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TRI-STATE

April 21, 2022

Mrs. Janet Binns
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: New Horizon Mine (Permit No. C-1981-008)
Permit Revision No. 09 (PR-09)
Prime Farmland Relocation

Dear Mrs. Binns:

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Elk Ridge Mining and Reclamation, LCC (ERMR), which owns and operates the New Horizon Mine. The New Horizon Mine operates under the Division of Reclamation, Mining and Safety (DRMS) Permit No. C-1981-008. Therefore, Tri-State on behalf of ERMR is submitting PR-09 to Permit No. C-1981-008.

Under PR-09, Tri-State is proposing to relocate the prime farmland reclamation area, at and adjacent to Pond 013, up to the west side of the currently reclaimed irrigated pastures areas on ERMR owned properties. Tri-State believes this relocation of the prime farmland provides the best opportunity for revegetation success for several reasons. First, by constructing the prime farmland reclamation directly adjacent to 26 acres of irrigated pastures it allows ERMR to make one large field rather than one small, isolated field. Second, irrigation infrastructure is in place and will easily be able to provide the proper amount of irrigation water for this proposed prime farmland area. Lastly, the logistics of cutting and fertilizing one large field rather than one small, isolated field at distance from the larger irrigated pasture area is much more feasible by having the prime farmland tied directly to existing irrigated pasture areas.

Also included with the permit revision is a public notice, and a change of index sheet to ease incorporation of these materials into the permit. If you have any further questions regarding this permit revision, please contact Tony Tennyson at (970) 326-3560 or ttennyson@tristategt.org.

Sincerely,

DocuSigned by:
Chris Gilbreath
D250C711D0BF450...

Chris Gilbreath
Senior Manager,
Remediation and Reclamation

DJC:TT:der

Enclosures

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cc: Tony Tennyson (via email)
File: G474-11.3(21)b-3

PUBLIC NOTICE

Elk Ridge Mining and Reclamation, LLC, P.O. Box 628, Nucla, CO 81424 has filed with the Division of Reclamation, Mining and Safety an application for Permit Revision No. 09 (PR-09) to the New Horizon Mine Permit No. C-1981-008. PR-09 proposes to a change to the post mine land use by reclaiming a prime farmland area that was previously permitted as a dryland pasture area where existing infrastructure exists to adequacy irrigated the prime farmland reclamation.

The New Horizon Mine office is located at 27646 West 5th Street, P.O. Box 628, Nucla, Colorado. The permit area contains tracts of land located in Section 6, Township 46 North; Range 15 West; Section 31, Township 47 North, Range 15 West; Section 1 Township 46 North, Range 16 West; Section 36 Township 47 North, Range 16 West, of the New Mexico Principal Meridian, Montrose County, Colorado. The above mentioned tracts of land are shown on USGS 7.5 minute Nucla Quadrangle map.

A copy of the complete permit revision application is available for public inspection at the Montrose County Courthouse Annex, Nucla, Colorado. Written comments or objections to the application may be submitted to the Division of Reclamation, Mining and Safety, Room 215, 1313 Sherman Street, Denver, Colorado 80203, Telephone (303) 866-3567. Written comments and objections must be received by the Division of Reclamation, Mining and Safety within 30 days after the publication of the above notice.

