



REPORT
On
GEOLOGICAL MAPPING
On the property of
FAIRFAX MINING COMPANY LIMITED
GILLIES LIMIT
DISTRICT OF TIMISKAMING

INTRODUCTION

The property of Fairfax Mining Company Limited, Suite 1003, Central Building, 45 Richmond Street, W., Toronto, Ont., consisting of 5 unpatented claims numbered as follows: T27823 - 27 incl., was geologically mapped between the dates October 23rd, 1947 and November 7th, Base-lines were established as per map, with north-south lines spaced 300 feet apart except on claims T27827 where the interval was 600 feet. Pickets were placed at 100 foot intervals on all lines. The ground was ranged east and west from the north-south picket lines at intervals of 300 feet.

LOCATION and ACCESSIBILITY

The property is located at Schumann Lake in the Cobalt silver area, Gillies Limit, District of Timiskaming, approximately 5 miles south of the Town of Cobalt.

A fair motor road passes within one mile of the property. The Ontario Hydro Power Co., are said to be considering the construction of a road which follows the abandoned railway line formerly servicing South Lorraine. This road would pass within half a mile of the property.

Hydro Electric and Compressed air power is within three eights of a mile of the property.

TOPOGRAPHICAL

That part of the property not covered by Schumann Lake is fairly rugged with low hills rising from the Lake.

The property is well wooded with birch and poplar on the higher ground and spruce and balsam in the lower ground.

REGIONAL GEOLOGY

The Cobalt silver area is underlain by late precambrian gently dipping to nearly horizontal sediments (conglomerates, arkose, grewacke, and quartzites) which rest upon older rocks consisting of Timiskaming sediments, Algoman or Laurentian granite and gneiss, and Keewatin lavas and tuffs. These are all cut by a quartz diabase of Keweenawan age, called Nipissing diabase. The Nipissing diabase is the youngest pre-cambrian rock of the region with the exception of some post-keweenawan olivine and quartz diabase dikes.

All the ore occurrences in the Timiskaming area, whether economic or otherwise, show a genetic connection either direct or indirect with Nipissing diabase, even when, as has frequently been the case, this formation is not the host rock of the deposits. Ore occurrences are definitely related to contacts between the diabase and intruded rocks. A second feature of the utmost importance is the pre-existing faults which limit or control ore deposition. Commercial deposits of Cobalt and silver minerals are as a rule confined to a zone within 300 feet from the contact and measured at right-angles to it. As this sill

has a known thickness of up to 1200 feet, due to erosion, various horizons of the sill and intruded rocks have been exposed resulting in any of the following conditions:

1. The diabase and intruded rock may be removed entirely so that no part of the ore zone remains.
2. The diabase alone may be removed leaving that part of the ore zone in the intruded rock immediately below the contact.
3. Only part of the sill may be eroded leaving exposed barren vein structure which may be productive on the lower contact.
4. The sill may be intact leaving both contacts on the property.

LOCAL GEOLOGY

The property is completely underlain by Nipissing diabase, medium to coarse grained in texture, which has undergone considerable fracturing and faulting, particularly that part of the property to the south of Schumann Lake.

FRACTURING & FAULTING

From field observations and aerial photographs, a strong depression is indicated extending southwest from Sawdust Lake through Schumann Lake to an offset in the Montreal River for a distance of three and a quarter miles. This depression has been interpreted as a strong fault.

Also from field observations and aerial photographs, three other faults are indicated and are noted on the map as A, B, & C, with strikes of 004 degrees, 348 degrees, and 305

degrees respectively. (See inset on Map).

North of the lake a north-south, east-west series of fractures occur. In several of these fractures, gouge up to 1/2 an inch was noted.

VEINS

On profile N6-200 south, 12 inches of fractured diabase with three 1/4 inch stringers of calcite strikes 264 degrees. Both the calcite and diabase were slightly mineralized with pyrite. A sample of this material ran a trace in silver.

A four foot width of fractured diabase with five 1/4 inch stringers of calcite is in place 100 feet east of z6 110 north, strike 094°, Dip 85 south. The calcite is mineralized with pyrite and chalcopyrite. A sample of this ran a trace in silver.

On profile LL6 - 100 north a 6 inch vein of fractured diabase and gouge with 1/2 inch of calcite strikes 078 degrees and dips 87 degrees south. A sample of this material ran a trace in silver.

