



42A11SW0077 2.11815 JESSOP

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REPORT ON A  
GEOLOGICAL SURVEY  
OF THE  
JESSOP TOWNSHIP  
GOLD PROPERTY  
OF  
UNITED REEF PETROLEUMS LIMITED

RECEIVED  
NOV 15 1988  
MINING LANDS SECTION

Toronto  
Oct. 1988

*Qual.*  
*2.7933*

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Exploration Manager

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Projects Manager

## SUMMARY

A geological survey carried out on the recently optioned Jessop Township, Timmins Area, gold property of United Reef Petroleum Limited encountered flat-lying spruce and tag alder-covered muskeg and swamp with no outcrop exposure. Frost heave consisting of intermediate volcaniclastic breccia at L34+00W, 0+25N probably represents local bedrock. A grab sample assayed low gold and silver.

Previous surface geophysical surveys and diamond drilling indicate the property is underlain by essentially east-west trending Archean supracrustal rock sequences. Rocks intersected in drilling include mafic to felsic metavolcanics, fragmentals plus assorted intercalated greywacke, argillite, graphitic argillite and tuff.

Surface magnetometer results indicate several continuous mappable horizons, notably mafic to ultramafic metavolcanics as areas of high magnetic relief and felsic metavolcanic ± metasediments and/or intrusives represented by low magnetic relief.

A fold structure defined by a high magnetic horizon enveloping a low feature is evident in the western part of the property.

Several NW-SE and east-west trending faults showing offsetting of magnetic features are interpreted.

The claims straddle a regional unconformity separating

Porcupine Group metasediments from older supracrustal sequences. A similar lithologic relationship is noted at the Destor-Porcupine Fault trace. Many Timmins area past and present producing gold mines are juxtaposed to this structure.

Additionally, all previous exploration activity was conducted to uncover economic base metal concentrations. Lithostratigraphic and structural considerations in terms of gold mineralization have yet to be addressed in this area.

The property is concluded to have reasonable potential to host economic gold concentrations.

A two phase exploration program consisting of Phase I - MAXMIN II plus IP surveying and Phase II - 10,000 feet of diamond drilling is recommended to further evaluate the property. Estimated cost for this work is \$443,000.00.



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## 1.0 INTRODUCTION

Geological mapping was carried out on 57 mining claims recently optioned to United Reef Petroleum Limited from Canhorn Mining Corporation during the period October 5, 1988 to October 13, 1988.

Survey control was provided by the geophysical grid which was prepared for geophysical surveying during the 1988 winter field season. Grid lines are spaced at 100 m intervals with picket stations at 25 m.

This report describes results of the survey and, owing to lack of outcrop, provides a geological interpretation based on previous diamond drilling and recent surface magnetometer surveying.

## 2.0 LOCATION, ACCESS AND INFRASTRUCTURE

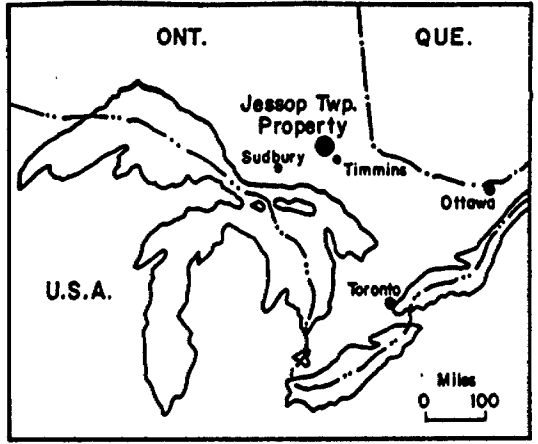
The Jessop Township property is situated 20 km north-east from the City of Timmins and 5 km northwest of the Timmins Airport (Figure 1).

The majority of the property is covered by low-lying swampy terrain which restricts surface access to all terrain vehicles in the summer and skidoo in the winter. The best means of surface access to the property is a winter road leading from the radio tower road (just west of the airport) north 3.6 km to the property.

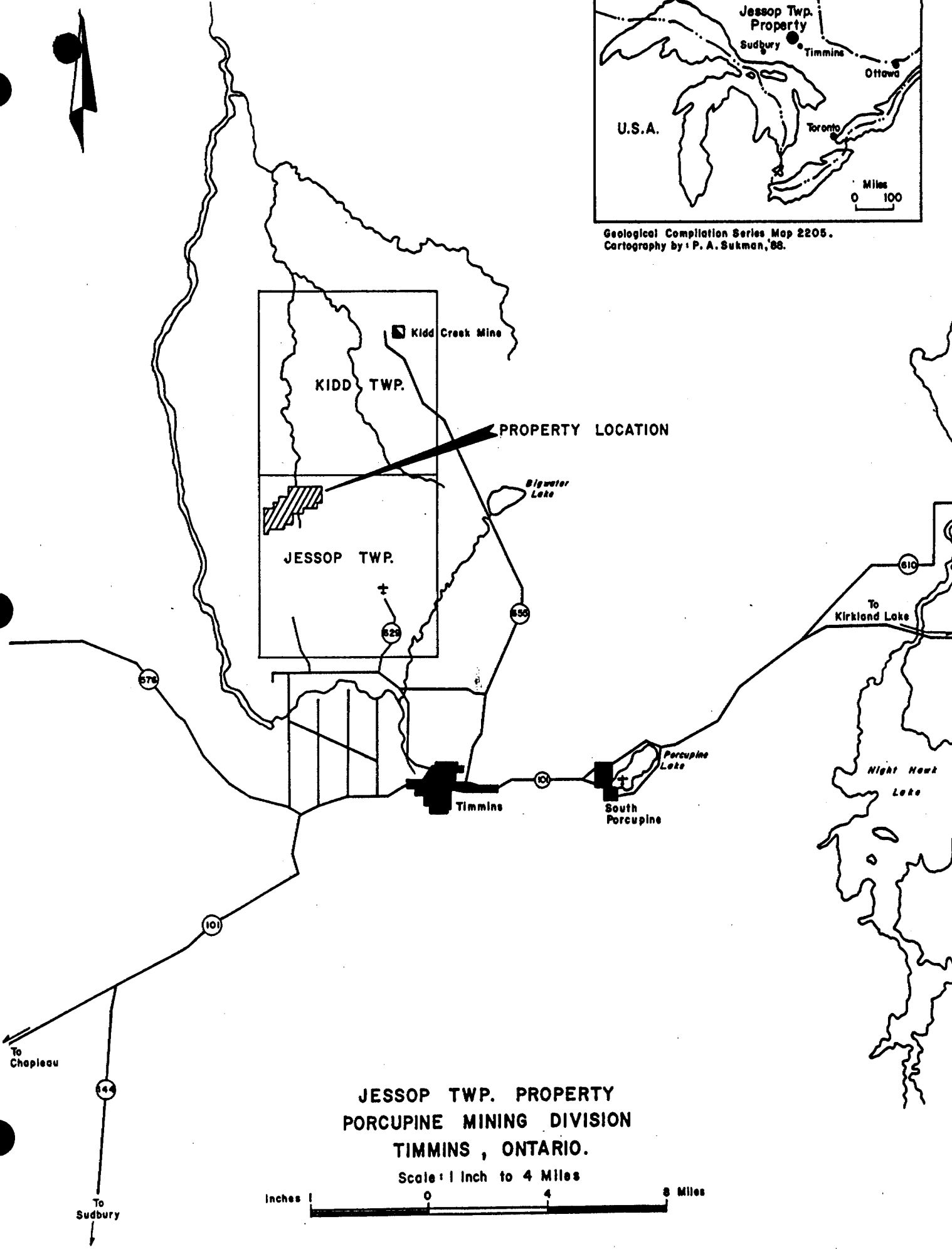
A power transmission line located 2 km west would provide a ready source of electrical power.

The City of Timmins (pop. 45,000) is a mining community able to provide service, supply and a manpower source.

Helicopter charter services are also available.

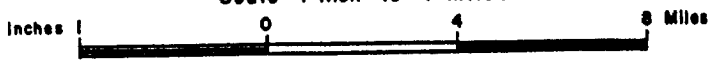


Geological Compilation Series Map 2205.  
 Cartography by P. A. Sukman, '88.



**JESSOP TWP. PROPERTY  
 PORCUPINE MINING DIVISION  
 TIMMINS, ONTARIO.**

Scale: 1 inch to 4 Miles





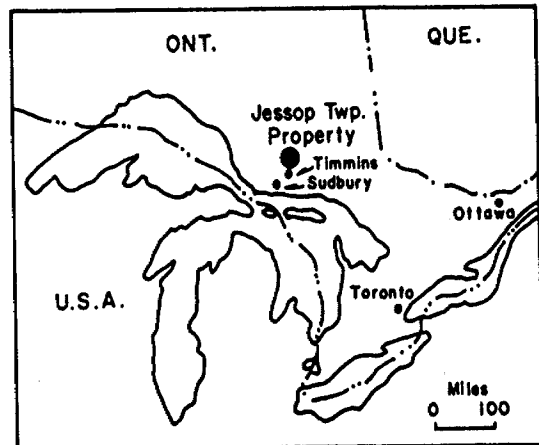
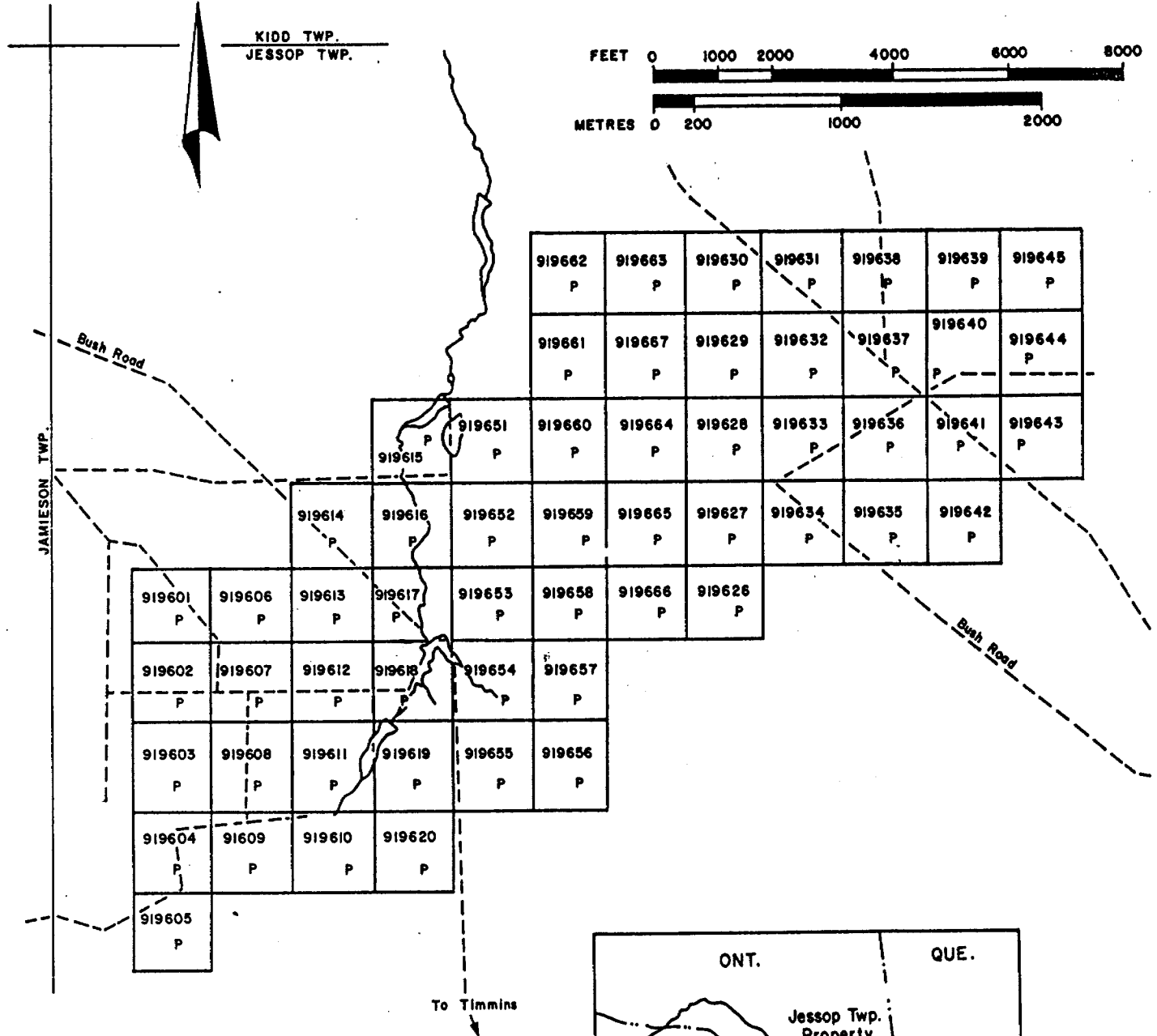
3.0 PROPERTY SPECIFICS

The property comprises 57 contiguous unpatented mining claims totalling approximately 2,280 acres situated in northwest Jessop Township of the Porcupine Mining Division.

