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

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OK

November 13, 2002

TO: Internal File

THRU: *PB* Priscilla Burton, Team Lead

FROM: Wayne Western, Reclamation Specialist/Engineering *WHW*

RE: North Lease Extension (Winter qtrs.), Canyon Fuel LLC, Skyline Mine, Permit C/007/005 and Project SR021-1

SUMMARY:

On September 4, 2002, the Division received a permit application package (PAP) for the Skyline Mine. The PAP was for the addition of the North Lease Extension, which is also referred to as the Winter Quarter Lease. The Permittee proposes to develop the coal resources north of their current permit area due to extensive flooding in the southern areas. The Division reviewed the submittal and found it deficient.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

The Permittee has listed the permit area on pages 1-36 and 1-37 of the PAP. The information is also listed on Drawing Number 1.6-3, Skyline Mines Permit Area.

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Findings

The information provided in the PAP meets the minimum requirements of the regulations for the Permit section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Affected Area Boundary Maps

The Division usually considers the affected area to be the same the permit area. The affected area may include areas that the Permittee has not yet acquired or permitted but plans to do so in the future. Drawing No. 1.6-3, Skyline Mines Permit Area, shows the location of the permit boundaries.

Existing Structures and Facilities Maps

The Permittee stated that there are no existing structures in the North Lease area.

Existing Surface Configuration Maps

Drawing No. 1.6-3, Skyline Mines Permit Area, shows the existing surface configurations. The map has topographic lines that appear to come from a USGS topographic map. Because there are no scheduled surface facilities in North Lease Extension, the Division will not require the Permittee to provide a more detailed map.

Mine Workings Maps

Drawing No. 2.2.7-7 shows the location of abandoned mine workings in and around the permit area. The horizontal distance between the proposed workings and the abandoned mine is 50 feet.

Permit Area Boundary Maps

Drawing No. 1.6-3, Skyline Mines Permit Area, shows the proposed permit area. The map is at a scale of 1 to 24,000.

Findings:

The information provided in the PAP meets the minimum requirements of the regulations for the Maps, Plans, and Cross-Section Resource Information section of the regulations.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

The Permittee proposes to extend mining to the North Lease Extension. The area to be mined is shown on several maps including Drawing No. 3.3-2. All mining except for development work will be done using longwall methods. No new surface facilities will be constructed in association with the North Lease Extension.

Findings

The information provided in the PAP meets the minimum requirements of the regulations for the Mining Operations and Facilities section of the regulations.

EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

Analysis:

There are no existing structures exist in the North Lease area.

Findings

The information provided in the PAP meets the minimum requirements of the regulations for the Existing Structures section of the regulations.

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RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

Analysis:

The North Lease Extension will not require the Permittee to use any additional public roads or to relocate existing public roads.

Findings

The information provided in the plan meets the minimum regulatory requirements of the relocation or use of public roads section of the Utah coal rules.

COAL RECOVERY

Regulatory Reference: 30 CFR 817.59; R645-301-522.

Analysis:

The Permittee plans to mine only the Lower O'Connor "A" seam in the North Lease Extension area. The general requirements for economic coal according to the Permittee are:

- Coal thickness is greater than 5 feet.
- Interburned thickness is greater than 40 feet.

However, due to equipment limitations the Permittee will only be able to mine coal with a minimum thickness of 7.5 feet.

The Permittee plans to conduct all mining (excluding development work) with longwall equipment. Some areas in the North Lease Extension are not suitable for longwall mining and will not be mined.

The only part of the North Lease Extension that the Permittee plans to mine in the next 5 years is the southeast section. The area to the west has low coal from parting and therefore cannot be mined with the available equipment. A dike and 2 major faults block access to the north. The Permittee plans to drill 4 to 6 exploration holes in 2003 to determine if mining conditions to the north are feasible.

The Division usually relies on the Resource Recovery Protection Plan (R2P2) and the recommendation of the BLM before making a finding about coal recovery. The BLM has

prepared a draft R2P2 and is working on a final version. If the BLM makes a determination that the R2P2 is inadequate then the Division will review the information.

