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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

January 22, 2016

Kyle Edwards, Resident Agent
BRC Wellington, LLC
1865 West Ridge Road
Wellington, Utah 84542

Subject: Deficiencies in Application for Permitting the Deer Creek Waste Rock Site, BRC Wellington, LLC, C/015/0035, Task #4966

Dear Mr. Edwards:

The Division has completed a review of your application for permitting the Deer Creek Waste Rock Site which was determined to be administratively complete on September 21, 2015. The Division has identified a number of deficiencies that will need to be corrected before approval of the application can be granted. Our Technical Analysis and Findings document is enclosed which discusses the Division's review and outlines the deficiencies that will need to be addressed. The initials of the deficiencies author are provided so that your staff can communicate directly with that individual should questions arise.

The plans as submitted are incomplete. Please revise the application accordingly and resubmit the entire package in order for us to complete the processing of your permit revision.

If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/ss
Enclosure
cc: Richard White, Earthfax
O:\015035.WRS\deficiency letter.docx

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0150035
TaskID: 4966
Mine Name: BOWIE WASTE ROCK SITE
Title: PERMIT APPLICATION

General Contents

Identification of Interest

Analysis:

The application meets the State of Utah requirements for R645-301-112 Identification of Interest.

The applicant has submitted the Business Entity information, Applicant & Operator and Officer & Director information on pages 1-2 and 1-3 of the application. All required information was submitted. An AVS Evaluation was generated on September 2, 2015 with the ownership information provided. There were no violations listed in the system. The application information did not conflict with existing information listed in the AVS system.

ssteab

Violation Information

Analysis:

The application meets the State of Utah requirements for R645-301-113, Violation Information.

As outlined on page 1-6 and on the Table 1-2 Affiliated Notes of Violation (page 1-11) on the application, neither BRC Wellington, LLC nor any stockholder having interest in the Waste Rock Site have had a State or Federal mining permit suspended or revoked in the five years preceding the date of submission of this application or have forfeited a performance bond or similar security deposited in lieu of bond revoked.

ssteab

Right of Entry

Analysis:

The application meets the State of Utah requirements for R645-301-114, Right of Entry Information.

The site is located on lands that are entirely owned by BRC Wellington, LLC (as outlined in Appendix 1-1). Therefore, no other right of entry is required.

ssteab

Legal Description

Analysis:

The application meets the State of Utah requirements for R645-301-115, Legal Description.

The applicant submitted updated pages on September 25, 2015 (pages 1-5, 1-7 and 1-9).

The legal description accurately describes the entire 49.05 acre parcel included within the permit area as described on updated page 1-9 and also located in Appendix 1-1 Asset Purchase and Sale Agreement, Schedule 5 (Real Property).

ssteab

Permit Term

Analysis:

The application meets the State of Utah requirements for R645-301-116, Permit Term.

The application describes and identifies the lands subject to coal mining operations. It is anticipated that the Applicant will operate at the site for a period of less than 5 years.

ssteab

Public Notice and Comment

Analysis:

The application meets the State of Utah requirements for R645-301-117, Public Notice and Comment.

The applicant provide a proposed public notice (page 1-7). The application was determined administratively complete on September 21, 2015 and was given approval to publish as required by R645-300-121. A copy of the affidavit is required to be submitted to the Division as soon as it becomes available.

The Division notified in writing local governmental agencies and all Federal or State governmental agencies involved in or with an interest in the permit process on September 22, 2015.

ssteab

Filing Fee

Analysis:

A filing fee is not required, therefore R645-301-118 is not applicable.

ssteab

Permit Application Format and Contents

Analysis:

The application meets the State of Utah requirements for R645-301-120, Permit Application Format and Contents.

The application submitted by BRC Wellington, LLC contains current information which is clear and concise and follows the format required by the Division.

ssteab

Permit Application Format and Contents

Analysis:

The application meets the requirements of R645-301-120 for Application format and content. The Bowie Waste Rock site is actually already permitted under Permit C0150018 Deer Creek Mine. Because the waste rock is to be mined by a different entity, the site is being separated from the Deer Creek Mine permit and will have its own stand alone permit. An application to permit the site as a stand alone permit was submitted on August 11, 2015 and it was determined to be administratively completed on September 21, 2015. The application addresses each section of the rules as a stand alone application.

dhaddock

Permit Application Format and Contents

Analysis:

kstorrar

Completeness

Analysis:

The application meets the requirement of R645-301-150. The Division determined the application to be administratively complete on September 21, 2015. This site was previously permitted under the Deer Creek Mine permit C0150018 and continues to meet the regulatory requirements for a permit. The application is is being made to provide for a stand alone permit that will be held under BRC Wellington, Inc.

dhaddock

Environmental Resource Information

Permit Area

Analysis:

The application meets the minimum requirements of R645-301-521.140.The MRP includes narrative and drawings that detail the permit area within Chapter 5 and Plate 5-1.

cparker

Historic and Archeological Resource Information

Analysis:

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

Section 4.1.1.1 on page 4-2 provides a narrative that describes the absence of cultural and historic resources listed or eligible for listing in the National Register of Historic Places within the permit area. A summary report of cultural resources antiquities permit 87-UT-54937 is located in Appendix 4-2 with a map on page 10-4.

There are no public parks or cemeteries within 100 feet of the permit area and there are no National System of Trails or Wild and Scenic Rivers in the permit or adjacent area.

Coordination with the State Historic Preservation Officer (SHPO) is evidenced by letter dated August 1, 1988 from The Division of State History and includes concurrence on National Register of Historic Places eligibility findings. No cultural sites were found, and therefore an MOU or Mitigation Plan is not recommended in accordance with R645-301-411.144.

lreinhart

Climatological Resource Information

Analysis:

The amendment meets the State of Utah R645 requirements for Climatological Information.
The average precipitation and temperature for the area are provided. Graphs and tables of the data are given in Appendix 7-4.

kstorrar

Vegetation Resource Information

Analysis:

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

Vegetation resource information is located in Section 3.20 on pages 3-2 and 3-3. Appendix 3-1 is a vegetation survey that was originally prepared for Deer Creek in June 1978. Although a significant amount of time has passed since the survey

was done, it contains baseline information regarding the plant communities and provides reference areas. The information is adequate to predict the potential for reestablishing vegetation and includes productivity measurements on disturbed land.

lreinhart

Fish and Wildlife Resource Information

Analysis:

The amendment does not meet the State of Utah R645-301-322 requirements for fish and wildlife resource information.

Fish and wildlife are discussed in Section 3.2.2 on page 3-4 through 3-8. The amendment acknowledges that the Utah Conservation Database was accessed and updated for this permit but it does not identify or evaluate specific species and their habitat. The current TES list consulted should be provided pursuant to R645-301-122. The blanket statement is made there are no known threatened or endangered species within the permit area, nor habitat for such species exists but adequate explanation is not provided. Any discussion on the effects of water depletion in relation to fish habitat is not provided. Although the amendment recognizes a potential fee may be assessed pursuant to the Windy Gap Process, it fails to provide depletion amounts and associated water right information.

Although its highly unlikely any TES or sensitive species do occur on the site, the amendment must include adequate resource information that validates an analysis was conducted. A recent inquiry to the Information for Planning and Conservation website (FWS) indicates seven T&E animal species should be evaluated in accordance with Section 7 of the Endangered Species Act. They are: (birds) Mexican Spotted owl, Southwestern Willow flycatcher, Yellow-Billed Cuckoo, (Fishes) Bonytail chub, Colorado pikeminnow, Humpback chub, Razorback sucker.

Species of concern listed by the Utah Conservation Data Center include Ferruginous Hawk, Colorado Cutthroat Trout, and Western Toad. The permit area is not within a Sage-grouse Management Area and therefore consultation with Utah Division of Wildlife pursuant to the Governors Executive Order and MOU between DOGM, PLPCO, and DWR is not required.

