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# GEOLOGICAL REPORT ON THE GULLWING LAKE CLAIM GROUP KOSOWY OPTION DROPE AND WEBB TOWNSHIPS

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MINING LANDS SECTION

# INTRODUCTION

The Kosowy Option consists of a gloup of 24 contiguous claims situated in Drope and Webb Townships. The claims are centered approximately 15 miles NE of the town of Dryden, Ontario, and are accessable by vehicle via the Ghost Lake Road which connects with Hwy. 601 near the Dryden Airport.

The report covers work on 20 of the 24 claims which were amenable to line-cutting. A N-S baseline was cut along the Drope - Webb Township line. Sub-baselines were cut at 2000-foot intervals. Line spacing was 400-feet. This was reduced to 200-feet at the north end where numerous pegmatite dykes invade the mafic meta-volcanics. Stations were established at 100-feet intervals along the grid lines.

The area has been moderately well explored for base metals. Also, the pegnatites have received some attention for their molybdenum and lithuim potential during the late 1950's, early 1960's. However, the rare-metal potential of the pegnatites was not recognized until examination of the area was made by the author in the fall of 1980.

Previous exploration is recorded by the Ontario Geological Survey maps, P.2331 and P.2332. (Speed and Maxwell, 1980).

The geological mapping which was carried out by F.W. Breaks. Senior assistant was P. Whipple and junior assistants were G. Baschuk, A. Beales and C. Lisco.

The mapping was conducted between July 15 and October 20, 1981.



The Kosowy Option claim group is situated within the Wabigoon Subprovince, proximal to the boundary of the English River Belt. Tantalum-bearing granitic pegmatites intrude the supracrustal rocks which consist of mafic metavolcanic flows, intermediate metavolcanic pyroclastics and clastic metasediments.

The mafic metavolcanics comprise a unit that apparently surrounds the Lateral Lake Stock. The southwest portion of this unit underlies the north part of the claim group. The mafic metavolcanics host the spodumene-tantalum zoned pegmatite on claim Pa.540579 and the Tot Lake spodumene-pollucite-tantalum zoned pegmatite situated 1 mile N 45°E from the former dyke.

The mafic metavolcanics are fine to medium grained and moderately foliated to lineated. Regional metamorphism has converted them to amphibolite consisting of: green hornblende + plagioclase + biotite + garnet + actinolite. Foliation trends N 70°E to East with dips varying from 30° to 60°S. Except for rare pillow selvages, primary textures are not commonly evident.

The intermediate metavolcanics are contained within two southwest striking units on the south part of the claim group. They are heterolithic pyroclastics with clasts ranging up to 1'x2' in dimension. The ovoid clasts range in composition from andesite to dacite.

The clastic metasediments occur as a wedge between the mafic metavolcanics and the intermediate pyroclastics. They are generally well bedded with the dominant assemblage consisting of quartz + feldspar + biotite + muscovite + garnet. Feldspathic biotite metawacke, quartz-rich biotite metawacke and calcic metamudstone (amphibole-garnet-biotite) are considerably less frequent rock types.

#### Felsic Intrusive Rocks

The metavolcanic-metasedimentary rocks have been invaded by a profusion of generally narrow, steeply dipping granite pegmatite dykes. These dykes are usually less than 15 feet wide and consist of two distinct types as reflected by accessory minerals:

- 1) white to light pink, garnet + green muscovite + biotite (unit 5c and d in legend on maps) and,
- 2) light to moderate pink, garnet + biotite + muscovite (unit 5b in legend on maps).

Three large granitic-pegmatitic masses were encountered by the geological survey.

- 1) ovoid shaped pluton on claim Pa.589031,
- 2) bifurcating dyke system at the intersection of claims Pa.589026, 589027, 589030 and 589031 and
- 3) the Gullwing Lake rare-metal pegmatite on claim Pa 540576 and 540579.

The first mass is part of a larger pluton outlined by Page (1980). It appears to be zoned with respect to accessory minerals; biotite forms the core area and is replaced by muscovite within the outer shell which varies between 200 to 650 feet in width.

The second pegmatitic granite mass is similar to the first. Locally it is characterized by phemose agregates of quartz + green muscovite, accessory garnet is also present. The dyke appears to have been emplaced along intersecting northeast and northwest trending joints which produced the branching aspect of the mass.

The third granitic pegmatite mass is the tantalum-bearing pegmatite that led Selco into the area in search of an economic tantalum deposit.

