



Technical Analysis and Findings
Utah Coal Regulatory Program

April 8, 2016

PID: C0070034
TaskID: 5078
Mine Name: BANNING SIDING LOADOUT
Title: MIDTERM PERMIT REVIEW

Summary

The Division is required to review each active permit during its term, in accordance with R645-303-211. This review is to take place not later than the midpoint of the permit term, which is April 24, 2016 for the Banning Loadout.

The following was conducted for this review:

- 1. Review of the Plan to ensure that the requirements of all permit conditions, division orders, notice of violations (NOV), abatement plans, and permittee-initiated Plan changes approved subsequent to permit approval or renewal (whichever is the most recent) are appropriately incorporated into the Plan document.
2. Ensure that the Plan has been updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal.
3. Review applicable portions of the permit to ensure that the Plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.
4. Evaluate the compliance status of the permit to ensure that all unabated enforcement actions comport with current regulations for abatement; verify the status of all finalized penalties levied subsequent to permit issuance or permit renewal, and verify that there are no demonstrated patterns of violation (POV). This will include an AVS check to ensure that Ownership and Control information is current and correct.
5. Evaluate the reclamation bond to ensure that coverage adequately addresses permit changes approved subsequent to permit approval or renewal, and to ensure that the bond amount is appropriately escalated in current-year dollars.
6. Evaluate the permit for compliance with variances or special permit conditions.

Deficiencies Details:

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General Contents

Identification of Interest

Analysis:

The permit meets the requirement of R645-301-112. Section 112 of the General Ch.1 binder contains information pertaining

to identification of interests for Canyon Fuel Company, LLC.

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Violation Information

Analysis:

The current MRP does not meet R645-300-132 requirements for Violation Information.

General Chapter 1, Section 113, page 1-6 provides Violation Information. However, an AVS check was conducted on 03/29/2016 and revealed two outstanding violations that must be addressed by the Permittee. 1. AML violation to 253715 Bowie Refined Coal LLC, in KY Permit 8339006 outstanding since 12/31/15 and, 2. Suspended Permit to 254246 BRC Alabama No. 3 LLC, in KY, Permit 8618016 outstanding since 11/9/2015. Linking entities are Rickmeier Advisors Inc. There are no other outstanding violations known by the Division.

Deficiencies Details:

The Permit does not meet R645-301-113 requirements for Violation Information.

R645-301-113: The Permittee must submit to the Division proof that the current violations discussed in the analysis of this section have been or are in the process of being corrected. The Permittee must update Chapter 1, Section 113, page 1-6 and Table 1-2 to include recent violations discussed in the analysis of this section.

Ireinhart

Right of Entry

Analysis:

The Permit meets the minimum regulatory requirements for R645-301-114.

Right of Entry information is located in Section 114 of Volume 1 on page I-6. This section includes a description of the documents upon which the permittee bases their legal right to enter and begin coal mining and reclamation operations in the permit area. No rights of entry are pending litigation. Rights of way are from the BLM (U-49763 (Loadout Facility) and U-33855 (tramroad)), State of Utah (SUL 435 (Road and Coal Storage Facility)), the Railroad (Denver and Rio Grande, Western Railroad Co, 16663 (Railroad Spur)), and Fee Land (East Carbonics. Appendix 1-5 includes the right of way and lease agreements.

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Legal Description

Analysis:

The MRP meets the minimum regulatory requirements.

Information for this section is found in the Banning Siding Loadout M&RP, section 115, page 1-8 of volume I. The loadout is not within 300 feet of an occupied dwelling, but is within 100 feet of a public road. The public road is maintained by Carbon County. CFC received permission to place the operation within 100 feet of the road when the permit was originally issued.

Ireinhart

Environmental Resource Information

General

Analysis:

The current MRP meets the State of Utah R645 requirements for General Environmental Resource Information in terms of engineering.

The current MRP meets the minimum requirements of R645-301-521 due to information stated the mine plan details, plates, and drawings. The Banning Loadout began operations in 1976. The site has a total area disturbance of 26.3 acres including loadout facilities and haul roads. Exhibit 5-1 details the permit area.

Fish and Wildlife Resource Information

Analysis:

The current MRP does not meet R645-301-322 requirements because resource information is not current.

