

MAMMOTH TIN AREAS NO LIABILITY.AREA, SITUATION, ETC.

The holdings of this Company consist of -

| | | | | | |
|---------------|--------|--------|----|-------|-------|
| Mineral Lease | 10312M | of | 51 | acres | |
| " | " | 10313M | " | 38 | " |
| " | " | 10259M | " | 32 | " and |

Water-Right 2586W.

They lie west and adjoining consolidated lease 7250M of Storey Creek Mine.

VALUE OF THE ORE DEPOSITS.

In many respects some of these ore-veins are similar to those of Storey Creek Mine, which lie parallel and half a mile to the eastward thereof. The similar ones are likewise contained in cambro-ordovician slates and quartzites and consist of tin ore and its metallic associates set in a matrix of quartz. These, however, are as a rule not comparable in average richness at their outcrops, yet they all are more or less tin-bearing. Unlike the Storey Creek deposits, a large proportion of the ore here is fine in grain, in many places not being visible to the eye yet yielding fair prospects after crushing and panning. Few remarkably rich pockets have been exposed in the operations of trenching and pitting.

The ore-veins, of which several are known, represent infillings of true fissures close to the line of contact between Cambro-Ordovician Strata and the intruding granites. Some lie in the sedimentary rocks, some in the igneous, and a few pass from one formation to the other; some can be traced at surface long distances, others are covered in part with horizontally disposed sandstones, grits and conglomerates of Permo-Carboniferous age. These basal conglomerates and sandstones are in few places more than 20 feet in thickness, and, therefore, will not cause a serious hindrance to mining work. Their presence shows that the ore-bodies have been reduced but little since the time of deposition.

On the 32-acre block a vein filling of quartz and muscovite contained in granite and coursing N.32°W. is exposed in a hole at the roadside. Including the greisenised wall-rock (pinite-muscovite) the ore-body is about 2 feet in width. Going north it passes underneath sandstone and conglomerate of Permo-Carboniferous Age and reappears on the other fall of the hill where openings show little change in its nature. At the north and fine bags of tin ore have been got from a small offshoot of quartz and cassiterite. Going south the ore-body outcrops strongly on that fall of the hill and has been opened in shallow trenches. Tin ore can be seen in the quartz gangue, especially on the walls.

No. 2 ore-vein, coursing 310° and dipping south-westward at an angle of 40°, crops out strongly at many points on the plateau. It consists of a vein filling of quartz with tourmaline, pyrite, secondary mica and a little tin ore, 12 inches wide, and 12 inches of greisenised wall-rock on both sides.

It is contained in a hard rock composed of quartz, felspar and tourmaline, the quartz and felspar of medium grain, the tourmaline in the form of long laths. Near the north boundary of the 32-acre block this vein enters quartzite and its nature and character undergo a decisive change. It is 6 feet wide where opened in a small pit and consists of milky quartz with tourmaline and muscovite. According to report it contains tin ore in the proportion of 0.25 per cent, but neither sulphides nor wolfram. Where it re-enters the granite the lode stone becomes a mica greisen with tourmaline and a little visible tin ore.

Eastward of No. 2 lode about 100 feet is another large body of quartz 5 feet wide, coursing 328° and contained in slate and tuff. It appears in the two pit openings exactly similar to that just described.

Another similar and parallel body of quartz 3 feet wide lies 150 feet farther eastward.

About 300 feet uphill west of Littler's Bend at the crossing of Nisbett Creek a flat body of lode stone, dipping at an angle of 20° in a direction $S.28^{\circ} W.$, has been opened in deep cuts along the strike. It contains a higher proportion of tin ore and wolfram than the main bodies and apparently is an off-shoot of one of them. (It is a note-worthy fact that the offsprings at surface are much richer than the parent bodies.) This body is 3 to 12 inches in thickness and is opened 130 feet in length. The gangue consists of quartz, secondary muscovite and tourmaline and is encased in a rock composed of quartz, felspar and tourmaline, the felspar of which at surface is decomposed.

The evidence gained as a result of this investigation goes to show that the gently inclined off-shoots are very much richer at their outcrops than the steeply inclined main bodies. Flat sections of the Storey Creek ore bodies are likewise much richer than the more highly inclined ones. From this the deduction follows that below the line of junction the main bodies should prove to be much richer than in their upper parts.

It may be possible to cut an adit from the valley of Mesbitt Creek to tap the ore bodies below the plane of junction. No good result can be expected from superficial works of any character, therefore in this case shallow adits would serve no other purpose than explore the offshoots only of the lodes. Very deep adits would on the contrary be very costly and long, therefore the aim should be to strike a mean depth in order to serve the purpose in view.

Summarising the foregoing statements, it is found that here are a number of parallel outcropping ore bodies which pass unbroken through the containing rock whether it be granite, slate or quartzite, and that the irregular offshoots only contain tin ore at surface in any considerable proportion. The evidence goes to show however, that below the plane

of junction the main bodies may prove to be much richer than at surface. Whether the evidence warrants the necessary expenditure in cross-cutting at depth to determine this is a moot question.

(Signed)

A. McIntosh Reid,
DIRECTOR OF MINES.

12/3/1929.