The pegmatite mass is 1350 feet long, moderately curvilinear with a regional trend of N  $20^{\circ}$ W. The width varies from 40 to 150 feet and the dips are subvertical.

Extension stripping and bleaching of the dyke established three tantalum-bearing zones at surface. These are situated at the north end of the dyke, 200 south and 800 feet south of the north terminus of the dyke.

The pegmatite is somewhat unique in that it represents a vertical section of approximately 180 feet, with the zoned sections all being exposed along portions of the dyke that are topographically low. These correspond to the tangalum-bearing zones mentioned above.

Primary zoning of the pegmatite is recognized both by an increase in grain-size towards the core area and by differing mineral assemblages. The normal quartz + feldspar + biotite + muscovite gives way to a zone consisting of quartz + blocky K-spar. The K-spar maybe upto 3 feet in length and quartz pods upto 20 feet thick and 30 feet in length. The core area consists of quartz cleavelandite + muscovite + spodumene with lipedolite, garnet, beryl and tantalite as minor accessory minerals.

The primary assemblage has been affected by pervaissive albitization. Like the primary zoning, the albitization alteration can be seen only in the lowest vertical portions of the pegmatite. The replacement is best described by mineral assemblages.

#### I Primary Assemblages:

- A. Block quartz + block K-spar + albite + muscovite zone
- B. Spodumene + block K-spar + quartz + albite + muscovite zone

#### Replacement Assemblages:

- A. Equigranular albite + quartz + muscovite + k-spar
- B. Bladed biotite + muscovite + equigranular albite + quartz + K-spar remanents
- C. Lepidolite + cleavelandite + muscovite + garnet + beryl + tantalite
- D. Tantalite + muscovite + porphyroblastic albite

Tantalum mineralization is closely associated with the zone of albitization. It occurs as isolated euhedral crystals upto 1.1 x 2.2 x 5cms in dimension. The highest density of tantalum crystals is found along the upper part of the spodumene zone at the north end of the dyke which coincides with the lowest exposed vertical section of the dyke.

#### CONCLUSIONS AND RECOMMENDATIONS

Geological mapping has established economically interesting tantalum mineralization in three seperate zones within the Gullwing Lake pegmatite. These zones appear to be connected at depth and represent a strike length of at least 950 feet for this mineralization. The replacement assemblages indicate that a zone of high tantalum potential exists at depth.

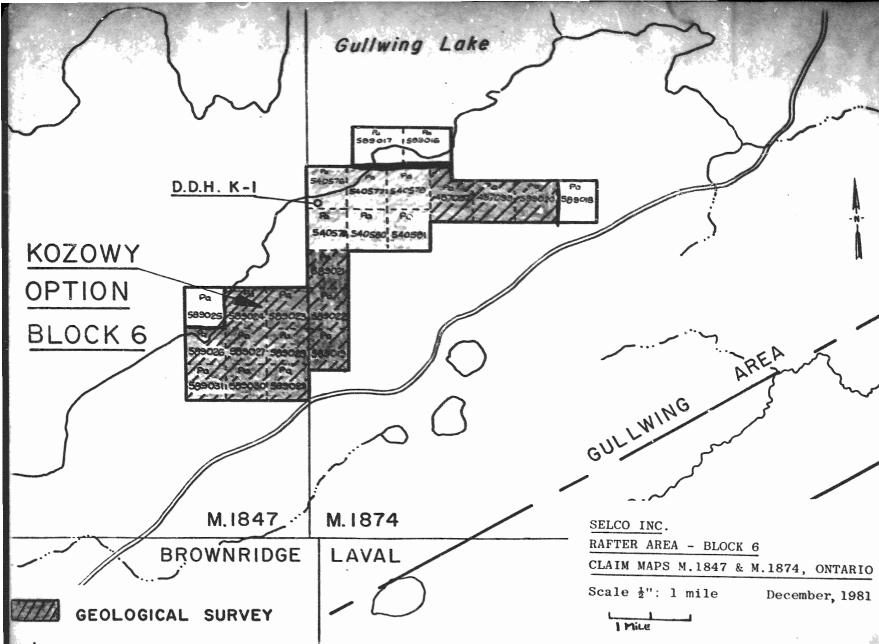
It is recommended that the dyke be tested by diamond dialling. The initial drilling should be set up to test the alteration areas 300 to 400 feet below the outcrop level.

by A.P. Pryslak and F.W. Breaks

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#### FERENCES

- 1. BREAKS et al 1978: Preliminary Geological Synthesis of the English River Subprovince, MP.72 O.G.S.
- HARDING, W.D. 1950: Geology of the Gullwing Lake,
   Sunstrum area, Ontario Dept. of Mines Vol. LlX, Pt.IV.
- PAGE, P.O. 1980: Geology of the Lateral Lake Area, Ontario Geological Survey, Preliminary maps P.2371 and P.2372.
- SATTERLY, J. 1941: Geology of the Dryden Area, Ont. Geological Survey.
- SPEED, A.A. and MAXWELL, G.J. 1979: Gullwing Lake Area, Ont. Geological Survey, data series maps P.2331 and P.2332.