Findings:

The information provided in the plan meets the minimum regulatory requirements of the economic coal recovery section of the Utah coal:

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Renewable Resources Survey

- The information from the pre-subsidence survey is shown on Drawing Number 4.17-1A, North Lease Pre-subsidence Survey Map. The map scale is 1:12,000 and includes the location of State-appropriated water rights. The water rights are identified by their State I.D. number, and type such as ground water, surface water and surface water diversion.
- The Permittee did not show any structures such as public buildings, churches, schools, hospitals and impoundments with a storage capacity of more than 20-acre feet of water in the subsidence zone. The Permittee conducted a survey of the area and found no structures.
- The subsidence zone is show on Drawing Number 4.17-1A, North Lease Pre-subsidence Survey Map. In addition to the subsidence zone, the Permittee also showed the projected areas where surface subsidence features could occur.
- The subsidence zone is based on the assumption of a 22-degree angle-of-draw. That angle-of-draw is based on studies conducted by the Permittee and other mine operators in the area. The Division approved a 22-degree angle-of-draw for the rest of the Skyline Mine and adjacent mines. The Division found no evidence in either the annual Skyline subsidence, or those or neighboring mines or the geology of the North Lease area that would suggest that the angle-of-draw would change. Therefore, the Division will allow the Permittee to use a 22-degree angle-of-draw instead of a 30-degree angle-of-draw. See R645-301-525.540 for details of the rebuttable presumption of causation by subsidence.

Subsidence Control Plan

Components of the subsidence control plan are as follows:

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- Map No. 3.3-2 and map No. 3.1.8-2 show the timing and sequence of mining operations. The Permittee has stated that except for development work all mining will be done with longwall equipment. The use of longwall equipment means that most subsidence should take place within weeks of mining and the ground should stabilize after six months.
- The Permittee must include map(s) that show the location and extent of the areas in which planned subsidence mining methods will be used and that identifies all areas where measures will be taken to prevent subsidence or subsidence related damage. No areas exist in the projected subsidence zone for the North Lease that need special protection.
- The physical conditions, such as depth of cover, seam thickness and lithology overlaying strata that affects the likelihood or extent of subsidence and subsidence related damage is contained in the geology section. That information is in the geology section of the PAP and is considered adequate.
- A description of the monitoring that is needed to determine the commencement and degree of subsidence. The Permittee did not address this issue in the PAP, with the exception of showing the location of subsidence monitoring points. Those points are shown on drawing No. 4.17.5-1. However, in the MRP the Permittee does describe a subsidence-monitoring program (MRP, Section 4.17.5). The monitoring program in the MRP is considered adequate.
- The subsidence-monitoring program uses aerial photography to determine the amount of subsidence and area affected. The Manti-LaSal National Forest Service developed the program. Most coalmines in Utah use aerial photography. Due to the rough terrain, monitoring survey points with terrestrial surveying is impractical.
- Terrestrial surveys are most useful for locating cracks and other subsidence features. The Permittee has committed to doing annual on-the-ground visual inspections of the ground surface of subsided areas.
- The Permittee has not identified any areas that need protection from subsidence damage.
- The Permittee described the measures to be taken in accordance with R645-301-731.530 and R645-310-525.500 to replace adversely affected, State-appropriated water supplies or to mitigate or remedy and subsidence-related material damage to the land and protected structures as follows:

In Section 2.5.3 of the PAP the Permittee states the following about replacement of State-appropriated water supplies.

“The restoration of water flows to impacted sources will be accomplished using the Best Technology Currently Available (BTCA). These activities may include,

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but not necessarily be limited to: transferring water rights to the injured party in flow equal to the determined loss; piping or trucking water to the location of the loss; sealing surface fractures to prevent further losses (i.e., stream floors on bed rock or in shallow alluvium); and, construction of a ground water well and the installation of pumps to restore flows; and monetary reimbursement for proven material damages. If the above efforts are not successful, the Skyline will explore the transferring water rights to the injured party in flow equal to the determined loss and/or monetary reimbursement for proven material damages."

Part of any mitigation plan is to restore the land to the pre-mining land use. The land use is often associated with the availability of water. Therefore, any interruption of water supplies could affect the land use. The preferred method of mitigation is to restore the water supply. That can be done in a number of different ways including restoration of a spring or seep, sealing cracks and fissures or possibly drilling a well. Other alternative include piping or trucking in water.

In some cases, there is no economical or technically feasible way to restore water at the source. The only options for mitigation are to either transfer water right shares or to make monetary reimbursement. When all other options have been exhausted the Division will allow transfer of water rights and monetary reimbursement.

