Report

1014

010

REPORT

ON

MAGNETIC AND VLF-EM SURVEYS

ON THE

LONG LAKE PROPERTY

DISTRICT OF KENORA, PATRICIA MINING DIVISION

NORTHWESTERN ONTARIO

FOR

669977 ONTARIO LTD.

NTS 52 - O/8

December, 1986

Stephen B. Medd, B.Sc.

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1.0 SUMMARY

Ground magnetic and VLF-EM surveys were carried out during June, 1986, on the Long Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and the 2HB Syndicate.

Magnetic and VLF-EM data in conjunction with geological data indicate two general types of lithologies. The first of these displays high magnetic responses and higher than background conductive responses. Three separate units of this type exist on the property and probably represent mafic metavolcanics with variable amounts of pyrrhotite and pyrite either as stratabound mineralization or as mineralized shear zones nearly parallel to the stratigraphy. The second type of lithology (interpreted from the geophysics) exists in two units and is characterized by low magnetic and VLF-EM responses which possibly reflect felsic metavolcanics.

Three major faults, trending west-northwest to northwest are indicated on the basis of magnetic and VLF-EM discontinuities.

Gold occurs in three different geological/structural settings in the Meen-Dempster - Pickle Lake greenstone belts, which are exemplified by the Central Patricia/Pickle Crow mines, the Golden Patricia deposit and the Dona Lake deposit. Using these gold occurrences as models for the Long Lake property, eight of the most promising drilling targets have been identified and described by JVX Limited, Thornhill, Ontario. Their interpretation forms Appendix B of this report.

2.0 INTRODUCTION

The following report describes the results of a ground magnetic survey and a VLF-EM survey conducted during June, 1986, over the Long Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and the 2HB Syndicate. The two surveys were performed in order to delineate lithological units and structural trends and to locate conductive zones of sulfide-bearing iron formation, other stratabound massive or disseminated sulfide mineralization, and shearing, all of which might host gold.

3.0 PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Long Lake property is located 10 miles south of the town of Pickle Lake and 1-1/4 miles east of Highway 599 in Northwestern Ontario (Fig. No. 1). A block of 16 contiguous, unpatented mining claims, forms the property (Fig. No. 2). To the south, it is bounded by a property held by Sunburst Exploration Ltd. Claim numbers and recording dates are as follows:

Claim Numbers		Recording Date
Pa 720223 - 720238 inclusive	(16)	April 30, 1984

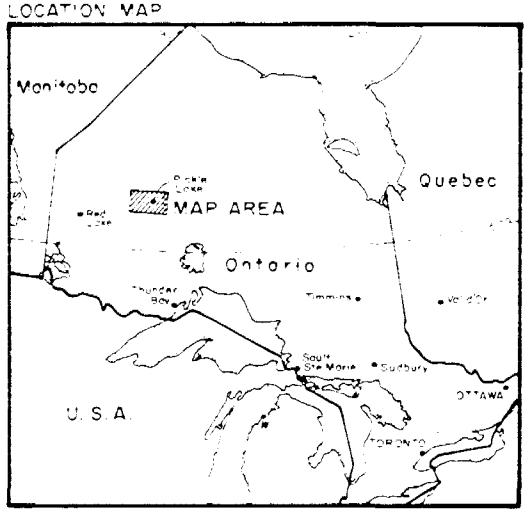
These claims are recorded as being 100% held by Power Explorations Inc. of 804-34 King Street East, Toronto, Ontario, M5C 1E5.

The property is accessible by foot or snowmobile 1-1/4 miles east of Highway 599 which connects the town of Pickle Lake,

GEND

Survey
984
ce M.
ke - Pickle Lake

LOCATION MAP



MINES, PAST PRODUCER

- A Central Patricia No.1
- B Central Patricia No.2
- C Pickle Crow No.1
- D Pickle Crow No.2
- E Albany River
- F Crowshore
- G LMEX Thierry Mine

GOLD PRODUCTION

MINE PROPERTY	TONS	OZS GOLD	OZ/TON
Central Patricia	729,249	62,806	0.359
Pickle Crow	3,237,572	1446,214	0.44
Total	4,966,820	2,059,020	0.415

90°00'

Collishaw Lake

Hwy 808

Tarp Lake

Trebell L.

