

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 13, 2005

TO: Internal File

THRU: Wayne Western, Environmental Specialist, Engineer, Team Lead

FROM: Jerriann Ernstsens, Ph.D., Environmental Specialist, Biologist

RE: North Lease Subsidence Mining, Canyon Fuel Company, Skyline Mine, Permit C/007/0005, Project # 2324

SUMMARY:

The Division received an amendment, on July 1, 2004, that addresses undermining perennial streams within North Lease area (Winter Quarters Tract) at the Skyline mine (#1976). The Permittee resubmitted the amendment in February and August 2005. This memo describes the review of the biology and archeology sections for the third submittal of this amendment (#2324).

TECHNICAL MEMO

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The Mine and Reclamation Plan (MRP) meets the requirements of R645-301-121.200 for the Biology Chapter and Archeology Section.

Findings:

Information provided in the plan meets the Permit Application Format and Contents in General Contents requirements of the regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

The MRP meets the requirements of R645-301-130 because qualified professionals conducted or directed the surveys and analysis for the supporting biological- and historical resource- related documents.

Findings:

Information provided in the plan meets the Reporting of Technical Data in General Contents requirements of the regulations.

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:

The MRP meets the requirements of R645-301-411 regulations pertaining to historic resources. The MRP (Confidential Binder in Division PIC room) includes narratives, maps, and evaluations of historic resources. These documents describe and show locations of historic resources, within or adjacent to the permit area, that may be included in or eligible for inclusion in the National Register. There is proof of coordination efforts and clearances from the SHPO.

The Permittee provides a summary of historic resource surveys within the permit area (Vol. 1, Sec. 2.1). Confidential Binder Vol. A-4 2nd Volume includes survey reports submitted for specific mining projects and an Archeology map.

The Division, in consultation with SHPO, supports a finding of “no effect” to historic resources within or adjacent to the North Lease area because the project does not include surface disturbance for facilities. SHPO’s comment on the undermining of the North lease is in the “Mining Plan Decision Document” (December 2002). The 1995 Environmental Assessment also states that the undermining of the North Lease area will have no effect to historic resources.

Findings:

Information provided in the plan meets the Environmental -Historic and Archeological Resource Information requirements of the regulations.

VEGETATION RESOURCE INFORMATION

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

Analysis:

The MRP meets the requirements of R645-301-321 because there is adequate discussion of plant communities observed within the permit area. The MRP includes a summary of vegetation common to the permit area (Vol. 1A, Sec. 2.7, 2.7.1, 2.7.6). The MRP also includes survey reports submitted for different projects (Vol. A-2 North Lease 2nd Volume; Vol. A-2 2nd Volume).

The lease for the North Lease area (Winter Quarters Tract) provides a list of USFS biology-related stipulations.

TECHNICAL MEMO

The Division, in consultation with DWR and USFS, considers that the undermining of the North Lease area will most likely have no or little impact to vegetation along the Winter Quarters and Woods stream channels. The Permittee will conduct baseline and monitoring surveys that will help detect and quantify unforeseen and evident impacts to vegetation. The Permittee will mitigate, under the direction of the Division, if subsidence-related impacts occur (Vol. 1A).

The Permittee will initiate a vegetation survey program, based on the principles of a USFS Level III survey, for the Winter Quarters and Woods stream channels. The program will include a baseline survey in 2005, monitoring surveys two years prior and during undermining of specific lengths of the channels, and follow-up surveys two years after undermining of these specific lengths of the channels (Vol. A-2 2nd Volume; Vol. A-3 2nd Volume). The Permittee will also include additional water monitoring sites along perennial portions of Winter Quarters and Woods stream channels. This monitoring will help detect if there are evident impacts to the channel vegetation because of undermining.

The Permittee will provide baseline infrared and black/white aerial photographs. The Permittee will also provide comparative photographs and pictures annually starting August 2002 that will include the North Lease area. A qualified biologist will review the pictures.

Findings:

Information provided in the plan meets the Environmental - Vegetation Resource Information requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

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

Analysis:

GENERAL WILDLIFE

The MRP meets the requirements of R645-301-322 because there is adequate discussion, supporting documentation, or maps on fish and wildlife resource for the permit and adjacent areas (Vol. A-2; Vol. A-3; Confidential Binder Vol. A-4 2nd Volume; Vol. A-2 North Lease 2nd Volume; Vol. A-3 2nd Volume. Vol. 1A (Secs. 2.8 through 2.10) provide summaries of fish and wildlife that may occur within or adjacent to the permit area. Volume 3 (Sec. 4.18) provides a fish and wildlife plan. There is sufficient information to design or implement protection and enhancement plans.

