I inspected the Hammerjack Mine, Tennant Creek, on 17th November, 1960, in the company of Mr. F. Jackson, the present lessee. Most of the workings are inaccessible but several of the shafts could be cleaned and retimbered easily. Only one shaft, on the west of the lease, was equipped with a ladder. This shaft is 40 feet deep in ferruginous rubble.

The mine has produced more than 6,000 ounces of gold from almost 6,000 tons of ore and all the gold appears to have been extracted from above the 35 foot level. There has been no production recorded since 1951 but some exploration has been done by New Merlool Gold Mines Ltd. An account of the mine is given in Ivanac's report. In that report the methods of exploration and exploitation are criticised severely. The criticisms are still valid.

The deepest shaft is Number 1 Shaft, 150 feet deep. It is reported that a cross cut north from the shaft was extended to 100 feet and a long drill hole from the face entered a 12 feet thick quartz-hematite lode at 30 feet. This implies that the lode dips at about 50° north.

The stopes are colinear on ore shoots that dip 85° north and are associated with a shear zone. It is possible, therefore, that the wide quartz-hematite is caused by duplication by faulting.

The information available at present is inadequate to justify drawing sections or giving reasons for the apparent cessation of mineralisation at 35 feet. Further exploration is justified.

Mr. Jackson proposes to cross cut south from the bottom of the 40 foot shaft on the west of the lease in order to gain access to remnants in the stopes. This cross cut would be about 60 feet below the collars of the shafts along the line of ore shoots and is expected to be about 40 feet long. It would supply confirmation of the dip of the lode and could be used as a base for several exploratory long drill holes.

Examination of spoil heaps, with the assistance of Mr. Jackson and other local miners, indicates that weathering may persist to a depth of 150 feet or even more and zones of secondary enrichment may be expected between the surface and that depth. If the gold is an original constituent of the quartz-hematite lode, such enrichment would be near the footwall - thought to be on the south side. Exploration should be directed to that side as soon as confirmation of dip is available.

Darwin,

(J. HAYS)
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