J. Curtain's Scheelite Prospect, King Island.

Several years ago, when the price of scheelite was low, Messrs. Curtain and others, who were carrying out development work on some tin lodes situated near the centre of King Island, identified this mineral in their workings and regarded it as a nuisance in the recovery of tin. Now that tungsten is in such great demand, Messrs. Curtain and Scott have again turned their attention to this area. They have cleaned out an old prospecting shaft to a depth of 18 feet and exposed a tourmaline lode which carries some scheelite.

The area may be reached by turning off the North Road to the east at a point some fourteen miles from Currie or two miles along the long straight. From here the road may be comfortably followed by car for a couple of miles but it rapidly deteriorates. At 3½ miles an unformed track leads south and east for 1½ miles to the old dam and just beyond here are the most northerly workings (D. Workings) of the tin lodes.

To the geologist, this area reveals little or nothing from surface indications. The topography of King Island is of great monotony and represents an old peneplain worn down almost to base level. Consequently, except round the coast there are few rock outcrops on the Island. In this particular locality, the ground is very flat and no outcrop may be seen for many miles the surface being covered with sandy soil which carries bracken and light scrub. Here and there on the surface are broken pieces of quartz and it is these that prospectors have associated with hidden lodes.

Several shafts and numerous trenches have been sunk but any workings put down to bed-rock have caved and are now quite inaccessible. However spoil on the dumps gives an indication of the country rock. The main sedimentary formation occurring at King Island is a suite of schists, slates and quartzites assigned to Cambrian Age. During the Devonian, these were intruded by granite which introduced the various metals (tin and tungsten notably) that have been found on the Island. In this area, it appears from the dump spoil that the principal rock type is a micaceous schist. Five miles to the west occurs the closest observable granite in a quarry near the North Road. Granite has also been reported about the same distance to the east.

Near the eastern boundary of old mineral section 82P/M, and on land on which P. Scott has a permit to enter, Messrs. Curtain and Scott have cleared out an old shaft to a depth of 18 feet. No solid rock has been encountered to this depth and the walls consist of a clayey weathered schist. Traversing this schist on a bearing of 315° is a reef of soft black material, consisting of tourmaline and a little quartz and containing a soft crumbly greyish white powder which under the Fluorescence Lamp proved to be scheelite. The reef here is nine inches in width and dips steeply to the West at 80°. A sample taken across it contained, on analysis 2.1% of tungstic acid and no tin. The scheelite glowed under the lamp with a golden light, showing it contained a percentage of molybdenum.

Mr. Curtain reports that "C" shaft about 50 chains to the North, when sunk to 65 feet had cross cuts driven to the East and to the West. That to the West cut some tin lodes but the one to the East intersected a scheelite formation. This shaft is now fallen in and full of water so no personal investigation could be made.

The absence of any outcrop, and inaccessibility of any workings preclude the postulation of any structural interpretation of this area. All that can be said is that here is an area of Cambrian rocks intruded by granite which has been responsible for the formation of lodes of tin and tungsten; and apparently the scheelite lodes are separate from those containing tin.

It is interesting to compare what is known of this deposit with that at Grassy. The latter is a pyrosomatic deposit formed by the replacement and alteration of certain limestone beds, caused by and situated close to a granite intrusion. These beds are the principal source of scheelite but the mineral does also occur in lode formation. Whether such replacement beds occur in this area is yet to be discovered. The nearest observable granite is some five miles distant but because of the sandy cover of the flat country it is impossible to say if it is any closer.

The amount of work done is too superficial to warrant any definite conclusions. However it is definite that scheelite occurs in this area and the geological set-up is such that larger deposits could quite easily occur beneath the blank surface. It is an area that strongly recommends itself for a boring campaign as apart from the possibility of the location of valuable scheelite deposits, the tin lodes also may well prove payable. At this stage it is difficult to plan a detailed boring campaign and this should be developed as the evidence of the cores increases. I would first suggest a site a few chains west of either "C" shaft or the sampled shaft with an inclination of about 60° to the East. If any favourable formation were cut I would suggest an extension North and South and later exploration to the West to try and locate the granite contact.

Signed: T. D. Hughes,
GEOLOGIST

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