BRUCEJACK LAKE (SULPHURETS) PROSPECT
(104B/8)

By T. G. Schroeter

INTRODUCTION

The Brucejack Lake (Sulphurets, MI 104B-118) precious metals epithermal prospect, located approximately 65 kilometres northwest of Stewart, was examined from August 3rd to 6th inclusive. Brucejack Lake, part of the larger Sulphurets property, is covered by the Red 1 Group mineral claims (Red River, Red River 2 to 7 inclusive, and Tedray 12). In total, the Sulphurets property consists of 240 units including three fractional claims and six two-post claims. It covers parts of 104B/8E, 8W, 9E, and 9W. The claims are held by Granduc Mines Limited, Esso Resources Canada Limited, and Sidney F. Ross. The property is being operated by Esso Resources Canada Limited under option from Granduc Mines Limited and Sidney F. Ross. Access is by helicopter from Stewart. During exploration, Esso Resources Canada Limited utilized a helicopter from their base camp located on the north side of Mitchell Creek, about 200 metres east of McTagg Creek.

GEOLOGY AND MINERALIZATION

Small precious base metal showings occur over a large area within altered Early Jurassic andesitic volcanic and sedimentary rocks (arenite and argillites) of the Unuk River Formation. The mineralization occurs in sericite schists that represent areas of moderate to intense wallrock alteration. Hornblende syenites and alkali feldspar syenites that intrude the sequence have also undergone local intense alteration. Numerous north-south to northwesterly faults cut across the property -- including the Brucejack fault. Middle Jurassic Betty Creek Formation rocks occur to the east. The dominant alteration products include sericite, K-feldspar, silica, carbonate, and chlorite. Sulphide mineralization, found in five separate mineralized zones spaced along a 7-kilometre belt, occurs as low-grade disseminations ('porphyry' gold), as veins (for example, Iron Cap), and as epithermal stockworks (for example, Brucejack Lake). Minerals include pyrite, chalcopyrite, molybdenite, ruby silver, stephanite, cerargyrite, electrum, native gold, tetrahedrite, freibergite, argentite, galena, sphalerite, and bornite in a gangue of quartz, barite, and calcite. Cerargyrite has been identified in a purple rind on silver-bearing veins in the Brucejack area (Dane Bridge, personal communication, 1982).

The main area of interest this year was Brucejack Lake where several showings of precious metal mineralization have been found and partially tested over a 2-square-kilometre area. At the time of the writer's visit, 120 short, hand-blasted trenches had been completed and diamond drilling was in progress.