CONNELL TWP

PONSFORD TWP

51°30'

McCULLAGH TWP

Pickle Lake

Pickle L.

Dona L.

Dona Lake Discovery
1,400,000 tons at 0·24 oz/ton Au

Ochig Lake

Kawinogans Lake

LONG LAKE PROPERTY

0 2 4 6 8 10 miles
Scale 1 inch = 4 miles

Knupp L.

Hasaga
200,000 tons at 0·19 oz/ton Au

Osnaburgh I.R. 638

Hwy 599

LAKE ST. JOSEPH

Carpenter L.

90°30'

50°15'

90°00'

669977 ONTARIO LTD.

LONG LAKE PROPERTY
Patricia M.D., Ontario

PROPERTY LOCATION AND REGIONAL GEOLOGY

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec 1986
SCALE: 1" = 4 mi
FIG. No: 1

GEOLOGY LEGEND

Geological boundary

Diabase dykes (Keewanowan)

Granitic intrusives

Mafic, ultramafic intrusives

Migmatites

Intermediate to felsic volcanics

Mafic volcanics

Sediments

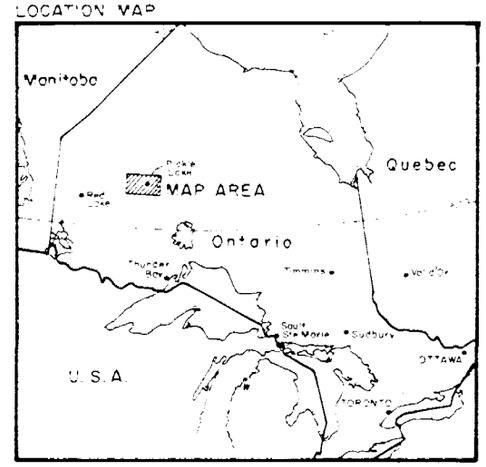
Mineral occurrence

Mine, past producer

Iron formation

Geology from Ontario Geological Survey
Misc. paper 99, 1984
Stott, G.M. & Wallace H.
and Map 2218, Cat Lake - Pickle Lake,
Sage et al., 1972

LOCATION MAP



MINES, PAST PRODU

A Central Patricia No
B Central Patricia S No
C Pickle Crow No 1
D Pickle Crow No 2
E Albany River
F Crowshore
G LAKEY Thorny Vic

