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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0070005
TaskID: 4883
Mine Name: SKYLINE MINE
Title: NOG BLEEDER SHAFT

Summary

On April 15, 2015, Canyon Fuel Company (CFC) submitted an amendment to incorporate the proposed NOG Bleeder ventilation shaft into the Skyline Mine MRP. The application was returned due to deficiencies on June 30, 2015. The application was again submitted on August 12, 2015 and addressed deficiencies identified.

The application is for construction of a shaft with ventilation facility and its components including; a pad, access road, topsoil pile, 1,425 ft bleeder shaft, exhaust fan, backup generator and fuel tank. Associated disturbance as designed should be 1.7 acres for the facility with a permitted area of 3.0 acres. The facility is to be located in SW4SW4 Section 26 and NE4NE4 Section 34 in T.12S, R.6E.

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

lreinhart

General Contents

Permit Term

Analysis:

Analysis:
Canyon Fuel Company, LLC holds a current five year permit which was issued October 22, 2013. The Permittee has the right of successive renewal in 2018 to extend the permit another five years. This North of Graben shaft will support Winter Quarters mining for the next two to three years and then will be reclaimed using an engineered fill (cover letter and Sec 2.2.13).

pburton

Environmental Resource Information

General

Analysis:

The application meets the minimum requirements of R645-301-830 and is recommended for conditional approval upon the receipt corrected bond sheet copies from the Permittee.

cparker

Permit Area

Analysis:

The application meets the minimum requirements of R645-301-521 by correcting the various sections R645-301-112 and -121.200 to clarify that the permit area of 3.0 acres and a disturbance area of 1.7 acres. The application states that permit area will consist of 3.0 acres. Disturbance within the three acres will include two pad areas. One area will house a fan building, topsoil storage area, and access road. The second smaller pad will consist of fuel and generator houses.

cparker

Permit Area

Analysis:

Analysis:

The application meets the requirements of the R645 Utah Coal Rules for permit area information. The bonded area to be added to the permit is 3.0 acres, however the actual proposed disturbance is estimated to be 1.7 acres (Chapter 1 table titled, Permit Areas To Be Reclaimed; Section 2.1, Section 2.1.2 ; Section 2.7.9 and Section 4.11.10). The information provided in the application matches that in the public notice.

The North of Graben shaft will be in T 12 S., R 6 E. in the SW1/4 SW 1/4 Sec 26 and the NE1/4 NE1/4 Sec 34. The site is along an existing USFS road on Granger Ridge at an elevation of 9,200 ft. The location is outlined Dwg 1.6-3. The location is found on the Scofield, Utah 7.5 minute USGS quadrangle map. The General Layout Map 3.2.4-5A shows the slope to be approximately 33% or about 3h:1v.

Adding the North of Graben construction, there are 125.31 acres in the permit area.

pburton

Permit Area

Analysis:

The acreage of total surface disturbance is changed to 125.31 acres in the permit area list but still reflects 122.31 acres.

CONDITIONAL APPROVAL: The updated acres of disturbance in the first paragraph of the permit area description on page 1-37 needs to be changed from 122.31 in paragraph 1 to 125.31 acres.

lreinhart

Historic and Archeological Resource Information

Analysis:

Analysis:
Section 2.1 includes a narrative describing cultural resources around the NOG shaft. A confidential Cultural Resources Inventory for the Skyline Mine Expansion and Transmission Line is also provided. The detailed report includes confidential maps. All cultural resources work was carried out under authority of Utah State Antiquities Project Number U-14-EO-0753f and Public Lands Policy Coordination Office Permit Number 89 (Andrew T. Yentsch). The report concludes there are no sites recommended eligible for the NRHP and therefore there shall be no adverse affect. The area is located on U.S. Forest Service (Manti-La Sal National Forest) land and therefore, USFS consulted with SHPO on the recommendations. SHPO agreed with the recommendation in Determination of Significance and Effect dated 8/12/15. Requirements of Section 106 of the National Historic Preservation Act have been met.

Finding: Information provided in the application meets the minimum requirements of R645-301-411.

lreinhart

Vegetation Resource Information

Analysis:

Vegetation information is described in Section 2.7.9. A vegetation report prepared by Mt Nebo Scientific is included in Appendix A-2, V.2. Photographs and maps are included in the report. The plant communities to be disturbed and those chosen as reference areas had qualitative and quantitative baseline data collected to be used for final revegetation success measurements. Quantitative data consisted of cover, frequency, composition, and density. The report does not include production measurements. However, production information is available in the land use section 2.12 on page 2-128. A summary table of the potential threatened, endangered, candidate and sensitive plant species indicates analysis was done and there should be no impact to any of the species listed. This information is adequate to predict the potential for vegetation success at reclamation.

