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TECHNICAL MEMORANDUM
Utah Coal Regulatory Program

May 21, 2012

TO: Internal File

THRU: April Abate, Lead *CAA* 5/30/2012

FROM: Ingrid Campbell, Environmental Scientist II *IC*

RE: Northwater Mitigation Plan, Canyon Fuel Company, SUFCO, Permit C/041/0002, Task # 4079

SUMMARY:

On June 15, 2010 the Division received an application from Canyon Fuel Company (CFC) for Mitigation Activities related to the Northwater Springs area. Three springs (Pines 105, 311 and 310) appeared to dry up as a result of CFC's undermining activities in 2005 and 2006. In preparation for mitigation, in 2009, CFC drilled 5 wells in order to conduct slug tests to monitor how much water could be pumped to the surface to replace the loss of water from the springs. Minimal groundwater was discovered. In 2009, CFC installed a submersible solar pump in the perennial flowing section of the East Fork of Box Canyon (a stream below the three effected springs). This pump delivered water back to Pines 105 in order to fill a trough for cattle grazer use. CFC also installed two additional trough locations. In 2010, CFC proposed to pump water from a spring near the confluence of the Main Fork of Box Canyon and the East Fork of Box Canyon. The Division reviewed this plan as "2010 Mitigation Activities" Task # 3580. The Division sent CFC a list of deficiencies which did not receive a response.

This current application is CFC's most recent submittal for mitigation of the Northwater springs. Two troughs will be installed as mitigation. One trough will be placed on the canyon rim above Pines 105 and one at Joe's Mill Pond.

The application is not considered adequate. The following deficiencies have been identified:

R645-301-320: Please revise the appendix 7-25 and remove statements regarding impacts to vegetation. Currently, there is no quantitative data to support the claim that the riparian vegetation has not been impacted.

R645-301-320: Please provide a commitment in the Mining and Reclamation plan to complete, within 5 years, a mitigation project that includes enhancement of a comparable riparian area in the Muddy Creek or Quitchupah drainages in consultation with the Forest Service and the Division.

R645-301-353: Please include a seed mix and revegetation plan for areas disturbed by the pump pad and pipeline.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

CFC did not include additional cultural resource inventories with this application for mitigation. However, the area is included in the original disturbed area for SUFCO mine and CFC has submitted cultural resource studies in the original permit application and other amendments. These studies are located in Appendix 4-2 of the confidential volume 1 of the M&RP. Archeological- Environmental Research Corporation (AERC) conducted a cultural resource inventory (project SUFC-97-3) of Box Canyon in 1997. Archeologists conducted an intensive evaluation which consisted of walking a series of 5 to 10 meter wide transects across surfaces within a 130 foot wide distance from the exposed canyon rims. AERC discovered sites 42SV2431, 42SV2428, 42SV2430, and 42SV2429, within the box canyon area. These sites consisted of the following:

42SV2428: a 10x10 meter lithic scatter containing primarily secondary flakes. AERC concluded that this was a non significant site with no research potential and or eligibility for listing.

42SV2429: A dispersed lithic scatter that is non-significant with no research potential or eligibility for listing.

42SV2430: a rock shelter measuring 15 meters deep by 30 meters wide. AERC determined the site to be significant and potentially eligible for listing in the National Register.

42SV2431: a dispersed lithic debris scatter that is not considered significant and is not eligible for listing.

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Installation of the troughs at the two locations will not involve any earthwork. Access roads are in place at both locations. Therefore, no cultural or historic resources will be affected as a result of this mitigation proposal.

Findings:

The information provided is considered adequate to meet the minimum regulatory requirements for:

- R645-301-411.140: Cultural and Historic Resources Information is included in the current Mining and Reclamation Plan;
- R645-301-411.144: The Division does not require any protection of historic or archeological properties in the area due to the nature of the project.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

CFC states that vegetation in the canyon bottom throughout the area seems unchanged since undermining. CFC has submitted a qualitative monitoring report of the Pines Tract annually in the annual report. In the first submittal for mitigation of the Northwater springs area, CFC proposed to place a trough at the Pines 105 spring that would overflow to provide water for the riparian vegetation that was supported by the spring before undermining and loss of flow. However, this proposal for mitigation does not include an overflow at this spring or any sort of mitigation for the potential loss of vegetation due to loss of water from undermining. The permittee should submit a plan for replacing the water for the riparian vegetation as well as wildlife and cattle use or a plan to enhance riparian vegetation elsewhere on forest lands. This plan should be created in cooperation with the US Forest Service.