GOLD PRODUCT

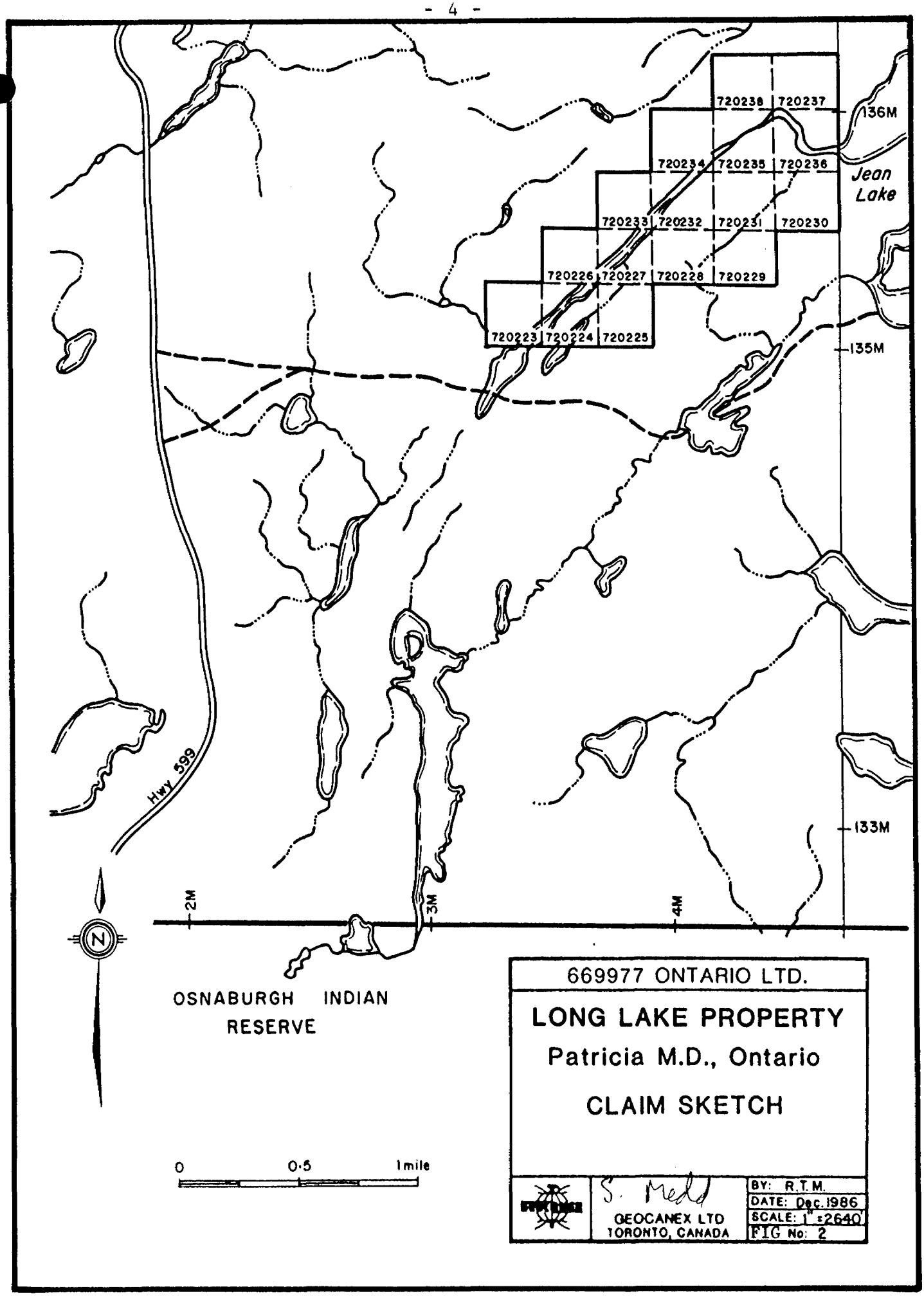
MINE PROPERTY	TONS
Central Patricia	729,248
Pickle Crow	3,237,572
Total	4,966,820

RED LAKE M.D.
PATRICIA M.D.

Golden Patricia Discovery
960,000 tons at 0.58 oz/ton Au

Hasaga
200,000 tons at 0.19 oz/ton Au

Dobie Lake
Meen L.
Dorothy L.
Obaskaka Lake
Wright Lake
Kawinogans Lake
Knuppl L.
Dempster L.
Teevin L.
Carpenter L.
Trebell L.
Pickle
LAKE ST. JOSEPH
Open
51°30'
51°15'
91°00'
90°30'



669977 ONTARIO LTD.

LONG LAKE PROPERTY

Patricia M.D., Ontario

CLAIM SKETCH

S. Medd

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec. 1986
SCALE: 1" = 2640'
FIG No: 2

to the north, with Savant Lake and Ignace, several miles to the south.

4.0 TOPOGRAPHY AND VEGETATION

Bedrock exposure constitutes 3% to 5% of the total property area. Long Lake, a very narrow lake, crosses the property in a northeasterly direction and drains to the northeast via a narrow river which connects it with Jean Lake on the eastern property boundary.