#### **Ministry of Natural Resources**

## GEOPHYSICAL — GEOLOGICAL — GEOCHEMICAL TECHNICAL DATA STATEMENT

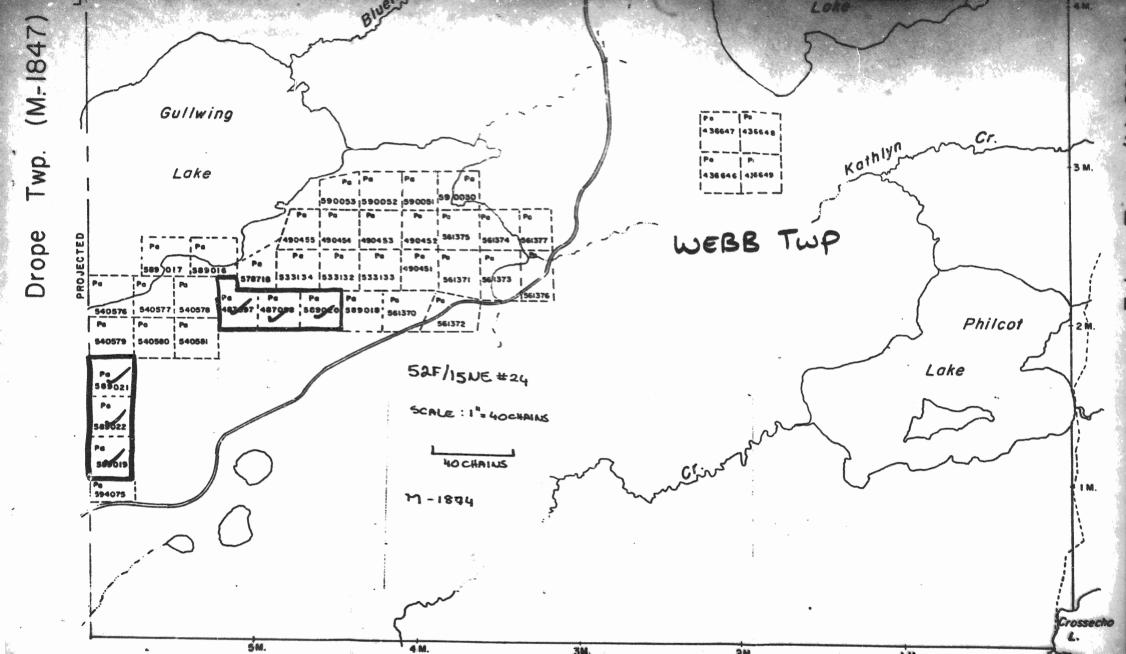
TECHNICAL DATA STATEMENT TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT FACYS SHOWN HERE NEED NOT BE REPEATED IN REPORT ECHNICAL BUPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC Geological Type of Survey(s). M1847 & M1874 Township or Area MINING CLAIMS TRAVERSED Selco Inc. List numerically Claim Holder(s)\_ 55 University Ave., Toronto, Ont. 487097 Selco Inc. Survey Company\_ (prefix) (number) F. Breaks/T. Pryslak Author of Report 487098 534 Berry Street, Winnipeg., Ont. Address of Author\_ Covering Dates of Survey July 15 - Oct. 20, 1981 589020 (linecutting to office) Pa 589021 Total Miles of Line Cut\_ 589022 SPECIAL PROVISIONS DAYS 589023 **CREDITS REQUESTED** per claim Geophysical 589024 -Electromagnetic\_ ENTER 40 days (includes 589025 -Magnetometer\_ line cutting) for first -Radiometricsurvey. 589026 -Other\_ ENTER 20 days for each 589027 additional survey using 40 Geological\_ same grid. 589028 Geochemical. AIRBORNE CREDITS (Special provision credits do not apply to sirborne surveys) 589029 Magnetometer\_ Electromagnetic \_ . Radiometric . (enter days per claim 589030 DATE: Dac 17.81 SIGNATURE: 23416 2.3416 Res. Geol.\_ Oualifications \_ Previous Surveys File No. Type Date Claim Holder