CHANGE SHEET FOR PERMIT REVISIONS, TECHNICAL REVISION, AND MINOR REVISIONS

Mine Company Name: **New Horizon Mine**

Permit Number: **C-1981-008**

Date: **April 21, 2022**

Revision Description: **PR-09 Prime Farmland**

Volume Number	Page, Map or other Permit Entry to be REMOVED		Page, Map or other Permit Entry to be ADDED		Description of Change
1					No change
2					No change
3					No change
4					No change
5	Map 2.05.3(3)		Map 2.05.3(3)		Map 2.05.3(3) has been updated.
6					No change
7					No change
8	Section 2.05.4(2)(d) page 1 (1 page)		Section 2.05.4(2)(d) page 1 (1 page)		Section 2.05.4(2)(d) Table of Contents has been updated.
8	Section 2.05.4(2)(d) page 6 (1 page)		Section 2.05.4(2)(d) page 6 (1 page)		Section 5 and 7 have been updated.
8	Section 2.05.4(2)(d) pages 8 through 16 (9 pages)		Section 2.05.4(2)(d) pages 8 through 16 (9 pages)		Section 2.05.4(2)(d) has been updated for prime farmlands. Anything related to the Morgan Property sections has not been updated.
8	Map 2.05.4-4		Map 2.05.4-4		Map 2.05.4-4 has been updated.
8	Map 2.05.4-5		Map 2.05.4-5		Map 2.05.4-5 has been updated.
9	Section 2.05.4(2)(e) page 1 (1 page)		Section 2.05.4(2)(e) page 1 (1 page)		Section 2.05.4(2)(e) Table of Contents has been updated.
9	Section 2.05.4(2)(e) page 3 (1 page)		Section 2.05.4(2)(e) page 3 (1 page)		Section 2.1 heading has been updated.
9	Section 2.05.4(2)(e) pages 6 through 8 (3 pages)		Section 2.05.4(2)(e) pages 6 through 8 (3 pages)		Section 2.05.4(2)(e) has been updated.
10	Section 2.06.6 Tables of Contents (1 page), List of Attachments (1 page), and Pages 2.06.6-1 through 2.06.6-5 (5 pages)		Section 2.06.6 Pages 1 through 3 (3 pages)		Section 2.06.6 has been updated.

Section 2.05.4(2)(d)
Topsoil Handling, Stockpiling and Redistribution

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forms of scarification. Rocks discovered during scarification on prime farmland will be removed. Bench 1 is scarified to decrease compaction, increase aeration and water movement, and increase plant rooting depths. Increased water movement may, to some degree, allow more downward leaching of carbonates. Therefore, although the greatest benefits of scarifying are related to the physical topsoil properties (density, porosity), a lesser geochemical benefit (increased rate of carbonate leaching due to increased water movement) may result.

6. Bench 1 Monitoring Program

In order to provide a feedback system to check the reliability of the Bench 1, a sampling and analysis program is utilized. This sampling program will ensure that the redistributed Bench 1 is chemically and physically suitable for the intended post mine land use. Please see Table 2.05.4(2)(d)-1 for the Bench 1 sampling criteria.

Table 2.05.4(2)(d)-1 Bench 1 Sampling Criteria

Parameter	*Unit*	*Thresholds*
pH	Standard Units	>6.1 but < 8.4
Electrical Conductivity (EC)	mmho/com	>8
Boron	ppm	>5
Sample Grid	Arce	1 sample per 5 acres
Sample Thickness	Feet	1 – 2 ft. increments

7. Unsuitable Bench 1 Mitigation Plan

In the event that any one sample result exceeds the limits listed in Table 2.05.4(2)(d)-1, the Unsuitable Bench 1 Mitigation Plan listed below will be implemented.

If one or more parameters fall within the unsuitable range at a given grid point, a three-part mitigation plan will be implemented.

1. The area around a suspect hole will be sampled on a closer spacing interval in order to better define the lateral extent and variability of the unsuitable material. This sampling will be called the 2nd Phase sampling and the interval is one hole per 50 feet distance around the bad point in all directions for Prime Farmland (Zones 3 & 8), and one hole per 100 feet distance around the bad point in all directions for non-prime farmland.

2. If 2nd phase sampling shows an exceedance, follow-up sampling will take place to delineate the area of exceedance. Delineated areas of exceedance that are larger than 0.1 acres for prime farmland, 0.25 acres for irrigated pasture or 0.50 acres for dryland pasture will be remediated.

Establishing vegetative cover will aid in overall stabilization and erosion control of stockpiles. Vegetative cover will aid in reducing runoff and raindrop impact and will increase moisture infiltration by maintaining the upper soil surfaces in a friable, non-crusted condition. Organic matter, soil nitrogen, and microorganism activity will be maintained or enhanced by the seeding of deep rooted species or species with fibrous root systems.

The topsoil storage breakdown can be seen in Table 2.05.4(2)(d)-2 below. The topsoil stockpile locations are shown on Map 2.05.4-4.

Table 2.05.4(2)(d)-2 Topsoil Stockpile Inventory[1]

Topsoil Pile Name[2]	Type of Topsoil	Volume (CY)
C	Lift B Topsoil	3,705
D	Mixed Topsoil	3,242
H	Lift A Topsoil	2,363
12	Mixed Topsoil	169,570
13	Lift A	1,900
4	Prime Farmland Topsoil	13,266
Sub Total		194,046
11A	Lift A Topsoil (Morgan)	5,550
11B	Lift B Topsoil (Morgan)	4,070
Sub Total		9,620
GRAND TOTAL		203,666

[1] The topsoil inventory above is a moment in time. This inventory is updated annually in the annual reclamation report.
[2] Please see Map 2.05.4-4 for topsoil stockpile locations.

