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## ELKO COUNTY GENERAL

" Replacement type lead-zinc deposits have been productive in the central and eastern parts of the State; and the discovery of new ore bodies without prominent surface indications, in such districts as Spruce Mountain, Melana, and Railroad (Bullion) seems a reasonable prospect. Detailed geologic studies, based on adequate topographic maps, are an essential prerequisite. These can be supplemented by geophysical and geochemical exploration in geologically favorable areas."

Univ. Nev. Bull. 54, p. 25

POSSIBLE SLEEPERS, ELKO CO., CONTINUED.

Merrimac (Lone Mountain) Dist. - Source: Nevada Bur. Mines Bull., p. 106-112. Discovered 1866. Bulk of production 1937-1948, from Rip Van Winkle mine. Total 66,137 tons ore, average 11 oz. Ag 4.2% Pb, 2.5% Zn. Rip Van Winkle milled low grade. 1909-1930 production, 2052 tons, average 29 Oz. Ag, 16.4% Pb

Lone Mountain mainly massive Carboniferous limestone, dips 30-80°W. Crest of the mountain is quartz monzonite and quartz monzonite porphyry which intrudes the limestone and encloses small blocks of it. Both rock types have caused contact metamorphism of the limestone, in places garnet-calcite rock, elsewhere actinolite or calc-silicate hornfels or marble. At time of Emmons visit (USGS Bull. 408, 1010, known ore bodies were lead and copper deposits in marbleized limestone, and contact metamorphic copper deposits in garnetized limestone. Lead-copper deposits were highly shattered, oxidized. All the deposits were on or near contacts of quartz monzonite or porphyry with limestone.

Rip Van Winkle mine, discovered later has as its chief country rock shale with some shaly limestone. Complex vein along a fault. Zinc replacement bodies made out from it in limey beds.

This may be a possible sleeper because it bears some resemblance to the older Erington district, and because the Rip Van Winkle mine is in shale. There is no information on the stratigraphic position of the shale in the limestone series, but one might suppose that better ore might make in the limestone. No data on alluvium.

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NEVADA DISTRICTS OF POSSIBLE PROMISE BUT INSUFFICIENT DATA - ELKO CO.

Aura, Elko Co. Geology & mineral resources of Elko Co., Nevada, Nev. Bur. Mines Bull. 54, 1957, p. 27-30. Production \$6,000,000. Ore mainly limestone replacements carrying mainly silver and gold, with some base metals. Some ore ran \$4000 per ton, and much of it \$100-200.

Delano, Elko Co., Nevada. Highly faulted and tilted Paleozoic limestone, dolomite, sandstone. Ore horizon contact between light gray fine-grained limestone and sandstone (in footwall). Beds strike N, dip 20-65 W. Cleveland mine on E separated from Delano mine on the west by a N-S dipping steeply east. Step-faulting, divides area into 2 separate blocks, but ore horizon present, dipping about 40 W, in each block.

About a mile W of the Cleveland, ~~xxxxxxx~~ south of the Delano mine and somewhat west of it shallow workings on the Gold Note claim produced some ore, which occurs "in the same general relationship to the country rock as in the major mines", i.e. apparently at the same ore horizon.

Situation complicated by presence of 2 other fault sets, N55W and N65E. The apparent lateral limits to the ore zone at the Delano mine are post-mineral faults.

This adds up to a complicated structure which might hold possibilities for finding faulted segments of the ore zone. It seems possible that the major N-S fault, altho it might carry post-mineral displacement, was the feeder for the ore solutions. Geochemical prospecting might reveal hypogene anomalies which might indicate blind ore bodies.

Production: Apparently none before 1918. 1918 to 1949, \$2,136,413 from 53,340 tons of ore, average ~~xxxxx~~ dollar value \$40.00. Grade: Ag. oz. 1,245,405/53,340 = 23 oz. per ton; Pb, 15,168,000 lbs/53,340 = 284#/ton = 14.2%. PbCO<sub>3</sub> predominates down to lowest levels, but some PbS.

Source: Nev. Bur. Mines Bull. 54, 1957, p. 43-50.

Cornucopia, Elko Co. Bull. 54, p. 41-42. W.H. Emmons, .910, Reconnaissance of some mining camps in Elko, Vander and Eureka Cos., Nev. USGS Bull. 408. p. 62-65. Production \$1,273,650, mainly silver 1873-1882.

Large area of low hills with probably plenty of QAl. Country rock rhyolite with masses of intrusive andesite, to which ore bodies are restricted, as at Tuscarora. Sericitic alteration in vicinity of ore deposits,

Ore deposits were along sheeted zones in the altered intrusive andesite. Gangue quartz, crustified banded. Near surface ore minerals were horn silver and pyromorphite; at depth, argentite, tetrahedrite and probably ruby silver. Sulfides sparse but very rich, ore went 400 oz. Ag/ton. Main vein, the Panther, has been faulted; faulted segment apparently not found, but may be represented by poorly defined quartz masses.