The nearest known raptor nest is approximately 1.3 miles northeast of the site. Golden eagles have been observed in flight. Since no mining is to occur and no new disturbance will occur, the potential for subsidence or destruction of a nest is eliminated. Any future sightings of Golden Eagles would be a sign of acceptance of any disturbing activities that may be in effect.

Although other deficiencies still require addressing, the Division has determined that approval of this amendment would not affect a listed species or designated critical habitat and therefore the Division did not initiate informational consultation with U.S. Fish and Wildlife Service.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-322 requirements for fish and wildlife resource information. The following deficiency must be addressed prior to final approval:

R645-301-322: The Permittee must provide a description of fish and wildlife resources for the permit area, describe why those species are not within the permit area and therefore should not be impacted, and provide sufficient information to validate a protection and enhancement plan is not necessary. Pursuant to R645-301-120.100, the list of Threatened, Endangered, Candidate, or Sensitive Species must be included so the permit contains current information. In order to determine the assessment related to the Windy Gap Process, the Permittee must provide the Division with the depletion amount and also the associated water rights information.

lreinhart

Soils Resource Information

Analysis:

Analysis:
The application meets the requirements of R645-301-220, Environmental Description.

Within the 49.05 acre permit area (boundary shown on 5-1) there are two soil map units: Gerst and Strych. Chapter 2 provides a summary of the soil survey which is provided in Appendix 2-1. The soil survey is from the NRCS Web Soil Survey site. Figure 1-1 is the corresponding soils map. Soils are predominantly Gerst/Strych/Badland soils derived from Mancos Shale on colluviual slopes. Example profiles are provided in Section 2.2.2.3 for Gerst and Strych soil types. Depth

to bedrock for the Gerst soil averages about two feet. Average annual precipitation is 10 inches distributed evenly throughout the year, with a slight increase in July - October. Elevation is above 6,000 feet. Slopes range from 2 to 70 percent.

Order 1 sample data is provided in Appendix 2-2. Samples were taken in April 1981. Sample locations are shown on Plate 2-1. There were some very high EC and SAR values encountered.

Soil productivity for the Semi-Desert Shallow Loam (Utah Juniper-Pinyon) range site is listed as 63 lbs/ac in a favorable year and 44 lbs /ac in a normal year and only 19 lbs/ac in an unfavorable year (Section 2.2.2.4). Productivity is dependent on soil moisture and the soil is dry 50 - 65% of the time when the soil temperature is greater than 41 degrees F (App. 2-1). Vegetation is black sagebrush, shadscale, bluegrass, Utah juniper and pinyon.

There is no prime farmland in this location. There were fruit orchards at the mouth of Huntington Canyon years ago, however.

pburton

Land Use Resource Information

Analysis:

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

In Section 4.10 on pages, 4-1 and 4-2 premining land-use is described as wildlife habitat and zoned for mining and grazing. Soils in the permit area limits plant production capability and restrict use to recreational purposes, wildlife habitat, watershed, or aesthetic purposes.

Land use classification under Emery County Zoning is shown on a map provided as Appendix 4-1.

lreinhart

Geologic Resource Information

Analysis:

The application meets the minimum requirements for Environmental Resource Information required under R645-301-623. This site was previously permitted under Pacificorp. The new owner Bowie Refined Coal is now wanting to excise the waste rock site from the Deer Creek Permit and then recover the waste coal and process it through their dry coal cleaning facility. The Environmental Resource information necessary yo permit this site was previously collected by Energy West. Energy West (the previous owner of the site) evaluated data collected from over 130 outcrop and core samples to assess the potential acid- or toxic-forming characteristics of the waste rock that was disposed of at the site. These data are summarized in this current application and found in Appendix 6-1.
Comparison of these data with guidelines published by the Division of Oil, Gas and Mining indicates the following:
â€¢ The pH of the waste rock is moderately alkaline and should not hinder reclamation.
â€¢ The electrical conductivity of the waste rock is less than 4 mu/cm and should, therefore, not hinder reclamation.
â€¢ The sodium adsorption ratio of the waste rock is generally less than 4, indicating that this factor should not hinder site reclamation.
â€¢ The boron concentration of the waste rock is less than 5 m/kg, indicating that concentrations of this element should not hinder site reclamation.
The soluble selenium concentration sampled was 0.098 mg/kg, which is an acceptable concentration according to the Division guideline. The calcium carbonate concentration of the sample was 26.3%. This, together with the alkaline nature of the rock, suggests that the acid/base potential of the waste rock is acceptable. These data, taken together, indicate that the waste rock from which the coal will be recovered is neither acid- nor toxic forming.
Since no mining other than waste rock recovery will occur at the site, no subsidence control program has been prepared.

The Geology and Stratigraphy of the Waste Rock site is shown in Figure 6-1. There are essentially three geological units present at the surface of the Waste Rock site. 1) the Masuk Member of the Cretaceous formation covers the majority of the Waste Rock site itself. 2) The Quarternary age alluvium that is just to the south of the waste rock site, and 3) The Quaternary age pediment mantle that is found just to the east of the permit area.

The Bowie Waste Rock site is located near the mouth of Huntington Canyon, about 6 miles northwest of the town of Huntington, Utah. The site is located on the southern flank of Gentry Mountain just south of Wild Horse Ridge. Rocks exposed in the area are marine-derived mudstones in the lower portion of the Masuk Member of the Mancos Shale. The Masuk Shale on the bench which adjoins the site on the east and west is covered by a 5- to 20- foot thick layer of terrace gravel of Quaternary age. North-south trending normal faults have disrupted the strata in the region. However, no faults are known to exist within the permit area.

Stratigraphy. The oldest rocks exposed in the region are part of the marine Mancos sequence deposited in Late Cretaceous time. This formation contains several alternating units of off-shore marine mudstones near-shore marine sandstones.
The upper unit of the Mancos is the Masuk Member, which underlies the surface of the site. The Masuk Member consists of shale and shaly siltstone that is thin to medium bedded with a few thin interlayered sandstone beds .The Masuk Member is generally devoid of significant water.

The benches on the west and east sides of the permit area are covered by a Quaternary pediment mantle. These materials are highly variable, of fluvial origin, and consist of a poorly bedded mixture of silt, sand, pebbles, cobbles, and boulders derived from adjacent uplands In the vicinity of the permit areas, these materials are generally 5 to 20 feet thick.
Structure. The strata in the permit area dip west-northwest at an angle of 2 to 3 degrees into the Straight Canyon Syncline. The nearest known fault to this area plotted by Witkind et al. (1987) is located approximately 2 miles to the west. No faults are known to exist in the permit area. Regionally, the strata contain vertical joints trending in both a northwest and northeast direction. It is hard to identify jointing in the weathered Masuk shale outcrops, but in fresh cuts the joints appear to be wide spaced. Very limited amounts of ground water migrate down these fractures because the clays present in the rock swell when in contact with water, thus sealing the fractures.

dhaddock

Hydro Baseline Information

Analysis:

The amendment meets the State of Utah R645 requirements for Baseline Information.
The amendment provides a background on the quantity and quality of groundwater within the permit area. Only ephemeral waters drain from the permit area to Huntington Creek.

kstorrar

Probable Hydrologic Consequences Determination

Analysis:

The amendment meets the State of Utah R645 requirements for Probable Hydrologic Consequences Determination.
The amendment provides a narrative and additional Appendices addressing potential impacts to the hydrologic balance. Sediment will be contained on site. These runoff controls will minimize impacts to surface and groundwater adjacent to the permit area. On site fueling may take place and the amendment outlines how any leaks and/or spillage will be handled.

kstorrar

Hydro SurfaceWater Monitoring Plan

Analysis:

The amendment meets the State of Utah R645 requirements for Subsurface Water Resources Map.
A cross-section of the recharge source and location of groundwater within and adjacent to the permit area is provided.

kstorrar

Maps Existing Structures and Facilities

Analysis:

The application meets the minimum requirements of R645-301-512.120.

