



GEOLOGICAL REPORT  
ROGER GAREAU CLAIMS  
GILLIES LIMIT

The following is a geological report on a group of thirty-six mining claims, designated for convenience the Roger Gareau property, situated in Gillies Limit, in the Timiskaming Mining Division.

For the purpose of recording the assessment work required under the Mining Act, the claims are divided into two contiguous groups of eighteen claims each, designated Group No. 1 and Group No. 2, as follows:

Group No. 1: Claims T-46425 to T-46435 inclusive; T-46450; T-46453; T-47035; T-46455 to T-46458 inclusive.

Group No. 2: T-46423 and T-46424; T-46436 to T-46439 inclusive; T-46441 to T-46444 inclusive; T-46446 to T-46449 inclusive; T-46451 and T-46452; T-46454 and T-46549.

Ownership: The thirty-six claims referred to are registered in the name of Roger Gareau. Mentor Exploration and Development Company holds an option to purchase the claims, which Company in turn granted a sub-option to J. G. MacGregor, acting in behalf of South Cobalt Syndicate, to acquire eleven of the said claims subject to the performance of two years' assessment work on the entire group.

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Work-days Performed and  
Personnel Employed: A total of 189 days

were spent by the personnel in performing the geological survey, representing 756 work-days of assessment work. The following tabulation provides the names of the men employed, together with details of the periods devoted to the work.

<u>NAME</u>	<u>JULY</u> <u>days</u>	<u>AUG.</u> <u>days</u>	<u>SEPT.</u> <u>days</u>	<u>OCT.</u> <u>days</u>	<u>TOTAL</u> <u>days</u>
R. G. Witcher		28			28
Ed Metvedt			21	23	44
J. D. Hagan	26	28	27	20	101
J. G. MacGregor	5	3	3	5	16
Total	<u>31</u>	<u>59</u>	<u>51</u>	<u>48</u>	<u>189</u>

Purpose of Survey and  
Procedure Employed: A preliminary investi-

gation of the general area brought to light the presence of outcrops of altered cobalt sediments at two widely separated locations, the first being on Claim No. T-46455 and the second in the vicinity of the No. 3 post of Claim No. T-46446. As a diamond drilling programme was contemplated, and as no detailed mapping had been done in the area, the only geological plan available being that which accompanied Miller's Report dated 1910, which was much too sketchy for our purpose, it was deemed desirable to map the rocks of the surrounding area in reasonable detail. This preliminary mapping would

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not only give us the structural information required for the intelligent lay-out of the drill holes, but would also establish the extent of the altered areas and reveal if others existed.

The mapping carried out was essentially of a reconnaissance nature, but the geological plan produced, a copy of which is attached hereto, is believed to be reasonably accurate in detail. The individual claims were carefully traversed and prospected for rock outcrops, and such outcrops were tied-in to known points such as highways, side roads, power lines and, when possible, claim corners established by survey posts. This involved running numerous picket lines from the outcrops to the defined points, the lines being later measured and surveyed with a Brunton compass. <sup>Air</sup> ~~Six~~ photographs were of some help in pin-pointing the positions of the more prominent outcrops.

Geology: The formations on the Gareau claims are essentially similar to those existing in the Cobalt silver area to the north.

The Nipissing diabase sill, the youngest rock unit, covers the central part of the property, and occurs as a flat-lying outlier of the main mass which outcrops along the prominent escarpment, flanking

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the east side of the valley, approximately half a mile or so to the east. Here the sill strikes almost due north and dips at a steep angle to the east, in effect assuming the characteristics of a dyke. It is obvious that arching or rolling at the time of its intrusion, rather than folding, is responsible for its altitude at this point, as the sediments underlying its footwall are flat lying or lie at gently inclined angles. The narrow, elongated outlier of diabase on the Gareau property is basin-like in structure, the footwall on the west side dipping to the east and that on the east side dipping to the west. The actual contact is nowhere exposed, but its altitude has been determined from the joint planes.

Huronian Sediments and Alteration Features: The sill remnant occupying the central part of the Gareau property is flanked by Huronian sediments on its northern and eastern sides. The sediments on the north part of the property are composed of conglomerate and greywacke of the Coleman series - to use the new nomenclature employed by Dr. Robert Thomson; while those on the southeast side of the sill are composed of arkose and quartzite which might represent the higher, or Firstbrook, unit of the series. In both localities the beds dip gently to the east.

