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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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TO: Internal File

THRU: *MS* Mike J. Suflita, Senior Reclamation Specialist/Team Lead

FROM: *WB* Priscilla W. Burton, Senior Reclamation Specialist/Soils

RE: James Canyon Road, Canyon Fuel Company, LLC, Skyline Mine, C/007/005-AM01K

SUMMARY:

In-mine flooding created an urgent need for dewatering wells in James Canyon. Two wells were drilled in August of 2001 in James Canyon for this purpose (page 2-63a). In October 2001, the Permittee provided the Division with sketchy submittals for the emergency construction and implementation of the dewatering well site (AM01H and IB01I). Although the information was not complete, the Division approved of the activity in letters dated September 28, 2001 (AM01H) and October 23, 2001 (IB01I). This submittal contains current, "as built," information for the burial of cable and pipeline and development of the well site, 9.65 acres in all.

The information updates sections in chapters two Skyline Mining and Reclamation Plan to include

- Permanent burial of a sixteen-inch diameter poly pipe for a distance of 3,000 feet from a well site in James Canyon (within the permit area) down to Electric Lake. The buried pipeline discharges groundwater to Electric Lake at a rate of 2,470 GPM. The trail in which the pipe is buried has been reclaimed and at final reclamation, the only disturbance will be to plug both ends of the pipe with cement (see also AM01H).

TECHNICAL MEMO

- Permanent burial of power cables along the Forest Service Road, FDR-018, from the Questar Gas building to the permit boundary in James Canyon (2.95 acres) and down James Canyon Road to the well site (0.3 acres) as shown on DWG. No.: 1.6-3, Skyline Mines Permit Area (see also IB01I-1).
- Topsoil salvage and storage during construction of the well site.

TECHNICAL ANALYSIS:

PERMIT APPLICATION FORMAT AND CONTENTS

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

Analysis:

The site location falls mostly in Section 25, T.13S, R6E, not section 35 as is noted on pages 2-63 (a), 2-120 (f), and in the Soil Resource Evaluation Report of Appendix A2.

Plate 3.4-1 indicates that the permit and disturbed area boundaries are the same for the length of the James Canyon Road. This is not the case. The permit area is clearly shown on Drawing No. 1.6-3. Most of the road is within the permit area and a "cherry-stem" has been drawn to include a portion of the road extending outwards from the permit area.

On page 2-63(b) it is noted "the pipeline and power line from the Questar property [at the head of Boardinghouse Canyon] to head of James Canyon were reclaimed immediately after construction." The Division understands that the pipeline was buried and reclaimed from the drill site in James Canyon to the mouth of the canyon (Electric Lake) and the power cable was buried in the road from the head of the canyon to the drill site. Please clarify the situation. i.e. was the power cable buried from the Questar property to the head of James Canyon?

Findings:

Information provided with the submittal is not accurate. Prior to approval, provide the following information in accordance with the following:

R645-301-121, Correctly locate the James Canyon pipeline and well in Section 25, T13S, R63 on page 2-63 (a), 2-120 (f), and in Appendix A2 of the Soil Resource Evaluation Report; and Correct Plate 3.4-1 to accurately show the permit area boundary; and Clarify the statement made on page 2-63(b) wherein it is noted that "the pipeline and power line from the Questar property to head of James Canyon were reclaimed immediately after construction."

REPORTING OF TECHNICAL DATA

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

Analysis:

Soils analyses and field report of the James Canyon area were conducted after disturbance on the topsoil stored and on the berms along the roadways. Mr. Daniel Larsen, Soil Scientist with Environmental Industrial Services of Helper, Utah, conducted a soil survey in September 2001. Inter-Mountain Laboratories of Sheridan, WY analyzed the soil samples.

Findings:

The information meets the 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.

GENERAL:

Regulatory Reference: 30 CFR 783.12; R645-301-411, -301-521, -301-721.

Analysis:

During construction of Electric Lake, the James Canyon County road was constructed. The road was reclaimed in 1972 and included construction of water bars every one hundred fifty feet (page 2-63b and 2-120i). The road was vegetated with grasses, rabbit brush and sagebrush. According to the soils report in Appendix A2, the route of the buried pipeline in James Canyon is mostly southern exposure from 9,600 feet down to about 8,560 feet elevation.

