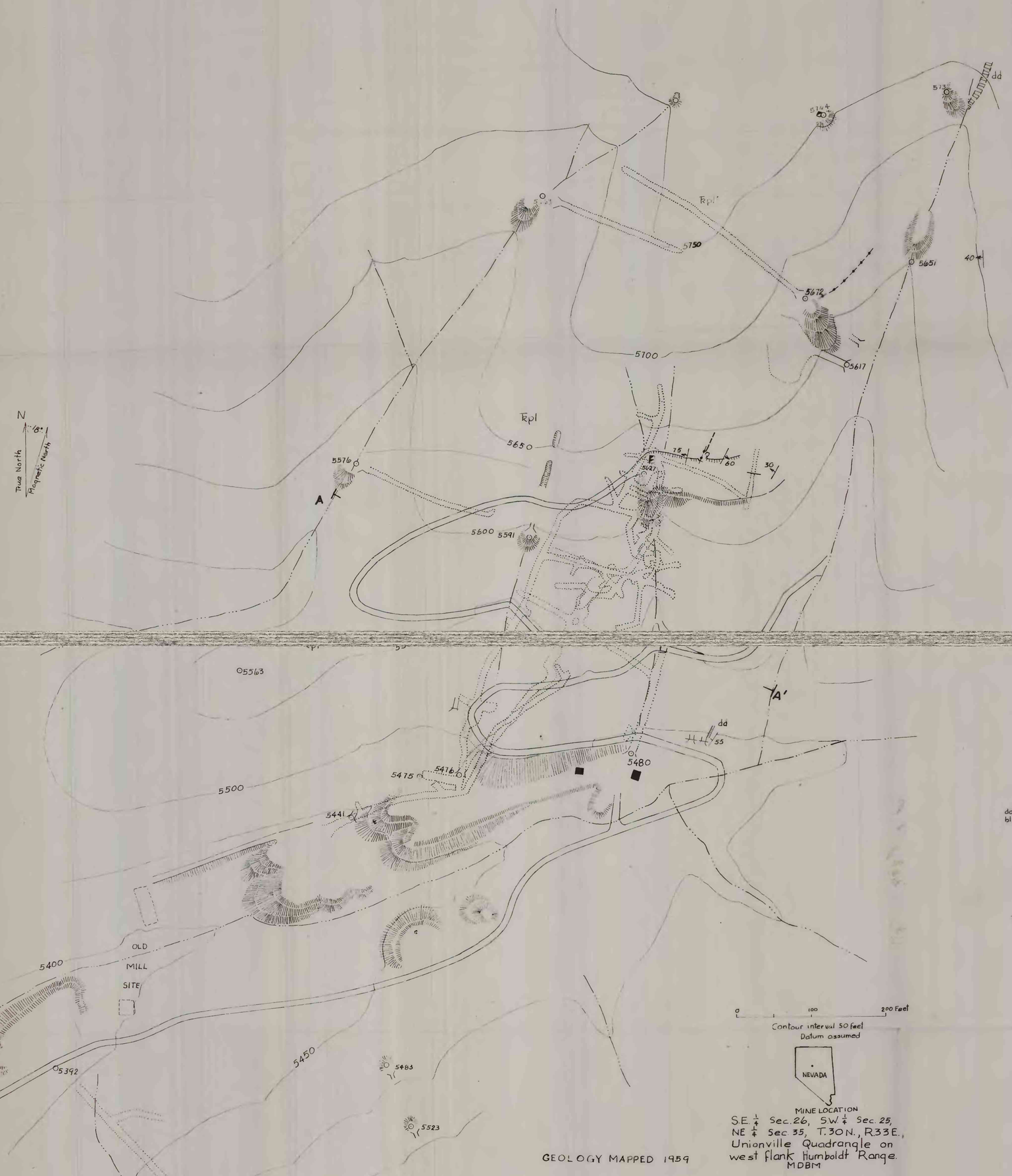

GEOLOGIC MAP INCLUDING TRACE OF UNDERGROUND WORKINGS OF RYE PATCH MINE, PERSHING CO., NEVADA

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Rye Patch Mine

Descriptions of the Rye Patch mine and its history are given by F. L. Ransome (1909, p. 43-45), and by W. O. Vanderberg (1939, p. 33). According to Vanderberg the mine was discovered in 1864, and from 1869 to 1873 was owned by an English company during which time it was known as the Alpha or Butte mine. In 1873 the mine was taken over by the Rye Patch mining company. Total value of production is said to have been over $1,000,000, principally in silver, but some gold and copper apparently was also recovered.

