2013.

MR-5 updated the reclamation cost estimate and mine facilities sections of the permit to incorporate a water well. MR-5 was issued on June 18, 2013.

MR-6 incorporated a Compliance Order on Consent issued by the Air Pollution Control Division. MR-6 was issued on May 17, 2013.

MR-7 incorporated four well permits into the permit. MR-7 was issued on July 19, 2013.

MR-8 incorporated Construction Permit No. 10MO2275F into the permit. MR-8 was issued on August 26, 2013.

MR-9 updated the steepness of the side slopes for overburden and topsoil stockpiles. MR-9 was issued on September 4, 2013.

MR-10 proposed to install groundwater monitoring wells GW-N56, GW-N57, and GW-N58, modify mine facilities and haul road construction. MR-10 was withdrawn on October 29, 2013.

MR-11 changed irrigation designs, and incorporated Air Permit No. 10MO2275F. MR-11 was issued on January 24, 2014.

MR-12 updated identification of interests. MR-12 was issued on February 20, 2015.

MR-13 updated the reclamation cost estimate. MR-13 was issued on May 21, 2015.

MR-14 updated seed mix #3. MR-14 was issued on June 5, 2015.

MR-15 changed the mining timing within the already approved mining area. MR-15 was issued on September 3, 2015.

MR-16 removed the coal stockpile limit of 10,000 tons. MR-16 was issued on February 24, 2016.

MR-17 proposed to update the identification of interests. MR-17 was withdrawn on July 20, 2016.

MR-18 added a spring seeding window of April 1 to May 31 for the dryland pasture. MR-18 was issued on April 7, 2017.

MR-19 incorporated two permit stipulations into the permit application text. MR-19 was issued on May 18, 2017.

MR-20 extended the 180-day requirement for completion of backfill and grading, and updated the reclamation timetable and air pollution control permit. MR-20 was issued on July 10, 2017.

MR-21 updated the Air Pollution Control Permit, updated Section 2.05.3(4), and addressed the movement of Bench 1 material on the Garvey property to accommodate the installation of the CCC Ditch pipeline. MR-21 was issued on October 3, 2017.

MR-22 provided updates to the Personal Injury and Property Damage Insurance documents. MR-22 was issued on October 3, 2017.

MR-23 provided updates to Map 2.04.7-9 and Map 2.05.4(2)(e)-1 to show the final location of the CC Ditch Company 2nd Park Lateral pipeline. MR-23 was issued on March 21, 2018.

MR-24 provided updates to Map 2.05.4(2)(d)-2 and the topsoil redistribution plan. MR-24 was issued on March 1, 2018.

MR-25 provided updates to Appendix 2.03.9-1 Personal Injury & Property Damage Insurance Certificate. MR-25 was issued on July 31, 2018.

MR-26 provided updates to Section 2.03 Legal, Financial, Compliance and Related Information to consolidate changes made in the RN-1 and TR-18 applications. MR-27 was issued on December 17, 2018.

MR-27 updated Map 2.05.4(2)(d)-2 to document the locations of the topsoil and overburden stockpiles. MR-27 was issued on December 19, 2018.

MR-28 approved retention of a water well and three power poles as permanent structures at the former facilities area at the request of the landowner. MR-28 was issued on July 1, 2019.

MR-29 updated Appendix 2.03.9-1 with a new liability insurance certificate. MR-29 was issued on August 6, 2019.

MR-30 updated a new certificate of insurance for New Horizon North Mine. MR-30 was issued on August 7, 2020.

MR-31 provided an updated certificate of liability insurance. MR-31 was issued on August 9, 2021.

Bond Releases

Three bond release applications have been submitted for the New Horizon North Mine.

SL-1 approved a partial Phase I, II and III bond release of 3 hydrological monitoring wells that were successfully plugged and abandoned. No acreage was associated with the liability release of these sealed monitoring wells. The Division released $4,049.55 of reclamation bond liability associated with the sealing and abandonment of the three wells. SL-1 was issued on January 22, 2019.

SL-2 approved a partial Phase I bond release on 120.2 acres on dryland and irrigated pasture on property owned by Garvey and Co, LLC. SL-2 was issued on August 13, 2019, and released phase I liability in the amount of $2,221,087.89.

SL-3 Elk Ridge Mining and Reclamation has applied for a partial Phase II bond release on 118.6 acres of irrigated pasture and dryland pasture, and Phase III bond release on 3.7 acres of a reclaimed sediment control structure. SL-3 is currently under review by the Division.

Description of the Environment

The NHN permit area encompasses a total of 234.6 acres in western Montrose County, approximately three miles northwest of the town of Nucla. The NHN facilities and operations

areas occupy approximately one-half square mile of land that is bounded by Montrose County Z Road on the North, AA Road on the South, 26.50 Road on the East and 26.00 Road on the West.

Land Use – Section 2.04.3 of the permit

The Garvey property is dominated by grazing land-reclamation across its southern extent. This area was mined and reclaimed to dryland pasture by Peabody/WFC as the Nucla Mine, C-1981-008. There are some minor inclusions of subirrigated land, where irrigation water has been allowed to flow across the surface. The northeast corner was an area of grazing land–sagebrush. The contour of this site lies above the elevation of the Second Park Lateral of the Colorado Cooperative Company (CCC) Ditch, with the result that the area has never been irrigated. The northwestern portion consisted largely of the intensively managed irrigated pasture land use, and some irrigated pasture.

The Meehan property is bisected by "Meehan Draw", which flows from east to west across the property. South of Meehan Draw, the majority of the area falls within the irrigated pasture land use category, due to its proximity to the Second Park Lateral Ditch located uphill to the south. Meehan's land to the north of the Draw has not been improved, and is classified as grazing land sagebrush. Land use within Meehan Draw is classified as grazing land – subirrigated.

