REPORT ON A
SCINTILLOMETER SURVEY
AND
TRENCHING AND SAMPLING PROGRAM
ON THE
PLEVNA OPTION
MILLER TOWNSHIP
EASTERN ONTARIO MINING DIVISION
by
Geophysical Engineering Limited
Suite 4900, Toronto-Dominion Centre
Toronto, Ontario

January 5, 1979

J.A. Kelly, P.Eng.
1. PROPERTY
   (a) No. of Claims - 34 unpatented
   (b) Record Numbers - E.O. 476403-412 inclusive,
       E.O. 476463-473 inclusive,
       E.O. 476448,
       E.O. 476493-503 inclusive.
   (c) Date of Record - December 31, 1976.
   (d) Status - The claims are on extension

2. LOCATION
   (a) N.T.S. - 31-F-2
   (b) Mining Division - Eastern Ontario
   (c) Township - Miller
   (d) Map Reference - M. 99
   (e) Geographical Ref - In northeast Miller Township,
       10 miles north of the village
       of Plevna and 42 miles north-
       northeast of the town of
       Kaladar.

3. ACCESS
   (a) Summer - Via motor road from Plevna to
       Long Schooner Lake then via boat to the north end
       of the claim area. Little MacKie Lake at the
       southern end of the claim area is accessible by
       boat and portage from MacKie Lake.
   (b) Winter - The road from Plevna to the
       MacKie Lake resort area is not kept open in winter.
       All travel on these roads is via snowmobile or large
       tracked vehicle.
4. OWNERSHIP

The claim group is owned by Thomas Skimming and Assoc. Limited, and is currently held under option by Geo-physical Engineering Limited, Suite 4900, Toronto-Dominion Centre, Toronto, under the provisions of an agreement dated November 30, 1977.

5. HISTORY OF EXPLORATION

Prior to 1949, local prospectors were successful in locating occurrences of gold, copper, molybdenum, iron mica and talc. None of these proved to be of economic importance. In 1949 a program of geological mapping was undertaken in seven townships that comprise the Clarendon-Dalhousie-Darling map area. Only a small portion in the south of Miller Township was included within this area.

In Palmerston Township in 1968, Rexdale Mines Limited outlined an area of anomalous radioactivity reported to be 2,400 feet long and 150 feet in width. Grab samples returned assays in a range from 1.2 to 5.0 pounds per ton of uranium oxide.

In 1969, Teck Corporation conducted aerial radiometric surveys and ground prospecting in the townships of Palmerston, Olden, South Canonto and Miller. A group of claims was staked in southeastern Miller Township.
as a result of this work. Norbaska Mines Limited also staked claims in southeast Miller Township.

In 1970, Bordun Mining Corporation Limited carried out a comprehensive program of prospecting, trenching and systematic radiometric surveying, followed by overburden bulldozing in south-central Miller Township. This work delineated an area 1,200 feet in length and an average width of 655 feet from which 79 grab samples from 78 pits returned assays from trace to 9.80 pounds per ton uranium oxide. The average uranium oxide content is 1.40 pounds per ton. Further analyses disclosed the presence of rare earth oxides.

In 1975, a federal/provincial-sponsored regional airborne radiometric survey was flown over the area. The data release showed two interesting uranium anomalies in the Miller Township area; one coincident with the Bordun showing and the other centered adjacent to a major NW-trending regional fault north of Little MacKie Lake 6 miles north-northwest of the Bordun zone. Similar anomalous patterns were also reflected in uranium in lake sediments in these areas (National Geochemical Reconnaissance, Map 2-1976).

In late 1976, the firm of Thomas Skimming and Assoc. staked 34 claims covering the Little MacKie Lake
anomaly. On November 30, 1977 these claims were optioned by Geophysical Engineering Limited of Toronto.

6. GEOLOGY AND MINERALIZATION

Bedrock underlying the property consists of interbedded biotite paragneiss, amphibolite and pink granite gneiss, granite, and amphibolitic gneisses and hornblende schists cut by irregular pegmatite dykes and sills. These rocks strike in a northeasterly direction and dip between 30 and 80 degrees to the northwest. Several scarps have been developed along these dip faces. Two miles to the south of the property, a northeast striking synclinal axis has been mapped by Ontario Government geologists. A study of aerial photographs of the property reveals a distinctive topographic linear probably a fault or shear zone, striking northwesterly across the central portion of the property.

No surface mineralization has been observed on the property to date. However, on the Bordun property to the south, uraninite, uranothorite, uranophane and zircon have been observed in bleached white outcrops. These minerals are found as fracture fillings and in cleavage planes in pegmatitic granite. Rare earth minerals such as monazite, apatite, brannerite and euxenite are postulated to the associated with the pegmatitic granites.
7. WORK DONE TO DATE

Line cutting, magnetometer and VLF-EM surveys were carried out between January 14th and February 14, 1978. A report covering this work was submitted and approved by the Ministry under MEAP Contract EO29.

During the period June 8-30, 1978, a scintillometer survey was conducted and subsequently followed-up by a trenching and sampling program during the period October 7-21, 1978. This work was carried out under the provision of MEAP Contract EO56. Details of the radiometric survey, trenching and sampling are presented below.