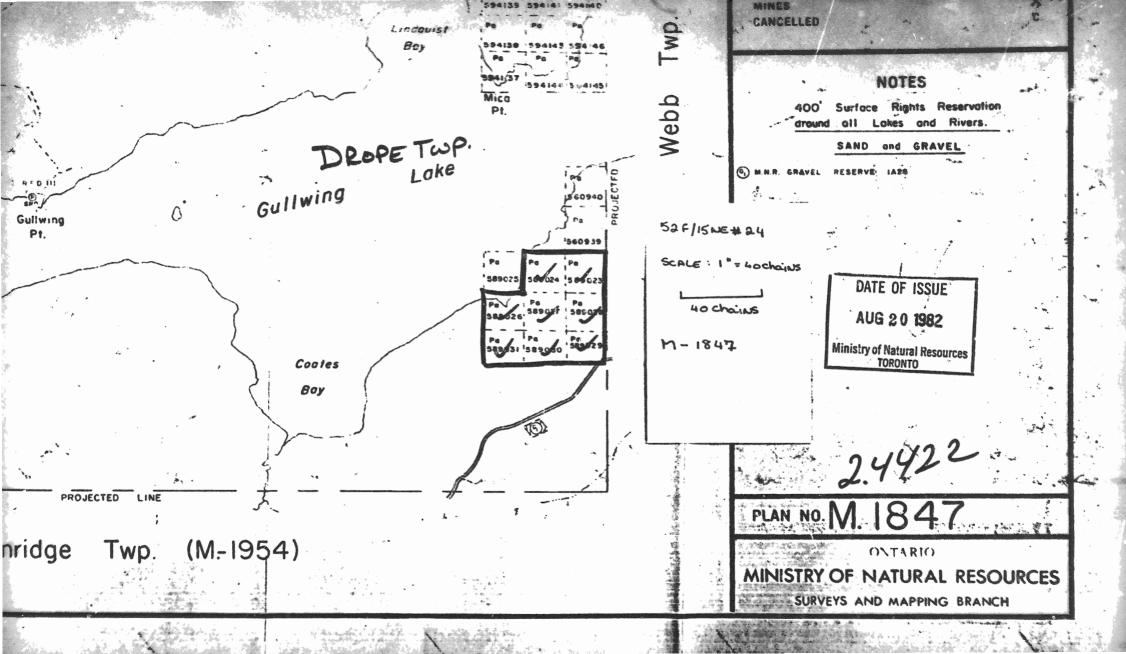
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TOTAL CLAIMS.

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#### Technical Assessment Work Credits

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Special provision  ☐ Credits have been reduced because of partial coverage of claims. ☐ Credits have been reduced because of corrections					
to work dates and figures of applicant.					
ecial credits under section 86 (15a) for the following mini	ing claims				



Ministry of Natural Resources

Notification of recording

of assessment work credits

Supervisor, Projects Unit Mining Lands Section Ministry of Natural Resources Room 1617, Whitney Block

M7A 1W3

Queen's Park, Toronto

Date of recording of work: October 22, 1981 Recorded holder: Selco Inc. Address: Ste. 1700 - 55 University Ave., Toronto, Ont. M5J 2H7 Township or Area: Webb Twp.: -1874 - Drope Twp. M-1847 Type of survey and number of Mining claims Assessment days credit per claim Geophysical RECEIVED Electromagnetic.... MAR - 9 1982 Magnetometer\_\_\_\_\_ \_days MINING LANDS SECTION Radiometric \_ Induced polarization\_\_\_\_\_ Section 86 (18) \_\_\_ Pa. 487097 & 98 Geological 40 d: s Pa. 589019-24 incl. Pa. 589026-31 incl. Geochemical\_\_\_\_\_ days Man days Airborne Special provision Gound 2 Notice to recorded holder:

Mining recorder

T. Pryslak-Wpg.

#81-118

Selco Inc.-Toronto

Survey reports and maps in duplicate must be sub-

Reports and maps are being forwarded to the Projects

from the date of recording of this work.

