



42B01NE0119 63A.23 PENHORWOOD

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63A-23

GEOLOGICAL REPORT
CLAIMS S-39774-5 and S-40254-9
PENHORWOOD TOWNSHIP
SUDBURY MINING DIVISION

GENERAL. The property described is part of a larger group of claims under development by Nib Yellowknife Mines Limited. Two other portions of the same group (claims S-39730-1 and S-39046-9) have been previously reported on.

Work on this property was carried on from June 12th to October 31st, 1947 by a crew of from two to five men under the direction and supervision of F. Joubin, geologist, and L. Tessier, mining engineer.

Prior to the recent geological mapping and prospecting of these claims by Nib Yellowknife Mines Limited, no apparent exploration or development on these claims appears to have been undertaken.

PROPERTY AND TITLE. The eight mineral claims considered, Nos. S-39774-5 and S-40254-9, are part of the fourteen-claim "Bromley-Lafortune Group", under option to Nib Yellowknife Mines Limited of 19 Melinda Street, Toronto, Ontario. Mr. W. H. Bouck is the recorded trustee for the company. Mr. Bouck's address is 10 Adelaide St. E., Toronto, Ontario.

LOCATION AND ACCESS. The claims considered are situated in the north central part (Ranges 10 and 11) of Penhorwood township, Sudbury Mining Division. They lie just north

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of Jehann Lake. Their position is shown in heavy outline and in the inset plan which accompanies this report.

The claims may be reached by a six mile road and river route from Kukatush, a flag-stop on the Canadian National Railway, or by a six mile road from Kukatush to Jehann Lake. Various foot-trails and drill-roads on the property are shown on the plan.

GEOLOGY. As shown on the accompanying plan, outcrops are more numerous on the eastern half of the property. All claims except the land half of the No. S-40254 have some outcrops on them. These outcrops include, among the intrusives, diorite (in part gabbro), grano-diorite, feldspar porphyry and diabase. Among the layered rocks are andesite, rhyolite, andesite agglomerate and argillite. An altered type, (map legend No. 11) could not be definitely identified; it may be an altered granitic intrusive or an arkosic type of sediment. In places this last rock type has been converted to a light coloured schist.

The diorite outcrops on claims 39774, 39775 and 40258. It is shown as number four on the map legend. This rock type is a fine to coarse grained, in general massive, hornblende diorite. In places some pyroxene is present and the rock more closely resembles a gabbro. Over certain areas of the property, but not on the claims here described, this rock type is altered to a soft carbonate-rich rock with its original crystalline texture still recognizable.

The grano-dioritic type of rock occurs only on claim S-39775. It differs from the above described diorite by containing a higher proportion of feldspar (a part of which is recognizably sodic or potassic) and a little quartz. It is conceivable that the relatively small area of this rock type may mark simply an

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altered phase of the diorite. Its distribution within the crotch of, and near the contacts of a branching quartz-diabasic mass appears noteworthy.

The feldspar porphyry, shown as type No. 2 on the map legend, occurs on claims S-40255, 40256 and 40257 and 40258. This rock type varies from a medium to coarsely crystalline texture, is a grey colour and is generally massive with a blocky fracture.

The diabase, (in part quartz-diabase), is shown as No. 1 on the map legend. This rock type occurs on claim S-39775. Here the rock is of medium grain, fresh-looking and massive, with a blocky fracture. It appears to form a north to northwesterly trending, branching dyke.

The andesite, shown on the map legend as Nos. 9 and 10, occurs on claims S-39775, 40255, 40257 and 40258. This rock occurs as two distinct types. One type is fine grained, green, generally massive and locally contains amygdules. The other type is porphyritic with feldspar phenocrysts up to one inch across in a ground mass similar to the first type described. Some effort was made to separately map these types but there appears to be no recognizable pattern to their distribution.