The application included a minor narrative in Chapter 5, Section 5.1.2.1 detailing the existing surface features. The topography detailed on Plate 5-1 was generated from a September 2014 survey of the site.

The application does not meet the minimum requirements of R645-301-521.121.

Narrative in Chapter 5 Section 5.2.1.1 details that the location of buildings and public roads located within 1,000 feet of the permit boundary are shown on Figure 5-1. Said figure shows a house, several farm buildings. Figure 5-1 does not disclose enough information of the current use of buildings, e.g. are the houses inhabited, nor does the narrative clarify a reference to an landownership map or discussion located elsewhere within the MRP that would clarify such information.

Deficiencies Details:

R645-301-521.121:The Permittee must add more information detailing the current use of the house with 1000 feet of the permit area.

cparker

Maps Existing Surface Configuration

Analysis:

The application meets the minimum certification requirements of R645-301-512.150 by having a Professional Engineer, Richard White, stamp Plate 5-1. Narrative within the MRP Chapter 5 Section 5.1.2.1 states that the topography noted on Plate 5-1 is based on a survey of the site conducted in September 2014. No additional waste has been placed at the since the survey.

cparker

Maps Mine Working

Analysis:

The application meets the minimum requirement of R645-301-512.110, -512.130, and R645-301-521.140 which require certified maps that clearly show all mine plans. The Site does not have any mine workings under the waste rock to show and Plate 5.1 shows the existing surface configuration.

cparker

Maps Permit Area Boundary

Analysis:

The application meets the minimum requirements of R645-301-521.140. Plate 5-1 details the Permit area with existing topography to meet the boundary map requirements. Plate 5-2 clearly shows the permit boundary and adjacent area.

cparker

Maps Subsurface Water Resources

Analysis:

The amendment meets the State of Utah R645 requirements for Surface Water Resources Map.
A map of surface water resources within and adjacent to the permit area is provided.

kstorrar

Maps Surface and Subsurface Manmade Features

Analysis:

The application meets the minimum requirement of R645-301-521.122 as Chapter 5 Section 521.122 details existing surface and subsurface facilities within, passing through, or over the permit area.

The application meets the minimum requirements of R645-301-521.123 by including Plate 5-1 which shows the public road, State route 31 is located with 100 feet of the permit boundary. No coal recovery operations will be conducted within 100 feet of a public road.

The application does not meet the minimum requirements of R645-301-521.124.Regulations required the location and size of existing areas of impoundments, water treatment facilities, and coal development waste. The narrative on page 5-8 of Section 5.2.1.1 needs to call out the location and size of the existing diversion ditches and waste rock pile detailed on Plate 5-1.

The application meets the minimum requirements of R645-301-521.125 by detailing the location of the sedimentation pond and detailing that no permanent water impoundments, coal processing waste banks, and coal processing waste dams/embankments exist within the permit area.

Deficiencies Details:

R645-301-521.124, R645-301-121.200: Clearly label location and size of all existing surface features within the permit area.

cparker

Maps Surface and Subsurface Ownershiip

Analysis:

The application does not meet the minimum requirements of R645-301-521.130 through -521.132 which requires landowners, right of entry, and public interest maps as updated within the application on Plate 5-2 and Chapter 5 Section 5.2.1.1. Additional information such as warranty deeds are provided within Appendix 1-1. The permit area consists of approximately 49.05 acres and no Federal or State land exist within the permit area.

Deficiencies Details:

R645-301-521.130. The Permittee must correct Plate 5-2 to show current surface and subsurface landownership.

cparker

Maps Vegetation Reference Area

Analysis:

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

The results of vegetation and wildlife surveys in the permit area are provided on Plates 3-1 and 3-2, respectively. The permit area and location of the reference area for determining revegetation success is shown on Plate 3-1. This map also shows the general pre-disturbance boundaries of plant communities and vegetation sample areas. No monitoring stations have been established to gather data for fish and wildlife or any special habitat features since none are known to exist.

lreinhart

Operation Plan

Mining Operations and Facilities

Analysis:

The application does not meet the minimum requirements of R645-301-500, -511,-521, -523, and -526.

The narrative within Chapter 5 Section 5.1.2.1 incorrectly states that no coal mining or disposal of non-coal waste will occur within the permit area. According to the R645 -100-200, the definition of Surface Coal mining and reclamation actives means, "those coal mining and reclamation operations incident to the extraction of coal from the earth by removing the materials over a coal seam, before recovering the coal, by auger coal mining, or by recovery of coal from a deposit that is not in its original geologic location." The operations described in the Chapter 5 narrative of the MRP application meet the definition of surface coal mining operations.

The application does not meet the minimum requirements of R645-301-523 by failing to include 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 of the coal mining and reclamation activities. Remining of coal from refuse and waste rock sites meets the R645-100-200 of "Coal Mining and Reclamation Operations," "Surface Coal Mining and reclamation activites,", and "Remining." The Permittee will correct this section of the application MRP to detail all the above required information.

The application meets the minimum R645-524 regulations by stating that no blasting will occur at the site, nor will any explosives be stored on site.

The application does not meet the minimum requirements of R645-301-526.300 detailing the water pollution control facilities at the site. One sediment pond with the associated diversion ditches will collect runoff from the disturbed area as detailed on Plate 5-1. Chapter 7 and Section 5.3.3.7 of the MRP detail the design and maintenance of the sediment pond and ditches. See deficiency under Impoundments below.

The application does not meet the minimum requirements of R645-301-528.100 due to no discussion of where any potential coal stockpiles may be located

Deficiencies Details:

R645-100-200, R645-301-523: The narrative describes surface coal mining activities and will correct the MRP to meet all Surface coal mining and reclamation regulations within Section 5.1.2.1, Section 5.2.3, and Section 5.4.2.

R645-301-528.100: missing discussion or reference to discussion of where potential coal stockpiles may be located.

cparker

Existing Structures

Analysis:

The application meets the minimum requirements of R645-301-526.110-.116 by providing updated information to include the discussion of the existing buildings associated with the Site. The narrative of Section 5.2.6.1 details that no permanent structures are present at the site at the time of the application submittal.

The application meets the minimum requirements of R645-301-526.200 by detailing no known existing utilities within the permit area in Section 5.2.1.1 and Section 5.2.6.2. Chapter 5 section 5.2.6.2 narrative details that temporary utilities will be utilized at the site with no permanent utilities developed.

The application meets the minimum requirements of R645-301-526.400 by stating in Section 5.2.6.1 that all equipment will be operated in accordance with manufacturer's recommendations an permits issued by DOGM and the Utah Division of Air Quality.

cparker

Relocation or Use of Public Roads

Analysis:

The application meets the minimum requirements of R645-301-521.133 due to no relocation of a public road or mining operations existing within 100 feet of public road.

cparker

Air Pollution Control Plan

Analysis:

The amendment does not meet the State of Utah R645-301-422 requirements for the air pollution control plan.

A brief description of the coordination and compliance efforts with the Utah Division of Air Quality is noted in Section 4.2.2 on page 4-5. DEQ evidence of compliance and approval of the application is not provided. Controls to be implemented at the site to suppress dust consist of watering roadways, material-handling operations, and loading operations. Storage piles will also be sprayed with water as necessary to minimize dust emissions.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-422 requirements for the air pollution control plan. The following deficiency must be addressed prior to final approval:

R645-301-422: The permittee must provide evidence of coordination and compliance with Utah Division of Air Quality and the Clean Air Act. The monitoring program in Section 4.2.3 must clearly identify how the monitoring program will provide sufficient data to evaluate the effectiveness of the fugitive dust control plan under R645-301-423.200 to comply with federal and Utah air quality standards.

lreinhart

Air Pollution Control Plan

Analysis:

Analysis:
The application does not meet the requirements for R645-301-420, R645-301-421, R645-301-422, because Section 1.1.2.4 states that the air quality approval will be obtained, but there is no documentation of communication with the Utah Division of Air Quality for the remining operation.

