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Technical Analysis and Findings

Utah Coal Regulatory Program

February 22, 2017

PID: C0250005
TaskID: 5287
Mine Name: COAL HOLLOW
Title: OSM OVER-SITE INSPECTION RESPONSE

Summary

The following is a review of the subject amendment with analysis to determine if regulations R645-301-300 Biology and R645-301-400 Land Use have been met.

The amendment is intended to meet requirements issued as a result of the 2016 OSM Oversite Visit. Although there are minor additions to Sections 331, 340, and 352 in Chapter 3, this amendment also incorporates other changes to Chapter 3 for general housekeeping purposes. All other findings in regards to the replacement of Ch. 3 contents can be found in the technical analysis for task 5267.

Alton Coal Development, LLC (ACD) submitted this amendment in response to the June 13, 2016 OSM over-site inspection. Seven items in the inspection report were identified as requiring updates to the plan. They were addressed as follows:

1. GPS locations for the reference areas were added to Drawing 3-1

2. ACD met with Division staff Lisa Reinhart and DWR, Rhett Boswell on August 18 to review reclamation and associated reference areas. Woody plant densities for mine reclamation were consulted with DWR and the Division. All parties agreed that due to very high densities of sagebrush and pinyon-juniper in reference sites (and pre-mining vegetation), a 10% density requirement of reference sites was adequate for a 10 year bond release. Natural plant succession will lead to higher shrub density over time and lower shrub densities allow for higher interspatial herbaceous vegetation (grasses and forbs) which is desirable for wildlife and grazing animals (specifically brood rearing habitat for Greater sage-grouse).

3. Based on the consultation for woody plant densities from DWR in item 2, no treatment methods for improving woody plant densities on seeded areas were recommended because the current density (10% of reference site) is adequate. DWR does recommend ACD take steps to remove invasive annual grass (cheatgrass) from reclaimed areas via targeted grazing efforts or other opportunities which were discussed during the field visit. As a result, ACD has increased herbicide treatment targeting cheatgrass.

4. Success standards for reclaimed pasture land have been developed and added to Chapter 3.These standards were based on representative historical data collected in nearby pastures.

5. Based on the recommendation for woody plant densities from DWR in item 2, a 10% density of woody species (compared to the reference site) has been established for the sagebrush/grass, Pinyon-Juniper, meadows, and sagebrush drainage plant communities. The pasture land does not contain a woody species density requirement because the PMLU is livestock grazing. In addition, forb and grass diversity standards were developed and incorporated into the MRP.

6. Control of musk thistle has been ongoing at the Coal Hollow Mine in past years and was continued in 2016. Herbicide

was applied on June 4, 9, 24, 25, 29, July 2, 9 and 16 as well as mechanical removal of individual plants when encountered.

7. NRCS was on site July 28, 2016 to perform range site evaluations for reference areas. Results have been added to the MRP as Appendix 3-11.

Deficiencies Details:

lreinhart

Environmental Resource Information

General

Analysis:

The amendment meets State of Utah R645-301-300 requirements for a description of the vegetative, fish, and wildlife resources of the permit area and adjacent areas.

The amendment describes vegetative, fish, and wildlife resources of the permit area and adjacent area (North Private Lease and Coal Hollow Lease) in Section 321. Detailed vegetation information and reports are provided in Appendix 3-2, 3-4 and 3-9. Potential impacts to those resources are discussed in the Operations Plan sections 331, 332, Proposed reclamation design to restore or enhance those resources is described in Section 342 and appendix 3-9.

lreinhart

Historic and Archeological Resource Information

Analysis:

The amendment meets the State of Utah R645-301-411.140 requirements for cultural and historic resources information.

Table 4-1 is updated to include Archaeological Testing of a Portion of Site 42KS2041 within the Coal Hollow Mine in the South Private Lease Area. Project Number U13-HO-0650p (e), Gourley 2016.