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The sediments display spotted chloritic alteration within two separate areas, one lying near the northwest contact of the sill, and the other along or close to its southeast margin. Both areas are relatively small in size, but it is possible that they may extend for some distance beneath the intrusive and hence be more extensive than they appear.

While the alteration features are quite well developed on some outcrops and at local points on others, the development as a whole throughout both areas is rather spotty and weak. Certainly the metamorphic effects are neither as pronounced nor as persistent as those displayed by rocks of similar composition in the vicinity of Cobalt, and from this one might reasonably infer that they were produced under conditions of lower temperature, and perhaps shorter time duration, than those which prevailed in the latter area to bring about the singular rock changes. It may be observed that the individual spots are in general much smaller than at Cobalt. This is the case even in highly susceptible beds like greywackes and varved clays; while the various beds of conglomerate, which normally respond readily to any sustained rise in temperature - that is, apart from the highly siliceous varieties - commonly show only a feeble development of spotting, and in some instances none at all.

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Keewatin: Very few outcrops of Keewatin volcanics are present on the Gareau property, but a fair number of exposures occur on the lands adjoining to the west. In this area the Keewatin consists principally of massive and pillowed andesites and dacites, with local beds of tuff and agglomerate. The strike of the flows, as observed from a few contacts, is approximately northwest. No beds of chert or iron formation were noted.

Calcite Veins and Fractures: No well defined calcite veins are present on the outcrops, but a number of fractures, sometimes containing threads of calcite, were observed on the diabase bluff near the western boundary of Claim T-46453. These are at times sparsely mineralized with pyrite and minor amounts of chalcopyrite. No cobalt or silver mineralization was observed.

Addendum: Although the altered areas on the property are of restricted size and are not well pronounced, the writer felt that the local geological setting was attractive and warranted investigation by diamond drilling. A drilling programme, consisting of twelve holes totalling 3,000 feet, was carried out in the fall of 1960. The logs of these holes, together with a map showing their locations, have been filed with the Mining Recorder at Haileybury.