The Glasier property was a blend of land uses: irrigated pasture in the northwest, dryland pasture (where older irrigation structures have not been recently used and were in disrepair) in the center, and grazing land-sagebrush in the west. The "Glasier Draw" drainage, identified as grazing land-subirrigated, crossed the northwest corner of the Glasier property, and was not disturbed by mining operations. The Glazier property was not mined or disturbed by mining activities and was removed from the permit area with the approval of TR-18. This paragraph is retained for historical reference.

Cultural and Historic Resources – Section 2.04.4 of the permit

Lands in the vicinity of the NHN have previously been the subject of at least three formal cultural resource investigations, which are illustrated on Map 2.04.4 of the application. In 1979, the southern portion of the permit area was surveyed for the initial permitting of Peabody's Nucla Mine. A second survey was conducted in 1984 for a series of coal exploration drill holes. History Colorado records indicate that a third survey was conducted in 1985, for exploration holes located within and to the east of the proposed permit area. The majority (approximately 80%) of the surface within the permit area has been previously disturbed by either coal mining or agricultural development. An additional 9% is dominated by wetlands. The State Historic Preservation Officer (SHPO) determined that a finding of "no historic properties affected" was appropriate for the proposed activities.

Geology and Topography – Sections 2.04.5 and 2.04.6 of the permit

The NHN is located three miles northwest of the town of Nucla, in Western Montrose County, Colorado. The mine area lies within the southeastern section of the Colorado Plateau Physiographic Province. The region is characterized by broad, fairly smooth surfaced sandstone

plateaus and mesas, with gently dipping slopes dissected by deep canyons. Elevations at the site range from 5,790 feet (MSL) in the northeast corner of the permit area to 5,540 feet (MSL) at the southern end of the equipment corridor, for a total topographic relief of 250 feet. Permit Map 2.04.5-1 illustrates the topography and geology of the area surrounding the area to be mined.

Structurally, the NHN site is located near the axis of the northwest-trending Nucla Syncline. This syncline is a shallow, broad, structurally simple fold bounded by gently dipping flanks. The syncline rests between the Uncompahgre Uplift to the northeast and the Paradox Valley Anticline to the southwest. Strata within the permit area strike at N 26° W, and dip at approximately 2° westward. The Lower Dakota (LDx) Seam is mined along with the upper seam when it is available and of sufficient quality. Overburden thicknesses range from approximately 10 feet near "Meehan Draw" to slightly over 90 feet at the former Nucla Mine highwall that was exposed when mining began. A general columnar geologic section is provided in the permit application with Figure 2.04.6-1.

Ground Water - Sections 2.04.5 and 2.04.7 of the permit

Topography, lithology, and structural trends each play a principal role in controlling the quality, quantity and flow characteristics of the regional ground water regime in the direct vicinity of the NHN area. The geology of this region is complex. Consequently, the ground water system is difficult to interpret. Understanding the effect the NHN may have on the local and regional ground water supplies relies on understanding the regional and local ground water systems. A general discussion of the regional groundwater conditions is provided in the permit document and summarized here.

Topography is the principal element governing shallow aquifers (100 feet) in this region. Topographic highs act as recharge areas, and lows along streams serve as discharge areas during periods of high water table. In alluvial and other unconsolidated material, ground water moves from high topography to low. This also appears to be the case for the unconfined portions of sandstones in the Dakota and Burro Canyon formations.

Lithology governs the aquifer characteristics including water yielding ability and the chemical quality of the ground water. The lithology of the NHN area is extremely variable. Shallow aquifers of the area consist of unconsolidated valley deposits of the Quaternary system and the stratigraphically variable sandstone, shales and coals of Cretaceous Age (Dakota, and Burro Canyon Formations). Deeper aquifers consist of the varicolored Morrison Formation and the Entrada Formation, both of Jurassic Age.

Structural control on the shallow ground water in the area, i.e., upper Dakota Sandstone and alluvium, appears to be insignificant. Deeper formations, such as the lower Dakota, Burro Canyon, Morrison, and Entrada Formations, whose ground water is under artesian pressure, exhibit piezometric surfaces that conform to structural influence. Water table conditions commonly exist in shallow alluvial aquifers along the larger streams, in principal recharge areas, and in the relatively flat-lying rocks that dominate certain sections of the region. Artesian conditions occur locally throughout the region but are prevalent in the bedrock aquifers of the major structural basin.

ERMR currently conducts water level and water quality monitoring at 9 groundwater hydrologic monitoring wells (GW-N50 through GW-N58). ERMR also monitors ground water at the New Horizon Mine (C-1981-008), which is 0.8 miles south of NHN and is operated by ERMR.

Springs and Seeps

Three springs were defined within and in close proximity to the southern part of the NHN permit area by Peabody at the old Nucla Mine (see Map 2.04.7-1). These three spoil springs, identified as SS#1, SS#2 and SS#3, were monitored from 1983 through 1987. The water quality and flow data are contained in Appendix 2.04.7-2. These springs are totally dependent on ditch irrigation and would not exist without it. According to ERMR, these spoil springs are still flowing. There are no naturally occurring springs within the NHN permit boundary.

