0046

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

December 18, 2007

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor
Wayne Western, Senior Environmental Scientist, Lead

FROM: David Darby, Senior Environmental Scientist

RE: North Lease Incidental Boundary Change, Canyon Fuel Company LLC, Skyline Mine, Permit C/007/0005, Task ID #2874

**SUMMARY:**

Canyon Fuel Company LLC submitted a mine plan amendment to the Division on June 20, 2007. The amendment proposes to increase the permit of the Skyline Mine by 680 acres. The area is less than 15 percent of the existing permit and qualifies as an incidental boundary change.

**TECHNICAL ANALYSIS:**

## ENVIRONMENTAL RESOURCE INFORMATION

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

### PERMIT AREA

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

**Analysis:**

The Permittee submitted a description of the area to be added in the cover letter. No map was submitted depicting the area of the proposed IBC. The proposed IBC constitutes an area of 680 acres, 6.6% of the existing permit area of 10, 374 acres. The IBC will involve the area east of the North Lease in the vicinity of Winter Quarters Canyon.

There is no proposed surface disturbance. Two types of mining will be conducted, longwall and room and pillar. No second mining is planned in the IBC.

**Findings:**

The Permittee has addressed the minimum requirements of the Permit Area Section of the regulations.

## GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

**Analysis:**

The Permittee has not submitted sufficient information to describe the geology, and mining of the IBC. Regional geology is described in Volume A-3. The submittal for the IBC consists of mostly maps. Only one page has been updated to describe the mining in the IBC.

A general geology map, was submitted, which shows the Blackhawk Formation encompasses the IBC from the surface to the level of mining. Only one coal seam, the Lower O'Conner A seam will be mined. The Permittee has supplied coal isopach maps for the Lower O'Conner A (Drawing 2.2.7-1) and B (Drawing 2.2.7-3) coal seams. The isopach map for the Lower O'Conner B seam shows there are no coal reserves in the IBC. The cover letter describes development mining in the IBC, Section 3.1.2 of the MRP. Drawings 2.3.4-2 shows the main entries extending into the IBC and an outline of other workings. Based on the statement in the cover letter and in Section 3.1.2 it is surmised the only room and pillar mining (development) will take place with no secondary extraction. The Permittee shall make this information clear in the IBC submittal.

The Permittee submitted an overburden map of the IBC that identifies the distance between surface water resources and the coal seam proposed for mining. Overburden depth will range between 500 feet to about 1200 feet. Since no secondary mining is planned for the IBC it is unlikely there will be subsidence or any connection between surface water sources, the coal seam or groundwater sources.

Analyses for acid and toxic forming material need to be submitted for the roof (above), floor (below) and the coal seam to be mined in the IBC. The Lower O'Conner A is the coal seam of interest in the IBC. The Lower O'Conner A is a continuation of Mine #3 where some testing has been conducted previously (1975 and 1977). CFC committed to test drill holes in the North Lease, but the samples have not been processed (Mark Bunnel August 21, 2007). Acid and toxic forming material testing can be accomplished when an exploration borehole is drilled near the IBC. Canyon Fuel Company (CFC) notified the Division on July 30, 2007of their intent

to drill an exploration borehole in Winter Quarters Canyon. The exploration borehole was approved on August 20, 2007, Task 2835. CFC committed to sample the roof, floor and coal seam for acid and toxic forming material. Gregg Galecki and Mark Bunnel were contacted by phone on August 21, 2007 to discuss the submittal of acid and toxic data. The parameters needed to make an assessment include; location, pH, pyritic sulfur, sulfate, organic sulfur, total sulfur, total iron, electrical conductivity (EC), sodium absorption ratio (SAR), acid/base potential, total calcium, total magnesium, total potassium, total sodium, total boron and total selenium, total arsenic, total cadmium, total chromium, total lead and total zinc.

**Findings:**

The information provided by the Permittee does not meet the minimum requirements of the Environmental Resource Information – Geologic Resources Information section of the regulations.

**R645-301-624.320 and 624.330,** The Permittee will provide chemical analyses for acid or toxic forming or alkalinity producing materials and their content in the strata above the coal seam, below the coal seam and the coal seam to be mined in the IBC. The parameters needed to make the assessment include; location, pH, pyritic sulfur, sulfate, organic sulfur, total sulfur, total iron, sodium absorption ratio (SAR), acid/base potential, electrical conductivity (EC), total calcium, total magnesium, total potassium, total sodium, total boron and total selenium, total arsenic, total cadmium, total chromium, total lead and total zinc.

## 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:**

**Coal Resource and Geologic Information Maps**

The geology map, Drawing 2.2.1-1, illustrates the fault system which trends east to west through the IBC, parallel to Winter Quarters Canyon. At least seven faults are identified. Some intersect the Connelville Fault, which trends north to south. Drawing 2.3.4-2 shows faults in the IBC running north-south that are not on the Geology Map. The Permittee should provide information on the geology map. Mining in the IBC will avoid most of the faults. The strike of the formations is slightly northeast to southwest and the dip is to the northwest.

**Mine Workings Maps**

The area of mine workings is shown on two maps submitted in the IBC application; Drawing 2.3.4-2, Mine 3 mine plan; Drawing 3.1.8-2 and Lower O'Conner A seam-5 Year Projection, Drawing 3.3-2.

**Permit Area Boundary Maps**

The Permit area boundary is illustrated on several maps in the IBC submittal. No mining is projected outside the proposed permit area.

**Well Maps**

There are no well proposed for the IBC.

**Findings:**

The information provided by the Permittee meets the minimum requirements of the Maps, Plans and Cross Sections of Resources Information section of the regulations.

# OPERATION PLAN

## COAL RECOVERY

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

**Analysis:**

Maps have been supplied showing to areas of projected mining. The Permittee plans to mine two areas in the IBC, which are approximately 100 acres each. Drawing 3.1.8-2 is the best map to see the proposed mine areas. The mine plan avoids the fault system paralleling Winter Quarters Creek. No secondary mining is planned for the IBC, which reduces the chance for subsidence and impacts to the water resources in the creek of the IBC. The Division concurs with the proposed mine plan for maximum recovery.

**Findings:**

The Permittee has submitted sufficient information to address the minimum requirements of the Coal recovery regulations.

**Recommendation:**

The IBC submittal is not recommended for approved until all deficiencies are addressed.

O:\007005.SKY\FINAL\WG2874\dwd2874.doc