- In the MRP, the Permittee makes a general commitment to repair damage to surface lands and to non-commercial buildings and dwellings and related structures. A general commitment is acceptable to the Division because of the difficulty in predicting what type of mitigation would be needed.
- R645-301-525.541 states that any damage within the angle-of-draw to non-commercial buildings or occupied residential dwellings or related structures will be assumed to be caused by subsidence unless the Permittee can show otherwise. The angle-of-draw will be assumed to be 30 degrees unless the Division approves an other angle. (The Division has allowed the Permittee in the past to use a 22 degree angle-of-draw. The 22 degree angle-of-draw is standard for most mine in Utah and has been documented in various studies.) The Division has reviewed the information in the annual subsidence reports and the geology in the North Lease and found that a 22 degree angle-of-draw to be adequate particularly because there are no building or structures in the area.

Performance Standards For Subsidence Control

In addition to the performance standards required by Utah Regulation, the Permittee will be required to meet the stipulations placed on the lease by the Forest Service. Of particular importance to subsidence control is Forest Service Lease Stipulation #9 that reads,

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“Except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would: (1) cause the creation of hazardous conditions such as potential escarpment failure and landslides, (2) cause damage to existing surface structures, and (3) damage or alter the flow of perennial streams. The lessee shall provide specific measures for the protection of escarpments, and determine corrective measures to assure that hazardous conditions are not created.”

Stipulation #9:

Notification

At least six months prior to mining, or within that period if approved by the Division, the underground mine operator will mail a notification to the water conservancy district, if any, in which the mine is located and to all owners and occupants of surface property and structures above the underground workings. The notification will include, at a minimum, identification of specific areas in which mining will take place, dates that specific areas will be undermined, where the public can examine the subsidence control plan.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Subsidence section of the regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

Analysis:

No new roads or other surface transportation facilities will be constructed in association of the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Road Systems and Other Transportation Facilities section of the regulations.

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:

There will be no changes to the following material handling systems: disposal of noncoal mine waste, coal mine waste, refuse piles, impounding structures, burning and burned waste utilization, return of coal processing waste to abandoned underground workings or excess spoil.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Spoil and Waste Materials section of the regulations.

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

There will be no additional support facilities or utility installations as part of the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Support Facilities and Utility Installations section of the regulations.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

No surface blasting will be associated with the North Lease Extension.

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Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Use of Explosives section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

The Division usually considers the affected area to be the same the permit area. The affected area may include areas that the Permittee has not yet acquired or permitted but plans to do so in the future. Drawing No. 1.6-3, Skyline Mines Permit Area, shows the location of the permit boundaries.

Mining Facilities Maps

No new surface mining facilities will be constructed.

Mine Workings Maps

Drawing No. 2.2.7-7 shows the location of abandoned mine workings in and around the permit area. The horizontal distance between the proposed workings and the abandoned mine is 50 feet. The map also shows the existing and proposed workings.

Drawing No. 3.3-2, Lower O'Conner "A"/Flat Canyon Five Year Projected Mine Plan, show the location of the current and proposed mine workings. Douglas E. Johnson, a registered professional engineer, certified that map.

Certification Requirements

All maps that require certification have been certified.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Maps, Plans and Cross-Sections of Mining Operations section of the regulations.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

No additional surface disturbance will be made because of the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Approximate Original Contour Restoration section of the regulations.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

No additional surface disturbance will be made because of the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Backfilling and Grading section of the regulations.

MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

No new mine openings are scheduled for the North Lease Extension.

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Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Mine Openings section of the regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

No new roads will be associated with the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Road Systems and Other Transportation Facilities section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Affected Area Boundary Maps

The Division usually considers the affected area to be the same the permit area. The affected area may include areas that the Permittee has not yet acquired or permitted but plans to do so in the future. Drawing No. 1.6-3, Skyline Mines Permit Area, shows the location of the permit boundaries.

Bonded Area Map

The bonded area usually is the same as the disturbed area. Since there will be no additional surface disturbance there is no need to change the bonded area maps at this time.

Reclamation Backfilling And Grading Maps

There will be no changes to the backfilling and grading plans because of the North Lease Extension.

Reclamation Facilities Maps

No new reclamation facilities will be associated with the North Lease Extension.

Final Surface Configuration Maps

The final surface configuration will not change because of the North Lease Extension.

Reclamation Surface And Subsurface Manmade Features Maps

No new surface or subsurface manmade features are associated with the North Lease Extension.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Maps, Cross-Sections, of Reclamation Operations.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Since no new surface facilities or disturbance will occur because of the North Lease Extension, a bond adjustment is not required at this time.

Findings:

Information provided in the PAP meets the minimum regulatory requirements of the Bonding and Insurance Requirements.

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RECOMMENDATIONS:

The Division should approve the permit.

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