Deficiencies Details:

R645-301-420, R645-301-421, R645-301-422, Provide documentation of communication with the Division of Air Quality for this remining operation. Such communication is referred to in Section 1.1.2.4.

pburton

Coal Recovery

Analysis:

The application 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.

Section 5.2.2 details the anticipate operations of coal recovery from the existing waste rock pile. An inspection report file by the Energy West fourth quarter of 2014 indicated that the site waste rock pile has an existing capacity of 306,700 CY of waste rock, or 65.5% of total storage capacity. The report also states that the north half of the site was filled to 87% of capacity and the south half was filled 44% of capacity.

Coal recovery from the waste rock pile will be performed by crushing, screening, and other appropriate economical methods to recover coal from the waste rock. The MRP states that the Permittee anticipates the operation will recover 60% of the existing material from the existing waste rock pile, leaving approximately 40% of the volume as rejected at the site.

Coal recovery will be processed within the footprint of the existing waster rock pile. Excavation will begin on the south side of the pile with reject rock temporarily stored on unprocessed waste rock. The last paragraph of page 5-12 of Section 5.2.2 states that, "Areas outside the existing waste rock footprint will be disturbed only if it becomes impractical to conduct all operations within the existing footprint." This paragraph is too vague in detailing all the required permitting actions that apply when increasing the disturbed boundary. The Permittee is only bonded for disturbance within the existing disturbed boundary. Any increase in the disturbed boundary is an amendment to the MRP that will be reviewed for adequacy of the R645 regulations at that point. The Permittee will amend this paragraph by either removing it or adding the qualifications that in the event operations need to increase the disturbance footprint the proper permitting application will be submitted to the Division prior to any disturbance.

The application address R645-301-526.116.1 by stating that no coal recovery operations will be located within 100 feet of a the right of way of any public road, nor will any public roads be relocated. Chapter 5 Section 5.2.6.1 details that all crushing and screening equipment that will be mobilized to the site will be removed according to the reclamation details in Section 5.40.

Deficiencies Details:

R645-300-141 &-142, R645-301-512.120,-301-512.230,-512.240,-514.200, -521.162-301-521-180: Remove or edit the vague text detailing disturbance instances that "may" increase outside the approved disturbed area.

cparker

Subsidence Control Plan Renewable Resource

Analysis:

The minimum requirements of R645-301-521.140 are met in the application Section 5.2.1.1 and Section 5.2.5 detail the no underground mining will occur at this site.

The minimum requirements of R645-301-525.130 are met in the application Section 5.2.1.1 details the no underground mining will occur at this site.

cparker

Subsidence Control Plan Subsidence

Analysis:

The minimum requirements of R645-301-525.400 are met in the application Section 5.2.1.1 and Section 5.2.5 detail the no underground mining will occur at this site.

cparker

Subsidence Control Plan Performance STD

Analysis:

The minimum requirements of R645-301-525.400 are met in the application Section 5.2.1.1 and Section 5.2.5 detail the no underground mining will occur at this site.

cparker

Subsidence Control Plan Notification

Analysis:

The minimum requirements of R645-301-525.700 are met in the application Section 5.2.1.1 and Section 5.2.5 detail the no underground mining will occur at this site.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The application meets the minimum requirements of R645-301-515.100. The application includes narrative in Chapter 5 Section 5.1.5 detailing the emergency contact procedures in the event of a slide, including contacting the Division by the fastest available means.

The application meets the minimum requirements of R645-301-516 by detailing that a natural barrier will be left undisturbed except as necessary for road, sedimentation control, temporary topsoil storage and similar features, beginning at the elevation of the coal seam and extending from the out slope for a distance of 50 ft.

cparker

Fish and Wildlife Protection and Enhancement Plan

Analysis:

The amendment meets the State of Utah R645-301-332 requirements for describing impacts of subsidence to fish, wildlife, and vegetative resources.

As described in Section 3.3.2 on page 3-6, no underground mining operation will occur within the permit area. Thus, the planned actions will not result in subsidence of renewable resource lands.

The amendment meets the State of Utah R645-301-333 requirements to describe how using best technology currently available to minimize adverse impacts to fish and wildlife, including compliance with the Endangered Species Act.

The fence surrounding the permit area was designed to be compatible with wildlife migration. This fence will be maintained during operations. No disturbance will occur outside of that fenced area. Furthermore, runoff control measures will be maintained to preclude off-site surface-water impacts. Other protective measures within the disturbed area boundary will include adhering to clean industrial hygiene procedures, properly disposing of all waste (papers, cans, bottles, etc.), and instructing employees not to hunt or harass wildlife in the permit and adjacent areas.

lreinhart

Topsoil and Subsoil

Analysis:

Analysis:
The application does not meet the requirements of R645-301-230, Operation Plan, because It is not clear how topsoil and subsoil on the berms of completed cells will be removed and handled.

Section 2.3.1.1 states that there is 33,900 CY of subsoil and 2,300 CY of topsoil in stockpiles. Plate 2-1 shows the general locations of topsoil and subsoil stockpiled at the site. Plate 5-1 outlines the locations of the soil stockpiles. Section 2.3.4.1 states that the upper foot of these stockpiles is topsoil and below the topsoil is subsoil. In addition there is topsoil along the road embankments which was seeded and evaluated for reclamation success (App. 3-2). Topsoil was placed one foot deep above subsoil on berms of completed cells. Roadways are constructed on subsoil.

Stockpiles are protected with silt fences and are signed.

It is not clear how topsoil and subsoil on the berms of completed cells will be removed and handled.

Deficiencies Details:

R645-301-230 and R645-301-121.200,
2) It is not clear how topsoil and subsoil stored on the berms of completed cells will be removed and handled during coal removal operations.

pburton

Vegetation

Analysis:

The amendment meets the State of Utah R645-301-331 requirements for protection of vegetation.

The operation plan is described in Section 3.3 on page 3-6. The site is previously disturbed and there will be no new surface disturbance. Due to the scope of the project, interim revegetation is not reasonable or required.

lreinhart

Road Systems Classification

Analysis:

The application meets the minimum requirements of R645-301-527.100 by classify each road as primary or ancillary.

The MRP section 5.2.7 contains the narrative describing how the access road from the facility will be used to transport coal and is classified as the only primary road. Various ancillary roads will be utilized within the existing disturbance in the development of operations to remove coal within the waste rock and will be temporary in nature.

cparker

Road System Plans and Drawings

Analysis:

The application meets the minimum requirements of R645-301-521.170, R645-301-527.210 and R645-301-534.100.

The narrative in Section 5.2.1.1 and Section 5.3.4.1 detail how Energy West constructed an access road to the waste rock pile at the beginning of site operations. The access road will be maintained by BRCE during coal recovery and reclamation activities of the Bowie waste rock site. The access road was originally associated with Utah Power and Light Research Farm, prior to the construction of the waste rock site by Energy West. In the late 1980s Energy West upgraded the road upon the issuance of the waste rock facility permit to the current 24 feet roadway width to meet the R645 requirements of primary haul roads.

The road was designed to meet minimum R645 design regulations with a prepared subgrade that was scarified six inches and re-compacted to 90% of standard Proctor density. The subgrade consists of 10 inches of bottom ash that was moisture- continued and compacted. The road base consists of 1 inch crushed gravel with approximately 9% fines. The final surface lift of the access road consists of 3 inch thick layer of compacted, rotomilled asphalt. The gradient of the access road averages from approximately 3.3% to 1.7%. The road has a crown with a 1% slop toward the roadside drainage channels. The cuts into rock were constructed at slope of approximately 0.5H:1V. A locking gate is installed on the access road near the intersection of State Route 31 to control access to the site.

No alterations or relocations of any natural drainage ways were required within the permit area to accommodate the needs of transportation systems.

The application does not meet the minimum requirements of R645-301-534.130 due to missing a slope stability analysis. A slope stability analysis of the site access road was never conducted as required by R645-301-534.130, however, the proposed coal recovery from the site now includes an increase in expected traffic at the site. Due to the increase in traffic and age of the site a slope stability analysis to meet the R645 requirements must be conducted.

