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Summary: Guides To Ore In The Ely District, November 1928 by Roland Blanchard.

Geology And Ore Deposits Lane City Area July, 1931 by E. N. Pennebaker

In 1928, Roland Blanchard made a report, GUIDES TO ORE IN THE ELY DISTRICT. In that report he indicated beds in the sedimentary section that he found had been favorable for mineralization, both adjacent to and away from the intrusive porphyries. His compiled measured section was the result of four months of detailed field work during which time he constructed a geologic column, mapped major faults and sedimentary horizons, and determined which horizons were ore bearing. He also had access to the work of E.N. Pennebaker and his assistant Rott of Consolidated Coppermines, as well as that of H.T. Marshall of Nevada Consolidated.

Although Blanchard's report was designed to assist in the search for ore associated with the copper porphyry ore bodies his generalizations should be useful in exploring for disseminated gold deposits as the same beds that were susceptible to mineralization, adjacent to and near the intrusives, could well be hosts for gold mineralization farther afield.

Blanchard's geologic column extends from the upper part of the Nevada limestone(now known as the Guilmette limestone),

through the Pilot shale, Joana limestone, Chainman shale, Ely limestone, Rib Hill sandstone, Arcturus limestone, to the rhyolite, some 8567 feet.

Horizons shown favorable for known copper, lead and gold ore include the upper 425 feet of the Nevada limestone (Guilmette), and extend upward through the Pilot shale, Joana limestone, Chainman shale, and the Ely limestone, for a total of 5322 feet. Of this distance 3750 feet, or 70 % has been mineralized in at least one place throughout the district. Blanchard says, "But all rock in the Ely district is sufficiently homogeneous in composition to make it seem likely that the entire series will prove more or less receptive to ore provided fracturing and other ore localizing agencies are present."

Regarding the gold ores of the Lane City area, Blanchard wrote: "It is known (1) that gold ore occurs in the limestone horizon near the top of the Chainman shale, and in the underlying Joana limestone; (2) that it occurs within leached pyritic portions of those limestones, and has not been found to persist commercially into the unleached pyrite below water level; (3) that the better grade of ore occurs in well fractured areas, and averages between $8 and $15 per ton (at $20.00 gold) for such areas; (4) that certain of the known ore-bearing fracture zones have been explored at their intersection with only one of the known favorable limestone horizons; (5) that a sill of peanut porphyry cuts out the favorable horizons for a length of more than a half mile between the Saxton and Chainman mines."

In Penneybaker's report, GEOLOGY AND ORE DEPOSITS OF THE LANE VALLEY AREA, July, 1931, he wrote of the Lane Valley gold ores. "However the siliceous gold ore does not commonly proclaim its presence at the surface. It generally lies on bedding that does not outcrop, and gold mineralization reaches the surface in a few places where cross-faults have guided a small portion of the mineralization

upward--------.So far it (silieous gold ore) has been mined entirely from the zone of oxidation above the present ground-water level.-----The amount by which the tenor of the ore has been raised by oxidation and enrichment is debatable. This is an important question as the gold bearing beds.undoubtedly extend into the sulphide zone on dip and in certain minor fault blocks. I believe that an important amount of the gold mineralization is undoubtedly due to primary deposition and am opposed to the view that it has traveled a considerable distance in metoric waters and has been deposited in a limited area from an extensive gathering ground. However the grade of the primary ore has been importantly raised by oxidation which has clearly removed a considerable amount of pyrite to form a spongy ore.---It is certain that below a certain horizon the spongy siliceous ore will change to a compact ore heavy in marcasite and grading into a pyrite-rich type."

The accompanying geologic columns, taken from Blanchard's report, show which beds are receptive to mineralization, some of which are known to contain replacement or bedded gold deposits in the Lane City area. This whole section, from the upper part of the Nevada limestone (Guilmette) through the Ely limestone, may be worthy of reconnaissance exploration to find out if there are any indications that some of these receptive beds could be hosts for Carlin type disseminated gold deposits, both in and also away from the Ely mining district.

These same horizons are known to outcrop in the following nearby quadrangles.