CONCLUSIONS

The property is situated in the Cobalt silver area where a considerable amount of silver has already been produced.

The structure is favourable, with considerable faulting and fracturing indicated.

Mineralized calcite veins are in evidence.

It is the writer's opinion that a programme of exploration is thoroughly justified to test lower contact of the diabase sill for the location of commercial bodies of silver and cobalt.

RECOMMENDATIONS

1. Diamond drilling during the winter months to test that part of Schumann Lake where the faults converge in the vicinity of the lower contact of the diabase and intruded rock.

2. Trenching and stripping in the spring to uncover further veins, as the season is too far advanced to begin that type of work at present.

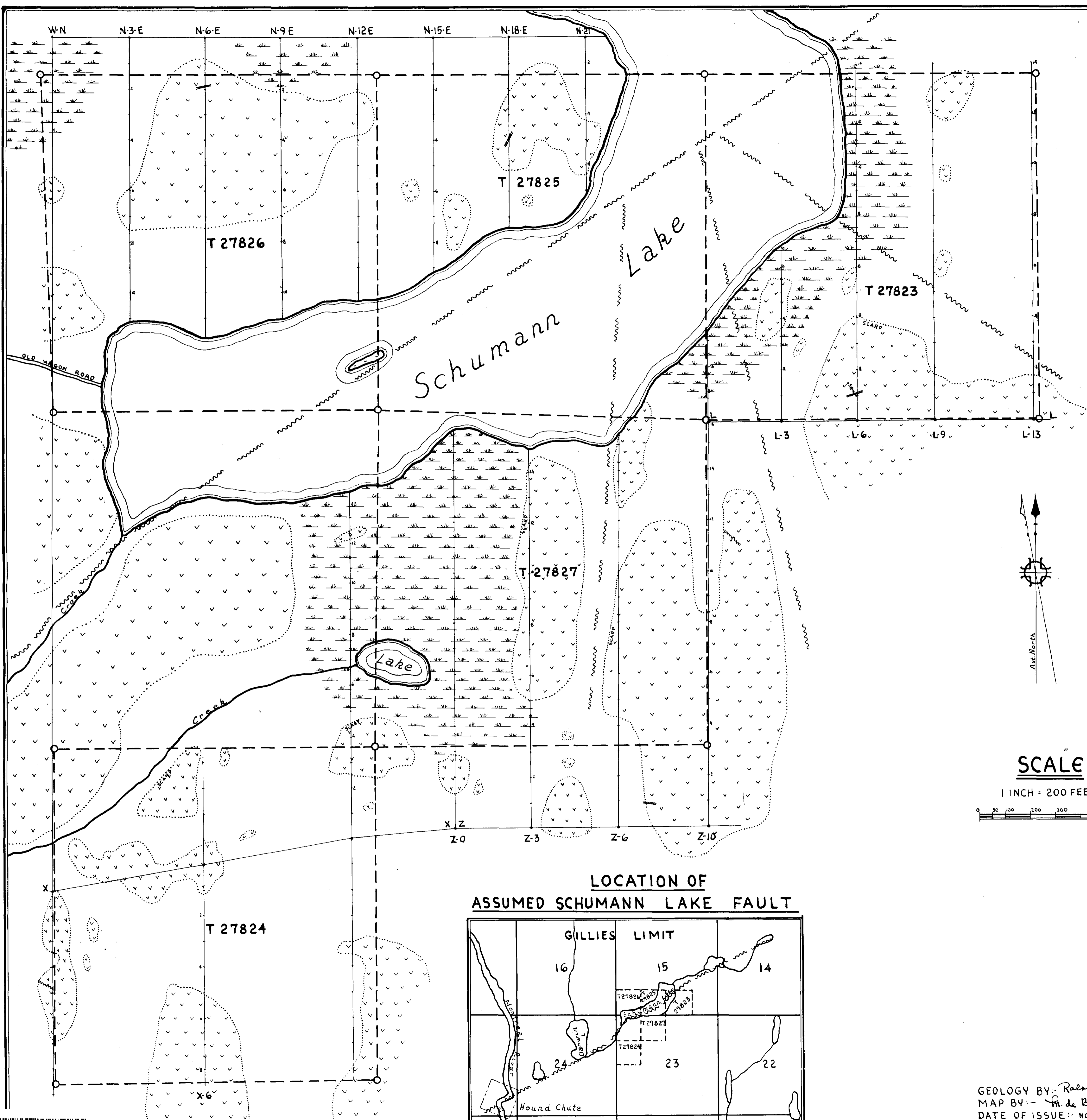
3. A programme of diamond drilling based on the results of (2) to intersect the veins at or near the contact.