Unit with this letter.

mitted to the Projects Unit. Toronto within 60 days

Mining Lands Comments	P b	
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55 University Avenue Suite 1700 Toronto Ontario M5J 2H7 Telephone: (416) 361 0794 Telex: W 22537 Cable: Selcoex Toronto

December 17, 1981

Ministry of Natural Resources Mining Lands Section Room 6450, Whitney Block Queen's Park Toronto, Ontario

Dear Sir,

RE: RAFTER PROJECT-PROPERTY 6-M.1847 & 1874

Further to our Report of Work (October 19, 1981) please find enclosed the following:-

CONTENT

(in duplicate)

Geological Report Location Sketch

Drawings No. RA.3361 & 3362

Yours very truly,

SELCO INC.

J.E. Cake

J.E. Rackley Claims Control Co-ordinator

JER/rt Encl.

RECEIVED

DEC 1 7 1961

MINING LANDS SECTION

Albert Hanson Mining Recorder Ministry of Natural Resources P.O. Box 669 Sioux Lookout, Ontario POV 2TO

Dear Sir:

We have received reports and maps for a Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims Pa.487097 et al, in the Townships of Drope and Webb.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours very truly,

E.F. Anderson Director Land Management Branch

Whitney Block, Room 6450 Queen's Park Toronto, Ontario M7A 1W3 Phone: 416/965-1380

J. Skura/bk

ca: Selco Inc.
Toronto, Ontario
Attention: J.E. Rackley

cc: F. Breaks/T. Pryslak Winnipeg, Manitoba

2.4422

September 1, 1982

Mr. Albert Hanson Mining Recorder Ministry of Natural Resources P.O. Box 669 Sioux Lookout, Ontario POV 210

Dear Mr. Hanson:

Re: Geological Survey on Mining Claims PA 487097 et al. in the Townships of Webb and Drope

The Geological Survey assessment work credits as shown on the attached statement have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours very truly,

E. F. Anderson Director Land Management Branch

Whitney Block, Room 6540 Queen's Birk Toronto, Ontario M7A 1W3 Telephone: (416) 965-1380

