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March 31, 1998

TO: File

THRU: Daron Haddock, Permit Supervisor DRH

FROM: James D. Smith, Reclamation Specialist JDS

RE: Permit Boundary Change, Energy West Mining Company, Cottonwood/Wilberg Mine, ACT/015/019-BR98A, Folder #2, Emery County, Utah

SUMMARY

Energy West submitted an application for reduction of the Cottonwood/Wilberg Mine permit area on January 20, 1998. On February 4 Energy West submitted an addendum to the application that contained more information and a chronology of their efforts to achieve reduction of the permit area and relinquishment of the leases, which date back to 1992. However, the addendum is not formatted for inclusion in the MRP and does not appear to be intended to be part of the submitted amendment.

The original permit area and the proposed permit area are shown on Figure 1 and Plate 1-3 of the proposed amendment. A legal description of the proposed permit area is contained on pages 1-14 through 1-18. A map that clarifies the boundaries of the current and proposed permit areas was received March 23, 1998.

Subsidence monitoring has been done by aerial photogrammetric methods. Appendix D shows the numbered areas established for subsidence monitoring. The proposed change in permit area will involve Subsidence Study Areas 1, 2, 11, 14, 15, 16 and 17 (Table 4). Area 1 corresponds with the eastern parcel of federal Lease U-1358, approximately 160-acres, that PacifiCorp proposes to relinquish. The fee lease in se 1/4 of Section 15 and ne 1/4 of Section 22, T. 17 S., R. 7 E. that is proposed to be removed from the permit area is in Area 2. Area 11 straddles the proposed permit boundary line in federal lease SL-070645/U-02292, along the common boundary between Sections 8, 9, and 10 and Sections 15, 16, and 17 of T. 17 S., R. 7 E. Areas 14, 15, 16, and 17 are in the portion of federal lease U-47975 that is proposed to be relinquished and dropped from the southern part of the permit area. Longwall mining under these areas began as early as 1984 and ended in 1993. On the basis of subsidence monitoring of these areas, all of which have had no mining for at least 3 years, the permittee has determined

that subsidence is substantially complete and has stabilized.

In a letter to DOGM, dated February 23, 1998, USFS Manti-La Sal National Forest objected to removal of 120 acres of lease U-1358 (e1/2se1/4 Section 22 and ne1/4ne1/4 Section 27, T. 17 S., R. 7 E.) that lies in Subsidence Study Area 1 and 120 acres of lease U-47978 (s1/2s1/2nw1/4, n1/2sw1/4 Section 27, T.17 S., R. 7 E.) that is in Subsidence Study Area 14.

Subsidence cracks with vertical scarps more than 20 feet high appeared in Area 1 in 1984, but under the direction of USFS and DOGM the permittee repaired these cracks and scarps and reseeded the area in the summer of 1997. USFS contends that Area 1 should remain in the permit area until monitoring has established that vegetation meets the required reclamation standards.

Area 14 is associated with Federal Lease U-47978. This area is on the cliff face of the eastern side of the Wasatch Plateau, in the Newberry Canyon area. Longwall mining in this area caused escarpment failures, extensive cracks near the escarpment, and the formation of a graben on the ridge top. USFS contends that Area 14 should remain in the permit area because, although subsidence has stabilized, the area needs to be monitored to determine whether subsidence cracks will heal, whether erosion and infiltration of surface water will occur, and whether mitigation work will be necessary.

TECHNICAL ANALYSIS:

The proposed amendment contains no data or discussion relating to geology or hydrology.

There are streams and several seeps and springs within the area to be relinquished. These are shown on Maps HM-1, HM-4, and HM-5 of the current MRP. Ground-water and surface-water resources are discussed in Volume 9 of the MRP.

A May 5, 1997 letter from the USFS to DOGM included a copy of the USFS "Review and Findings" concerning the lease relinquishment, done in April 1997. The review indicates there are no hydrology issues for the areas to be relinquished, that "subsidence is substantially complete and impacts to hydrology/vegetation have stabilized, requiring no continued monitoring or mitigation."

The USFS April 1997 review appears to have been done on earlier submittals that didn't include all areas to be relinquished under the current submittal, in particular the southern part of lease SL-070645/U-02292 that is in the current Cottonwood/Wilberg permit area. There are several springs in this area that the USFS may or may not have considered in their finding. However, the February 23, 1998 letter applies to the entire area currently proposed for removal

from the permit and makes no mention of any hydrologic problems or concerns.