The rhyolite, shown on the map legend as No. 8 occurs on claims S-40255, 40256 and 40259. This rock type is not widely distributed. It is a dense, fine grained, pale grey acidic rock. It is generally massive and fractures in a brittle manner. This rock type although grouped with the volcanics, may be, in whole or in part, a sediment or other rock altered by siliceous replacement to resemble a rhyolite, or it may be in part, an aplitic phase of the porphyry.

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The agglomerate, shown on the map legend as No. 6, occurs on claims S-40255 and 40258. The rock consists predominantly of acid (probably rhyolitic) fragments in a fine grained andesitic ground mass. This rock type is of distinctive appearance and it was separately mapped in the hope that its attitude and distribution would indicate the general structure of the volcanic rocks.

The argillite, shown on the map legend as No. 7, occurs on claim S-40259. This rock type is generally fissile, sheared apparently conformable to the bedding. A little conglomeratic material is present. The strike and dip, but not the tops of the bedding, were recognizable in some outcrops.

A metamorphosed rock type is present on claim S-40256 where it is shown by the legend No. 11. This rock type may be an arkose, a partially silicified sediment or tuff or possibly an altered, fine grained, granitic rock. If some of the rock type mapped as rhyolite is a silicified, metamorphosed phase of some other rock, then the rock here described might represent an intermediate phase of this silicification. It is noteworthy that this rock type, like the rhyolite (so-called), occurs in the marginal zone of feldspar porphyry masses.

STRUCTURE AND INTERPRETIVE GEOLOGY.

The diorite and lesser amounts of associated gabbro, make up the largest intrusive mass on the claims. This intrusive body occupies the northeast corner of the property as a stock-like form with apparently at least one long relatively narrow tongue extending westerly from the main mass.

The grano-diorite occupies a relatively small area and the form, size or nature of the mass is unknown.

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The feldspar porphyry appears of form several probably small and apparently isolated masses. The diabase appears to form a branching, north to northwest trending dyke, 100 feet or more in width.

The age relationship between these various intrusives is obscure except for the diabase. The diabase is definitely later than the diorite. The above intrusives are seen to cut all the layered rocks except the argillites, of which there are but a few closely-clustered outcrops.

The structure or stratigraphy of the andesite, rhyolite, agglomerate and argillite is not known. The only reliable bedding attitude seen is present in the argillite. This gives a strike of N 85 degrees E and a dip of 80 degrees to the north. There is some suggestion that the argillite may be overturned at this point. In general, the distribution of andesite and agglomerate outcrops, with a few outcrops of argillite, suggest a northeasterly trend with some gentle drag-folding. The general pattern of schistosity, which appears to parallel bedding, suggests the same. In general the schistosity has a northerly dip.

The presence of a shear zone, and possibly fault zone, is suspected on claim S-40257. Its approximate position would underlie the arm of the lake shown and it would strike about north-north-east to join the talcose zone of shearing that outcrops on claim S-39047.

MINERAL SHOWINGS. No mineral showings were found or are known to be present, on the claims here described.

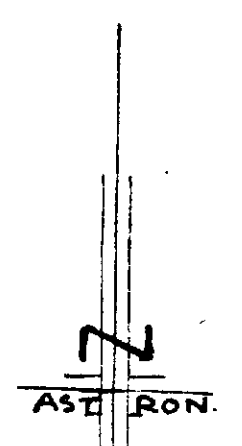
6-continued

SUMMARY AND RECOMMENDATIONS.

