GM 04719-A

GEOLOGICAL REPORT

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Énergie et Ressources naturelles
Québec

REPORT ON

GEOLOGICAL SURVEY

on property of

LITTLE LONG LAC GOLD MINES LIMITED

UNGAVA TERRITORY

NEW QUEBEC

PUBLIC

Prepared by:

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Geologist.

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I N D E X

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Little Long Lac Gold Mines Limited,
Suite 309,
200 Bay Street,
Toronto, Ontario.

Gentlemen,

The following report describes the geology of a group of 17 claims known as the "D" group which is part of your property situated in the Gerido Lake area, Ungava Territory, New Quebec. This geological survey was carried out by Geo-Technical Development Company Limited during the summer of 1956.

SUMMARY

The following principal rock types were observed during the geological survey:

1. Slates and shales of sedimentary origin which are often mineralized over considerable lengths and widths.

2. Lavas, which are intermediate in composition and usually found on the higher ground.

3. Gabbro intrusives which are younger than the volcanics and sediments, and readily recognized along the steep ridges that trend in a north-south direction.

Numerous occurrences of rusty zones are to be found both in the sheared sediments and in the younger gabbro intrusives.

PROPERTY, LOCATION AND ACCESS

The Little Long Lac Mines property covered by the geological survey is comprised of 17 claims known as the "D" group. 16 claims are situated on the east boundary, and one

claim, No. M.14279, is situated on the north boundary of the Gerido Lake Mines "A" group property. The claims are numbered as follows:

Q.87286
Q.87287
M.14269 to 14283 incl.

The claims are located about latitude 57°57' and longitude 69°40' between Gerido Lake and Rasles Lake. The only practical means of access to the property is by air transportation from Roberval to Fort Chimo, and then by float equipped aircraft from Stewart Lake, Fort Chimo, to Gerido Lake.

TOPOGRAPHY

The topography is typical of the Canadian Shield with its low hills representing the surface of a peneplain which has been eroded after an uplift. The hills and lakes are elongated in a general north-south direction with maximum elevations less than 200 feet above the level of the lakes.

The topography is very helpful in delineating the geological boundaries of the area; the gabbro intrusive usually forms steep cliffs which alternate with volcanic and sedimentary rocks in the adjoining valleys and plateaux. The structural features in the rocks closely follow the general outline of the topography of the area; a bend in the mountain or the lake often represents a fold in the sedimentary and volcanic rocks.

GENERAL GEOLOGY

The consolidated rocks of the area are an assemblage of shales and lavas of intermediate composition intruded by sills of gabbro. All these rocks are probably of late Precambrian age.

The shales and slates have been tentatively mapped as possible sediments from their close association with interbedded sandstone and quartzite in the south Gerido Lake area. There is evidence that the slates and shales are the oldest members of the series of rocks in the area. They are less resistant to erosion than the gabbros and volcanic rocks, and for that reason are more likely to be found in the lower ground. They are usually sheared over large widths and lengths.

The lavas are intermediate in composition, probably corresponding to andesite. They are green to light-grey in colour and vary in texture from massive fine-grained to medium-grained. Pillow lavas have been noted at a few places and also some volcanic breccias. The volcanic rocks are the most widespread formations in the area and are most often found on the higher ground.

The gabbro intrusives occur in the form of sills, having been injected between sedimentary and volcanic layers. Their strike is parallel to that of the sedimentary and volcanic rocks even where the folding is sharp. They usually form steep cliffs along the north-south trending ridges. Because of the frequent presence of pyrite, pyrrhotite and chalcopyrite, rusty

zones are very common in the gabbro masses. At places the replacement by pyrite and pyrrhotite results in a massive and heavy rock composed entirely of these minerals.

STRUCTURE

Within the boundaries of Gerido Lake Mines property the volcanic and sedimentary formations generally strike a few degrees west of north, and the dip is constantly to the east with angles varying from 30 to 40°. There is little doubt that these rocks are closely folded into a series of synclines and anticlines with fold axes striking slightly west of north. Since the dips are everywhere to the east, it is quite evident that some of the beds are overturned.

The gabbro sills were injected between the sedimentary layers before folding occurred. Shearing and faulting, which succeeded the folding, are evidenced principally in the sedimentary bands where zones of shearing have been observed over lengths of a quarter mile and widths of about 100 feet.

ECONOMIC GEOLOGY

Several rusty zones have been found in the sheared sediments as well as in the gabbros. Pyrite, pyrrhotite, and some chalcopyrite were found in the sedimentary and in some of the gabbro outcrops.

The sheared zones in the sedimentary rocks, and the rusty zones in the gabbros, certainly constitute the best prospecting ground for minerals of economic value. The contacts between sedimentary rocks and gabbros have been found to be

well mineralized with as much as 60% sulphides. There is little doubt that the gabbro intrusive was the source of the mineralization in the sediments, but it is also quite evident that the sediments were impregnated by mineral bearing solutions only after they had been folded and sheared. It is possible that folding took place before the complete consolidation of the intrusive at a time when the residual solutions had not yet escaped from their source in the gabbro mass.

SURVEY DATA

A base line was established in a magnetic north-south direction to control the mapping of the geological data. The base line runs from the northwest corner of Claim No. Q.87286 to the southwest corner of Claim No. M.14280 over a distance of 7,400 feet. Geological traverses were made to the east and west of the base line at 1,200 foot intervals. A total of 3.2 miles of line and an area of 516 acres were examined to collect data on the geology of the property.

The number of eight hour man days required to complete the survey is as follows:

	8 hour man days	Attributable to assessment work
Establishing base line	3	3
Conducting geological survey	17 x 7	119
Drafting	2 x 7	14
Typing and supervision	3 x 7	21
Totals	25	157

Respectfully submitted,

GEO-TECHNICAL DEVELOPMENT COMPANY LIMITED

A.J. Gaudet

A.J. Gaudet, B.Sc.,
Geologist.

Toronto, Ontario.
22nd November 1956.

AJG-jpe.