Topsoil Storage Prime Farmland

An area near Pond 013 in the northwest corner of the ERMR-Johnson property was determined to be Prime Farmland. The construction of the Pond 013 led to the disturbance of this area. The disturbance is a mix of Pond 013 itself, the prime farmland soil stockpile footprint, and related disturbance. The prime farmland soils that were removed are now in Stockpile 4 near Pond 013. This stockpile can be seen on Map 2.05.4-4 with the corresponding volume of material provided on Table 2.05.4(2)(d)-2.

The Morgan property irrigated cropland areas have been fully reclaimed. Remaining topsoil in Piles 11A and 11B (see Table 2.05.4(d)-2 and Map 2.05.4-4) are used as need for long-term management of the irrigated cropland reclamation on the Morgan Property.

Topsoil Storage Non-Prime Farmland Areas

The locations of these stockpiles can be seen on Map 2.05.4-4. Additionally, these stockpiles volumes are listed on Table 2.05.4(2)(d)-2.

9. Topsoil Balance and Replacement on Areas West of 2700 Road

This section describes the topsoil balance calculations for all areas west of 2700 Road, including discussions on the sequence and volumes needed to provide the required thicknesses.

Morgan Property

All of the Morgan property has been reclaimed. This narrative has been retained for historical purposes. Map 2.05.4-4 shows the current status of the Morgan Property reclamation. This map also shows the topsoil and subsoil stockpile amounts and balance calculations for the entire Morgan Property. All soil has been removed from the Morgan Property, so no calculations of undisturbed soil available for redistribution have been conducted or included. Any remaining soil stockpiles designated as Morgan stockpiles will be used at the landowners' discretion.

In order to satisfy requirements of legal settlements with the Morgans, 32,800 CY of topsoil from the ERMR-Johnson and Benson property was transferred to the Morgan Property. This topsoil came from stockpiles on the ERMR-Johnson properties. This ERMR topsoil will be placed on the Morgan Property as additional subsoil.

The Morgan property topsoil replacement is broken down into five different zones, four of which had topsoil placed on them. The fifth zone is the undisturbed area used as the Irrigated Cropland reference area. The five zones are described specifically below and shown on Map 2.05.4-4.

Non-Prime Farmland (NPF)

- **Zone 1** was a field that received 14 in. of Mixed Topsoil overlying 33 plus in. of Bench 1 material. 12 additional in. of Mixed Topsoil was placed atop 11 in. of ERMR Extra and the current 14 in. of Mixed Topsoil to complete a 37 in. subsoil layer. 14 in. of Lift A Topsoil was placed on top of this subsoil layer to give a total soil depth of 51 in. The post mine use of this zone is Irrigated Cropland, but it is not Prime Farmland.
- **Zone 2** was a field that received 14 in. of Lift A Topsoil on top of 26 in. of Mixed Topsoil

and 11 in. of ERMR Extra, for a total soil depth of 51 in. The post mine use of this zone is Irrigated Cropland, but it is not Prime Farmland.

- **Zone 2A** was a 0.33 acre area which encompassed the final portion of BB Detour Road to be reclaimed that received Lift A Topsoil at a depth determined by the landowner on top of the native ground/topsoil after the Bench 1 road base was removed. At the landowners' request, the post mine land use of this zone will be classified as Irrigated Cropland but will be treated as Prime Farmland.
- **Zone 2B** is a 2.87 acre adjacent support facilities area which will be adjacent to and is an integral part of the postmine land use. The excess topsoil stockpiles located in this area will be utilized by the landowner for reclamation maintenance as needed.

Prime Farmland (PF)

- **Zone 3** was a 3.19 acre area that was reclaimed as Prime Farmland. This zone consists of 22 in. of Lift A Topsoil atop 34 in. of Lift B Topsoil. This created a total soil depth of 56 in. The post mine land use of this zone is Irrigated Cropland. It is Prime Farmland.
- **Zone 4** is a 1.90 acre piece that was left undisturbed because it was needed as a blasting buffer zone around Frank Morgan's home. Combined with Zone 3, this makes up the 87 acres of Prime Farmland on the Morgan Property. No soil will be placed in this area. This zone will be used as the Irrigated Cropland Reference area. It is Prime Farmland.