SURFACE WATER

There are no known surface water concerns in the area proposed to be dropped from the permit area. The USFS did not note any effects on surface water resources in its letters to DOGM.

GROUND WATER

Sheep Herder Spring (82-52), in lease SL-070645/U-02292 has shown no changes in flow or quality according to the USFS. The graben-like area in Subsidence Study Area 1 apparently altered near surface ground-water flow and a small wet area with riparian vegetation developed.

SPRING 84-56

The USFS holds a water right on Spring 84-56. Concerning Spring 84-56 in lease U-47978 (Map HM-4), the USFS letter states, "Monitoring of the spring has shown no effects from mining."

According to data provided by Energy West, Spring 84-56 began losing flow almost immediately after monitoring began in 1984 (Figure 1). At least part of the final loss appears directly related to mining operations that were conducted under Spring 84-56 in 1988 and 1989. Flows since 1990 have remained low but appear consistent from year-to-year: this is apparently one of the areas that the USFS referred to as not requiring continued monitoring or mitigation because impacts to hydrology/vegetation have stabilized.

COTTONWOOD SPRING (SPRING TM-23)

Cottonwood Spring, or Spring TM-23, is not discussed in the proposed amendment. This spring is in Cottonwood Canyon, outside the permit area but immediately adjacent to the area that is to be retained in the permit. Energy West's MRP's do not show a water right on this spring; Mr. Jessie Peacock, who holds water rights on Cottonwood Creek downstream of this spring, complained about the loss of flow from this spring because the reduced spring flow reduced the flow in the stream.

The proposed reduction of the permit area should have no effect on this spring nor on possible future investigation or mitigation. The issue with the loss of flow at Cottonwood Spring

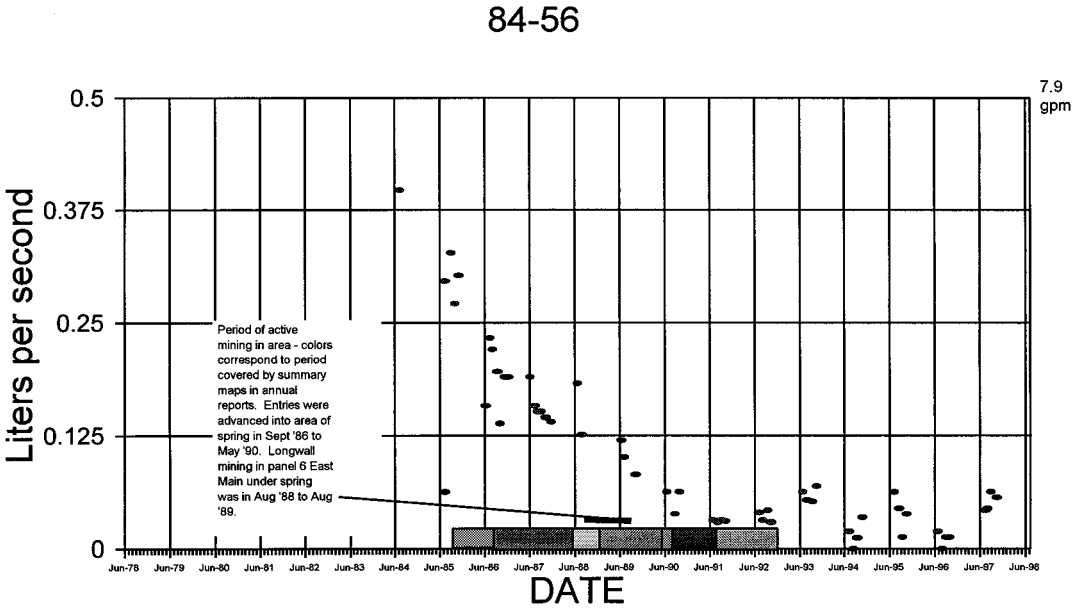

Figure 1 - Flow at Spring 84-56 in Federal Lease U-47978, Cottonwood/Wilberg Mine.

has never been settled to everyone's satisfaction. According to Ken Wyatt of DOGM, Energy West is of the opinion that the loss of flow at this spring is not due to mining but to drought, and that they have the data to back-up that assertion. The USFS may still be interested in the water-loss issue at this spring, but any investigation the USFS is pursuing is apparently low-key.

FINDING

The proposed amendment is considered adequate to meet the requirements of the Coal Mining Rules concerning Geology and Ground- and Surface-Water Hydrology.

RECOMMENDATION

Except for the two areas to which the USFS has objected, the reduction of the Cottonwood/Wilberg Mine permit area should be approved.