The narrative on page 4-8 is updated based on recent mitigation activities. Although, not explicitly stated, 42KA2043 was originally recommended as eligible. After testing of various other sites on the South Lease Parcel the cultural resources contractor recommended that other sites lacking features (such as 42KA2043) in the future be reevaluated for National Register Eligibility. DOGM conducted a reevaluation of 42KA2043 following a review of other archaeological sites on the South Lease Parcel and determined additional mitigation efforts would not result in unique new or novel data to enhance the archaeological record. Consultation with SHPO regarding this matter resulted in concurrence determination with DOGMâ€™s findings.

lreinhart

Vegetation Resource Information

Analysis:

The amendment meets the State of Utah R645-301-321 requirements for vegetation resource information.

Section 321.100 describes plant communities within the permit area and drawing 3-1shows reference areas. Detailed vegetation information that is repeated in Appendix 3-2, 3-4, and 3-9 was removed and simply referenced to improve clarity and decrease bulk of the document. Vegetation surveys identify if any listed or proposed endangered or threatened species of plants may occur in the permit area. The description is adequate to predict the potential for reestablishing vegetation and includes productivity measurements on all lands that will be disturbed. Productivity is expressed as pounds/acre and is listed in table 3-34.

lreinhart

Fish and Wildlife Resource Information

Analysis:

The amendment meets the State of Utah R645-301-322 requirements for fish and wildlife resource information.

In Section 322 the amendment describes fish and wildlife resource information within the proposed permit area and any reference areas. It also includes a history of agency consultation and studies conducted in an effort to design the protection and enhancement plan required under R645-301-333. The area is not likely to include any listed proposed endangered or threatened species of plants or animals as evidenced by USFWS Consultation Code 06E23000-2016-SLI-0325 and analysis in table 3-35.

The permit area contains habitats of unusually high value for the Greater Sage-grouse. As such, Appendix 3-8 has been developed in consultation with Utah Division of Wildlife to outline specific monitoring and mitigation measures required by the Permittee.

The Division determined that approval of this amendment would not affect a listed species or designated critical habitat and therefore did not initiate informational consultation with U.S. Fish and Wildlife Service.

lreinhart

Land Use Resource Information

Analysis:

The amendment meets the State of Utah R645-301-411 requirements for land use information.

The amendment makes a minor change in the land use section in which Volume 12 has been renamed to Appendix 3-9. This was done as requested by the Division Biologist (Lisa Reinhart).

Ch. 4, page 4-34 is a map that shows land use of the Coal Hollow Lease. Exhibit 4-2 in Ch. 4 shows land use of the North Private Lease.

lreinhart

Maps Vegetation Reference Area

Analysis:

The amendment meets the State of Utah R645-301-323 requirements for maps and aerial photographs.

Drawing 3-1 shows vegetation types and plant communities, including sample locations. Drawing 3-5 shows habitats of high value for the Greater Sage-grouse. Detailed maps and photos of vegetation are provided in respective appendices.

lreinhart

Reclamation Plan

PostMining Land Use

Analysis:

The amendment meets the State of Utah R645-301-412 requirements for postmining land use.

The description of the PMLU is located in Section 412, summarized in Chapter 3, Section 356.120 and described in the table on page 3-95. Maps showing areas of PMLU are available as exhibit 4-2 (North Private Lease consisting of pastureland and grazing land) and map on page 4-3 (Coal Hollow Lease showing areas of Grazing Land and Crop Land). Because the surface owners vary (all private), each landowner has determined the desired PMLU. In general, the PMLU is primarily grazing of domestic livestock and some landowners requested wildlife habitat as a secondary land use. Therefore, seedmixes are modified to provide habitat for wildlife as a secondary use. Some areas will be returned to pastures and cropland. Areas marked as “wetlands” will be restored to a condition required by the regulatory authority, Army Corp of Engineers.

The plan explains how the proposed postmining land use is to be achieved and the necessary support activities which may be needed to achieve the proposed land use; The PMLU is consistent with surface owner plans and applicable Utah and local land-use plans and programs.

lreinhart

Revegetation Standards for Success

Analysis:

The amendment meets the State of Utah R645-301-356 requirements for revegetation standards for success.

Standards for revegetation success will include comparisons of unmined lands (reference areas), or other success standards approved by the Division, with the areas being reclaimed to evaluate the appropriate vegetation parameters of ground cover, production, and stocking density of shrubs.