The zones for topsoil replacement for the Morgan property prime farmland can be seen on Map 2.05.4-4 and Table 2.05.4(2)(d)-3 provides the topsoil balance for the property. All of the soil listed as available will be used in reclamation. For practicality, soil thicknesses are designed to the nearest inch, multiplied by the area of application, and then the resulting volume compared to the amount of said soil that is available. While this may appear as if there is leftover soil, all soil will eventually be used for reclamation.

Table 2.05.4(2)(d)-3 Topsoil and Subsoil Balance on Morgan Property

Topsoil/Subsoil Requirements								
			Mixed Topsoil		Lift A Topsoil		Lift B Topsoil	
Zone		Area (acres)	CY	Thick (in.)	CY	Thick (in.)	CY	Thick (in.)
Zone 1	NPF	0.00	0	0	0	14	0	34
Zone 2	NPF	0.00	0	0	0	14	0	0
Zone 2A	NPF	0.00	0	0	0	14	0	0
Zone 2B	NPF	2.87	0	0	0	0	0	0
Zone 3	PF	0.00	0	0	0	22	0	34

Zone 4	PF	1.90	N/A	N/A	N/A	N/A	N/A	N/A
Undisturbed		0.03	N/A	N/A	N/A	N/A	N/A	N/A
Total		**4.80**	**0**		**0**		**0**	

Topsoil/Subsoil Balance (CY)			
	Mixed Topsoil	Lift A Topsoil	Lift B Topsoil
Zone 1	0	0	0
Zone 2	0	0	0
Zone 2A	0	0	0
Zone 2B	0	0	0
Zone 3	0	0	0
Zone 4	N/A	N/A	N/A
Soil to be placed	0	0	0
Already Placed	0	0	0
Stockpiled[1]	0	5,550	4,070
Soil Available	0	5,550	4,070
Soil Balance[2]	**0**	**5,550**	**4,070**

[1]From Table 2.05.4(2)(d)-2 Topsoil Stockpile Inventory

[2]Soil available minus soil to be placed. This shows that the plan can be accomplished with the soil on site, but it does not mean that there will be soil left over. All soil will eventually be used for reclamation.

As can be seen from Table 2.05.4(2)(d)-3, there is sufficient topsoil and subsoil volume in the stockpiles to complete the topsoil redistribution plan. Since stockpiled soil had rock fragments removed during stripping, the recovery from stockpiles is treated as 100%. The basic calculation of the topsoil required in a given zone is:

$$Topsoil\ Needed = \frac{Zone\ Area\ (ac) * 43{,}560\ {}^{ft^2}\!/_{ac} * Soil\ Thickness\ (in)}{12\ {}^{in}\!/_{ft} * 27\ {}^{ft^3}\!/_{yd^3}}$$

The size of the stockpiles is determined via detailed surveys conducted on site. All soil thicknesses are designed to the nearest inch, since this is the practical measurement limit for the scale of equipment used at the New Horizon Mine.

North of BB Road/West of 2700 Road

Several areas are remaining to be topsoiled north of BB Road and West of 2700 Road. One area

will be reclaimed to Prime Farmland (also refer to Section 2.06.6) and the other areas will be reclaimed to dryland pasture. All areas will have approximately 24 inches of Bench 1 placed prior to topsoil replacement. Please see Map 2.05.4-4, which delineates currently reclaimed areas, unreclaimed areas, and the prime farmland area on the ERMR Property. Table 2.05.4(2)(d)-4 below provides the overall topsoil balance for these remaining areas.

Table 2.05.4(2)(d)-4 Topsoil Balance North of BB & West of 2700 Road

Area	Area (acres)	Available Thickness (inches)	Stockpiled Topsoil[1]
Dryland Pasture Areas	89	12.2	171,470
Prime Farmland Area	4	24	13,266
Total			**184,736**

[1]Stockpiled topsoil values are from Table 2.05.4(2)(d)-2 Topsoil Stockpile Inventory

Topsoil from Pile 12 will be used for differential settling on the ERMR-Lloyd and ERMR-Benson West irrigated pasture areas if necessary. Please see Section 12 below for further discussion on differential settling management plan.

Topsoil piles D and C south of the facilities area will remain post mine for use at the discretion of the surface landowner, or if deemed necessary used for differential settling mitigation on irrigate pasture reclamation areas within the permit boundary.