Table 3-1 is a list of Threatened or Endangered species that could occur in the area. This table is out of date and must be updated to include a current T&E species list. Appendix 3-5 is evidence of Section 7 consultation with USFWS. This consultation occurred in 1993 and should be updated to reflect current conditions. The Division requested an updated list and consultation letter from USFWS and will provide the Permittee with their list and recommendations for incorporation into Ch. 3. The following two bird species are currently listed as Threatened or Endangered, and have not been previously considered in an effects analysis: Mexican Spotted owl and Western Yellow-Billed Cuckoo. The Permittee must evaluate the potential for mining operations to impact these species in accordance with the Threatened and Endangered Species Act.

Appendix 3-5 is USFWS Section 7 Consultation letter in which USFWS recommends formal consultation because the project area is within the watershed of the Colorado River, which contains four species of listed fish. The impacts of the project on the fish must be assessed. Any depletion of water from the Colorado River system creates a "may effect" situation. If the operation includes use of surface waters which otherwise would have reached the Colorado River (via the Rice and Green Rivers), for any purpose, including dust suppression, then formal consultation must be initiated. Pursuant to the Recovery Program, a one-time depletion fee must be paid to mitigate impacts to the fish. The fee is \$10.00 per AF based on average annual depletion of the project. If annual depletions are less than 100 AF, the fee is not required. There is not enough information in the MRP to determine if these requirements have been evaluated or met.

Consultation with Utah Division of Wildlife is evidenced in Appendix 3-3. This consultation occurred in March 1981. Due to the lapse of time and changes in wildlife populations, consultation should occur again to update species of special concern to Utah. The following species are considered as "sensitive" and are known to occur in the general area: White-tailed Prairie-dog, Ferruginous Hawk, Kit Fox, Burrowing Owl, Northern Goshawk. Updated information for state species should be inserted into page 3-4. The Division has initiated consultation with UDWR and will provide the Permittee with all future correspondence.

The Banning Loadout is not within a Sage-grouse Management Area and therefore, consultation with UDWR and PLPCO is not required for this review.

Deficiencies Details:

The MRP does not meet the minimum requirements of R645-301-322. The Permittee must update Ch. 3 of the MRP to include current Threatened, Endangered, Candidate, and Utah Sensitive Species. Table 3-1 must be replaced or updated to include current listed species (available from Division Biologist). Appendix 3-5 must be updated to include evidence of recent consultation (available from Division Biologist).

The Permittee must provide adequate information to determine if annual water depletions are greater than 100 A.F. If depletions are greater than 100 A.F., the Permittee must comply with the Recovery Program and pay the one-time fee. If this fee was previously paid, the Permittee must provide evidence of such and incorporate that information into the MRP.

R645-301-333 If the Permittee discovers a State Sensitive or Threatened or Endangered Species occupies habitat within the project area, the Permittee must provide protection and enhancement measures for that species.

Ireinhart

Soils Resource Information

Analysis:

Analysis:

The information provided in the MRP meets the requirements of R645-301-220, Soils Environmental Description. At Banning Loadout, the precipitation is seven to nine inches annually. The climate regime is aridic or torric.

Soil resource information for the Banning Loadout is provided in Chapter 2, Volume 1 of the MRP. The native soil is the Ravola series. The site was disturbed pre-law and no topsoil was salvaged. Appendix 2-3 provides an SCS Map Unit description of the Ravola-Slickspot Complex. An excerpt is rewritten below:

The Ravola soil is very deep and well drained. It formed in alluvium derived dominantly from sandstone and shale. The present vegetation in most areas is mainly greasewood, alkali sacaton, pricklypear, Russian thistle, galleta, and Indian ricegrass. Typically, the surface layer is light brownish gray loam about 8 inches thick. The underlying layer to a depth of 60 inches or more is light brownish gray loam. This soil is strongly alkaline below a depth of 20 inches.

Slickspots are barren or nearly barren areas. They have a very strongly alkaline, nearly impervious surface layer of loam about 4 inches thick. The underlying layer is light grayish brown loam and silt loam. This layer is strongly saline and is moderately alkali or strongly alkali.

Test pits and laboratory analysis are found in Appendix 2-2. Three soil pits were dug to a depth of 54 inches. Sample locations are shown on Exhibit 3-1. Test Pit 1 in the vicinity of the equipment storage area seems to represent the native Ravola soils. The pH of the soil in TP-1 ranges from 8.3 to 8.5; the Electrical Conductivity of TP-1 is 0.8 to 0.9 mmhos/cm; the SAR of TP-1 is 1.4 in the surface six inches and from 3.1 to 3.7 from six to 54 inches. The soil texture was reported as a loam.