The Division, in consultation with DWR and USFS, considers that the undermining of the North Lease area (Winter Quarters Tract) will most likely have no or little impact to fish and wildlife within the area. The Permittee will conduct baseline or monitoring surveys that will help detect presence of wildlife or quantify unforeseen impacts. The Permittee will mitigate, under the direction of the Division, if subsidence-related impacts occur (refer to R645-301-333.300; Vol. 1A).

Ungulates

The Utah Natural Heritage Program database shows the entire North Lease area as critical value elk summer use area and a high value deer summer. Drawing 1.6-3 has been revised to include the additions to the permit area that includes critical value summer deer and elk and high value winter moose habitats.

Macroinvertebrates, Fish, and other Aquatics

The Permittee will conduct macroinvertebrate surveys along Winter Quarters and Woods stream channels, using an USFS approved survey protocol. This protocol includes surveying for baseline two times a year (fall and spring) for two consecutive years prior to subsidence then monitoring every three years for a period determined by the Division and other agencies (Vol. 1A, p.2-71a). The Permittee initiated the baseline macroinvertebrate survey during the fall 2002 (Shiozawa 2002/2003). Plate 2.8.1-1 illustrates all the sample locations for macroinvertebrate surveys. The survey sites are along Winter Quarters, Woods, Eccles, Burnout, and James stream channels.

The Permittee conducted a qualitative fish survey for Winter Quarters and Woods stream channels in 2002 (Vol. A3 2nd Volume).

The Permittee will conduct baseline amphibian surveys along Winter Quarters and Woods stream channels in 2005 (Vol. 1A). The details of the survey protocols are in Vol. A2 2nd Volume.

Migratory and Game Birds, and Raptors

The MRP provides a summary of raptor surveys conducted within the main facility areas and within the North Lease area (Vol. 1A, Sec. 10). The MRP also provides results of surveys with nest locations (Vol. A2; Confidential Binder Vol. A-4 2nd Volume).

The Permittee states that there are no plans for surface disturbance for the North Lease (Vol. 1A). One concern of the Division, however, is the potential loss of cliff-nesting birds or cliff habitat for breeding, nesting, and roosting because of subsidence. The Permittee will

TECHNICAL MEMO

conduct raptor surveys to obtain baseline data within one year prior to subsidence of cliff habitat (Vol. 1A, Sec. 2.10). The Permittee will also conduct follow-up surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence. The baseline and follow-up surveys will help assess the degree of impact to the nests. These efforts will help the Division, USFS, and DWR develop an enhancement or mitigation plan, if necessary (refer to R645-301-322, R645-301-332).

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

The MRP meets the requirements of R645-301-322 because there is adequate discussion, supporting documentation, or maps on threatened, endangered, or sensitive (TES) plant or animal species that could occur within or adjacent to the permit area.

The Division, in consultation with USFWS, supports a finding of “no effect” to threatened or endangered plant or animal species that may occur within or adjacent to the North Lease area. The USFWS’ comment on the undermining of the North Lease area is in the Mining Plan Decision Document December 2002.

According to the 1995 EA written jointly by the USFS and the BLM, the TES species that may occur within the North Lease area are the bald eagle, northern goshawk, and northern three-toed woodpecker.

The MRP (Sec. 2.1.2) indicates that there have been no TE species observed within or adjacent to project areas. The Utah Natural Heritage Program database shows no records of occurrence of TES plant or animal species for the North Lease area. The Permittee will provide supplementary information by conducting baseline surveys for certain TES species when necessary.

The Permittee will conduct northern goshawk as well as three-toed woodpecker surveys for the North Lease area in 2005. Vol. A2 2nd Volume provides the protocol for the goshawk and woodpecker surveys..

Plants

The Intermountain Proposed Endangered, Threatened, and Sensitive Species List, last updated in January 1999, indicates that there may be endangered species that inhabit the Manti La Sal area. The Permittee consulted with USFS Manti La Sal District Botanist who stated, “none of the currently listed TE species or sensitive species is found in the Winter Quarters lease area” (Vol. 1A).

Findings:

Information provided in the plan meets the Environmental - Fish and Wildlife Resource Information requirements of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

The MRP meets the requirements of R645-301-411.144 because the Permittee identifies parks or historic resources that mining operations may adversely affect.

Findings:

Information provided in the plan meets the Operations - Protection of Public Parks and Historic Places requirements of the regulations.

FISH AND WILDLIFE INFORMATION

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

Analysis:

The MRP meets the requirements of R645-301-333, R645-301-342, and R645-301-358 because the Permittee will use the best technology available to minimize impacting wildlife and its critical habitat. There is also sufficient information relating to protection/enhancement plans or there is adequate information to develop additional protection/enhancement plans, under the direction of the Division and other agencies.

