

# FILE COPY

March 5, 1987

TO: File

FROM: David W. Darby, Geologist *DWD*

RE: Technical Review of Mine Permit Ammendment to King #4 Mine, Hiawatha Complex, ACT/007/011, Carbon County, Utah

## SUMMARY

U. S. Fuel Company has requested an ammendment to their current mine plan. The ammendment will incorporate federal lease U-51923, a 160 acre coal lease in Township 15 South, Range 8 East, NW 1/4 of Section 20, into the King #4 mining plan.

The lease tract is within the present permit boundary. U. S. Fuels Company is the surface owner of this tract. Incorporating this area will alter only underground mining plans. No new facilities or surface disturbance will be needed in developing this area.

The mine tract area lies between the anastomosis of two tributaries feeding the Right Fork of Miller Creek. Mining will take place only in the B seam during the next 5 year permit term. The A seam will be mined in the future, but not within the next 5 years. The Hiawatha seam is not economical to mine in the lease area. Both coal seams lie above the gradient of the streams. Thickness of the B seam ranges from 5 to 7 feet, and the A seam ranges about 11 feet in thickness. (Exhibits VI-3 and VI-4). No underground mining activities will take place within 500 feet of the stream channels.

Technical information to conduct the review was garnered from the permit application package and the addendum package for the lease tract.

The following conclusions were reached based on the material presented and on site observations.

UMC 817.41 Hydrologic Balance: General Requirements - DD

Existing Environment and Applicant's Proposal

Groundwater

The applicant has established plans for conducting the mining activities within lease tract U-51923. Geologic and hydrologic information and data pertaining to the lease and adjacent areas have been submitted in Volume 3, Chapters VI and VII of the Permit Application Package (PAP).

Mining will not affect the prevailing hydrologic balance. The mining area within the lease is bounded by escarpment on all but the west side. The applicant does not expect to encounter or impact groundwater conditions since no groundwater was encountered adjacent to this lease and because there are no springs on or adjacent to the lease area.

Surface Water

All mining activity in the lease will be above stream channel elevation, and no underground development will be within 500 feet of the stream channels. There will be no portal access within the lease area and hence, no mine water discharge into adjacent streams.

Stream monitoring has been conducted on the north and south forks of the Right Fork of Miller Creeks, both are perennial tributaries. Baseline data for stations ST-2A, St-2B and St-1 (see map, Exhibit VII-1) are shown on Table VII-6. Subsequent data has been submitted on a quarterly basis. Monitoring of these sites will continue through the life of mine.

Compliance

The applicant has submitted sufficient information to comply with this section. In analysing the information for the lease tract the Regulatory Authority (RA) has determined that mining will not degrade aquifers or groundwater resources within or adjacent to the lease tract. Groundwater recharge occurs at higher elevations of the Wasatch Plateau to the west of the lease. Mining has already taken place west of the tract, and any influences would have already occurred. Recharge from direct precipitation on the outcrop amounts to very low percentage. Most water infiltrating the outcrop would tend to discharge along the escarpment. In helping to establish an in-mine monitoring program for the mine Utah Division of Oil, Gas and Mining personnel went underground (January 1985) and examined the areas of mine inflow. The King #4 mine is relatively a dry mine toward the eastern workings. Water production occurs in the western portion of the mine in the vicinity of the Bear Canyon Fault system.

It is not expected that groundwater or surface water quality will change or degrade substantially due to mining of this lease, since very low quantities of groundwater are expected to be intercepted.

Stipulation

None.

UMC 817.52 Surface and Groundwater Monitoring - DD

Applicant's Proposal

Surface water monitoring has been and will be conducted in the vicinity of the lease tract.

The applicant stated that no springs exist on the lease tract, and mining directly west of the tract has not produced groundwater. It is unlikely that groundwater will be intercepted. Therefore, no groundwater monitoring for this lease is proposed.

Compliance

The applicant complies with the surface monitoring. From observations in the mine it is not expected that groundwater will be intercepted during mining of the lease. If groundwater is intercepted the applicant has established in mine monitoring procedures consistent with guidelines established by the RA.

Stipulations

None.

UMC 817.121 - .126 Subsidence Control - DD

Applicant's Proposal

The applicant has an established subsidence monitoring plan in cooperation with the U. S. Forest Service (Chapter III, p. 33 A, ACR Response).

U. S. Fuels Company is the surface owner of the lease tract.

A 200 foot buffer zone will be left between the mining area and the outcrop for each seam.

The potential area of impact is depicted on Exhibit VII-1C for the lease area as well as the entire permit area. It is likely that no subsidence effects will occur in the lease area based on the mining plan, cover over the mine workings, and past

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experience. The channels of North Fork Creek existing on this lease lie out of the potential zone of impact and are lower in elevation than the mine workings, so they would not be affected by underground mining in this lease block. No surface water sources are found to emanate from the lease block area. No water is produced in underground workings adjacent to this lease block.

As U. S. Fuel Company is the surface owner on this block the question of effecting the rights of the surface owner should not result in litigation.

#### Compliance

The applicant complies with this section.

Only the Blackhawk Formation overlies the coal seams on and adjacent to the lease area. It is expected that subsidence will occur within the area due to the low cover. It is not expected that the subsidence will have adverse impacts to renewable resources. According to observations made in similar areas adjacent to the property fractures will occur parallel to the slope inside the buffer zone. These fractures could channel snowmelt into the minesite, but only small amounts are expected.

The pre- and postmining land use is wildlife habitat. Subsidence should not impact wildlife since the 200 feet buffer zone will help protect the slope. There are no known active raptor nests in the lease area. Most raptor nesting takes place in the Castlegate Formation to the northwest. The Castlegate Formation exhibits precipitous escarpments suited for aeries.

#### Stipulations

None.

#### CONCLUSION:

It is determined that mining of Coal Lease U-51923 will not significantly impact the hydrologic regime or cause adverse impacts from subsidence.

jvb  
cc: W. Hedberg  
S. Linner  
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