## SWAKUM MOUNTAIN*

800507

**Copper**

**Torwest Resources Limited** (50° 120° S.W.) Company office, 400, 837 West Hastings Street, Vancouver 1.

W. E. Garnett, president; W. H. Taylor, resident manager. The property is at the top of Swakum Mountain, 12 miles north of Nicola and is reached by a motor road up Clapperton and Shuta Creeks. It consists of Mineral Leases 3 and 4, the former Crown-granted Alameda group, Mineral Lease 5, the former Crown-granted Corona group, and Mineral Lease 6, the former Crown-granted Complex group, and 176 claims held by record. The property includes a number of old showings, chiefly the Lucky Mike, Thelma, Alameda, Last Chance, and Gold Gozzan, upon which work has been done intermittently since the first discovery in 1916. In 1958 extensive trenching and diamond drilling in the area north of Swakum Peak was done by the present company, which acquired the property in 1958.

References to previous work are contained, under the old property names, in the Annual Reports for 1917, 1924-26, 1928-30, 1934-35, and 1958, and in Memoir 249 of the Geological Survey of Canada.

The rocks are lavas, tuffs, and conglomerate. The section, as exposed in trenches and outcrops northwest of Swakum Peak, shows an older andesite porphyry exposed for a thickness of 150 feet, overlain by 450 feet of basalts, overlain in turn by lithic and crystal tuffs with minor intercalated limestones. This last member is faulted, but it is at least 300 feet thick and probably is considerably thicker. At the top of Swakum Mountain and to the east

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of it the tuffs are overlain by a conglomerate. The map accompanying Memoir 249 (Nicola Sheet) indicates only rocks of Nicola age, but the conglomerate bears some lithologic resemblance to the Lower Cretaceous Kingsvale conglomerate exposed west of Guichon Creek. Although quartz porphyry dykes have been reported, no definitely intrusive rocks were recognized. Garnet-epidote skarn is developed in limy tuffs near limestone lenses and as localized patches in many other tuff beds.

The beds immediately north of Swakum Peak strike about north 55 degrees east and dip southeastward. The dips steepen from about 30 degrees at 2,000 feet northwest of the peak to 80 degrees immediately east of it. From about 2,500 feet north of the peak to the end of the trenching, which is some 5,000 feet north, the structure is anticlinal, illustrated by the distribution of bedding attitudes and of rock types in drill cores. The axis strikes about north 10 degrees east and passes immediately west of the old Last Chance workings.

To explain this sudden northward change in structure, a fault is postulated striking about north 80 degrees east and crossing about 2,500 feet due north of Swakum Peak. The only direct evidence of such a fault are crushed zones in the cores of two drill holes, the distribution of limestone on surface and in drill cores, and anomalous bedding attitudes in the vicinity. The horizontal shift would necessarily be at least 3,000 feet with the southeast side moving southwest. No flow rocks were recognized in exposures north of this presumed fault. A prominent fault striking north 40 degrees east and dipping steeply southeast is exposed in four trenches for a distance of 1,700 feet. It is a strike fault and follows a bed of

carbonaceous tuff. The direction and amount of movement on this fault are not known. On the west side of the trenching a sudden change on strike from andesite porphyry to basalt takes place across a gully which possibly represents a fault striking north 25 degrees east.

Mineralization is chiefly pyrite, pyrrhotite, and chalcopyrite, with local sphalerite, galena, and scheelite, and occurs either with quartz in small shears and fractures or disseminated in skarn and limy tuffs.

At the west side of the trenching 1,500 feet northwest of the peak, two narrow quartz veins in shears have been opened by an adit and a 15-degree inclined shaft in the face of a cliff. One shear strikes north 75 degrees west, dips 80 degrees north, and contains quartz, pyrite, chalcopyrite, and a little magnetite over a width of about 2 feet. The other 150 feet to the north is a thin, drusy quartz stringer striking north 50 degrees east and dipping 20 degrees northwest, and contains pyrite, chalcopyrite, and galena. The wallrocks are basalt. On the east side of the trenching, on the boundary between the Old Alameada and Old Alameada No. 1 claims, the Alameada shaft was put down many years ago on a northerly striking mineralized shear or fracture dipping about 45 degrees to the west. The shaft and surrounding pits have been caved for many years. Spoil on the dump is quartz with pyrite, galena, sphalerite, and chalcopyrite. The shaft is reported to have followed a 2-foot vein to a depth of 125 feet in limy tuffs. A hole drilled by Torwest intersected a quartz stringer containing abundant pyrite and some sheared rock 140 feet to 150 feet below the shaft, about on the reported dip of the vein. There was no limestone in the drill core.

