

REPORT ON RECENT TIN DISCOVERY AT QUEEN HILLZEEHANIntroduction:

While prospecting for silver lead on the north western slopes of the Queen Hill, the attention of Messrs. E.A. Tomkins & Ledger was attracted by a heavy, creamy mineral in sandstone, which was subsequently proved to be cassiterite, tin oxide.

At the time of my examination on February the 12th last, little prospecting had been done and six shallow holes only had been put down on what was thought to be three lines of lode.

Location and Access:

The occurrence is situated on the north western slopes of the Queen Hill, approximately 25 chains west of the intersection of Fowler and Main streets. The Trial Harbour road passes within a few chains of it, about half a mile from Zeehan.

The area is held under application for a mining lease 11781/M of 50 acres, in the name of E.A. Tomkins.

Geology:

The whole area appears to be occupied by slates and sandstones of Silurian age. They are very much crushed and distorted and where observed have a general east west strike. The Queen Hill rises to approximately 900 feet above sea level, and about 250 feet above the lowest prospect. All prospects occur to the west of Clarkes lode which is a stannite, galena and pyrite lode.

Owing to the lack of exposures, little detail relating to the nature of the occurrence is available, and although in the past numerous adits have been driven into the hill, few are available for inspection. Six shallow cuts represents the extent of prospecting performed at the time of the writers examination.

No.1 Prospect

This is situated on a levelled area just east of the Oonah tram bridge and consists of three surface chippings and a small cut approximately one foot deep. These show the tin oxide to be present.

No.2 Prospect

A small cut about 2 chains south east of No.1 prospect exposes a quartz - cassiterite formation approximately five feet wide, striking north 20° west, with a slight easterly dip. The formation consists of white to bluish quartz veins ramifying a cellular quartz mass, with superficial filling of the interstices with crystals of creamy to light greyish coloured cassiterite. The hanging wall consists of slates. A few feet south east, another small cut uncovers a formation of quartz with leached sulphides, and oxides of iron in a honeycomb structure.

A short adit was driven to intersect a pyrite lode, a few feet west of No.2 prospects; it consists chiefly of pyrite with a fair proportion of sphalerite, and a little galena. No chalcopryite was observed.

No.2 Prospect (cont.)

Black slates form the hanging wall, while the footwall consists of white sandstone and slates.

No.3 Prospect

Approximately two chains north east of No.2 prospect a small cut exposes a quartz-cassiterite formation similar in character to those exposed elsewhere.

Although evidence of the true nature of the tin deposits is not so apparent on this section, it is sufficient to deduce that the cassiterite is a product of the weathering of the stannite lodes. Evidence of the transition from sandstone-quartzite-cassiterite to quartz-chalcopyrite-stannite and cassiterite to finally, pyrite-galena-stannite can be seen on Heywood's section south, and adjoining Tomkins section, where a sulphide lode apparently parallel to Clarke's lode, has been worked for silver lead. A section across the lode shows quartz pyrite then galena with some chalcopyrite, with a band of stannite several inches wide on the eastern wall. Tracing this along the surface, at one place can be seen the alteration of the sulphide ore to the tin oxide in quartz with iron oxides.

The stannite, in part shows partial oxidation with low pyramidal, transparent crystals of cassiterite completely surrounding blebs of chalcopyrite. Minute deposits of elemental sulphur appear to be associated.

Conclusions

Sufficient evidence is available to show the nature of this occurrence, that the tin oxide has been precipitated as a result of the oxidation of the stannite.

Limited quantities of tin oxide may be expected from the detrital material but the future of the prospect will depend upon the available quantity of stannite and in view of previous prospecting operations in the immediate vicinity, the expectation of large tonnages cannot be anticipated.

Q.J. HENDERSON  
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