GARY R. HERBERT
Governor
GREG BELL
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

Technical Analysis and Findings

Utah Coal Regulatory Program

June 30, 2015

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

General Contents

Legal Description

Analysis:

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

Deficiencies Details:

The updated acres of disturbance in the first paragraph of the permit area description needs to be changed from 122.31 in paragraph 1 to 125.31 acres.

lreinhart

Permit Term

Analysis:

Analysis:
The current five year permit 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). This meets the requirements of the permit.

pburton

Environmental Resource Information

General

Analysis:

The Permittee conducted preliminary studies for the location of the NOG bleeder shaft that would include a disturbance area of 0.4 acres within a permit area of approximately 3.0 acres. The NOG shaft is necessary due to a change in geologic conditions that required turning two separate mining districts into one. The application meets the minimum requirements of R645-301-521 detailing affected areas by mining and reclamation operations.

cparker

General

Analysis:

Section 2.7.9 indicates the disturbance area is approximately 1.7 acres. However, the disturbed area on the C1 pages states 0.40 acres. Section 2.1, 2-4c2 also states 0.4 areas. The vegetation report indicates disturbance will be approximately 1.5 acres with a permit area of 4.2 acres. Section 4.6.2 indicates 1.7 acres will be disturbed.

Deficiencies Details:

The contradictions in disturbance size need to be resolved and corrected throughout the amendment before final approval.

lreinhart

Permit Area

Analysis:

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. The application does not meet the minimum requirements of R645-301-521 due to conflicting acreage between the disturbed area throughout the permit.

Deficiencies Details:

R645-301-112. Require the permit to be clear and concise. R645-301-521 requires the permit application to include descriptions of the permit area. There is conflicting acreage on the disturbed area along with text confusing permit area with disturbed area:

Page	area (acres)	Labeled
1-36	3.00	Permit area
2-4c1	3.00	Permit area
2-4c1	0.4	Disturbed area
2-4e	3.00	Disturbed area
2-63a	3.00	Permit area
2-63a	1.7	Disturbed area
2-120(1)	3.00	not called out as either Permit or disturbed
2-131	3.0	Disturbed area
3-31 (b)	3.0	Permit area
Bond	0.4	Area for vegetation

The Permittee will address either Permit area or Disturbed area where appropriate with correct areas.

cparker

Permit Area

Analysis:

Analyis:

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.

In the amendment, the statement of permit area is made several times with two errors, which must be corrected. The cover letter states 1.7 acres disturbed (pdf document p. 1). The chapter 1 table titled, Permit Areas To Be Reclaimed, states 3.00 acres for a total of 125.31 acres (pdf document p.6). The legal notice in Appendix 118A states 3.0 acres. Section 2.1 states 3.00 acres with 0.4 acres disturbed (pdf p. 12). Section 2.1.2 states 3.00 acres. Section 2.7.9 states 3.0 acres with disturbed area of 1.7 acres. Section 4.11.10 states a 0.40 acre disturbance.

Deficiencies Details:

Findings:
R645-301-121.200, Please correct Section 2.1 and Section 4.11.10 to state 3.0 acres will be added to the bonded, permit area, but 1.7 acres will be disturbed.

pburton

Historic and Archeological Resource Information

Analysis:

Section 2.1 contains a detailed report with maps of a Class III cultural resource survey of the area to be affected. 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 area is located on U.S. Forest Service (Manti-La Sal National Forest) land and therefore, USFS is the lead agency to coordinate with SHPO. The report concludes that there are no sites recommended eligible for the NRHP and therefore there shall be no adverse affect.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations R645-301-411.142. Prior to approval, the permittee must provide a narrative to describe coordination efforts with and present evidence of clearances by the SHPO. USFS is the lead agency for the coordination.

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 impacted will be Aspen/Grass types. The plant communities were quantitatively sampled along with a reference area chosen to be used for final revegetation success measurements. Additionally, a summary table of the potential threatened, endangered, candidate and sensitive plant species suggests there should be no impact to any of the species listed. This information is adequate to predict the potential for vegetation success at reclamation.