On the southeastern side of Long Lake, bedrock is covered by a thin layer of sand with black spruce and poplar forest. On the northwestern side of Long Lake, sand and boulder drift form a drumlinoid ridge with relief over 40 feet on the northern part of the property. Poplar, black spruce and birch cover the overburden in this area.

5.0 PREVIOUS WORK

1960 Ontario Geological Survey

An airborne magnetic survey was conducted over the Ochig Lake area and results compiled in a set of maps with a scale of 1 inch = 4 miles.

1971 Union Miniere Explorations Inc.

Reconnaisance airborne magnetic and electromagnetic surveys were conducted over the Meen-Dempster - Pickle Lake greenstone belts. Subsequently, a single hole was drilled

in the northern part of the property intersecting mafic volcanics containing some pyrite. No assay values were reported.

1984 2HB Syndicate

The present 16 claim block that forms the Island Lake property was staked.

1985 2HB Syndicate

An airborne magnetic and VLF-EM survey was performed by Terraquest Ltd. over the property.

1986 Power Explorations Inc.

A Joint Venture Agreement was signed between Power Explorations Inc. and the 2HB Syndicate giving the former company the right to earn a 50% interest in the property.

1986 Ontario Geological Survey

The results of an airborne electromagnetic and total intensity magnetic survey of the Meen-Dempster - Pickle Lake greenstone belts were compiled on a set of 59 maps (Scale 1:20,000) and released to the public. The GEOTEM time-domain EM system of Geoterrex Ltd. was used in the survey.

6.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

The Pickle Lake area is located within the Uchi Subprovince, a part of the Superior Province of the Canadian Shield. The

area is characterized by several arcuate, highly deformed and coalescing greenstone belts, consisting of predominantly mafic to intermediate volcanic flows, which have been intruded by numerous granitic to ultramafic intrusive bodies. The metamorphic grade ranges from greenschist to amphibolite facies. The volcanics host subordinate amounts of felsic-to-mafic pyroclastics, sediments and iron formation. Felsic quartz-feldspar porphyry dykes are commonly found in all lithologies.

Ultramafic rocks host copper-nickel mineralization at the Union Miniere (UMEX) Thierry Mine, seven miles northwest of Pickle Lake, with mined ore and mineral reserves totalling 14,000,000 tons grading 1.6% copper and 0.2% nickel.

Historically, gold production in the Pickle Lake area has been from structurally controlled, vein type deposits or sulfide replacement bodies spatially associated with, or contained within bands of Algoma (chert-magnetite) iron formation.

The former producing Pickle Lake Crow and Central Patricia mines operated from 1935 to 1966 and 1934 to 1951, respectively, collectively producing 2,068,020 ounces of gold from 4,966,820 tons of ore for an average grade of 0.416 ounces gold per ton. Gold was recovered from quartz veins, vein networks and sulfide fissures and fold axial plane fractures in highly deformed mafic volcanics and iron formation. Gold-bearing quartz veins were also mined within quartz-albite porphyry sills near the contact of mafic volcanics and iron formations.

Recently, two other potentially exploitable gold deposits have been discovered. Dome Mines' Dona Lake property has reported reserves of 1,500,000 tons grading 0.3 ounces of gold per ton. Gold mineralization occurs as sulfide replacement bodies within a band of highly deformed oxide facies iron formation (Northern Miner, September, 1986).

St. Joe Canada's Golden Patricia property is reported to have an estimated 500,000 ounces of gold reserves with a grade of 0.58 ounces per ton. The gold mineralization occurs in a quartz vein at a contact between a mylonitized unit and sheared mafic volcanics which are spatially associated with banded iron formation (Northern Miner Magazine, September, 1986).

7.0 PROPERTY GEOLOGY

Bedrock exposure accounts for 3% to 5% of the total property area. The remainder of the property is overlain by a thin layer of sand on the southeastern side of Long Lake and by a thicker cover of sand and boulder drumlinoid deposits on the northwestern side of Long Lake.