The standards for revegetation success at the Coal Hollow Mine are the result of consultations and collaborations with DWR, DOGM, ACD, consulting biologists and the private landowners of the mine area. The landowners generally prefer that their land is returned to vegetation with the primary focus on grazing for domestic livestock. Some, but not all, of the landowners, are not opposed to re-seeding with some plant species, both woody and herbaceous, that could also benefit wildlife habitat (see Chapter 4). The rationale for the success standards is that those areas reclaimed to include woody and herbaceous plants to enhance wildlife will model ecological secondary succession and the dynamics that follow reestablishment of plant communities that have been severely disturbed by forces such as floods, wildfires, severe winds or man-caused disturbances like surface mining. With that concept in mind, the consensus for the standards for future revegetation success along with the postmining land uses for the Coal Hollow Lease and the North Lease Area are summarized in the table on page 3-95. This table shows the performance standards for each vegetation area.

Since pinyon-juniper vegetation communities are not desirable for the Post Mining Land Use, the pinyon-juniper reference area was eliminated with this amendment. However, baseline data for the Pinyon-juniper communities are retained in the MRP to maintain a historical context. As a result, all pre-mining pinyon-juniper vegetation communities will be restored to a sagebrush-grass plant community which provides a greater value to grazing and browsing animals, including the Greater sage-grouse. As such, the Division has approved the use of the sagebrush-grass reference area as the success standard for pinyon-juniper communities.

It should be noted the pinyon-juniper community is an ecological result of pinyon and juniper encroachment into sagebrush plant communities as a result of a disturbance in natural ecosystem dynamics such as fire regimes. Restoring a pinyon-juniper community to a sagebrush-grass community is a common restoration tool in rangeland management and should result in greater productivity and overall improved ecosystem health.

lreinhart

Revegetation Standards for Success

Analysis:

The information in the application meets the R645 Utah Coal Program Requirements for Standards for Success, R645-301-356.

One of the oversight topics for 2016 evaluation year was the effective implementation of reference area selection. Coal Hollow was one of four mines selected for on-site review.

Reclaimed areas (Pits 3/5 and Pit 26 east and west of the County road) and their representative reference areas were observed. (Refer to Dwg 3-1 for reference area locations and to Dwg 5-10 for former pit locations.) As a result of the inspection and conference call with Alan Boehms, Christene Belka, Howard Strand and Spencer Schumate from OSM, Kirk Nicholes from Alton Coal, Patrick Collins from Mount Nebo Scientific and Priscilla Burton from DOGM. The Division required that 7 changes to the plan be accomplished by no later than September 30, 2016. The changes have been made accordingly:

1. As discussed the GPS location(s) have been added to the MRP along with sufficient descriptions to allow a person to know the boundary of the reference area in relation to the GPS location(s).

2.ACD has obtained written recommendation from the DWR for woody plant density that is appropriate for the post mining

land use of wildlife habitat (sagegrouse emphasis) to meet the requirements of MRP Sections 341.220, 356.231 and 356.232. This recommendation has been forwarded to the Division and is described in the MRP success standards for certain vegetative communities (Chapter 3, page 3-53).

3.ACD and the Division hav consulted with the staff at DWR, NRCS, BLM, their consultant and reclamation contractors to develop the treatment methods for improving woody plant density on existing seeded areas, with minimal effect on established vegetation. The MRP has been amended (Chapter 3, page 3-53) to include a woody plant density standard of success of 10% of the total value of the noted reference areas.

4. The success standards for success for the pasture land reclaimed areas have been developed and added to the MRP. They are defined in the table on page 3-53 of chapter 3 and include 64.5 % total living cover and 1100 #'s per acre production. The text on page 3-54 should also be updated to note that ground cover and production are the success standards approved by the Division for the revegetated pasture land.

5.The table on page 3-53 has been revised to indicate that all areas seeded to sagebrush/grass will be compared to the sagebrush/grass reference area including a woody plant density of not more than 10% of the total value in the sagebrush/grass reference area.

6.Control of musk thistle will be conducted this year (2016-2017 growing season) on reclaimed areas in accordance with R645-301-341.250).

7.The July 2016 NRCS evaluation of the reference areas will be included in the 2016 annual report, and has been shared with the Division.

Deficiencies Details:

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