Finding: Information provided in the application meets the minimum requirements of R645-301-321

lreinhart

Fish and Wildlife Resource Information

Analysis:

Section 2.9.3 discusses T&E Species.
Birds include: Greater Sage-grouse, Mexican Spotted Owl, Southwestern Willow Flycatcher, and Yellow-billed Cuckoo. Because they do exist in the permit area, surveys for Northern Goshawk and Southwestern Willow Flycatcher are included in the current raptor and wildlife surveys as outlined in section 4.18 of the MRP. As Figure 2.9.3-E indicates, the Skyline Mine area is within the Greater Sage-grouse Management Area but does not overlap with nesting and broodrearing habitat, winter habitat, or known leks. Therefore, impacts to Greater Sage-grouse are unlikely. A habitat assessment for Western-billed Cuckoo was performed on 7/30/15 using the Serviceâ€™s Guidelines and finds that habitat suitable for breeding and nesting is not present. The Mexican spotted owl does occur in the County but the mine permit area does not contain any ideal habitat such as very steep canyons and therefore eliminates the potential for impact to this species. Consultation with USFS has confirmed there is no need for MSO surveys.

Fishes include: Bonytail Chub, Colorado Pikeminnow, Humpback Chub, and Razorback Sucker. All these species are restricted to the Colorado River system or near the Green River in the extreme eastern portion on the County. These rivers will not be affected from the development of the NOG shaft and therefore, there should be no impacts as a result. Appendix A-2-2 includes an analysis of these species and the potential impacts from mining operations.

Raptors and Migratory Birds:
A raptor survey was conducted in 2014 specifically for the NOG Bleeder Shaft area with no nests being found. Appendix A-2 contains the survey information. A Northern Goshawk was identified as a resident adjacent to the permit area and as such a plan for monitoring and protection of raptors is located in Sec. 4.18. On page 4-103, a raptor monitoring plan is outlined. The survey did not include or address Mexican Spotted Owl. The survey protocol is not adequate to determine presence of MSO.

The 2014 Wildlife Survey Report includes a map of the raptor survey area with a 0.5 miles buffer and call stations.

Finding:
Information provided in the application is considered adequate to meet the minimum requirements of the regulations R645-301-322.

lreinhart

Soils Resource Information

Analysis:

Analysis:
The application has met the requirements of R645-301-220 soils environmental description and soil survey, because although the nutrient status (N:P:K analysis) was not included in the pre-disturbance soil survey information the topsoil pile will be sampled for N:P:K after its construction (revised application received on September 18, 2015). In the future the

Permittee will complete the analysis on Table 3 of the Division's January 2008 Guidelines for Topsoil and Overburden for undisturbed sites.

An Order 2 soil survey of the North of Graben Bleeder shaft was prepared by Robert Long, Long Resource Consultants, Inc., Morgan, Utah. It is found in App. A-2, Vol. 2, dated January 16, 2015. The survey is well researched and presents specific information on soils in a 50 acres area surrounding the 3.00 acre permit area.

The survey places the Skyline Mine site 4 miles southeast of the NOG Bleeder shaft. The shaft location is in the aspen ecological type. The soils are cold (cryic). The average precipitation over the last 30 years being just under 26 inches. Four soils profiles were described and their locations were logged using GPS. The profile locations are shown on Figure 2, Soil Survey Map, scale of 1 inch = 600 feet. Refer to Appendix A for soil profile descriptions; Appendix B for soil profile location photographs; Appendix C for Soil Profile Box Photographs; and Appendix D for Soil Laboratory Analysis.

Soil Map unit N1 is represented by profiles 14SKY07 within the 3.0 acre permit area. [Site 14SKY06 also lies within the permit area, but this site profile was not described in Appendix A and therefore there is no accompanying box photo or laboratory analysis.]
The N1 map unit has slopes of 20 - 70%. Samples were taken at site 14SKY07 from 0-11 cm, 11-28 cm, and 28-48 cm. Fractured sandstone was encountered at 50 cm (20 inches). Samples were sent on October 1, 2014 to Inter-Mountain Labs/Sheridan for analysis.

At location 14SKY07, the topsoil (A) horizon was logged to a depth of 11 cm (4 inches). Below the A horizon were B horizons: Bw1 (to 28 cm) and Bw2 (down to 48 cm). Together the Bw1 and Bw2 accounted for an additional 14.5 inches. Visually, there is a striking difference between the A horizon and the B horizons below. (See photo of 14SKY07 soil profile box in Appendix C). This color difference is the manifestation of the increased organic matter content in the A horizon. This difference in organic matter content is also clear from the laboratory analysis (sample 14SKY07 in Appendix D).

Section 2.11 and Sec. 4.6 summarizes the Soil Survey Table 9 when stating that the topsoil depth is 19 inches. However, based upon the only site sampled within the permit area, this statement is not accurate. Sample location 14SKY07 contains a rich, organic surface layer which was stated to be 11 cm or 4 inches deep. The McCadden Family soils (lithic Haplocryolls loamy-skeletal, mixed superactive), are shallow soils over sandstone with a TOTAL depth of 19 inches. Implicit in the soil taxonomic name is that the soil has lithic contact at 50 cm (19 inches) and contains rock fragments (>35%). See deficiency written under Operations Plan Soils Handling R645-301-232.300.

Section 2.7.9 describes the site as a south facing hillside vegetated with musk thistle, cheatgrass (both undesirable species) and bluebunch wheatgrass and aspen. A portion of the 3.0 acres was previously disturbed and later reseeded. The 3.0 acre permit area can support 2.2 AUM. (Table 2.12.2-1 in Section 2.12). This site will require weed control during operations and reclamation.

