

BEAUCAGE MINES LIMITED

(NO PERSONAL LIABILITY)

NORTH BAY, ONTARIO



010

REPORT

GEOLOGY ISLANDS A, & B, NORTH HIMSWORTH

TOWNSHIP, ONTARIO

O. E. OWENS

North Bay, Ontario.
July 12, 1956.

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Geology of Islands A & B North Himsworth, Township, Ontario

Introduction

A regional geological reconnaissance program was initiated in the North Bay area, in the spring of 1956, with the object of exploring for favourable columbium and uranium bearing areas. During the course of this work significant mineralogical and structural features were observed in the vicinity of Callander, Ontario. Detailed examination revealed rocks on Islands A & B North Himsworth Township, very closely resembling those found in the vicinity of the Beaucage columbium-uranium deposits.

Location

Islands A & B occur in the western part of the South East Bay of Lake Nipissing (popularly referred to as Callander Bay) in the northern part of North Himsworth Township. This area is about eight miles south of the city of North Bay.

Topography

Callander Bay is a nearly circular, almost closed off, indentation of Lake Nipissing. The shore line of the lake is commonly sandy, or consists of smooth rounded granite hummocks. However in the region of the Manitou Islands and Islands A & B, the shoreline is more abrupt and composed of broken angular blocks of syenitic gneiss.

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General Geology

The rocks along the shores of Lake Nipissing are mainly light buff colored, medium to coarse grained biotite-hornblende granite gneisses*. These appear to be paragneisses, but commonly they are of too high a degree of metamorphism to differentiate. The gneissosity usually strikes slightly west of north and dips steeply. The rock is composed of about 25% quartz, 50% cream grey feldspar, and 25% biotite-hornblende assemblage.

On Islands A & B the rocks are pink to red, finer grained syenite gneisses. They consist of about 70% pink feldspar and 30% biotite-acmite material with small amounts of quartz, calcite, apatite, pyrite, and magnetite. The syenite gneiss is intimately cut by fine fractures filled with hematite, acmite, biotite, etc. In several localities the rocks are highly shattered and consist of angular fragment of syenite in a matrix of calcite, biotite, and acmite. On the west and east shore of Island B the matrix consists of about 50% biotite, 30% acmite and lesser amounts of calcite, apatite, pyrite, magnetite and feldspar. The exposures of breccia on Island A consist of syenite in a matrix of calcite. In all cases the matrix material is slightly radioactive (3 times normal) and contains up to .05% $Cb_{2}O_{5}$.

* J. Satterly, Mineral occurrences in the Parry Sound District;

Ontario Department of Mines, Vol. 51, Pt. 11 1942.

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Economic Geology

The following features are common to the geology of the Beaucage ore deposits on the Manitou Islands and to the Islands A & B.

1. Bedrock composition and mineralogy:- low silica high soda rocks with red potash feldspar, calcite, acmite biotite, apatite, pyrite and magnetite.
2. Regional shattering of the rocks
3. Intrusion and replacement of the syenite breccia by a basic silicate or carbonate matrix
4. Lack of quartz in a region of high quartz gneisses
5. Values in columbium and uranium
6. High percentage of iron, as red alteration of feldspar, magnetite, pyrite and iron rich mica.
7. Circular structure of the Manitou Islands, and circular nature of Callander Bay

Rowe 1955 describes the Newman Island

deposit of Beaucage Mines:

"The Newman deposit and the two other columbium deposits have been found within a circular-shaped band of rocks that consists chiefly of acmite-potash feldspar rock, and marbles. Relic textures and minerals suggest that the rocks formed chiefly from plagioclase-quartz-potash feldspar granulite and crystalline limestone by recrystallization and sodametasomatism (fensitization)."

He further stresses (1954) the importance of the acmite calcite assemblage in an area of normal granitic rocks in this Recommendation to Prospectors.

Rowe, R. B. Association of Columbium Minerals and Alkaline Rocks
Canadian Mining Journal, March. 1955.

Rowe R. B. Notes on Geology and Mineralogy of the Newman Columbium-Uranium Deposit, Lake Nipissing, Ontario, Geological Survey of Canada, Paper 54-5.