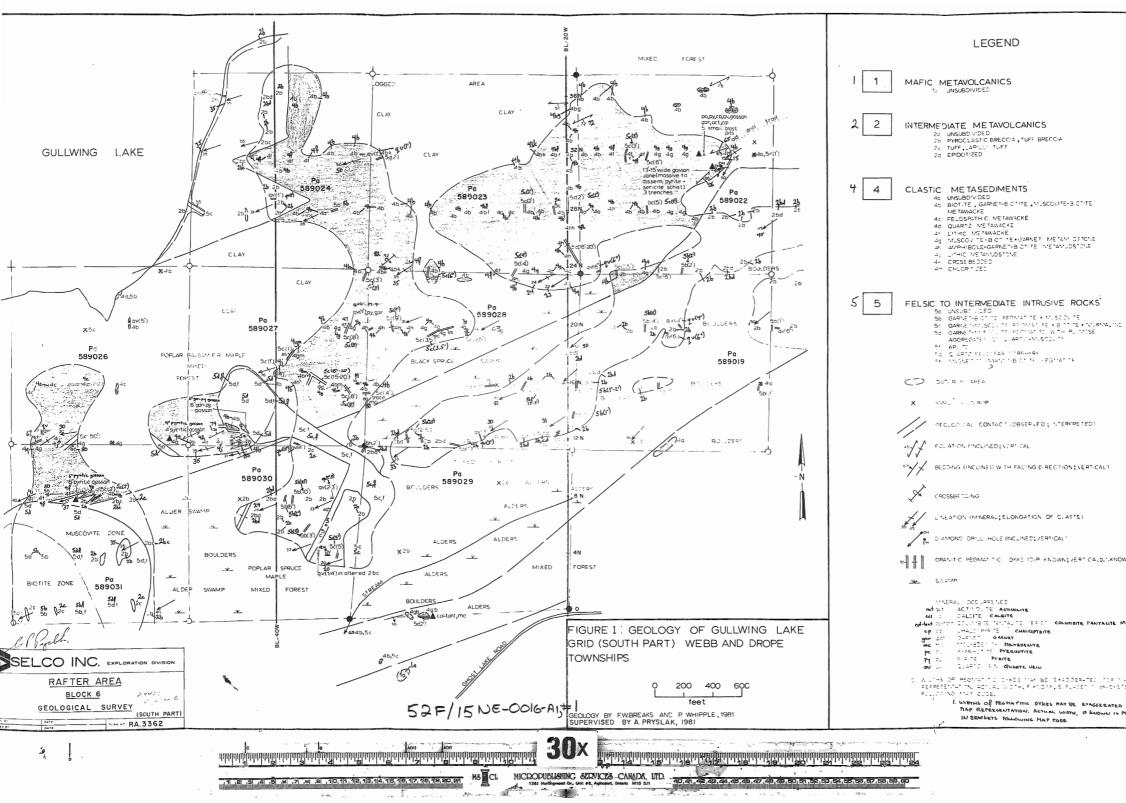
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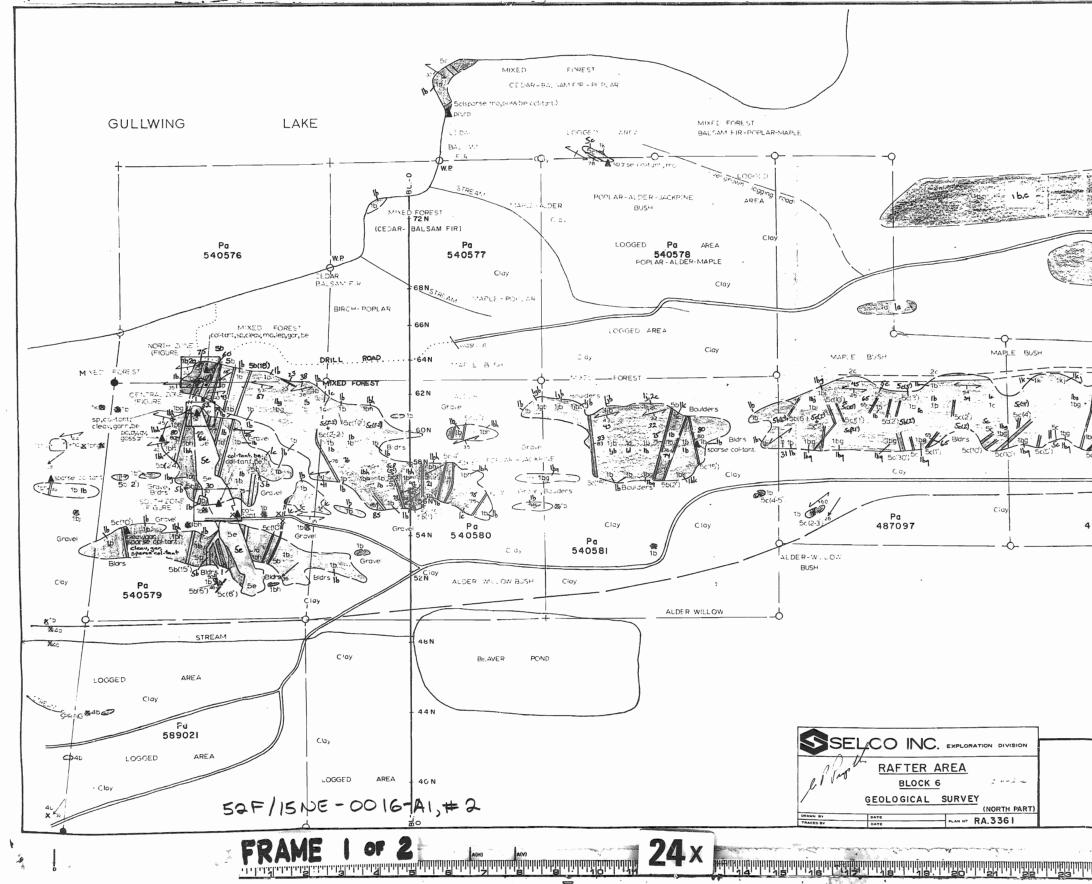