Test Pits 2 and 3 were dug in soils below the coal storage area and conveyor and seem to represent the native Slickspots. These soils were very high in pH (from 9.0 to 9.8) and have very high SAR values (from 37 to 78). The soil was sampled down to a depth of 54 inches. Sample locations are shown on Exhibit 3-1. The texture of these in-place sodic soils was described as silt loam (predominantly).

Approximately 700 cu yds of sediment from the Dugout pond was brought to the Banning Loadout site for use as substitute topsoil (MRP, pg 2-9). Laboratory analysis of composite samples of the sediments are found in Appendix 2-2. The sediment has a pH of 7.4 and an SAR of 2.34. These sediments have a texture of clay loam. The total organic carbon content of the sediments is approximately 10%. Section R645-301-231.200 of the MRP describes using these sediments as a top-dressing over the sodic Slickspot soils represented by TP-2 and TP-3 on Exhibit 3-1. Laboratory analysis of composite samples of the sediments are found in Appendix 2-2.

pburton

Maps Affected Area Boundary Maps

Analysis:

The current MRP meets the State of Utah R645 requirements for Affected Area Boundary Maps.

The current MRP meets the minimum requirements of R645-301-521 due to information stated the mine plan details, plates, and drawings. The Banning Loadout began operations in 1976. The site has a total area disturbance of 26.3 acres including loadout facilities and haul roads. Exhibit 5-1 details the permit area. No boundaries of any public parks, NRHP site, cemetery, burial ground or units of National Systems of Trails are located within or adjacent to the permit area.

The current MRP meets the minimum requirements of R645-301-521.100 through-521.130 by having up to date relevant maps for the entire area shown on the mine plan as detailed on Exhibit 5-1 and 5-2.

The current MRP meets the minimum requirements of R645-301-521.110.R645-301-521.110 requires previously mined areas to be shown on cross sections and maps shown on Exhibit 5-3.

cparker

Maps Existing Structures and Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Structures and Facilities Maps.

The current MRP meets the minimum requirements of R645-301-521.120 which require a map clearly showing the location of all building in and within a1000 ft of the proposed permit area, along with identifying the current use of said building. Exhibit 5-1 details the permit area and that there are no buildings located within 1000 ft of the boundary.

cparker

Maps Existing Surface Configuration

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Surface Configuration Maps.

The current MRP meets the minimum requirements of R645-301-521.150 as it includes a drawing or plate that clearly calls out the existing surface in exhibit 5-1. The original 1976 disturbance area is shown on said exhibit (0.54 acres).

cparker

Maps Permit Area Boundary

Analysis:

The current MRP meets the State of Utah R645 requirements for the Permit area and Boundary maps.

The current MRP meets the minimum requirements of R645-301-521.140 as Drawings were updated within the current MRP to detail the permit boundary, lease boundary, and adjacent areas to the current mine plan. Appendix 5-4 contain the legal description of the disturbed area

cparker

Maps Surface and Subsurface Manmade Features

Analysis:

The current MRP meets the State of Utah R645 requirements for preexisting Surface and Subsurface Manmade features maps.

The current MRP meets the minimum requirement of R645-301-521.122 as it includes a drawing or plate that clearly calls out the existing surface and subsurface man made features within, passing through, or passing over the permit area. R645-301-521.120 through-521.125 requires maps to clearly show existing surface and subsurface facilities. There are no man made surface or subsurface features that cross or are within the permit area detailed on Exhibit 5-1.

cparker

Maps Surface and Subsurface Ownershiip

Analysis:

The current MRP meets the State of Utah R645 requirements for Surface and Subsurface Ownership Maps.

The current MRP meets the minimum requirements of R645-301-521.130 which requires landowners, right of entry, and public interest maps. Surface ownership is shown on Exhibit 5-4 and subsurface ownership is shown on Exhibit 5-5.

cparker

Operation Plan

Mining Operations and Facilities

Analysis:

The current MRP meets all the State of Utah R645 requirements for Mining Operations and Facilities.

The current MRP meets the minimum requirements of R645-301-523, -526, and 528 by addressing a description of the mining operation, method of coal mining, engineering techniques, anticipated annual and total production of coal by tonnage, and major equipment to be used for all aspects of those operations proposed to be conducted during the life. Initial construction at the Banning loadout did not include separating and segregation of topsoil materials, however, later disturbances included the salvaging of topsoil. All coal processing wastes produced at the site is blended back into coal for resale. The operational plan includes a Spill prevention and countermeasure plan to account for all petroleum waste generate onsite. All facilities associated with the coal loadout are detailed with Chapter 5 and Exhibit 5-2 and 5-6.