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"In prospecting for such deposits and deposits of the Newman type, the association of columbium with alkalic rocks is important. Attention should be paid to the accessory minerals of alkalic rocks of metamorphic, intrusive, or volcanic origin because these accessory minerals may be columbium minerals or certain titanium and zirconium minerals that contain appreciable amounts of columbium (Fleischer, Murata, Fletcher, and Marten, 1952). Zones of contact metasomatism about alkalic intrusive rocks also merit attention, particularly if these zones contain carbonate-rich rocks."

It is the authors experience that the calcite-basic silicate alteration such as occurs on Islands A & B very closely resembles the type of alteration occurring adjacent to the Beaucage ore bodies. The similarity of conditions (which are in themselves are uncommon) is remarkable.

Conclusions

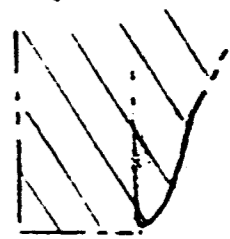
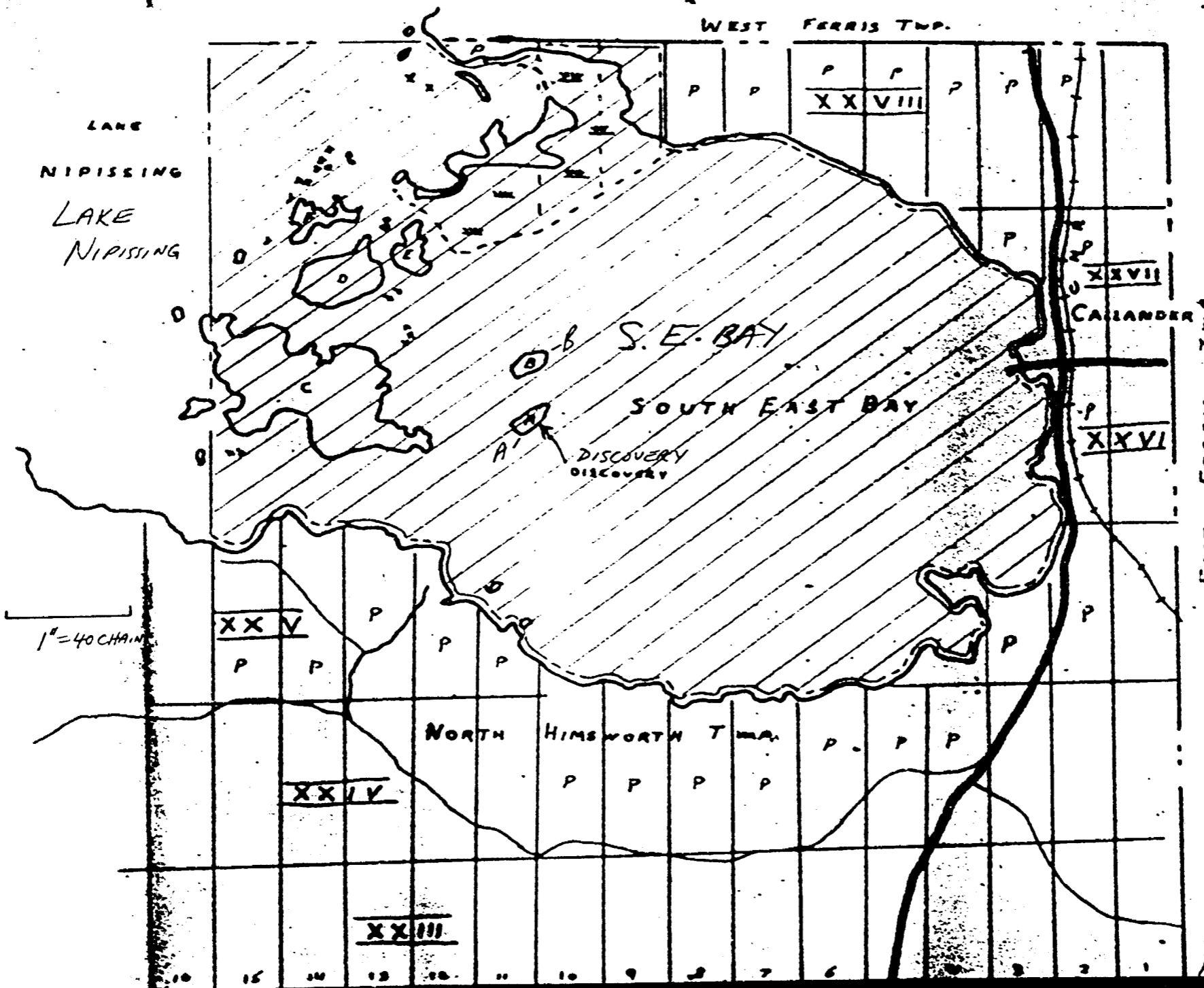
The similarity of bedrock conditions, between Islands A & B, and the Manitou Islands makes it likely that columbium bearing ores are present in the Callander Bay area. In fact low values in uranium and columbium are present in the basic silicate matrix on Island A and Island B.