Deficiencies Details:

Information provided in the application does not meet the minimum requirements of R645-301-321.200. Prior to approval, the permittee must provide information regarding the productivity of the land expressed as average yield of food, fiber, forage, or wood products under high levels of management.

lreinhart

Fish and Wildlife Resource Information

Analysis:

Section 2.1.2 addresses T&E Species. 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. The survey notes no T&E have species been identified in the area with the exception of transient Bald Eagles. 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.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must provide additional information in accordance with R645-301-322.

The Yellow-billed Cuckoo is known to occur along riparian systems in Carbon and Emery Counties and was recently listed as Threatened under the Endangered Species Act. Although a cursory review indicates important habitat for this species (riparian areas) likely does not exist on the proposed disturbance location, it does exist within the adjacent area for the mine permit. The MRP should be updated to include a description of the species and acknowledgement of its potential to exist within the area. If Yellow-billed Cuckoo habitat is discovered within the adjacent or permit area, a plan for its protection is required pursuant to R645-301-330; R645-301-342.

Table 2.9-4 of the MRP should be updated to reflect the current list of federally listed Threatened, Endangered, and

Candidate Species. (Last updated August 2007). The 2014 Wildlife Survey Report provided by Alpine Ecological does not address Yellow-billed Cuckoo.

Sec. 4.18. On page 4-103, a raptor monitoring plan is outlined. This plan should be amended to include appropriate surveys of the Yellow-billed Cuckoo if habitat exists in the area (using the survey protocol as established by DWR).

lreinhart

Soils Resource Information

Analysis:

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 profiles are shown on Figure 2, Soil Survey Map, scale of 1" = 600 ft. Appendix A, Soil Profile Descriptions was missing from the application.

Soil Map unit N1 is represented by profile 14SKY07 within the permit area and by 14SKY06 adjacent to the 3.00 acre permit area. The map unit has slopes of 20 - 70%. Average topsoil salvage depth is expected to be 14 inches and subsoil salvage of 6 inches is possible (Table 9). Appendix B, Soil Profile Location Photographs was missing from the application. Appendix C Soil Profile Box Photographs was missing from the application.

Samples were taken 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. One lab sheet was found in the hydrology calculations, but Appendix D was missing from the application.

Section 2.11 and Sec. 4.6 summarize this report thusly: McCadden Family soils (lithic Haplocryolls loamy-skeletal, mixed superactive), a shallow soil over sandstone with topsoil 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%). The cold soil would commonly frost heave. The soil contains a rich, organic surface layer.

Section 2.7.9 describes the site as a south facing hillside vegetated with musk thistle, cheatgrass (undesireable 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 3.8 AUM. (Table 2.12.2-1 in Section 2.12).

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:

Findings:
R645-301-130, Please provide Appendices A, B, C and D which were missing from the January 2015 Soil Survey.

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 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

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:

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. 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 R645-301-521.131.

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:

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. The application meets the minimum requirements of R645-301-521.

Deficiencies Details:

R645-301-521.123 requires a map that clearly shows the location of each public road located in or within 100 feet of the permit area. The application does not include a clear map that details the location and details of the USFS road nor is there

any discussion of how public traffic through the area will be handled during construction, operations, and reclamation.

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:

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. The application meets the minimum requirements of R645-301-521.

cparker

Operation Plan

Mining Operations and Facilities

Analysis:

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. The Permittee has supplied the required information to meet R645-301-526 discussed in more detail under Supporting facilities.

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 NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge. The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge. The application does not meet the minimum requirements of R645-301-521.123 and -521..133 and -301-526.116 as there is no discussion on how public traffic will be handled.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-521.133 and -301-526.116 as there is no discussion on how the public traffic will be handled on the unnamed USFS public road.