Protection and Enhancement Plan

The DWR recently implemented a protection/mitigation agreement with the USFWS for the sage grouse. However, there will probably be no additional changes to the MRP concerning the grouse because there is no surface disturbance for facilities for the North Lease.

TECHNICAL MEMO

The plan for the North Lease area includes undermining perennial streams. Potential disturbance may result from subsidence that could affect stream channel habitat. The Permittee provides information supporting the unlikelihood of surface disturbance to the stream channels. Regardless, the Permittee will conduct baseline and monitoring surveys of vegetation, macroinvertebrate, and fish along Winter Quarters and Woods stream channels. The Permittee agrees to provide plans to avoid, protect, enhance, or mitigate under the direction of the Division.

The plan for the North Lease area includes also undermining some cliff habitat. Potential disturbance may result from subsidence that could affect this habitat. The Permittee provides information supporting the unlikelihood of surface disturbance to the cliffs. Regardless, the Permittee will conduct baseline and monitoring over-flight surveys of raptors and nests associated with the cliff habitat.

Endangered and Threatened Species

Colorado River Fish

The MRP includes derivations and values of consumption and addition of water to the Colorado River at the time of the North lease extension review (2002-2005). The Permittee estimated the total water balance as an annual net gain of 5,966 acre-feet (Vol.1A, Sec. 2.5). The Division, in consultation with the USFWS, considered that mining operations were “not likely to adversely affect” the endangered fishes of the Colorado River Basin because there was no indication of depleting water from the Basin.

The Permittee must update all equations and justifications with supporting documentation leading to the overall sum of water depletions or additions when projects would significantly change the current estimated value.

Bald and Golden Eagles

Bald eagles are not common in the area during the winter but could occasionally fly through or roost in the proposed addition to the permit area. Mining would have negligible effects on these birds. The Forest Service stated that Bald Eagles are frequently seen around Scofield reservoir in October and November, but leave after the reservoir freezes.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

TECHNICAL MEMO

The perennial streams, springs and riparian areas within the North Lease area are probable habitats of high value for fish and wildlife. The 1995 EA reports that the riparian habitat appears to be in excellent condition on the forest (in the North Lease area), but below the forest boundary to the east it has been heavily impacted by livestock grazing.

The MRP provides updated-monitoring and vegetation information along the stream channels. The Permittee considers that subsidence will not impact seeps and springs and bases their conclusion on the study conducted in Burnout Canyon.

Streams, springs, and seeps may serve as refuge for isolated populations of benthic organisms, such as mollusks. Historical records for one rare mollusk (*Physella virgata*) exist for Carbon County. The 2002/2003-macroinvertebrate survey results only list one mollusk *Spaherium*. Future surveys may show positive results for other mollusks including the rare *Physella*.

Findings:

Information provided in the plan meets the Operations - Fish and Wildlife Information requirements of the regulations.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The MRP meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee provided measures to disturb the smallest area possible, plans to apply interim reclamation practices when applicable, and descriptions of mitigation procedures for subsidence-related impacts.

The MRP indicates that there is no anticipated surface effects to the North Lease permit area (Sec. 2.7.6). Regardless, the Forest Service Lease Stipulation # 7 requires monitoring of effects of mining.

The Permittee will implement an aerial photogrammetric monitoring program to help “determine the effects of underground coal mining on surface renewable resources (Sec. 4.17.5). The plan indicates that the monitoring program secures adequate baseline data prior to any subsidence to quantify the existing surface renewable resources....” The Division, however, determined that the Permittee will also conduct vegetation baseline and monitoring ground surveys along Winter Quarters and Woods stream channels.

TECHNICAL MEMO

The MRP indicates that aerial photographs were taken in August 2002 of the North Lease Tract to provide a baseline information. The Permittee plans to take annual aerial photographs, have a qualified person evaluate the data, and include a summary of the results in the Annual Report for the Skyline Mine. The MRP also describes color infrared aerial photography (CIR) on the same scale as the photogrammetric monitoring (Sec. 4.17.5). If results identify that mining operations are diminishing habitat, the MRP must describe protection measures (refer to R645-301-333.300).

Findings:

Information provided in the plan meets the Operations - Vegetation requirements of the regulations.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

The MRP includes the approved reclamation plan (Vol. 3, Sec. 4.7). The Permittee will not disturb the surface for facilities within the North Lease Permit area, therefore, the Division did not conduct a review of the existing MRP reclamation plan.

Findings:

Information provided in the plan meets the Reclamation - General Requirements of the regulations.

RECOMMENDATIONS:

Approve the amendment.

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