All facilities will be removed upon final reclamation, except the main line track, substation, sediment pond and portions of the haul road shown on Exhibit 5-6.

The Permittee was approved to remove the substation from the permit area in February 2006 under Task #2391 and must amend narrative within the MRP that presents conflicting information in Chapter 5 section R645-301-526.110 to present the approve removal of the substation and clarify what portions of road and main tracks will remain in detail.

Deficiencies Details:

R645-301-121.200: The Permittee will amend the narrative to clarify that the substation has been approved for a change in post mining land use and is no longer under the Permittee's obligation to reclaim in Chapter 5 page 5-27 and add narrative describing the haul road and tracks that will also remain post reclamation of the loadout area.

cparker

Existing Structures

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Structures.

The current MRP meets the minimum requirements of R645-301-526 by providing updated information to include the discussion of the initial disturbance taking place in 1976. No building existed at the site prior to the approval the current MRP. There are also no buildings located within 1,000 feet of the permit area.

cparker

Relocation or Use of Public Roads

Analysis:

The current MRP meets the State of Utah R645 requirements for the Relocation or Use of Public Roads.

The current MRP meets the minimum requirements of R645-301-521.133 due to information detailing measure to be used such as a no mining that will be employed under or within 100 ft of public roads to protect interest of the public. Parts of the Permit area lay within 100 feet of the U.S. highway 6-50 right of way. The Location of the permit area and U.S. highway 6-50 are shown on Exhibit 5-1. No facilities operations are conducted within 100 feet of this right of way.

cparker

Coal Recovery

Analysis:

The current MRP meets the State of Utah R645 requirements for Coal Recovery.

The current MRP meets the minimum requirements of R645-301-522 due to a discussion of the measures to be used to maximize the use and conservation of the coal resources. All coal processing wastes produced at the site is blended back into coal for resale.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The current MRP meets the State of Utah R645 requirements for Slides and Other Damage.

The current MRP meets the minimum requirements of R645-301-515.100 with procedures already described within the existing MRP detailing the emergency contact procedures in the event of a slide in Chapter 5 page 5-7 of the MRP.

cparker

Topsoil and Subsoil

Analysis:

Analysis:

The information provided in the submittal meets the requirements of R645-301-230, Soils Operation Plan.

Soil resource information for the Banning Loadout is provided in Chapter 2, Volume 1 of the MRP. The native soil is the Ravola series. The site was disturbed pre-law and no topsoil was salvaged.

Exhibit 3-1 of the MRP shows the soil resources for the Banning Loadout. No stockpiled soil is identified on the map.

Reclamation test plots at Banning Loadout were started in November 1991 and were monitored through 1998 to evaluate the use of organic matter to alleviate extremely harsh soil conditions (Appendix 3-4). According to a notation on Table 3-3 the test plots received double the seeding rate. One of the conclusions from test plot monitoring was that the most successful treatment was to rip and gouge the surface then seed and mulch. None of the other treatments, such as applying manure, sawdust, or fertilizer, appeared to increase the amount of vegetation.

In about 1993, an area near the substation was gouged, seeded with Gardner saltbush (*Atriplex gardneri*) and crested wheatgrass (*Agropyron desertorum*), and mulched. This revegetation effort was successful. However, stunted plants may have been due to the Slickspot soils underlying the substation location.

Approximately 700 cu yds of sediments brought to the site (in August 2001) from the Dugout Mine are stored in the equipment storage area and/or within the disturbed area of ASCA Area #2 (Exhibit 5-2, page 2-9). Section R645-301-231.200 of the MRP describes using these sediments as a top-dressing over the sodic Slickspot soils represented by TP-2 and TP-3 on Exhibit 3-1. Laboratory analysis of composite samples of the sediments are found in Appendix 2-2. The MRP page 2-9A describes the placement of these sediments in a two foot thick layer, surrounded by a berm, gouged for water retention, and seeded with the reclamation mix presented in Table 3-3 of the MRP.

pburton

Road Systems Classification

Analysis:

The current MRP meets the State of Utah R645 requirements for Road Systems and Other Transportation Facilities.

The current MRP meets the minimum requirements of R645-301-527.100 by classify each road as primary or ancillary. The haul road used to transport coal to the site splits off of U.S. highway 6-50 just after the Sunnyside junction. The road parallels the highway for approximately 1200 feet. Parts of the Permit area lay within 100 feet of the U.S. highway 6-50 right of way. The Location of the permit area and U.S. highway 6-50 are shown on Exhibit 5-1. The haul road was constructed in a manner as a frontage road as required and approved by USDOT to provide safe location for highway ingress and egress. The road is located outside the highway right of way fence and has no effect on the highway after leaving the turnout.

cparker

Road System Plans and Drawings

Analysis:

The current MRP meets the State of Utah R645 requirements for Transportation Plans and Drawings.

