

# RP 157(A)

PRELIMINARY REPORT ON TONNANCOUR - HOLMES AREA, ABITIBI COUNTY

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PRELIMINARY REPORT  
ON  
TONNANCOUR-HOLMES AREA  
ABITIBI COUNTY

Province of Quebec, Canada

DEPARTMENT OF LABOUR, MINES AND MARITIME FISHERIES

Honourable Edgar Rochette, Minister      L.-A. Richard, Deputy-Minister

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BUREAU OF MINES

A.-O. Dufresne, Director

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DIVISION OF GEOLOGICAL SURVEYS

I.W. Jones, Chief

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PRELIMINARY REPORT

ON

TONNANCOUR-HOLMES AREA

ABITIBI COUNTY

by

W.W. Longley

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QUEBEC

1940

P.R. No. 157

## TONNANCOUR-HOLMES AREA

### ABITIBI COUNTY

by W.W. Longley

### LOCATION

The Tonnancour-Holmes area, which was examined during the summer of 1940, is situated about thirty-five miles north of Senneterre. Comprising some 310 square miles, it includes, from east to west, Cuvillier, Holmes, and Tonnancour townships and the eastern part of Laas township. The northern boundary follows the northern limit of Abitibi county.

The area is readily accessible by canoe from Senneterre by way of Bell river, which flows northerly through the western part of the map-area. The eastern part can be reached easily by Tonnancour river, and Holmes and Cuvillier lakes.

The Rose Lake road, at present under construction, extends from south to north across Laas township, following the western side of Bell river.

### GENERAL GEOLOGY

Exposures of bed-rock are abundant in the central and eastern parts of the area, but are scarce in the western part in the vicinity of Bell river. Apart from a few gabbro dykes, the rocks encountered are Keewatin-type volcanics, with possibly some interbedded sediments, and later intrusive bodies of granite and gneiss, these latter underlying the greater part of the area.

#### Keewatin

An extensive body of Keewatin-type volcanics extends from south to north across the central part of Tonnancour township and continues in both directions beyond the limits of the map-area. In the south it has a width of about four miles, but toward the north it widens in a westward direction until it stretches completely across the northern part of Tonnancour and Laas townships. This body consists of rather massive pillow lavas, massive volcanic flows, and some fragmental lavas and tuffs. In general, the rocks have a "fresh" appearance, although in places, especially in the tuffs, they are sheared and carbonatized. They dip steeply and strike in a general east-west direction.

A narrow belt of greenstone extends eastward across the southern part of Holmes township and for a short distance into Cuvillier. The rock has been highly metamorphosed and is now a well banded, medium to fine grained, amphibole-quartz schist. The

sharp demarcation between the amphibole-rich and the quartz-rich bands, which vary in thickness from a small fraction of an inch to an inch or so, suggests that the rock is of sedimentary origin. Similar rock occupies the short narrow band of greenstone that lies across the Holmes-Cuvillier boundary line south of the river draining Cuvillier lake.

In the extreme north of the area, another, somewhat wider, belt extends eastward from near the centre-line of Holmes township to and beyond the eastern boundary of Cuvillier. For the most part, the rocks here are pillow lavas, massive lavas, and tuffs, similar to those farther west, in Tonnancour township, but in places, especially near the southern margin of the belt, there is a well-banded amphibole-quartz schist like that in the greenstone belt in the southern part of the map-area.

The southwest corner of the area is occupied by banded rhyolite and andesite interbedded with tuffs.

### Intrusive Rocks

The greater part of the area mapped is occupied by gneiss and granite. Locally, in the central and eastern parts, pegmatite and aplite are common.

Except for the northern and southern belts of greenstone mentioned above, practically the whole of Holmes and Cuvillier townships are underlain by a body of gneiss, which continues eastward and southward beyond the limits of the map-area. In places, the foliation is conspicuous; in others, it is quite obscure. Biotite is the predominant ferromagnesian constituent of the rock, which is best described as a biotite-granite gneiss.

In the northeastern part of Cuvillier township; however, the rock is a fine grained pink granite, the northern belt of greenstone lying between this and the gneiss to the south.

The southwestern part of Tonnancour township and the southeastern part of Laas are occupied by the eastern end of a large batholith of hornblende granite or diorite.

In the southeastern part of Tonnancour there is a small stock of a quartz-rich biotite granite, marked by an unusually well developed sheet jointing; and in the extreme northwest corner of the map-area, a portion of a granite stock projects into the northern part of Laas township.

Several large gabbro dykes were observed in the area. They all have a general northeast trend, are vertical, and were seen cutting all the other rocks — greenstone, granite, and gneiss.

STRUCTURE

The general trend of the greenstone is east-west; the dips are steep. In places, however, the trend varies from this general direction, notably in the northeastern part of the area, where the strike is southeasterly. In the eastern part of Holmes township and the western part of Cuvillier, the trend of the greenstone belts in places suggests plunging folds. The foliation of the gneiss also has a general east-west strike.

Local shearing is not uncommon in the greenstone. The best examples of such shearing were seen at and west of Kiask falls, chiefly in a band of tuffaceous rock. Here the shear-zones, striking east-west, have been considerably carbonatized and are sparsely mineralized with pyrite.

ECONOMIC GEOLOGY

In past years, there has been considerable prospecting in the area, especially in the northern part of Laas township and in Tonnancour. There has been little recent activity, however, and few of the claims originally staked are now in good standing.

Several small mineralized zones and 'pockets', and a few small mineralized quartz veins, were seen in the course of the summer's work. Reference has already been made to the pyrite mineralization in shear-zones in carbonatized, tuffaceous rocks in the vicinity of Kiask falls.

Samples from all the better looking mineralized zones were collected during this investigation and were assayed in the laboratories of the BUREAU of Mines, Quebec. The results are tabulated below. As will appear, they are not encouraging.