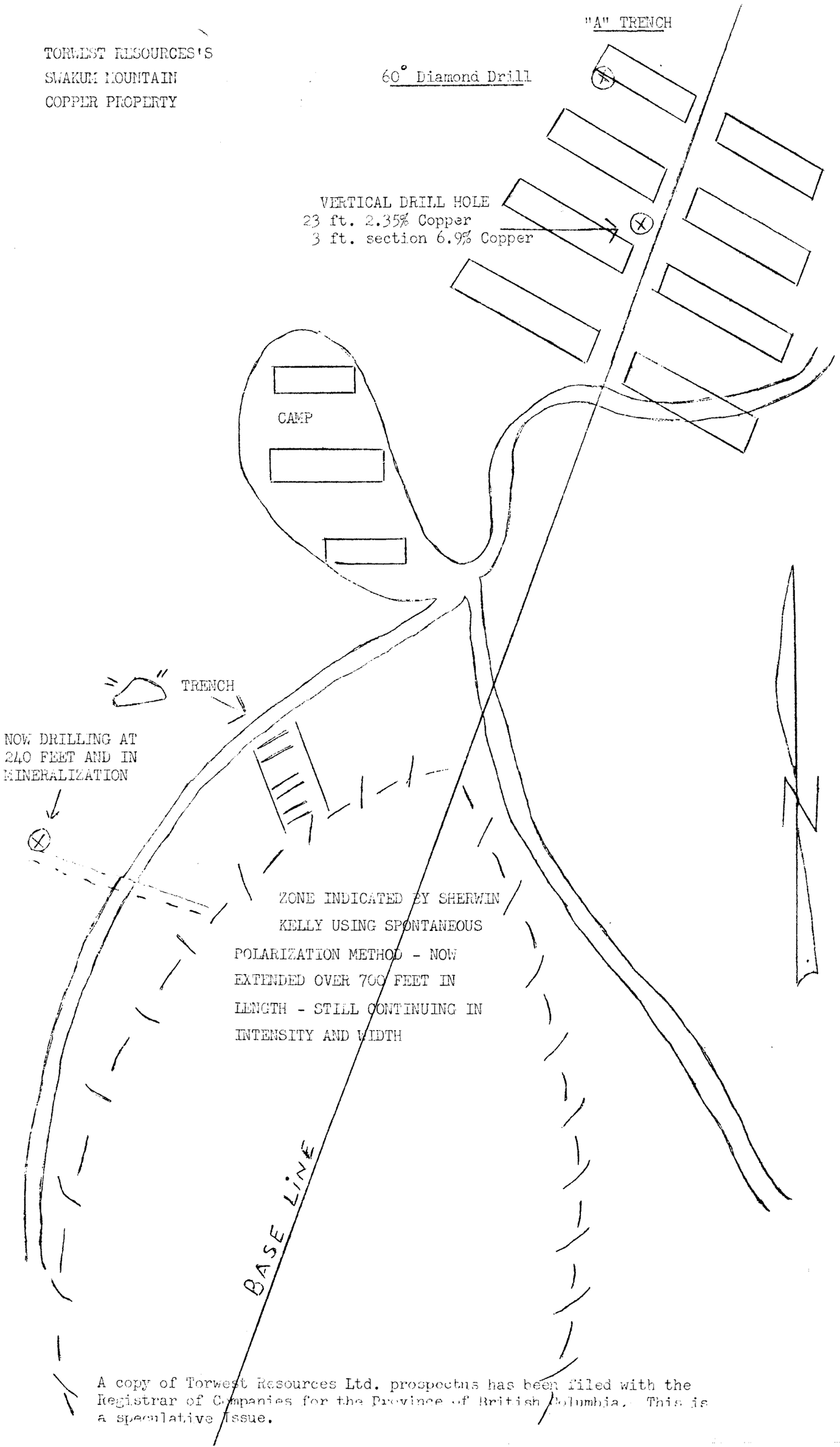
The principal showing is the one known for many years as the Last Chance workings. It is 4,000 feet on a bearing of north 15 degrees east from Swakum Peak and on the boundary between the CAM No. 2 and CAM No. 4 mineral claims. Scheelite occurs in the skarn in small quantities usually not recognizable without the aid of an ultraviolet lamp. Sampling for tungsten content was done by diamond drilling in 1943 (Memoir 249) as a part of the national programme to obtain tungsten supplies. The geology, with the holes drilled since the sampling drilling, is shown in Figure . The occurrence consists of two lenses of skarn enclosed in limy tuffs and limestone, striking a little east of north and dipping 50 to 75 degrees east. The skarn consists chiefly of red garnet and is erratically mineralized with pyrite, pyrrhotite, and chalcopyrite. Repetitions of tuff beds in holes 42, 43, and 44 indicate that the showing is on the east limb of an anticline, tee axis of which is about at the west side of the trench. Though local concentrations of chalcopyrite occur, much of the skarn is very sparsely mineralized and the showing as a whole is not impressive. No drilling has been done along strike to north or south of the exposure.

About 700 feet south and west of the Last Chance showing a limy tuff, altered in patches to skarn, contains disseminated chalcopyrite. It is 10 to 15 feet thick, strikes north 10 degrees west, and dips 20 degrees southwest. Similar mineralization was encountered in a 1-foot drill intersection about 200 feet along the strike and at what is probably the same horizon.

A self-potential survey made in 1958 indicated a series of high readings which appear to correspond to the trace of the carbonaceous tuff bed. This method is sensitive to carbonaceous material.

All of the present showings appear to be severely limited in extent. If more exploration is contemplated, consideration might be given to delimiting the tuff-limestone horizon and testing it by geophysical and geochemical methods.

TORWEST RESOURCES'S
SWAKUM MOUNTAIN
COPPER PROPERTY




A copy of Torwest Resources Ltd. prospectus has been filed with the Registrar of Companies for the Province of British Columbia. This is a speculative issue.