Section 4.6 describes the vegetation further and includes vegetation on the north facing slope of the ridge, which will be disturbed temporarily for re-routing of the existing jeep road during construction.

Deficiencies Details:

pburton

Land Use Resource Information

Analysis:

Section 4.12.8 defines the pre-mining land use as habitat for grazing and wildlife and timber harvesting. Table 4.12-1 (grazing potential for area affected by mining) has been updated to include the NOG Shaft. Table 2.12.2-1 has been updated to include grazing potential and production estimates for the NOG disturbed area, which is 2.2 AUMâ€™s. Page 2-131 has a narrative of the management units and indicates the surface will revert to a range management unit once mining is complete. Drawing 2.12.1-1 shows the area is located in the French Creek grazing allotment.

Finding: Information provided in the application meets the minimum requirements of R645-301-411

lreinhart

Geologic Resource Information

Analysis:

The application proposes to add a shaft into the mine North of the Graben in the Granger Ridge area. The shaft will be approximately 1400 feet in depth with a diameter of 5 feet. This area was previously approved for mining and is encompassed within existing federal leases. The Castlegate formation is the principle geologic formation in the area of the shaft pad.
Finding: The Geologic Resource Information has been adequately described for this action.

dhaddock

Maps Affected Area Boundary Maps

Analysis:

The application meets the minimum requirements of R645-301-521.The application includes an updated Figure 1.6-3 Rev 9 that details the land ownership of each the respectable plots within the permit area, meeting the minimum requirements of R645-301-521.131Plate 1.6.3 and Plate 3.2.4-5A through 3.2.4-5C show the outline of the permit and disturbed and facilities that will be located at the NOG bleeder shaft pad as part of the operations. The application meets the minimum requirements of R645-301-521.

cparker

Maps Coal Reasource and Geologic Information

Analysis:

The application provides for drilling a bleeder ventilation shaft into the mine in an area that is already permitted for mining. Much of the geological information is found in the existing mining and reclamation plan and does not change as a result of this application. Drawing 2.2.1-1 is a general geologic map of the area which includes a description of the geology and also maps the faults and dikes of this area. The Stratigraphy of the area is accurately described as a well (91-26-1) was drilled near the Granger Ridge area. This well along with several others was logged and developed into a fence diagram which portrays the geology of the mine along a North-South cross section. This cross section and diagram is found on Drawing 2.3.4-1A in the approved MRP. Well 91-26-1 shows the upper Oconnor coal seam to be at approximately 1350 feet and the Lower Oconnor seam at approximately 1550 feet, which is consistent with the bleeder shaft being projected to go to a depth of a little more than 1400 feet. The strata above and below the coal seam are described. The applicant has met the requirements of the Maps of Coal Resource and Geologic Information section of the rules.

dhaddock

Maps Cultural Resource

Analysis:

Information provided in the application meets the minimum requirements of R645-301-411.140. The Cultural Resources Inventory report includes a map referencing location of areas surveyed and associated occurrences.

lreinhart

Maps Existing Surface Configuration

Analysis:

The application meets the minimum requirements of R645-301-521.123 as Plate 3.2.4-5A was updated to show the USFS road, Granger Ridge 0221 that is used to access the NOG Shaft pad. Plate 1.6.3 and Plate 3.2.4-5A through 3.2.4-5C shows the existing surface configuration of the NOG bleeder shaft site.

cparker

Maps Monitoring and Sampling Locations

Analysis:

Information provided in the application meets the minimum requirements of R645-301-323

The 2014 Wildlife Survey Report includes a map of the raptor survey area with a 0.5 miles buffer and call stations.

The Vegetation Report includes a map adequately indicating locations for vegetation sample sites that will be used for vegetation success.

lreinhart

Maps Permit Area Boundary

Analysis:

The application meets the minimum requirements of R645-301-521. Plate 1.6.3 and Plate 3.2.4-5A through 3.2.4-5C show the outline of the permit and disturbed and facilities that will be located at the NOG bleeder shaft pad as part of the operations.

cparker

Operation Plan

Mining Operations and Facilities

Analysis:

The Permittee has supplied the required information to meet R645-301-526 discussed in more detail under Supporting Facilities. The NOG bleeder shaft will act as a supporting facility for mining operations in the area where the Permittee is combining two mining zones into one.

cparker

Mining Operations and Facilities

Analysis:

Analysis:
The NOG Bleeder shaft facilities will include a 784 ft to 780 ft access road; a 50 x 80 ft. fan pad; fan; a diesel powered generator (temporary); topsoil stockpile; a fenced generator shed; 300 gal diesel fuel tank in secondary containment (Sec 3.2 and Sec 4.11.10 and Sec 4.20). The site will be an Alternate Sediment Control Area, ASCA #40. The general layout is shown on Dwg 3.2.4-5A.

pburton

Existing Structures

Analysis:

The application meets the minimum requirements of R645-301-521.123 and -521..133 and -301-526.116 by adding a discussion on how public traffic will be handled. The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge road 0221. Granger Ridge road 0221 will remain open during construction and operation with a slight re-routing of the road to the north of its current location, as described in Section 3.2 of the MRP.

cparker

Protection Public Places

Analysis:

Information provided in the application meets the minimum requirements of R645-301-411. As noted on page 2-4a in Section 2.1.2 of the approved MRP, no cemeteries, National Trails or Wild and Scenic Rivers, or public parks exists on or adjacent to the project area. The proposed NOG shaft is located within existing and permitted mining area. The protection of public parks and historic places is also described in Section 4.14 of the existing MRP.