Surface Water- Sections 2.04.5 and 2.04.7 of the permit

The permit area of the NHN is divided north-south by the 2nd Park Lateral of the CCC Ditch, which runs east-west across the natural drainage divide in the central portion of the permit area. Within the permit area, there are two unnamed perennial draws, referred to as Meehan, and Nygren Draws. Meehan Draw is in the northern portion of the permit area, and Nygren Draw is in the southern portion. Meehan Draw flows to the west, converges with another unnamed draw to the northwest of the permit area, and then flow north via an unnamed draw to Coal Creek Canyon. Nygren Draw crosses the southeastern corner of the permit area, draining southward to Tuttle Draw. Coal Creek Canyon and Tuttle Draw, are both perennial, and flow west and south into the San Miguel River, which then flows north-northwest to the Dolores River. The Dolores River ultimately flows to the Colorado River. The permit area is roughly 4.5 miles upstream of the San Miguel River via Coal Creek Canyon, and 2 miles upstream of the San Miguel River on Tuttle Draw.

Peak flows for the draws within the permit area are 2.65 cfs in Meehan Draw, and 1.5 cfs in Nygren Draw. Average flows are 0.55 cfs for Meehan Draw and 0.3 cfs for Nygren Draw. Flows to these draws are primarily due to seepage and subsurface flow from irrigation water, with peak flows being attributed to thunderstorm activity.

Tuttle Draw averages 2.0 cfs, with peak flows of 9.35 cfs. Coal Creek Canyon averages 0.9 cfs. Peak flows on Tuttle Draw and Coal Creek Canyon are primarily in response to irrigation return flows during the latter part of irrigation season.

The San Miguel River, with a drainage area of 1,080 square miles, derives the majority of its flow from snowmelt runoff. Mean flow at Naturita for water years 1995-2009 is 247 cfs. The USGS station at Uravan has a mean flow of 358 cfs for water years 1954-2011. At Nucla, the mean is 246 cfs for water years 1995-2011. During irrigation season, roughly mid-April to early October, the CCC Ditch diverts approximately 100 cfs from the San Miguel River just upstream of the town of Naturita, so lower flows are experienced during the latter part of the irrigation season. The ditch is used primarily for flood irrigation of the Tabeguache plateau area, which

includes the permit area. As mining operations move to the north, the ditch will be replaced by a permanent pipeline.

ERMR conducted baseline water monitoring on twenty surface water sites within and adjacent to the permit boundary. In addition to the monitoring conducted by ERMR, Peabody Coal Company conducted baseline monitoring in the early 1980's prior to mining in what is now the southern portion of NHN. ERMR also collected surface water data on Tuttle Draw for it is adjacent to the the New Horizon Mine. Maps 2.04.5-1, 2.04.7-1, and 2.04.7-10 of the permit application package depict all of the surface water monitoring sites. Baseline data on the 2nd Park Lateral and Tuttle, Nygren, and Meehan Draws have been collected (monthly field parameters and bi-monthly laboratory analysis) since October 2008 and are available in Appendix 2.04.7-2.

Climate- Section 2.04.8 of the permit

The climate of the NHN area is typical of intermountain regions. It is characterized by hot summers, cold winters, low precipitation, and relatively short growing seasons. Climatological information for the area is described in Section 2.04.8 of the permit. A NOAA weather station is located at Uravan, Colorado, approximately 10 miles northwest of the permit area at an elevation of 5,010 feet. The mine receives approximately 12 inches of precipitation in an average year. The majority of the precipitation falls between May and October. The average annual temperature is 53.4° F, and the prevailing wind direction is ESE at 7.8 mph.

Soils - Section 2.04.9 of the permit

The applicant conducted a detailed baseline soil survey of the entire NHN Mine permit area in 2008. For this effort, a total of 183 backhoe pits were dug, located as shown on permit Maps 2.04.9-2 and -3. Of these, 118 pits were dug at locations undisturbed by mining activities, while 65 were located within the area disturbed and reclaimed by Peabody. At each undisturbed location, a formal soil pedon description was taken. The completed pedon forms are found in Appendix 2.04.9-1. Each pit was photographed, and 28 samples from 11 sites were collected for laboratory analysis. Table 2.04.9-6 lists the chemical and physical properties of those samples. For test pits located in the disturbed and reclaimed area, only depths of topsoil to be salvaged were noted.

WFC has mapped eight soil units in the NHN permit area: Aquolls, 0 to 3% slopes; 77 Pinon, 3 to 12% slopes; 78 Pinon, 5 to 30% slopes; 78 Ustic Torriorthents, 5 to 30% slopes; 81 Progresso loam, 3 to 6% slopes; 82 Progresso loam, 6 to 12% slopes; and Rock Outcrop-Orthents Complex, 40-90% slopes. Soils redistributed upon the reclaimed Peabody disturbance are mapped as REC.

Suitability of the various soils for salvage was determined using criteria of the Wyoming Department of Environmental Quality (WyDEQ) "Suitability Ratings for Soils as Sources of Topsoil Material". All of the soils were rated "good" with respect to soil reactivity, electrical conductivity, saturation percentage, sodium adsorption ration, Selenium, and Boron. Texturally, the samples were classified as "good" to "fair". With respect to Moist and Dry Consistence, most of the samples corresponded with the "good" to "fair" suitability classes. The most limiting

parameter, coarse fragment content, was estimated in the field and is recorded on the pedon forms. Suitable depths of topsoil salvage for each test pit location, together with estimated salvage volumes for each soil type, are shown on Map 2.04.9-3 of the application.

Vegetation - Section 2.04.10 of the permit

The natural vegetation in the Nucla area is pinyon-juniper woodland and sagebrush shrub land. More than 100 years of intensive agriculture in the area has resulted in there being only scattered remnants of the native vegetation types. Prior to agricultural conversion, sagebrush shrub lands occupied the park-like areas with deeper soils and more gentle slopes, while the more broken upland areas with shallow, coarse textured soils were occupied by the pinyon-juniper woodlands.