The property is underlain by a sequence of northeast-trending mafic to intermediate volcanics which are truncated to the northwest by the Ochig Lake granite stock. Minor amounts of felsic pyroclastics and iron formation are hosted by the mafic to intermediate volcanics. Quartz-feldspar porphyry sills and gabbroic sills intrude the volcanic rocks.

The metamorphic grade ranges from greenschist to amphibolite facies. There is no evidence of large scale folding, but

several small parasitic folds associated with the regional deformation do exist. The major foliation/cleavage fabric is parallel to the stratigraphy (northeast direction) and like the bedding dips steeply to the northwest. Silica and carbonate alteration is present in some of the volcanic rocks.

For a detailed description of the property geology and the results of a rock and humus geochemical survey refer to a report by R. Higginson, 1986.

8.0 DESCRIPTION OF GEOPHYSICAL PROGRAM

During June, 1986, linecutting, magnetic surveying and VLF-EM surveying, were carried out on the Long Lake property. The personnel involved were:

G. Robert	Val d'Or, Quebec	Linecutter	June 15 - 18
C. Darveau	Val d'Or, Quebec	Linecutter	June 15 - 18
R. Darveau	Val d'Or, Quebec	Linecutter	June 15 - 18
M. Darveau	Val d'Or, Quebec	Linecutter	June 15 - 18
F. Recoskie	Val d'Or, Quebec	Geophysical Operator	June 21 - 24
C. Beggs	Toronto, Ontario	Geophysical Operator	June 21 - 24

A northeast-trending baseline was cut through the northwestern side of the property and a parallel tieline was cut through the property's southeastern side. Northwest-trending survey lines were cut perpendicularly to the baseline and tieline at 400-foot linespacing intervals with pickets erected at 1,200-foot intervals along each line.

The magnetic survey was performed using a Scintrex MF-2 Fluxgate magnetometer. Readings of the vertical magnetic field were taken every 100 feet along the survey lines, and in areas of high magnetic gradient readings were taken at 50-foot intervals. Diurnal drift changes in the magnetic field were estimated by taking repeat readings at previously established stations at time intervals not exceeding 1.5 hours. Corrections were made, accordingly, to the vertical magnetic field value obtained at each station. The results of the magnetic survey are presented on the Vertical Field Contours Map (Drawing No. L-1) in back of the report.

The VLF-EM survey was performed along the survey lines using a Geonics EM-16 receiver tuned to receive the 24.8 KHz signal transmitted from Seattle, Washington (NLK). Inphase (tilt-angle) and quadrature measurements were taken every 100 feet along the survey lines. The results are presented in profiled format and contoured format (Fraser-filtered inphase values) on maps (Drawings No. L-2 and L-3, respectively) in back of the report.

9.0 RESULTS AND INTERPRETATION

Two types of lithologies are apparent from and VLF-EM data. The first type exists in three separate units and are characterized by high magnetic responses and higher than background conductive responses. They correlate very well with the known geology, corresponding to zones mapped as mafic metavolcanics. The conductive responses may represent variable amounts of pyrrhotite and pyrite either as stratabound mineralization or as mineralized shear zones

nearly parallel to the stratigraphy. The second lithology (interpreted from the geophysics) exists in two units and are characterized by very low magnetic responses and low VLF-EM responses, possibly due to felsic metavolcanics.

Three major faults, trending west-northwest to northwest are indicated on the basis of magnetic and VLF-EM discontinuities.

For a detailed description of the results of geophysical surveys conducted on the Long Lake property, refer to a report by JVX Limited located in Appendix B. Information concerning the JVX report is displayed on the Compilation Map (Drawing No. L-4) in back of report.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Generally, gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in structurally-related, epigenetic, hydrothermal systems, and is often associated with iron formation units. Gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in three geological/structural settings:

1. Gold in stockwork quartz veins within iron formation or in silicified shear zones, usually with sulfides; associated with complex folding. The Central Patricia and Pickle Crow mines, respectively, are notable examples.