The claims are listed as follows:

| <u>CLAIM NO.</u> | <u>CLAIM NO.</u> |
|------------------|------------------|
| P 919601         | 919641           |
| 919602           | 919642           |
| 919603           | 919643           |
| 919604           | 919644           |
| 919605           | 919645           |
| 919606           | 919651           |
| 919607           | 919652           |
| 919608           | 919653           |
| 919609           | 919654           |
| 919610           | 919655           |
| 919611           | 919656           |
| 919612           | 919657           |
| 919613           | 919658           |
| 919614           | 919659           |
| 919615           | 919660           |
| 919616           | 919661           |
| 919617           | 919662           |
| 919618           | 919663           |
| 919619           | 919664           |
| 919620           | 919665           |
| 919626           | 919666           |
| 919627           | 919667           |
| 919628           |                  |
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| 919638           |                  |
| 919639           |                  |
| 919640           |                  |

# JESSOP TWP. PORCUPINE MINING DIVISION TIMMINS, ONTARIO.



Source: M.N.R. Plan No. G-3884.  
Cartography by: W.W. Genzen, '87.

CANHORN MINING CORPORATION  
 JESSOP TWP.  
 PORCUPINE MINING DIVISION  
 (G.3984)  
 (57 Unpatented claims)  
 (2,280 Acres)

L I S T O F C L A I M S

| <u>CLAIM NO.</u> | <u>ACRES</u> | <u>WORK COMPLETED</u> | <u>WORK DUE</u> | <u>ANNIVERSARY DATE</u> | <u>RECORDING DATE</u> |
|------------------|--------------|-----------------------|-----------------|-------------------------|-----------------------|
| P 919601         | 40           | 60                    | 40              | Nov. 7/89               | Nov. 7/86             |
| 919602           | "            | "                     | "               | "                       | "                     |
| 919603           | "            | "                     | "               | "                       | "                     |
| 919604           | "            | "                     | "               | "                       | "                     |
| 919605           | "            | "                     | "               | "                       | "                     |
| 919606           | "            | "                     | "               | "                       | "                     |
| 919607           | "            | "                     | "               | "                       | "                     |
| 919608           | "            | "                     | "               | "                       | "                     |
| 919609           | "            | "                     | "               | "                       | "                     |
| 919610           | "            | "                     | "               | "                       | "                     |
| 919611           | "            | "                     | "               | "                       | "                     |
| 919612           | "            | "                     | "               | "                       | "                     |
| 919613           | "            | "                     | "               | "                       | "                     |
| 919614           | "            | "                     | "               | "                       | "                     |
| 919615           | "            | "                     | "               | "                       | "                     |
| 919616           | "            | "                     | "               | "                       | "                     |
| 919617           | "            | "                     | "               | "                       | "                     |
| 919618           | "            | "                     | "               | "                       | "                     |
| 919619           | "            | "                     | "               | "                       | "                     |
| 919620           | "            | "                     | "               | "                       | "                     |
| 919626           | "            | "                     | "               | "                       | "                     |
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| 919633           | "            | "                     | "               | "                       | "                     |
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| 919635           | "            | "                     | "               | "                       | "                     |
| 919636           | "            | "                     | "               | "                       | "                     |
| 919637           | "            | "                     | "               | "                       | "                     |
| 919638           | "            | "                     | "               | "                       | "                     |
| 919639           | "            | "                     | "               | "                       | "                     |
| 919640           | "            | "                     | "               | "                       | "                     |
| 919641           | "            | "                     | "               | "                       | "                     |
| 919642           | "            | "                     | "               | "                       | "                     |
| 919643           | "            | "                     | "               | "                       | "                     |
| 919644           | "            | "                     | "               | "                       | "                     |
| 919645           | "            | "                     | "               | "                       | "                     |

| <u>CLAIM NO.</u> | <u>ACRES</u> | <u>WORK COMPLETED</u> | <u>WORK DUE</u> | <u>ANNIVERSARY DATE</u> | <u>RECORDING DATE</u> |
|------------------|--------------|-----------------------|-----------------|-------------------------|-----------------------|
| P 919650         | "            | "                     | "               | "                       | "                     |
| 919651           | "            | "                     | "               | "                       | "                     |
| 919652           | "            | "                     | "               | "                       | "                     |
| 919653           | "            | "                     | "               | "                       | "                     |
| 919655           | "            | "                     | "               | "                       | "                     |
| 919654           | "            | "                     | "               | "                       | "                     |
| 919656           | "            | "                     | "               | "                       | "                     |
| 919657           | "            | "                     | "               | "                       | "                     |
| 919658           | "            | "                     | "               | "                       | "                     |
| 919659           | "            | "                     | "               | "                       | "                     |
| 919660           | "            | "                     | "               | "                       | "                     |
| 919661           | "            | "                     | "               | "                       | "                     |
| 919662           | "            | "                     | "               | "                       | "                     |
| 919663           | "            | "                     | "               | "                       | "                     |
| 919664           | "            | "                     | "               | "                       | "                     |
| 919665           | "            | "                     | "               | "                       | "                     |
| 919666           | "            | "                     | "               | "                       | "                     |
| 919667           | "            | "                     | "               | "                       | "                     |

#### 4.0 PREVIOUS WORK

To date all previous exploration activity over the past 20 years in the vicinity of the property centered on volcanogenic base metals deposits. The stimulus was mainly provided by the nearby world class Kidd Creek Zn-Cu-Pb producer situated in Kidd Township, 12 km. to the north.

Exploration work consisted of airborne geophysics followed up by surface magnetometer and electromagnetometer surveying. Likely base metal targets were subsequently diamond drilled. Gold may not have been assayed in some drill core.

Ten exploration and mining companies reportedly carried out exploration work in the area of the United Reef mining claims. A brief summary of their activities follows.

Reports and Maps are provided at the Provincial Assessment File Office in Toronto.

| COMPANY                              | YEARS     | ACTIVITY  | REFERENCE   |
|--------------------------------------|-----------|---|---|
| Lake Expanse Gold<br>Mines Ltd.      | 1958      | 5 Drill Holes   | ODM Map P. 158  |
| CAM Mines Ltd.                       | 1964      | TURAM - EM  | Ass. File 63.1406   |
| Jessop Mines Ltd.                    | 1964      | Magnetometer<br>TURAM - EM<br>9 Drill Holes<br>- 3,600 ft.                        | Ass. File 63.1417   |
| Hollinger Cons.<br>Gold Mines Ltd.   | 1965      | Mag<br>HEM<br>5 Drill Holes<br>- 3,300 ft.  | Ass. File 63.1496   |
| White Star Copper<br>Mines Ltd.      | 1967      | Mag<br>HEM<br>2 Drill Holes   | Ass. File 63.2146   |
| Newmont Mining<br>Corp. Ltd.         | 1971-1972 | Airborne Mag, EM<br>1 Drill Hole<br>- 947 ft.                                     | Ass. File 2.591   |
| Dome Exploration<br>Canada Ltd.      | 1972-1973 | Mag<br>HEM<br>3 Drill Holes<br>- 1,300 ft.  | Ass. File 2.111   |
| Phelps Dodge Corp.<br>of Canada Ltd. | 1975      | Mag<br>HEM<br>VEM   | Ass. File 2.1965  |
| Norcen Energy<br>Resources Ltd.      | 1979-1982 | Airborne Mag, EM<br>Surface Mag.<br>MAXMIN II<br>INPUT<br>1 Drill Hole<br>Mapping | Ass. Files 2.3030<br>2.3391<br>2.4031<br>2.4032<br>2.4033<br>2.4311<br>2.4569 |
| Samin Canada Ltd.                    | 1982-1983 | 9 Drill Holes<br>- 1,422 m.   | Ass. Files DDH 33,35  |

## 5.0 REGIONAL GEOLOGY AND MINERALIZATION

The Jessop property is situated within the northwestern portion of the Abitibi Orogenic Belt of the Superior Structural Province. As shown in Figure 3 it is stratigraphically located at the northwest corner of the prolific Timmins - Porcupine Gold District.

The Porcupine area is comprised of mainly east-west trending, steeply dipping ultramafic to felsic metavolcanics, fragmentals plus metasediments with associated volcanoclastics and chemical sediments of Archean age. This supracrustal package is intruded by intermediate to felsic subvolcanic intrusives (granodiorite - monzonite, (quartz) - feldspar porphyry) many of which may represent ancient volcanic vents, for example the Pearl Lake porphyry in Tisdale Township. A general geology map of the region is shown in Figure 4 and 5.

Several other postulated volcanic centers are recognized in the area manifest as complex volcanic piles of roughly circular and domal-like surface character. Examples include the Halliday, Dome, Shaw Dome, and the Pamour Dome as indicated on Figure 9.

The area supracrustal sequences are subdivided stratigraphically into the Lower Supergroup, Upper Supergroup, and Porcupine Group. The distribution of Porcupine area stratigraphy is shown on Figure .

Detailed geological mapping and lithogeochemical studies of the main portion of the Timmins Gold Camp allows delineation of a complex Upper Supergroup stratigraphy.

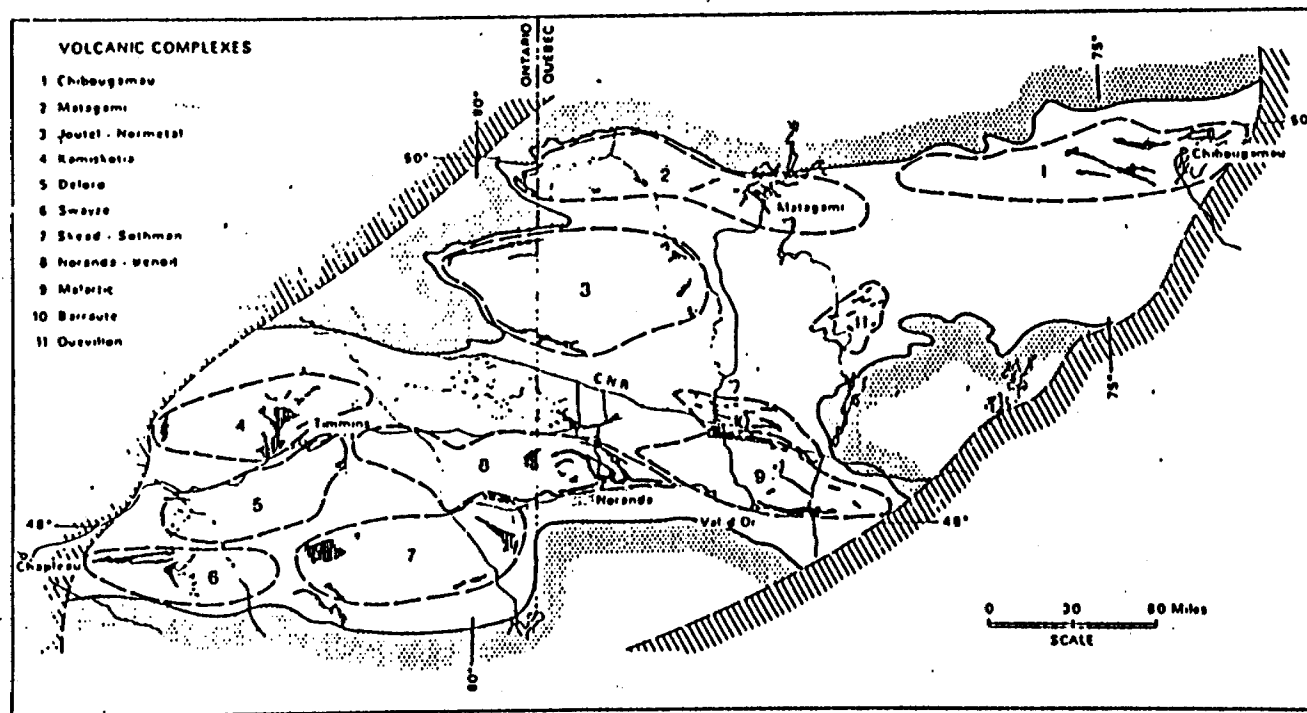
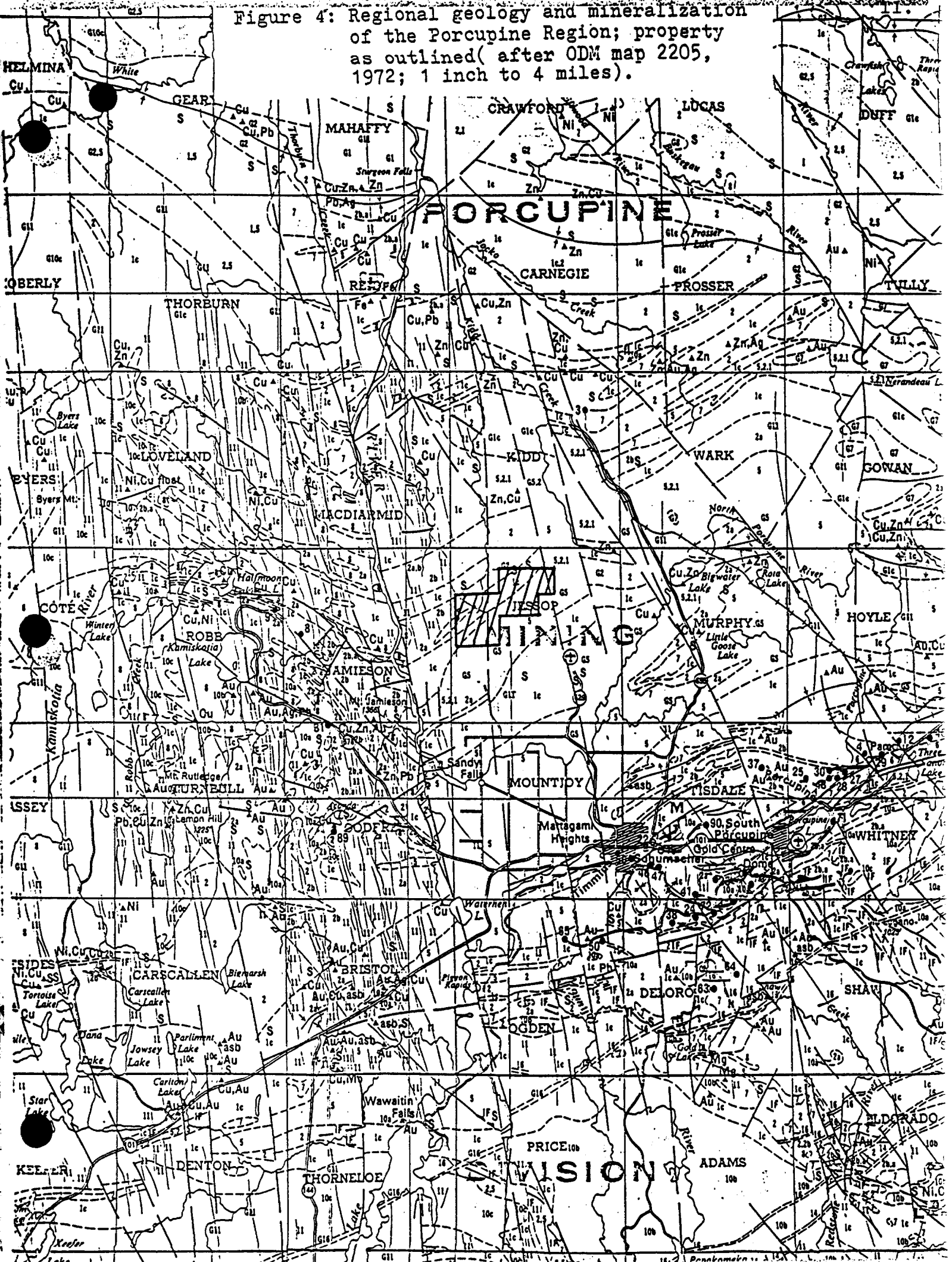