I therefore recommend that exploration rights to the Callander Bay area, as shown on the enclosed map, be acquired, and a detailed investigation of the ground be undertaken.

Submitted by



O. E. Owens



AREA REFERRED TO
IN APPLICATION
FOR LICENSE OF OCC.

AREA REFERRED TO IN APPLICATION
FOR LICENSE OF OCCUPATION

SCALE 1" = 40 CH.

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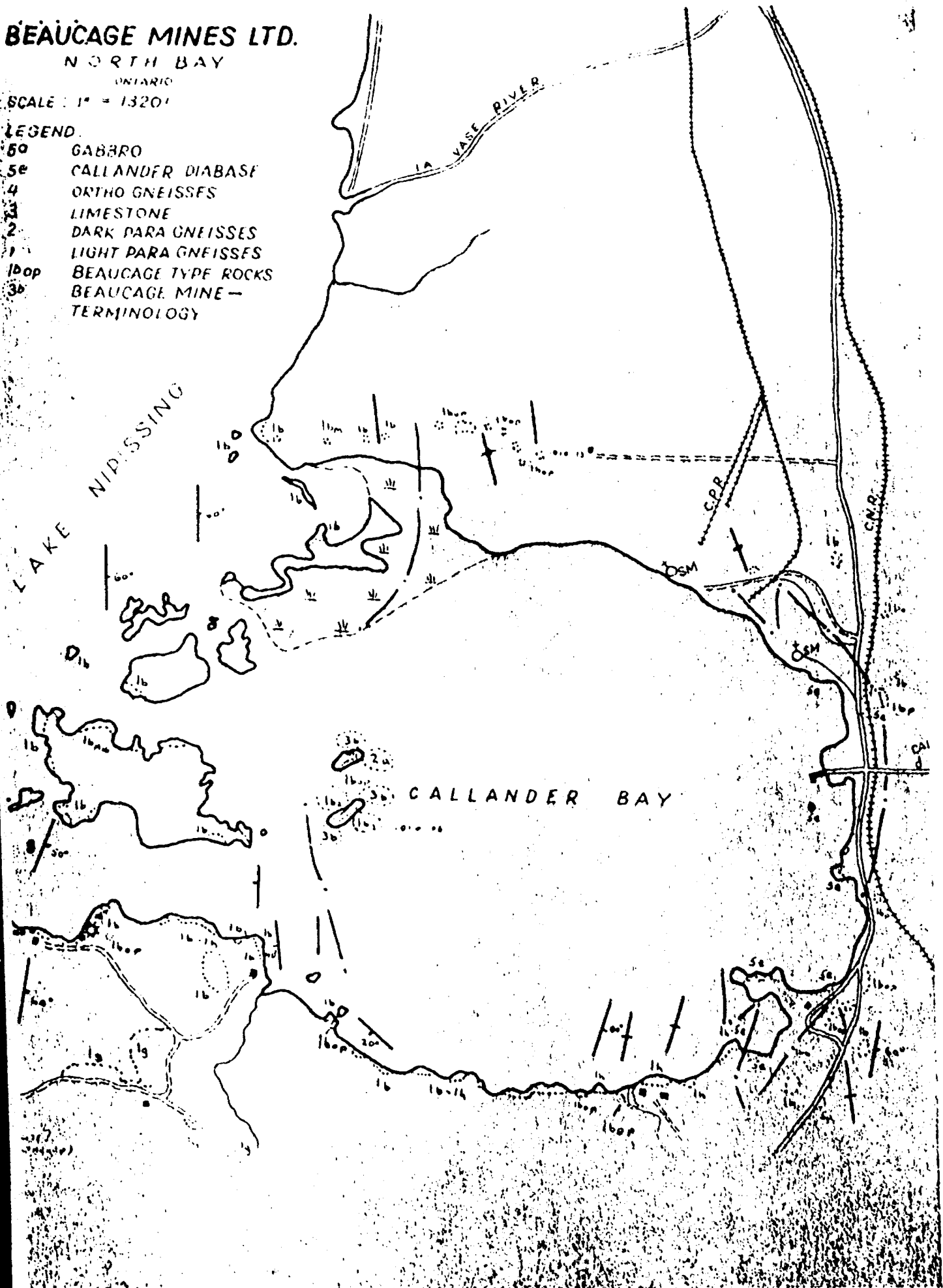
NORTH BAY

