

March 2, 1942

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

CALIFORNIA

South of Chetco area

CLEOPATRA MINE (Copper)

Showings of high-grade copper ore and native copper are found in serpentine, associated with chromite. No estimates of tonnage are possible as workings are inaccessible.

Owner: O. Bell, 215 South 7th Street, Grants Pass, Oregon.

Area: Five lode claims.

Location: NW $\frac{1}{4}$ sec. 3, T. 18 N., R. 2 E., on old Oregon Mountain road, 2 $\frac{1}{2}$ miles from O'Brien, and lying south of Sourdough area.

History: Prospect was opened many years ago, but there is no record of production. About 1937, Bell hand sorted 28 tons of copper ore containing quantities of native copper but through some mix-up, the smelter paid off on 4 percent ore. At present most of the workings are caved and inaccessible.

Topography: Elevation of the principal workings is 2500 feet with the hill rising to 2800 to the east. Hillslopes are steep, 30° and canyons are deeply incised. Snow enough to hamper work is unusual, although depths of 4 feet are recorded. However, the road out to O'Brien is blocked with snow and closed during January to April. Some of the mine workings take a little water the year around.

Development Work: See sketch: There are a number of dumps, some representing adits, and some, cuts. There are six adits, and they are either inaccessible or not safe to enter. The adits vary in length from 40-300 feet.

Geology: Peridotite, and particularly dense, almost black serpentine is the country rock. "Slickentite" is developed to a minor degree along slip planes but as a rule the rock is fresh and unaltered. Some chromite has been found on the east side of the ridge, where it is closely associated with copper ore. The only copper ore found "in place" was on the east side of the ridge. All other copper ore was on the dumps.

The ore is rather difficult to judge in the fine grained, black serpentine. The principal mineral has a submetallic luster, is black, fairly soft (3?) and may be chalcocite or enargite. A reddish mineral (cuprite?) may grade into native copper. Some pieces of ore are quite magnetic. Some chromite may be present.

The ore seems to be related to shear zones in the serpentine and is found in bunches or nodules rather than in a true vein. Some of the serpentine nodules have small $\frac{1}{2}$ - $\frac{1}{2}$ inch masses of ore distributed through a "rim" of the nodule. The major shear planes have a generalized N-NE strike and an east dip of 45°, but the strike and dip vary from place to place.

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An interesting feature is native copper, and it is reported that sizeable masses have been taken out. Mr. Bell claims that 10 tons of the 28 tons shipped was practically pure native copper.

Mining: In adit I it is reported that ore appeared in the right side of the adit and was found in the floor of the cross cut where it dipped under the floor and was 14 inches wide. Native copper was present. It is judged that the dip was E-SE at 45° . In adit II, little copper was found but 125 feet from the portal a raise up 12 feet encountered some ore. Cut III shows intensely sheared serpentine and some very fine ore is found in narrow shear zones. At the "glory hole", ore is found in a zone that dips E-NE at 45° . All other data unavailable.

The ore was hand cobbled and shipped without concentration.

Economics: (1) Further prospecting is necessary to open old workings, following which the area should be carefully mapped and all data plotted in detail. As a result, some pattern of ore deposits may be found.

(2) The ore on the east side of the ridge should be explored with a development adit.

(3) It is $24\frac{1}{2}$ miles by mountain road to O'Brien and then 45 miles by paved highway. to Grants Pass, a total of 70 miles. Ore can be hauled, with good luck for 9 months of the year. Operations, at first should be confined to high-grade ore that needs no concentrating. As a wild guess, I would say 15 percent or better, preferably 20 percent up.

(4) Some chromite is found on the claims, which might aid in financing the immediate development.

The above report is based on a four hour inspection of the property with no trips underground because of the unsafe nature of the ground.

Exhibits: (B) sketch map of workings.
(F) photos of general area.

Ray C. Treasher
Field Geologist
March 1, 1942.