PRELIMINARY REPORT

on

FOREST KING and ALBERTON MINES

INTRODUCTION

The investigation of the gold-bearing veins exposed in these mines was undertaken at the instance of the owners to ascertain the nature of the ore and its value, the thickness and extent of the veins along the strike and dip, and their accessibility with reference to topographic features, and their location with reference to lines of transportation. As only two days could be given to this work, it was found impracticable to estimate the actual value of the several veins traversing the properties, but dish prospects of the ore were taken at several points, and an idea of the gold content was thus obtained.

The occurrence of gold-bearing ore in the Alberton field has been known since 1878, and during the eighties a considerable amount of work was performed on the Pyramid, Rosalyn, and Alberton veins. Attention has been directed to this field again of late following the discovery of other veins containing gold in profitable proportion. The mining of these ores cannot be regarded yet as an established industry, but developments have produced such encouraging results that preparations are now being made for their exploitation on a commercial scale.

LOCATION AND EXTENT

The Alberton Goldfield occupies the foothills on the north-western side of Mount Victoria, and is 12 miles by road from Ledgerwood, a station on the North-eastern Railway from Launceston. It forms a part of the gold belt extending northwards from Mangana to Lyndhurst, and westwards to Lefroy.

OUTLINE OF THE GEOLOGY OF THE AREA

The sedimentary rocks and the associated tuffs which occupy the whole area belong to the Mathinna series of the Cambro-Ordovician. They consist of yellowish-grey and black slates, and light grey and yellowish-brown tuffs. These rocks occur in intercalated beds of varying thickness, and have a northerly strike and westerly dip.

At the close of the silurian, these sediments and tuffs were intruded by granite, large bodies of which stand out prominently on the east and west sides of the field. These granite projections are the uppermost parts of an enormous batholithic mass extending underneath the sedimentary rocks a few thousand feet below the surface. The intrusion of the granite magma was responsible for the fissuring of the overlying sediments, and the solutions that emanated therefrom were responsible for the filling of the fissures by gold-bearing quartz, pyrite, and arsenopyrite.

The intrusion produced two sets of fractures in the sediments one coursing in a north easterly direction, and the other at an angle of 45 degrees thereto. The north-easterly are the lode fissures,

the others are fault fissures. Ore occurs also in the fault fissures between the points of lateral displacement of the lodes, thereby indicating the formation of the faults prior to the deposition of the ore.

THE ORE BODIES.

There are four known lodes in the area under examination - all of them course in a north easterly direction in parallel formation, and they dip to the south east at a fairly high angle.

No. 1 or Alberton Lode passes diagonally through Section 1593/G from the south west to the north east corner, enters Section 76P/G and continues uninterrupted for 300 feet to the point of intersection of the fault. There are indications of the lode beyond the fault, but no serious attempt has thus far been made to find it. The several workings on this vein have exposed it along the strike on the south west side of the fault a distance of 800 feet; and 110 feet on the dip.

No. 2 or Forest King Lode lies about 300 feet to the south east of No. 1, and has been exposed in mine openings for 200 feet in length and 83 feet in depth. This lode has been cut on the north east side of the fault and driven on 35 feet beyond the point of displacement. It has not been exposed on Section 1593/G, but its southward continuation may be safely anticipated.

No. 3 or United Lode, 70 feet south east of No. 2, has been opened up by mining operations on Sections 1593/G and 77P/G a distance of 400 feet, but it has not been traced beyond the fault.

No. 4 Lode lies 25 feet to the south east of No. 3 and is exposed in a trench on Section 1593/G.

In all these lodes the ore is similar and appears to be of fairly even grade, the value being from £1 to £4 per ton. The ore consists essentially of yellowish-white opaque quartz, tinged here and there a bluish-green colour. As a rule the gold it encases is of fine grain size, but specimens containing coarse gold, easily visible, are not uncommon. The accessory minerals, pyrite and arsenopyrite, are nowhere prominent - they occur disseminated in fine particles through the body of the quartz gangue and also filling fractures in it. The gold is worth £4 per ounce.

The ore occurs in shoots, of varying length, which pitch to the southward at an angle of 50 degrees.

MINE DEVELOPMENT.

The Forest King Mining Syndicate.

The property of this Syndicate comprises Mineral Leases 76P/G of 21 acres and 77P/G of 20 acres. The four known lodes traverse either one or the other of these sections, and three of them have been explored by mine openings.

