

Owner: George Nisbet, Estacada, Oregon

Location: Oak Grove Fork of Clackamas river E $\frac{1}{2}$  Sec. 5, T. 6 S., R. 7 E., in Mt. Hood Forest.

Area: 4 claims adjoining Kiggins 5 claims (which see) and next down stream and 7 claims surrounding Kiggins claims.

History: Has been in operation several years by owners with production of about 160 flasks.

Equipment: Small vertical Scott type continuous furnace capacity about 2500 lbs. per day with long condensing pipe 10 inch diameter extending up canyon wall, gas engines, miscellaneous tools and Wilfley table to concentrate soft ore and clay from small concrete mixer used as log-washer.

Geology: Elevation 1750 ft., in steep canyon of heavily timbered forest. Country rock dark basic rock, probably basalt; general massive thick flows with major and minor fracturing, perhaps due to some near by large fault to westward with block displacements in secondary faults and tertiary smaller fractures with little or no displacement. The whole making a network of wide and narrow veins. The wide ones (about 12 in all) are from 3 to 6 ft. wide and the smaller are from seams to a foot or two wide. The large ones pinch and widen (lenticular) indicating displacement. Vein filling is mainly calcite and partially replaced country rock, apparently silica same in later through the calcite and started to replace it but ceased early forming a "honey comb" appearance at weathered exposures. Another mineral present has a pearly luster and in bands between calcite ( ) quicksilver is in the calcite rather than quartz but is not disseminated throughout the vein but is usually in lenses of a few inches wide which has a more or less definite parting between the cinnabar bearing calcite and the adjoining barren calcite. The narrow tertiary veinlets are frequently rich in cinnabar.

Development: There is not much underground development, the work being open cut work with sorting of ore because only high-grade can be used because of low capacity of furnace and laborious transportation to furnace with wheelbarrow, pails and in sacks over steep hill-sides. Most of the ore treated is the soft ore near the surface which can be mined without explosives and most of it is from the smaller rich seams of which there is a great number. Also the method of mining soft ore permits the prospecting of the larger veins on a pay as you go policy.

Recommendations: Notwithstanding the great percentage of barren calcite at present exposed in the larger veins, the widespread occurrence of cinnabar in many veins both large and small fully justifies further study and exploration. It might be that a key to the genesis can be found through solving the structure of the faulting and exploration may develop shoots of ore disseminated between the walls of sufficient tonnage and grade to justify a capacity furnace. Less than two hours was insufficient to do the necessary work.

Informant: A. M. Swarley .  
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