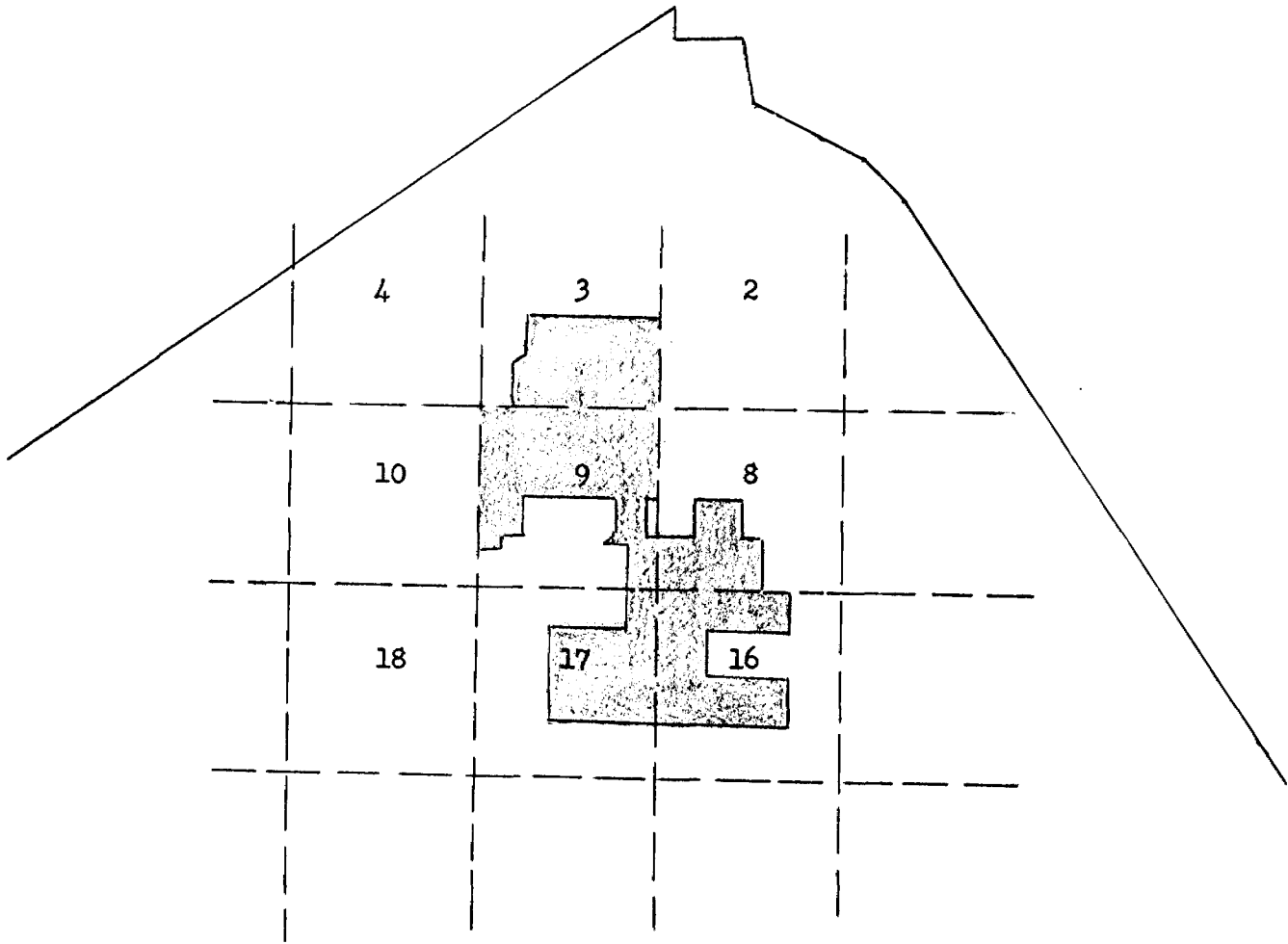
Respectfully submitted

Jas. G. MacGregor  
Mining Geologist

January 5, 1961



Town of  
COBALT



KEY PLAN

ROGER GAREAU CLAIMS