ONTARIO

SCALE: 1" = 1320'

LEGEND

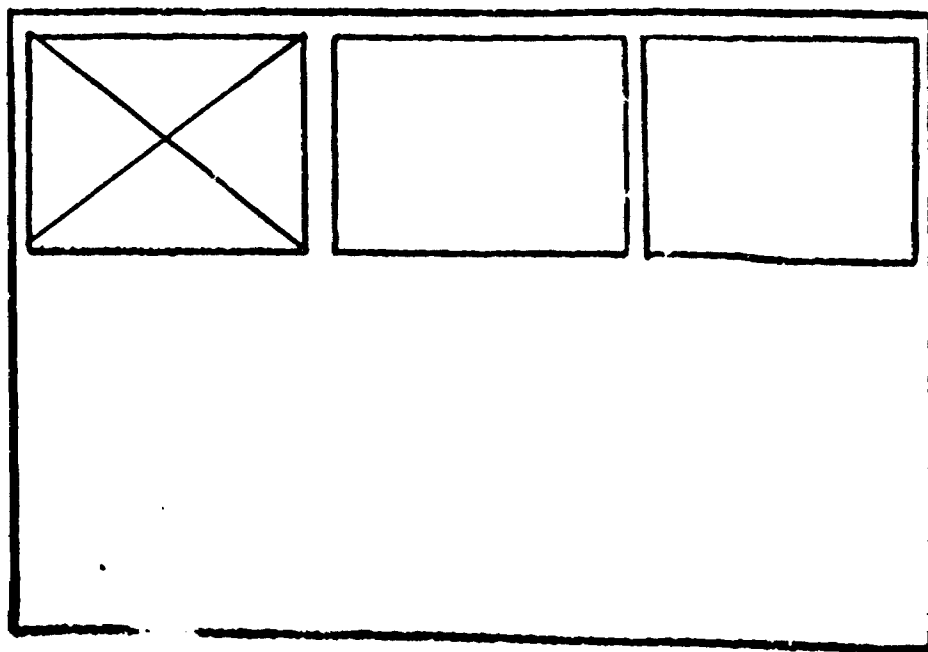
- 50 GABBRO
- 5e CALLANDER DIABASE
- 4 ORTHO GNEISSES
- 1 LIMESTONE
- 2 DARK PARA GNEISSES
- 1 LIGHT PARA GNEISSES
- 10op BEAUCAGE TYPE ROCKS
- 3b BEAUCAGE MINE -
TERMINOLOGY

