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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 16, 2002

TO: Internal File
THRU: Michael J. Suflita, Senior Reclamation Specialist, Hydrologist/Team Lead *MSJ*
FROM: Susan M. White, Senior Reclamation Specialist/Biologist *SMW*
RE: James Canyon Road & Wells, Canyon Fuel Company, LLC, Skyline Mine, C/007/005-AM01K-1

SUMMARY:

Canyon Fuel Company submitted the above referenced amendment on July 8, 2002. The amendment addresses the outstanding issues regarding the drilling, construction and operation of the mine dewatering wells in James Canyon and updates the PHC. The amendment contains deficiencies that are listed below.

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:

Montgomery Archaeological Consultants conducted a cultural resources survey of the dewatering drill holes and access road on August 21, 2001. The report did not state that the pipeline route was included in the survey although one aspen art site was documented in this survey

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adjacent to the pipeline. Chris Hansen, Canyon Fuels, stated on August 24, 2001 that the consultant refers to the pipeline route as the access road.

The James Canyon segment of the county road from Scofield to Fairview was documented as a historic site (42Em2734) along with two aspen art sites (42Em2732 and 42Em2733). The earliest documented date for the James Canyon road was a map dated 1923. The road was decommissioned in 1975 during construction of Electric Lake. The aspen art site adjacent to the road exhibits one carving consisting of "Don Probert 46" and another more recent carving. The three historic sites were recommended as not eligible for the National Register of Historic Places (NRHP) because of lack of artistic elements for the aspen art and lack of retention of structural integrity for the road.

Findings:

Information provided in the application meets the minimum Historic and Archeological Resource Information requirements of the regulations.

VEGETATION RESOURCE INFORMATION

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

The vegetative communities within the U. P. & L. Tract of the permit area are:

- sagebrush/grass
- riparian
- conifer-timber
- aspen.
- Mountain herbland

An unpaved county road through James Canyon was abandoned in 1972. The abandonment consisted of minor regrading, scarification, installing water bars, and seeding. The current road and well were constructed in late summer of 2001 under a coal exploration permit issued by BLM. The vegetation along the road prior to redisturbance consisted of grasses, rabbitbrush, and sagebrush (page 2-63b).

The application (Vegetation Reference Area in James Canyon) and response to deficiencies letter appear to be stating that this area should be exempt from vegetation standards for plant diversity and productivity standards. The Permittee is required to return the James Canyon area to the pre-mining condition (not pre-disturbed condition). The description provided of the pre-mining condition is not adequate to predict the potential for reestablishing vegetation and productivity. If the Permittee is not going to provide other data, then the Permittee must commit to the reference area as the pre-mining condition for cover, productivity, diversity, effectiveness, seasonality and other performance standards identified in R645-301-350. The productivity of the reference area

must be provided. The deficiency letter states that Rod Player will provide a productivity determination. The Divisions understanding is that Mr. Player is a Wildlife Biologist and may not be qualified to provide productivity estimates. The Division's Vegetation Information Guidelines describe when and how to conduct studies of vegetation including productivity.

Dwg. No. 2.7.1-1a.dwg, UP&L Tract Vegetation Map delineates the vegetative community for the additional permit area.

Findings:

Information provided in the application is not considered adequate to meet the minimum Vegetation Information requirements of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-321, Pre-coal mining disturbance diversity and productivity adequate to predict the potential for reestablishing vegetation must be provided.

FISH AND WILDLIFE RESOURCE INFORMATION

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

Analysis:

Dr. Clayton White conducted a goshawk survey of Burnout Canyon and adjacent areas in May 2001. No goshawks were found, although goshawks and red-tail hawks have been observed in the area in past years (Appendix Volume A-2). There are goshawks nesting in adjacent drainages. (Phone conversation with Rod Player, Forest Service Biologist, on 1/28/02 with Susan White.)

The pipeline will be buried upslope from James Creek. The mouth of James Creek is critical to the Yellowstone cutthroat trout spawning. The Permittee has committed to sampling fish and macroinvertebrates in James Creek (page 2-71 and page 2-72). Sampling reportedly began in October 2000. A commitment should be provided to include the results of these studies in the annual report or as an appendix to the MRP. The permit describes the sampling program as follows:

Multi-pass electrofishing to estimate fish populations will be conducted in October for two consecutive years and then every three years thereafter. The fish surveys will be done in the fall. A macroinvertebrate study of James Creeks will be conducted twice a year for two consecutive years and every three years thereafter. The surveys will be done in the spring and fall.

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Findings:

Information provided in the application meets the minimum Fish and Wildlife Resource Information requirements of the regulations.