The site was redisturbed during August of 2001 for construction of the drill site, burial of power cable to the drill site and burial of water pipeline from the drill site to Electric Lake. The power cable originates from the Questar (gas) property at the head of Boardinghouse Canyon and continues along the Monument Peak Road to the head of James Canyon.

Vegetation and soils analysis of the site were conducted after the disturbance to evaluate the condition of the adjacent land and make presumptions about the disturbed area. Both vegetation and soils reports are in Appendix A2.

TECHNICAL MEMO

Findings:

The information provided is adequate for the General Environmental Resources Information section of the Regulations.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

In a telephone conversation on October 5, 2001, with Gary Taylor, Environmental Coordinator for the Skyline Mine, I verified that for the stretch of Forest Service road outside of the mine's disturbed area boundary and to the well site:

1. There was no topsoil.
2. There was no topsoil salvage.
3. There was no topsoil redistribution.

Consequently, soil survey information provided in Appendix 2 of Chapter 2 is for the half-mile section of reclaimed road in James Canyon where the 16-inch poly pipe has been buried and for the well site. Mr. Dan Larsen, Soil Scientist, with EIS Environmental and Engineering Consultants, Helper, Utah, September 2001, has provided a soil description and field notes for the well site location, and brief notes for the rest of the reclaimed road, supported by hand-dug excavations. Laboratory analysis was conducted on five composite samples collected from soil representing each of the identified soil types and the stockpiled topsoil and subsoil at the well site.

The survey indicates that soils supporting the Aspen/Grass/Forb vegetation type (A) had a topsoil layer that was 16 – 24 inches in depth, very dark brown color and a texture of sandy loam or loam with a granular structure. The subsoil had 15 – 30 percent rock fragments in the gravel and cobble size and was brown to yellowish brown in color, 20 – 40 inches thick. Below this, a dark grayish-brown to brown clay loam soil with blocky structure was encountered. These are Pachic Palecryolls and Pachic Haplocryolls.

Soils supporting sagebrush (S) were found at the lower elevations and were generally loam soils with a brown topsoil horizon of 6 – 12 inches in thickness. The soils were formed from sandstone and shale with deeper subsoils (to forty inches) forming in the colluvial deposits. Generally, these soils are more shallow than the soils that support aspen growth.

An inclusion of calcareous tufa (T) was identified for a 100 feet along the pipeline route, near a spring, approximately ¼ southwest of the drill pad. The Tufa soils had the following

characteristics: a 7 – 12 inch dark brown surface layer overlying white subsoil grading to rock at about 20 – 24 inches.

Findings:

The information provided is adequate for the Environmental Soil Resources Information section of the Regulations.

ALLUVIAL VALLEY FLOORS

Regulatory Reference: 30 CFR 785.19; 30 CFR 822; R645-302-320.

Analysis:

Alluvial valley floor determination

The Division's March 1984 Technical Analysis written for the Valley Camp Mine (ACT/007/001) provides a summation of the history of the alluvial valley floor determination. In 1984, the Division stated that Whisky Canyon and Pleasant Valley above the Utah No. 2 facilities (White Oak Load Out) were observed by the Office of Surface Mining in August of 1983 to be too narrow for flood irrigation or subirrigation agricultural activities. Also in 1984, it was noted that the pastures below the Utah No. 2 Mine (White Oak Loadout) are flood irrigated and the grasses on the valley bottom may be subirrigated. Map R645-301-411.100 Premining Land Use Map shows the land use down stream of the Belina Mine Complex. Shown on this map, are two pastures along Mud Creek in Pleasant valley below the Utah No. 2 Mine (White Oak Load Out).

Skyline Mine discharge waters empty into Eccles Creek and then into Mud Creek. Mud Creek flows through Pleasant Valley, an alluvial valley floor. No permit or permit change application for coal mining and reclamation operations in Utah will be approved (R645-302-323.100) unless the Division finds in writing, on the basis of the information set forth in the application that (R645-302-232.120) the proposed operations would not materially damage the quantity and quality of water in surface and underground water systems that supply those alluvial valley floors which are outside the permit area of an existing or proposed coal mining and reclamation operation (R645-302-323.122). The significance of the impact to farming will be based upon loss of production and income (R645-302-323.200). Material damage to the quality of waters will be determined by concentration of total dissolved solids (R645-302-323.310) and reduction in the area available to agriculture as a result of flooding or increased saturation of the root zone (R645-302-323.324).

