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WHITE PINE (HAMILTON) SILVER-LEAD, NEVADA

Mining at Hamilton, Nevada. W.S. Larsh. Mines and Minerals, June, 1909
vol. 29, 521-523.

Near N end of White Pine range.

1868-1887, produced from Treasure Hill dry silver ores, \$22,000,000 in silver. No mining on Treasure Hill since (1909). Turned to lead belt, lessees and small owners. Only easily accessible, high-grade OBs worked.

Treasure Hill a quaquaversal uplift involving White Pine shale and Nevada ls; long axis roughly N-S.

Great bounding flt., W base of White Pine Mt.; another bounds N edge of district. Carb. undrlies Qal W and N of these flts. Treasure Hill flt. changes to a fold on N.

Silver Belt: Ore bodies at top of Nevada ls, beneath White Pine shale. See Arnold Hague, U.S. Survey of 40th Par. vol. 3, p. 418, who noted 4 different kinds of ore deposits. Probably all in saddle reef class.

At time of uplift brittle ls. was shattered, but shales bent, folded, formed an impervious roof. (p. 522). Ag solutions came up faults, breaks in the ls and were arrested on reaching the shale, spreading out along contact. Filled the tension cracks and any other openings in the ls; OBs therefore along the contact in the vicinity of the faults. Soft shales later removed by erosion, OBs exposed at surface.

Away from Treasure Hill, seams to payable bodies of ore were found along this contact at its junction with minor flts., in many places. String of small mines along Treasure Hill flt. northward as far as the fault persisted.

Ore mainly chloride and bromide of Ag; occasional sulphs. Bldr of hornsilver weighed 6 tons. To July 1, 1869, 8869 tons mined, ave. \$228/T. Fineness 963. Most of Treasure Hill production, \$22,000,000 came from milling ore, occurring in great bodies below high-grade on surface. All ore bottomed at 300'. One shaft sunk 1875'. Eberhardt tunnel driven from town of Eberhardt, 7000'. No ore found to speak of.

Careful study and mapping of the numerous Treasure Hill minor faults should find concealed OBs. On N slope of hill, along axis of fold is 4000' of country capped by the shale, and undeveloped except for a few openings at N end; these show ore.

150,000 tons 16-20 oz. Ag on dumps; ore of that grade left in mine.

Copper Belt: At and near contact of QM dome and garnet rock are veins and stringers of native Cu, copy, bornite, copper carbs. Little done on these. Look encouraging.

Lead Belt: Mines almost wholly within Lone Mt. dolomite. For some reason dolomite much faulted, while Nevada ls. above, and Pogonip ls. below have only been folded. Lead ore in beds and fissures, localized by flts. King fault zone 300-1500' wide, bounded on E and W by mineralized flt-fissures. W fault dips E at 45, conforms to bedding more or less. E flt. Practically along Lone Mt.-Pogonip contact. E flt dips 75, cuts bedding at large angle. Wedge shaped body of shattered dolomite. Cf. Eureka. E flt. throw to 2000'. W flt, 100-1500'; cuts out 350' Eureka quartzite.