2. Gold in quartz veins associated with regional, mylonitized shear zones which trend subparallel or parallel to

stratigraphy. The Golden Patricia deposit is an example of this type. It is not directly associated with iron formation but occurs in sheared mafic volcanic rocks between two iron formation units. Gold is commonly associated with pyrrhotite, pyrite and chalcopyrite which generally comprise less than 5 percent of the vein material.

3. Gold in zones of sulfide replacement in folded iron formation, without quartz veins. The Dona Lake deposit is an example of this type, where gold is associated with pyrrhotite.

Using these gold occurrences as models for the Long Lake property, eight of the most promising areas have been outlined for drilling by JVX Limited in a report located in Appendix B. Information concering the JVX report is displayed on the Complilation Map (Drawing No. L-4) in back of the report.

Respectfully submitted,

Stephen Medd

Stephen B. Medd, B.Sc.
Geocanex Ltd.

11.0 REFERENCES

Barrie, C.Q., August 29, 1985. Report on an Airborne Magnetic and VLF-EM Survey, Pickle Lake Area, Sioux Lookout Mining Division, Ontario for Moss Resources Ltd; Report No. T-5025, Terraquest Ltd., Toronto, Ontario unpublished.

Higginson, R.A.V., 1986. Report on Geological Mapping Prospecting and Geochemical Sampling on the Long Lake Property, District of Kenora, Patricia Mining Division, Northwestern Ontario for 669977 Ontario Ltd.; unpublished report of Geocanex Ltd.

Ontario Geological Survey, 1986. Airborne Electromagnetic and Total Intensity Magnetic Survey, Pickle Lake Area, District of Kenora (Patricia Portion) Ontario; by Geoterrex Ltd., for O.G.S. Geophysical/Geochemical Series, Maps 80912 and 80917, Scale 1:20,000. Survey and compilation from February to July, 1986.

Ontario Geological Survey, Resident Geologist Files - Toronto and Sioux Lookout, Various unpublished assessment reports.

Pearson, W.N. and Woolham, R.W., 1986. Report on Properties of Power Explorations Inc., Pickle Lake Area, Ontario; Ref. No. 86-27, Derry, Michener, Booth and Wahl, Toronto, Ontario, unpublished, 93p.

Sage, R.P. and Breaks, F.W., 1982. Geology of the Cat Lake - Pickle Lake Area, Districts of Kenora and Thunder Bay; O.G.S. Report No. 207, 238p. Accompanied by Map 2218, Scale 1:253,440.

Webster, B., October, 1986. Report on Ground Geophysical Surveys conducted on the Long Lake Property, Patricia Mining Division, Northwestern Ontario, on behalf of Geocanex Ltd. by JVX Limited; JVX Ref. No. 8631, Thornhill, Ontario, unpublished, 4p.

APPENDIX A

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

THIS IS TO CERTIFY THAT:

I have been a resident of Toronto, Ontario since 1984.

I have been actively engaged in Canadian and foreign mining and explorations since 1979.

I am a graduate of the University of Waterloo, Waterloo, Ontario, with an Honours B.Sc. (1983) in the Co-op Program of Earth Sciences.

I am an associate member, in good standing, of the Geological Association of Canada.

I have disclosed, to the best of my knowledge, all relevant material, descriptive and interpretative, used in the compilation of this report.

DATED THIS 4 DAY OF February, 1987

Stephen Medd

Stephen B. Medd, B.Sc.
Geologist

APPENDIX B

JVX LIMITED REPORT

REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE ISLAND LAKE PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of :

Geocanex Limited
Suite 804
34 King St. E.
Toronto, Ontario
M5C 1E5

Contact: Harry Hodge
Telephone: (416) 363-4376

By:

JVX Limited
33 Glen Cameron Rd - Unit #2
Thornhill, Ontario
L3T 1N9

Contact: Blaine Webster
Tel.: (416) 731-0972

JVX Ref: 8631B
October, 1986

A REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE ISLAND LAKE PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of

GEOCANEX LIMITED

1.0 OVERVIEW OF GEOPHYSICS

1.1 Magnetics

Magnetic vertical field data are presented in the form of contours, with a contour interval of 100 nT. Data were collected at 100 foot intervals on lines spaced 400 feet apart. Occasionally, in areas of high magnetic gradients, stations were filled in every 50 feet.