Deficiencies Details:

R645-301-524.130: The road embankments must have a static safety factor of 1.3.

cparker

Road System Performance Standards

Analysis:

The application meets the minimum requirements of R645-301-527.230 by detailing the general maintenance of all roads within the permit area.

The application meets the minimum requirements of R645-301-527.250 with no alternative specification or steep cut slops associated with roads to be anticipated or contemplated at the time of this application. Section 5.2.1.1 details how road within the permit area were typically constructed with a 1.5H:1V cut and fill slopes.

The application 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. Typicals of the roads to be constructed within the disturbance boundary are show on Plate 5-1.

cparker

Road System Certification

Analysis:

The application meets the minimum requirements of R645-301-512.250.

The narrative of Chapter 5 Section 5.1.2.2 and 5.2.7 detail that all primary haul roads are designed and certified by Richard White, a professional engineer. All primary haul roads will be built in a stable manner to ensure environmental protection and safety with no stream fords.

cparker

Road System Other Transportation Facilities

Analysis:

The application meets the minimum requirements of R645-301-521.170 by as there are no conveyors or rail systems to be

used within the proposed permit area.

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

The application does not meets the minimum requirements of R645-301-521.166.

The narrative of Section 5.2.1.1 surface facilities states that no non coal mine waste will be generated at the site and any "general refuse that is generated on site will be regular removed from the site. This waste will consist predominately of daily miscellaneous garbage that will be responsibility of the individuals that generate the waste." The narrative does not define what, how, and where the noncoal mine waste will be "regularly" removed. It is the Permittee's responsibility to ensure that noncoal mine waste is collected and stored in a controlled manner and that the final disposal of noncoal mine waste will be in a designated disposal site or state approved soil waste disposal area.

The application meets the minimum requirements of R645-301-528.330 by detailing that no non-coal waste or hazardous waste will be disposed of within the permit area. As identified in Section 5.2.8.3 on page 5-18, No non-coal waste that is defined as hazardous in 40 CFR 261 will be generated at the site. Page 5-10 includes a description of removal of general refuse and miscellaneous garbage.

Deficiencies Details:

R645-301-521.166: The Permittee will describe measures taken to ensure that all applicable noncoal mine waste will be handled in the appropriate manner beyond hazardous waste.

cparker

Spoil Waste Coal Mine Waste

Analysis:

The application does not meet the minimum requirements of R645-301-512.230. The narrative with Chapter 5 Section 5.1.2.2 details how the existing waste rock pile was designed by professional engineer, but is missing a narrative detailing that any coal mine waste generated during the re-mining of the waste rock will be placed in an engineered designed manor meeting the R645 requirements.

The application meets the minimum standards of R645-301-513.300. The application narrative includes a discussion of how coal mine waste fires will be handled. The narrative also states no underground development, coal processing waste, or excess spoils will be disposed of underground.

The application meets the minimum requirements of R645-301-528.320 with the narrative of Section 5.2.8.1 states that coal will be recovered from the waste rock site by crushing and screening equipment to the extent possible to maximize coal recovery within economic constraints. No overburden or excess spoil will be handled within the permit area.

The application meets the minimum requirements of R645-301-536.100 by detailing the 1988 geotechnical evaluation prior to the waste rock construction. Appendix 5-3 contains the original geotechnical report which also shows the stability analysis resulted in a static safety factor of 1.5. Section 5.3.6.2 details the placement of reject coal in two foot lifts to achieve an approximate outslope of 2H:1V.

The minimum requirements of R645-301-536 are not met due to conflicting information stated in narrative of Section 5.3.6.7. Coal processing waste is generated at the site by definition of R645-100-200 of "Coal processing waste," however, the R645-301-536.700 are not applicable due to the plan not contemplating the turn of coal process waste to abandoned underground workings. The narrative of Section 5.3.6.7 needs to be amended to state as such.

Deficiencies Details:

R645-301-512.230, R645-301-528.320, R645-301-536: Narrative is missing details on waste placement in a manner meeting R645 regulations or references to sections where such information can be found elsewhere within the MRP. Narrative in section 5.3.6.7 incorrectly states that coal process waste is not generated within the permit area.

cparker

Spoil Waste Refuse Piles

Analysis:

The application meets the minimum standards of R645-301-513.400. The original waste rock pile was designed and constructed in accordance with the relevant MSHA regulations, however, there is missing detailed information or reference to another section of the MRP where detail information on the engineered and stable design of waste placement after coal recovery operations.

The application meets the minimum requirements of R645-301-514.200-.250. The narrative of Section 5.1.4.1the application states how a qualified individual, with experience in the construction of refuse piles, will inspect the waste rock pile at least quarterly. The quarterly inspections will continue during the coal recovery operations and through to the final grading and revegetation of the waste rock pile. The quarterly reports of each inspection will be provided to the Division after each inspection.

The application does not meet the minimum requirements of R645-301-528.322, -301-536, and -542.730 due to missing information detailing the handling of the coal mine waste to meet R645 requirements or reference to a section where such information can be found. Section 5.2.8.3 describes in further detail the methods of handling waste rock rejected material within the permit area. The narrative simply states that all rejected material, approximately 127,700 CY of material, will be placed back on areas currently occupied by waste rock.

The application meets the minimum requirements of R645-301-536.900 by including a narrative referencing the appropriate section of the MRP to find the required R645 information.

Deficiencies Details:

R645-301-513.400, R645-301-528.322: The MRP is missing narrative detailing the handling of the coal mine waste to meet R645 requirements or reference to a section where such information can be found.

cparker

Spoil Waste Impounding Structures

Analysis:

The application meets the minimum requirement of R645-301-512.140 by having all hydrology maps as described under -301-722 certified by a professional engineer, Richard White.

The application meets the minimum requirements of R645-301-512.240 by having a professional engineer, Richard White, who has experience in design and construction of impoundments certify the designs of Ponds.

The application meets the minimum requirements of R645-301-513.200 by detailing within the MRP that no impoundments and sedimentation ponds meet the size or other qualifying criteria of MSHA 30 CFR 77.216.

The application meets the minimum requirements of R645-301-514.310-313 by text within Section 5.1.4.3 detailing that quarterly inspection will be made during coal recovery operations and throughout the period of final grading and revegetation. The quarterly reports will be prepared by a qualified individual and provided to the Division after each inspection. A copy of the inspection reports will also be kept at the BRCW office in Wellington, Utah.

The application does not meet the minimum requirements of R645-301-532 by failing to detail the sediment control measures carried out within the disturbed area to prevent untreated runoff.

The application does not meet the minimum requirements of R645-301-531 and -532 as the narrative describes some site runoff not being treated by the pond. The permittee must have an UPDES permit associated with the site to have discharge.

Narrative within the MRP details that a total containment sediment pond is located within the permit area. This single pond is the only water impoundment detailed in Section 5.3.1 and 5.3.2. The specific design details of the pond may be found in Section 7.3.2 of the MRP. The pond is located on the west side of the waste rock pile with appropriate culverts and ditches directing drainage flowing into the pond, however, there is drainage off the disturbed area of the waste rock that does not report to the pond. The Permittee does not maintain an UPDES permit for the site as the pond is designed for a total containment, therefore any runoff from the disturbed area must report to the pond. Any onsite drainage outside the disturbed area is treated with silt fences and straw waddles and directed away from the site.

The application does not meet the minimum requirements of R645-301-533.110 -220 by failing to detail a geotechnical

report that was completed for the impoundment that should detail a static safety factor of at least 1.3 for a normal pool with steady state seepage saturation conditions are met.

The application meets the minimum requirements of R645-301-533.300 due to narrative in section 5.3.3.3 detailing that outslopes and inslopes of the sedimentation pond will be periodically inspected for signs of surface erosion.

The application meets the minimum requirements of R645-301-533.400-500 by detailing that slopes are protected as riprap has been placed to protect the pond slopes and embankments near the discharge structures as well as soil stockpiles being revegetated.

