from NBMG OFR 83-9
See also 83-10 for geochemical results.

4980 0001

Elko Co.-general

Item 48

UNION DISTRICT

The Union district is located around the south end of Union Mountain, an eastern ridge of the Sulphur Springs range about 45 miles north of Eureka. The district is along the Elko County-Eureka County line; the original mining area is in Eureka County but there are numerous prospects in both counties.

According to Vanderburg (1938), the first discovery in the district was in 1886, a small smelter was built in 1887, and several hundred tons of silver-lead ore were treated. Union Mines Co. operated in the district between 1915 and 1918, mining and shipping 7088 tons of ore. Minor silver-lead production is credited to the Union Mines property in 1951 and again in 1955.

Barite has been known in the district, occurring both as replacements in Devonian rocks and as a gangue mineral with metallic occurrences. The Bear mine produced barite in 1948-49 (Horton, 1963), and small tonnages have been produced at the Brown Sugar and Jeanne Marie properties (Papke, in preparation).

The Union district is underlain by chert and shale of the Vinini Formation which have been thrust upon Devonian limestone (Roberts et al., 1967). The geologic relationships within the district and the surrounding area are complicated by numerous northwest-trending faults which cut the section in the general area between the main Sulphur Springs range and Union Mountain. Mineralization at the Union (Bell) mine is reported to have occurred along north and northeast-trending fracture zones, and barite veining at the Jeanne Marie prospect is also reported to follow a northeast trend. The relationship of the two structural trends is not known.

At the Bell mine, the old Union Mines property, mineralization occurred as replacement ores in dolomite; the mines are along a brecciated thrust contact. The ores were mainly oxidized, and cerussite and barite were noted on the dumps. Wallrocks are silicified dolomite and limestone which are highly stained with iron and manganese oxides. Some jasperoid breccia cemented with calcite was noted.

The barite prospects in the district are of two general types, replacement deposits in dolomites of the Devonian Nevada Formation, and vein barite deposits. The vein deposits are also described as being replacements of Devonian dolomite, but the occurrences cross-cut the enclosing rock (Papke, in preparation). Of special interest is the Jeanne Marie deposit (see property description files) where a thick barite vein occurs in an area of barite veining, brecciated jasperoid, and gossanous material. Geochemical results of sampling at this deposit show anomalous arsenic values to be present. A sample taken at the Bell mine also showed high arsenic values as well as high values in lead, zinc, and antimony.

Rocks mapped as Mississippian age, possibly including the Chainman Formation, are shown to be present in this district (Stewart and Carlson, 1976). The presence of these rocks, known to be favorable host rocks for disseminated gold, coupled with scattered samples with anomalous metal content, point to the Union district and the adjacent portions of the Sulphur Springs range as favorable gold prospecting areas.

Selected References

Hope, R. A. and Coats, R. C. (1976) Preliminary geologic map of Elko County, Nevada: USGS open-file 76-779, sheet #5.

Papke, K. G. (in press) Barite deposits in Nevada: NBMG Bull, in preparation.

Roberts, R. J., et al (1967) Geology and mineral resources of Eureka County, Nevada: NBM Bull 64, p. 109.

Stewart, J. H. and Carlson, J. E. (1976) Geologic map of north-central Nevada: NBMG Map 50.

Vandenburg, W. O. (1938) Reconnaissance of mining districts in Eureka County, Nevada: USBM Inf. Circ. 7022.