In the baseline survey, six major plant community types were delineated within the NHN area, as shown on Map 2.04.10-1 Permit Area Vegetation Map. The six types are: Topsoiled Reclamation (REC), Big Sagebrush (SB), Irrigated Pasture (IP), Dryland Pasture (DP), Intensively Managed Irrigated Pasture (IMIP), and Wetlands (WET). The pre-mine area was intensively developed for agricultural uses, and also includes minor acreages of roads, residential/agricultural disturbances, and livestock ponds.

Following delineation of the plant community types, transects for sampling were generated. Plant cover, production, and shrub density were evaluated along each transect. Vegetation sampling was conducted for the mining area between October 2008 and August 2009, and for the equipment corridor between August and November 2009. Reference areas intended for use in evaluating the revegetation success of irrigated Pasture and Dryland Pasture were also sampled. The Intensively Managed Irrigated Pasture on the Garvey property was sampled twice more, in June 2010 and June 2011, with the intention of using the historical production as the revegetation success standard for this type. Map 2.04.10-2 shows the vegetation communities existing on lands surrounding the permit area.

The potential for impacts to threatened or endangered plant species was investigated by ERMR, and they conclude that the unique habitat types associated with these species are lacking for this area. None of the species were encountered, and they determined that it is highly unlikely for them to be found at the NHN Mine site. As new information becomes available which might change status and direction of the wildlife resources, ERMR commits to consult with appropriate agencies to modify the scope and focus of mitigation requirements contained in Section 2.05.6 of the permit.

Fish and Wildlife -Section 2.04.11 of the permit

A large variety of wildlife utilize the area surrounding the NHN including coyotes, fox, mule deer, elk (in the winter) and numerous bird species. No federally listed threatened or endangered plant or animal species or any critical habitats of such species are known to occur in the mining area. No state listed threatened or endangered plant or animal species or any critical habitats of such species are known to occur in this area. However, there is the potential that the Burrowing Owl (threatened species in Colorado) might be found in this area and a special monitoring plan with operational considerations has been implemented to address this species.

Prime Farmland Investigation- Section 2.04.12 of the permit

The NRCS has identified one soils mapping unit within the NHN permit area to be "prime farmland if irrigated." This mapping unit, 71 - Nyswonger silty clay loam, appears in two locations, totaling 1.46 acres on permit Map 2.04.9-1, NRCS Soils Map. The "Rice Tract" site is located on the eastern edge of the permit area, immediately north of the area mined and previously reclaimed under the New Horizon Mine permit C-1981-008. This area was redisturbed by mining and reclamation activities under the NHN permit. The second site, "Tuttle Draw", is found at the southern end of the equipment corridor, at Tuttle Draw. Detailed maps of the two sites are provided as permit Maps 2.04.12-1 and 2.04.12-2, respectively. Neither of these locations have a history of having been irrigated or cropped. In a letter dated May 8, 2009, the NRCS issued a negative determination for the presence of prime farmland at the "Rice Tract" location.

Description of the Operation and Reclamation Plans

Operation Plan

Mining at NHN utilized surface mining methods. Development activities began in 2013 with the construction of the mine's surface facilities, including the buildings, necessary portions of the haul roads, and necessary pond(s). Map 2.05.2-1 of the permit shows the features of the site, including the anticipated progression of the mine from south to north. Topsoil was stripped from the southern portion of the permit area, and stockpiled as shown on Map 2.05.4(2)(d)-2. Stockpiling of soils was necessary only during the initial phases of mining. Live haul and replacement of soils was used as the active pit progressed to the north.

Individual pit cuts were oriented east-west, with mining having commenced at the south and moving northward. Individual panels ranged between 100 and 120 feet in width and lengths approaching 2200 feet. Removal of the topsoil from an area to be mined exposed the overburden that will be removed. The upper overburden, or "Bench 1" is unconsolidated, and is generally "free-dug" by the mine's shovel without the need for blasting. The Bench 1 overburden was loaded into trucks and hauled to the back of the pit for placement in the uppermost overburden level of the backfilled pit. The replaced Bench 1 material directly underlay all topsoil redistributed. The lower overburden consists of shales and sandstone, which required blasting in order to remove it. Overburden was removed by bulldozer or a shovel and trucks after an area was drilled and shot. An ANFO slurry was the primary agent used in blasting. All shots were monitored with seismographs located at structures nearest to the blast. Blasting schedules were published in the local newspaper. Most blasting occurred mid-day early in the week. Daily notifications were made prior to each blast to certain individuals who have requested this service.

Haul roads, as shown on Map 2.05.3(3)-3, were constructed within the disturbed area. Removal of the coal resource commenced in 2013. The primary coal seam recovered was the Lower Dakota seam. The Upper Dakota seam was recovered if it was thick enough and of sufficient quality. The rate of coal production, which supplied Tri-State Generating and Transmission Association's Nucla Station, was approved to be 250,000 to 460,000 tons per year. For the years

2014 – 2016, the production averaged 236,565 tons per year. NHN notified the Division on June 8, 2017 that coal extraction had ceased. The active pit was backfilled and graded in 2018. Coal was transported to the plant by contracted haulage trucks over a network of Montrose County roads. The Nucla Station ceased operation in 2019, and was demolished in 2022.

Reclamation Plan

Reclamation activities occurred concurrently with mining. The backfill and grading timeline is outlined in Table 2.05.4(2)(a)-1 of the permit. A typical diagram illustrating the mining and backfill process is provided in Map 2.05.3-1 of the permit. Following backfilling and grading, topsoil is redistributed to the thicknesses shown on Map 2.05.4(2)(d)-1. The type and thickness of topsoil is related to the post-mining land use. Replaced soils are prepared for seeding as described in Sections 2.05.4(2)(d) and (e) of the permit. The reclaimed lands will be capable of supporting the same uses that were present prior to disturbance.

