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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

March 28, 2017

John Byars, General Manager
Canyon Fuel Company, LLC
597 South SR24
Salina, Utah 84654

Subject: Mitigation and Bond for 2RWL Sinkhole, Canyon Fuel Company, LLC, Sufco Mine, C/041/0002, Task ID #5397

Dear Mr. Byars:

The Division has reviewed your application. The Division has identified deficiencies that must be addressed before final approval can be granted. The deficiencies are listed as an attachment to this letter.

The deficiencies authors are identified so that your staff can communicate directly with that individual should questions arise. The plans as submitted are denied.

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

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/sqs
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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0410002
TaskID: 5397
Mine Name: SUFCO MINE
Title: MITIGATION AND BOND FOR 2RWL SINKHOLE

Summary

This is a revision to the previous Task 5313.

In April 2016, Canyon Fuel Co. discovered a sinkhole on the surface above the 2RWL panel of the Sufco Mine. It is located near mid-panel in an area mined in December 2016. The sinkhole measures roughly 40 ft. wide X 50 ft. long X 40 ft. deep and is located in a fault zone that was crossed in that area at depth. The size of the sinkhole increases the Permit Area by 0.45 acres and Disturbed Area 0.351 acres.

Subsidence features are known to occur naturally in the Castlegate Sandstone along the Mud Springs Hollow fault zone nearby to the east. It is suspected that mining-related subsidence triggered the collapse into some sort of cavity within the fault zone. Exploration drilling over the years in this area has encountered voids on occasion but such voids have always been interpreted as limited zones of open fractures. In this case, there may have been a large open fracture that allowed accommodation space for the sinkhole to develop.

In October, Canyon Fuel Co. notified the Division the sinkhole has been repaired and reclamation was complete. This amendment incorporates the sinkhole into the MRP as part of the permit area.

Deficiencies Details:

lreinhart

General Contents

Legal Description

Analysis:

The amendment meets the State of Utah R645-301-121.120 and/or R645-301-141 requirements for providing a legal description that identifies the land (on a map) subject to coal mining (and reclamation).
The legal description of the sink hole has been added to page 1-16 of Ch.1. The disturbed acreage (permit area) has been adjusted to account for the additional 0.45 acres. (The Waste Rock Site was also adjusted concurrently with Task# 5372 and added additional acreage as well. See Task 5372)

Plate 5-6 is a map of the permit area and this map has been updated to include the sinkhole.

lreinhart

Environmental Resource Information

General

Analysis:

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

Volume 1, Chapter 3 contains the Biology information. The Environmental Description is provided on page 3-3. The sinkhole is located within the lease boundary of U-47080 which is described on pages 3-3 through 3-5 and shown on plate 3-1v8.

Appendix 3-13 of the MRP is the BLMâ€™s EA, West Coal Lease Modification, and provides descriptions of the vegetation, fish, and wildlife resources of the permit area. Potential impacts to those resources are discussed in Section 4.0 Environmental Impacts.

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

lreinhart

Historic and Archeological Resource Information

Analysis:

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

Appendix 4-2 and Confidential Volume 1 provide a narrative that describes the nature of cultural and historic resources listed or eligible for listing in the National Register of Historic Places and known sites with the sinkhole area.

Tetra Tech completed a cultural resource review for the sinkhole area and found that no cultural resources were impacted. USFS is the lead agency and conducted SHPO consultation at the time of leasing. Reference: A Cultural Resource Inventory of the Proposed West Tract Modifications Coal Lease, Old Woman Plateau Area, Fishlake National Forest, Sevier County, ET Cultural Resource Report 08-16, Utah State Project Authorization Number (SHPO) U-08-EP00722f.

A map pursuant to R645-301-411.141 is provided in the confidential folder Appendix 4-2 of the amendment. The map shows locations of sites identified in the Class 3 survey. There are no public parks or cemeteries within 100 feet of the permit area. Utah has approximately 169.3 miles of designated Wild and Scenic River, all of which are tributaries of the Virgin River in southwest Utah and outside the adjacent area. National System of Trails in Utah are inclusive of the Pony Express, California National Historic Trail, Mormon Pioneer Trail, and Old Spanish National Historic Trail. None of the trail systems are within the adjacent area.

lreinhart

Vegetation Resource Information

Analysis:

The amendment meets the State of Utah R645-301-331 requirements for protection of vegetation. Volume 1, Chapter 3, Section 3.3.1 page 3-37 provides protection measures for vegetation.

As discussed in Section 3.30, surface subsidence was a potential result of underground mining. The sinkhole falls under this category of unplanned surface disturbance. Upon discovery of the sinkhole, Canyon Fuel Co. promptly reclaimed the site using deep gouging techniques and the seed mix requested by the USFS (landowner).

lreinhart

Land Use Resource Information

Analysis:

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

Volume 1, Chapter 4, Section 4.10, pages 4-1 through 4-12A provide information on pre-mining land use.

lreinhart

Maps Affected Area Boundary Maps

Analysis:

The amendment does not meet the State of Utah R645-301-323 requirements for maps and aerial photographs.

