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

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June 9, 1997

TO: File

THRU: Daron Haddock, Permit Supervisor 

FROM: Jess Kelley, Reclamation Specialist 

RE: 1996 Annual Report, Western States Minerals Corporation, J. B. King Mine, ACT/015/002, Folder #2, Emery County, Utah

**SUMMARY:**

The permittee submitted the 1996 Annual Report for Division approval on April 22, 1997.

**TECHNICAL ANALYSIS:**

This writer examined 2 sections of the Annual Report to determine whether or not they contained adequate information: 1) subsidence monitoring data and 2) a certified sediment pond inspection.

● Subsidence Monitoring Data

Mining ceased at this site in 1981 and subsidence monitoring has been done at least every year from that time to the present. 10 points are monitored using standard optical level measuring equipment: 8 subsidence points and 2 control points. The subsidence points are designated S-1 through S-8 while the control points are designated A-A and CAP. The points are all located in a straight line which spans the area above the old workings. Control points A-A and CAP are outside the subsidence trough, Points S-1, S-2, S-7 and S-8 are close to the edges of the subsidence trough, and points S-3, S-4, S-5 and S-6 are over the center of the subsidence trough.

In the Annual Report, the permittee has tabulated the measured elevations from 1981 to the present and has summarized the data. The data are what might be expected at a site such as this. Most subsidence occurred from 1981 to 1983, the first 2 years after cessation of

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mining. From 1983 to the present, both subsidence and the rate of subsidence lessen year-by-year and tend to approach a horizontal asymptotic limit. The data are also quite erratic, in some cases showing subsidence one year and an almost equal gain in elevation the next. Almost all points show a small overall gain in elevation from 1983 to the present. This scatter in the data is common in conventional subsidence surveys and probably results from a combination of measuring error, cantilevering of consolidated subsurface rock strata, and rebound due to the release of residual stresses by the removal of coal. Nevertheless, subsidence has stabilized and, even over the center of the subsidence trough, the measurements vary through a range of plus or minus only about 2 to 4 tenths of a foot.

On April 28, 1997, the permittee submitted an application to discontinue subsidence monitoring. This ought to be done, the permittee contends, because subsidence has stabilized and monitoring is, therefore, no longer necessary or even useful.

●Certified Sediment Pond Inspection

A single sediment pond treats runoff from the entire site. The pond is entirely of incised construction.

The sediment pond was inspected on November 30, 1996 by Wesley K. Sorensen, a licensed professional engineer registered in the state of Utah. A certified inspection report is found in the Annual Report. This inspection revealed no evidence of instability, structural weakness, or other hazardous conditions.

**RECOMMENDATION:**

It is recommended that the subsidence monitoring data and the certified sediment pond inspection report be accepted by the Division as satisfying the respective regulatory requirements for the Annual Report.