TECHNICAL MEMO

Coal mining may interrupt farming on an alluvial valley floor where the acreage impacted is so small as to be negligible to the farm's total agricultural production (R645-302-324.222)

Findings:

In accordance with R645-302-321.300, the Division finds that Eccles Creek does not lie within the Alluvial Valley Floor, but that Mud Creek does. Furthermore, the Division finds as per R645-302-322.100 that the sustained high flows in Mud Creek most probably affects the alluvial valley floor downstream of the White Oak Loadout. Consequently this application must provide the information required under R645-301-322, Application Contents for Operations Affecting Designated Alluvial Valley Floors, such that the Division will be able to make the findings required by R645-302-323.122, a determination that the Skyline mining operation will not interrupt, discontinue or preclude farming in Pleasant Valley downstream of the mining activity and outside of the permit area or that the impact is negligible to a farm's total agricultural production (R645-302-324.222).

Therefore, the Division requests the following in accordance with:

R645-301-322.360, A map showing farm fields in Pleasant Valley that could be affected by the high flows in Mud Creek, including information on ownership, size of the operation, the crop grown, the historical yield of that crop and the value of the crop, relationship of the acreage in Pleasant Valley to the total farm acreage as defined by R645-302-323.400.

R645-302-322.421, A description of the characteristics of Mud Creek including roughness, slope and vegetation of the channel, and the physical and chemical properties of the subsoil that will endure sustained high water flows.

R645-302-322.431, The geometry and physical character of Pleasant Valley, expressed in terms of the longitudinal profile and slope of the Valley and the channel, the sinuosity of the channel, the cross-section, slopes and proportions of the channels, flood plains and low terraces, the nature and stability of the stream banks and the vegetation established in the channels and along the stream banks and flood plains.

R645-302-322.432, The historical nature of surface flows of Mud Creek as shown by the frequency and duration of flows of representative magnitude including low flows and floods.

R645-302-433, contributions to base flow in Mud Creek from the subsurface.

R645-302-324.300, (1) A monitoring plan for stream bank erosion control in Mud Creek and 2) Monitoring of the flows in Mud Creek for quantity and quality and at adequate frequency to determine seasonal trends that could affect farming in Pleasant Valley.

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

Removal and Storage

Drawing #1.6-3 shows the site location. Plate #3.4-1 shows the location of the well site and topsoil storage pile along the road.

The power cable is buried in the road in James Canyon in the SW1/4 SE1/4 of Section 25, T13 South R6 East. The present configuration of the road is 19 feet wide with ditches on both sides. The ditches have 1:1 side slopes. There is four inches of road base on the roads (IB01I-1). The power line was buried 30 – 40 inches deep, in an eight inch wide trench (page 2-120 j). Power cable was laid in the bottom of the trench and the trench was backfilled.

The buried power line runs from the power pole for a distance of 4,400 feet along the James Canyon road (page 3-63a) to the well site (a total distance of approximately 1.2 miles). DWG 1.6-3 indicates that a portion of the James Canyon road was not initially in the permit area, but was incorporated into the permit area as a result of this activity.

Stipulations were placed on the power cable installation and burial by the U.S. Forest Service in a letter to Mary Ann Wright of the Division, dated October 15, 2001, signed by Elaine Zieroth, Forest Supervisor. For the portion of the power cable burial falling within the mine permit boundary, the following soils issues were stipulated by the Forest Service:

- Typical details showing the depth of burial and trench relative to the road
- Plan for protecting the topsoil berm an the outer edge of the road and
- Seeding of the topsoil berm and cutslope of the road prior to winter.

The submittal describes the trench, but does not include typical details, nor information on topsoil berm protection. Page 4-30 states, "soil was removed from the road surface and pushed

TECHNICAL MEMO

to the side for use as a temporary berm.” The topsoil was stored in a berm approximately 2 feet four inches high (as shown in cross-sections on pages 3-63 c –f) along the outslope of the road, seeding of the berm was not mentioned. During reclamation of the road (page 4.30a) the berm will become the topsoil, so protection during operations is quite critical.