(a) A line grid, originally laid out to cover airborne anomaly area in the central part of the claim group, was subsequently extended by blazing and flagging across the entire claim group. The baseline is located 1550 feet east of the parallel to the west boundary of Concession XIII.

(i) Base line - length 7600 feet, azimuth 340°

(ii) Cross lines - @400-foot intervals from 4400 South to 3200 North; azimuth 707°

(iii) Stations - 2348 stations were established @ 100-foot intervals

(vi) Covering dates - January 14 - February 9, 1978
June 8 - 12, 1978 (lines extended)
(b) **Scintillometer Survey**

(i) Instrument - McPhar TV-1 Scintillometer

(ii) Sensitivity - ± CPM

(iii) Station Interval - 50 Pt.

(iv) Total Stations Read - 1680

(v) Operator(s) - W. Gennings, W. Marion

(vi) Covering Dates - June 8-20, 1978 (field)

       June 20-30, 1978 (office)

(vii) Data Presentation - total count readings

       contoured at 2000 CPM are presented in

       drawings 5370-1 and 5370-2. Drawing 5370-3

       is a filtered contour map of the main area of

       interest. Filtering was carried out using an

       east to west three point moving average. The

       purpose of this was to smooth the total count

       contour data in order to evaluate the anomalous

       zones in a more realistic manner.

(c) **Trenching and Sampling**

(i) Equipment - 2 Atlas Capco Super Cobra rock drills

(ii) Total Yards Excavated - 31.7

(iii) Total No. of Trenches - 5

(iv) Trench Location(s) - Claims E0 476463 and E0 476403

       see Dwg. 5370-3 for details

(v) Operators - W. Gennings, D.T. Fudge, Roland Collins,

       North Bay, Ontario and Ray Collins,

       Timmins, Ontario

(vi) Covering Dates - October 7-21, 1978, January 3-4, 1979

(vii) No. of Samples - five 20 lb. representative chip
### TABLE I

**SUMMARY OF 1978 TRENCHING AND SAMPLING PROGRAM**

<table>
<thead>
<tr>
<th>TRENCH NO.</th>
<th>CLAIM</th>
<th>GRID CO-ORDINATES</th>
<th>DIMENSIONS (FT)</th>
<th>GEOLOGY</th>
<th>%U₃O₈</th>
<th>%ThO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EO 476403</td>
<td>2900N 3200E</td>
<td>6x4x4</td>
<td>quartzite, biotite paragneiss cut by red granite</td>
<td>&lt;0.005</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>2</td>
<td>EO 476403</td>
<td>2800N 2900E</td>
<td>10x4x4</td>
<td>red granite pegmatite</td>
<td>&lt;0.005</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>3</td>
<td>EO 476463</td>
<td>2400N 1550E</td>
<td>16x4x4</td>
<td>as above</td>
<td>&lt;0.005</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>4</td>
<td>EO 476463</td>
<td>2360N 1000E</td>
<td>8x4x4</td>
<td>biotite paragneiss</td>
<td>&lt;0.005</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>5</td>
<td>EO 476463</td>
<td>2400N 300E</td>
<td>10x4x4</td>
<td>red granite pegmatite</td>
<td>&lt;0.005</td>
<td>&lt;0.005</td>
</tr>
</tbody>
</table>

Total Cu Yds ‡ Work carried out: October 11-18, 1978
8. RESULTS

Countours of the total count scintillometer data (Dwgs.5370-1, 2) delineate narrow anomalous zones (readings higher than 4000 CPM) striking N20°E to N35°E, reflecting the regional trend of the bedding.

The patchy character of the pattern is likely an expression of the local topography (such as swamps), and outcrop/over-burden topography.

Nine anomalous zones were selected for trenching and sampling. However, owing to very poor assay results, the trenching and sampling program was terminated after 5 of these had been sampled. Results of this work are summarized in Table 1, page 7. Trench Locations are shown in Drawing 5370-3.

9. CONCLUSIONS

In view of the very poor results obtained to date, further exploration of the Plevna claims is not warranted.

Respectfully submitted,

J.A. Kelly, Senior Geologist,
January 5, 1979.
SCINTLLOMETER SURVEY
OF THE
PLEVNA OPTION
MILLER TOWNSHIP
EASTERN ONTARIO
MUNICIPALITY
TECK CORPORATION
BY
GEOPHYSICAL ENGINEERING LTD.

LEGEND

- 1 cm (1000 c.p.m.) (2 m)
- Instrument: McPhar TV-IA (170-05, 170-09)
- Operator: W. Wayne Gennings
- Date: June 10-20, 1978
- Contour Interval: 4000 c.p.m.
- Outcrop

WEST SHEET

CONCESSION XX

LITTLE MACINE LAKE

200 400 M

CONCESSION XIII

METRE
EAST SHEET
SCINTILLOMETER SURVEY
OF THE
PLEVNA OPTION
MILLER TOWNSHIP
EASTERN ONTARIO
MINING DIVISION
FOR
TECK CORPORATION
GEOPHYSICAL ENGINEERING LTD.

DATE: JUNE 1978
N.TS.31-F-2 JOB No. H70 DWG. 5370-1