The maps must be updated to include the sinkhole as part of the permit area. This amendment only updates Plate 5-6. However, all maps in the MRP that show the permit area must be updated accordingly.

Plate 3-1 indicates the location of reference areas for measuring reclamation success. This map must be updated to reflect the reference area to determine reclamation success of the sinkhole.

Plates 4-1A and 4-1B show land use of the Quitchupah and SITLA Muddy Tracts. This map must be updated to show the location of the sink hole as part of the disturbed area boundary.

Plate 3-2v6, Elk Range does not show the disturbed boundary and therefore does not require an update.

Plate 3-3 shows deer range and raptor nests and therefore does not require an update.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-323 requirements for maps and aerial photographs.

The maps must be updated to include the sinkhole as part of the permit area. This amendment only updates Plate 5-6. However, all maps in the MRP that show the permit area must be updated accordingly.

Plate 3-1 indicates the location of reference areas for measuring reclamation success. This map must be updated to reflect the reference area to determine reclamation success of the sinkhole.

Plates 4-1A and 4-1B show land use of the Quitchupah and SITLA Muddy Tracts. These maps must be updated to show the location of the sinkhole as part of the disturbed area boundary.

lreinhart

Operation Plan

Air Pollution Control Plan

Analysis:

The amendment meets the State of Utah R645-301-422 requirements for air pollution control plan.

Volume 1, Chapter 4, Section 4.2 pages 4-18 through 4-20 discusses air quality and compliance information. The sinkhole does not require any changes to the air quality program.

lreinhart

Subsidence Control Plan Renewable Resource

Analysis:

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

Volume 1, Chapter 3, Section 3.3.1 page 3-37 provides protection measures for vegetation. As discussed in Section 3.30, surface subsidence was a potential result of underground mining. The sinkhole falls under this category of unplanned surface disturbance. Upon discovery of the sinkhole, Canyon Fuel Co. promptly reclaimed the site using deep gouging and the seed mix requested by the USFS (landowner). Reclamation work was quickly conducted during the summer/fall which minimized any negative impacts to wildlife breeding seasons. (Due to the emergency nature of the sinkhole, reclamation occurred prior to incorporation into the MRP.)

lreinhart

Reclamation Plan

PostMining Land Use

Analysis:

The amendment meets the State of Utah R645-301-412 requirements for postmining land use. The existing MRP covers the sinkhole area in Volume 1, Chapter 4, Section 4.10.

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.

The existing MRP adequately addresses wildlife protection measures in Volume 1, Chapter 3, Section 3.4.2 page 3-50 through 3-51 provides. The seedmix used at the sinkhole should result in vegetation for wildlife food and cover.

Table 3-1 (pg. 3-15) provides information on federally protected threatened, endangered, and listed species.
Table 3-2 (pg 3-28) provides a list of Utah species that are protected.
Table 3-3 (pg 3-33) provides a list of USDA-FS Region 4 Sensitive species.

lreinhart

Revegetation General Requirements

Analysis:

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

Volume 1, Chapter 3, Section 3.40 pages 3-46 through 3-49 provide the revegetation plan for other disturbed areas and page 3-48A provides a description of reclamation techniques and the seedmix used for the sinkhole.

lreinhart

Revegetation Standards for Success

Analysis:

The amendment does not meet the State of Utah R645-301-356 requirements for revegetation standards for success.

On page 3-49 of the amendment, the sagebrush-grass community from the waste rock site is proposed as the reference area for the sinkhole. This Division does not accept this as a reference site for the sinkhole because it does not meet the criteria of a ""reference area"". According to the definition in the regulations, reference areas must be representative of geology, soil, slope, and vegetation in the permit area. The Division suggests the Permittee locate an undisturbed reference area adjacent to the sink hole that meets these criteria.

Pursuant to R645-301-356.231 minimum stocking and planting arrangements must be coordinated with the Division and the

land management agency. Since reclamation has already occurred, the Permittee must coordinate with the Division and Forest to determine appropriate minimum stocking and planting arrangements.

Plate 3-1 must be updated to include the location of the new reference site.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-356 requirements for revegetation standards for success. The following deficiency must be addressed prior to final approval:

R645-301-356: The Permittee must coordinate with the Division and Fishlake National Forest to determine shrub and stocking density standards for the reclaimed sinkhole. This information must be incorporated into the MRP.

The Permittee must identify an approved reference area or propose other success standards to compare the reclaimed sinkhole against for bond release purposes.

R645-301-323. The location and boundary the proposed reference area must be provided on a map (presumably Plate 3-1 though the Division recommends a separate map clearly identifying all reference sites with associated vegetation communities).

lreinhart