The current MRP meets the minimum requirements of R645-301-534.100 by submitting plans and drawing for each road to be maintained within the permit area. All transportation facilities are described in Chapter 5 Section 527 with associated detailed drawings shown on Exhibit 5-2 and 5-7.

cparker

Road System Performance Standards

Analysis:

The current MRP meets the State of Utah R645 requirements for Performance Standards of roads within the permit area.

The current MRP meets the minimum requirements of R645-301-534.150 by submitting plans and drawing for each road to be maintained within the permit area to prevent and control erosion shown on Exhibit 5-2 and 5-7. Narrative in Chapter 5 details the specific design of gravel and other appropriate measure to limit runoff and control erosion along roadways.

cparker

Road System Certification

Analysis:

The current MRP meets the State of Utah R645 requirements for Primary Road Certification

The current MRP meets the minimum requirements of R645-301-521.170 by submitting certified plans and drawing for each road to be prepared by or under the direction of and certified by a qualified registered professional engineer. All roads located within the Permit area are primary haul roads and have been certified as such.

cparker

Road System Other Transportation Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Other Transportation Facilities.

The current MRP meets the minimum requirements of R645-301-521.170 by submitting plans and drawing for each road, conveyor, and rail system to be used within the proposed permit area. Chapter 5 details the conveyor and silo associated with the loadout operations and both items are detail on Exhibit 5-2 when they existed.

The Permittee needs to add clarifying text to page 5-27 and R645-301-552 on page 5-52 clarifying what portions of the rail will be left.

Deficiencies Details:

R645-301-121.200, R645-301-521.170: The permittee will add text clarifying what portions of the tracks will remain post reclamation.

cparker

Spoil Waste Impounding Structures

Analysis:

The current MRP meets the State of Utah R645 requirements for impounding structures.

The current MRP meets the minimum standards or R645-301-514 due to not changes in the MRP text detailing at least quarterly inspections and one annual PE impoundment inspection to check for signs of instability.

The current MRP meets the minimum standards or R645-301-533 due to not changes in the MRP text. All impoundments are temporary and will be removed upon final reclamation.

Deficiencies Details:

R645-301-121.200: The Permittee will amend the narrative of Chapter 5 Section R645-301-533.200 on page 5-38 to clarify that the single impoundment at the site is not temporary and will remain post reclamation.

cparker

Hydrologic Sediment Control Measures

Analysis:

The approved Banning Loadout Mining and Reclamation Plan (MRP), meets the State of Utah R645 requirements for sediment control.

As part of the mid-term review process initiated on February 5th, 2016 (Task ID #5078), the Division of Oil, Gas and Mining (the Division) reviews the plan to ensure that the best technology currently available (BTCA) is being implemented to prevent additional contributions of suspended solids to stream flows outside of the permit area.

The Banning Loadout is relatively small in size (approximately 14.5 acres). Additionally, the site has low relief which effectively reduces the degree to which storm-water flow can cause extensive erosion/sedimentation. Exhibit 5-2R, Banning

Loadout Surface Facilities, provides a plan view of the site as well as site topography and elevations. Exhibit 7-1, Runoff Control Map (Banning), depicts the drainage control features utilized at the site.

Stormwater runoff at the site is controlled with the use of berms, embankments, channels, straw bale dikes, silt fences and a sedimentation pond. The area of the site that contains the loadout is essentially contained with a combination of berms, embankments and channels that divert stormwater runoff to the sediment pond. The sediment pond is the primary drainage feature that prevents additional suspended solids from discharging off the site. The topography of the site and drainage channels are sloped to allow for stormwater runoff to report to the sediment pond.

The sediment pond is inspected quarterly by the Permittee. The quarterly reports were submitted to the Division in March of 2016 in the Annual Report for 2015. The reports indicate that there are "no signs of instability, structural weakness or other hazardous conditions". The sediment levels were reported well below the 60% clean-out level. Division inspection reports corroborate the findings of the quarterly sediment pond inspection reports.

The detailed design plans for the sediment pond is provided in Appendix 7-6. The sediment pond has been designed to contain the stormwater runoff generated from the design storm event (i.e. 10-year, 24-hour).

The diversion ditches located on site have been designed to safely pas the peak flow resulting from a 25-year, 24-hour precipitation event.

schriste

Support Facilities and Utility Installations

Analysis:

The current MRP does not meet the State of Utah R645 requirements for Support Facilities and Utility Installations.