The contouring is of good quality and long linear trends striking north-south are readily apparent. These vary in amplitude, indicating variations in ferromagnetic minerals content. Known geology indicates the presence of mafic metavolcanics. The strikes measured on outcrop correlate very well with the linear magnetic features that are prevalent throughout the survey area.

Specifically, there appear to be 4 major magnetic units. These are labelled M1, M2, M3 and M4. These all strike approximately north-south, and are all similar in magnitude. Between M3 and M4, and east of M4, the magnetic response is quite flat. Felsic to intermediate volcanics have been observed to the west of M1, and the magnetic response in the vicinity of these rock types is similar to that between M3 and M4, and east of M4. It is possible that similar rock types to these may be the source of the flat magnetic responses observed (in general) between the more highly magnetic units M1, M2, M3 and M4.

The (interpreted) mafic metavolcanics are discontinuous in several places. Two such breaks in the magnetic trends (D1 and D2) may be interpreted as a faults.

1.2 VLF

VLF data are presented in the form of stacked profiles of in-phase and quadrature, and contoured Fraser filtered in-phase data. Data were collected every 100 feet. The Fraser filtering was also performed on this interval. It should be pointed out that the optimum interval for this filter has been shown (Fraser, 1969) to be 50 feet. Using a longer interval will result in poorly defined waveforms from near surface conductors (as these appear to be), and these will alias as deeper conductors. This is in essence adding noise which may somewhat confuse the contoured result.

Neverthless, using the Fraser filtered contours it is readily apparent that a number of linear trends exist in the area. Three very strong linear trends (V1, V2 and V4) and a number of shorter zones (V3, V5, V6 and V7) are observed.

These tend to follow the magnetic zones. V1 is coincident with M1, V2 with M2, V3 with M3 (south of L24N), and V4-V7 with M4. Correlation between VLF and magnetics is generally excellent. The filtered VLF has a large response to units that may be interpreted from magnetics as being mafic metavolcanics. Areas that have a very flat VLF response correlate with those with low magnetic signatures. Flat VLF responses may be indicative of felsic or silicious rock types.

2.0 ANOMALY DEFINITION

In the Pickle Lake camp, gold may occur in a number of diferent geological settings. The following are the geophysical responses that may be expected from these different models:

2.1 Dona Lake

Magnetic lows to inversions due to pyrrhotite alteration may be expected along the flanks of strongly magnetic units. These will be coincident with good VLF anomalies.

2.2 Central Pat No. 1 Type

Magnetic iron formations will produce large amplitude linear magnetic anomalies. If heavy carbonate alteration occurs, there will not be a VLF anomaly. If massive sulphides are present in the veins and stockworks, moderate VLF in-phase and quadrature anomalies may be expected. Depending on the thickness, number and sulphide content of the veins/stockworks, and the spacing of the stations, it may be difficult to pick these VLF anomalies.

2.3 Central Pat No. 2 Type

Small localized magnetic depressions in otherwise magnetic units, due to low sulphide content. VLF is of no use since there is no structure.

2.4 Pickle Crow No. 1

Magnetic lows truncating linear magnetic features of high amplitude may be expected. Shearing presents a VLF target. In-phase anomalies will likely be moderate, with good quadrature.

2.5 Pickle Crow No. 2

No magnetic contrast exists between quartz porphyries and quartz veins, so an overall magnetic low may be expected. In shape, these are generally round to oblate. If any contact metamorphism occured around the intrusion, weak VLF anomalies may be present.

2.6 St. Joe - Golden Patricia

Long linear magnetic lows adjacent to long linear magnetic highs. A weak VLF response, mainly quadrature, may exist.