As shown on the geologic map of the Unionville quadrangle (Wallace and others, 1969), the Rye Patch mine is in folded limestone beds of the lower part of the Prida Formation, not more than a few hundred feet stratigraphically above the contact between the Prida Formation and the Rochester Rhyolite. The ore according to Ransome was as follows:

> "* * * of shattered limestone full of bunches and branching stringers of quartz and calcite, occurred as great irregular masses bounded in part by definite fissures but grading on most sides into country rock."

In addition to quartz and calcite, Ransome reports pyrite, galena, sphalerite, tetrahedrite, and perhaps stephanite and argentite. Little material that can be said to represent ore was seen during the present examination.

A few small pods and blebs of scheelite were found by the authors. Although nothing approaching commercial amounts were seen, the presence of scheelite serves to relate the Rye Patch mine to other silver-scheelite deposits that occur in the Prida Formation in the Humboldt Range.

The vein system as seen in the 5541- and 5480-foot levels is composed of calcite-quartz veins roughly parallel to bedding and irregular masses of silicified limestone, lime-silicate rock and calcite-quartz that replace dark gray limestone of the Prida Formation adjacent to bedding-plane veins. The bedding-plane veins strike generally N. 25° E. and dip between 18 and 45 degrees northwest. This vein system apparently is the Rye Patch vein as described by Ransome.

In the northern 200 feet of the 5441-foot level a steeply dipping shear zone accompanied by some mineralized rock is exposed. This may be a part of one of the steeply dipping shear zones exposed in the 5663- and 5672-foot levels higher in the hill to the north. Recorded dips of planes within the fault zones do not correlate, but the overall attitude of such a broad shear zone is difficult to measure in a short tunnel, and if the shears in the higher and lower levels are correlative, the general dip is to the southeast. This may be the Alpha vein which Ransome says "* * *is merely a fissure that bounds the ore on the west."

Both silicic and mafic bodies intrude the Prida Formation in the Rye Patch mine. Of the dike rocks diabase is most abundant. Some of the rock referred to as metadiabase may be altered basaltic rock which elsewhere makes up part of the Prida Formation, and some is probably diabase related to block faulting of Tertiary age.

A composite dike of quartz monzonite and diabase found in the 5480-foot level may represent complementary dikes related to the Rocky Canyon granodiorite stock. Inasmuch as granodiorite and quartz monzonite are related to scheelite deposits at the Oreana (Little) Tungsten (Wallace and Tatlock, 1970), the Nevada-Massachusetts and other tungsten mines in the region, the presence of a granodiorite dike and scheelite only a few feet apart in the Rye Patch mine provides a line of evidence to relate the silver-scheelite deposits to the granodiorite epoch of mineralization.

Stopes seen in the present investigation amount to only a relatively small volume, and not more than a few thousand tons of ore could have been mined from them. If these stopes represent the major sources of ore, either the ore must have been very rich or the reported total value of production has been exaggerated. It is possible that production also comes from stopes not now accessible. For example, the adit at elevation 5,617 feet follows a bedding-plane fault which dips 26 degrees northwest, and at about 50 feet from the portal opens into a stope which is partially caved, and not now safely accessible. An opening at 5,732 feet elevation near a diabase dike in the gulch east of the main workings may be the shaft described by Ransome as the "original shaft." The dump from this workings is not large, however, and could not represent more than a few hundred feet of tunneling.

For future prospecting, the lower part of the Prida Formation should receive the highest priority. Inasmuch as known silver-scheelite vein systems are commonly subparallel to bedding, the general westward dip of bedding on this flank of the Humboldt Range would dictate a first assumption of westward-dipping veins as most likely. Bodies of silica-carbonate rock and silicified limestone were noted in the area between Rye Patch and Panther Canyons (locations of canyons are shown on Unionville quadrangle map), particularly in the lower part of the Prida Formation, and although some of these have been prospected by pits and adits, there is at least a possibility that additional systematic prospecting, particularly by drilling, might reveal another vein system of the type in the Rye Patch mine.

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