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:

Protection and Enhancement Plan

The recommended seasonal buffer for the goshawk and red-tailed hawk is March 1 to August 15. Assuming operations continue as reported no protection plan will be required in James Canyon further than keeping the road gated and locked (page 2-99(a)) to restrict public access. The Forest Service has stated keeping the gate locked is sufficient to protect raptor nests in near by canyons.

All electric power lines to the James Canyon wells are buried.

The MRP (page 2-71) commits to conducting macroinvertebrate studies and fish studies in James Creek for 2 years beginning in October 2000 and then every three years thereafter. This should identify any slow degradation of the creek due to sedimentation, should it occur. Unfortunately, adequate baseline data was not obtained prior to mining activities. Mt. Nebo Scientific, Inc collected the data for the first two years. Dr. Dennis Shiozawa conducted the surveys. The October 17, 2000 and 2001 (2001 Annual Report) reports found James Creek to be in excellent condition, Table 1 summarizes the sampling.

Table 1. Summary of aquatic resource sampling on James Creek in 2000 and 2001.

Date	Macroinvertebrate #/m ²	Biomass (g/m ²)	Total Fish
Fall 2000	378,510*	272	587
Spring 2001**	335,000		
Fall 2001	127,875	256	93

*Used summary data from Fall 2001 report, because Fall 2000 report indicates 34,757/m².

** Spring 2001 report not found; used summary data from Fall 2001 report.

The 2001 report provides several explanations for the decrease in macroinvertebrate and fish numbers and cannot directly attribute the decrease to mining activities. The large amount of drilling fluids that spilled into James Canyon was not mentioned or accounted for in this study.

Because of the lack of adequate baseline data and the dramatic decrease in numbers of macros and fish for Fall 2002 these baseline studies should continue.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

The MRP states that low flows in Eccles Creek are often 2 cfs in late summer and fall and high flows seldom exceed 50 cfs (page 2-65). Current discharges are 13 to 20 cfs into Eccles Creek. Eccles Creek is a tributary to Mud Creek and Mud Creek flows directly into Scofield Reservoir. Scofield Reservoir is:

- A culinary water source
- One of the top four trout fishing lakes in Utah
- Has over a one million dollar recreational fishing value (E-mail from Louis Berg to Susan White dated February 4, 2002).

The PHC prepared by the Permittee dated November 2001 states (page PHC A-15) that:

“Significant erosion has not been noted in the stream channel. However, if the high discharge volumes continue, erosion of the stream channel will occur at a rate faster than would occur without the mine water discharge. Since the stream channel is well armored and vegetated, increased bank erosion should still occur only at a very slow rate. The Mud Creek channel will need to be monitored closely for increased rates of erosion. Mitigation efforts may be required for both streams if significant erosion is observed”.

In the Division’s April 1, 2002 Technical Analysis the Permittee was asked to describe:

1. How the Operator will avoid or minimize disturbance and adverse impacts to fish and related environmental values during coal mining in Eccles and Mud Creek.
2. How enhancement and restoration of Eccles and Mud Creek will be achieved.
3. Protective measures to Eccles and Mud Creek during mining.

The Permittee responded in a letter stating until adverse impacts are noted no enhancement, restoration or protective measures will be necessary. Currently three studies are being conducted on Eccles Creek and one study on Mud Creek to address impacts related to the discharge.

The Permittee submitted A Compilation and Comparison of Eccles Creek Macro-Invertebrate Data for the Period of 1979 – 2002 on August 27, 2002 as required by a 2002 condition to the Permit. The compilation and comparison by Dr. Shiozawa was difficult because different procedures, analytical approaches, sampling station designation, and creek conditions occurred throughout the 23 year time span. During this 23 year time span data was collected on 24

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site visits. The report documents that Eccles Creek has undergone a progressive change in benthic community structure. Total numbers and species diversity have decreased and species dominance has shifted. Although the mine is likely the dominant influence on this creek other factors including, floods, drought, roads, and other mines may and likely have impacted the stream. The report demonstrates the resilience and adaptability of Eccles Creek to disturbance.

The Permittee has committed to a three year macroinvertebrate sampling of Eccles Creek beginning in spring 2002.

Findings:

Information provided in the application is not considered adequate to meet the minimum Fish and Wildlife requirements of the regulations. The following Permit Stipulation is recommended:

R645-301-333, The permittee must continue macroinvertebrate sampling in Eccles and James Canyon until a trend in populations can be established.