Topsoil pile H will be taken to an ERMR property outside of the permit boundary. New Horizon currently has an adequate amount of topsoil necessary to complete reclamation for the dryland pasture areas on or directly adjacent to the ERMR-Johnson property, and this extra topsoil is a long term benefit to an adjacent ERMR property.

Please see Map 2.05.4-4 for locations of topsoil piles discussed in this section.

10. Topsoil Preparation Procedures Prior to Seeding

This discussion has been divided into each of the three main post-mine land uses: Dryland Pasture (DP), Irrigated Pasture (IP), and Irrigated Cropland (IC). Irrigated Cropland covers both prime and non-prime farmland areas. In general, topsoil will not be placed while saturated, and will be replaced along the contour, whenever feasible, to minimize potential erosion and topsoil/spoil interface slippage problems. This practice will be discontinued on steep slopes where the safety of the equipment operator is in jeopardy.

Irrigated Cropland (Prime Farmland) Topsoil Preparation Procedures

Topsoil replacement operations may be carried out during most of the year, the exception being those periods when wet conditions would preclude handling of the topsoil materials.

- Deep ripping of topsoil - Upon successful completion of placing topsoil on the ripped Bench 1 the topsoil will be ripped to a depth of at least 2 inches greater than the depth of topsoil. This will alleviate compaction of the topsoil and assist in the removal of any boundaries between the ripped Bench 1 and topsoil.

- Land leveling - A blade pulled behind a farm tractor is used to level the topsoil surface and allow a smoother surface for seeding.

- Rock picking – Rock picking is done by a mechanical device that is pulled behind a tractor that windrows rocks and then another device that picks up large rocks over approximately 2.5 inches in diameter. Rocks up to approximately 24" diameter can be picked up by the device. Sandstone lenses that are identified in any topsoil or Bench 1 will be buried in lower Bench 1 overburden, at least eight feet below the topsoil level.

- Fertility testing - Three soil samples will be obtained in the field to be tested. The field is defined as that area that has recently been topsoiled. Samples will be taken and analyzed by a lab using the standard soil test for pH, salts, organic matter, nitrogen, potassium, and phosphorous. The lab will be informed that the desired crop is irrigated alfalfa and that the tonnage rate is 5.5 tons per acre. The reference area will be sampled separately.

- Disking - Prior to final seedbed preparation, soil conditioning and weed control tillage will be carried out through disking or other standard agricultural practice. Disking will be used to condition soil, break up clods, and control weeds prior to seeding. If annual weeds are a problem, several tillage operations may be required to get adequate control.

- Final Seedbed Preparation - (For irrigated areas) Cultipacking prior to seeding will be conducted if land leveling did not provide a smooth soil surface for seeding. The best period for tillage in these areas may be in the early spring prior to the irrigation season. For flood irrigated areas - A standard marker will create furrows of approximately 4" to 6" depth on 30" centers, which is standard for the gated pipe used for the flood irrigation.

- Fertilizer Application - Based on the results of fertility testing, fertilizer of the designated type will be applied at the rate specified from the lab testing. Fertilizer applications may be delivered through the irrigation system, by tractor with a broadcast spreader, or alternate method. The fertilizer will be applied in the same year that the fertility testing is done. Ongoing fertility testing after initial seeding is described in Section 2.05.4(2)(e)

Revegetation.

Irrigated Pastureland Topsoil Preparation Procedures

Topsoil replacement operations may be carried out during most of the year, the exception being those periods when wet conditions would preclude handling of the topsoil materials.

- Deep ripping of the subsurface - Upon successful completion of placing topsoil on the ripped Bench 1 the topsoil will be ripped to a depth of at least 2 inches greater than the depth of topsoil. This will alleviate compaction of the topsoil and assist in the removal of any boundaries between the ripped Bench 1 and topsoil.

- Deep ripping of topsoil - Upon successful completion of placing topsoil it will be ripped 2 inches or greater than the depth of topsoil. This will alleviate compaction of the topsoil and assist in the removal of any boundaries between the ripped subsoil and topsoil.

- Land leveling - A blade may be pulled behind a farm tractor to level the topsoil surface and allow a smoother surface for seeding.