Cornucopia seems worth investigating.

POSSIBLE "SLEEPERS", ELKO CO., NEVADA

Tecoma District. - Source: J.M.Hill, 1916, Notes on some mining districts in eastern Nevada, USGS Bull. 648, p. 102-105. ~~Wixixx~~ Nevada Bur. Mines Bull. 54, p. 147-150.

Production, mainly from Jackson mine, \$191,202, mainly in Ag-Pb. Grade of ore shipped, average of total production of 4814 tons, Ag 9.7 oz/Ton, lead 23.3%.

South end of Goose Creek Range composed of Paleozoic limestone. Extrusive rocks overlie the limestone, around southern boundaries of the range. Mines lie along a low anticline, trends N40W.

Ore deposits are irregular replacements in limestone; silver-bearing lead carbonate. A little galena occurred in lower levels of the Jackson mine.

Ore bodies localized along N-S fractures. Small dikes and sheets of altered porphyry occur in and near the Jackson mine, the main producer. Two zones of jasperoid. One zone, 200' wide, crops out 1000 ft. NE of the mine, and extends several thousand feet to the N. The other zone contains the ore bodies of the Jackson mine; it is traceable for 500' northward from the mine. Strikes N, dips 45W; is at least 40' wide where exposed in the mine workings.

E of the Jackson shaft surficial workings developed small ore lenses over a lateral distance of 500'. Shaft attains vertical depth of 215'; starts vertical, then incline. Early all development N of shaft (6 levels); most production from stopes N of shaft, between levels 1 and 5.

Ore bodies are fractured zones 1-10' wide, in the jasperoid; fracture zones strike N, dip W or E; most ore came from west-dipping fractures. Ore shoots 20-50' long, ave. 6' wide; they have been mined to a depth of 250'. Localized in the jasperoid. 1951, mine produced about 200 tons a month.

On the Durham claims,  $\frac{1}{2}$  mi. SSE of the Jackson, small ore bodies in limy shale localized along a N30E fracture dipping 60SE. 40% Pb, 32 oz. Ag, 0.2 oz. Au.

Might be a bet for the following reasons:

Limited exploration; none to S of Jackson shaft, nor to E under surface workings.

Presence of porphyry, and especially presence of jasperoid, which forms halos for ore bodies at Bend Oreille, Tintic and elsewhere. Largest jasperoid body, NE of the Jackson mine, apparently unexplored.

Midas (Gold Circle). 1908-1949, production was 401.752 tons ore, containing 126,726 oz. Au and 1,630,268 oz. Ag., total value \$4,137,417. Average overall grade, \$10.25c. Ore ran .315 oz. Au/ton, 4 oz. Ag. No mention of rich surface ores; a milling camp. ore low grade. Probably of no interest. Source Bull. 54, p. 64-72.

Spruce Mountain. - Pb-Ag-Cu limestone replacements on a faulted anticline. Old district, but revived in the 40s. Production, 1869-1949, 104,519 tons ore containing 1,259,465 oz. Ag, 23,808,523 lbs. Pb, 704,919 lbs. Cu, 3,148,490 lbs. Zn. Value \$2,980,605, or \$28.10 per ton. Grade, 12 oz. Ag., 11% Pb, 3% Zn, 0.4% Cu. Surficial ores, mined in the 70s, were lead carbonate and probably relatively rich. But I can see no feature here which might attract us, such as thin alluvial cover with chance for suboutcrops, or leakage ore in an unfavorable bed overlying a favorable bed. ~~The~~ Neither possibility can be definitely ruled out, however, and the district should be kept in mind. Source: Bull. 54, p. 137-147.

Bullion. - Ag-Pb-Cu chimneys in limestone on a faulted anticline. Discovered 1869. Production, 1869-1884, \$3,000,000. Total production \$4,291,000.

Grade, 1869-1884: 25.6 oz. Ag/ton  
31.5% Pb  
5.5% Cu

Grade, 1885-1949 18.7 oz. Ag  
18.2% Pb  
5.4% Cu

Ore as mined almost completely oxidized. I examined district in 1951 and wrote a report. Main producer was the Standing Elk. North chimney occurred at the intersection of two fractures or fracture zone; south or main chimney was localized along the south edge of a wide quartz porphyry dike.

Apparently neither chimney cropped out, the north chimney was surrounded by a halo of coarse crystalline calcite. Finding of such calcite along a stringer, plus I believe some copper stain, encouraged drifting along the stringer and the finding of the chimney. Near-surface ore in these chimneys carried up to 1000 oz. Ag/ton.

The district is not well situated with regard to prospecting under alluvium. A large mass of granodiorite lies between the mines and Pince Creek, on the west, conditions for ore are not favorable. Exposures within the mineralized area are reasonably good. Newmont explored the district quite intensively, and may have exhausted the possibilities. A branch of Dixie Creek does bring in water on the north; there might be a chance for sub-outcrops here; in view of this and the high grade of ore mined in early days, the district should perhaps be kept in mind.