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 exist on or adjacent to the project area. The proposed NOG shaft is located within existing and permitted mining area.

lreinhart

Relocation or Use of Public Roads

Analysis:

The NOG bleeder shaft is accessed by an existing USFS road at the top of Granger Ridge. The application does not meet the minimum requirements of R645-301-521.133 and -301-526.116 as there is no discussion on how public traffic will be handled.

Deficiencies Details:

The application included an updated Figure 3.2.4-5A which details the generator and fuel tank sheds located on the presumed USFS road. The application does not meet the minimum requirements of R645-301-521.133 and -301-526.116 as there is no discussion on how public traffic will be handled during construction, operations, and reclamation. R645-301-526.100 require a description of existing structures proposed to be used in connection with or to facilitate coal mining and reclamation operations. The application should include a narrative included detailing the location and other details listed in R645-301-526 including how public traffic will be handled through the area.

cparker

Air Pollution Control Plan

Analysis:

Analysis:
No information was found in the application concerning air quality and dust control.

Deficiencies Details:

Findings:
R645-301-420, Please update the application with information concerning best practices for dust control during operations (-421) and coordination with the DEQ (-422).

pburton

Subsidence Control Plan Subsidence

Analysis:

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

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

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

Topsoil and Subsoil

Analysis:

Analysis:
Topsoil will be recovered from 1.7 acres to a depth of 19 inches plus 2 inches of subsoil (Section 2.11). 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). 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 (Sectino 4.7.10).

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. Contours are not labeled on Plate 3.2.4-5A and elevations written on Plate 3.2.4-5C NOG Bleeder Shaft Profiles and Ditch Detail are not legible at 100% or even 200 % enlargement.

Deficiencies Details:

R645-301-521.165, Please label contours on Plate 3.2.4-5A and make the elevations on Plate 3.2.4-5C NOG Bleeder Shaft Profiles and Ditch legible.

R645-301-231.100, The soil survey describes an average topsoil depth of 14 inches and 6 inches of potential recoverable subsoil. The plan must describe the separate removal and stockpiling of topsoil (14 inches) from the subsoil (6 inches).

pburton

Vegetation

Analysis:

Section 4.7.10 states interim reclamation will be implemented and noxious weeds will be controlled during the liability period. The application lacks discussion on when and how interim reclamation will occur.

Deficiencies Details:

Information provided in the application does not meet the minimum requirements of R645-301-330. Prior to approval, the permittee must provide a description of the measures taken to establish interim vegetation.

lreinhart

Road Systems Classification

Analysis:

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:

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. The application meets the minimum requirements of R645-301-527.

cparker

Road System Performance Standards

Analysis:

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. The application meets the minimum requirements of R645-301-527.

cparker

Road System Certification

Analysis:

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

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, but are not shown in detail on a map. Without showing the layout of these sediment controls it is very difficult to understand where these controls will be located. The EarthFax engineering report references Plate 3.2.4-5D as detailing some of these sediment controls, but Plate 3.2.4-5D was not included as part of the amendment.

The information provided is not sufficient to meet the requirement of R645-301-730.

Deficiencies Details:

R645-301-731.700 A detailed plate of all sediment controls as described in the amendment, as well as the EarthFax engineering report should be provided. This should clearly display and label all ditches culverts and other sediment control features. The EarthFax engineering report references Plate 3.2.4-5D, which was not included in the amendment.

R645-301-742.220 Page 3-31(b) indicates that there is no sediment pond associated is this disturbance, but goes on to describe a "sediment collection area". This sediment collection area is described as a location for retaining sediment, the EarthFax engineering report gives sediment clean-out requirements, and describes an emergency spillway feature. Without a map detailing what this sediment control area is, it is unclear whether this area will retain water and therefore, meet the definition of a sediment pond. Through maps, cross sections, or further description in the MRP, this needs to be clarified.

adaniels

Hydrologic Exemptions

Analysis:

The surface disturbance associated with the bleeder shaft are being qualified as ASCA area 40, due to the small size of the disturbance.

