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GEOLOGY  
TYERS RIVER (NORQUE) AREA  
YUKON TERRITORY  
ATLAS EXPLORATIONS LTD

-by-

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SUMMARY

Precambrian and Palaeozoic sediments, meta-sediments, and volcanics of the east part of the western cordillera trend northwest and are intruded by Mesozoic granites. Glaciation, both erosion and deposition, mask any continuity of structure between interpreted fragments.

The Norque lead deposit appears to be fault controlled, and deposits of the area are likely to be both replacement and fracture filling types. Airborne geophysics for the valleys and stream sediment sampling for the hills are recommended exploration techniques.

## INTRODUCTION

The Tyers River area is one of several selected by Atlas for exploration. The present photogeologic study is based largely on unpublished company maps complemented by published regional geology and aeromagnetic maps.

### The area, location and access

The area lies in the Logan Mountains of the Selwyn Range in the southeastern Yukon, at about Lat.  $61^{\circ}20'N$ , Long.  $128^{\circ}30'W$ . The Hyland River, a main tributary of the Liard, crosses the east margin of the area, and Tyers River drains westward to Frances Lake. The road from Watson Lake to Canada Tungsten mine follows the Hyland valley across the east side of the area. Watson Lake, on a short spur from the Alaska Highway at mile 630, is about 90 air miles to the south.

### Previous work

There has been no systematic government mapping in the area. Dawson's 8 mile map, G.S.C. No. 276, Yukon and Northern B.C. Sheet 2 (Annual Report III, 1898) includes the area, as does Hume's Lower Mackenzie River sheet 1. (G.S.C. Map 1032A in Memoir 273) also at 8 miles to the inch, published in 1954. Map 1048A, the Yukon Territory incorporates work prior to 1957. Since that time the airborne geophysical maps have

become available: at the one mile scale, 1382G to 1385G are of interest, and at the 4 mile scale the Frances Lake sheet, 7007G covers the area and helps continue geological knowledge, particularly from the Nahanni sheet to the north (Roddick, G.S.C. Map 14-1961)

The Frances Lake 4 mile topographic map has been used as a base for company mapping.

#### GENERAL GEOLOGY

The Tyers River area is underlain by a sequence of Precambrian and Palaeozoic sediments, meta-sediments and volcanics which strike northwest and in which dating is complicated by Mesozoic granitic intrusions. Major N.N.E. and N.N.W. faults are followed by the Hyland valley and appear to control the emplacement of magnetic igneous bodies. E.N.E. cross-faults are also common.

#### LOCAL GEOLOGY

Within the area studied, granite occupies much of the southwest sheet and Precambrian gneiss, schist and micaceous quartzite, accompanied by granitisation and aplite are mapped in the hills east of Tyers River (sheet 1). Other colouring on the available company map is not keyed to the legend, and as this better lithological information exists than what might be interpreted from aerial photographs and aeromagnetic maps, no interpretation is hazarded.

On the accompanying maps, where structural data are plotted in outcrop areas, they are believed to be reliable. Where talus slopes, for example, cover part of the outcrop, surface traces along contours may particularly be questioned; an immediate consideration is the data within and near the granite of sheet 3.

At least two synclines are evident, on sheets 1 and 4, but largely because of glacial plucking on outcrop and deep deposits between outcrop, no continuity has been established.

As with the regional geology, in the Tyers River area no dominant pattern of faulting is evident.

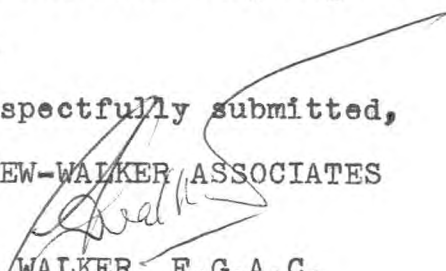
#### ECONOMIC GEOLOGY

At the Norque lead deposit, control appears to be the intersection of N.W. and W.N.W. faults.

In such an area of a variety of sediments, meta-sediments and intrusives, both replacement and fracture filling may be important. Great relief and deep alluvium hinder airborne geophysics and geochemistry. The stronger fault zones are valley forming, and flying the valleys plus stream sediment sampling for the hills may prove the answer.

Respectfully submitted,

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