On section 76P/G, a shaft was sunk on No. 1 Lode to a depth of 50 feet and a sheet of rich ore

70 feet long was stoped to surface. It is reported that gold at the rate of 15 dwt. per ton of ore treated was obtained from these workings. The thickness of the veinstone exposed in a trench 40 feet northward of the shaft is 15 inches, and this may be taken as a fair average. Probably the north drive from the bottom of this shaft reached the fault, which should intersect the lode near this point.

On Section 77P/G, Lodes 2 and 3 have been explored by mine openings. Some years ago a shaft was sunk on No. 2 Lode to a depth of 60 feet and a shoot of ore 50 feet in length was stoped to surface. It is reported that the value of the material mined was £4 to £6 per ton. Over 80 feet from the collar of this shaft, an adit crosscut intersects the lode at 70 feet from the entrance and exposes it for 30 feet up to the point of intersection of the fault. The vein material here is 12 to 18 inches wide and contains gold in the proportion of 15 dwt. per ton. A crosscut along the course of the fault reached the displaced lode in 25 feet, and a drive 35 feet long on the other side of the fault exposes 18 inches of ore of average quality. It is noteworthy that the fault fissure between the points of displacement of the lode is filled with gold-bearing quartz two feet in width. Beyond these points the fault is marked by much selvage, but the material is valueless.

In the lode which has been driven on 65 feet, free gold is easily visible, and dish prospects of the material as a whole indicate an average value of £3 per ton.

No. 3 Lode has been opened up to the fault by an adit 200 feet in length, and stoped to surface. The adit has caved near the entrance and is now inaccessible, From accounts received it appears that the lode material is of average grade. Whereas the other lodes are contained in yellowish-grey slates, and tuffs, this lode occurs in black slate.

SECTION $\frac{1593}{G}$ - 10 Acres (M. Hannah)

No. 1 Lode was worked many years ago from an adit 400 feet in length, and stoped to surface. The ore was not examined as in the accessible portion of the adit the lode has been underhand stoped to a depth of 10 feet. The width of the stopes indicate a lode nearly three feet wide, and the length an almost unbroken sheet from the entrance to the end of the adit. It is reported that Pickett and Party obtained gold at the rate of 22 dwt. per ton from the last parcel of ore removed from the stopes. This adit is 53 feet lower than Forest King adit on No. 2 lode, and 110 feet lower than the collar of the shaft on No. 1 lode.

No. 2 Lode has not been explored on this Section.

No. 3 Lode has been opened up in a shaft 40 feet deep and a short shoot of ore has been stoped to surface. The ore-body here is 12 to 18 inches wide and contains gold in the proportion of 10 dwt. per ton.

No. 4 Lode is exposed in a shallow trench 20 feet east of the shaft on No. 3. The ore body is ill-defined and apparently the material at this point is of little or no value. 9110D

HANNAH'S 5 ACRE SECTION

The lease of this area was secured as a site for the entrance to the proposed lower level crosscut. No lodes have so far been found on this property.

FUTURE EXPLOITATION AND DEVELOPMENT

The work at present in hand (the driving of an adit on No. 2 Lode) is regarded as the preliminary to a more ambitious plan for the development of both Hannah's and the Forest King properties. It is proposed to crosscut from a point near the western boundary of Section 1593/G, at a level 75 feet lower than main adit on No. 1 Lode, and intersect all the known lodes. If the result of this work proves satisfactory another and lower crosscut will be driven from a point in Hannah's 5 acre section, 150 feet lower than main adit, This crosscut will ultimately become the main working centre, and will be connected by a gravity plane tramway to a milling and concentrating plant near the road. The Ringarooma United Company's water race (not in use) passes 40 feet above the battery site, and, if arrangements could be made, this water operating a low-pressure turbine would provide sufficient power to operate the milling plant during nine months of the year.

CONCLUDING REMARKS

The foregoing remarks are based on the assumption that the owners of the several properties examined will amalgamate their interests and operate as one Company. If this course is followed a great saving will be effected in the exploration and development of the several lodes. The conditions affecting mining and the treatment of the ores are unusually favourable.

It may be stated that the outlook is decidedly promising and if the gold content of the ore remains in undiminished proportion in the lower levels, a successful future may be anticipated by the owners.

(Signed) A. McINTOSH REID

GOVERNMENT GEOLOGIST.

Mines Department,
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