Finding: Information provided in the application meets the minimum requirements of R645-301-411

lreinhart

Relocation or Use of Public Roads

Analysis:

The application meets the minimum requirements of R645-301-521.123 and -521..133 and -301-526.116 by adding a discussion on how public traffic will be handled. The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge road 0221. Granger Ridge road 0221 will remain open during construction and operation with a slight re-routing of the road to the north of its current location, as described in Section 3.2 of the MRP.

cparker

Air Pollution Control Plan

Analysis:

Analysis:
The application meets the air quality requirement of R645-301-420. During construction, dust will be controlled as described in Section 3.2 and records will be kept of water treatment per Section II.B.1.k. of the Air Quality Approval Order.

Appendix A-1 contains the air quality Approval Order #DAQE-AN100920001-15 which was last updated July 13, 2015.

pburton

Air Pollution Control Plan

Analysis:

Analysis: Proof of coordination and compliance with Utah Division of Air Quality is exhibited in Approval Order DAQE-AN100920001-15 issued July 13, 2015.

Finding: Information provided in the application meets the minimum requirements of R645-301-422

lreinhart

Subsidence Control Plan Renewable Resource

Analysis:

Analysis:
The development of the NOG shaft does not result in subsidence and therefore renders this regulation obsolete for this application.

Finding: Information provided in the application meets the minimum requirements of R645-301-332

lreinhart

Subsidence Control Plan Subsidence

Analysis:

The application meets the minimum requirements of R645-301-525. The NOG bleeder shaft pad area is within a current subsidence control area for underground mining operations at the Skyline mine.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The application meets the minimum requirements of R645-301-515. The topsoil pile for the reclamation of the NOG bleeder pad shaft is designed to store approximately 1,129 CY of material. Attachment A5 contains a geotechnical report done by Earthfax in March 2015 to analyze the pad, road, and topsoil pile for stability. The final recommendations found that a top soil pile 20 feet resulted in a safety slide factor of 1.7, a safety factor for the roadway of 4.6 and for the shaft pad 2.8 for it in entirety and 2.9 for the embankment fill. These factors of safety meet the Division minimum requirements of R645-301-535.110, -130. The report also detail that the pad should be placed in eight-inch lifts to 95% Standard Proctor

maximum dry density ±2 % optimum water content.

cparker

Fish and Wildlife Protection and Enhancement Plan

Analysis:

Section 2.9.7 states the area is critical summer habitat for deer and elk. A wildlife survey report conducted in 2014 addressed Northern Goshawks, American three-toed woodpecker and other raptors and determined no species of concern would be impacted by the construction of the shaft.

Deficiencies Details:

Information provided in the application does not meet the minimum requirements of R645-301-330. Prior to approval, the permitee must provide a description of protective measures taken to avoid disruption to wildlife (deer and elk) during critical times of their life cycles and also to establish interim vegetation for habitat. From the application, it appears construction of the shaft will occur during summer when it is critical for deer and elk habitat. The permittee must address any impacts noise from the fan and increased vehicle traffic may have on wildlife and what measures will be implemented to negate those effects.

lreinhart

Fish and Wildlife Protection and Enhancement Plan

Analysis:

Analysis:
Section 2.9.7 identifies the area as critical summer habitat for deer and elk. During development of the facility, daily activity will include vehicle traffic and construction activities. After construction, the use of the area will return to historic uses, with only an exhaust fan operation remaining. Construction of the pad will occur in fall of 2015, so the critical summer fawning/calving period will not be impacted. Construction of the fan facility will occur in spring/summer of 2016, since the ventilation facility is needed by fall of 2016. If construction begins after June 1st, when the peak fawning/calving period begins, the area will be surveyed to detect the presence of any potentially fawning/calving individuals. This will consist of walking the area 1000 feet below the construction area. If any individuals are encountered, they will be monitored, and construction will not begin until the individual is no longer in the area (see Alpine memo dated July 2015). After construction, the impacts will be minimal since the fan system that is being installed will be equipped with an Exhaust Silencer with an overall pressure level of 76dBA at 36"" from the fan. Access will be limited by a locked gate.

A wildlife survey report conducted in 2014 addressed Northern Goshawks, American three-toed woodpecker and other raptors and determined no species of concern would be impacted by the construction of the shaft.

Finding: Information provided in the application meets the minimum requirements of R645-301-333

lreinhart

Topsoil and Subsoil

Analysis:

Analysis:
The information received on September 18, 2014 meet the requirements of the soils handling operation plan.