The current MRP does not meet the minimum requirements of R645-301-521.180 and -526 that require the description, plans, and drawing for each support facility to be constructed, used, or maintained within the permit area due to conflicting and confusing information stated in Chapter 5 Section R645-301-526.110 page 5-27. The Permittee must remove language within the current MRP that states, "A post-mining landuse change leaving the substation for use by the current land owner is being proposed by the operator. The Permittee will change the text of the last paragraph in Chapter 5 Section R645-301-526.110 page 5-27 to state that the substation was approved for retention for the updated post mining land use, as shown on Exhibit 5-2R.

The site originally consisted of five buildings at the Banning Loadout, two primary and three support buildings. The main building houses items necessary for operation of the site along with the electrical controls. Between the Fall of 2005 and Spring of 2006 structures and equipment were sold and removed from the facility area. Table 5-2 and exhibit 5-2 and 7-1 were updated at the time to reflect the changes.

Deficiencies Details:

R645-301-121.200, R645-301-526.110: The Permittee will change the text of the last paragraph in Chapter 5 Section R645-301-526.110 page 5-27 to state that the substation was approved for retention for the updated post mining land use, as shown on Exhibit 5-2R.

cparker

Signs and Markers

Analysis:

The current MRP meets the State of Utah R645 requirements for Signs and Markers.

The current MRP meets the minimum requirements of R645-301-521.200 by the general discussion of signs in Chapter 5. Exhibit 5-1 details the permit area and all surface disturbance areas will be marked by perimeter markers, red reflectors attached to fence posts or steel pins. Mine identification signs will be placed at all access points to the permit area.

cparker

Maps Affected Area

Analysis:

The current MRP meets the State of Utah R645-301-521.100 requirements for Affected Area Maps.

The current MRP meets the minimum requirements of R645-301-521.100 through-521.130 by having up to date information on all the relevant maps for the entire area shown on the mine plan as detailed on Exhibit 5-2.

cparker

Maps Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements Mining Facilities Maps.

The current MRP meets the minimum requirements of R645-301-521.120 through-521.125 which require maps to clearly show existing surface facilities. The remaining surface facilities located at the loadout can be seen on exhibit 5-2.

cparker

Maps Certification Requirements

Analysis:

The current MRP meets the State of Utah R645-301-512 Certification Requirements.

R645-301-512 minimum requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, David Spillman, and engineer with experience in underground mining operations.

cparker

Reclamation Plan

General Requirements

Analysis:

The current MRP does not meet the State of Utah R645 requirements for Reclamation Activities.

The minimum requirements of R645-301-540 are not met within the current MRP as there is conflicting information presented in Exhibit 5-6 and 5-6a. The permittee will amend the text to select and reference only the appropriate reclamation scenario. There were no changes to the existing MRP reclamation details at this time. Table 5-1 details what structures and approximate timelines for reclamation of the site.

Deficiencies Details:

R645-301-212.200, R645-301-542: The Permittee will amend all relevant Chapter 5 sections of the MRP to reference reclamation scenario Exhibit 5-6a.

cparker

Approximate Original Contour Restoration

Analysis:

The current MRP meets the State of Utah R645 requirements for Approximate Original Contour Restoration.

The current MRP meets the minimum R645-301-512.200 , -553.110 through -553.150, and -302-270 due to the proposed post mining land use change that would not require a variance from approximate original contour (AOC).

AOC as defined by R645-301-553.100 through -553.150 is achieved when the final grade closely resembles the general surface configuration of the land prior to mining activities and provides a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion.

The current MRP meets the minimum R645-301-512.200 and -553.110 as there is no change in the MRP and all grading will be place back to approximate original contours as detailed on Exhibit 5-6.

cparker

Backfill and Grading General

Analysis:

The current MRP meets the State of Utah R645 requirements for Backfill and Grading.

The current MRP meets the general requirements of R645-301-553 by no changes to how disturbed areas will be backfilled and graded to achieve the approximate original contour, eliminate all highwalls, spoil piles, and depressions, and achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long term static safety factor of 1.3 and to prevent slides, minimize erosion and water pollution both on and off the site, and support the approved postmining land use.