GILLIES LIMIT








*N.P.*

Scale, 1" = 1 mile

RECONNAISSANCE GEOLOGICAL PLAN  
 ROGER GAREAU CLAIMS  
 GILLIES LIMIT, ONT.

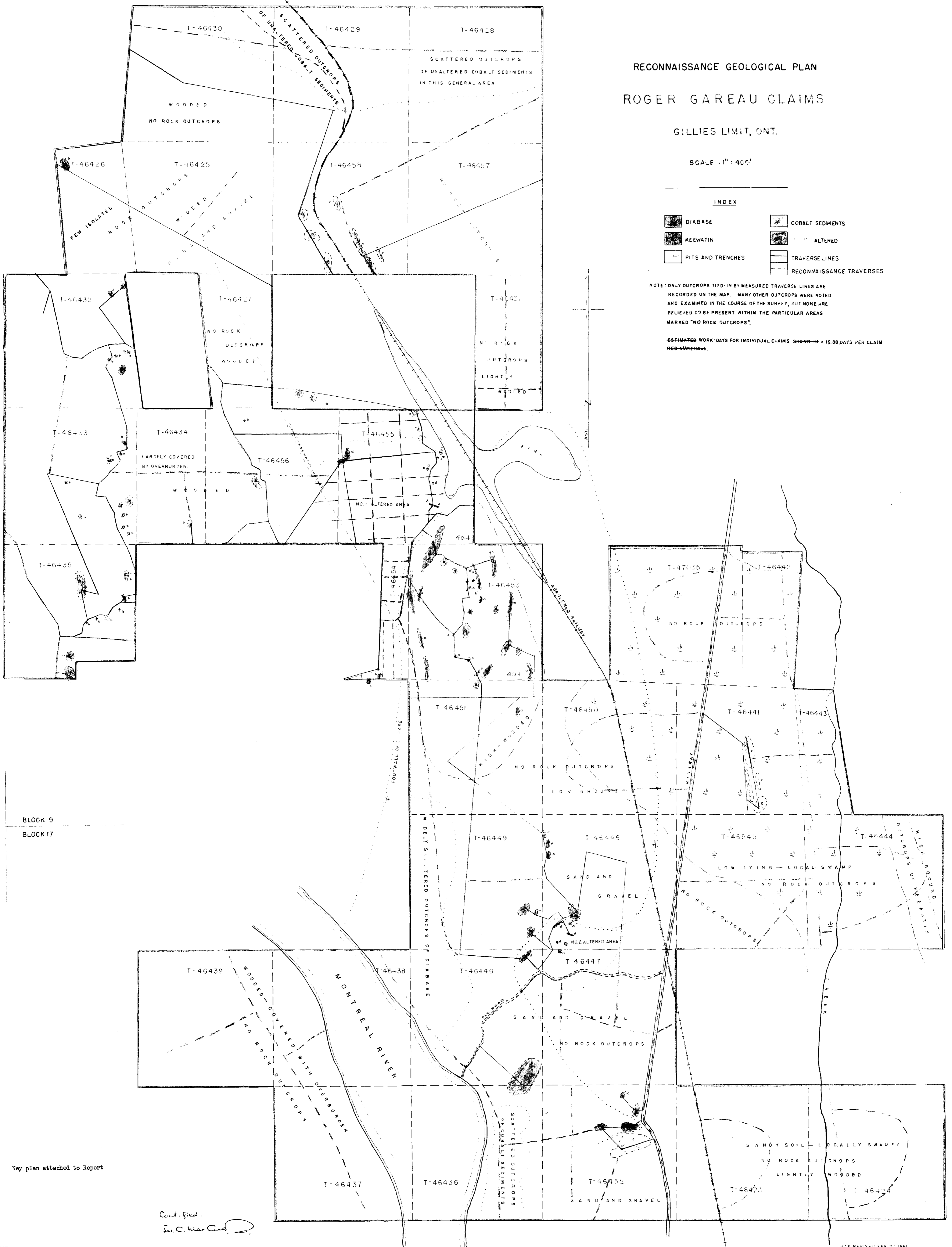
SCALE - 1" = 400'