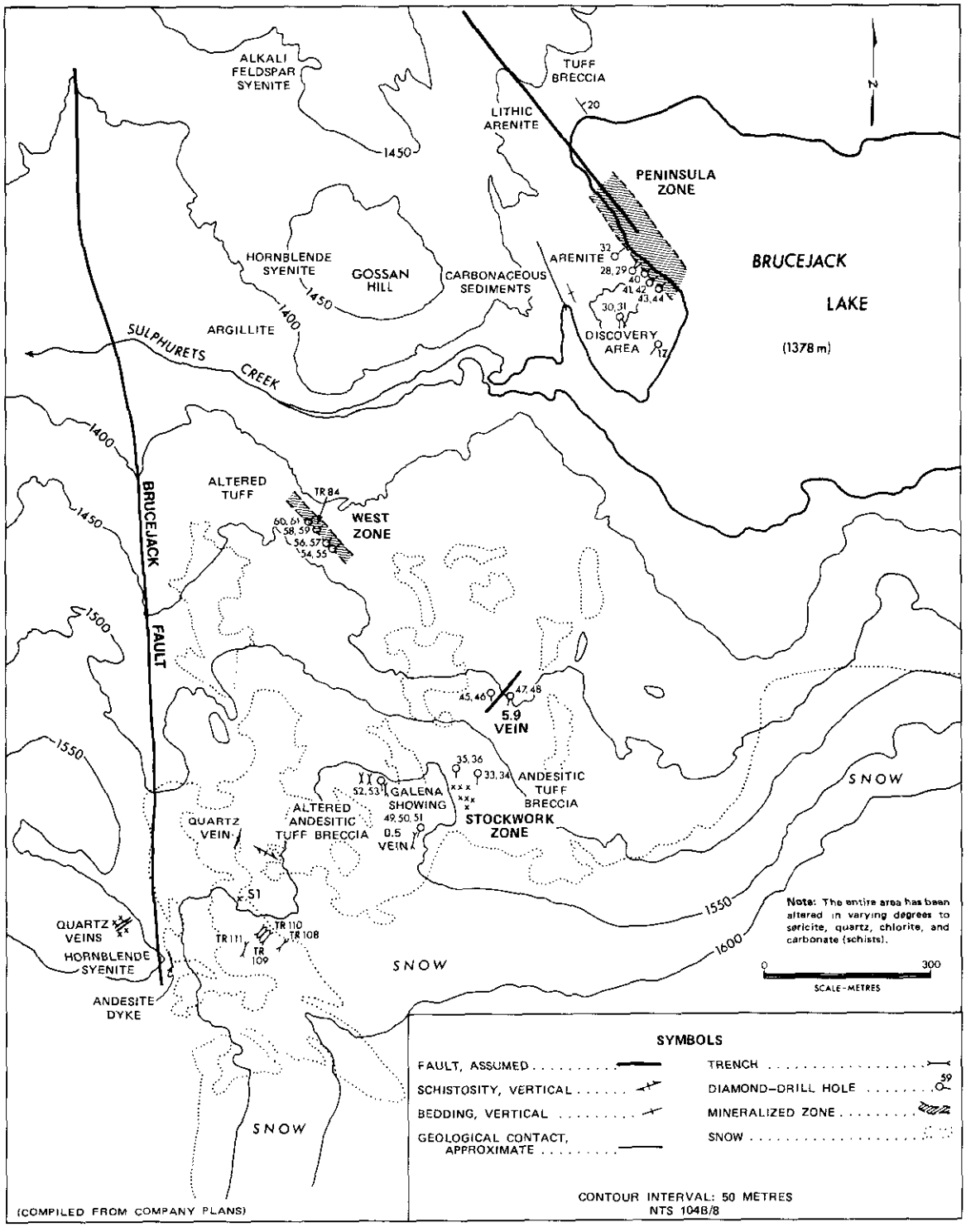

Figure 59. Brucejack Lake (Sulphurets) property (compiled from company plans).

During 1982, 53 diamond-drill holes totalling 4 633.4 metres were drilled on the Sulphurets property. On the Brucejack Lake prospect 1981 and 1982 drilling includes diamond-drill holes 28, 29, 32, 40 to 44 and 63 to 76 in the Peninsula zone; 54 to 62 and 80 to 91 in the West zone; 33 to 36 in the Stockwork zone; 52, 53 and 92 to 95 in the Galena showing; 45 to 48 in the 5.9 vein; and 17, 30 and 31 in the Discovery area on the peninsula.

Two principal zones have been identified:

(1) PENINSULA ZONE (Near Shore zone), which has been traced for 265 metres and to a depth of 140 metres by intersections in 22 drill holes. The zone is still open. Grab samples collected by the writer ranged in value from 0.1 ppm gold and 43 ppm silver up to 2 ppm gold and 2 924 ppm silver with lead and zinc values up to 1.49 per cent and 3.33 per cent respectively.

(2) WEST ZONE, which was tested by 21 drill holes along a length of 310 metres and to a depth of 60 metres. It is still open. True widths are estimated to range from 0.6 to 4.0 metres. Some very high grades over narrow widths have been obtained. Ruby silver, freibergite, electrum, native gold, stephanite, galena, pyrite, and sphalerite occur in a stockwork of quartz veinlets in sericitic andesitic tuff. Mineralized grab samples containing sulphides in quartz veinlets that the writer collected ranged in value from 4.8 ppm gold and several thousand ppm silver up to 275 ppm gold and 67 525 ppm silver. Copper ranged from 0.54 per cent up to 2.74 per cent, lead from 0.4 per cent up to 2.50 per cent, and zinc from 0.027 per cent up to 4.5 per cent.

Other showings or zones tested include (*see* Fig. 59):

(3) GALENA SHOWING -- galena, sphalerite, pyrite, chalcopyrite, and native gold occur in quartz and barite veinlets in sericite schist (altered andesitic tuff); grab samples collected by the writer ranged in value from 1 ppm gold and 69 ppm silver to 9.3 ppm gold and 1 276 ppm silver; copper values ranged from 0.02 to 0.52 per cent, lead from 0.04 to 7.7 per cent, and zinc from 0.02 to 4.78 per cent.

(4) TRENCH 108-111 RIDGE -- galena, tetrahedrite, electrum, argentite, sphalerite, pyrite, and chalcopyrite occur in a quartz stockwork in sericite schist (altered andesitic tuff); grab samples collected by the writer ranged in value from 0.3 ppm gold and 10 ppm silver to 56 ppm gold and 5 166 ppm silver; copper values ranged from 0.05 to 0.68 per cent, lead from 0.6 to 5.9 per cent, and zinc from 0.12 to 5.87 per cent.

(5) 0.5 VEIN -- sulphides in quartz veins in sericite schist; grab samples collected by the writer ranged in value from 16.5 ppm gold and 187 ppm silver to 36 ppm gold and 235 ppm silver; copper ranged

from 0.25 to 0.66 per cent, lead from 1.19 to 3.8 per cent, and zinc from 3.01 to 4.5 per cent.

(6) STOCKWORK ZONE -- pyrite, galena, and sphalerite in a quartz stockwork in sericite schist.

(7) 5.9 VEIN -- native gold, electrum, pyrite, galena, sphalerite, ruby silver in a quartz stockwork in sericite schist.

ACKNOWLEDGMENTS

The writer would like to acknowledge the cooperation and logistical support provided by Esso Resources Canada Limited.