The 16-inch polypipe is buried for a distance of about a half mile along the James Canyon road from the drill site to the dewatering site at Electric Lake. The Permittee verbally¹ indicated that there may be up to eighteen inches of topsoil salvaged in places and only four inches in others. And that instructions to the equipment operator would be to salvage all soils down to the cobbly/massive layer. Development of the well site is described on page 3-63 (a). The site includes a drill pad (100' X 200'), sediment pond, undisturbed drainage ditch and 18 inch culvert. Two water wells were drilled, JC-1 and JC-2.

The plan indicates that the Permittee stripped the top few inches of soil on the flat portions of the road (page 2-120 j). The subsoil was removed to a depth of three feet. The soil survey (Appendix 2) reports that in the vicinity of the well site, the topsoil is between 16 and 24 inches in depth (Aspen soil). For the 20,000 square foot area of the well site, there would have been approximately 30,000 to 40,000 cubic feet of available topsoil or approximately 1,000 cubic yards of topsoil salvaged and stored on site. However, the plan reports that 100 yards of topsoil is stored at the staging area in a pile that is 50'x11'x5'deep (page 2-120 f). That is only ten percent of the available topsoil. No explanation for the reduced amount of topsoil has been provided. The Division would assume that the reduction in material is due to the previous disturbance of the site, however, the soil survey was conducted on the disturbed soils, so that can not be the explanation.

Findings:

Information provided with the submittal is not adequate for the purposes of Operations Topsoil and Subsoil handling requirements of the Regulations. Prior to approval, the Permittee must provide the following information in accordance with:

- R645-301-230, 1.)** Include in the submittal typical details for power line cable burial and information on topsoil berm protection along the James Canyon road from the Monument Peak road to the drill site, as per U.S. Forest Service letter to Mary Ann Wright of the Division, dated October 15, 2001, signed by Elaine Zieroth, Forest Supervisor. **2.)** Clearly indicate the depth of topsoil removal and replacement along the length of the polypipe installation. **3.)** Provide an explanation for the limited amount of topsoil salvaged and stored for reclamation of the site.

¹ Personal Communication on 9/25/01 with Chris Hansen, Environmental Coordinator for the Skyline Mine.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Impounding structures

A sediment pond was constructed at the drill site. The pond would have served to capture the drilling fluids produced during well development.

Findings:

Information provided with the submittal is not adequate for the purposes of Operations Spoil and Waste Materials handling requirements of the Regulations. Prior to approval, the Permittee must provide the following information in accordance with:

R645-301-553.300, Provide a soil sample of the sediments in the pond prior to reclamation of the site.

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.

As per the (undated) Addition to the U.S. Department of Agriculture Forest Service Special Use Permit dated October 21, 1976, the road surface from well site to Electric Lake was restored to its pre-trench condition. During final reclamation, the trench will be excavated for a distance of 100 feet (at both ends) and the pipe will be plugged at both ends with cement. Soil excavated from the trench will be replaced so that the surface soil is on top again.¹

TECHNICAL MEMO

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

Redistribution

The reclamation plan for the James Canyon Road and Drill Pad is outlined on page 4-30a:

- The topsoil (berm) will be "set aside."
- The gravel road surface will be pushed to the inside of the road cut.
- The road outslope of the road will be pulled up onto the road.

The average depth of topsoil and subsoil replacement is not indicated.

Findings:

Information provided with the submittal is not adequate for the purposes of Operations Topsoil and Subsoil handling requirements of the Regulations. Prior to approval, the Permittee must provide the following information in accordance with:

R645-301-240, Please provide the average replacement depth for topsoil and subsoil for all locations of the disturbance: staging area, road, well site, and sediment pond.

STABILIZATION OF SURFACE AREAS

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

Analysis:

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:

Information provided with the submittal is not adequate for the purposes of Reclamation Plan Stabilization requirements of the Regulations. Prior to approval, the Permittee must provide the following information in accordance with:

R645-301-244, Please indicate in the plan the date of seeding of the James Canyon road from the drill site down to Electric Lake.

RECCOMENDATIONS:

More descriptive information of the topsoil handling activity is requested as well as a commitment to sample the pond sediments.

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