INDEX

 DIABASE	 COBALT SEDIMENTS
 KEEWATIN	 ALTERED
 PITS AND TRENCHES	 TRAVERSE LINES
	 RECONNAISSANCE TRAVERSES

NOTE: ONLY OUTCROPS TIED-IN BY MEASURED TRAVERSE LINES ARE RECORDED ON THE MAP. MANY OTHER OUTCROPS WERE NOTED AND EXAMINED IN THE COURSE OF THE SURVEY, BUT NONE ARE BELIEVED TO BE PRESENT WITHIN THE PARTICULAR AREAS MARKED "NO ROCK OUTCROPS".

ESTIMATED WORK-DAYS FOR INDIVIDUAL CLAIMS SHOWN IN \* 16.88 DAYS PER CLAIM RED-NUMBERED.



BLOCK 9  
 BLOCK 17

Key plan attached to Report

Cont. Field.  
 J. C. MacLeod

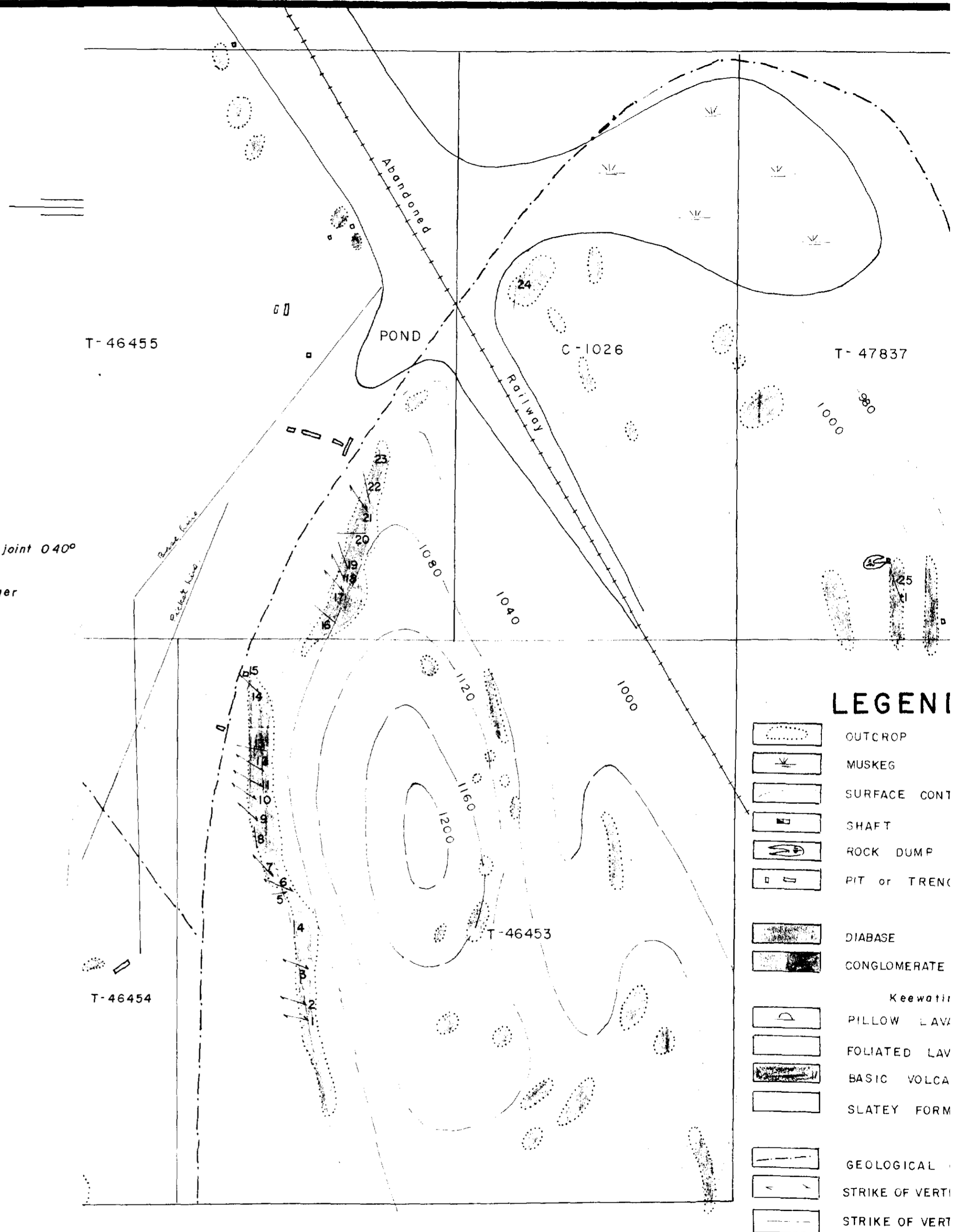
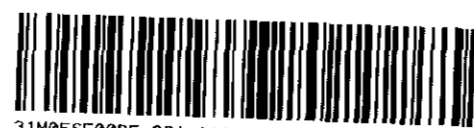




NOTES ON FRACTURES & JOINTS

1. Fracture zone 4 ft. wide bg. 110° (series of strong vertical cracks)
2. Fracture zone 2 ft. wide bg. 120° ( ditto )
3. Fracture zone 4 ft. wide bg. 120° ( ditto )
4. 1/2" quartz grey calcite stringer in strong joint bg. 010°
5. 1/2" quartz stringer bg. 080°
6. Strong fracture 6" wide bg. 130°
7. Fracture zone 15 ft. wide bg. 140° 1/16" calcite stringer
8. Strong joint & 1/4" weathered quartz calcite stringer bg. 005°
9. Weak fracture 6" wide bg. 135° 1/8" weathered quartz stringer
10. Strong fracture 12" wide bg. 127° 1/4" weathered quartz calcite stringer & strong joint 040°
11. Weak fracture 6" wide bg. 125° & strong joint bg. 040° with 1/4" quartz calcite stringer
12. Weak fracture 4" wide bg. 125°
13. Strong joint bg. 100°
14. Fracture zone 3 ft. wide bg. 140°
15. Very fine grained diabase in trench at base of cliff
16. 1/4" mineralized quartz stringer (pyrite) bg. 130°
17. Strong fracture 4" wide bg. 142°
18. Strong fracture 12" wide bg. 155°
19. 3 strong joints bg. 160°
20. 3 strong joints bg. 090°
21. Weak fracture 4" wide bg. 147°
22. Strong joint bg. 160°
23. 3 irregular 1/16" weathered calcite seams
24. Strong joint bg. 010°
25. Strong fracture bg. 160°
26. Strong fracture bg. 025°
27. Strike of slaty Keewatin formation
28. Strong fracture bg. 135°

BEARINGS SHOWN AS AZIMUTHS (TRUE)



**GEOLOGICAL PLAN**  
**SOUTH COBALT AREA**  
 GILLIES LIMIT TIMISKAMING, ONT.  
 SCALE 1" = 200' SEPT. 1960.

App  
 G.C.M.  
 399/60.