Nov. 10, 1947

Ralph I. Benner

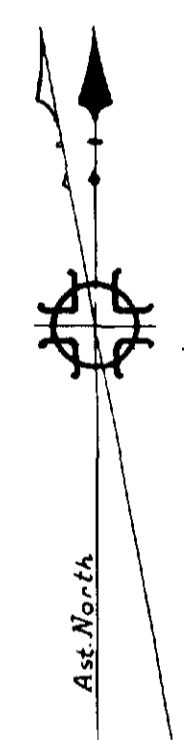
Ralph I. Benner, B.Sc.

FAIRFAX MINES
LIMITED
GEOLOGICAL MAP
 OF
SCHUMANN LAKE GROUP
 IN
GILLIES LIMIT
TEMISKAMING MINING DIVISION



LEGEND

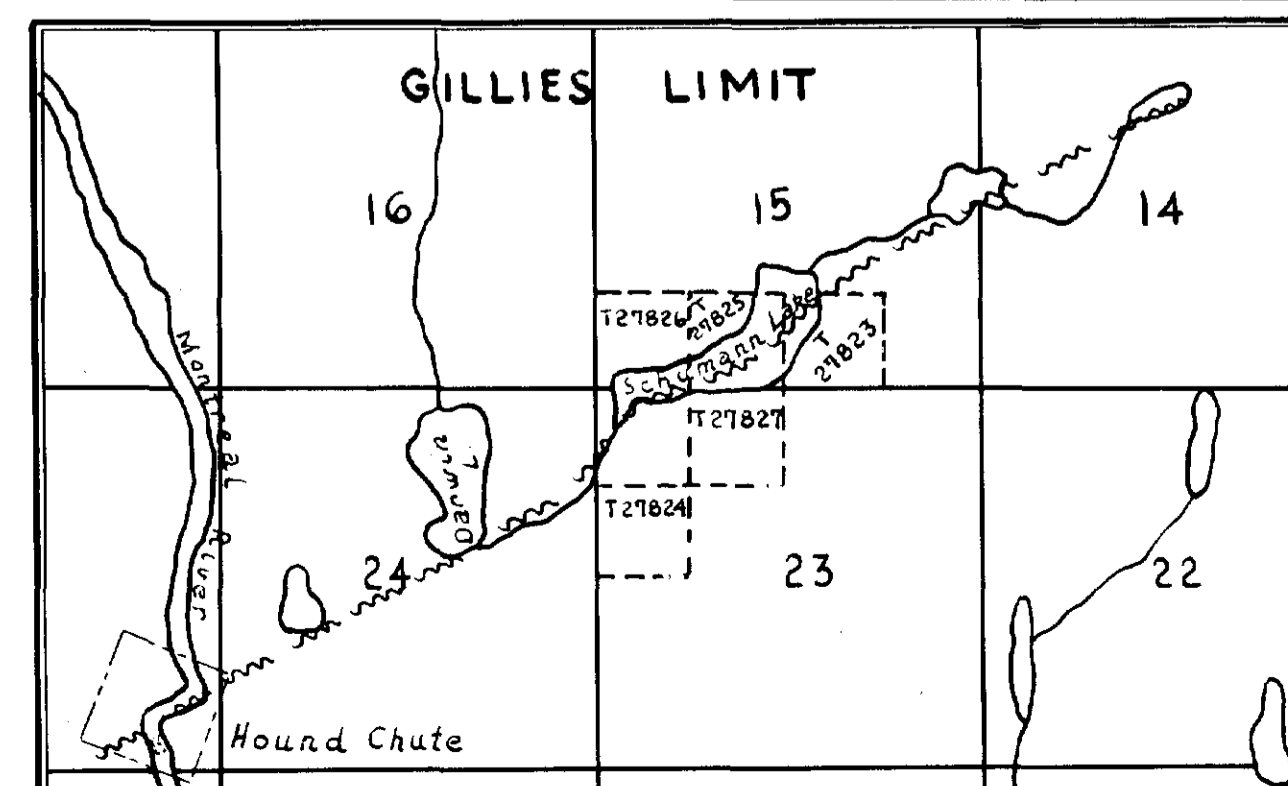
- NIPISSING DIABASE
- CALCITE VEIN
- SWAMP
