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REPORT ON THE THURLOW GOLD MINES LIMITED

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Location; The Thurlow Gold Mines consists of a quartz vein five to eight feet wide mineralized with pyrite carrying values in gold. It is situate on the east side of Thurlow Island I½ miles south of Shoal Bay. The section of the vein now being developed is about a mile from the beach and about 300 feet above sea level. At the shore a similar vein is expose -d bwwhich appears to be on the strike of the developed vein and is presu -med to be a continuation of it. The vein is covered by I5 mineral claims The situation of the claims with respect to the beach and the boundaries abutt on the shore. The physical condition such as climate, transportation etc make for low cost of operation.

Development; The vein is exposed by several natural outcrops, by an upper tunnel I00 ft in length, by a shaft 80 feet deep and a lower drift at the bottom of the shaft 40 feet(now I50 ft) From the shaft to the farthest end of the exposed portion of the vein in the upper tunnel is a total length of 300 feet. The upper tunnel owing to it having been deepen -ed is from I2 to I5 ft high and contains a small raise 70 feet from the portal.

Geology enclosing formation; The vein is enclosed mainly in granodiorite of the Coast Range Batholith. There are also numerous inclusions of andesite scattered through the granodiorite, some of which are adjacent and some appear to intersect the vein, in the upper tunnel. The other inclusions appear not to have any influence on the vein.

Vein Structure; The vein varies 4 and 5 ft up to 7 ft in width, strikes to the north westerly and dips to the south west, it is somewhat irregular in dip, strike and width and is broken in three or four places by pronounced faults. In the upper tunnel the ven contains horses of granodiorite, which cut it nearly horizontal in direction and are from 2 to 4 ft thick. In the tunnel the vein pinches out to the back of the small raise and passes under the floor of the tunnel at the second winze, where it is reported to be cut off by the larger faulting. The angle of the plunge is about 2I° to the north west. In the lower tunnel the vein is crooked and is cut off by a pronounced fault, which strikes north I0° east magnetic and dips to the south east at an angle of 35°. This fault projected to the surface would pass a short distance in front of the portal of the upper tunnel. From the relative positions of the two sections of the vein it would appear that the fault has thrown the vein 40 to 50 feet to the south. It should therefore be found in the lower level by crosscutting this distance to the left from some point in the tunnel west of the fault.

The fault in the upper tunnel strikes north 56° east and dips north north west 76°. This dip in the opposite direction to the fault in the lower tunnel would therefore throw the vein in the opposite direction that is to the right. The crosscut to the right has not found the vein but this is due to the plunging crest of the vein carrying it downward t to the west and to the fact, also, that the segment beyond the fault to the west has been dropped down. This segment must therefore be looked for at a considerable depth below the level of the upper tunnel. The offset would be, more, probably, than 20 feet, but there is no evidence by which the extent of the offset may be calculated.

Vein Composition; The vein consists of quartz carrying pyrites. The latte -er constituting less than I0% of the total value. The gold values varies from .04 to I oz per ton. From the fact that a pan concentrates yielded $8I.00 per ton and that a shipment of ore gave a return of $47.50 it is apparent that practically all the gold is contained in the pyrites. I have estimated from measurements made on the walls of the tunnel that the pyrite constitutes less than I0% of the total value of the vein, but owing to its much greater specific gravity, it would form a much larger proportion than this by weight. It is obvious therefore that the concentration ratio would be I0 to I, or more. The higgest assay is found in the upper tunnel from which it appears that there is a concentration of gold under the plunging extremity of the vein. There is a possibility of the rich shoot persisting downward and raking to the north west to some considerable distance and on both sides of the fault. This section beyond the fault will be lower by a considerable distance and offset to the right a small distance, depending to some extent to what the vein has been lowered by the fault. This enrichment under the apex of the vein

may be primary concentration in which case it would reasonably be expecte -d to continue down to a great distance, or it may be secondary enrich- ment caused by the action of the surface water in which case it would extend downward a short distance. The latter is the more probable ex- planation since the enrichment seemed to be confined to narrow fractures There i s, however, general higher average throughout the upper tunnel, whic may be in part a primary concentration. The tonnage in the shoot of ore exposed in the upper tunnel is between two and three thousand tons of ore averaging about $10.00 per ton. There is a fair chance of increasing the tonnage at depth, but a danger of the grade of o re decreasing. The ore in the lower tunnel is too low grade to be mined, but might reason -ably be expected to improve in tenor as it is followed down along the strike towards the higher grade ore in the upper tunnel. These facts together with the facts that the vein in the lower tunnel is faulted and considerable work will be required to find it again, discour- age the hope of proving a body of ore commercial in a short space of time and at comparatively small cost.

If development work is to be continued, two courses suggest themselves. (I) Try and find the continuation of the vein in the lower tunnel and having found it, drift in it to the shoot of ore exposed in the upper tunnel.
(2) To sink a winze in the upper tunnel at a point I0 to I2 feet south o of the raise and slope it to the north west at an angle of about 45° from horizontal.

The first plan would involve a crosscut in the granite 40 to 50 feet to the south west and drift I20 feet along the vein to the north west. There is danger of not finding the segment of the vein and it is certain that the vein will, for a certain distance, be below commercial ~~mahan~~ grade. On the other hand the plan, if successful in finding commercial ore, will prove up a large tonnage and greatly improve the value and prospects of the property.

The second plan would cost less, and this cost might be further reduced if good grade ore persisted downward by hand sorting and shipping the ore extracted. This plan would entail less risk as the chances of increasing ore reserves are greater. It is, therefore, on the whole the better plan

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