- Rock picking - Rock picking is done by a mechanical device that are pulled behind a tractor that windrows rocks and then another device that picks up large rocks over approximately 2.5 inches in diameter. Rocks up to approximately 24" diameter can be picked up by the device. Sandstone lenses that are identified in any topsoil or Bench 1 will be buried in lower Bench 1 overburden, at least eight feet below the topsoil level.

- Fertility testing - Three soil samples will be obtained in the field to be tested. The field is defined as that area that has recently been topsoiled. Samples will be taken and analyzed by a lab using the standard soil test for pH, salts, organic matter, nitrogen, potassium, and phosphorous. The lab will be informed that the vegetation is irrigated pastureland. The reference area will be sampled separately.

- Disking - Prior to final seedbed preparation, soil conditioning and weed control tillage will be carried out through disking or other standard agricultural practice. Disking will be used to condition soil, break up clods, and control weeds prior to seeding. If annual weeds are a problem, several tillage operations may be required to get adequate control.

- Final Seedbed Preparation - (For irrigated areas) Cultipacking prior to seeding will be conducted if land leveling did not provide a smooth soil surface for seeding. The best period for tillage in these areas may be in the early spring prior to the irrigation season. For flood irrigated areas - A standard marker will create furrows of approximately 4" to

6" depth on 30" centers, which is standard for the gated pipe used for the flood irrigation.

- Initial Fertilizer Application - Based on the results of the fertility testing, fertilizer of the designated type will be applied at the rate specified from the lab testing. Fertilizer applications may be delivered through the irrigation system, by tractor with a broadcast spreader, or alternate method. The fertilizer will be applied in the same year that the initial fertility testing is done. Ongoing fertility testing after initial seeding is described in Section 2.05.4(2)(e) Revegetation.

Dryland Pasture Seedbed Topsoil Preparation Procedures

For dryland pasture reclamation areas the following procedures will be observed during topsoil replacement.

- Ripping - Upon successful completion of placing topsoil on the ripped Bench 1 the topsoil will be ripped to a depth of at least 2 inches greater than the depth of topsoil. This will alleviate compaction of the topsoil and assist in the removal of any boundaries between the ripped Bench 1 and topsoil.

- Land leveling – New Horizon uses a blade pulled behind a farm tractor to level the topsoil surface and allow a smoother surface for seeding.

- Rock picking – For dryland pasture areas it will be at the operators discretion on whether rock picking will occur.

- Disking - Prior to final seedbed preparation, soil conditioning and weed control tillage will be carried out through disking or other standard agricultural practice. Disking will be used to condition soil, break up clods, and control weeds prior to seeding. If annual weeds are a problem, several tillage operations may be required to get adequate control.

- Final Seedbed Preparation - Cultipacking prior to seeding will be conducted if land leveling did not provide a smooth soil surface for seeding. The best period for tillage in these areas will be immediately prior to seeding.

For areas greater than 15% slope, the following procedures will be followed:

- Scarification - The single lift topsoil will be scarified (ripped) to its placement depth using a motor grader with rippers which will operate perpendicular to the slope, creating rough surfaces to trap moisture and prevent soil erosion along this slope. An example of an area where this would be employed is the north edge of the Benson West, the ERMR-Lloyd

and the ERMR-Johnson property, where there is a significant steeper slope in these areas.

11. Topsoil Sampling Plan

Prior to topsoil being seeded it will be sampled to ensure it has correct properties to ensure appropriate vegetative growth will occur. Table 2.05.4(2)(d)-5 below provides the topsoil sampling criteria that will be utilized.

Section 2.05.4(2)(e)

Revegetation

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List of Tables

Section 2.05.4(2)(e)

Revegetation

1.0 Introduction

This revegetation plan details the methods and materials required to revegetate and stabilize lands affected by surface mining at the New Horizon mine. Prime farmland specific discussion that supplements the plans in this section, and satisfies Rule 4.25, can be found in permit Section 2.06.6.

2.0 Postmining Vegetation & Land Use Types

The post mine vegetation types in the reclaimed area will consist of the Irrigated Pasture, Irrigated Cropland (alfalfa), and Dryland Pasture. Part of the Irrigated Cropland is designated as Prime Farmland.

Irrigated pasture is an important post-mine vegetation type, although dryland pasture is also prevalent. In order to encourage "prompt establishment of vegetative cover and recovery of productivity levels compatible with the approved postmining land use, Irrigated Pasture will be established on areas identified in the pre-mine studies as Pastureland - Irrigated Grass and Pastureland - Irrigated Hay. The exceptions are the entire Morgan property and a small area on the New Horizon property, which will be restored to Irrigated Cropland or Prime Farmland The various plans for backfilling, grading, and topsoil redistribution (Sections 2.05.4(2)(c) and (d)) will provide the basis for the potential productivity of the reclaimed lands.