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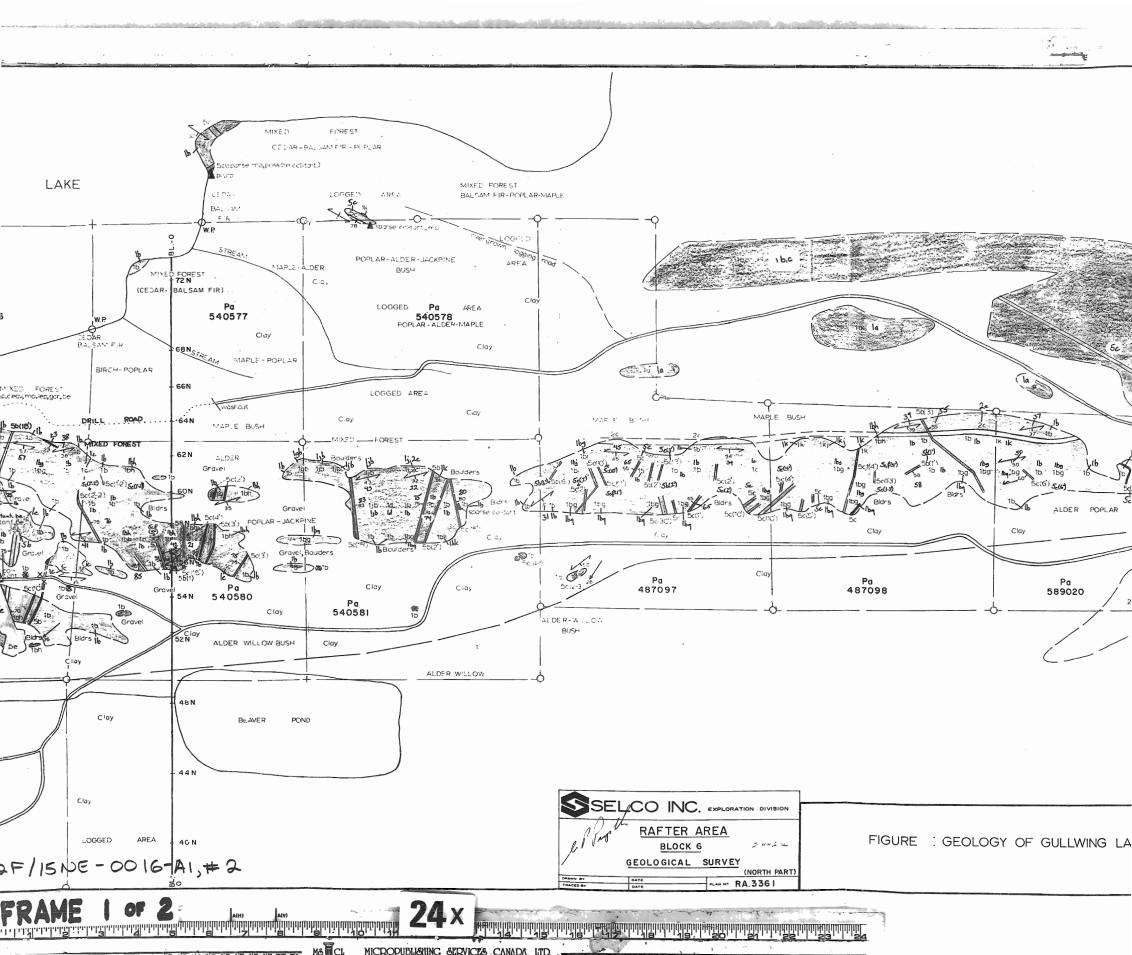
cc Selco-Inc.