Due to unclear descriptions of sediment controls, the information provided does not meet the requirements of R645-301-742.240. Deficiencies are listed under "Hydrologic Sediment Control Measures".

adaniels

Support Facilites and Utility Installations

Analysis:

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. The application meets the minimum requirements of R645-301-526.

cparker

Signs and Markers

Analysis:

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. The application meets the minimum requirements of R645-301-521.200

cparker

Maps Affected Area

Analysis:

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. The application meets the minimum requirements of R645-301-521.

cparker

Maps Facilities

Analysis:

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. The application meets the minimum requirements of R645-301-521.

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

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

Backfill and Grading General

Analysis:

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. The application meets the minimum requirements of R645-301-553.

cparker

Mine Openings

Analysis:

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. The application meets the minimum requirements of R645-301-551 and MSHA 30 CFR 1711.

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:

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 the pad is reclaime (Sec. 4.1.3 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. Noxious weeds will be controlled (Sec 4.18).

pburton

Road System Reclamation

Analysis:

The access road to the NOG bleeder shaft pad will be completely reclaimed at the end of use of the mining district below, as shown on Plate 4.4.2-5A and-5B The application meets the minimum requirements of R645-301-534.

cparker

Road System Retention

Analysis:

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

cparker

Revegetation General Requirements

Analysis:

Information provided in the application meets the minimum requirements of R645-301-341. Section 4.7 outlines the revegetation plan. In the event of not achieving reclamation standards, additional work will be conducted to insure sediment control on the site (noted in 4.1.3). 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.

Interim and final revegetation seed mixes are listed in Tables 4.7.-10A and -10B. 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 ats noted in 4.4.2.

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

Cessation of Operations

Analysis:

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

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 bond was 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 0.4 acres of disturbance that will need to be seeded after final grading is complete. The application does not meet the minimum requirements of R645-301-830 due to missing line items on the fence demolition and concrete sealing of the shaft.

Deficiencies Details:

R645-301-830 the application is missing some line item demolition costs on the demo sheet of the reclamation costs. The Earthwork and reveg sheets meet the minimum requirements of R645-301-830. The missing demo line items that need clarification to be included in application are:

-The escape shaft steel building demo is missing the RS mean deduction of volume due to no interior walls RS Means, 02 41 16.13 0750.
-The improper concrete unit cost was utilized, concrete demo. The Permittee needs to clarify if the concrete will be more or less than 15 inches thick
-2014 Nielson Concrete demo less than 15 inches thick =$13.75/ CY
-Fan demolition is more accurately represented by RS Mean heavy equipment, 23 05 05.10 3600, $935/ton. The Permittee will clarify if the line item Ventilation fan is indeed a steel building or the fan demolition itself.
-In the event of a metal shed, a 50% deduction to the volume can be applied.

-There are several line items missing costing the removal of the a mentioned culvert, probable gates, top rails, post and post foundations, and gate posts. More detailed information is required as to if there will be gate, how the gates are intended to open, number of fence posts and how they will be secured/foundations, and how gate posts will be secured.

-The Permittee will provide additional information clarifying how the gates will open so as to assist with the appropriate RS Means reference for each gate is applied.
-The Permittee will clarify what type of post will be utilized with the three foot man gate.
-The Permittee will add the line item for gate post removal
-The Permittee will add the line items for the Gates as appropriate
-The Permittee will add the line items for top and bottom rails
-The Permittee will add the line items for End and Gate braces
-Relevant RS Means:
RS Means 02 41 13.62 0100 - Chain link gate 3'-4'
RS Means 02 41 13.62 0540 - transmitter systems
RS Means 02 41 13.62 1000 - Fence posts steel in concrete
RS Means 02 41 16.17 1140 – cement footings for gate post
RS Means 02 41 13.62 1400 – Fence Rails
RS Means 02 41 13.62 0800 – Chain Link fence braces
RS Means for 18 inch culvert removal

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