Water rights and usage

ERMR owns several water rights which are detailed in Table 1 of Appendix 2.05.6(3)-1b of the permit. The water will be used for irrigation, industrial and storage. The approved water augmentation plan is in Appendix 2.05.6(3)-1c of the permit.

All the wells within a 1-mile radius of NHN permit area are listed on Table 2.04.7-4 in Section 2.04.7 of the permit. The approved NHN well permits are listed in Appendix 2.05.6(3)-4 of the permit.

Findings of the Colorado Division of Reclamation, Mining and Safety
for the
New Horizon North 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 is updated upon permit renewal, which occurs every five years for most mines. This is the renewal findings document for the New Horizon North Mine, which has a permit term years permit term. The following findings were reevaluated and updated if necessary to reflect changes which have occurred during the past permit term. 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 - 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 New Horizon North 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 made by the Division. This assessment entitled "San Miguel River Cumulative Hydrologic Impact Assessment" (San Miguel River CHIA) is available for inspection at the offices of the Division. The Division finds that the operations proposed under the application (RN2), have been designed to prevent damage to the hydrologic balance outside the proposed permit area. Permit revision 1 (PR-1) was issued on December 13, 2016, and there have been no

significant changes to the NHN permit since then. The only permitted mine in the area is the New Horizon Mine (C-1981-008), and mining has ceased at the New Horizon Mine. Please refer to Section B.III (Probable Hydrologic Consequences) of this document for additional discussion of the predicted hydrologic consequences of mining operations at the New Horizon North Mine (2.07.6(2)(c)).

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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));

      Mining-related disturbance was approved to occur within 100 feet of the four County Roads (AA, 26.00, Z and 26.50) surrounding the permit area. A Special Use Permit was issued by Montrose County (see Appendix 2.05.3-1 of the permit). Condition number 6 of the Special Use Permit reads, "Use of the 100 foot buffer zone adjacent to County road right-of-ways will be permitted for surface activities which include: soil stockpiles, haul roads, maintenance facilities, office, parking areas, storage areas, and other similar mining support facilities. All surface facilities and mining activities shall maintain a 25 foot setback from all road right-of-ways."

   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. On the basis of information submitted by Elk Ridge Mining and Reclamation, LLC in the form of cultural resources inventories, the Division finds that subject to valid existing rights as of August 3, 1977, 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 surface mining operation private mineral estate has been severed from private surface estate, therefore the documentation specified by Rule 2.03.6(2) has been provided in Appendix 2.03.6-1(a) in the form of a Memorandum of Surface Lease and Purchase Agreement executed August 7, 2009 between Garvey & Co and the applicant (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 Elk Ridge Mining and Reclamation, LLC 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. Elk Ridge Mining and Reclamation, LLC 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)).

   The Federal Applicant/Violator System (AVS) was queried on January 7, 2022. Additional information was requested of the operator. The operator submitted the requested information on March 30, 2022. The updated ownership and control information was provided to OSMRE.

   A second query of the AVS was conducted on April 18, 2022. On April 29, 2022 the Division received a response of "no violations" from the AVS.

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 estimates the reclamation liability for mining operations in this permit term to be $908,768. The Division currently holds a $2,617,883.57 performance bond for the New Horizon North Mine. The Division holds an adequate performance bond for the New Horizon North Mine permit. (2.07.6(20(j)).

11. The Division has made a negative determination for the presence of prime farmland within the NHN permit area (Section 2.04.12). The decision was based on a letter from the Natural Resource Conservation Service (NRCS) dated May 8, 2009 (Appendix 2.04.12-1) stating that no prime farmland mapping units are found within the permit area

(2.07.6(2)(k)). Seven different soil mapping units are mapped within the permit area. One of these seven units, 71, Nyswonger silty clay loam, 1 to 4 percent slopes, is designated as "prime farmland if irrigated." There is no historical evidence showing that this soil map unit within the permit boundary has ever been irrigated (2.07.6(2)(k)).

12. The Division has made a negative determination for the existence of alluvial valley floors (AVF) within the permit area based on the rules set forth in Rule 2.06.8(3)(c) and (2.07.6(2)(k). This determination is based on information provided by the applicant which demonstrates that there are no alluvial valley floors within the immediate vicinity of the existing New Horizon Mine (C-1981-008), which includes the NHN area, and that the closest alluvial valley floors to the area are found approximately three and one half miles to the west in the floodplain of the San Miguel River. Given the distance involved between the probable occurrence of known alluvial valley floors and NHN, the Division confirms the negative presence of alluvial valley floors in the mine area. The results of the AVF investigation are in Section 2.06.8 of the permit document.

13. The Division proposes to re-approve the post-mining land uses of irrigated pasture, intensely managed irrigated pasture and dryland pasture. These land uses meet the requirements of Rule 4.16 for the permit area (2.07.6(2)(l)).

14. The Division finds that no specific approvals required under Rule 4 are necessary for this mine plan.

15. 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)).

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

<u>Section B - Rule 4</u>

I. Roads - Rule 4.03

A. Haul Roads

All haul roads have been reclaimed at the New Horizon North Mine. Reclaimed haul roads were approved for phase I bond release during SL2, approved July 2, 2019.

B. Access Roads

All access roads have been reclaimed at the New Horizon North Mine. Reclaimed access roads were approved for phase I bond release during SL2, approved July 2, 2019.