South of the Ely mining district:

Giroux Wash, Ely, and Ely 3 SW

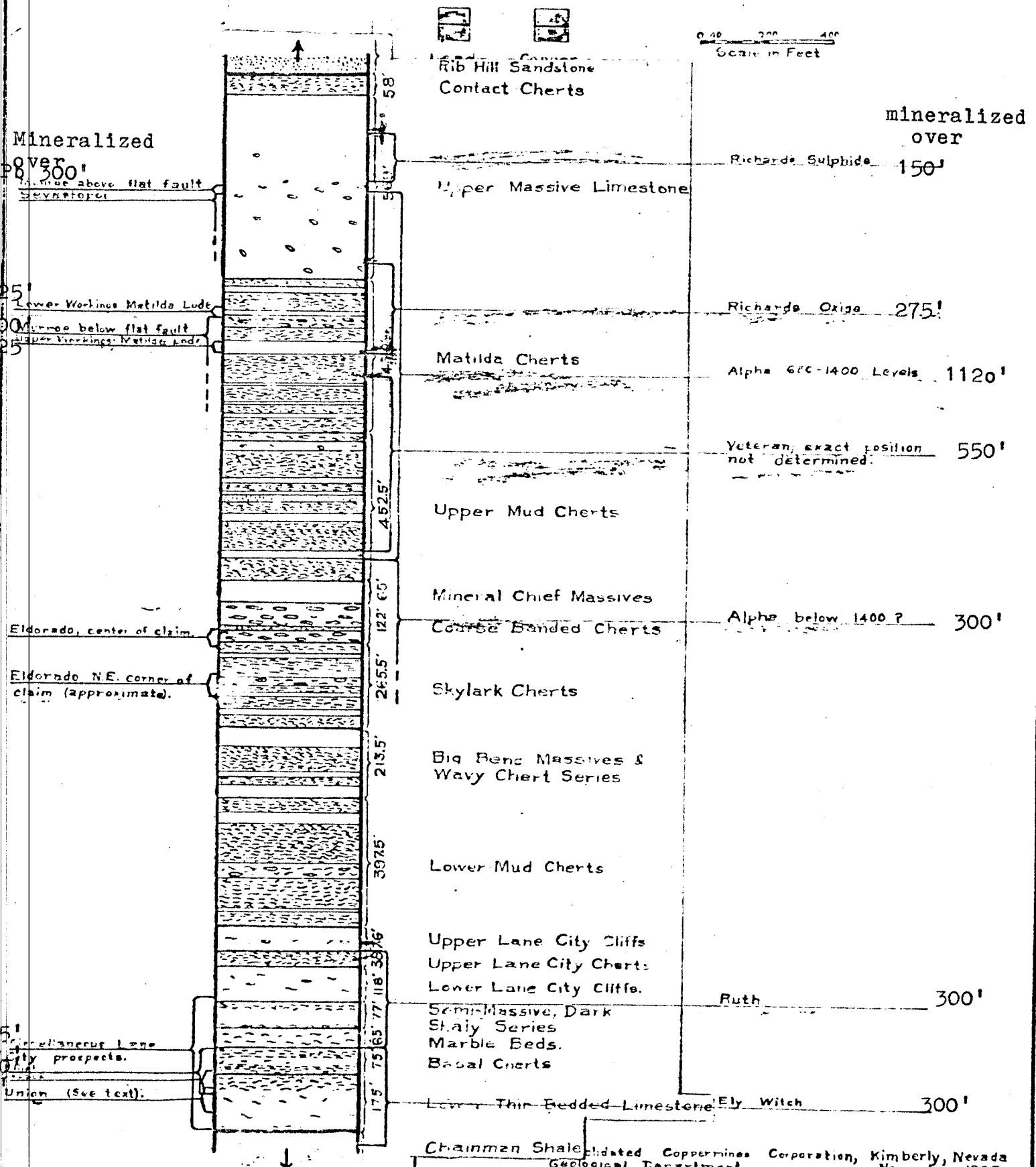
Throughout and north of the Ely mining district:

Reiptown and Ruth quadrangles and further north in the Southern Cherry Creek and Northern Egan Range.