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:

Fish and Wildlife enhancement measures during reclamation for the James Canyon road, pipeline, and well are not addressed. Enhancement measures could include shrub plantings or other methods of enhancement. The State's Lone Peak Nursery custom grows specific species provided sufficient lead time. Information can be obtained from:

http://www.nr.utah.gov/slf/Forestry%20Fire%20&%20State%20Lands_files/lonepeak/Home2.htm
Bitterroot Restoration at: http://www.revegetation.com/BRIWeb/plant_prop.html also contract grows plants. In the July 8, 2002 letter from Skyline addressing these deficiencies reference is given to Sections 4.1 and 4.18 of the MRP. No fish and/or wildlife enhancement measures were discussed in these sections.

Because the pipeline burial reclamation was done prior to resolution of the deficiencies, no surface mulch was used. Since James Canyon is critical breeding habitat for the Yellowstone cutthroat this area will need to be observed and remedial action taken if erosion is noticed. Surface mulch must be used in reclamation of the road and pipeline.

Findings:

R645-301-342.100, Fish and wildlife enhancement measures used during reclamation must be described.

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:

General Requirements

A seed mixture for the James Canyon was developed in coordination with the Forest Service (page 2-63(d)). It is crucial that the Permittee be vigilant with a weed control program. The Weed Web at: <http://extension.usu.edu/coop/ag/crops/weedweb/index.htm> provides current information for weed control programs.

Timing

Final seeding of the buried pipeline was completed in November 2001. Seeding of other areas in James Canyon will be done in the fall. The powerline trench was compacted and graded in the fall; no seeding was required. The fall is considered the normal time of seeding for this area.

Mulching and other soil stabilizing practices.

Soil preparation will include surface roughening. Extreme surface roughening should stabilize the soil surface or limit sediment runoff to the bottom of each basin. A surface mulch will be used as additional control because of the sensitivity of James Creek. Certified weed-free (usually only noxious weed-free) straw or alfalfa mulch and/or hydromulch will be spread or sprayed on the reclaimed surface. Straw or hay will be applied at the rate of 1500 pounds per acre. No rate is specified for hydromulch application if straw or hay is not used.

Standards for success

The application provides a reference area for the James Canyon disturbance but fails to make a demonstration that the reference area is equal to or exceeds the vegetation cover, diversity, density and/or productivity of the disturbed area. This site was not previously disturbed by coal mining activities and will not be exempted from productivity, diversity or any other performance standards. The revegetation standard is based on a reference area yet the application states a standard of 58 percent. This should be removed and stated that the cover of the reference area at the time of bond release will be used. The bond releases standard is total cover of the reference

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area and not just understory cover, productivity and shrub/tree density. Productivity (as measured by methods described in the Division's Vegetation Information Guidelines) of the reclaimed area must equal or exceed 90 percent (using a one sided 90 percent confidence interval) of the productivity of the reference area for two consecutive years prior to bond release.

Findings:

Information provided in the application is not considered adequate to meet the minimum Revegetation requirements of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-355, The Permittee must provide a rate of hydromulch application if used as surface mulch during reclamation in James Canyon.

R645-301-356, The Permittee must correctly describe the success standard required for bond release.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

Waterbars are a Best Management Practice for operational activities. They require maintenance and removal when the operation is concluded. The use of waterbars in reclamation is not appropriate. Mine sites in Utah successfully use an extreme surface roughening technique instead of waterbars. The roughening process can occur during topsoil placement or while incorporating organic materials (i.e. hay). Surface roughening also eliminates trespass off road vehicle use. Proper roughening is described in the technique sheets in the Division's reclamation manual, The Practical Guide to Reclamation in Utah, found at: ftp://dogm.nr.state.ut.us/PUB/MINES/Coal_Related/RecMan/Reclamation_Manual.PDF. The technique sheets are also useful to give to equipment operators to illustrate the degree of roughness required.

Page 2-120 (j) states that the James Canyon road was roughened from the drill site down to Electric Lake with gouges made by a track hoe. Water bars were re-constructed and silt fences were positioned at the outflow of each water bar (page 3-63 b). The road was re-seeded. The date of seeding was not indicated.

The James Canyon road disturbance is considered ASCA #34 and 35 (page 3-72 C). Silt fences will be maintained three times a year until vegetation is adequate to control erosion (page 3-64).

Findings:

Before approval, the Permittee must provide the following in accordance with:

R645-301-355, The Permittee must provide a commitment to remove the waterbars at Phase II bond release or remove the use waterbars at reclamation.

R645-301-354, The date of seeding of the James Canyon road from the drill site to Electric Lake must be documented. The Division records indicate this was done in November 2001.

RECOMMENDATION:

The amendment cannot be approved until all deficiencies are resolved.