C. Light-Use Roads

A pre-mine light use road located on the south side of AA Road by NHN Pond-001 runs southward along the west side of property owned by ERMR (see Mine Location map below). The road will be used to access Pond NH1-001 and a surface water line running along the road (part of Pond NH1-001 is within the NHN permit). The road is a pre-mine roadway so no further excavation is needed. The road will be gravel surfaced and maintained to a width of 12 feet.

II. Support Facilities - Rule 4.04

Support facilities were located at the southeastern portion of the NHN permit area. Details of the various facilities are addressed in Section 2.05.3(3) of the permit application package. Most of the facilities have been removed. The facilities area has been rough graded, and the gravel surfacing has been salvaged and stored on site for use by the landowner in the adjacent irrigated pasture. Several structures have been requested to remain as permanent by the landowner. These items include the domestic well located at the facilities area, and three power poles. The operator has not completed final reclamation of the facilities area in order to allow transportation of bench 1 material and topsoil to remaining reclamation areas.

III. Hydrologic Balance - Rule 4.05

A. Water Quality Standards and Effluent Limitations

The applicant has not requested an exemption from the requirement to pass all disturbed area drainage through sediment ponds and/or treatment facilities to meet the effluent limitations of 4.05.2 and the applicable State and Federal water quality requirements for downstream receiving waters. All disturbed area drainage presently passes through two approved sediment ponds constructed in the permit area (4.05.2(3)(a)).

B. Diversions and Conveyance of Overland Flow

Diversion ditches have been constructed and culverts installed to route disturbed area runoff through the two constructed sedimentation ponds. All ditches will be seeded to establish vegetation to reduce velocities and thereby prevent erosion and additional contributions of sediment. When no longer needed, the ditches will be reclaimed and the culverts removed. Design information for the ditches and culverts is located in Section 2.05.3(4) of the permit application package. The location of the diversion ditches and culverts are shown on Maps 2.05.3(3)-3, 2.05.3(4)-7 and 2.05.3(4)-9 of the permit. ERMR does not propose any clean

water diversions away from the disturbed areas (4.05.3(1)).

C. Stream Channel Diversions

ERMR has not proposed stream channel diversions at NHN. The two draws within the permit area are Nygren and Meehan.

D. Sedimentation Ponds

Two sedimentation ponds have been constructed within the permit area to treat runoff from all disturbed areas. The capacity of the ponds will be achieved with a combination of partial excavation below grade and constructed embankments. Pond NHN-001 has been constructed along the southern permit boundary, Pond NHN-002 is located in the northwest part of the permit area. The design information for the sedimentation ponds is located in Section 2.05.3(4) of the permit application package, and the locations of the sedimentation ponds are shown on Map 2.05.3(4)-1 of the permit application package.

1. None of the two sediment ponds are approved to be located within a perennial stream (4.05.6(1)(b)).

2. Alternative design criteria and specifications have not been proposed for use in sediment pond design and/or construction (4.05.6(11)).

E. Acid-forming and Toxic-forming Spoil

ERMR developed plans for sampling overburden during mining to identify the quantity and quality of deleterious material. Spoil and mine soil reconstruction plans that address acid and toxic-forming materials in the NHN permit area is given in Section 2.05.4(2)(d). Any acidic or toxic forming spoil was buried in the pit in accordance with the approved plan.

F. Impoundments

Other than the two sedimentation ponds, no impoundments are proposed for construction in conjunction with the NHN operation (4.05.9).

G. Surface and Ground Water Monitoring

ERMR established and conducted a surface water and groundwater monitoring program that gathered baseline and operational water quantity and water quality data in order to monitor the effects of the mining operation on the surface and subsurface water within and/or adjacent to the permit area. The Hydrologic Monitoring Plan is described in Section 2.05.6(3).

1. The applicant will conduct monitoring of ground water in a manner approved

by the Division. The ground water monitoring plan is found in Appendix 2.05.6(3)-3 of the permit document. (4.05.13(1)):

2. The surface water monitoring plan is discussed in Section 2.05.6(3) of the permit. The list of parameters to be analyzed is located in Appendix 2.04.7-2. The monitoring plan will be used to identify any trends in water quality or quantity that would indicate any negative impact from the mining and reclamation operations. The monitoring plan was submitted under 2.05.6(3)(b)(iv) and is found in Appendix 2.05.6(3)-3 of the permit document. (4.05.13(2))

H. Transfer of Wells

A domestic well located at the southern portion of the permit area, at the former facilities area has been transferred to the landowner.

I. Discharge of Water into an Underground Mine

This section does not apply as NHN is a surface mine.

J. Stream Buffer Zones

The drainage area for Nygren Draws is 0.88. Since this area is less than one square mile, it does not qualify for stream buffer zone protection as defined by Rule 4.05.18(1).

The drainage area for Meehan Draw is larger than 1 square mile. Stream buffer zones signs are in place on both sides of the draw. The signs are set back 100 feet from the stream and will be maintained until final reclamation.

K. Probable Hydrologic Consequences

A discussion of the Probable Hydrologic Consequences (PHC) is presented in Section 2.05.6(3) Protection of Hydrological Balance of the permit. Concerning groundwater, ERMR presents their assessment that the probable impacts to groundwater were determined to have no short-term or long-term significance. ERMR nevertheless has provided a plan to mitigate any impacts determined to have significance. A summary of the probable hydrologic consequences is provided in Appendix 2.05.6(3)-2. Alluvial groundwater is essentially non-existent within the permit and immediate adjacent areas.