For the post mine land use areas please refer to Map 2.05.4-5 Post-Mine Vegetation/Land Use and are further described below.

2.1 Irrigated Cropland (IC) or Prime Farmland (PM)

These areas will have 100% alfalfa (not including the companion, small grain, or oat crops) which are well-managed, replowed, replanted, irrigated consistently and harvested. Irrigated Cropland is the sole post mining land use for the Morgan Property. The Morgan property owners have the most experience and knowledge of what works best on their land. New Horizon will coordinate and cooperate with the Morgan Property owners for decisions on the Irrigated Cropland vegetation plan and management of the Morgan Property.

The Johnson Property (owned by New Horizon) will also contain a small piece of Irrigated Cropland that will be managed as Prime Farmland.

reclaimed as Dryland Pasture. Site grading will allow for future irrigation across a major portion of the property.

Please see Map 2.05.4-5 for the location of the Irrigated Pasture and the Dryland Pasture portions on this tract. Additional lands surrounding the irrigated pasture area can be irrigated in the future if the landowner decides to do so. A minimum of 52 acres can be irrigated since the slopes are very mild (approx. 2.5%). Since the planned irrigated pasture area is at the high point, all lower areas can be easily irrigated if a future landowner decides to make the water available for this area.

Lloyd Property (owned by ERMR)

This parcel is north of BB Road and immediately west of the aforementioned Benson West parcel. For clarity of identification, it will be referred to as the Lloyd parcel.

This tract was originally classified by New Horizon as Irrigated Pasture and Rangeland. The irrigated portions of this tract were flood Irrigated in the past. Irrigation water was allowed to traverse over the land at will. There is not any evidence the land was ever developed into a tract suitable to be irrigated by a sprinkler system.

Eighty-four shares of water are available for the Lloyd property, and a side roll irrigation system (2 side rolls) are in place and provide irrigation water to 26 acres of Irrigated Pasture and 4 acres of Prime Farmland on the Lloyd Property. The remaining disturbance acres of reclamation on the Lloyd's property will be reclaimed as Dryland Pasture.

See Map 2.05.4-5 for the location of the irrigated pasture, irrigated cropland, prime farmland, and dryland pasture portions of this tract. Additional lands surrounding the irrigated pasture area can be irrigated in the future if the landowner desires to do so, since the slopes are very mild (approx. 4%), which represents the planned final topography (Map 2.05.4-5).

Johnson Property (owned by ERMR)

This parcel is immediately west of the Lloyd parcel.

This tract was originally classified by New Horizon as Irrigated Pasture, Irrigated Pasture Hayland, and Rangeland. Portions of these tracts were flood irrigated in the past. Irrigation water was allowed to traverse over the land at will. An area of 98A soil of 4.76 acres in size on this property was determined to be Prime Farmland by the NRCS. The construction of Pond 013 disturbed some of this soil (3.96 acres). The prime farmland soil from Pond 013 were excavated in a single lift and stored in a stockpile adjacent to Pond 013. Since irrigation infrastructure and water is not available on the Johnson Property the 4 acres of prime

farmland reclamation will occur on the Lloyd property as shown on Map 2.05.4-9 and described above under the Lloyd Property section.

Morgan Property

The Morgan property south of BB Road and west of 2700 Road of 107.96 acres that has been designated in the pre-mine discussion (Section 2.04.3) as Irrigated Cropland (IC). All of this tract will be restored to Irrigated Cropland (IC). As previously mentioned, a large portion of this IC area is also designated as Prime Farmland.

Prior to mining, the Morgan's irrigated their property via sideroll, gated pipe, and traveling big gun. Center pivot irrigation, siderolls, and big guns will be used to provide the post-mine irrigation for the reclaimed Morgan Property. All design calculations and layouts for this system are included in Attachment 2.05.4(2)(e)-7.

As of April, 2010, Morgan has leased 62 shares of water (or whatever is necessary) to New Horizon to irrigate all of their property within the permit area. The lease addendum letter concerning the additional water is included in Attachment 2.05.4(2)(e)-7. Therefore, the entire Morgan-owned area in the permit will be reclaimed as Irrigated Cropland (IC). The Morgan Property contains significant amounts of Prime Farmland. This is discussed in detail in permit Section 2.06.6.