The minimum requirements of R645-301-553 are met within the current MRP as there is no change to the existing MRP grading reclamation details.

cparker

Topsoil and Subsoil

Analysis:

Analysis:

The information provided does not meet the requirements of R645-301-240, Soils Reclamation Plan, because the information provided on page 3-10 describes ripping and discing until the soil clods measure less than 1 inch in diameter. The practice of discing was used in preparation of the 1991 test plots. Discing created a powdery surface that compounded the impervious nature of alkaline clay soils. The practice of discing should be removed from the reclamation plan. It is far preferable to loosen the soil with ripping, but still retain soil clods which provide soil structure and pore space allowing aeration and infiltration into the soil.

At Banning Loadout, the precipitation is seven to nine inches annually. The climate regime is aridic or torric. The soils are mapped as Ravola Series, alkaline soils with saline slickspots.

The pre-mining land use of the area was rangeland and wildlife (MRP, Chap. 4, p.4-7). The area is zoned for mining and grazing (Exhibit 4-1). The approved postmining land use proposed in the MRP is a return to rangeland and roadways. The rangeland postmining land use is supported by a letter from the BLM Area Manager, dated February 21, 1989 (Appendix 4-5). In 2005, 0.41 acres of disturbed area (including the substation) received a post mining land use change to industrial use and is now owned and used by East Carbonics, Inc.

The Banning Loadout has disturbed approximately 20 acres (Exhibit 5-2). Chapter 2 (pages 2-9 through 2-15) and Chapter 3 (pages 3-8 through 3-17) describe the soil reclamation plans for the Banning Loadout. The MRP describes removing surface coal (the surface will not exceed 50% coal); ripping to a depth of 18 inches; gouging the surface (MRP Section R645-301-231.300 and R645-301-233.100 and R645-301-552.100 (page 5-83); grading to contour; and creation of depressions for moisture retention; addition of 40 lbs/acre of sulfur coated urea (45-0-0); incorporation of 2000 lbs of alfalfa or native grass hay; broadcast or drill seeding according to Table 3-3; and application of 2000 pounds/acre wood fiber mulch with chemical tackifier.

The MRP indicates on page 3-13 of Section R645-301-341.220 that soils of the regraded site will be sampled for fertility.

The seed mix to be used is listed in Table 3-3.

Deficiencies Details:

R645-301-242.120, Page 3-10 of the MRP describes ripping and discing until the soil clods measure less than 1 inch in diameter. Discing created a powdery surface that compounded the impervious nature of alkaline clay soils. The practice of discing should be removed from the reclamation plan.

pburton

Road System Reclamation

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation of Roads.

The minimum requirements of R645-301-534 are met within the current MRP as there is no change to the existing MRP reclamation of roads throughout the permitted area. All roads within the permit area are primary roads.

cparker

Road System Retention

Analysis:

The current MRP does not meet the State of Utah R645 requirements for Retention of Roadway Facilities.

The minimum requirements of R645-301-534 and -552 are not met within the current MRP as there is no change to the existing MRP reclamation of roads that will be retained at the end of mining that exist throughout the permitted area. Narrative in previous sections, page 5-27, states portions of the road will be retained post reclamation of the site. The statements in section R645-301-534.100 conflict with the previous statements and Exhibit 5-6a. The Permittee will amend Section R645-301-534.100 to state what portions of the road ways will be retained. The narrative of Section R645-301-541 details that per BLM's right of way 33855 states ownership of the road shall revert to the US following reclamation activities at the site.

Deficiencies Details:

R645-301-534: The Permittee will amend the narrative of Chapter 5 Section R645-301-534.100 to clarify what portions of the operational roadways will remain post reclamation of the site.

cparker

Contemporaneous Reclamation General

Analysis:

The current MRP meets the State of Utah R645 requirements for Contemporaneous Reclamation.

The minimum requirements of R645-301-553 of backfill and grading are met within the current MRP as there is no change to the existing MRP grading reclamation details.

cparker

Stabilization of Surface Areas

Analysis:

Analysis:

The information in the MRP meets the requirements of R645-301-244, Soil Stabilization in its physical treatment of the soil. However, the Table 3-3 seed mix is deficient in native forb species and has only one warm season grass species. Research has shown that an increase in diversity of cover on the soil surface leads to faster re-establishment of the microbial environment that is necessary for development of soil aggregation and pore space, which is critical in alkaline/sodic environments.

Chapter 5 describes soil roughening in section R645-301-552.100 (page 5-83) of the MRP. Chapter 3 pages 3-8 through 3-17 describes incorporation of 2000 lbs of alfalfa or native grass hay into the soil surface. Mulch will be used at the site as described in R645-301-341.230, page 3-13, at a rate of 2000 lbs wood fiber mulch per acre anchored by a chemical tackifier.