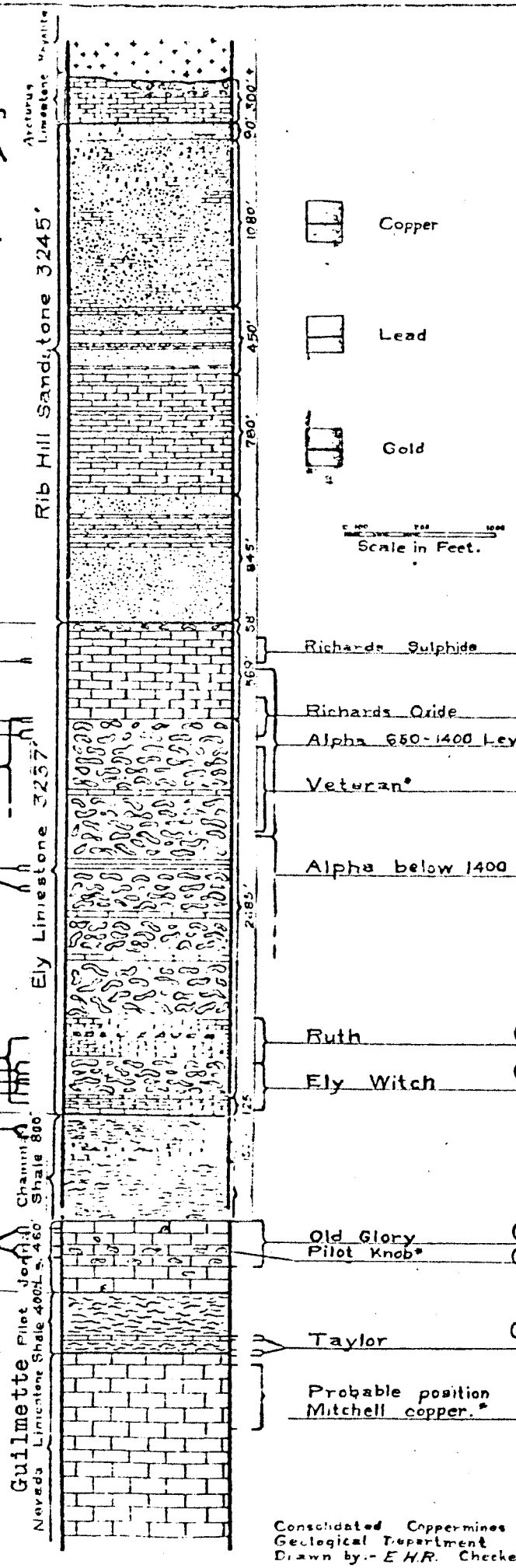
J.McLaren Forbes

Plate IV

GEOLOGIC COLUMN through the ELY LIMESTONE showing HORIZONS FAVORABLE to KNOWN COPPER and LEAD ORE.



GEOLOGIC COLUMN from ARCTURUS to NEVADA LIMESTONE showing HORIZONS FAVORABLE to KNOWN COPPER, LEAD, and GOLD ORE.



Permian

Pennsylvanian

Miss.

Upper Dev.

Lower Dev.

mineralization over

Pb 300' Scrunetopal; Munroe above flat fault.

Pb 25' Lower workings, Matilda Lode.

Pb 25' Upper workings, Matilda Lode.

Pb 100' Munroe below flat fault.

Pb ?' Eldorado*

Pb 75' Miscellaneous Lane City*

Pb 40' Elijah

Pb 75' Ignacz

Union*

Au 40' Enxton*

Au 90' Chainman Prospects* 20'

70'

* See text.

mineralization over

Richards Sulphide Cu 150'

Richards Oxide Cu 275'

Alpha 650-1400 Levels Cu 1120'

Veteran* Cu 550'

Alpha below 1400 ? Cu 300'

Ruth Cu 300'

Ely Witch Cu 300'

Old Glory Cu 300'

Pilot Knob* Cu same area

Taylor Cu W03 10' 20'

Probable position Mitchell copper.* Cu 425'

Consolidated Coppermines Corp., Kimberly, Nevada.
Geological Department November 1928.
Drawn by:- E.H.R. Checked. R.B. No. Z 10.