Table 2.05.6(3)-2 located in Appendix 2.05.6(3)-2, page 31, of the permit document summarizes the probable hydrologic consequences for surface and ground water. All of the probable impacts have been determined to be of a short term nature, of minimal significance, or a plan has been presented to mitigate those determined to have some significance. The Division concurs with ERMR's

determination of surface water and groundwater impact analysis and as a result finds that mining and post mining effects to the current land uses should be negligible.

IV. Topsoil

Topsoil resource information is found in Section 2.04.9 of the permit. Topsoil salvage and replacement is described in Section 2.05.4(2)(d). Map 2.05.492)(d)-1 shows the replacement thicknesses and locations for topsoil.

The Division proposes to approve the revised reclaimed topsoil locations and depths. The center 88.2 acres of the Garvey property will have 1.0 feet of Progresso topsoil on top of 0.8 feet of mixed topsoil. This configuration will accommodate a center pivot irrigation system to establish the irrigated pasture/cropland area. The perimeter of the Garvey property will have 1.2 feet of mixed topsoil that will be used to establish the dryland pasture areas. These changes were requested by the landowner in a letter dated August 9, 2017. The letter is in Appendix 2.05.5-1 of the permit.

V. Sealing of Drilled Holes and Underground Openings

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

As approved with MR28, the domestic water well located at the facilities area at the south east portion of the permit has been requested to be retained as a permanent feature by the land owner. Permit section 2.05.3(3).

VI. Use of Explosives

Mining has ceased at the New Horizon North Mine. There is no blasting continuing at the mine. There are no explosives stored, or used on site.

VII. Disposal of Excess Spoil

The mining plan does not require the development of a permanent excess spoil disposal site. All spoil will be returned to the mined-out area and be utilized to achieve approximate original contour. 4.09.1(1)).

VIII. Coal Mine Waste Banks

No coal mine waste banks are proposed for NHN.

IX. Coal Mine Waste

No coal mine waste will be generated at NHN.

X. Backfilling and Grading

Backfilling and grading operations are described in Sections 2.05.2, 2.05.3 and 2.05.4(2)(c) of the permit. Post-mining topography is shown on Map 2.05.4-1. The NHN permit area will be returned to approximate original contour. The entire volume of spoil will be used to backfill the areas mined, and the operator has not requested a modification of the general requirements of 4.14.2 for reclamation to approximate original contour. No cut-and-fill terraces have been proposed or approved.

XI. Revegetation

Information regarding baseline vegetation studies may be found in Section 2.04.10 of the permit application. Information regarding revegetation of disturbed areas may be found in Section 2.05.4(2)(e) of the permit application. The goal of revegetation efforts at the New Horizon North Mine is to establish post-mining land uses of Irrigated Pasture and Dryland Pasture. Letters of consent by the present landowners are included in Appendix 2.05.5-1.

The Division proposes to approved the center pivot irrigation system as outlined in Appendix 2.05.4(2)(e)-1 and Map 2.05.4(2)(e)-1 of the PR-2 application. The new irrigation designs are consistent with the reclaimed topsoil configuration which will maximize the use of irrigation water. The irrigation system will be used to support the post-mining land uses of irrigated pasture/cropland.

The Division proposes to approve seed mix #5-irrigated pasture/cropland. The seed mix consists of alfalfa drill seeded at a rate of 18 Pure Live Seed/acre. A cover crop of oats may be planted in the first year at a rate of 70 Pure Live Seed/acre.

A. The Division proposes to approve the use of 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, and are not poisonous or noxious (Section 4.15.2(3)).

   Seed mixes number 2 and 3 are temporary seed mixes. Mix #2 is for areas less than one year until the permanent mix will be planted and Mix #3 is for longer term temporary plantings such as topsoil stockpiles. The introduced species in these mixes will facilitate site stabilization and provide organic matter when incorporated into the topsoil prior to permanent seeding.

   Seed mix numbers 5, 6 and 7 are for the reclaimed irrigated pastureland; the mix is determined by moisture availability. All species in these mixes are introduced and were selected as beneficial for grazing purposes as discussed in Section 2.05.4(2)(e). The irrigated pasture mixes are seeded in the spring along with a companion crop of oats.

Seed mix #8 is for the dryland pasture and consists of introduced species that are drought tolerant, provide site stabilization and have utility for wildlife and livestock. This seed mix was reviewed and approved by the NRCS.

B. The Division proposes to approve the use of a cover crop as a means to meet soil stabilization requirements in situations where temporary soil stabilization is required prior to seeding with the permanent mix (Section 4.15.4) irrigated pasture seed mix is also approved as a soil stabilization practice pursuant to Rule 4.15.4.

C. The Division proposes to approve the center pivot irrigation systems as outlined in Appendix 2.05.4(2)(e)-1 and Map 2.05.4(2)(e)-1. The irrigation designs are consistent with the reclaimed topsoil configuration which will maximize the use of irrigation water. The irrigation system will be used to support the post mining land use of irrigated pasture.

D. Methods to measure herbaceous cover and production are discussed in Section 2.05.4(2)(e) of the permit application. These techniques include point intercept for cover sampling and quadrat clipping for herbaceous production estimates. The Division proposes to approve use of these techniques (Section 4.15.7(1)). The sampling techniques and statistical methods to be used in demonstrations of revegetation success are in conformance with Rule 4.15.11.

E. 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:

The Division proposes to approve a technical standard for the production success criteria for the irrigated pasture/cropland. A technical standard is being proposed in accordance with Rule 4.15.9 because there isn't a comparable area within ERMR control that has the same soil type, access to irrigation and is planted exclusively with alfalfa. The proposed success standard will be based on the Montrose County current year alfalfa yield or the long-term average alfalfa yield (if the annual yield is not available). The success standard is discussed in further detail in Section 2.05.4(2)(e) of the permit.

