

TR7-23-25

5. DRILLING RESULTS, BRANXHOLM TIN DEPOSITS

by R. Jack

The area drilled is approximately $2\frac{1}{2}$ miles SE of Branhholm on an old lease 9M60. This area was formerly part of the Guiding Star tin mine and much of the surface had been sluiced exposing tin bearing greisen veins. Following a survey of the area in 1961 (Jack, 1962), Lease 9M60 was recommended for drilling after surface sampling showed appreciable quantities of tin present in the greisen veins.

GEOLOGY

Lease 9M60 is on porphyritic granite and tin mineralization occurs as cassiterite irregularly distributed in greisen and quartz greisen veins which strike at 105° - 110° magnetic and dip from vertical to 80° to the north. The greisen and quartz greisen veins were formed by greisenizing fluids moving along major joint planes in the cooling granite magma.

DRILLING RESULTS

Three diamond drill holes were bored to test the areas of highest tin values as shown by earlier surface sampling. Hole No. 1 was drilled on the NW part of the lease at a bearing of 21° magnetic and declined at an angle of 45° . The hole was in porphyritic granite for its full length of 168 feet 6 inches. Locally the granite had been altered along the joint planes to greisen and quartz-mica greisen, the degree of greisenization varying from partial to complete. In general the best tin values were formed in the completely greisenized rock and the porphyritic granite contains at best only a trace of tin. Assay results of the best sections of the hole are as follows:—

Depth	Sn (%)
12' — 14'	0.60
30' — 31' 6"	0.47
108' — 117' 6"	0.35

Hole No. 2 bearing 212° magnetic declined at 35° , length 231 feet 2 inches was located 550 feet ESE of hole No. 1 and was sited to test the deposit at its widest part and also to test a persistently mineralized quartz-mica greisen vein on the southern boundary of the lease. The drill hole was in porphyritic granite with some areas of greisenized granite. Tin values were lower than anticipated, and it was found that wide greisen veins showing at the surface were not encountered in the drill hole. These surface veins probably lensed out in depth as they do along the strike at surface. A general tightening of the major joint planes occurs at depth.

Best sections assayed were as follows:—

Depth	Sn (%)
44' — 48'	0.14
56' 6" — 59'	0.80
80' — 87' 6"	0.21
95' — 102'	0.19

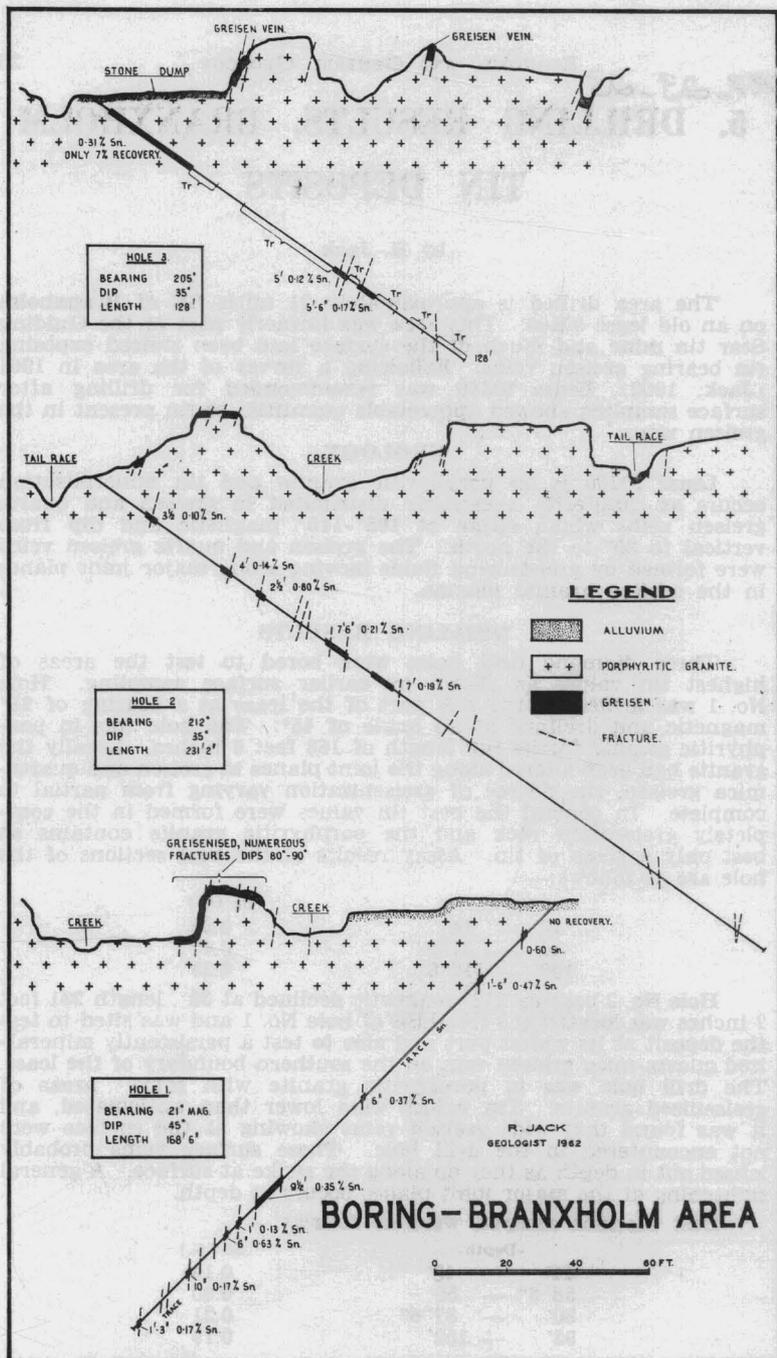


FIGURE 6.

5 cm

Hole No. 3 was sited 150 feet west of hole No. 2 and was drilled on a bearing of 205° magnetic, declination 35° and length 128 feet. It was drilled to find if there was any continuity of values between the previously drilled holes. It was found that the greisen encountered in hole No. 2 from 80'-87' 6" and 95'-102' is probably the same as encountered in hole No. 3 from 84'-89' (0.12% Sn) and 92' 6"-98' (0.17% Sn). If this correlation is correct there is a decrease in both width and grade of the veins in hole No. 3 and this appears to correspond with the poorer values noted at the surface.

CONCLUSIONS

The results of drilling are discouraging, and no tin bearing veins of economic width or grade were encountered, also the area does not appear to have any potential for low grade bulk mining. There was a marked fall off in both grade and vein width with increasing depth which also makes the prospect less attractive. No further drilling is recommended on this or any other of the geologically similar deposits in the Branxholm district.

REFERENCE

JACK, R., 1962.—Tin deposits, Branxholm. *Tech. Rep. Dep. Min. Tas.*, 6, 23-31.