

on

MINERAL LEASE NO. 10183/M, 40 ACRES, CHARTERED IN
NAME OF LUTWICHE & RICHARDS, STOREY'S CREEK DISTRICT

LOCATION AND ACCESS

This lease is situated in the Storey's Creek district on the southern slopes of Ben Lomond mountain range. It can be approached by road from Avoca on the Storey's Creek road, thence by a branch road from the latter to the Aberfoyle Mine, a distance of approximately 14 miles from Avoca. From the Aberfoyle Mine to the lease the distance is a little more than half a mile in a direct line.

TOPOGRAPHICAL FEATURES.

The south eastern portion of the lease lies in the valley of Aberfoyle Creek, going north westerly the land surface rises steeply in that direction to an elevation of 100 feet above the creek bed, the greater portion of the lease lies in the more elevated land which has a comparatively level surface rising gently to the north and north west towards the mountain range. The lease and surrounding areas are sparsely covered with small gum trees, with little or no undergrowth.

ECONOMIC GEOLOGY

The country rock consists of dark blue indurated slate rock, the bedding planes vary in strike at different points, the general direction being 30 to 40 degrees west of north, dipping westerly at an angle of 45 degrees. The whole area is characterised by sporadic occurrences of quartz in the form of irregular veins and bunches. The quartz invariably carries small quantities of tin oxide in well developed crystals of grain size up to $\frac{1}{8}$ diameter. An aggregate of the crystals often assumes the form of a veinlet on the line of contact between the quartz and slate.

Through the western portion of the lease, taking a diagonal course to the north western corner peg, a fairly continuous line of mineralisation occurs, this consists of veins of quartz and oxidised slate which, in parts where trenches have been cut across it, is considerably decomposed. At a point just beyond the north western corner peg an outcrop of Gossaneous material is exposed in an old excavation two or three feet in depth.

ORE OCCURRENCES

On the south boundary line of the lease, about 400 feet east of the south west corner, a shallow trench has been cut from the boundary line in a north easterly direction for a distance of 50 feet several veins of quartz have been cut also irregular bunches up to foot thickness. These veins run parallel to the bedding planes of the country rock and here and there are intersected by smaller transverse veins, the latter show very fair prospects of crystal tin oxide. About 100 feet to the south east, on A.E. Davies' & others lease some tin bearing quartz

veins have been exposed in a shallow trench. These veins of which there are several each a few inches in thickness are well defined. The small amount of work done on them is not sufficient to show if they are continuous or of merely sporadic occurrence. Between them and the south ~~west~~ corner peg of M.L. 10183/M and the trench to the east is a small steep sided valley from which a tunnel could be driven giving 50 feet or more of backs to test the veins described. Should the prospects with further surface development warrant it. From the southern boundary of the lease the land surface falls steeply to the valley of Aberfoyle Creek which is fully 100 feet vertically below.

At a point 200 feet east of trench referred to the ground falls steeply to the valley of the Creek. At the foot of a declivity close to the boundary line a further outcrop of quartz has been exposed. A quartz vein located here has been sunk upon for a depth of 15 to 20 feet and is stated to have yielded 7 bags of tin oxide. This vein strikes N 40 degrees east and has no apparent underlay. Going south it abuts against a wall of country rock rising sheer above it to a height of 30 feet, it is at the bottom of this where it has been sunk upon and the shaft being full of water it could not be ascertained if the vein continued south west past that point. On its north easterly extension it does not continue above a distance of 30 feet. It shows very fair prospects of tin.

About 150 feet north easterly on the opposite bank of the creek a formation is exposed by a shallow trench 20 feet in length parallel to it. A number of small veins have been exposed here which have a strike of N 40 degrees west dipping westerly. These veins are of very irregular occurrence, apart from the trench workings no attempt has been made to prove their continuity. They carry small quantities of tin.

A few chains higher up the creek on the west side is a small occurrence of tin bearing quartz of sporadic character and is about 10 inches thick. It is not sufficiently developed to form an opinion as to its probable continuity, the rubble earth in the vicinity of the outcrop carried fair prospects of tin.