Fig. 3. Distribution of volcanic complexes in the Abitibi greenstone belt, Canada (from Goodwin and Ridler, 1970). Felsic volcanic rocks shown by vertically ruled pattern.



Figure 4: Regional geology and mineralization of the Porcupine Region; property as outlined (after ODM map 2205, 1972; 1 inch to 4 miles).



**HURONIAN SUPERGROUP  
COBALT GROUP  
Lorrain Formation**



13 Quartzite, arkose.

**Gowganda Formation**



12 Unsubdivided.  
12a Firstbrook Member: argillite, greywacke, siltstone, arkose.  
12b Coleman Member: conglomerate, arkose, greywacke, quartzite, argillite.

**UNCONFORMITY**

**EARLY PRECAMBRIAN  
MAFIC INTRUSIVE ROCKS<sup>b</sup>**



11 Diabase: dikes.

**INTRUSIVE CONTACT**

**FELSIC INTRUSIVE ROCKS<sup>c</sup>**



10a Quartz porphyry, quartz-feldspar porphyry, feldspar porphyry, granophyre, felsite  
10b Trondhjemite, granodiorite, quartz monzonite: simple batholiths and stocks  
10c Trondhjemite, granodiorite, quartz monzonite, quartz diorite, apilite, pegmatite, migmatite: complex batholiths.



9 Syenite, monzonite, feldspar porphyry<sup>d</sup>

**METAMORPHOSED MAFIC AND  
ULTRAMAFIC ROCKS<sup>e</sup>**



8 Gabbro, diorite, lamprophyre.



7 Peridotite, dunite, pyroxenite, serpentinites

**INTRUSIVE CONTACT**

**METASEDIMENTS<sup>f</sup>**



6 Conglomerate, greywacke, siltstone, slate, argillites



5 Greywacke, siltstone, slate, argillite and minor pebble conglomerate

**METAVOLCANICS<sup>g</sup>**

**ALKALIC METAVOLCANICS<sup>h</sup>**



4 Trachyte, leucitic trachyte; flows, tuff, breccia.

**ULTRAMAFIC METAVOLCANICS<sup>k</sup>**



3 Serpentinized dunitic and peridotitic flows.

**FELSIC METAVOLCANICS<sup>l</sup>**



2 Unsubdivided.  
2a Pyroclastic rocks.  
2b Flows.

**INTERMEDIATE AND MAFIC  
METAVOLCANICS<sup>l</sup>**



1 Unsubdivided.  
1a Intermediate flows.  
1b Intermediate pyroclastic rocks.  
1c Mafic flows and pyroclastic rocks.



1F Iron formation and ferruginous chert (occurs as a member of stratigraphic units 1, 2, 4, and 5).

S Sulphide mineralization.

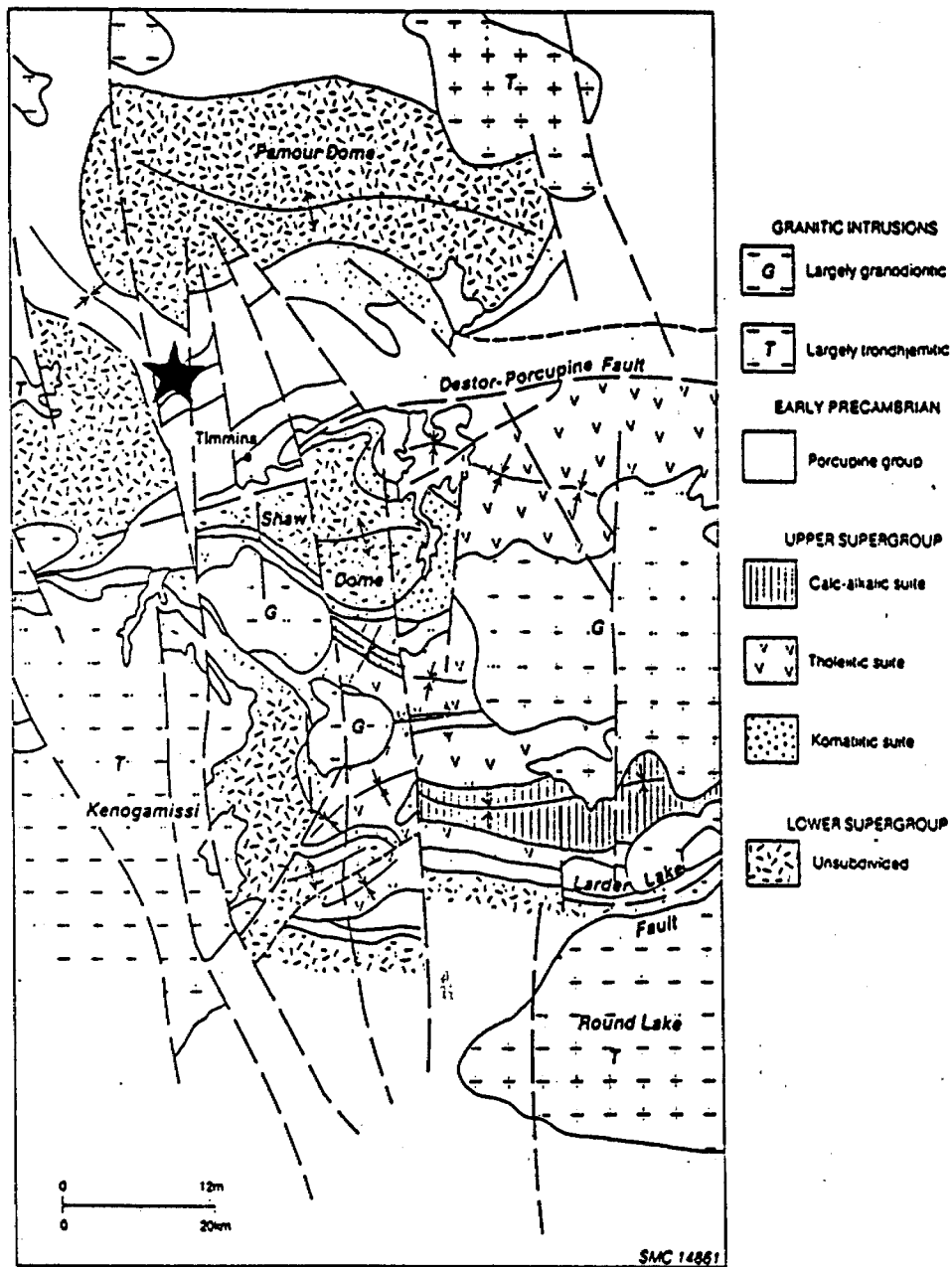


Figure 5 General stratigraphy and volcanic centers (domes) in the Porcupine Region (after Pyke, 1982); property as indicated.

The Supergroup is subdivided into the Deloro or Lower Group and the Tisdale or Upper Group. As indicated in Figures 6 and 7 contained volcanic lithologies range compositional from ultramafic to felsic and chemically from tholeiitic (Tisdale Group mainly) to calc-alkaline (Deloro Group mainly). Chemical sediments are abundant in both groups. A detailed stratigraphic column in the vicinity of Whitney and Tisdale Townships is given as Figure 8.

The Lower Supergroup of mixed volcanics and sediments (?) remains unsubdivided.

Porcupine Group turbiditic metasediments represent basinal sedimentary deposits derived from the older Upper and Lower Supergroup sequences.

To date, the Porcupine Gold Camp has produced +57,000,000 oz. of gold from 8 present and 45 past producing gold mines. A total of 9,500,000 oz. of silver was also produced. A list of mines and gold production is given in Table 1.

Mineral occurrences in the Timmins area are shown on Figure 4. The Jessop property is also outlined.

Many gold deposits in the Porcupine Camp are juxtaposed to the east-west trending Destor-Porcupine Fault, a regional fault structure of unconformity which separates Porcupine Group sediments in the north from Upper and Lower Supergroup lithologies to the south. The fault defines the southern margin of a sedimentary basin (Porcupine Group). The basin is bound to the north by the Pipestone Fault trace (Figure 6). The faults are traced eastwards into the Noranda Gold District.

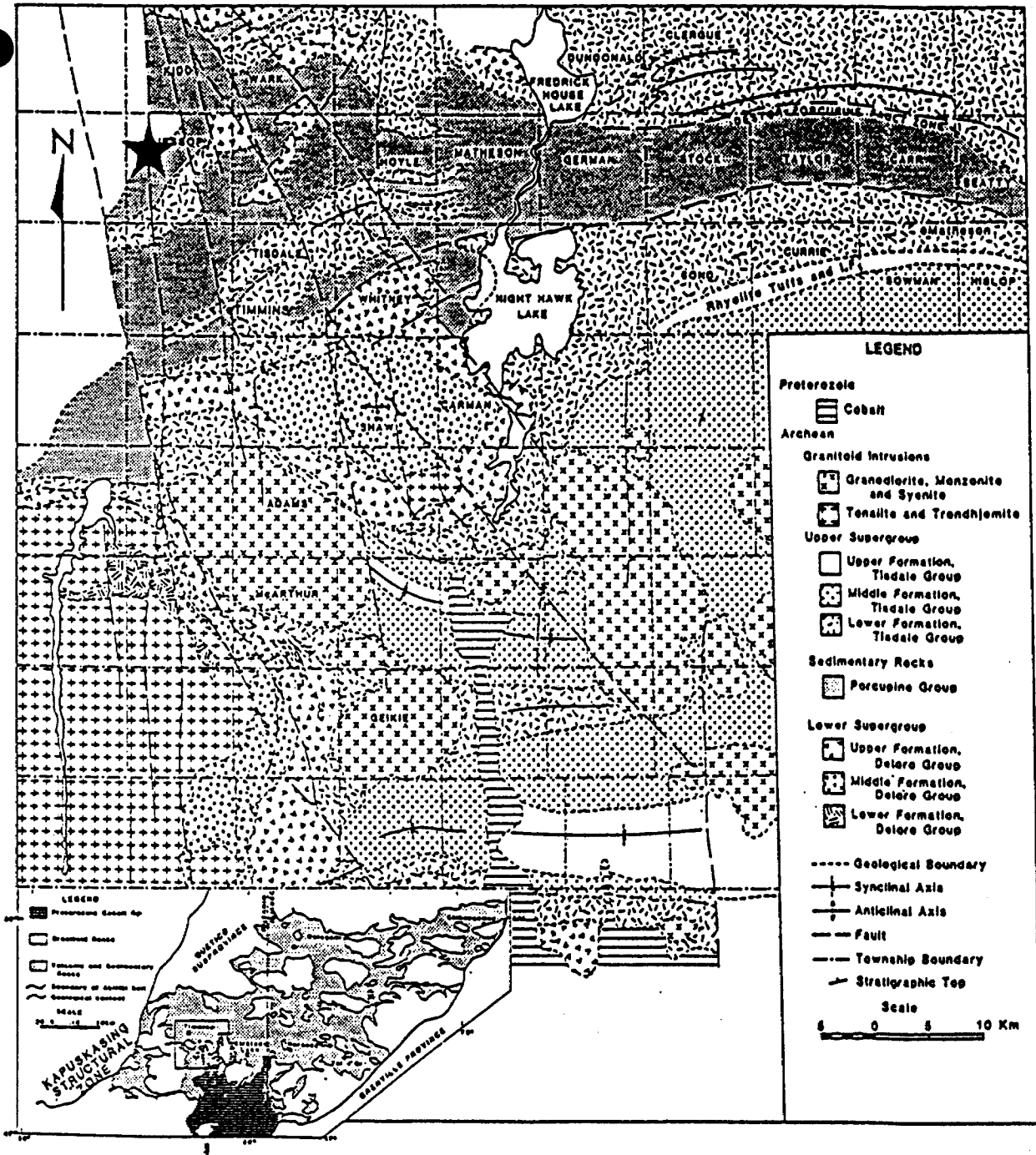


Figure 6.: Regional stratigraphy of the Timmins area (after Jensen, 1986); property as indicated.