ERMR Property – Facilities Area

This parcel of 18.8 acres is located in the southeastern corner of the permit area

This tract was originally classified as Irrigated Pasture in the pre-mine land use but no water shares were purchased with this tract and none are allocated for future use. Portions of the tract were "Flood Irrigated" in the past. This land will be reclaimed to Dryland Pasture.

This 18.8 acre area will be graded to a very mild slope which will be planned for future irrigation, if any post bond release landowner decides to irrigate the property. This slope is expected to be 2% to 4%.

4.0 Vegetation Sampling Procedures

Vegetation cover for all reclaimed units will be measured by a point intercept method that meets the provisions of Rule 4.15.11(1)(a)(i). The observational unit will be at intervals along a transect at least 5 meters in length, where 100 data points will be collected. A point sampling device supported by a rigid frame will be used to ensure unbiased and near vertical point placement.

Herbaceous production will be measured by a quadrat sampling method that meets the provisions of Rule 4.15.11(1)(b)(i). The observational unit will be a rectangular or circular plot frame at least ¼ square meter and large enough to encompass individual plants of the larger species being sampled. Current year growth of herbaceous non-woody species will be clipped within each quadrat. The sampled plant material will be bagged and taken to the laboratory for oven-dried weighing.

Sampling points for cover and herbaceous production will be located by using a systemic grid with a random start to create up to 50 transects within each study area (reclaimed sites and the reference area). These coordinates will be entered into a (GPS) unit and by means of the navigation feature, the transect coordinates will be located in the field. The production quadrat will be placed 1 meter to the right of the origin to preclude trampling for the cover sampling.

Vegetation sampling for measuring reclamation success will be conducted to ensure a repeatable and unbiased estimate of each vegetation population parameter. Measurements made on the reference area will be done in the same manner and season as measurements made on reclaimed lands, to ensure valid comparisons as specified in Rule 4.15.11(1).

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Section 2.06.6
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Prime Farmlands

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Prime Farmlands

Introduction

Prime farmland determinations have been made on the Morgan and Elk Ridge Mining and Reclamation (ERMR) properties within the New Horizon mine permit area as described further below. Soil survey information can be found in Section 2.04.9 and is shown Map 2.04.9-1. All prime farmland determinations have been confirmed by the Natural Resources Conservation Service (NRCS). Please see Attachment 2.04.9-6 for NRCS prime farmland determinations.

Identification of Prime Farmlands

Morgan Property
Soils south of BB Road and west of 2700 Road on the Morgan property within the New Horizon mine permit boundary were considered prime farmland soils (98E). The total prime farmlands soils encompass nearly 87 acres as shown on Map 2.04.9-1. The entirety of the Morgan property that was disturbed by mining activities has been reclaimed to prime farmland standards (approximately 108 acres).

Elk Ridge Mining and Reclamation LLC Property
There are 4.8 acres of prime farmland designed soils (98A) in a low lying area of Tuttle Draw in the northwest corner of the permit area on ERMR property. In a portion of this 4.8 acres of prime farmland soils, topsoil was removed from 4.0 acres to construct Pond 013. This prime farmland will be restored directly adjacent to other irrigated pasture areas as shown on Map 2.05.4-5. This location provides the best opportunity for the prime farmland to be successfully restored since existing infrastructure is already in place to provide irrigation water, and the logistics of fertilization, cutting, and haying can be conducted concurrently with existing irrigated pasture reclamation areas.

Prime Farmland Topsoil Removal, Storage and Replacement

For prime farmland topsoil handling including storage and redistribution pleases refer to Section 2.05.4(2)(d).

Prime Farmland Topsoil Quality – Morgan Property

All topsoil that has been redistributed on the Morgan Property was analyzed through sampling of the stockpiles prior to redistribution of the soils. The data from the sampling of the stockpiles in Attachment 2.06.6-1

Prime Farmland Reclamation – Morgan & ERMR Properties

Please refer to Section 2.05.4(2)(e) for prime farmland reclamation implementation, management, appropriate seed mixtures, and revegetation success criteria for prime farmland reclamation areas.

NRCS Prime Farmland Reclamation Certification

NRCS Certification of the reclamation plans for prime farmland reclamation can be found in Attachment 2.06.6-2.