Alt. of dolomite in the wedge: unaltered, dark blue-gray sandy; altered,

compact, sparry, cse cryst. white marble; bedding lost

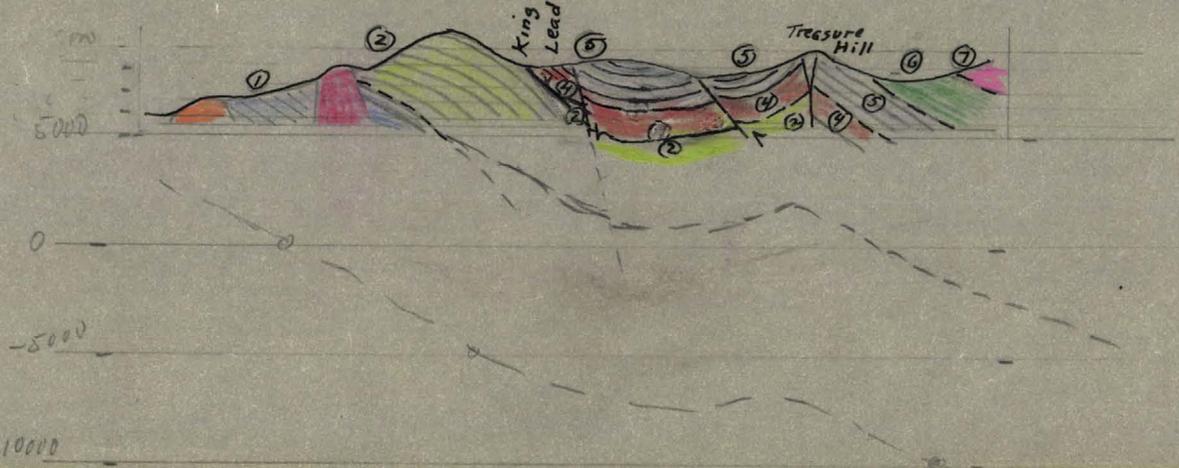
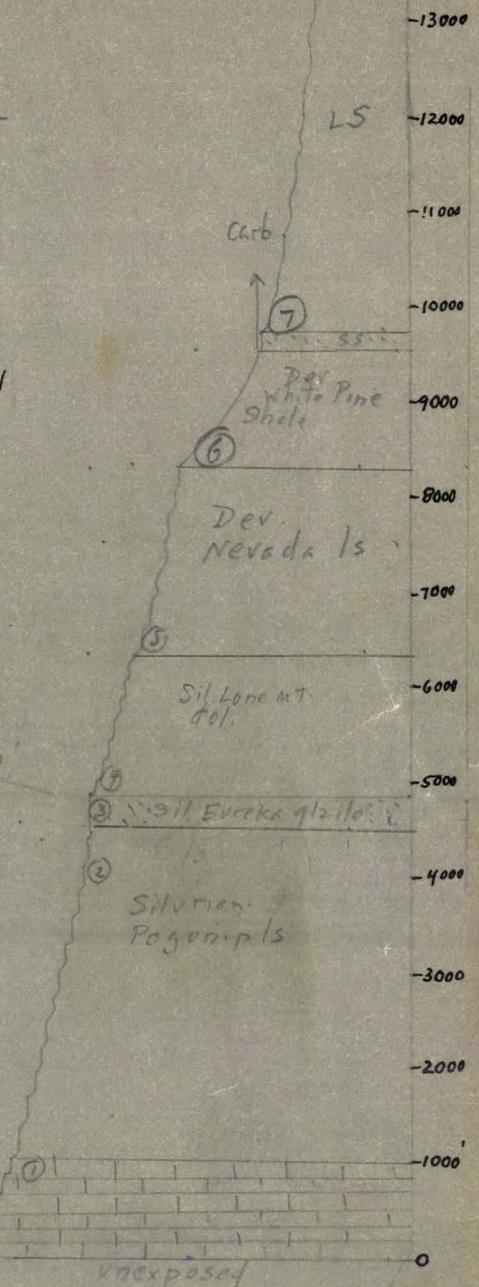
S part of ore zone (Rocco Canyon) ore in flat beds, near top of dolomite between the faults. N part, ore in and along the main fissures. Latter followed by spongy iron gossan which fills them. This gossan at surface carries 4-15 oz. Ag., with occas. bldrs. lead carb and galena. Sulphide zone not reached. 500 ft. maximum depth, in one tunnel. Shafts ony down 100'.

Lead belt has produced 145,000 tons ave. 65% Pb, 20 Oz. Ag/ton. Gross value \$6,000,000. Grass root mines only.



LEGEND

- QA1
 - ⑦ Carbonit.
 - ⑥ Dev White Pine shale
 - ⑤ Sil. Lone Mt. dol.
 - ④ Sil. Eureka quartzite
 - ③ " Pogonip LS
 - ② " E LS
 - ① " slates, shales
 - Qtz monz
 - Granodiorite
 - Garnet rock
- Pink
 - grn
 - gray
 - Terracotta
 - yellow
 - Apple green
 - Blue
 - 2222
 - or
 - rd
 -



-10000

WHITE PINE (HAMILTON) NEVADA WHITE PINE CO.

This looks like a natural. Sources:

W.S. Larsh, 1909, Mining at Hamilton, Nevada. Mines & Minerals, June, 1909, v. 29, p. 521-523. I have an abstract, with copy of map and stratigraphic and structure sections.

Arnold Hague, 1870, U.S. Geol. Expl. 40th Par. v. 3, p. 418. In Bacon Hall.

USGS Index Map of Nevada shows no later publications.

Chief interest to us would seem to lie in the Silver Belt (Treasure Hill), E part of district. Here extremely high-grade horsilver occurred at top of Devonian Nevada ls., just below Devonian White Pine shale. Most ore, which spread out beneath the shale, was localized along the Treasure Hill fault, a longitudinal fault on this N-S elongated dome. Early ore mined, to July, 1869, averaged \$228 per ton. But most of the Treasure Hill production of \$22,000,000 came from great bodies of milling ore below the high grade at the surface.

Away from Treasure Hill seams, up to payable bodies of ore, were found along the ls. shale contact at its junction with minor faults, in many places. There was also a string of small mines along the Treasure Hill fault northward as long as the fault persisted,

Apparently all ore bodies found were where the overlying shale had been stripped by erosion. Larsh says: "Careful study and mapping of the numerous Treasure Hill minor faults should find concealed ore bodies. On the north slope of the hill, along the axis of the fold is 4000' of country capped by the shale, and undeveloped except for a few openings at the north end; these show ore.

In 1909 there were 150,000 tons of 15-20 oz. Ag ore on dumps showing that the milling ore ran higher.

In the Lead ^Belt (central part of district) almost all the ore was in the Silurian Lone Mt. dolomite, which underlies the Nevada ls. Ore in a ~~xxx~~ wedge-shaped body of shattered dolomite between 2 faults, much like Eureka. \$6,000,000 production from lead belt, ave. 65% Pb, 20 oz. Ag.

Aside from local patches of QAl, geoschemical prospecting in this district would be mainly in search of anomalies in pre-mineral rock; "leakage ore." District bounded on the N and W by major normal faults, which have dropped down the favorable beds thousands of feet below the surface on the N and W sides, respectively. On the E, and eastward monoclinal dip does the same thing. On the S, Nevada ls. is exposed as a N-S anticline which persists to the border of the map; but no mines or prospects shown here.