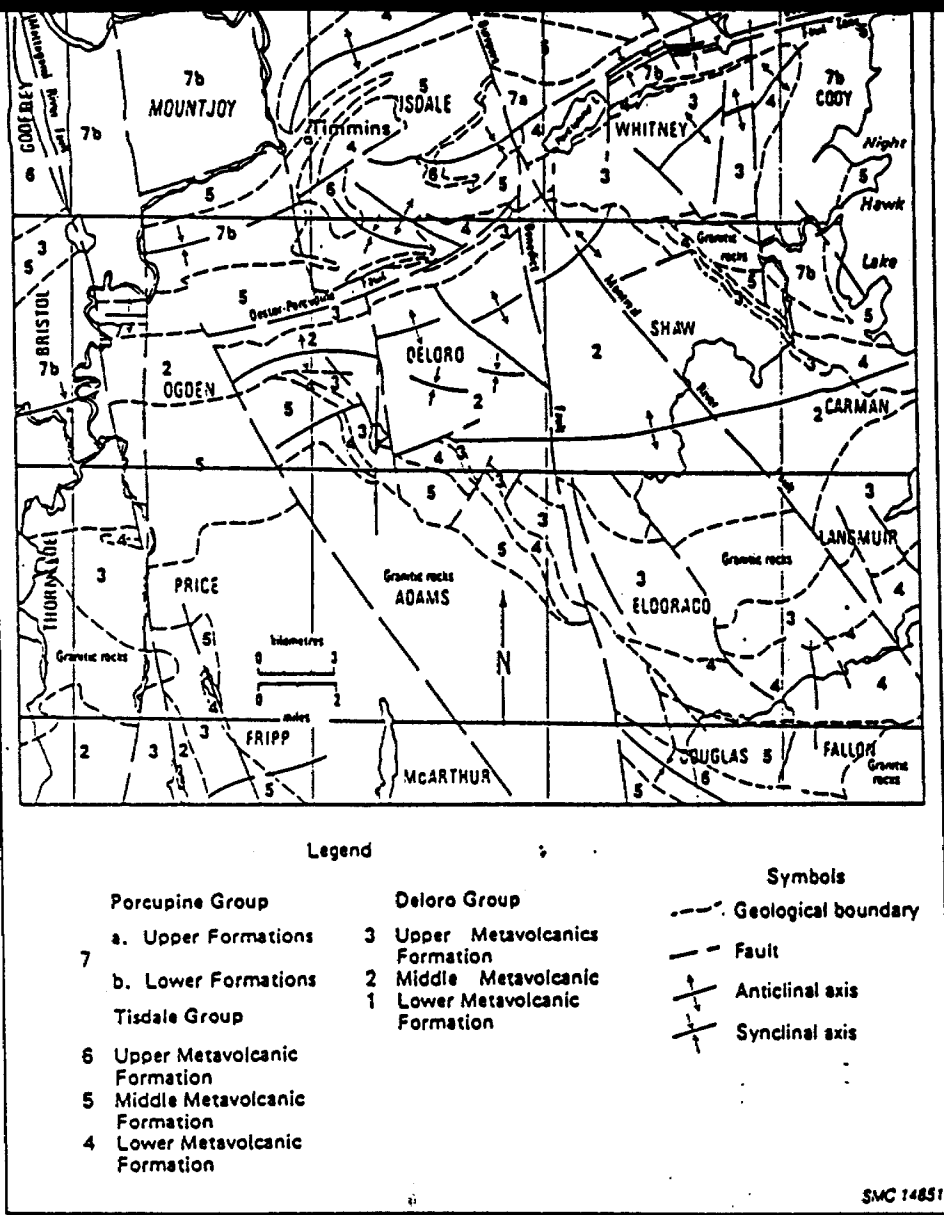
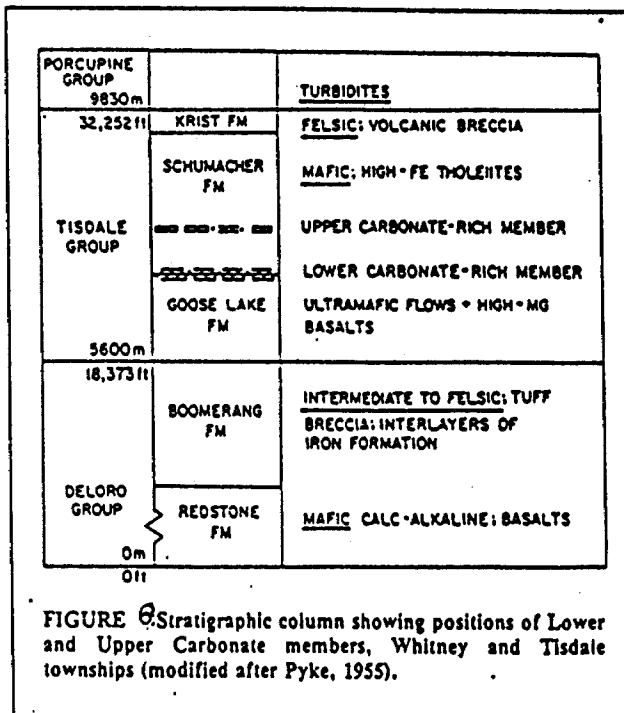


Figure 7: Stratigraphic units in the Timmins area (after Pyke, 1982).



| MINES                        | to Au   | to Ag             | SOLEAGS                 | ATO. Au GRADE |
|------------------------------|---|-------------------|-------------------------|---------------|
| • Hollinger                  | 19,354,483<br>(1910-1968)<br>(1977-1985 included with McIntyre) | 4,244,967         | 65,890,358              | 0.29          |
| • Dome                       | 11,101,285  | -----             | 42,700,867              | 0.24          |
| • McIntyre                   | 11,067,669  | 3,403,827         | 41,941,627              | 0.08-0.30     |
| • Panour                     | 2,918,901<br>(1936-1981)<br>(1982-1985 included with McIntyre)  | ?                 | 26,733,031              | 0.11          |
| • Anson                      | 2,479,894<br>(1940-1981)<br>(1982-1985 included with McIntyre)  | 147,282 (to 1968) | 8,234,574               | 0.30          |
| Hallaer                      | 1,645,892   | 108,401 (to 1968) | 4,226,419               | 0.39          |
| Preston                      | 1,539,355   | 177,351           | 6,284,405               | 0.24          |
| Paymaster                    | 1,192,206   | 325,088           | 5,607,402               | 0.21          |
| Coniourum                    | 1,109,574   | 196,522           | 4,464,006               | 0.25          |
| Duffonts                     | 80,170  | 2,620             | 299,695                 | 0.27          |
| Buffalo Ankerite             | 957,292   | 79,751            | 4,993,929               | 0.19          |
| Delante                      | 920,404   | 73,423            | 3,847,364               | 0.24          |
| • Ross                       | 877,331<br>(1936-1981)<br>(1982-1985 included with McIntyre)    | -----             | 5,560,031               | 0.16          |
| Reef                         | 498,932   | 38,919            | 2,144,507               | 0.23          |
| Vipond                       | 414,367   | 59,484            | 1,565,218               | 0.26          |
| Broulan                      | 243,757   | 26,647            | 1,146,059               | 0.21          |
| Moneta                       | 149,250   | 22,269            | 314,829                 | 0.47          |
| Crown                        | 138,330   | 20,569            | 266,180                 | 0.61          |
| Hugh Pam                     | 119,604   | -----             | 632,751                 | 0.19          |
| Hoyle                        | 71,843  | 6,741             | 725,494                 | 0.10          |
| Bonwit                       | 67,940  | -----             | 200,940                 | 0.34          |
| Bonetal                      | 51,510  | 4,180             | 352,254                 | 0.15          |
| • Haybob                     | 50,731  | 5,216             | 304,000                 | 0.17          |
| • Owl Creek                  | 45,100  | ?                 | 555,000                 | 0.08          |
| De Santis                    | 35,842  | 3,142             | 255,372                 | 0.20          |
| Porcupine Peninsular         | 27,416<br>(1924-1944)<br>13,660 (est)<br>(1978-1982)            | -----             | 99,708<br>622,000 (est) | 0.27<br>0.137 |
| • Hoyle Pond                 | 25,400  | ?                 | 71,000                  | 0.35          |
| Jaymar                       | 21,851  | 13,531            | 119,181                 | 0.18          |
| Gilles Lake                  | 15,278  | 2,449             | 54,502                  | 0.28          |
| Crocus                       | 14,859  | 1,423             | 5,333                   | 2.79(?)       |
| Canadian Arrow               | 9,038   | -----             | 1176,893                | 0.062         |
| Fuller                       | 8,802   | ?                 | 58,783                  | 0.15          |
| Kan-Kotia                    | 4,701   | 523,927           | ?                       | ?             |
| Gold Island                  | 5,321   | ---               | 1636                    | 8.43(?)       |
| Davidson Tisdale             | 2,438   | 150               | 9,371                   | 0.26          |
| Tisdale Ankerite<br>(Vedron) | 2,236   | ---               | 14,655                  | 0.15          |
| Porcupine Lake               | 1,369   | 86                | 10,821                  | 0.13          |
| Cincinnati                   | 736   | 79                | 3,200                   | 0.23          |
| Banner                       | 670   | 124               | 315                     | 2.13(?)       |
| Jameland                     | 465   | 42,075            | 509,356                 | ?             |
| Huddleston                   | 401   | 46                | 8,407                   | 0.05          |
| Nolaren Porcupine            | 201   | ---               | 876                     | 0.23          |
| Headwater                    | 81  | 33                | 500                     | 0.16          |
| Aljo                         | 42  | 5                 | 2,333                   | 0.02(?)       |
| American Eagle               | 40  | ---               | 60                      | 0.67          |
| Coin Lake                    | 37  | ---               | ?                       | ?             |
| Gold Pyramid                 | 36  | ---               | 175                     | 0.21          |
| Argyll                       | 30  | ---               | 25                      | 1.21          |
| Concordia                    | 16  | 14                | 230                     | 0.07          |
| Tommy Burne                  | +14   | ---               | 821                     | 0.28          |
| De Santis (Turnbull)         | 13  | ---               | ?                       | ?             |
| Potter Doel                  | 110   | ---               | 50                      | 0.20          |
| North Turnbull               | 5   | ---               | 30                      | 0.17          |

57,286,828

+9,530,343

Such deposits consist of auriferous quartz, quartz-ankerite veins and sulphide-bearing shears hosted by or near to greywackes, graphitic argillites, mudstones and tuffs, chemical sediments and carbonatized komatiitic and tholeiitic basalts.

Structurally such deposits are indicated to be localized along low-angle faults or shear zones which are oriented oblique to the main Destor-Porcupine Fault trace. The currently producing Owl Creek and Hoyle Pond Mines of Falconbridge Limited and developing Bell Creek deposit of Canamax Resources plus the St. Andrew Goldfields deposit in Stock Township are examples of this style of gold mineralization.

Reserves of these deposits to 1986 are listed as follows:

|            |              |                 |
|------------|--------------|-----------------|
| Hoyle Pond | 220,000 T.   | 0.44 oz. Au/T.  |
| Owl Creek  | 718,000 T.   | 0.12 oz. Au/T.  |
| Bell Creek | 1,215,500 T. | 0.194 oz. Au/T. |
| St. Andrew | 735,626 T.   | 0.135 oz. Au/T. |

At Hoyle Pond gold mineralization is hosted by grey alteration zones within tholeiites and variolitic basalts close to the contact with graphitic argillite. The gold is contained within quartz-carbonate veins and carbon-rich shears which trend subparallel to regional foliation and/or schistosity.

Gold is associated with carbon and fine, skeletal pyrite. Arsenic and tungsten also show enrichment with respect to gold and carbon.

The grey alteration zones are characterized by silica



depletion and enrichment of alkalis and alumina (Downes, et. al, 1982). Carbonatization is also noted.

General geology of the Hoyle Pond deposit and geometry of the "grey zones" is shown in Figures 9 and 10.

Stratiform gold deposits, also situated close to the Destor-Porcupine Fault, show exhalative features such as finely banded to laminated interflow (chemical) sediments such as pyritic layered chert-carbonate (tuff) beds, for example at the Moneta and Porcupine-Peninsular Mines and chert-carbonate beds (quartz-ankerite veins), for example at the Aunor Mine.

Such deposits are generally confined to the carbonate members of the Tisdale Group.