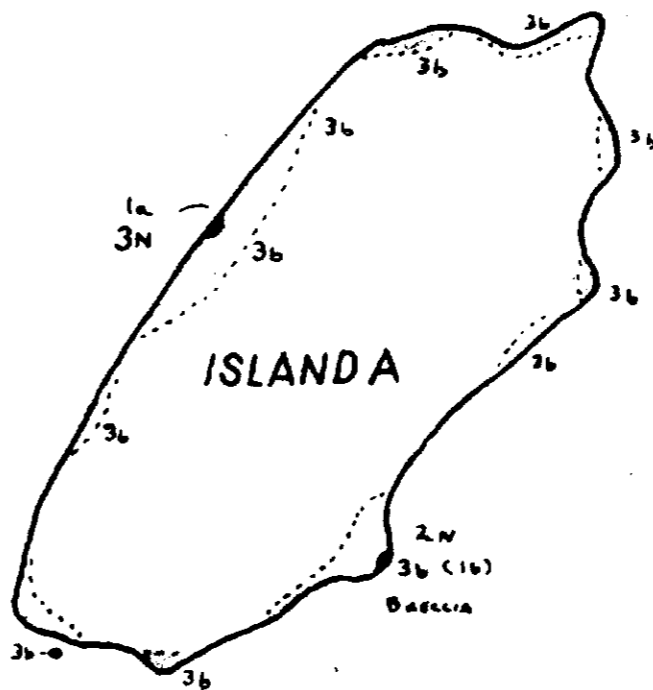
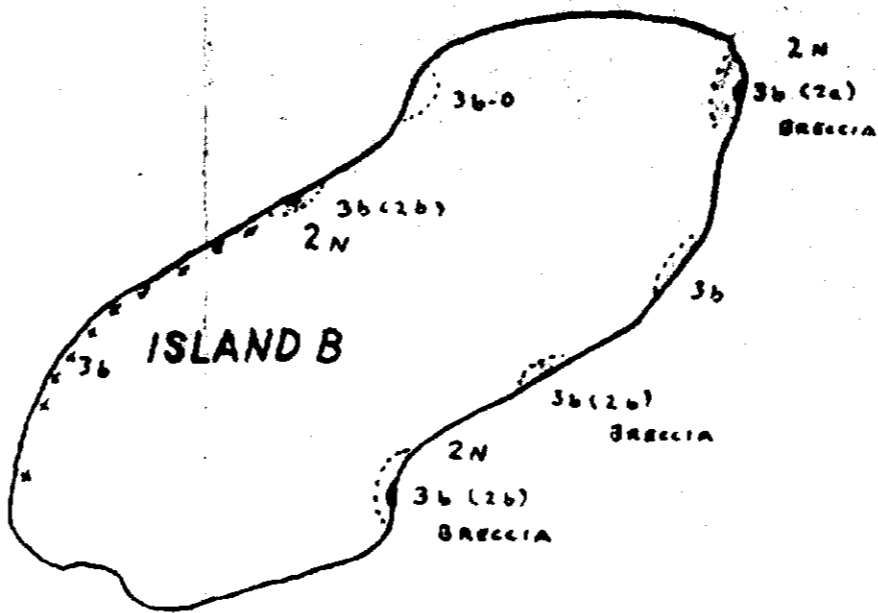


SEE ACCOMPANYING
MAP(S) IDENTIFIED AS

LAKE NIPISING - 0011-A1, #1

LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)





200

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LEGEND

| | | |
|--|-----------------|---|
| | 6 | Ore |
| | 3 | Acidic Silicate Rocks |
| | 3a | Grey feldspar |
| | 3b | Pink feldspar |
| | 3br | Red feldspar |
| | 2 | Basic Silicate Rocks |
| | 2a | Fine grain biotite predominant mineral |
| | 2b | Ferromagn and calcite predominant minerals |
| | 2c | Ferromagn and feldspar predominant minerals |
| | 2f | Ferromagn and apatite predominant minerals |
| | 1 | Carbonate Rocks |
| | 1a | Laminated grey carbonate |
| | 1b ₁ | White carbonate |
| | 1b | White carbonate, biotite and magnetite |
| | 1c | Carbonate dykes |
| | 0 | Gneiss |

2N = SCINTILLOMETER READING
TWICE BACKGROUND
3N = 3 TIMES BACKGROUND

File No. 1
Hinsworth

Lake Missisquoi I-2-00111

BEAUCAGE MINES LTD., NORTH BAY, ONT.
GEOLOGY ISLANDS A & B
 SOUTH EAST BAY
 DRAWN BY *gck* SCALE: 1" = 100'
 DATE 12/7/56 DWG. NO. *3*
 REVISED *3*