The US Forest Service submitted official comments to the Division on May 18, 2012. (See incoming document 05182012.pdf). The FS feels that the riparian vegetation has been negatively impacted by the loss of water at the springs in the Northwater springs area. Therefore, they suggested that the riparian vegetation be monitored initially and every 2-3 years until 2030 to determine the extent of vegetation losses. Additionally, they recommended that a mitigation project to enhance riparian vegetation in the Quitcupah or Muddy Creek drainages be completed by the company within 5 years. The Division feels that the mitigation project at an alternate site is adequate mitigation for the potential loss of vegetation at the Northwater springs area. Monitoring of the riparian vegetation at the Northwater springs area is not necessary since

the mitigation project will be located elsewhere and will be comparable to the potential loss that northwater may incur.

CFC has no quantitative data to determine whether or not the riparian vegetation has been or will be impacted by the loss of water from undermining. However, CFC must either replace the water at the springs or complete a mitigation project elsewhere on the FS land as suggested by the FS. Therefore, the language in this application regarding impacts to riparian vegetation must be revised or removed.

Findings:

The information provided in the mitigation plan is not considered adequate to meet the requirements of this section. Prior to approval, the permittee must submit the following in accordance with:

R645-301-320: Please revise the appendix 7-25 and remove statements regarding impacts to vegetation. Currently, there is no quantitative data to support the claim that the riparian vegetation has not been impacted.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

According to data stored with the DWR, an active golden eagle territory is located near the Northwater springs area. This territory includes nests 1235, 813, 812 and 323. These nests were last monitored by DWR in 2008. Nest 1235 was active in 2008. Currently, SUFCO only areas with active subsidence zones for raptors so, this territory was not monitored in 2009 through 2011. It is recommended that this territory be monitored due to the surface disturbance and water redistribution that will occur later this year. Leland Roberts was contacted by the Division on May 9, 2012 to inform him to include the Northwater springs area in the 2012 raptor survey.

Findings:

The information provided is considered adequate to meet the minimum regulatory requirements for this section. Due to the increased activity and water redistribution project, the Division recommends that CFC monitor raptors in the area around all associated springs, especially the active golden eagle territory in section 3 of T21S R5E.

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OPERATION PLAN

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Bald and Golden Eagles

The Division recommends that the area be surveyed for active raptor nests prior to conducting mitigation work.

Findings:

The information provided is considered adequate to meet the minimum regulatory requirements for this section.

RECLAMATION PLAN

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

CFC has monitored the riparian areas associated with Northwater Springs and Joe's Mill Spring with established photopoints since the areas were affected by undermining. According to CFC, the areas have enough water to support vegetation. In years previous to 2011, the riparian areas appeared to have reduced vegetative growth and vigor. However, these were years with very low precipitation. The 2011 growing season had significantly high levels of precipitation, and the riparian areas had much higher vegetative growth and vigor. (See annual reports, Pines Tract Vegetation study for SUFCO).

Findings:

The information provided is considered adequate to meet the minimum regulatory requirements for this section. Prior to approval, please submit the following in accordance with:

R645-301-320: Please provide a commitment in the Mining and Reclamation plan to complete, within 5 years, a mitigation project that includes enhancement of a comparable riparian area in the Muddy Creek or Quitcupah drainages in consultation with the Forest Service and the Division.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

The application states that surface disturbance will occur in order to bury a 2" water line between the stream diversion and the three troughs. The application does not include information on interim seeding of the area above the buried pipe or include a revegetation plan for removal of the pipes in the long term.

Findings:

The information is not considered adequate to meet the regulatory requirements for this section. Prior to approval, please submit the following in accordance with:

R645-301-353: Please include a seed mix and revegetation plan for areas disturbed by the pump pad and pipeline.

RECOMMENDATIONS:

This application is not recommended for approval at this time.