Section 2.11 and Sec. 4.6 state that the A horizon will be salvaged and where there is less than six inches in the A horizon, up to 4 inches of the subsoil (Bw1 horizon) to be stockpiled for reclamation. In this manner, the valuable A horizon will be diluted by a maximum of 50%. Sample location 14SKY07 contains a rich, organic surface layer which was stated to be 11 cm or 4 inches deep. The McCadden Family soils (lithic Haplocryolls loamy-skeletal, mixed superactive), are shallow soils over sandstone with a TOTAL depth of 19 inches. Implicit in the soil taxonomic name is that the soil has lithic contact at 50 cm (19 inches) and contains rock fragments (>35%).

In addition, the plan states that a qualified person will be on site during soil salvage to monitor the topsoil salvage depth. An as-built survey of the topsoil stockpile will report the volume recovered and stockpiled.(Section 2.11)

Section 4.6 states that there will be a 0.19 acre topsoil stockpile placed against the slope. It is designed to hold 4,388 CY (Sec 2.1.2, Sec. 4.6.2 and Plate 3.2.4-5A - C). The stockpile is shown on Plate 3.2.4-5A. The size of the stockpile will be

dependent upon soil salvage and A horizon variability. The plan includes a commitment to provide an as-built version of Plate 3.2.4-5A-C that reflects the actual stockpile dimensions after construction is complete.

Topsoil protection is described in Section 4.6.3. The interim seed mix of forbs and grasses (Table 4.7.-10A) will be scattered on the stockpile. Noxious weeds will be controlled (Section 4.7.10 and Section 4.18).

Plate 3.2.4-5A is on a scale of 1' = 60 ft. The existing contours are in 5 ft intervals and one foot operational contours are shown. Counting the contours, the topsoil stockpile will be about 32 ft. high at the lowest position on the slope and 14 ft high at the highest position on the slope.

Deficiencies Details:

pburton

Vegetation

Analysis:

Analysis: The disturbance for the pad includes a short access road, a 50 foot by 80 foot pad, and a topsoil pile. The footprint of the disturbance will be approximately 1.7 acres. Sediment control structures used during construction such as silt fencing and straw bales will remain in place for one year after construction and will be removed anytime thereafter . Erosion control blankets, wattles, or straw bales will be used to control erosion during interim vegetation establishment. Topsoil protection measures are discussed in Section 4.6.3 of the approved MRP and include immediate seeding of seed mixture identified in Table 4.6-1.

Finding: Information provided in the application meets the minimum requirements of R645-301-331

lreinhart

Road Systems Classification

Analysis:

The application meets the minimum requirements of R645-301-521.123 and -521..133 and -301-526.116 by adding a discussion on how public traffic will be handled. The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge road 0221. Granger Ridge road 0221 will remain open during construction and operation with a slight re-routing of the road to the north of its current location, as described in Section 3.2 of the MRP.
The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge with an ancillary access road approximately 780 feet long off the main USFS road. Plates 3.2.4-5A through 5D illustrate the details of the road. The application meets the minimum requirements of R645-301-527.

cparker

Road System Plans and Drawings

Analysis:

The application meets the minimum requirements of R645-301-527. Plates 3.2.4-5A through 5D illustrate the details of the road. Plates 4.4.2-5A and -5B detail how the access road will be reclaimed.

cparker

Road System Performance Standards

Analysis:

The application meets the minimum requirements of R645-301-527. As shown on Plate 3.2.4-5C, rock lined drainage ditches will alongside the access road to minimize and control erosion off the disturbed area.

cparker

Road System Certification

Analysis:

The application meets the minimum requirements of R645-301-527. The access road to the NOG bleeder shaft pad meets the requirements of an ancillary road due to no coal hauling.

cparker

Hydrologic General

Analysis:

There is no additional water monitoring associated with the surface disturbance from the bleeder shaft. The site is located on the top of Granger Ridge, and there is already water monitoring taking place in areas located down stream of the disturbance. There are springs and numerous stream monitoring locations located in Woods Canyon, which is just below the shaft pad.

The information provided meets the requirements of R645-301-731.200.

adaniels

Hydrologic Diversion General

Analysis:

The ditch located along the cut slop of the pad access road was designed for a 10 year 24 hour storm. With a flow of 1.86 cfs and a maximum velocity of 4.97 ft/sec. The ditch will be lined with D50 3 inch rock and a cross section of the ditch is shown on Plate 3.2.4-5C. The 18 inch culverts was designed for a 3.03 cfs discharge with a depth of 0.78 feet and a flow of 3.27 ft/sec.

The information provided is sufficient to meet the requirements of R645-301-742.

adaniels

Hydrologic Sediment Control Measures

Analysis:

The Permittee has submitted an amendment to their MRP to construct a bleeder shaft to facilitate ventilation in the North Lease area. The shaft will be 5 feet in diameter and approximately 1,400 feet deep. The shaft will be located on the south facing slope of Granger Ridge, approximately 200 feet below the USFS road.

The site shaft site will consist of an access road, a 0.19 acre topsoil stockpile area, a 50 x 80 feet pad for the fan, and a 25 x 40 feet fenced area to hold a shed for a generator and a 300 gallon fuel tank housed in secondary containment.

Due to the small size of the site, the area is being treated as an ASCA, and is described in the MRP as Area 40.