The application meets the minimum requirements of R645-301-533.700 by providing a detailed design plan for structures that was prepared under the professional engineer. The pond was designed to meet the R645 storm requirements for a total containment structure. Narrative in Section 5.3.3.7 details the inspection and maintenance schedule for the pond with sediment removal when the pond accumulates 60% of the design sediment storage volume.

The application does not meet the minimum requirements of R645-301-356.300 and -763 by retaining all ponds until the second year of seeding to facility erosion control treatment.

Deficiencies Details:

R645-301-531,-532,-533.700: The Permittee must show all runoff from the disturbed area reporting to the total containment pond until the second year of successful seeding.

cparker

Spoil Waste Burning and Burned Waste Utilization

Analysis:

The application meets the minimum standards of R645-301-513.800 and R645-301-528.323 due the narrative in Section 5.2.8.3 detailing that no significant potential for this coal to spontaneously combust. In the event of any coal fires the MRP states that the fires will be handled as described in Section 5.1.3.8.

cparker

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

The application meets the minimum standards or R645-301-528.340 due to coal processing waste will be returned to the underground workings

cparker

Spoil Waste Excess Spoil

Analysis:

The application meets the minimum requirements of R645-301-512, R645-301-514.100, R645-301-521.143, R645-301-528, and R645-301-535.100 due to no handling of excess spoil within the permit area.

cparker

Hydrologic Ground Water Monitoring

Analysis:

The amendment does not meet the State of Utah R645 requirements for Groundwater Monitoring.
The amendment proposes to reduce groundwater monitoring frequency at the waste rock site from quarterly to annually. It is necessary to maintain quarterly monitoring of the waste rock well.

Deficiencies Details:

R645-301-731.212: The amendment does not meet the State of Utah R645 requirements for Ground Water Monitoring. The waste rock well must be monitored quarterly and the data must be submitted quarterly.

kstorrar

Hydrologic Water Quality Standards

Analysis:

The amendment does not meet the State of Utah R645 requirements for Water Quality Standards and Effluent Limitations. The amendment states water from the sediment pond may be used for dust suppression. However, the amendment does not outline where the water will be applied within the permit area and where excess runoff may flow. With no baseline water quality data and operational phase water quality testing, the water drawn from the total containment pond may only be used for dust suppression in areas draining back to the sediment pond.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Water Quality Standards and Effluent Limitations. R645-301-751: The amendment must include a narrative of where dust suppression water will be applied within the permit area and where potential excess runoff will flow.

kstorrar

Hydrologic Diversion Misc. Flows

Analysis:

The amendment does not meet the State of Utah R645 requirements for Sediment Control Measures. Plate 7-2 within the amendment shows the location of diversion ditches, but it is unclear how sheet flow on the refuse pile will be properly conveyed to the sediment pond during the operational phase of mining. There is also contradicting narratives of how runoff from the refuse pile will be handled. In the main body of the text under 7.4.6.2 it describes treating runoff from the waste rock pile using the pond and temporary pollution-prevention methods, while Appendix 7-7 states waste rock pile runoff will only flow to the retention basins. This discrepancy must be cleared up.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Sediment Control Measures and Refuse Piles. R645-301-731.700; R645-301-742.111; R645-301-746.212: The amendment must provide a detailed narrative with supporting map designs outlining how uncontrolled surface drainage from the Refuse Pile will be directed to the sediment pond. Additionally, there are contradicting narratives of how runoff from the refuse pile will be handled. In the main body of the text under 7.4.6.2 it describes treating runoff from the refuse pile using the pond and temporary pollution-prevention methods, while in Appendix 7-7 runoff from the refuse pile will only be directed to the sediment retention basin. This discrepancy must be cleared up.

kstorrar

Hydrologic Siltation Sedimentation

Analysis:

The amendment does not meet the State of Utah R645 requirements for Siltation Structures. The amendment states the sediment "pond will be reclaimed upon the completion of site operations". The amendment must clear up this vague timeline. The pond may not be removed sooner than two years after the last augmented seeding.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Siltation Structures. R645-301-763.100: The amendment must clarify the timeline for sediment pond removal. The structure cannot be removed sooner than two years after the last augmented seeding.

kstorrar

Support Facilites and Utility Installations

Analysis:

The application meets the minimum requirements of R645-301-521.180. The narrative of Section 5.2.1.1 details the single existing impoundment and support roads. Plate 5-1 details the general location of all support facilities located within the Permit area. Plate 7-1 shows the pond plan and cross sections.

The application meets the minimum requirements of R645-301-526.220 that requires the description, plans, and drawing for each support facility to be constructed, used, or maintained within the proposed permit area. Chapter 5 Section 5.2.6.2 details that the support facilities at the site will consist of only mobile equipment. No permanent equipment or utilities will be issued for the coal recovery operations of the waste rock. All temporary installations of structures will be located, maintained, and used in a manner to prevent or control erosion utilizing best technology currently available.

cparker

Signs and Markers

Analysis:

The application meets the minimum requirements of R645-301-521.200-270 by the general discussion of signs detailing the required signs will be maintained during all actives including: Mine Permit Identification signs, Permit markers, buffer zone markers and topsoil markers. Section 5.2.1.1 details that the access road will have a locking gate to control access to the site. Section 5.2.1.2 details the various specific information that will be displayed on the permit identification signs to meet R645 regulations. The perimeter of the permit area will be marked with a fence, as shown on Plate 5-1. There are no stream buffer zone markers within the Permit area as there are perennial or intermittent stream channels within the permit area. All topsoil and subsoil markers have been placed on the respective soil stockpiles to meet R645 regulations.

cparker

Explosives General

Analysis:

The application meets the minimum requirements of R645-301-521.167 as the narrative within Chapter 5 Section 5.2.4 states that no blasting operations conducted will be conducted at the site.

cparker

Explosives Preblasting Survey

Analysis:

The amendment meets the State of Utah R645-301-524.310 thru 350 requirements for Blasting: Preblasting Survey. The application states no blasting will be conducted at the site, therefore a pre-blasting survey is not required.

cparker

Explosives General Performance Standards

Analysis:

The amendment meets the State of Utah R645 rules for Blasting: General Performance Standards as no blasting will occur on site.

cparker

Explosives Blasting Signs Warnings Access Control

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting: Blasting Signs, Warnings, and Access Control as no blasting will occur on site.

cparker

Explosvies Control of Adverse Effects

Analysis:

The amendment does not meet the State of Utah R645 requirements for Blasting: Control of Adverse Effects as no blasting will occur on site.

cparker

Explosives Records of Blasting Operations

Analysis:

The amendment meets the State of Utah R645 requirements for Records of Blasting Operations as no blasting will occur on site.

cparker

Maps Affected Area

Analysis:

The Application meets the minimum requirements for geological maps required by R645-301-624.
An Area Geologic Map and Statigraphic section are found as Figure 6-1. The site is located near the mouth of Huntington Canyon, about 6 miles northwest of the town of Huntington, Utah. Rocks exposed in the area are marine-derived mudstones in the lower portion of the Masuk Member of the Mancos Shale. The Masuk Shale on the bench which adjoins the site on the east and west is covered by a 5- to 20- foot thick layer of terrace gravel of Quaternary age. North-south trending normal faults have disrupted the strata in the region. However, no faults are known to exist within the permit area.
Stratigraphy. The oldest rocks exposed in the region are part of the marine Mancos sequence deposited in Late Cretaceous time. This formation contains several alternating units of off-shore marine mudstones near-shore marine sandstones.

The benches on the west and east sides of the permit area are covered by a Quaternary pediment mantle. These materials are highly variable, of fluvial origin, and consist of a poorly bedded mixture of silt, sand, pebbles, cobbles, and boulders derived from adjacent uplands

dhaddock

Maps Affected Area

Analysis:

The application meets the minimum requirements of R645-301-521.100 by accurately showing the proposed permit boundary according to the pre mining topography.

