White Pine County

Diamond Range — Newark Dist.

Bay State

The Bay State mine is 9 miles east of Eureka on the east slope of the Diamond Range, one mile up a steep canyon from the Newark Valley road. The property consists of 3 patented claims known as the Chihuahua, Buckeye State, and Lincoln, located in secs. 5, 8, and 9, T. 19 N., R. 55 E. Silver-lead ore was first discovered in the district in 1866, and at different times during the next 50 years, bullion worth $250,000 was produced from operations of the Centenary Silver Co., the Bay State Silver Mining Co., and the Newark Silver Mining Co. In 1942, scheelite was found in portions of the old workings. The property was leased by A. R. Laird, Frank Hoagland, and Hadley R. Bramel, and in the period 1942-44, the lessees shipped 1,492 tons containing 5,126 units of WO_3 to

Metals Reserve Co. at Salt Lake City.

The ores of the Bay State mine are in quartz veins that cut Devonian limestone (figs. 172 and 173). The 2 main veins, the Chihuahua and Lincoln, strike northwesterly and dip at angles ranging from 70° SW. to 70° NE. The veins are from a few inches to 15 feet wide; they fill fractures that have small displacements and they die out upward. The Chihuahua vein on the north side of the canyon extends only 200 feet above the adit, although it and the Lincoln vein crop out at somewhat higher elevations on the south side of the canyon. The upper limit of vein appears to be at the same stratigraphic position in the limestone, which strikes east and dips 15° - 22° N. At this horizon, the mineralization spreads out along the beds as replacement deposits, and also makes extensive stockworks of quartz

(Fig. 172. Geologic map of the Bay State mine and vicinity, White Pine County, Nevada.

Fig. 173. Geologic maps, sections, and projections of the north workings of the Bay State mine, White Pine County, Nevada.

in limestone. In the upper Chihuahua workings, the main stockwork is 150 feet long, 50 feet wide, and 50 feet high. Similar, but smaller, networks of quartz also locally penetrate the limestone from the walls of the steep veins.

The steep quartz veins contain tetrahedrite and a little galena and argentite. The overlying stockworks and replacement deposits consist of quartz, calcite, argentiferous galena, and lesser amounts of tetrahedrite, sphalerite, and scheelite. The scheelite is adjacent to the silver-lead ore, but generally is not mixed with it.

The Chihuahua vein is opened on the north side of the canyon by an 875-foot adit driven along the vein. Above this adit, the vein is irregularly stoped up to a series of interconnected sublevels 80 to 120 feet higher. Four winzes with small stopes extend 40 to 60 feet below the level. On the south side of the canyon, on the Buckeye State claim, the same vein is opened by 2 partially-caved shafts and a caved adit. One of the shafts is said to be 400 feet deep with ex-

tensive workings on the 200-foot level. Workings are less extensive on the Lincoln claim, 700 feet to the west where 3 short adits, with stopes, were dug on 2 veins.

The main scheelite mineralization is in the stockwork above the Chihuahua adit. A little scheelite is present almost everywhere in the stockwork, but only part of the material is ore. The ore is largely composed of coarsely crystalline scheelite in white quartz or silicified limestone, and also contains irregularly scattered tetrahedrite and galena in small amounts. After the exposed high-grade was mined and shipped, 6 holes were drilled into the northern extension of this stockwork, and the cores showed scheelite mineralization, in part of high grade, for 60 feet ahead of the tungsten stopes.

Near the face of the Chihuahua adit, another scheelite-bearing stockwork is exposed at about the same stratigraphic position as the upper ore bodies. Although no ore was mined from this portion

of the workings, and the mineralization exposed is not nearly as strong as in the upper workings, the surrounding stockwork is a good prospect for another tungsten ore body.

On the Lincoln claim, a rich pod in the west vein yielded 17 tons of 7 percent ore, and a bedded vein 6 feet thick yielded a hundred tons or more of ore containing several percent of WO_3. On the waste dumps are 450 tons of rock estimated to contain 0.5 percent of WO_3. Scheelite-bearing material conteining 0.5 to 1.0 percent of WO_3 is exposed in several other small pods, but material of this grade was not commercial ore because of the small quantity available.

Egan Range

Cherry Creek district

Scheelite was found in 1915 in the Cherry Creek district, and in 1916, ore containing 126 units of WO_3 was shipped from the Chance claim. In 1940, tungsten ore was discovered in and near the old