Dryland Pasture (DP) – The success standard for reclaimed Dryland Pasture is based on comparison to a Dryland Pasture Reference area. Successful cover and production will be demonstrated by statistically valid demonstration of reclaimed area/reference area comparability in accordance with applicable requirements of Rule 4.15 and as described under Dryland Pastureland Success Criteria and Statistical Procedures beginning on page 25 of Section 2.05.4(2)(e) of the permit application. In lieu of a species diversity standard, a forage quality standard will be implemented that is outlined in Section 2.05.4(2)(e) page 30. A woody stem density is not required for revegetation success (4.15.8(7)).

F. The Division proposes to approve of the reference areas which the applicant has selected based on the requirements of Rule 4.15.7(3). The operator owns the Dry Land reference area which is also known as the Old Peabody Sage Reference Area located between the New Horizon Mine and the New Horizon North Mine. This reference area is fenced protecting it from domestic livestock.

G. The reference areas will be utilized to determine revegetation success in a manner which the Division finds acceptable 4.15.7(4)).

H. All of the lands in the New Horizon North Mine area are under private ownership and fish and wildlife or combination rangeland/fish and wildlife habitat are not a post mining land use. Therefore, a woody stem density standard is not required for revegetation success (4.15.8(7)).

XII. Post-mining Land Use

The Division proposes to approve the changes to the post-mining land use in the PR-2 application. The land uses will remain the same but it is the location of each land use that is being reconfigured. The location of the irrigated pasture/cropland will coincide with the location of the Progresso topsoil and the dryland pasture parcel will coincide with the location of the mixed topsoil. Topsoil locations are described in Section IV above.

XIII. Protection of Fish, Wildlife and Related Environmental Values

Wildlife investigations have previously been conducted within, or immediately adjacent to the NHN permit area. The extent of these investigations is shown on Map 2.04.11-1 of the permit. Peabody commissioned a wildlife investigation for the Nucla Mine in 1979-1980 (Appendix 2.04.11-1). With this study, Mariah and Associates determined that there were 53 species of mammals, 109 species of avifauna, and 20 species of amphibians and reptiles that were observed or could potentially occur in the area. Threatened and Endangered Species surveys of these species were present, and that suitable habitat was lacking in the immediate area.

For the NHN Mine, the Colorado Division of Wildlife (DOW) requested that the applicant prepare a detailed Burrowing Owl monitoring plan. This plan is found in Section 2.05.6(2) of the permit. The owls can potentially occupy abandoned prairie dog burrows. Four prairie dog towns were mapped in 2009, as shown on Map 2.04.11-1. Mining-related disturbance near the towns will be controlled during the mating and nesting season (March 15 thru July 31) unless it has been established that no owls are present.

The Office of Surface Mining Reclamation and Enforcement's Western Region (OSM) conducted a section 7 biological assessment (BA) for NHN dated March 13, 2012. OSM coordinated with the U.S. Fish and Wildlife Service (USFWS) for federally listed

species within Montrose County, Colorado. Species considered were the: Mexican Spotted Owl, Bonytail chub, Colorado pikeminnow, Greenback Cutthroat trout, Humpback chub, Razorback sucker, Clay-loving wild buckwheat, Colorado hookless Cactus, Black-footed ferret, Canada lynx, Yellow-billed cuckoo, Gunnison's prairie dog and North American wolverine. The USFWS agreed with the OSM determination of effects in the March 13, 2012 BA with the following analysis for the Colorado River Basin fish.

NHN is located in the San Miguel River drainage basin, which in turn lies within the Upper Colorado River basin. A water depletion analysis was performed for the proposed NHN Mine (Appendix 2.04.11-2), and transmitted to OSM for use in preparing the March 13, 2012 BA that was forwarded to the USFWS. This was necessary to evaluate water depletion from the mine for the Endangered Fish Species recovery program in the Upper Colorado River Basin that was initiated on January 22, 1988. A requirement in the recovery program was that a depletion fee would be paid by water users to support the fish recovery program. On June 4, 2010, the USFWS determined that the depletion fee would no longer be required for depletions of 100 acre-feet or less. The estimated average annual water depletion for NHN is 42.3 acre-feet per year with a maximum amount in the range of 51.26 acre-feet per year. Therefore, the depletion fee for NHN is waived and further consultation for the Endangered Fish Species is not necessary as anticipated water depletions are less than 100 acre-feet.

The applicant has not proposed the use of persistent pesticides on the site, nor is fish and wildlife habitat a planned post-mining land use.

XIV. Protection of Underground Mining

No active or abandoned underground coal mines are located within 500 feet of coal mining activities at the New Horizon North Mine.

XV. Subsidence Control

The New Horizon North Mine is a surface mine; as such, the provisions of Rule 4.20 do not apply.

XVI. Concurrent Surface and Underground Mining

No underground mining is proposed for the New Horizon North Mine.

XVII. Operations on Alluvial Valley Floors

The Division has made a negative determination for the existence of alluvial valley floors (AVF) within the permit area based on the rules set forth in Rule 2.06.8(3)(c) and (2.07.6(2)(k).

XVIII. Operations on Prime Farmland

The Division has made a negative determination for the presence of prime farmland within the New Horizon North permit area (Section 2.04.12).

XIX. Mountaintop Removal

The standards of 4.26 do not apply to the New Horizon North Mine.

XX. Operations on Steep Slopes

The standards of 4.27 do not apply to the New Horizon North Mine.

XXI. In Situ Processing

No in situ processing is proposed or approved for the New Horizon North Mine.