IMPERIAL MINE

BALD ONT.-ELKHORNE CABLE COVED

The Imperial mine, the first one reached upon entering Cable Cove, was developed largely during the period of greatest activity at the beginning of the last decade. Three veins are upon the property, the Winchester, the Imperial and the Eagle, of which the Imperial has received the most attention.

The Winchester is apparently a branch of the Imperial vein, while the Eagle, although the widest and longest vein having been traced, it is said for 2 or 3 miles, because of its lower grade of ore has received but little attention since it was proven that their mill could not successfully concentrate these ores. The Eagle vein was not examined, but it is said to be as much as 15 feet between the walls. The vein material, largely altered granodiorite, contains streaks of arsenopyrite up to a half foot wide in some places, and in other places as much as 3 feet of \$12 ore.

The Imperial vein usually from 3 to 4 feet wide, although there are places much wider, probably has the greatest alteration of the granodiorite between its walls of any vein in the district. The narrow lenses up to 24 inches wide, with stope and pitch length of usually less than 50 feet, are found usually near the hanging wall. The vein filling is made up of the fragments of granodiorite considerable altered, while considerable widths have been completely altered to a soft white gouge. This is usually close to or surrounding the lense of ore. This alteration extends often into the wall rock of the vein and is doubtless due to the ascending hot waters which deposited the ore and altered the brecciated vein and the wall rock. The total production probably does not exceed \$75,000.

Cable Core Orea

IMPERIAL EAGLE MINE

The tunnels of the Imperial Eagle mine explore a branching system of veins which contain essentially the same minerals. Each vein contains one or two but rarely more strands of quartz, which attain a maximum width of 3 or 4 ft. The veins lie in decomposed quartz diorite gouge which is limited by walls of fresh diorite, commonly 4 ft. but sometimes as much as 16 ft. apart. A specimen from the Harvey vein shows considerable coarse arsenopyrite which has been crushed and recemented by later quartz; after another epoch of crushing, blende and galena were deposited. A thin section of this material shows numerous crystals and angular gragments of arsenopyrite in a matrix of interlocking quartz crystals. Later veinlets of calcite partly replace this quartz.

Hewett, 31;13

IMPERIAL EAGLE: Cable Cove District.

Development: 6 tunnels, longest 1,700 ft; attains 600 ft. below outcrop.

Relationships: 4 veins in quartz diorite, N 20°-60° R., all dip SE. except Eagle. Quartz, arsenopyrite, pyrite, blende, galena, chalcopyrite, molybdenite.

Milling & Production: Milling record not available. Estimated ration of sulfides to quartz, 1:10. Gold 10 per cent free. Ratio of gold to silver about 1:10. Production estimated at \$100,000. (Huntt, 31;14)

IMPERIAL EAGLE MINE (Gold-Silver) Cable Cove District

"This property of the Imperial Mining and Development Company comprises several claims situated in Cable Cove District at 6,500 to 7,700 feet elevation, on a glaciated slope south of the divide between Silver Creek and north fork of John Day River, in sec. 15, T. 8 S., R. 36 E. W. M.

The property includes the Eagle, Imperial, Winchester, and some other veins.

"Although the Cable Cove veins were known as early as 1872, it was not until the completion of the overland railroad in 1885 that the district was seriously exploited. During 1900, when Mr. Lindgren made his examination, development 'was in progress upon a great number of claims and about 10 carloads of ore were shipped to smelting works.'

"Soon after 1900 a mill was built, which was supplanted by a new one in 1909, and milling operations continued intermittently up to 1910 on ores from the Imperial, Winchester and Eagle veins. Crude ore was mined and shipped to Salt Lake by F. W. Schofield in 1914. Smelter records were seen showing a production of \$50,500 in gold and silver accredited to the Imperial property from 1904 to 1914. The mine was operated in 1915 by C. L. Arzeno and associates, who shipped some crude ore and concentrates, but got into financial difficulties and ceased operations before the year ended.

"The Intermediate tunnel is a crosscut 500 feet to the Imperial vein and a drift of several hundred feet along the vein. The Imperial tunnel comprises a short crosscut and a long drift on the same vein at a level 152 feet higher. About 550 feet from the mouth of the Intermediate tunnel, the vein splits into two branches that diverge at an angle of about 20 degrees. The west branch is supposed to be the Winchester and the east branch the Imperial vein.

"The Eagle, although the widest and longest vein, having been traced, it is said, for 2 or 3 miles, because of its lower grade of ore has received but little attention, since it was proven that their mill could not successfully concentrate these ores. The Eagle vein was not examined, but is said to be as much as 15 feet between the walls. The vein material, largely altered granodiorite, contains streaks of arsenopyrite up to a half foot wide in some places, and in other places as much as 3 feet of \$12 ore.

"The Imperial vein, usually from 3 to 4 feet wide, although there are places much wider, probably has the greatest alteration of the granodiorite between its walls of any vein in the district. The narrow lenses up to 24 inches wide, with stope and pitch length of usually less than 50 feet, are found usually near the hanging wall. The vein

filling is made up of the fragments of granodiorite considerably altered, while considerable widths have been completely altered to a soft white gouge. This is usually close to or surrounding the lenses of ore. This alteration extends often into the wall rock of the vein and is doubtless due to the ascending hot waters which deposited the ore and altered the brecciated vein and wall rock. The total production probably does not exceed \$75,000." Inactive in 1938.

Ref. Lindgren, 01:673.
Swartley, 14:140.
Parks & Swartley, 16:128 (quoted).
Pardee & Hewett, 14:98.
Hewett, 31:10, 13, 14.
Lorain, 38:19.