Several gold deposits are epigenetically associated with the emplacement of late alkalic to subalkalic felsic porphyritic to granitic intrusions, for example the Dome Mine (Preston porphyry) and the Pamour Mine (Pearl Lake porphyry). Gold is hosted by quartz + carbonate stockworks, veins, fractures and at contact metamorphic aureoles to the intrusives. These intrusives may represent "fossil" volcanic vents. Most are situated within, proximity of the Destor-Porcupine Fault.

All of the deposits are affected by post- and syn-regional metamorphism and tectonism (folding). Two phases of folding are recognized at Timmins and may account for many irregular veins and stockworks found within all the aforementioned gold deposit styles. These ores are termed metamorphogenic.

Common host rock alteration features to Timmins Gold

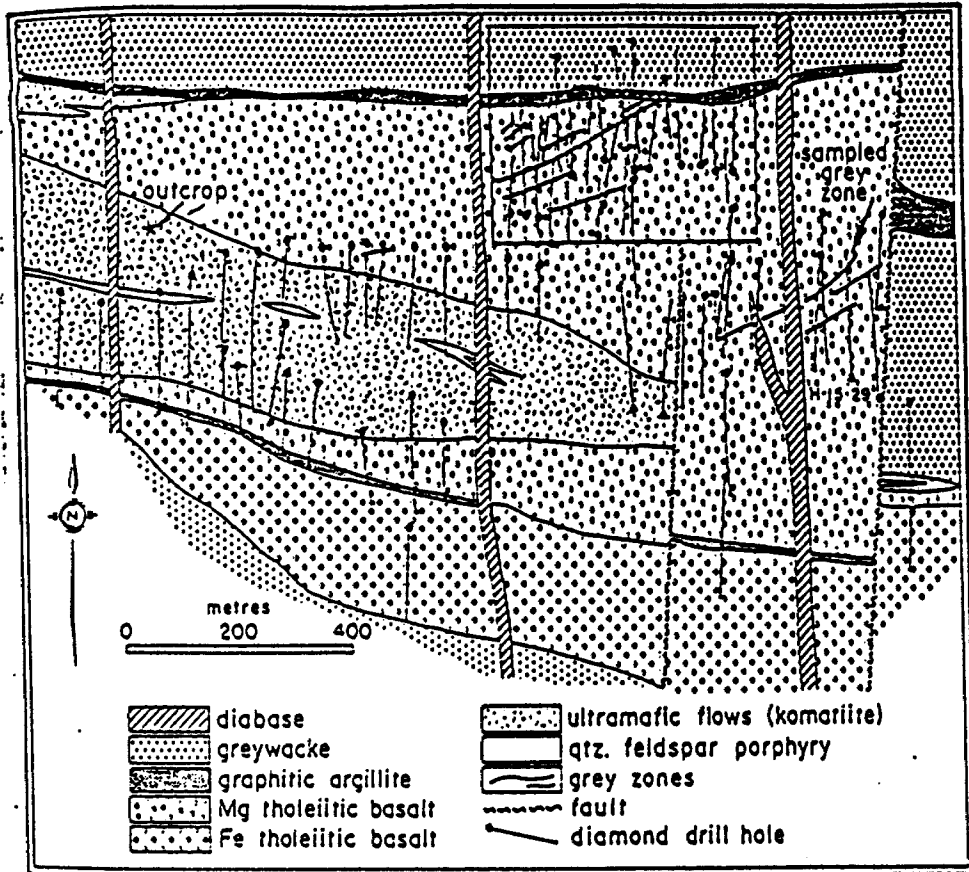


Fig. 9. General geological plan of the Hoyle Pond Area. The area covered by Fig. 10 is indicated by the box.

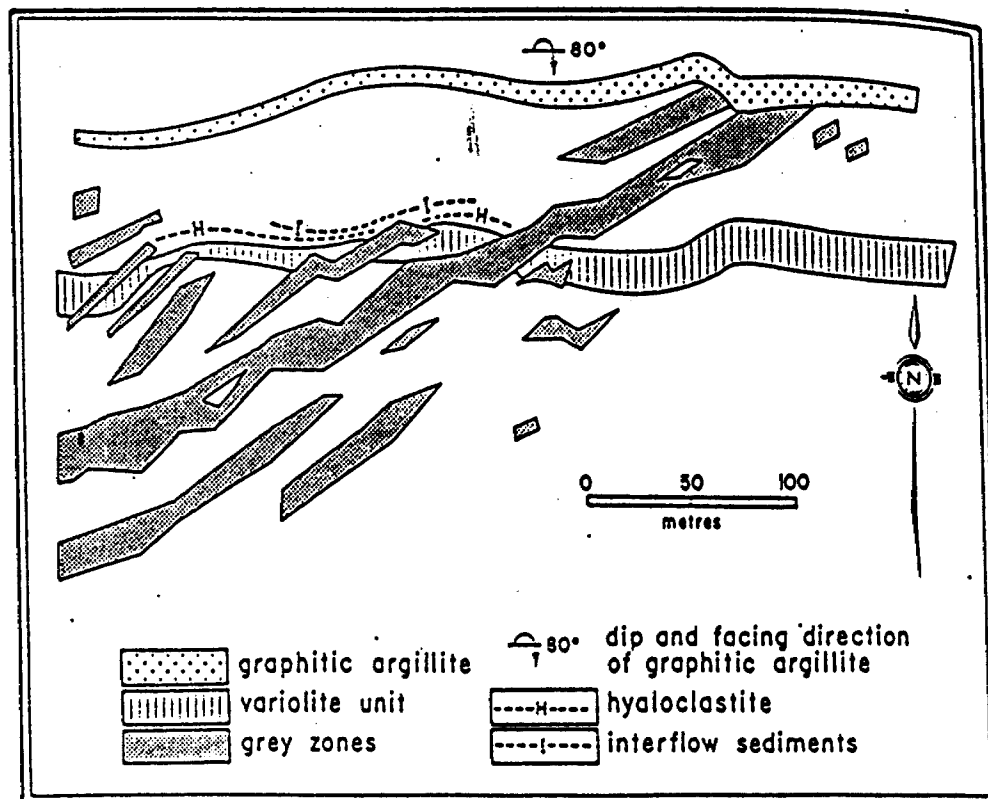


Fig. 10 Geological level plan compiled from drill-hole data (see Fig. 9 for location). The level is approximately 200 m below surface datum. This shows the grey zones cutting across the variolitic unit and terminating at the graphitic argillite unit.

deposits include carbonatization, sericitization and chloritization.

Volcanogenic massive Cu-Zn-Pb sulphide deposits are localized in the proximal and central vent facies of calc-alkaline volcanics in the Lower Supergroup, for example the Kidd Creek Mine.

## 6.0 EXPLORATION PHILOSOPHY

Many gold deposits in the Timmins - Cochrane District are situated proximal to the east-west trending Destor-Porcupine Fault trace. A regional stratigraphic break separating younger Porcupine Group basinal turbiditic sediments to the north and Lower and Upper Supergroup volcanics - sediments to the south.

Individual deposits which are comprised of auriferous quartz + ankerite veins and sulphide-bearing shears hosted by a variety of lithologies, are indicated to be localized along low angle fault zones oriented oblique to the main Destor - Porcupine Fault trace.

A current ore depositional model contends that hydrothermal alteration and gold deposition accompanied early fumarolic activity and continued during subsequent deformation of the metavolcanic-metasediment sequence with gold being mobilized and concentrated into major vein structures to form the present ore-bodies.

Recent detailed geological and geochemical studies of many gold mines at Timmins (M.J. Dolones et. al, 1982, A. C. Colvine, et, al (1984) indicated gold is frequently associated with carbon and pyrite, particularly at the Hoyle Pond and Owl Creek deposits. The various concentrations of carbon in host rocks with respect to some Timmins area gold deposits is indicated in Figure 11 and 12. Gold values of up to 200 ppb. are reported from graphitic argillite adjacent to Hoyle Pond.

A recent proposed depositional model for this style of

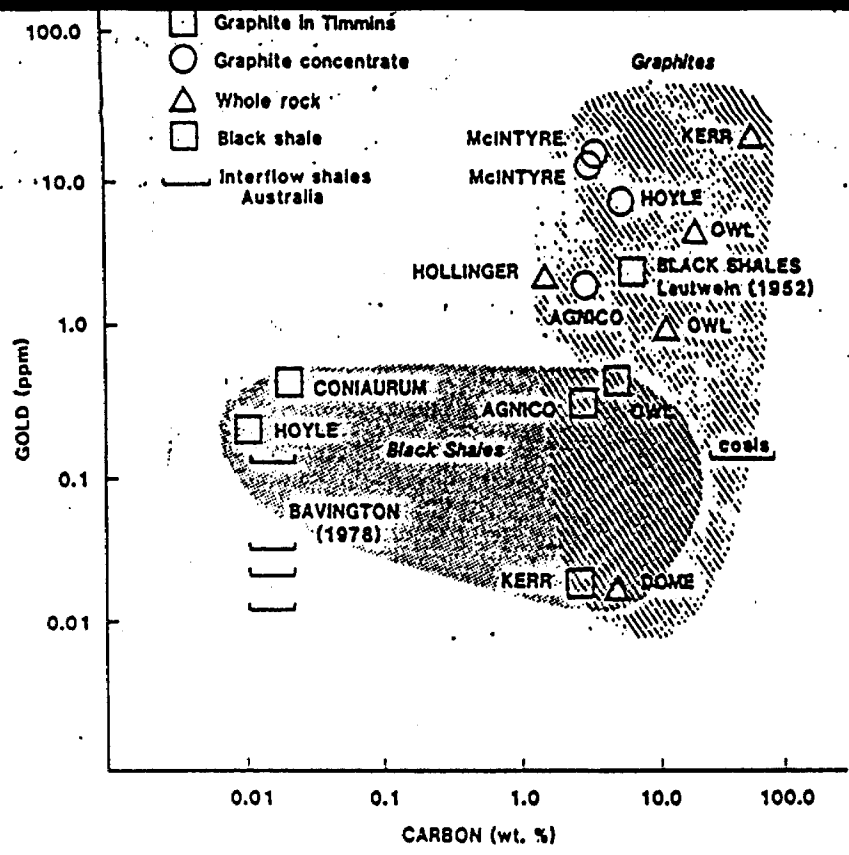


Figure 11: Gold assays in differing carbonaceous rocks, Abitibi belt.

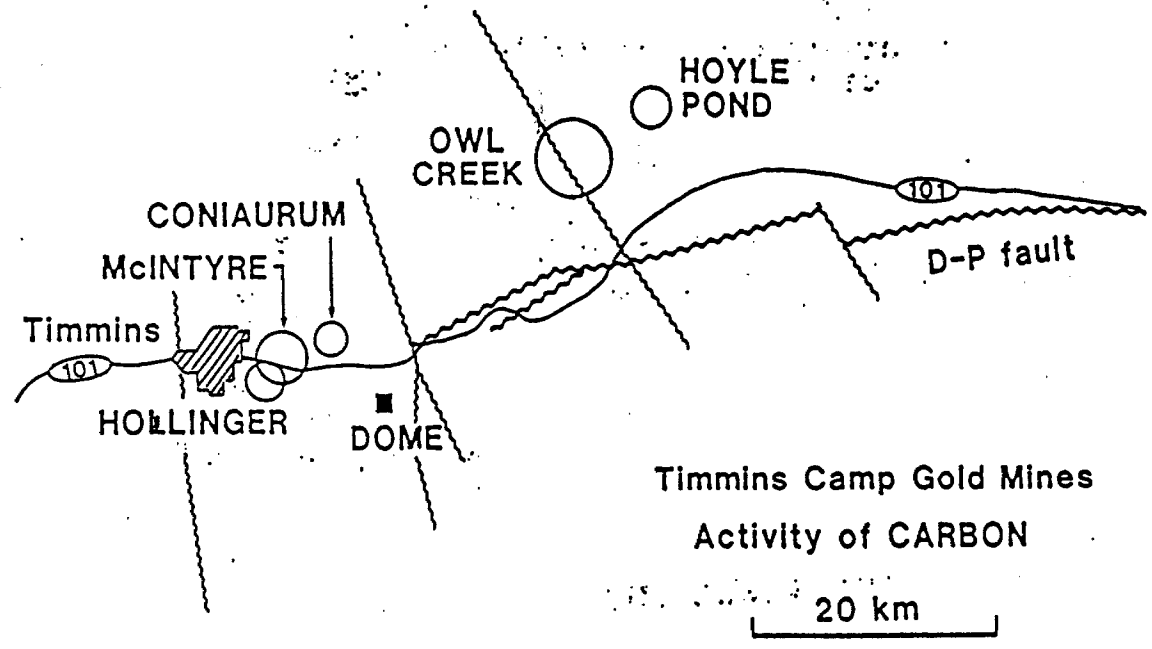


Figure 12: Gold with surface active carbons. Relative activity shown by circle size. Dome Mine has inert carbon.

gold mineralization suggests that gold was remobilized from graphitic argillites, tuffs as gold-organic compounds into cross-cutting quartz veins and associated (grey) alteration zones during regional metamorphism.

Additionally the Timmins Camp contains numerous stratiform gold deposits comprised of auriferous, pyritic interflow (chemical) sediments which are likely of exhalative derivation. These deposits are particularly abundant in the carbonate members of the Tisdale Group.

## 7.0 GEOLOGICAL SURVEY

### 7.1 INTRODUCTION

Outcrop exposures were not found on the property. Numerous physiographic features were noted plus winter or drill roads, portions of old grid lines and drill hole sites were located.