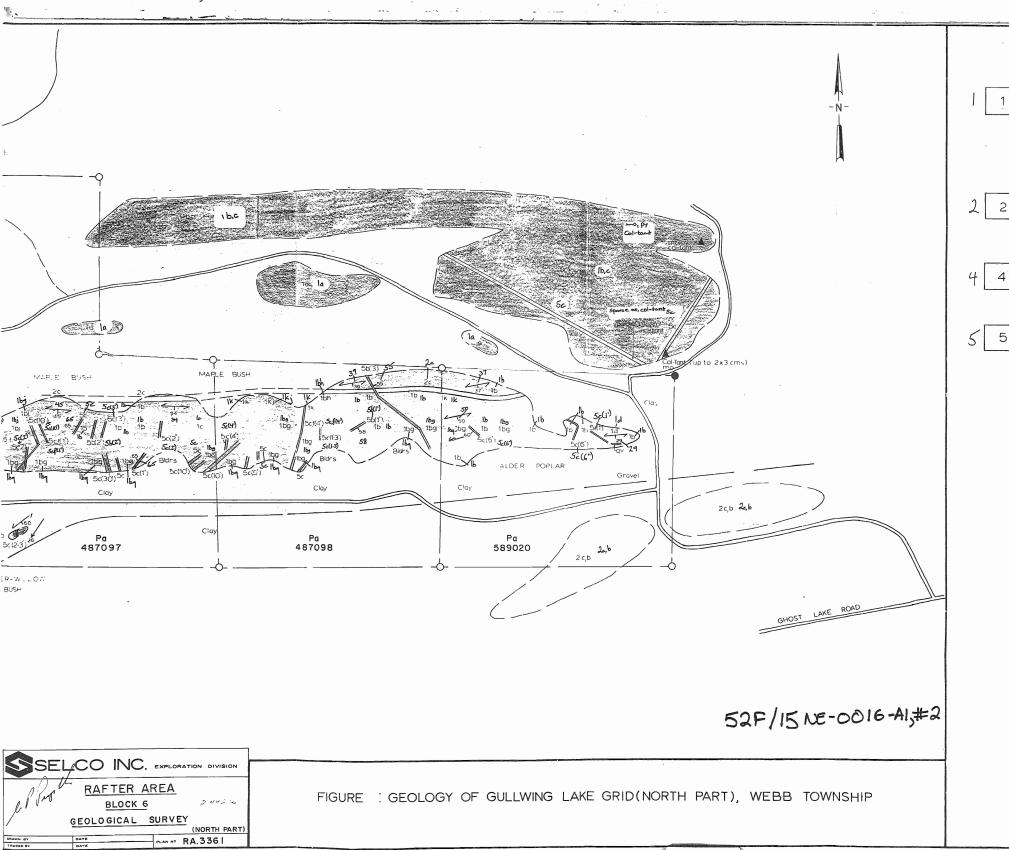
cc T. Pryslak

cc Resident Geologist Sioux Lookout









MAFIC METAVOL 1d PILLOWED BIOTITE - B GARNET-B INTERMEDIATE

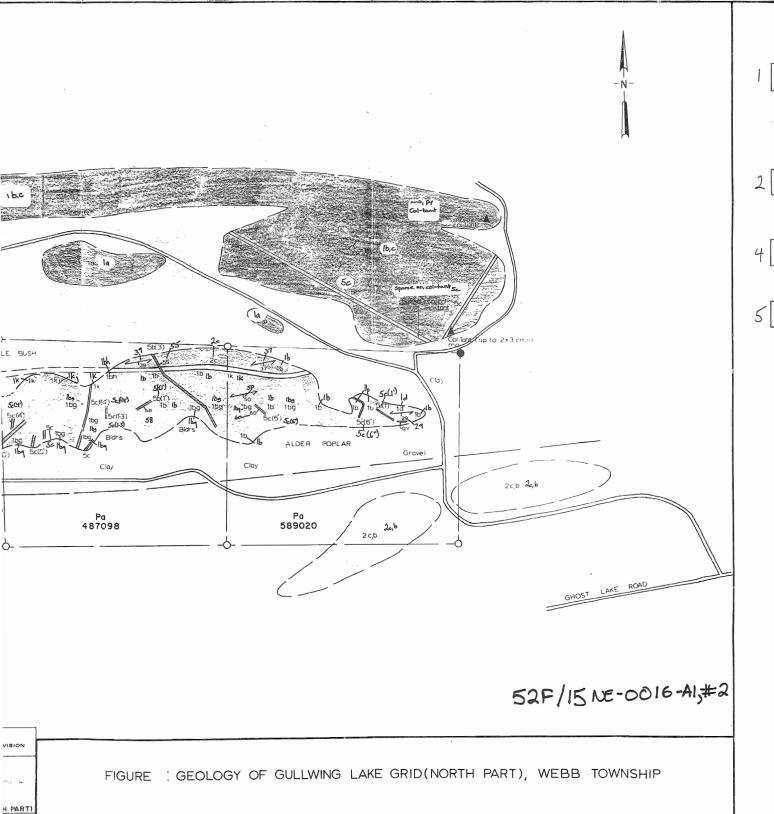
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GEOLOGY BY F.W.BREAKS AND SUPERVISED BY A.PRYSLA

MICROPUBLISHING SERVICES CANADA, LTD.



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5e MUSCOVITE-BIOTITE PEGMATITE\*TOURMALINE\*BERYU
51 APLITE OUTCROP AREA SMALL OUTCROP GEOLOGICAL CONTACT (OBSERVED; INTERPRETED) GRANITIC PEGMATITE DYKE (DIP KNOWN, VERTICAL, UNKNOWN) FOLIATION (INCLINED, VERTICAL)

MINERAL LINEATION WITH PLUNGE

MINERAL OCCURRENCE be BERYL cleav CLEAVE LANDITE

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gar GARNET

iep LEPIDOLITE mo MOLYBDENITE pc PYRRHOTITE

qv QUARTZ VEIN sp SPODUMENE

1. WIDTHS OF PEGMATITE DYKES MAY BE EXAGGERATED FOR MAP REPRESENTATION PURPOSES ACTUALIFIENDWN, IS PLACED IN BRACKETS FOLLOWING MAY COTE

GEOLOGY BY F.W.BREAKS AND P WHIPPLE ,1981 SUPERVISED BY A.PRYSLAK, 1981

31

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1361 Huntingwood Dr., Unit #8, Agincolut. Datases