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H. E. BROCK'S TIN PROSPECT, STOREY'S CREEK

Mr. H. E. Brock has an application for a lease of 40 acres, situated on the West bank of Storey's Creek, half a mile north of the road to Rossarden, from which a rough car road leads to the area.

Some years ago a certain amount of prospecting was undertaken here and during the years 1939, 1940 and 1941, Messrs. McDonald and Floyd produced some eight tons of tin from here. Recently Messrs. H.E. and J. Brock have been engaged in surface prospecting and the Departmental Goldfields Diamond Drill has been used to drill a hole designed to intersect the formation at depth.

The area occupied by this lease consists of an old terrace, covered by a thin, intermittent cover of gravel and conglomerate boulders. To the west the ground rises to low hills and to the east drops slightly to the valley of Storey's Creek. The altitude is more than 2000 feet above sea level.

The host rocks of the tin deposits are a Lower Palaeozoic Series of slates and quartzites; probably the Mathinna Series. To the west, they have been intruded by Devonian granite, the source of the tin, and the intrusion of this granite has resulted in the sedimentary rocks being highly folded, accompanied by a certain amount of minor fracturing. Good outcrops of this series are visible along the course of Storey's Creek, where the rocks can be seen to consist of alternating beds of slates and quartzites (some of which are only a foot or two in thickness) striking at 315° - 325° and dipping at high angles both ways. Veins and bunches of quartz are plentiful but in most instances, these appear to be barren of tin. Unfortunately the underground workings are filled with water and so inaccessible, but some information was gained from shallow surface workings and from data supplied by Mr. Floyd. The tin appears to have been injected into small pre-mineral fractures which dip at high angles to the west and along bedding planes between slates and quartzites, here dipping easterly. The formation worked from the main shaft has been described by local miners as a "sausage lode", a rather graphic description of this type of occurrence where the veins are not continuous but make and break both horizontally and vertically.

The main shaft workings were designed to mine a definite tin vein which near the surface, was very rich and, at the lowest depth (54 feet) was two inches in width. This vein dipped to the south-west at a high angle and the shaft followed it down for 54 feet. A level was opened at 48 feet and the vein driven on both ways - north-west for 40 feet and south-east for 30 feet. Some stoping took place both underground and from the surface. An air shaft was sunk, 50 feet north-west of the Main Shaft but did not reach the workings. Five chains south-east of the main shaft is an underlay shaft, dipping to the south-west at 80° for 11 feet and flattening to 60° for 14 feet. To the north of the shaft is some surface stoping and in the south-east wall can be seen a narrow fracture zone dipping at the same angle as the shaft. It is a very small formation carrying little tin but its continuation north west may have been sufficiently large to encourage the sinking of the shaft and the surface stoping. Numerous small cuts and

trenches dot the area and from many of these a prospect of tin may be obtained.

It appears then that the tin occurs here in a series of small veins which are non-persistent. Occasionally a rich pocket appears, as the one that has been worked but these do not seem to be influenced by any major structural control. Indeed the structural pattern of the area would suggest that the major lode systems should be striking in a meridional direction and not north-west as here. The rich pocket being found near the present surface is entirely fortuitous and not connected with secondary enrichment and such pockets could occur at any horizon.

The No. 1 Bore was sited 90 feet south-west of the main workings and drilled at an angle of 60°, normal to them, for over 200 feet. Had the lode persisted on the same dip as at the surface, it should have been cut at 160 feet in the bore or 140 feet vertically from the surface. However, although some quartz veins were located in the bore there was no sign of any tin formation. This non-persistent type of formation does not lend itself to discovery by drilling and should be investigated by Development from the existing shaft. Although filled with water to within a few feet of the surface, the shaft appears to be in otherwise good condition and apart from draining should not need a great deal more attention.

However, should the boring programme continue, it is recommended that low angle bores (say 45°) be put down in the centre of the trenched area, first in a south westerly direction and then in a north-easterly so that the possible vein systems may be intersected at shallow depths of between 20 and 50 feet.

(Sgd.) Terence D. Hughes

GEOLOGIST

The Department of Mines,
HOBART. Tasmania

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