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EX - 100

Subject: NICKEL INVESTIGATIONS --
PACIFIC COAST AND WESTERN STATES

Reno, Nevada
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ITEM 51

To: Mr. Gustafson

From: Mr. Evans

SEE MD-NO [CHA]

ITEM [34]

(0020 0020)

INTRODUCTION

The existence of a substantial tonnage of garnierite mineralization, which can be considered possible ore until proven otherwise, at Riddle, Oregon, has been the impetus for a study of other west coast possibilities, the preliminary results of which are outlined below.

It has seemed conceivable that a belt of rocks containing the basic essentials for garnierite concentration, as is represented by the Jurassic formations of California, Oregon and Washington, should contain only one deposit.

OUTLINE OF INVESTIGATIONS

Three steps appeared logical in an investigation of this type. These are: (1) Personal contact and discussion with individuals who are authorities on the geology of the coastal belt. (2) A study of all bibliographies and references pertaining to nickel in the areas under consideration. (3) Field reconnaissance of all properties uncovered by the above steps and a general reconnaissance based on any theories derived from this study.

CONCLUSIONS

Whereas other nickel occurrences have been found (as listed below), all of these appear to be of little value. This conclusion is based on the fact that in most cases all such properties have had the benefit of development and have been dropped. This, however, does not mean that examinations are not planned for each. Equally discouraging is the fact that those acquainted with the belt have had brought to their attention very few garnierite occurrences.

RECOMMENDATIONS

It is recommended that all known possibilities be examined. It is also recommended that the unmapped area on the California State Geological Map covering Siskiyou, Humboldt, Trinity and Mendocino counties be given field consideration after the rainy season. These counties occur to the south of the Riddle garnierite deposit and are in line with mapped Jurassic on their north and south limits.

AUTHORITATIVE SOURCES

The following parties were contacted regarding western garnierite possibilities:

(1) Mr. Olaf P. Jenkins, State Geologist for California.

(2) Mr. Walter W. Bradley, State Mineralogist for California.

STATE OF NEVADA

General

The U.S.G.S. Mineral Resources (1886) reports, "A nickel and cobalt deposit near the Lovelock mine in Churchill county, on a lone mountain bordering the southeast side of Humboldt lake, 10 miles southeast of Lovelock Station. Indications of nickel and cobalt are said to have been traced as far as Oreana"

Conclusions: The date and location do not coincide with the Lovelock mine (Cottonwood Canyon) described below. The area ten miles southeast of Lovelock will be investigated.

Cottonwood Canyon

Reference to this area was found in Mineral Resources (supra). The best description occurs in the 1915 edition. H. G. Ferguson of the U. S. Geological Survey described the area in a University of Nevada Bulletin (Vol. XXXIII, No. 5, December 1, 1939).

Location: In the Table Mountain mining district in the northern part of Churchill county on the eastern flank of the Stillwater range. Distance south of Winnemucca is 70 miles.

Geology: Mineralization occupies narrow, irregular fissures in Triassic andesite at a contact with intrusive diorite and is found at two occurrences. These are the Nickel mine and the Lovelock mine. At the Nickel mine the ore consisted of nickel arsenate and nickel sulpharsenide. At the Lovelock mine, azurite and nickel arsenates made up the mineralization.

Shipments: The Lovelock mine, between 1883 and 1885, shipped about 200 tons which was said to average 12% nickel and 14% cobalt. Other reports place the total shipped at 500 tons. The Nickel mine produced one carload, according to F. L. Ransome, which assayed 26% nickel.

Reserves: No figures given.

Conclusions: Mineralization appears limited to narrow, high-grade stringers. No widths of total mineralized zones are given. Workings are reported caved, but the area will be examined when snow conditions permit.

Gomes Deposit

Mr. Charles W. Merrill, U.S. Bureau of Mines, placed the writer in touch with Mr. Gomes, owner of a nickel prospect near Golconda, Nevada. Mr. Gomes was interviewed at his home, 491 Wesley Avenue, Oakland, California, and arrangements have been made to examine the area on January 23 and 24. The Gomes information is listed as follows:

Location: Fourteen miles south of Golconda, adjoining the producing Crown-Adelaide gold property.

Geology: Undetermined. Specimens presented showed definite garnierite.

Grade: Questionable material sent to labs of the Bureau of Mines indicated 15 to 3% nickel by spectrographic analysis.

Conclusions: This is a new occurrence and worth examination as is planned.