As described in Section 5.2.1.1 the surface contour data from an aerial survey conducted on September 26, 2014 by Aero-graphics is depicted on Plate 5-1. The plate shows two foot contour intervals of the map clearly show the existing surface topography of the permit and adjacent areas.

cparker

Maps Facilities

Analysis:

The application meets the minimum requirements of R645-301-521.161 by detailing the existing waste rock pile, haul roads, sedimentation pond, and soil stockpile areas relevant to mining operations on Plate 5-1.

Narrative in Section 5.2.1.1 details that no buildings, utility corridors, coal processing waste banks, dams, or embankments exist or will be used within the permit area. The narrative also states that no spoil or coal preparation waste sites exist within the permit area, as detailed on Plate 5-1.

The application does not meet the minimum requirements of R645-301-521.162 by failing to providing a map detailing the yearly and overall disturbance for the waste rock site.

The application does not meet the minimum requirements of R645-301-521.163 as there is a clear narrative and reference to a narrative or drawing that details what surface mining operations are bonded for within the permit area.

Deficiencies Details:

R645-301-521.162: Missing a map detailing the yearly and overall disturbance for the waste rock site.

cparker

Maps Mine Workings

Analysis:

The application meets the minimum requirements of R645-301-521.140 which requires maps that clearly show all mine plans and no underground mine workings are present within the permit area.

cparker

Maps Certification Requirements

Analysis:

The application meets the minimum requirements of R645-301-512 as all mine drawings and plates are stamped by a Utah certified professional engineer, Richard White, with experience in surface mining operations.

cparker

Reclamation Plan

General Requirements

Analysis:

The application meets the minimum requirements of R645-301-513 by detailing no ponds meet the MSAH, 30 CFR 77.216 requirements, no refuse piles will be constructed and all sealing of underground openings shall meet MSHA, 30 CFR 75.1711 and R645-301-551 requirements.

The application does not meet the minimum requirements of R645-301-541.200 by incorrectly stating that no surface coal mining activities wil be conducted within the permit area. Remining of the waste rock site is by definition of R645-100-200 surface coal mining and reclamation activities. The Permittee will amend section 5.4.1.2 to address the appropriate R645 regulations.

The application meets the minimum requirements of R645-301-553 in the narrative of Section 5.4.2.2 which details the backfilling and grading of the waste rock site at final reclamation. See the backfill and grading analysis for further details.

Deficiencies Details:

R645-301-541.200: See deficiency under Mining Operations for definition of surface mining operations.

cparker

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 4.1.2.1 on pages 4-3 and 4-4. The proposed use is wildlife habitat. The plan explains how the proposed postmining land use is to be achieved through reclamation. The PMLU is consistent with county zoning ordinances and compatible with adjacent land uses. BRCW owns and operates the site therefore, landowner comments are not required.

lreinhart

WildLife Protection

Analysis:

The amendment meets the State of Utah R645-301-342 requirements for a fish and wildlife plan for the reclamation and postmining phase of operation.

Enhancement measures identified in Section 3.4.2.1 on page 3-8 includes seeding native and non-native plants that serve

as valuable wildlife forage. NOTE: Care should be taken because some plants in the mix are not native (alfalfa and yellow sweetclover), Low rabbitbrush is highly competitive and will invade naturally, and Bottlebrush squirreltail outcompetes many of the desirable shrub species in the mix. Consideration to modifying the seedmix for these reasons should be given.

The Division finds the proposed operation will not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act.

Section 3.4.2.2 should reference Appendix 3-3, Letter from DWR.

lreinhart

Approximate Original Contour Restoration

Analysis:

The application does not meet the minimum R645-301-512.200. The narrative of Chapter 5 Section 5.1.2.2 details how a variance from approximate original contour is being requested, with supporting information presented in Appendix 5-2. A variance from approximate original contour is not required for waste rock, refuse, and excess soil piles due to the nature of such structures. These structures are by design a change from the original contours therefore have specific regulations to ensure such structures are constructed in a stable and safety manor that would not harm the public or environment.

The application does not meet the minimum requirements of R645-301-553.100 due to not needing a variance from AOC as described in -553.110 through -553.150.

The MRP includes narratives and certified drawings provides a basis for the Division to be able to determine that the proposed backfill and grading plan will minimize off-site effects, achieve a final surface configuration which closely resembles the general surface configuration of the land prior to mining, provide a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion, and support the approved post mining land use.

Deficiencies Details:

R645-301-512.200,-553.110 through -553.150: No variance form AOC is required.

cparker

Backfill and Grading General

Analysis:

The application meets the general requirements of R645-301-553 by detailing a general backfill and grading plan that details 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.

A time table of all major reclamation operations is located in Table 5.1. Reclamation details the removal of the asphalt access road. The asphalt will be placed on the reject pile prior to the pile being regraded to slope from east to west and north to south. The reject material will be pushed into the sedimentation pond using dozers and other various equipment. All backfilled material will be compacted using a sheepsfoot roller to achieve approximately 90% of standard proctor density. Plate 5-3 details the reclamation channels to be cut through the pile to control site drainage. The channels will be lined with riprap and have the dimensions, however, the drainage from the channels does not route to the pond to meet R645-301-356.300 and -301-763 reclamation requirements.

The final reclamation surface will be mulched, crimped and soil surface roughened to promote moisture retention and minimize erosion.

The application meets the minimum requirements of R645-301-553.252 by including an analysis of the waste rock to be non acid forming or toxic to justify the placement of less than four feet of cover material. The justification of the toxicity of the waste rock is present in Section 6.2.3 of the MPR. A total of 35 inches of subsoil will be place with an additional 2.5 inches of topsoil for sufficient growth media for revegetation of the site.

Deficiencies Details:

R645-301-542.500, -301-356.300, -301-763: Plate 5-3 shows drainage being routed away from the pond.

cparker

Backfill and Grading Previously Mined

Analysis:

The minimum requirements of R645-301-521.152 and R645-301-553.500 are met within the application.

The MRP narrative in Chapter 5 Section 5.2.1.1 states that there are no previously mined areas with the mining operations.

cparker

Backfill and Grading on Steep Slopes

Analysis:

The minimum requirements of R645-301-553.200 are met within the application as there is no area where backfilling on a steep grade or slope will exist within the permit area.

cparker

Backfill and Grading Steep Special Provisions

Analysis:

The minimum requirements of R645-301-537 and -553 are met within the application as there is no area where backfilling on a steep grade or slope will exist within the permit area.

cparker

Mine Openings

Analysis:

The application meets the requirements of R645-301-513, R645-301-529, R645-310-551 and R645-301-631. As this is a Coal Waste recovery operation there will be no mine openings or exploration drill holes installed.

dhaddock

Mine Openings

Analysis:

The minimum requirements of R645-301-513.500, R645-301-529, and R645-301-551 are met within the application.

The R645 requirements are met within the application do to no mine openings associated with the Bowie Waste Rock site.

The application does not meet the minimum requirements of R645-301-542.740 by stating that no underground mine openings are present within the permit area.

cparker

Topsoil and Subsoil

Analysis:

Analysis:
The application meets the requirements of R645-301-240 Reclamation Plan.
Section 2.4.2.1 describes replacement of topsoil and subsoil from stockpiles after coal recovery. Section 2.4.2.2 describes scarification of subsoil prior to topsoil redistribution. Section 2.4.3 describes the application of fertilizer. Section 2.4.4 describes soil stabilization using surface roughening and mulch.

pburton

Road System Reclamation

Analysis:

The minimum requirements of R645-301-534 are met within the application as all primary roads will be designed to R645-301-534.300 and all temporary ancillary roads will meet the general 534 design requirements. There are not any roads with the permit area that R645-301-537 would apply.