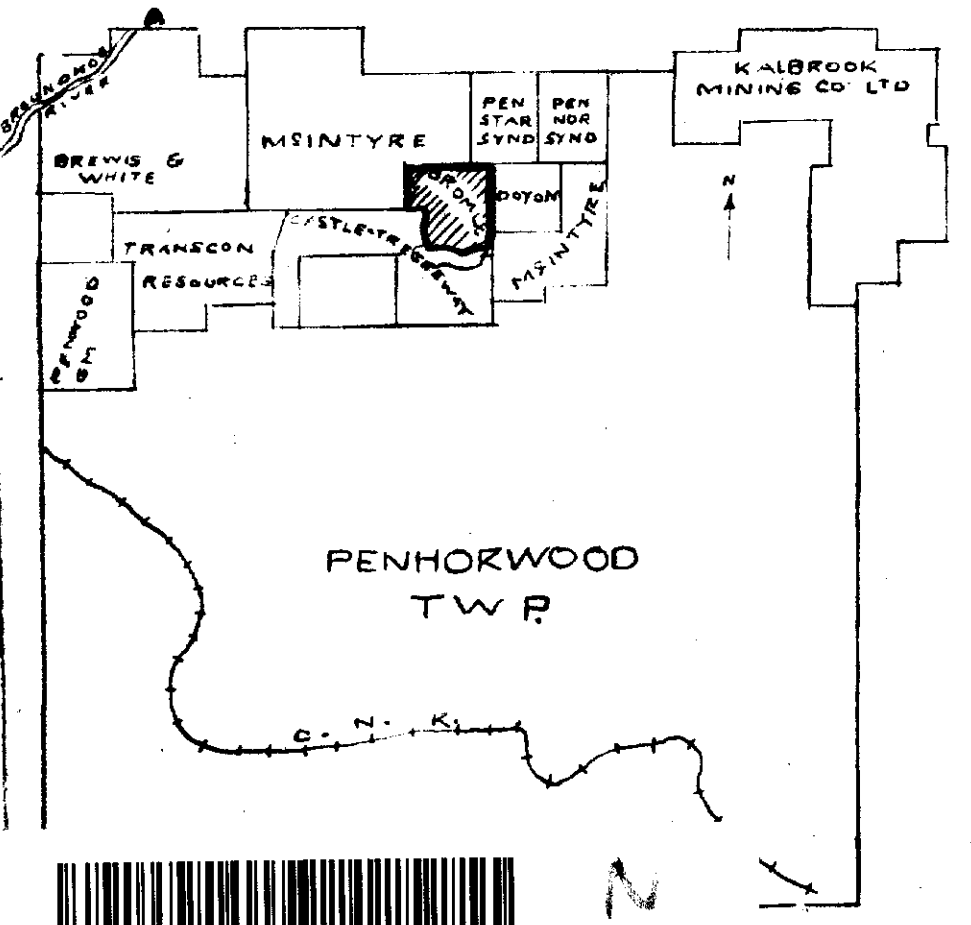
1. Some trenching, if possible, be undertaken to explore the feldspar porphyry contacts on claims S-40255, 40256 and 40258 to learn if these are mineralized.
2. If trenching cannot satisfactorily accomplish this, then consideration be given to shallow-hole exploration of these contact zones with the company's diamond drill.

Respectfully,

F. Joubin
F. Joubin,
Geologist,
November 22, 1947,
Toronto, Ontario:



- Legend**
- QUARTZ
 - DIABASE
 - FELDSPAR PORPHYRY
 - SKANDIOTITE
 - DIORITE, GABBRO
 - TALC SCHIST
 - TUELSMERICATE
 - ARGILLITE
 - KNYOLITE (& APLITE?)
 - ANDESITE (10) PORPHYRITIC (20)
 - ARKOSE? ALTERED GRANITIC TYPE?
- Symbols**
- Claim Post
 - Claim Line
 - Pocket Line
 - Trail or Drill Road
 - Boundary of High Ground
 - Pit in Rock
 - Trench
 - Sand Ridge
 - Marsh or Muskeg
 - Outcrop
 - Campsites
 - Rapid
 - Schistosity
 - Bedding



*Tracy Joyline
Nov 12, 1947
Toronto, Ont.*

NIB YELLOWKNIFE MINES LTD.
PENHORWOOD TOWNSHIP
GEOLOGICAL SURVEY
SCALE 1"=200' COVERING DATES JUNE 12TH 1947
OF
SURVEY AUG. 6TH 1947