The 1: 5,000 scale Geology Map provided in the map pocket relies on interpretation of winter 1987 surface geophysical surveying and previous diamond drill results.

Field surveying was carried out by Derrick Hall, Projects Manager of United Reef Petroleum. The program was directed by N. O. Willoughby, Exploration Manager.

### 7.2 SURVEY RESULTS

#### 7.2.1 Physiographic Features

Most of the property is covered by low-lying swamp with very little elevation and relief.

The eastern portion of the property is covered by predominantly dense white cedar swamp with abundant standing water.

A small groundwater fed pond is located in the northeast corner of the claim group.

A northerly draining creek crosses the west central

part of the property. A number of beaver dammed ponds are situated along the course of the creek. This feature is undoubtedly structurally controlled.

The southwestern portion of the property is characterized as swamp. Open surface waters indicate flow to the north.

In the source area of the aforementioned creek muskeg terrain hosts stunted black spruce, tag alders and larch trees. North of this area, drainage improves with somewhat thicker spruce bush.

A small area of angular frost heave is located at L34+00W, 0+25N. A sample of this intermediate volcanoclastic breccia assayed only 16 ppb gold and 0.4 ppm silver. A certificate of analysis is provided in the Appendix.

During the course of the survey, claim post locations were noted as were previous diamond drill sites and drill roads, many of which cross the property.

#### 7.2.2 Geology Interpretation

Previous exploration activity, Provincial Government mapping and airborne geophysical surveys plus surface magnetometer surveying by Canhorn Mining Corporation indicate that the property is underlain by east-northeast to west-southwest trending, steeply dipping metavolcanic, fragmental and metasedimentary rocks of Archean age.



The claims encompass a regional lithologic break between supracrustal sequences correlative with the Porcupine Region Lower Supergroup (Pyke, 1982) over the northern three-quarters and probably Porcupine Group metasediments over the southern quarter of the property.

Previous diamond drilling has intersected mafic to felsic metavolcanics, fragmentals plus assorted intercalated greywacke, argillite, graphitic argillite and tuff in the supracrustals. Turbiditic metasediments of the Porcupine Group comprise slate, argillite, greywacke and conglomerate.

Surface magnetics indicates at least two horizons of probably mafic - ultramafic metavolcanic rocks across the centre of the property.

Exceptional low magnetic features attributable to felsic metavolcanics/metasediments or perhaps intrusives are centred at L13+00E, 4+00N and at L1+00W, 3+50N.

A 900 m long low mag feature, more likely felsic supracrustals, extends westward from L8+00W, baseline to L17+00W, centred at 3+00N. The horizon is open westwards. There is some indication that this horizon forms the core of a fold structure as a continuous mag high horizon, presumably mafic rocks, wraps around the low with closure to the east in the vicinity of L4+00W, 2+50S.

Several NW-SE and east-west trending fault structures are interpreted and serve to offset mafic metavolcanic horizons and three interpreted north-south striking diabase dykes at

the centre of the claim group.

Four approximately north-south trending faults apparently disrupt the Porcupine Group unconformity. Some right lateral displacement is indicated on three of these. The fourth, located in the area of L1+00W, 4+00S shows left lateral movement. This structure runs adjacent to the central west creek.

Two oblique faults in the southwest also displace the unconformity.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

A review of previous exploration data, interpretation of surface magnetometer surveying by Canhorn Mining and this geological survey allow the following conclusions:

- (1) Surface terrain of the Jessop Township Property is indicated to be flat-lying and comprised mainly of spruce and alder-covered muskeg and swamp.
- (2) Outcrop exposures are absent however angular frost heave of intermediate volcanoclastic breccia at L34+00W, 0+25N may be derived from a local bedrock source. A grab sample of this rock assayed 16 ppb gold and 0.4 ppm silver.
- (3) Earlier surface magnetometer and other previous mining and exploration activity in the area indicates that the claims are underlain by essentially east-west trending, steeply dipping Archean supracrustal rock sequences. Previous diamond drilling has intersected mafic to felsic metavolcanics, fragmentals plus assorted intercalated greywacke, argillite, graphitic argillite and tuff in the supracrustals.
- (4) At least two mafic to ultramafic metavolcanic horizons are interpreted from surface magnetics.

- (5) A horizon of low magnetic expression is interpreted to be felsic metavolcanics or metasediments. The unit apparently forms the core of a fold structure, enfolded by a mafic metavolcanic horizon.
- (6) Two other localized, elliptical low mag features may be felsic intrusive rocks.
- (7) Several NW-SE and east-west trending faults are interpreted based on apparent offsetting of mafic metavolcanic horizons and northerly striking diabase dykes. At least four north-south fault structures apparently offset the metasediment - supracrustal unconformity.
- (8) The claims have reasonable potential to host economic gold concentrations based on the following criteria:
  - (a) The property straddles a regional unconformity (or fault) separating Porcupine Group metasediments from older supracrustal sequences. A similar lithologic relationship is noted at the Destor-Porcupine Fault trace. Many Timmins area past and present producing gold mines are juxtaposed to this structure.
  - (b) Detailed lithogeochemical studies at the Hoyle Pond deposit indicate gold is commonly associated with carbon. It is postulated that both gold and carbon was mobilized from nearby graphitic argillite (tuff) as gold-organic compounds and concentrated hydrothermally into major vein structures.

(c) All previous diamond drill holes on the property intersected graphitic sediments and tuff. Numerous bands and sections of massive to semi-massive sulphides and chert/siliceous metasediments interlayered with metavolcanic rocks are reported in diamond drilling. These units may represent interflow (chemical) sediments or iron formation.

(d) All previous exploration activity was conducted to uncover economic base metal concentrations. It is probable that gold was not assayed in the earlier sulphide-bearing and altered drill core samples.

The following outlined two phase exploration program estimated to cost \$443,000 is designed to accurately locate and re-evaluate previous geophysical results, delineate structural features which potentially host gold concentrations and test any priority targets by diamond drilling.

PHASE I: GEOPHYSICS

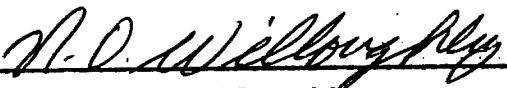
|                                      |   |           |
|--------------------------------------|---|-----------|
| MAXMIN II Surveying                  |   |           |
| 98 km at \$250/km.                   | = | \$ 24,500 |
| Test IP Surveying                    |   |           |
| 40 km at \$1,100/km.                 | = | 44,000    |
|                                      |   | <hr/>     |
|                                      |   | \$ 68,500 |
| + 20% contingency,<br>administration |   | 13,700    |
|                                      |   | <hr/>     |
|                                      |   | \$ 82,200 |
|                                      |   | <hr/>     |
| TOTAL PHASE I, say                   |   | \$ 83,000 |
|                                      |   | <hr/>     |


PHASE II: DIAMOND DRILLING

|                                      |  |            |
|--------------------------------------|--|------------|
| 10,000 ft. at \$25/foot              |  | \$ 250,000 |
| Supervision, analytical              |  | 50,000     |
|                                      |  | <hr/>      |
|                                      |  | \$ 300,000 |
| + 20% contingency,<br>administration |  | 60,000     |
|                                      |  | <hr/>      |
| TOTAL PHASE II                       |  | \$ 360,000 |
|                                      |  | <hr/>      |

|                    |  |             |
|--------------------|--|-------------|
| TOTAL PHASE I & II |  | \$ 443,000  |
|                    |  | <hr/> <hr/> |

RESPECTFULLY SUBMITTED,

  
\_\_\_\_\_  
N. O. Willoughby

  
\_\_\_\_\_  
D. Hall

## REFERENCES

- Canadian Mines Handbook, 1986-1987; Northern Miner Press, pgs. 82, 147, 331.
- Colvine, A.C. and others, 1984: An Integrated Model for the Origin of Archean Lode Gold Deposits; Ontario Geological Survey OFR 5524, 85 pgs.
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- Pyke, D.R., 1982: Geology of the Timmins Area, District of Cochrane, Ontario Geological Survey Report 219, 141 pgs.
- Willoughby, N. O., 1987: Report on Previous Exploration History, Regional Economic Setting and Gold Potential of the Jessop Township Property of Canhorn Mining Corporation; Internal Company Report, 48 pgs.



APPENDIX

Certificate of Analysis



# ASSAYERS ONTARIO LABORATORIES

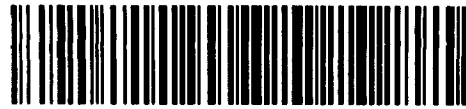
A DIVISION OF ASSAYERS CORPORATION LTD.

33 CHAUNCEY AVENUE, TORONTO, ONTARIO M8Z 2Z2 • TELEPHONE (416) 239-3527  
FAX (416) 239-4012

## Certificate of Analysis

Certificate No. MI-2239/8266 Date: October 24, 1988  
Received 11 Samples of Rock  
Submitted by Canhorn Mining Corporation Att'n: Mr. Derrick Hall  
c.c.: Mr. Neil Willoughby

| Sample No. | Au ppb | Ag ppm                         |
|------------|--------|--------------------------------|
| J-1        | 16     | .4 - JESSOP TWP FROST<br>HEAVE |



Min. ... NOV 4 1988

Type of Survey(s) **GEOLOGICAL** DOCUMENT NO. **W 8906-043** Township or Area **JESSOP TWP.**

Claim Holder(s) **CANHORN MINING CORPORATION** Prospector's Licence No. **T-1733**

Address **67 Yonge Street, Suite 400, Toronto, Ontario, M5E 1J8**

Survey Company **Canhorn Mining Corporation** Date of Survey (from & to) **05 Day | 10 Mo. | 88 Yr. | 13 Day | 10 Mo. | 88 Yr.** Total Miles of line Cut **98 km**

Name and Address of Author (of Geo-Technical report) **Mr. Derrick Hall-Canhorn-67 Yonge Street, Ste. 400, Toronto, Ontario, M5E 1J8**

Credits Requested per Each Claim in Columns at right

| Special Provisions  | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| For first survey:<br>Enter 40 days. (This includes line cutting)                | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
| For each additional survey:<br>using the same grid:<br>Enter 20 days (for each) | - Other           |                |
|   | Geological        | 20             |
|   | Geochemical       |                |

| Man Days                                     | Geophysical       | Days per Claim |
|--|-------------------|----------------|
| Complete reverse side and enter total in the | - Electromagnetic |                |
|  | - Magnetometer    |                |
|  | - Radiometric     |                |
|  | Geological        |                |
|  | Geochemical       |                |

| Airborne Credits   | Geophysical       | Days per Claim |
|--|-------------------|----------------|
| Note: Special provisions credits do not apply to Airborne Surveys. | - Electromagnetic |                |
|  | - Magnetometer    |                |
|  | - Radiometric     |                |

Mining Claims Traversed (List in numerical sequence)

| Mining Claim |        | Expend. Days Cr. | Mining Claim |        | Expend. Days Cr. |
|--------------|--------|------------------|--------------|--------|------------------|
| Prefix       | Number |                  | Prefix       | Number |                  |
| P            | 919601 |                  | P            | 919629 |                  |
|              | 919602 |                  |              | 919630 |                  |
|              | 919603 |                  |              | 919631 |                  |
|              | 919604 |                  |              | 919632 |                  |
|              | 919605 |                  |              | 919633 |                  |
|              | 919606 |                  |              | 919634 |                  |
|              | 919607 |                  |              | 919635 |                  |
|              | 919608 |                  |              | 919636 |                  |
|              | 919609 |                  |              | 919637 |                  |
|              | 919610 |                  |              | 919638 |                  |
|              | 919611 |                  |              | 919639 |                  |
|              | 919612 |                  |              | 919640 |                  |
|              | 919613 |                  |              | 919641 |                  |
|              | 919614 |                  |              | 919642 |                  |
|              | 919615 |                  |              | 919643 |                  |
|              | 919616 |                  |              | 919644 |                  |
|              | 919617 |                  |              | 919645 |                  |
|              | 919618 |                  |              | 919651 |                  |
|              | 919619 |                  |              | 919652 |                  |
|              | 919620 |                  |              | 919653 |                  |
|              | 919626 |                  |              | 919654 |                  |
|              | 919627 |                  |              | 919655 |                  |
|              | 919628 |                  |              | 919656 |                  |

Expenditures (excluding post and travel)

Type of Work Performed **RECORDED**

Performed on Claim(s) **NOV - 4 1988**

Calculation of Expenditure Days Credits

Total Expenditures \$  + 15 =  Total Days Credits

MAR - 2 1989

Total number of mining claims covered by this report of work. **57**

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Credits Recorded **1,140** Date Recorded **NOV 4 1988**

Mining Records **15 Feb 89**

Date Approved as Recorded **15 Feb 89** Branch Director **[Signature]**

Date **October 31, 1988** Recorded Holder or Agent (Signature) **Paul A. Sukman**

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying  
**Paul Sukman, c/o Canhorn Mining Corporation - 67 Yonge Street, Suite 400, Toronto,**

Ontario, M5E 1J8 Date Certified **Oct. 31/88** Certified by (Signature) **Paul A. Sukman**

**Report of Work**  
(Geophysical, Geological, Geochemical and Expenditures)

Instructions: - Please type or print.  
- If number of mining claims traversed exceeds space on this form, attach a list.  
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.  
- Do not use shaded areas below.