The minimum requirement of R645-301-542.600, are met as all road will be reclaimed. Section 5.4.2.2 details the reclamation of the asphalt access road by removing the road surface and placing the waste within the waste rock pile.

cparker

Road System Retention

Analysis:

The minimum requirements of R645-301-534 and -552 are met within the application all primary and ancillary roads within the MRP will be reclaimed at the end of mining.

cparker

Contemporaneous Reclamation General

Analysis:

The amendment meets the State of Utah R645-301-352 requirements for contemporaneous reclamation.

Given the relatively short duration of anticipated coal recovery operations at the site, contemporaneous reclamation is not considered practical.

lreinhart

Contemporaneous Reclamation General

Analysis:

The minimum requirements of R645-301-553 in regards to contemporaneous reclamation and backfilling activities are met within the application as the MRP details the sequencing of mining and backfilling of the operation in Chapter 5 Section 526, 528 and 553.

cparker

Revegetation General Requirements

Analysis:

The amendment meets the State of Utah R645-301-341 requirements for a revegetation plan.

The reclamation plan for final revegetation is located in Section 3.4.1 on page3-7 and 3-8. The plan describes how reclamation of all lands disturbed will comply with the biological protection performance standards. The plan includes a detailed schedule and timetable for each major step (Section 5.4.2.1) seed mix (Table 3-1), planting methods, and mulching. Measures proposed to determine success of revegetation are identified in Section 3.5.6.

The amendment meets the State of Utah R645-301-353 requirements for vegetative cover.

The revegetation plan is described in Section 3.40 on page 3-7. The seed mix presented in Table 3-1 is intended to provide vegetative cover that will be diverse, effective, and permanent. The seed mix is comprised of species native to the area as well as introduced species recommended by the Utah Division of Wildlife Resources for enhancement of wildlife habitat. The seed mix was selected to be compatible with the climate, potential seedbed quality, and drought tolerance and should result in cover at least equal in extent to the reference site.

The amendment meets the State of Utah R645-301-357 requirements for extended responsibility period.

The period of extended responsibility will begin after the last year of augmented seeding, fertilization, irrigation, or other revegetation work, excluding husbandry if approved by the Division. The average annual precipitation is around 7-10 inches

and therefore, the extended responsibility period will be 10 years.

lreinhart

Revegetation Timing

Analysis:

The amendment meets the State of Utah R645-301-354 for revegetation timing.

Reclaimed areas will be revegetated during the first favorable period for planting as discussed in Section 3.4.1.1 and Reclamation Timetable identified as table 5-1.

lreinhart

Revegetation Mulching and Other Soil Stabilization

Analysis:

The amendment meets the State of Utah R645-301-355 requirements for mulching and soil stabilizing.

Mulching and soil stabilizing practices are identified in Section 3.5.3.1 on page 3-10. The area to be revegetated will be mulched during reclamation. The mulching, together with the seed mixture and surface roughening of the redistributed topsoil, should provide adequate erosion control.

lreinhart

Revegetation Standards for Success

Analysis:

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

Success standards are identified in Section 3.5.6.1 on pages 3-12 and 3-13. Success will be determined by comparison to data obtained from the reference area shown on Plate 3-1. Final comparisons will involve random sampling of both the reference area and the revegetated site. Estimates of ground cover and density of woody plant species will be made for the revegetated areas and the reference areas. The PMLU is wildlife habitat.

lreinhart

Stabilization of Surface Areas

Analysis:

Analysis:
The application meets the requirements of R645-301-244, Soil Stabilization, because, Section 2.3.1.3 describes annual inspection and repair of erosion on the soil stockpiles and Section 2.4.4 describes using surface roughening and mulch at reclamation.

pburton

Cessation of Operations

Analysis:

The application meets the minimum requirements of R645-301-515.

The application includes a narrative in Section 5.1.5.3 that details the operations the Permittee will follow in the event a temporary cessation will last for a period of 30 days or more. The notice of intention to cease or abandon operations will be submitted to the Division and include all required applicable information outlined in R645-301-515.300 through -515.322.

The minimum requirements of R645-301-541 are met within the application 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.

cparker

Maps Affected Area Boundary

Analysis:

The application meets the minimum requirements by detailing the affected area on Plate 5-1. The disturbed area is the only surface area that will be affected by surface mining operations of the waste rock site.

cparker

Maps Bonded Area

Analysis:

The minimum requirements of R645-301-800 are met not within the application as the bonded area map depicts the disturbed area on Plate 5-1 do not depict information presented in Appendix 8-1. Plate 5-3 details the final reclamation grading and contour map of all area disturbed on Plate 5-1.

Deficiencies Details:

R645-301542.800,-301-800: The cost estimate in Appendix 8-1 references areas such as RC but there is no map detailing what RC subareas are represented within each cost estimate.

cparker

Maps Reclamation BackFilling and Grading

Analysis:

The minimum requirements of R645-301-542 are met within the application including the final grading map of Plate 5-3. A clearer bond area map will show the appropriate justification for various areas of backfilling volumes detailed in Appendix 8-1. The current appendix 8-1 is too vague to accurately estimate individual areas of backfill volumes.

Deficiencies Details:

See bonding map deficiency

cparker

Maps Reclamation Facilities

Analysis:

The minimum requirements of R645-301-542 are met not within the application as there is no detailed map or plan for showing the sequence of reclamation time table. Table 5-1 is included in Chapter 5 but simply depicts the time require to reclaim each individual feature.

There is a discussion and engineering design provided in Chapter 5 to show that the natural drainages that will be placed back in a stable manor meeting the requirements of R645-301-358.400, R645-301-521.100 through-521.130, R645-301-731.610, R645-301-527.220 and R645-301-121.200. All surface coal mining operation facilities will be reclaimed as depicted in Plate 5-3.

Deficiencies Details:

R645-301-542.100,-550: The application is missing reclamation cross sections to match Plate 5-3.

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The minimum requirements of R645-301-542 are met not within the application only includes Plate 5-3 depicts the final surface configuration in plan view. The application is missing cross section profiles showing the buried waste placement.

Deficiencies Details:

R645-301-542.100: the application is missing reclamation cross sections.

cparker

Maps Reclamation Surface and Subsurface Man Made

Analysis:

The minimum requirements of R645-301-542 are met within the application due no remaining manmade features at final reclamation.

cparker

Maps Reclamation Certification Requirments

Analysis:

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

cparker

Bonding and Insurance General

Analysis:

The application does not meet the minimum requirements of R645-301-800 as the applicant is bond amount contains errors. The detail line item costs references various sub areas of grading that are never labeled on a map. The various backfill volumes cannot be verified without a detail map shows what area are accounted for.

Deficiencies Details:

R645-301-830: The application is missing a reference map shows the subareas that the disturbed area is presumably broken into in the cost estimate within Appendix 8-1.

cparker

Bonding Form of Bond

Analysis:

The application meets the minimum requirements of R645-301-860.100 as the applicant states that upon acceptance of the permit the Permittee will file for a surety bond licensed to do business within Utah.

cparker

Bonding Determination of Amount

Analysis:

The application does not meet the minimum requirements of R645-301-830.140 as the Permittee submitted detailed bond information that is referencing sub areas of the disturbed area that are never clearly depicted on a drawing. The Division approved escalation factor for 2015 is 1.012. The Division utilizes the R.S. Mean Historical Cost Index for Site Construction averaged over the past five years.

Deficiencies Details:

R645-301-830.140: Provide a reference drawing to show line items costed for in Appendix 8-1 and update the escalation rate to 1.012 for 2015 to 2020.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

The application meets the State of Utah requirements for R645-301-800, Certificate of Liability Insurance.

A Certificate of Liability Insurance has been submitted for the Insured, Bowie Refined Coal, LLC.

However, prior to final approval, the Insured will be required to update the Description of Operations as Bowie Waste Rock Site C/015/0035 and the Certificate Holder as the Division of Oil, Gas & Mining.

ssteab

Bonding Terms and Conditions Liability Insurance

Analysis:

The application meets the minimum requirements of R645-301-850 as the site currently has insurance for personal injury and property damage with a copy of the certificate located in Appendix 1-2.

cparker