The total contributing watershed area for the site is 0.8 acres. The runoff will be routed by a ditch running along the cut side of the road. This will route water from watersheds DW-3 and 75% of UW-1. Watersheds are shown on plate 3.2.4-5B. The ditch was designed for a 10 year 24 hours storm event, with a flow of 1.86 cfs and a maximum flow velocity of 4.97 f/s. The ditch will be lined with D50 3 inch rock. A cross section of the ditch is shown on plate 3.2.4-5C.

The pad will receive runoff from DW-5 and 25% of UW-1. This runoff will be controlled through a berms and silt fences. The sediment controls at the site are described in the Hydrology Design Report prepared by EarthFax Engineering, and are shown in detail on Plate 3.2.4-5D. These controls include gravel pads with silt fences staked and keyed in. The silt fences will be placed on slope contours to increase their efficiency. The gravel areas will provide a point to easily clean out any sediment that has collected due to the sediment controls, and with the use of silt fences, water should not pond on the pad.

The information provided is sufficient to meet the requirement of R645-301-730.

adaniels

Hydrologic Exemptions

Analysis:

The surface disturbance associated with the bleeder shaft is being qualified as ASCA area 40, due to the small size of the disturbance. A description of this ASCA was added to page 3-72(c) of the MRP. THe area contributing runoff to the pad is approximately 0.8 acres. Detail sediment control measures have been included in Plates 3.2.4-5A - 5D, and the design and function of these sediment controls is detail in the submitted Earthfax Hydrology Design report.

The information provided is sufficient to meet the requirement of R645-301-742.240.

adaniels

Support Facilites and Utility Installations

Analysis:

The application meets the minimum requirements of R645-301-526. The NOG bleeder shaft will consist of one five foot diameter unlined shaft. At reclamation the shaft will be completely backfilled to the surfacing using an engineered fill. The application includes an updated figure 4.9C that illustrates the backfilling of the shaft. The NOG Bleeder shaft consist of two disturbance areas totaling 1.7 acres disturbance. One pad will consists of a 50ft x 80 ft concrete pad to house the fan and an area for the topsoil storage. Approximately 200 ft uphill from said pad a section smaller fenced area of approximately 25ft x 40ft will include a generator housed in a shed and a 300 gallon fuel tank housed in a secondary containment pad.

The perimeter of the topsoil pile and pad will be lined with a berm or silt fence to contain sediment and divert runoff from the undisturbed areas. The total drainage for the NOG bleeder shaft is 0.8 acres, which drains into a ditch that will be lined with three inch D50 riprap to meet the design storm of 1.86 cfs, with a maximum velocity of 4.97 fps. The drainage for the site is considered an ASCA as shown on updated Plate 3.2.4-5A through 3.2.4-5C. The application included an updated to the hydrologic design and slope stability of the road, pad, and topsoil pile located in Appendix A-5.

cparker

Signs and Markers

Analysis:

The application meets the minimum requirements of R645-301-521.200. The topsoil pile for the reclamation of the NOG bleeder pad shaft is designed to store approximately 1,129 CY of material. The topsoil stockpile will be located at the west end of the disturbed area where the pad access road leaves the USFS road, as shown on Plate 3.2.4-5A. Signs labeling the topsoil pile and permit area will be in place throughout operation and reclamation activities.

cparker

Maps Affected Area

Analysis:

The application meets the minimum requirements of R645-301-521. Plate 1.6.3 and Plate 3.2.4-5A through 3.2.4-5C show the outline of the permit and disturbed and facilities that will be located at the NOG bleeder shaft pad as part of the operations.

cparker

Maps Facilities

Analysis:

The application meets the minimum requirements of R645-301-521. Plate 1.6.3 and Plate 3.2.4-5A through 3.2.4-5C show the outline of the permit and disturbed and facilities that will be located at the NOG bleeder shaft pad as part of the operations.

cparker

Maps Certification Requirements

Analysis:

All updated plates have a certified PE stamp on the drawings, meeting the minimum requirements of R645-301-512

cparker

Reclamation Plan

General Requirements

Analysis:

The application includes an update to chapter 4 detailing the reclamation of the NOG bleeder shaft pad. Reclamation activities include removing all structures and backfilling the shaft with an engineered fill then closed with a six-inch concrete cap, and regarding the slopes to AOC. The shaft seal will include a two-inch diameter vend that extends a minimum of 15 feet above the surface of the shaft to meet MSHA 30 CFR 1711 sealing requirements. The pad will be regraded to AOC as shown in Plates 4.4.2-5A and -5B. The application meets the minimum requirements of R645-301-542.

cparker

PostMining Land Use

Analysis:

Section 4.12.8 defines the pre-mining land use as habitat for grazing and wildlife and timber harvesting. Table 4.12-1 has been updated to include the NOG Shaft.
Specific information for the NOG Bleeder Shaft is not provided in narrative form in Section 2.12 but it remains consistent with the approved land use of adjacent areas and therefore updates are not necessary.

