A

BRIEF REPORT

on the

KIA ORA MINE

TENNANT CREEK

By W.G. Maclean.
SUMMARY.

The Kia Ora Lease situated 13 miles East of Tennant Creek though comprising only 18 acres, has a potential of great importance in the future of the gold field. The occurrence of gold in the crushed chlorotic schists in this area is considered to be of importance, and, as they reveal the possibility of iron stone bodies at depth, the area is likely to be one of major development. The Kia Ora Lease has produced in excess of 784 tons of ore for an average head value of 22 dts. per ton. Gold occurs over a length of about 150 feet and a width of approximately 25 feet. As no investigation has been carried beyond this area, it may be assumed that gold occurs over a greater length.

LOCATION.

The Kia Ora Lease is situated approximately 5 miles E.N.E. of Peko Mine and approximately 13 miles East of Tennant Creek. It is accessible by a good graded road as far as "Peko" and thence by bush track to the Mine workings. The terrain traversed does not however, present any difficulty in road construction.

WATER SUPPLY.

A bore situated approximately one quarter of a mile N.W. of the Mine, is reported to have a flow of 19,000 gallons per 24 hours. The water is unsuitable for domestic purposes, and supplies for this purpose must be carted from the boxes at the old Telegraph Station, a distance of approximately 19 miles.
GEOLGY.

The Kia Ora surface rocks consist almost entirely of Pre-Cambrian slates and chlorotic sileccous schists, with an interbedding of schistose-quartz phorphyry. This in keeping with the rest of the field, has been subjected to longitudinal pressure producing lenticular openings or mineral repositories; (hemetite was encountered in the bore one quarter of a mile N.W. of the Mine workings.) These later developed diagonal lines of weakness, fractures and sheers which cut through the schist at various angles. Practically without exception, the important gold values in the field have been found either in the iron bodies or in the crush immediately surrounding the iron. The geo-physical surveys on the field, and the known habits of the auriferous iron masses, point to the fact that there exist large numbers of iron ore bodies as yet unrevealed. Such an auriferous mass may underlay the present fractured surface of enriched schists at Kia Ora.

HISTORY AND PRODUCTION.

The Kia Ora was first worked as a gold mine in 1936 by Mr. A. Scott. In 1949 it was purchased by Mr. H.J. Turner, who worked it during the difficult early post-war years.

In its early history a considerable tonnage is said to have been crushed at the "Ghans" Battery of which no records are available. Prior to the war, 132 tons are said to have been crushed at the Central Milling Company's mill for a return of 120 ounces of gold.

Prior to the No 3. Government Battery closing down in 1951, 652.58 tons of ore from Kia Ora were crushed at this mill for
HISTORY AND PRODUCTION (Continued.)
a return of 526 ounces of gold. The last parcel that the battery
treated before shutting down, was 166.3 tons of ore from Kia Ora
for a return by amalgamation of 165.78 ounces of bullion. This last
parcel was broken from the shaft from which ore is now being ex-
tracted. The average tailings of all ore known to have been crushed
from this lease, is said to be 5.6 dwt., making an average head
value of approximately 22 dwt per ton.

KIA ORA WORKINGS.

Favourable prospecting conditions extend over the
entire length of the Kia Ora lease. The workings consist of 3 shafts,
grouped as shown on plan, and an open cut. The open cut follows a
clearly defined sheer and varies in depth from 15 to 40 feet ter-
minating in a shaft at the western extremity. The shafts referred
to and the entire workings were operated by gouging the known shoots
of ore, and no systematic mining has been attempted. Sampling
carried out in these workings show values ranging from 3 dwts to
30 dwts.

ORE ESTIMATE AND VALUES.

It would be impossible at this stage to give any true
estimate of either tonnage or value, as the only work done on the mine
has been of a gouging nature and no development work was attempted.
However, judging by the nature of the ore body and the "Pot luck"
methods of extraction employed by the prospectors, and the fact that
ORE ESTIMATE AND VALUES. (Continued.)

values exist in any of the schists sampled either on the surface or underground, it would appear that a very considerable tonnage of ore is to be had. And, as the prospectors could not, in such a body, "pick the eyes" of the lode, the value in situ must bear some close relation to the average value of the ore broken by these men.

DEVELOPMENT.

(1.) The main shaft should be sunk to a depth of 200 feet.

(2.) Drives East and West along the strike of the schists should be projected at the 100, 150 and 200 foot levels to the limits of values, with cross-cuts at 50 foot intervals through the auriferous schists.

CONCLUSION.

It is considered that the values encountered warrant their exploration at depth, and that the development should be carried out as advocated in this report.

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