About 600 feet distant north westerly of this on the higher ground, a tunnel was driven many years ago, apparently for the purpose of testing some quartz veins outcropping along the ridge above. This tunnel which has been driven through hard slate rock a distance of 156 feet on the bearing of S 35 degrees west, is not sufficiently advanced to intersect the quartz veins referred to. The face of tunnel which is 50 feet vertically below the outcrop is in very hard slate rock shows no indication of being in the vicinity of the downward continuation of the veins above. The apparent dip of the veins is 40 degrees westerly, assuming that these maintain that angle of inclination, the tunnel would need extending a distance of 55 feet to cut them. The veins along the surface outcrop show very fair prospects of tin. They are irregularly distributed over a width of several feet and vary from small stringers up to a thickness of 2 or 3 inches. A distinct line of formation of these veins can be traced north westerly along the ridge which rises gently in that direction. At a point about 400 feet along it a shaft

has recently been sunk to a depth of 14 feet. In the side of the shaft three distinct veins of quartz are showing, each about one inch in thickness, spaced one to two feet apart, at a depth of 6 feet from the surface two of these coalesce and continue downward. At the bottom of shaft the veins widen to four inches in thickness, they carry fair prospects of tin, a bulk sample of the vein material mixed with a proportion of country rock as excavated from the shaft when sinking assayed 0.75% tin, samples of the vein stone 1.8% tin.

At a point 100 feet from shaft along the line of outcrop a trench known as No. 1 has been cut at right angles across the formation disclosing quartz veins and stringers over a width of 20 feet, at the western end of this trench a hole has been sunk to a depth of 4 feet 6 inches on oxidised slate with several small veins of quartz running through it.

No. 2 trench is 55 feet north west of No. 1 cut parallel to it to a depth of about 3 feet over a length of 60 feet, similar quartz veins occur here as elsewhere described, a sample of the vein stone taken from the east end of this trench assayed 4.8% tin, one taken across a width of 5 feet consisting chiefly of decomposed slate returned 0.15% tin. Practically no prospecting work has been carried past this point northerly, the same surface conditions occur along the line of outcrop, the surface being strewn with slate and vein quartz rubble. A short distance beyond the north western corner peg, a shallow hold has been put down on a gossaneous formation. A dish sample of this material was tried but showed no traces of tin; the formation deserves further attention by trenching across it westerly from the hole sunk on it. The iron staining has leached from a pyritic formation probably in the near vicinity of the outcrop and should be investigated.

From the above description of the known outcrops of tin bearing formations on the section it will be gathered that these are in a totally undeveloped state. The tin bearing veins are distributed over a fairly wide area. Nothing so far has been disclosed to warrant any comprehensive scheme of development. Easterly from the outcrops in the vicinity of the trenches on the summit of the ridge good facilities exist to develop them by means of tunnels, the valley of the Aberfoyle Creek, the creek bed being 100 feet vertically below the crest of the ridge, the hillside is fairly steep having a slope of 35 degrees.

WATER SUPPLY

It has been suggested that the water of Aberfoyle Creek could be used for the generation of power but the small volume flowing in it, in addition to the low pressure head available within a reasonable distance of the section, renders such a scheme impracticable.

The creek would serve a useful purpose as a water supply for dressing purposes in ore concentration. At a point on it about 10 chains north east of No. 1 trench is a very good site for a dam. The bed of the creek above this for some distance is fairly flat and widens out in the form of a basin some chains in width.

RECOMMENDATIONS

In the present state of development of the various ore occurrences it is a somewhat difficult matter to make a definite recommendation as to the best means of pursuing a scheme of work. It would be advisable in the initial stages to further prospect the outcrops by surface trenching or shallow shafts and concentrate work on those places showing the best prospects of tin and following the most promising occurrences by shaft sinking and later development by tunnelling.

(Sgd.) J.B. SCOTT
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MINES DEPARTMENT
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