Deficiencies Details:

R645-301-244, The seed mix is deficient in native forb species and has only one warm season grass species. Research has shown that an increase in diversity of cover on the soil surface leads to faster re-establishment of the microbial environment that is necessary for development of soil aggregation and pore space, which is critical in alkaline/sodic

environments. The Permittee should work with the Division to refine the seed mix to include additional warm season grasses and more forbes.

pburton

Cessation of Operations

Analysis:

The current MRP meets the State of Utah R645 requirements for Cessation of Operations

The minimum requirements of R645-301-515 and -541 are met within the current MRP as there is no change to the existing MRP plan of communication with the appropriate parties in the event of the cessation of operations and final reclamation in Chapter 5 page 5-8.

cparker

Maps Affected Area Boundary

Analysis:

The current MRP meets the State of Utah R645-301-521.100 requirements for Affected Area Maps.

The minimum requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan Chapter 5 and Exhibit 5-6.

cparker

Maps Bonded Area

Analysis:

The current MRP meets the State of Utah R645 requirements for Bonded Area.

The minimum requirements of R645-301-800 are met within the current MRP as there is no change to the existing MRP plan Chapter 5 and Exhibit 5-6

cparker

Maps Reclamation Backfilling and Grading

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation Backfilling and Grading Maps.

The minimum requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of backfilling and grading areas or volumes presented in Chapter 5 page 5-47 and Exhibit 5-6.

cparker

Maps Reclamation Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation Facilities Maps

The minimum requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of facilities that will remain post mining operations, as shown on exhibit 5-6

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The current MRP meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The minimum requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC, as shown on Exhibit 5-6.

cparker

Maps Reclamation Surface and Subsurface Man Made

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation of Surface and Subsurface Manmade Features Maps.

The minimum requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan in the surface and or subsurface manmade features within the permit area.

cparker

Maps Reclamation Certification Requirments

Analysis:

The current MRP meets the State of Utah R645 requirements for Certification Requirements

R645-3010-512 minimum requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, David Spillman, an engineer with experience in underground mining operations.

cparker

Bonding and Insurance General

Analysis:

The current MRP meets the State of Utah R645 requirements for Bonding and Insurance Requirements.

The current MRP meets the minimum requirement of R645-301-800 as the applicant is current on the bond and insurance standings.

rmedina

Bonding Form of Bond

Analysis:

The current MRP meets the minimum requirements of R645-301-860.100 as the applicant currently maintains a surety bond amount of \$350,000 which is held Lexon Insurance Co and Ironshore Indemnity, Inc. A performance bond is filed in the amount of \$350,000 payable to the State of Utah, Division of Oil, Gas and Mining and the Office of Surface Mining Reclamation and Enforcement of 21.6 acres of disturbance.

rmedina

Bonding Determiation of Amount

Analysis:

The current MRP does not meet the minimum requirements of R645-301-830.140 as the Permittee did not submit detailed bond information. The Division requires an evaluation of the reclamation cost estimate during each midterm permit review. This cost estimate is then escalated for five years or until the next midterm review. In accordance with the requirements of R645-301-830, and -301-830.140, it is the Permittees responsibility to provide detailed estimated cost sheets to support the reclamation cost estimate. The Permittee has not submitted a formally revised reclamation cost estimate and will do so by, May 4, 2016.

The Permittee must update the unit cost data used in the 2011 Midterm Permit Review reclamation cost estimate to 2016 unit costs using the 2016 R.S. Means Heavy Construction Cost Data manual. All computation sheets for demolition, earthwork and re-vegetation must be updated and submitted to the Division so the Division can determine the required bond amount needed through 2021.

The total reclamation cost for the Banning Loadout (sum of the direct and indirect costs) must be escalated from 2016 to 2021 (5 years) using an escalation factor of 0.7 %. This escalated cost is rounded to the nearest \$ 1,000 to determine the amount of required bond which must be posted with the Division by the Permittee.

Deficiencies Details:

R645-301-830.140: The Permittee shall provide updated line item 2016 reclamation costs for all computations sheets (demolition, earthwork, and revegetation). The total reclamation cost must then be escalated five years utilizing an escalation factor of 0.7% to determine the required bond amount in 2021 dollars.

rmedina

Bonding Terms and Conditions Liability Insurance

Analysis:

The current MRP meets the minimum requirements of R645-301-850 as the applicant currently holds liability insurance through National Union Fire Insurance Co, effective until 2/1/17. The insurance includes the required Marsh from, explosives and claims made per occurrence

rmedina