

17th August, 1949

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POTENTIAL TIN AREA - EAST OF MT. PARISMEMORANDUM:

On the 5th instant, in company with Mr. N. Dutton, I visited an area east of the Mt. Paris Mine. It is Mr. Dutton's contention that much of this ground contains payable tin which could be won by sluicing methods, using water from the old Mt. Paris Race. This water could only be obtained by replacing the syphon as the proposed deviation would bring the water round at too low an elevation for use here. Alternatively, water brought round in the Nugget Race could be utilised.

In order to assess the possibilities of this ground it is first necessary to study the general geology as revealed in the Mt. Paris workings. The country rocks are the Mathinna series of slates and quartzites which have been intruded by Devonian Granite. This intrusion appears to me to have occurred in several phases. First, the intrusion of the normal granite; then the alteration of the granite by magmatic waters and vapours to the so-called aplite of the workings and the introduction of some tin oxide, and finally the injection of the quartz and quartz-mica greisen veins accompanied by more tin oxide deposition. All this, of course, took place far beneath the existing surface, but erosion has removed most of the overlying sediments until only thin coverings of slates form roof pendants on the granite. In places, the granite itself outcrops at the surface. Mt. Paris is a cupola or irregular dome of granite on the main roof of the batholith and it is with these cupolas that payable tin is often associated. The greisen veins usually carry the richest tin concentrates but they are hard whereas the "aplite" is soft and decomposed and can be treated by sluicing.

The area in which Mr. Dutton is interested appeals to me as a potential tin producer for the following reasons:

1. The strike of the greisen veins as revealed in the Paris Workings is from 100 to 110° and if this line be projected, it will run through the area.
2. At a point a few chains south of and vertically below the area I observed, in some old detrital workings, the roof of the granite about twelve feet below the surface. The whole area is covered by detrital slate and it is apparent that this is but a thin covering over the granite. It may mean that the granite rises to another cupola here but at any rate any country near the granite roof should be regarded as a potential tin carrier.
3. Much tin has been won from old workings in detrital and alluvial deposits below this area. This means that the tin has been shed from somewhere above these old workings.

Although, geologically, this area has good indications of being a payable tin producer it should be submitted to a carefully planned prospecting campaign before any major decision regarding water is made. It would appear that sufficient pressure could be obtained from the old Mt. Paris Race to work most of the area. For instance, at a point 30 chains from the main line of lode of Mt. Paris in an easterly direction seventy feet of pressure could be obtained. However, no definite figures can be attempted until after prospecting reveals just where the tin values occur.

I also took the opportunity to sample an adit situated some 120 feet west of the upper dam on section 55M/40. This was apparently cut just before the Mt. Paris Company closed down. The first twenty feet are in slate and then the adit traverses the altered granite ("aplite") on a bearing of  $302^{\circ}$  until it terminates at 180 feet from the portal in a greisen lode. Three samples, each over fifty feet were taken along the southern wall.

Signed T.D. Hughes

GEOLOGIST

The Director of Mines