Table of Assay Results

Sample No.	Gold, oz/ton	Sample No.	Gold, oz/ton
1-----	0.018	7-----	0.008
2-----	0.002	8-----	0.006
3-----	0.003	9-----	Trace
4-----	0.005	10-----	0.030
5-----	0.010	11-----	0.007
6-----	0.020		

Description of Samples Assayed

- No.1. - Slightly sheared and silicified andesite schist mineralized with finely disseminated pyrite; southeastern corner of Laas township.
- No.2. - Altered andesite schist cut by quartz-carbonate vein; west of the Rose Lake road, in the northeastern part of Laas township.
- No.3. - Small quartz-carbonate stringer cutting carbonatized, tuffaceous schist; west of Kiask falls.
- No.4. - Carbonatized tuffaceous schist containing disseminated pyrite; west of Kiask falls.
- No.5. - Small pocket of massive chalcopyrite from quartz stringer; northeastern part of Tonnancour township, west of Tonnancour river.
- No.6. - Narrow quartz vein carrying local small pockets of pyrite; northwestern corner of Holmes township.
- No.7. - Silicified andesitic schist, carrying small amount of disseminated pyrite; east-central part of Tonnancour township, south of Tonnancour river.
- No.8. - Small quartz vein carrying scattered flakes of specularite; east-central part of Tonnancour township, south of Tonnancour river.
- No.9. - Small pocket of disseminated chalcopyrite in highly altered amphibole schist; south-central part of Holmes township.
- No.10. - Finely disseminated pyrite in chlorite schist along a zone of slight local shearing; northwestern corner of Cuvillier township.
- No.11. - Rather massive, altered andesite containing finely disseminated pyrite; northwestern corner of Cuvillier township.

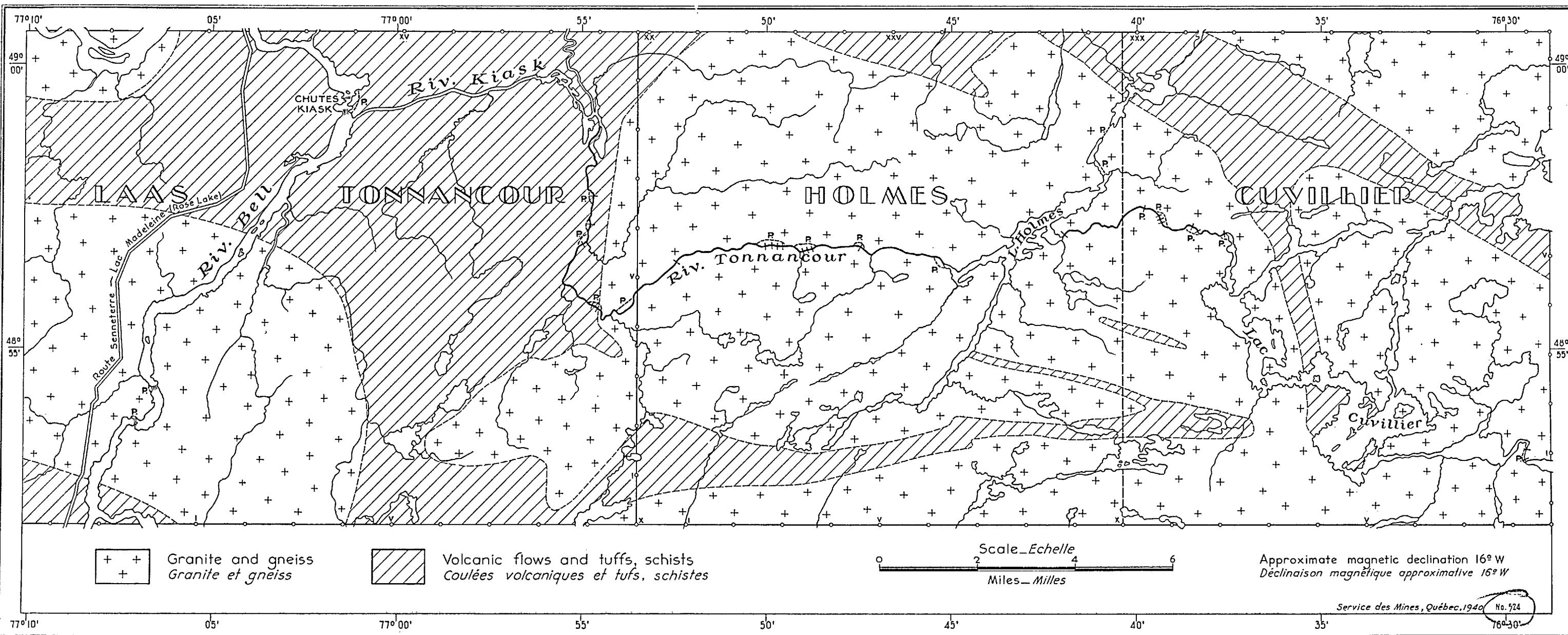
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To summarize, it may be said that the season's work did not reveal any localities within the map-area that offer particular encouragement for prospecting. Such mineralization as was seen along zones of shearing, or in quartz veins, is meagre and of very low grade and holds little promise for the occurrence of deposits of economic importance.

Geological considerations would indicate that the central and northern parts of Tonnancour township and the northern part of Laas and Holmes are favourable for prospecting, and that, within this part of the map-area, the greenstones in the vicinity of their contacts with the intrusive rocks offer the best possibilities, since they have been subjected to more intense shearing and hydrothermal alteration here than elsewhere.

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RÉGION DE TONNANCOUR-HOLMES  
COMTÉ D'ABITIBI

TONNANCOUR-HOLMES AREA  
ABITIBI COUNTY