PAGE 2 of 2

Mining Act

Type of Survey(s)  
**GEOLOGICAL**

Township or Area  
**JESSOP TWP.**

Claim Holder(s)  
**CANHORN MINING CORPORATION**

Prospector's Licence No.  
**T-1733**

Address  
**Suite 400, 67 Yonge Street, Toronto, Ontario, M5E 1J8**

Survey Company  
**CANHORN MINING CORPORATION**

Date of Survey (from & to)  
05 10 88 | 13 10 88  
Day | Mo. | Yr. | Day | Mo. | Yr.

Total Miles of line Cut  
**98 km**

Name and Address of Author (of Geo-Technical report)  
**Mr. Derrick Hall-Canhorn-67 Yonge Street, Suite 400, Toronto, Ontario, M5E 1J8**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

| Special Provisions  | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| For first survey:<br>Enter 40 days. (This includes line cutting)                | - Electromagnetic |                |
|   | - Magnetometer    |                |
| For each additional survey:<br>using the same grid:<br>Enter 20 days (for each) | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        | 20             |
|   | Geochemical       |                |

| Man Days                                      | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| Complete reverse side and enter total(s) here | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        |                |
|   | Geochemical       |                |

| Airborne Credits   | Geophysical     | Days per Claim |
|--|-----------------|----------------|
| Note: Special provisions credits do not apply to Airborne Surveys. | Electromagnetic |                |
|  | Magnetometer    |                |
|  | Radiometric     |                |

| Mining Claim |        |                  | Mining Claim |        |                  |
|--------------|--------|------------------|--------------|--------|------------------|
| Prefix       | Number | Expend. Days Cr. | Prefix       | Number | Expend. Days Cr. |
| P            | 919657 |                  |              |        |                  |
|              | 919658 |                  |              |        |                  |
|              | 919659 |                  |              |        |                  |
|              | 919660 |                  |              |        |                  |
|              | 919661 |                  |              |        |                  |
|              | 919662 |                  |              |        |                  |
|              | 919663 |                  |              |        |                  |
|              | 919664 |                  |              |        |                  |
|              | 919665 |                  |              |        |                  |
|              | 919666 |                  |              |        |                  |
|              | 919667 |                  |              |        |                  |

**RECORDED**  
NOV 4 1988

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  + 15 = Total Days Credits

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work.

57

**For Office Use Only**

|                         |                           |                 |
|-------------------------|---------------------------|-----------------|
| Total Days Cr. Recorded | Date Recorded             | Mining Recorder |
|                         | Date Approved as Recorded | Branch Director |

Date  
October 31/88

Recorded Holder or Agent (Signature)  
*Paul Sukman*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying  
**Paul Sukman, c/o Canhorn Mining Corporation-67 Yonge Street, Suite 400, Toronto Ontario, M5E 1J8**

Date Certified  
Oct. 31/88

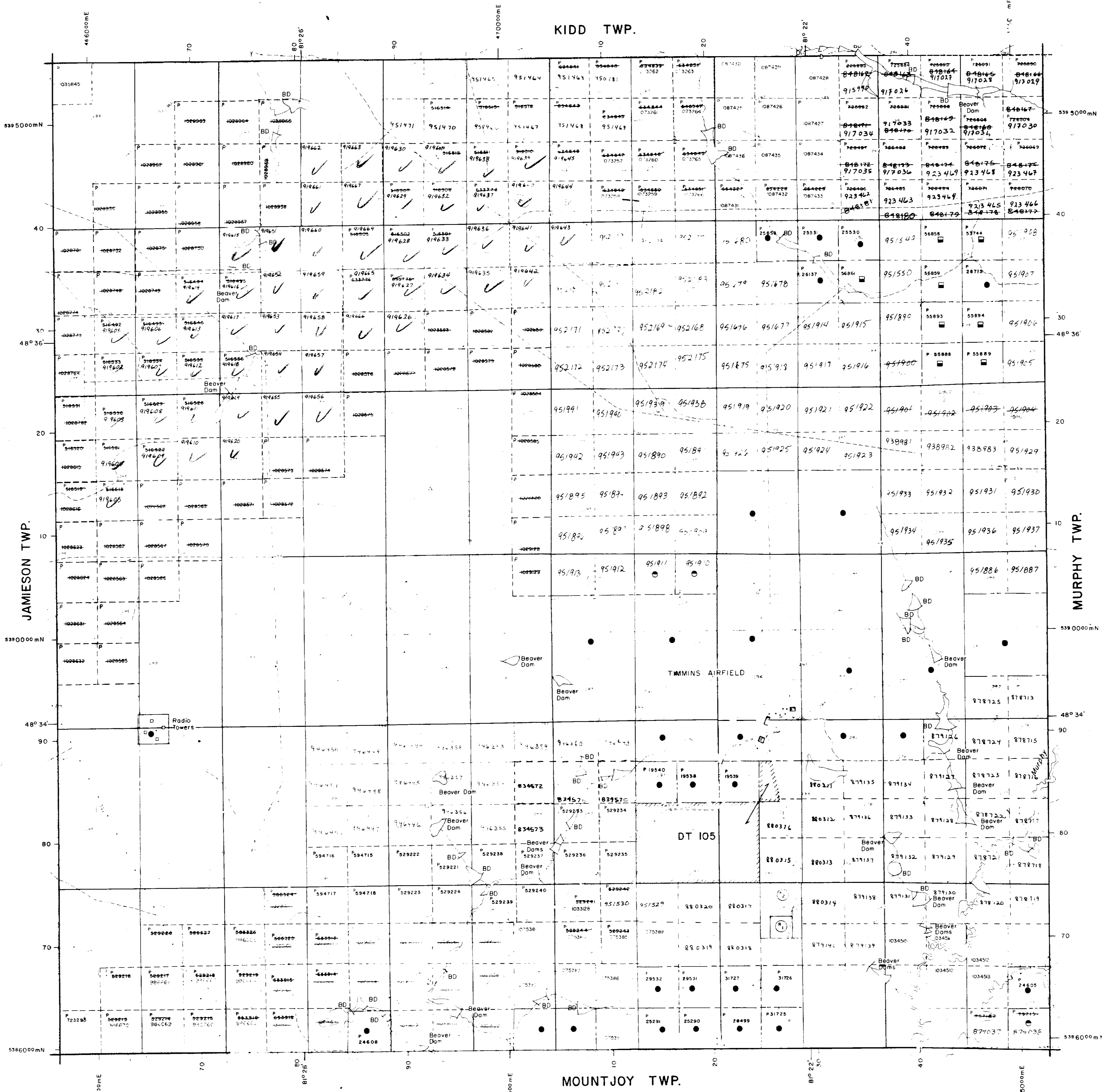
Certified by (Signature)  
*Paul Sukman*

MAP SYMBOLOLOGY

|                                 |                          |
|---------------------------------|--------------------------|
| Aerial Cableway                 | Pipeline (above ground)  |
| Boundary                        | Railroad                 |
| Intermittent                    | Single Track             |
| Permanent                       | Double Track             |
| District, Township              | Abandoned                |
| Indian Reserve                  | Turbine                  |
| Accession                       | Road                     |
| Lot, Concession                 | Municipal                |
| Appropriation                   | Highway County           |
| Park Boundary                   | Township                 |
| Bridges                         | Access (road of doubtful |
| Road, Railroad                  | importance or            |
| Building                        | significance)            |
| Chimney                         | Trail, Back Road         |
| Cliff, Pit, Pile                | (usually a city)         |
| Contours                        | Rapids                   |
| Intermittent                    | Double line river        |
| Depression                      | with multiple rapids     |
| Control Points                  | Double line river        |
| Horizontal                      | with multiple rapids     |
| Vertical                        | Reservoir                |
| Culvert                         | River, Stream, Canal     |
| Falls                           | Approximate              |
| Ditch, Trench                   | boundary                 |
| Fence, Hedge, Wall              | Location of rise         |
| Feature Outline                 | Lock                     |
| (identification features, etc.) | Significant              |
| Flooded Land                    | Pool                     |
| Lock                            | Spot Elevation           |
| Marsh or Swamp                  | (above elevation) 300 c  |
| Mast                            | Tower                    |
| Mine Head Frame                 | Transmission Line        |
| Outcrop                         | Pylon                    |
|                                 | Tunnel                   |
|                                 | Utility Poles            |
|                                 | Wharf, Dock, Pier        |
|                                 | Wooded Area              |

AREAS WITHDRAWN FROM DISPOSITION

|                                   |           |      |                                    |      |
|-----------------------------------|-----------|------|------------------------------------|------|
| M.R.O. - MINING RIGHTS ONLY       |           |      |                                    |      |
| S.R.O. - SURFACE RIGHTS ONLY      |           |      |                                    |      |
| M.+S. - MINING AND SURFACE RIGHTS |           |      |                                    |      |
| Description                       | Order No. | Date | Disposition                        | File |
| (R1)                              |           |      | WITHDRAWN FROM STAKING N.R.W 10/82 |      |
| (R2)                              |           |      | WITHDRAWN FROM STAKING N.R.W 69/83 |      |
| (DT 105)                          |           |      | WITHDRAWN FROM STAKING W76/81      |      |



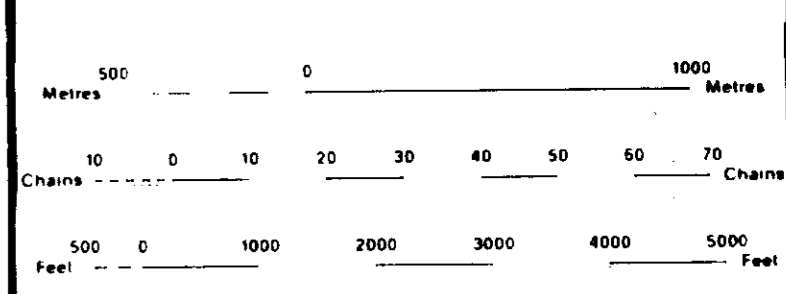
LEGEND

|                                    |  |
|------------------------------------|--|
| HIGHWAY AND ROUTE NO.              |  |
| OTHER ROADS                        |  |
| TRAILS                             |  |
| SURVEYED LINES                     |  |
| LANDSHIPS, BASE LINES, ETC.        |  |
| LOTS, MINING CLAIMS, PARCELS, ETC. |  |
| IND. ETC.                          |  |
| P.A. (P.A. MINING)                 |  |
| MINING CLAIMS, ETC.                |  |
| RAILWAY AND RIGHT-OF-WAY           |  |
| UTILITY LINES                      |  |
| NON PERENNIAL STREAM               |  |
| FLOODING OR FLOODING RIGHTS        |  |
| SUBDIVISION OR COMPOSITE PLAN      |  |
| RESERVATIONS                       |  |
| ORIGINAL SHORELINE                 |  |
| MARSH OR MUSKEG                    |  |
| MINES                              |  |
| TRAVERSE MONUMENT                  |  |

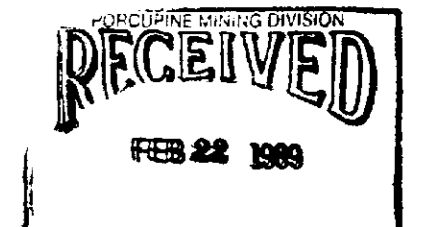
DISPOSITION OF CROWN LANDS

| TYPE OF DOCUMENT                | SYMBOL |
|---------------------------------|--------|
| PATENT, SURFACE & MINING RIGHTS | ●      |
| " SURFACE RIGHTS ONLY           | ○      |
| " MINING RIGHTS ONLY            | ◐      |
| LEASE SURFACE & MINING RIGHTS   | ■      |
| " SURFACE RIGHTS ONLY           | ◼      |
| " MINING RIGHTS ONLY            | ◻      |
| LICENCE OF OCCUPATION           | OC     |
| ORDER IN COUNCIL                | OC     |
| RESERVATION                     | ○      |
| CANCELLED                       | ⊙      |
| SAND & GRAVEL                   | ⊙      |

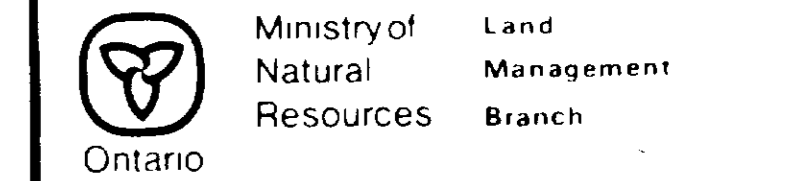
NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1910 CHAP. 380, SEC. 63 SUBSEC. 1