Table 2.12.2-1 was updated to include grazing potential and production estimates for the NOG disturbed area. The table indicates the 3.0 acres provides approximately 114 AUM's which is obviously a typo or error in calculation. Appendix A-2 does not contain production estimates that could be used to calculate AUM's.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Although adequate information is available, prior to approval the permittee must provide accurate productivity measurements also in accordance with R645-301-321.200.

lreinhart

PostMining Land Use

Analysis:

The activity in the application does not affect the post mining land use identified in section 2.12 of the existing MRP. The pad will be regraded back to the approximate original contour. The NOG Bleeder Shaft access road is classified as an ancillary road. The access is located on land exclusively managed by the US Forest Service. The approximately 780-foot road built for the NOG Bleeder Shaft will be removed during reclamation.

Findings:
Information provided in the application meets the minimum requirements of R645-301-412

lreinhart

WildLife Protection

Analysis:

Information provided in the application meets the minimum requirements of R645-301-342. Section 4.18 describes how habitat will be restored by seeding desirable plant species for wildlife habitat and grazing and by controlling noxious plants during the liability period.

lreinhart

WildLife Protection

Analysis:

Analysis: Section 4.18 describes how habitat will be restored by seeding desirable plant species for wildlife habitat and grazing and by controlling noxious weeds during the liability period.

Finding: Information provided in the application meets the minimum requirements of R645-301-342

lreinhart

Backfill and Grading General

Analysis:

The application meets the minimum requirements of R645-301-553.The application includes a reclamation plan to reclaim the entire disturbance of the NOG Bleeder shaft pad to grade back to AOC. The application includes an updated reclamation time table showing the sealing of the shaft and removal of buildings/equipment in junction with the winter quarters fan and housing. Grading of the NOG bleeder shaft pad will commence in junction with the sealing and backfilling of the Winter Quarters mine openings. The final surface of the disturbance area will be roughened with deep gouging to assist with erosion control on the slope. Plates 4.4.2-5A and -5B illustrate the reclaimed surface.

cparker

Mine Openings

Analysis:

The application meets the minimum requirements of R645-301-551 and MSHA 30 CFR 1711.The NOG bleeder shaft will be completely reclaimed. The shaft is unlined, five feet in diameter , and approximately 1,400 feet above the mine workings. Reclamation of the shaft includes backfilling the shaft with engineered fill to the pad surface and allowed to settle for one year prior to removing the pad, as shown on Figure 4.9D. After one calendar year since the date of backfill, the shaft will then be sealed with a six-inch thick concrete cap and vented with a two-inch diameter pipe that will extend a minimum 15 feet above the surface of the shaft. The application includes an updated figure 4.9C that illustrates the backfilling of the shaft.

cparker

Mine Openings

Analysis:

The applicant has met the requirements of R645-301-631. Casing and Sealing of Exploration Holes and Boreholes. Reclamation of the NOG borehole will consist of complete backfilling of the shaft from bottom to top with an engineered fill consisting of rock, sand, gravel, bentonite and mine reject fill. The fill materials will all be imported since materials will not be available on site, as the shaft will be drilled using the raised-bore method. A representative drawing of the proposed backfill is found at DWG No. 4.9-D. The plans provide for the permanent sealing of the borehole/shaft.

dhaddock

Topsoil and Subsoil

Analysis:

Analysis:
The application received on September 18 meets the requirements of the R645 Coal Rules for the soils reclamation plan, because it includes a commitment to analyze redistributed topsoil for N:P:K (Section 4.6).

The 5 ft. diameter with a 1,400 ft. deep shaft will be filled with imported soil (Section 2.2.13 and Section 4.9). Figure 4.9-C illustrates the backfilling of the shaft. The Division calculates the volume of the material required to be on the order of 1,017 CY. The shaft will be overfilled and allowed to settle one year before topsoil is replaced (Sec. 4.1.3, Sec 4.6.7, and Sec. 4.9). A six inch concrete cap will seal the shaft. The concrete cap will be vented with a 2 inch diameter pipe extending through the fill, 15 ft. above the surface of the shaft (Dwg 4.9-D).

The site will be brought to AOC as shown in Plates 4.4.2-5A and 4.4.2-5B. Section 4.6.7 states that topsoil will be replaced with a bulldozer followed by deep ripping of the surface and seeding with the final mix described in Table 4.7-10B. This mix

does not include a nitrogen fixing species, to enrich the soil.

Baseline sampling included Appendix D did not include the major plant nutrient parameters: nitrogen, phosphorus and potassium, accordingly a commitment was put into the plan that the topsoil will be sampled for N:P:K, just after salvage. This information will provide some baseline for reference at reclamation. Section 4.6 states that the topsoil will be sampled for nutrient content (N:P:K) just prior redistribution to ascertain the need for fertilizer application in comparison with baseline information.

The reclamation plan includes the use of mulch or excelsior matting as required by R645-301-244.200.

Noxious weeds will be controlled (Sec 4.18).

Deficiencies Details:

pburton

Road System Reclamation

Analysis:

The application meets the minimum requirements of R645-301-534.The access road to the NOG bleeder shaft pad will be completely reclaimed at the end of use of the mining district below.

cparker

Road System Retention

Analysis:

The application meets the minimum requirements of R645-301-534. The application does not contemplate the retention of any roads and states that all roads will be reclaimed

cparker

Contemporaneous Reclamation General

Analysis:

The disturbance for the pad includes a short access road, a 50 foot by 80 foot pad, and a topsoil pile. The footprint of the disturbance will be approximately 1.7 acres. Due to the size and scope of the bleeder shaft, contemporaneous reclamation is not practical for this activity.

