

ELLISON DISTRICT

The Ellison mining district is located approximately seven miles east of Preston within Sawmill Canyon, a deeply incised drainage on the west flank of the southern Egan Range. The main part of the district is concentrated within a square mile area about one and a half miles east of the mouth of the canyon. This area is developed by numerous short adits and shallow prospects which cover the northern and southern slopes above the canyon floor. A few workings, including the Carbonate Patented Mine, are located along the west flank of the range just below the 9,474' summit of Sawmill Peak.

An assemblage of shallow marine carbonate rocks, typical of the eastern Great Basin, composes this part of the Egan Range. The formations exposed in Sawmill Canyon range in age from the Cambrian Whipple Cave formation to the Mississippian Chainman Shale. In general, the bedding is north-striking and dips moderately to the east. The structure of the area is complicated by many north-striking, high-angle normal faults and several low-angle faults, which are interpreted as thrusts and gravity slides.

The center of the district is intruded by several small, Tertiary aged igneous bodies. These bodies consist of a shallow(?), rhyolitic-dacitic plug, a quartz monzonite porphyry, and a brecciated pebble dike or breccia pipe unit. Their crude east-west outcrop alignment coincides with the Sawmill Canyon drainage. Based on field relationships, Playford (1962) suggests these bodies are related and combine to form a multiple intrusive body.

Mineralization in the central part of the district appears to be closely

See also 83-2 geochemical results.

J. Tingley + J. Bentz (1982) Mineral Res. of Egan Resource Area: NBMG OFR 82-9

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related to the intrusive bodies. On the south side of the canyon, weakly mineralized skarn deposits lie adjacent to a ridge of poorly exposed quartz monzonite porphyry which crops out in the northwest quarter of section 18, T12N, R63E. The porphyry is cut by stockworks of dark colored siliceous veinlets. Less than one mile west of the ridge, there is doming of the sedimentary bedding and intense contact metasomatic effects are displayed in the sediments. In this area, adits on the Hendrix group of claims explore copper mineralization developed in recrystallized, bleached limestones of the lower Ordovician Pogonip Group. The main ore minerals observed were chalcocite, malachite, bornite, and chalcopyrite. Green colored, grossularite-andradite garnets are common in the skarn.

On the north side of the canyon in the vicinity of the Sawmill Canyon mine group, the setting for mineralization is more complex. Copper minerals occur in blocks(?) of limestone skarn which appear to have been "caught up" in a highly silicified and sheared breccia pipe or pebble dike body. These minerals also occur with fluorite veins along a northeast-striking fracture system and do not persist along strike. Several different types of crosscutting igneous dikes and breccias were noted in this area. Some of these dikes contain minor sulfide mineralization. The igneous breccia enclosing the limestone blocks forms resistant pinnacles near the workings. In thin section, the breccia contains sub-angular fragments of several igneous and sedimentary lithologies set in a matrix composed of pulverized rock, calcite, sheared crystals, and minor pyrite. Silicification of the breccia increases markedly toward the south near the contact with the porphyry. Samples of breccia and porphyry from the central district

showed anomalous tin and molybdenum values.

By October of 1981, U.S. Borax had drilled two exploratory holes near the porphyry-skarn contact (southeast quarter of section 7, T12N, R63E). The district had been drilled previously by Lund Mining Co., although the exact location and date of this activity is not known. The core from at least three of the Lund holes (reaching depths up to 2,000') was stored on the property at the time of examination.

The workings in the southwest part of the district explore gossany, copper-lead replacement bodies along north-striking bedding plane shears in limestones and quartzites. Intrusive dikes and jasperoid breccias outcrop near the deposits. Recent flagging and geochemical sampling of the area was evident. Samples from these workings contain high arsenic and some show anomalous molybdenum or silver values.

Selected References

- Garside, L. J. (1973) Radioactive mineral occurrences in Nevada: NBM&G Bull. 81, p. 108.
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- Hose, R. K., Blake, M. C., and Smith, R. M. (1976) Geology and mineral resources of White Pine County, Nevada: NBM&G Bull. 85.
- Playford, Phillip (1962) Geology of the Egan Range near Lund, Nevada: Stanford, PhD thesis.