SCALE 1:20 000  
GRID ZONE 17

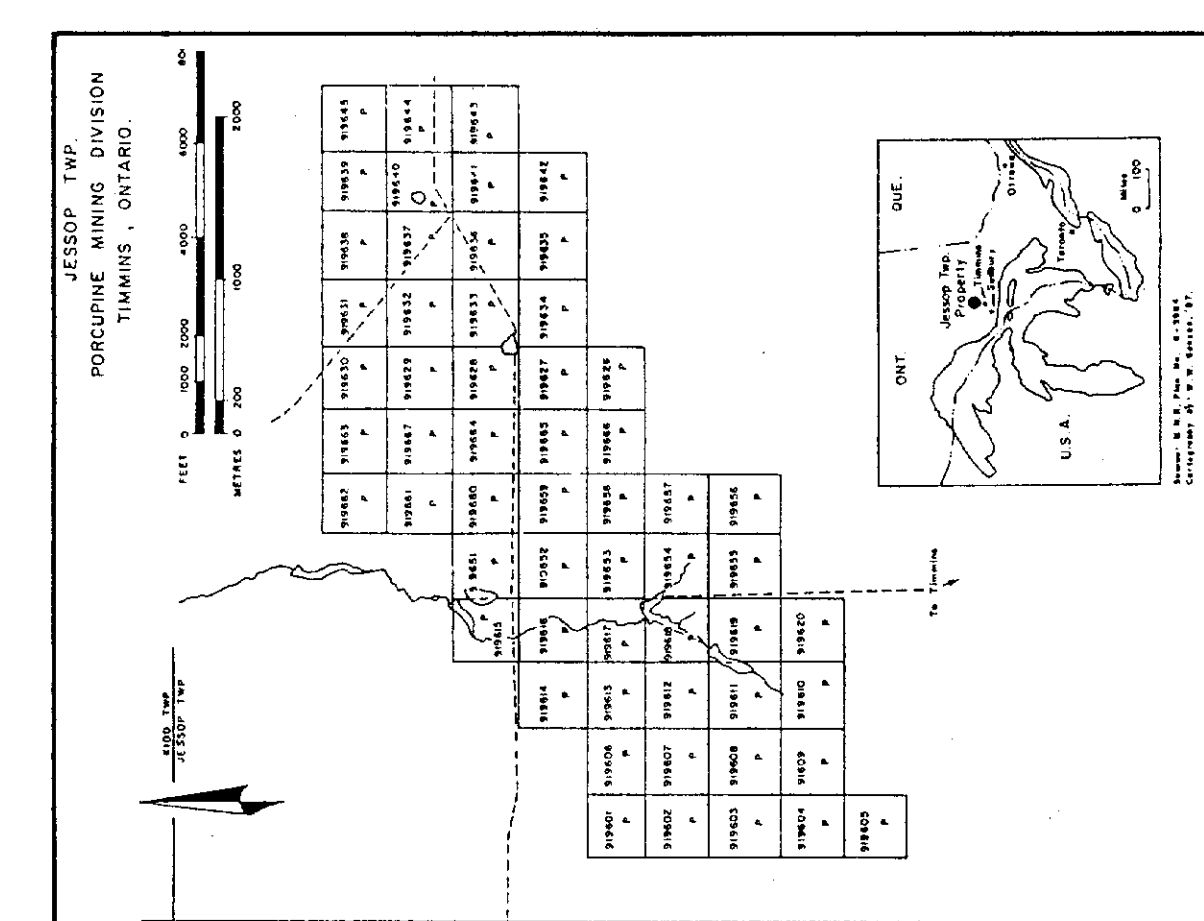
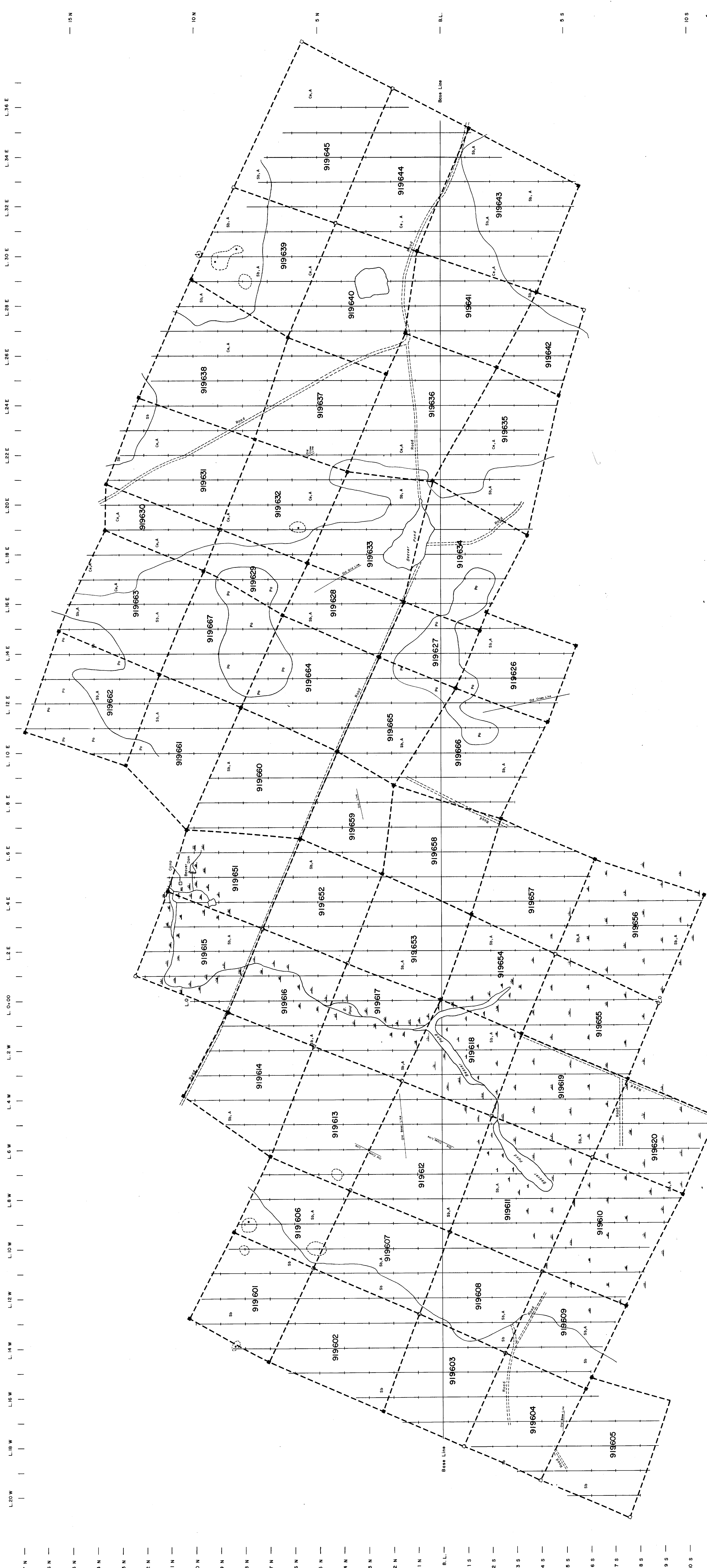


TOWNSHIP  
**JESSOP**  
M. N. R. ADMINISTRATIVE DISTRICT  
**TIMMINS**  
MINING DIVISION  
**PORCUPINE**  
LAND TITLES / REGISTRY DIVISION  
**COCHRANE**



ORIGINAL COMPILATION JULY 1984  
REVISED  
Number:  
**G-3984**



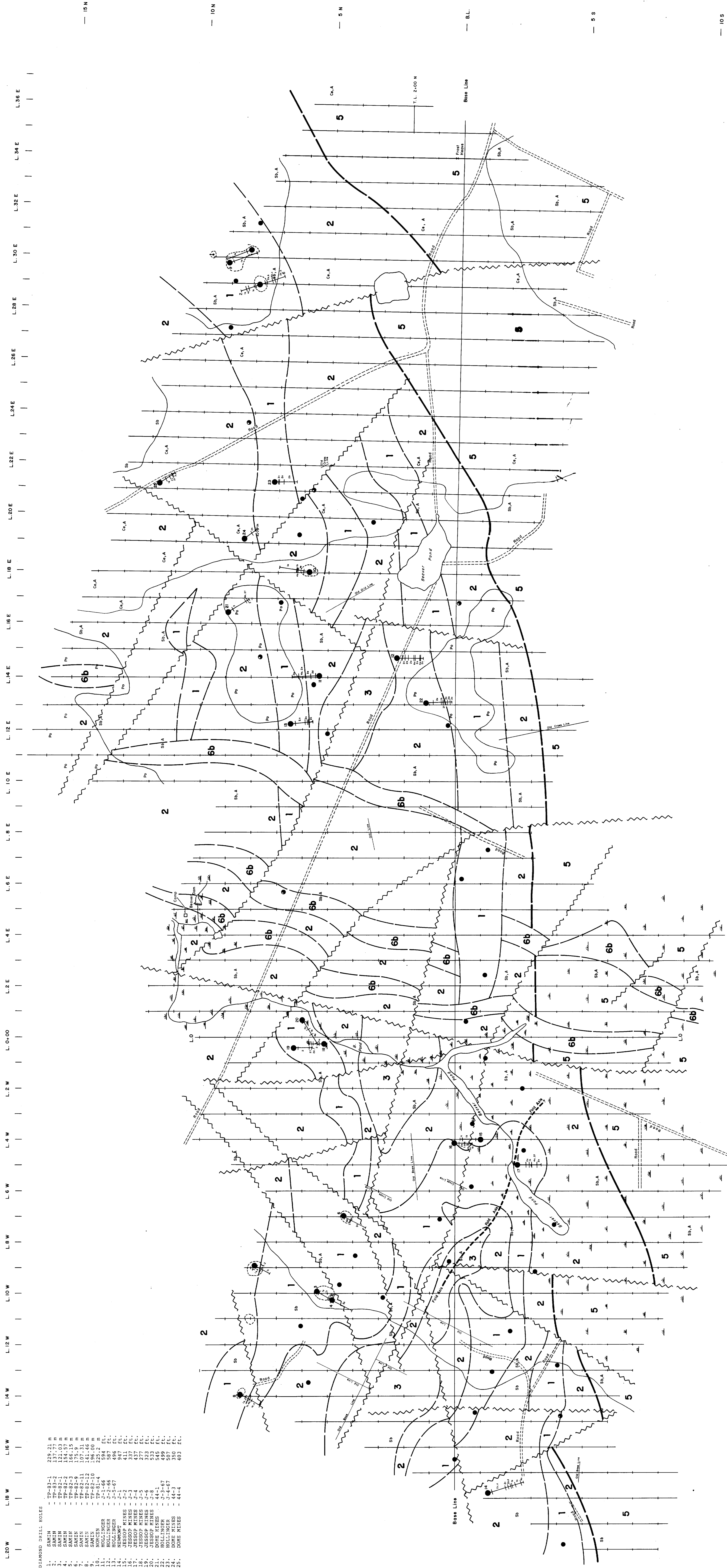


- EXPLANATION**
- ⊙ Indicates Poplar Trees
  - ⊙ Indicates Black Spruce Trees
  - ⊙ Indicates Cedar Trees
  - ⊙ Indicates "Big" Ash Trees
  - ⊙ Shows "W" or "B" of Bog
  - ⊙ 1/4" Scale with Colored Location
  - Claim Boundary
  - Claim Post, Located
  - Claim Post, Not Located

**UNITED REEF PETROLEUMS LIMITED**  
 JESSOP TOWNSHIP  
**CLAIM MAP 2.11815**  
 ONTARIO

SCALE 1:5000  
 METERS 0 100 200 300 400

DATE: October, 1988  
 COMPILED BY: D. Hall, October 88  
 CORRECTED BY: P. Siskin, 88  
 MAP No.: 1



**DIAMOND DRILL HOLES**

|     |          |
|-----|----------|
| 1.  | 229.21 R |
| 2.  | 127.77 R |
| 3.  | 121.03 R |
| 4.  | 166.15 R |
| 5.  | 107.31 R |
| 6.  | 151.46 R |
| 7.  | 151.46 R |
| 8.  | 222.2 R  |
| 9.  | 222.2 R  |
| 10. | 587.42 L |
| 11. | 896.42 L |
| 12. | 411.42 L |
| 13. | 437.42 L |
| 14. | 277.42 L |
| 15. | 533.42 L |
| 16. | 499.42 L |
| 17. | 597.42 L |
| 18. | 403.42 L |
| 19. | 403.42 L |
| 20. | 403.42 L |
| 21. | 403.42 L |
| 22. | 403.42 L |
| 23. | 403.42 L |
| 24. | 403.42 L |
| 25. | 403.42 L |

- SYMBOLS**
- Geological Contact (Geophysically Interpreted)
  - Regional Homogeneity
  - Fault Structure
  - Blended Drill Hole, Inclined
  - Geophysical Anomalies (11-12 Channels)
  - Geophysical Anomalies (9-10 Channels)
  - Indicate Fault Ties
  - Indicate Block Station Ties
  - Indicate Core Ties
  - Indicate the Aker Ties
  - Shady, West or East
  - Drill Site with Collar Section
- EXPLANATION**
- Geological Contact (Geophysically Interpreted)
  - Regional Homogeneity
  - Fault Structure
  - Blended Drill Hole, Inclined
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  - Shady, West or East
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- LEGEND**
- Geological Contact (Geophysically Interpreted)
  - Regional Homogeneity
  - Fault Structure
  - Blended Drill Hole, Inclined
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  - Indicate the Aker Ties
  - Shady, West or East
  - Drill Site with Collar Section

**UNITED REEF PETROLEUMS LIMITED**

JESSOP TOWNSHIP

**GEOLOGY INTERPRETATION**

ONTARIO 2.11815

Scale 1:5000  
Meters 0 100 200 300 400 500

DATE: October, 1988  
N.T.S. No. 42 A/N.W.  
Geology by R. Sauer, M.Sc.  
MAP No. 2