Findings:
Information provided in the application meets the minimum requirements of R645-301-352

lreinhart

Revegetation General Requirements

Analysis:

Analysis: Section 4.1.3 discusses the reclamation plan and sequence of events. Section 4.7 refers to Appendix A-2 V.2 for details on the native and reference vegetation that will be used as success standards. Table 4.2-1, reclamation timetable, has been updated to include reclamation of the NOG Shaft. 4.6.7 Indicates topsoil redistribution will start one- year after the shaft has been backfilled to allow for settling, facilities have been removed, and the road and pad are regraded to the approximate original contours (AOC). Revegetation activities will immediately follow the distribution of top soil to minimize erosion. Section 4.2 of the MRP further describes appropriate measure for the reclamation timetable.

Interim and final revegetation seed mixes are listed in Tables 4.7.-10A and -10B respectively. The seed mixes were compared to species listed in Appendix A-2 and are appropriate for the site conditions. Reference areas for reclamation success are identified in the report. There is no commitment to mulch but deep gouging will be used to control erosion as noted in 4.4.2.

Finding: Information provided in the application meets the minimum requirements of R645-301-341.

lreinhart

Revegetation Standards for Success

Analysis:

Section 4.7 refers to Appendix A-2 V.2 for details on the native and reference vegetation that will be used as success standards.

Findings:
Information provided in the application meets the minimum requirements of R645-301-356

lreinhart

Stabilization of Surface Areas

Analysis:

Stability analysis of the topsoil pile, road, and pad area were supplied with the application and location in Appendix A-5, Section 25 for the designs. At reclamation, the backfilling of the shaft, as shown on Figure 4.9D, will be allowed to settle for one calendar year to ensure stability of the backfill before sealing of the shaft. The application meets the minimum requirements of R645-301-551.

cparker

Stabilization of Surface Areas

Analysis:

Analysis:
Section 4.6.7 of the application received on September 18 includes the use of mulch or excelsior matting for soil stabilization in accordance with R645-301-244.200.

pburton

Cessation of Operations

Analysis:

The application meets the minimum requirements of R645-301-515. There was no change to the MRP meeting the description of R645-301-515 and -541 stating that the Permittee will notify the Division as soon as possible with the relevant information in the event of temporary cessation.

cparker

Maps Affected Area Boundary

Analysis:

Plate 1.6.3 shows the outline of the permit and disturbed area for mining and reclamation operations. The application meets the minimum requirements of R645-301-542.

cparker

Maps Bonded Area

Analysis:

Plate 1.6.3 shows the outline of the permit and disturbed area for mining and reclamation operations for which the Permittee is bonded for as of the review of this application. The application meets the minimum requirements of R645-301-542.

cparker

Maps Reclamation BackFilling and Grading

Analysis:

Plate 4.4.2-5A and Plate 4.4.2-5B shows the plan and profile final reclamation grade of the pad, road, and topsoil area. The application meets the minimum requirements of R645-301-542.

cparker

Maps Reclamation Facilities

Analysis:

The application does not contemplate retaining any of the facilities at the NOG Bleeder shaft site. All facilities will be removed and the pad will be graded back to AOC upon the completed of mining and reclamation operations. The application meets the minimum requirements of R645-301-542.

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The final surface of the NOG bleeder shaft is shown on updated Plates 4.4.2-5A and -5B illustrate the reclaimed surface. The application meets the minimum requirements of R645-301-542.

cparker

Maps Reclamation Certification Requirments

Analysis:

All updated plates have a certified PE stamp on the drawings, meeting the minimum requirements of R645-301-512

cparker

Bonding Form of Bond

Analysis:

Canyon Fuels Company LLC maintains a surety bond of $5,799,000 through Lexon Insurance Co effective 3/18/15. the application meets the minimum requirements of R645-301-820.

cparker

Bonding Determination of Amount

Analysis:

The application meets the minimum requirements of R645-301-830 and is recommended for conditional approval upon the receipt corrected bond sheet copies from the Permittee. This application was reviewed jointly with Task 4968 Rail loadout and contains the adjusted bond amount for both tasks. The application meets the minimum requirements of R645-301-830 due to the bond demolition, earthwork, and revegetation sheets being updated to reflect that additional equipment at the NOG bleeder shaft. The demolition sheet was updated to account for the escape shaft, fencing, fan, and concrete removal of four pads. The earthwork sheet was updated to reflect the regarding of the pad, road, and topsoil to AOC for the site. The revegetation sheet was updated to reflect the additional 1.7 acres of disturbance that will need to be seeded after final grading is complete.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

Canyon Fuel Company LLC currently maintains insurance for the Skyline Mine through National Union Fire Insurance Co out of Pittsburgh PA. The insurance if effective from 2/1/15 to 2/1/16 and includes Acord/marsh form, explosives, and claims made per occurrence. The application meets the minimum requirements R645-301-840

cparker