- FAULT: ASSUMED, DEFINED
- OUTCROP



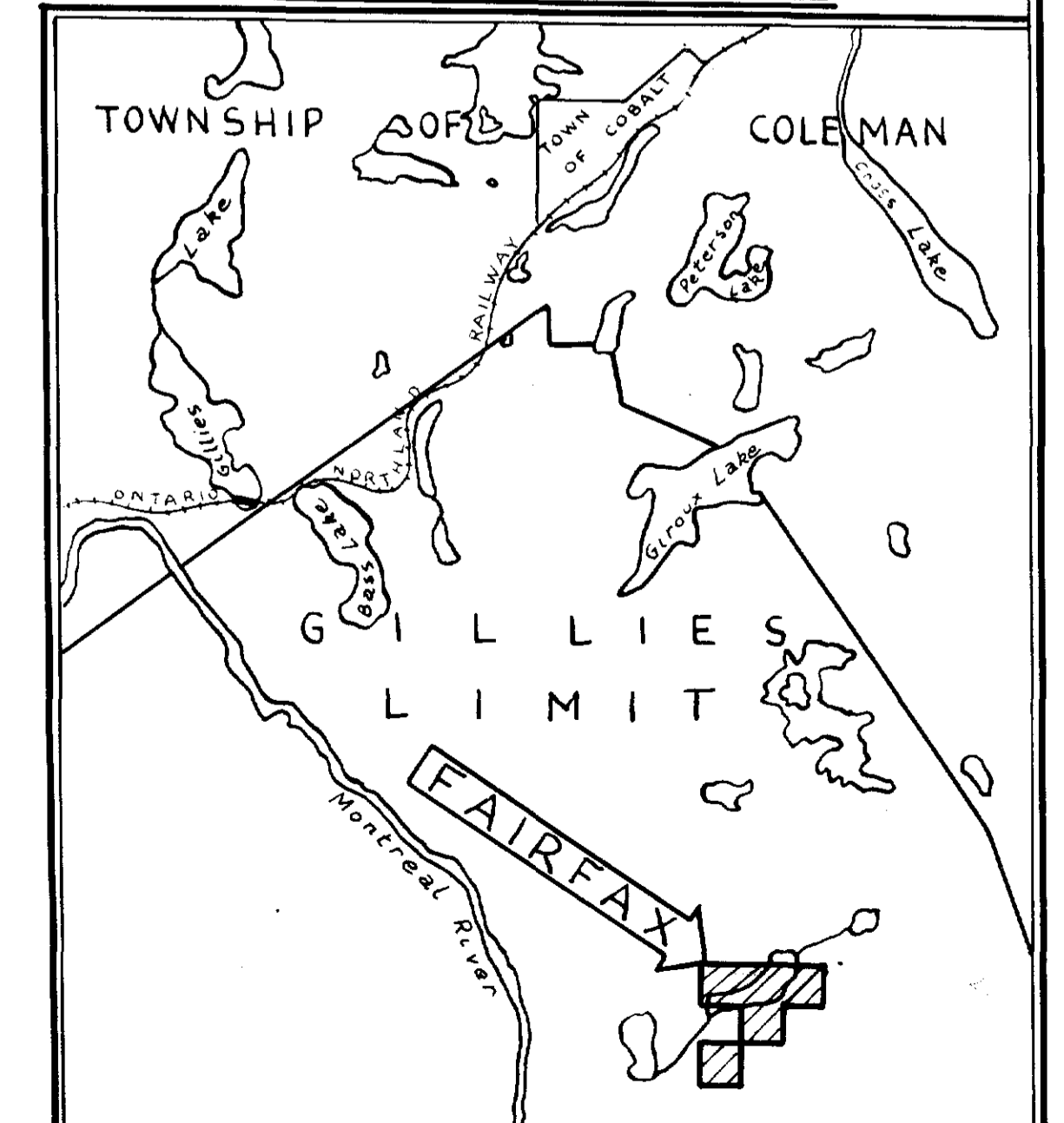
SCALE

1 INCH = 200 FEET

LOCATION OF ASSUMED SCHUMANN LAKE FAULT



LOCATION MAP



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 MAP BY: *M. de Bastiani*
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