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Item 2

# ELY SPRINGS DISTRICT

## LOCATION

The Ely Springs or Lone Mountain district is located on the west slope of the Ely Springs Range, about 13 miles west of Pioche. The principle mines and prospects are located north and south of Ely Springs canyon near the southern end of the range. Access to the district is not good, but it may be reached by poor dirt roads which skirt Dry Lake valley to the west of the district.

## HISTORY

Little is known of the history of this district. The county report (NBMG Bull. 73) states that ore was discovered here before 1917, but gives no details. The principal mine, the Hedman (King Midas), was not discovered until 1943, and the total district production has been only $8,400. Silver has been the major commodity produced along with zinc, lead, and minor gold.

A problem with the location of the Hedman mine became apparent as a result of our field examination. The location shown on the map accompanying NBMG Bull. 73 places the Hedman mine in what is shown as Swiss Bob canyon on the Ely Springs 7 1/2' topographic map. There are no workings of any type in this location. The description of the Hedman mine, also given in Bull. 73, describes very accurately a very small prospect on the south edge of the district, south of Ely Springs canyon. The major mine of the district, however, is located north of Ely Springs canyon, about half way between the map location and the location of the described prospect. It must be assumed that the Hedman mine is the middle property, as it has several levels, extensive dumps, and substantial surface structures. No signs of recent activity were apparent in the district, but new claim posts were in evidence in several localities.

## GEOLOGIC SETTING

The Ely Springs range is composed of complexly faulted and folded Upper Cambrian and Ordovician rocks. The mines of the district are restricted mainly to limestone in the Upper Cambrian rocks along the western front of the range.

## ORE DEPOSITS

The ore deposits seen in the Ely Springs district are replacement silver-zinc-lead orebodies which have formed in the carbonate rocks along crosscutting structures. At the Hedman mine, there is some indication that the ore lenses occur where fractures have formed parallel to the axes of folding in the carbonate rocks. Breccia, consisting of irregular blocks of limestone cemented by white calcite and jasperoid, follows a N30°E trend which generally parallel the axis of a gently dipping anticlinal structure.



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Ore minerals present at the Hedman mine are sphalerite, galena, and hemimorphite in a gangue of quartz, white and black calcite. The carbonate host rock shows silicification adjacent to the mineralized structures.

## GEOCHEMICAL RELATIONSHIPS

The geochemical sampling in the district, although admittedly limited, did not show unusual results. Samples were generally high in manganese, silver, zinc, and lead. Cadmium was present in large amounts in one sample. Anomalous arsenic was present on one sample, anomalous antimony in another. Three samples contained molybdenum, one of these contained tin. Samples from the main part of the district were low in barium, while the one sample from the east of the district was high in barium. The eastern locality also reported a high cobalt value.

## SELECTED REFERENCES

Tschanz, C. M., and E. H. Pampeyan, 1970, Geology and Mineral Deposits of Lincoln County, Nevada: NBMG Bull. 73.