3.0 INTERPRETATION

3.1 Faults

Two major structures were evident in the survey area, and are marked on the magnetics map as D1 and D2. D1 is selected on the basis of a magnetic discontinuity, and is located roughly on line 52N, west of the large lake. It is approximately parallel to the survey lines. This feature does not seem to continue on the eastern side of the lake.

D2 is selected on the basis of magnetic and VLF discontinuities. It completely cuts units M1, M3 and M4 approximately normal to strike. The feature strikes approximately 10 degrees north of west.

3.2 Structure

Two categories of lithology are apparent from magnetics and VLF. The first of these displays a large magnetic signature and is more conductive than background (VLF profiles and Fraser filtered in-phase contours). Outcrops mapped in these zones indicate mafic metavolcanics.

The second lithology (interpreted from geophysics) is characterized by low magnetic responses and low VLF responses, possibly due to felsic or silicious rock types. A very few occurances of felsic and intermediate sub-volcanic rocks have been noted in the south western part of the property, in an area with this geophysical signature.

3.3 Targets

Target #1: Rating - Excellent

The broadening of magnetic unit M3 at this point may be interpreted as a fold within that unit. The amplitude of the magnetic response of M3 in this area suggests an iron formation. A conductor also cuts through this anomalous zone. This may represent a shear zone.

Target #2: Rating - Excellent

This target is a second potential fold within a highly magnetized unit (M4) that may be an iron formation. The characteristic broadening and distortion of the magnetic signature suggests folding may have occurred. A minor conductor is indicated to the south of and entering the anomalous magnetic zone. This may represent a shear. Any alteration of magnetite to pyrite and subsequent mineralization of the shear with pyrite could produce a conductive zone.

Target #3: Rating - Excellent

A strong combination of a magnetic embayment on the flank of a highly magnetized unit (M3) and a very prominent magnetic inversion define this target. The entire anomalous zone is cross cut by a fault structure. The embayment on the flank of M3 may be due to the alteration of magnetite to pyrite. This is a less magnetic mineral, resulting in a diminished magnetic response. The inversion may be attributed to another sulphide oxidation process - magnetite to pyrrhotite. If this alteration happened at some time after the original emplacement of the unit containing magnetite, and the geomagnetic field was oriented differently than when the oringinal lithologies were emplaced, inversions may occur.

In this zone, unit M3 has a relatively diminished magnetic response in general, but is still highly magnetic and may be a mafic metavolcanic unit.

JVX

Target #4: Rating - Excellent

The magnetic signature of this zone suggests three possible events:

a) folding to a minor extent,
b) magnetite alteration to pyrite (embayment to the east of the conductor axis), and
c) possible magnetite alteration to pyrrhotite (major inversion of magnetics west of the conductor axis).

The entire zone is cut by a conductor running parallel to unit M1, approximately north-south. This is consistent with magnetite alteration to pyrite and/or pyrrhotite and subsequent mineralization of the shear.

Just to the north of the target is a major magnetic discontinuity (D2), possibly a fault zone.

Target #5: Rating - Good

Target number 5 is a magnetic embayment on the flank of the magnetic unit M4, and is coincident with both a conductor and a suspected fault (D1). About 200 feet north of the target, the magnetic response of unit M4 is of very high amplitude, which suggests an iron formation. At the target, the diminished magnetic response is probably due to magnetite depeletion, possibly as a result of magnetite alteration to pyrite. It is not possible to distinguish between the magnetic response of pyrrhotite and oxide facies iron formation unless they were emplaced under different geomagnetic conditions.

Target #6: Rating - Excellent

This anomalous zone has a similar magnetic response to that of target number 4. The magnetic unit M1 in this area is more highly magnetic, perhaps indicating a lithological change to a more magnetite-rich rock (iron formation ?). There is potential folding within the zone, a moderately strong magnetic inversion, and the entire target is cut north to south by a conductive zone. These geophysical anomalies are consistant with magnetite alteration to pyrrhotite (magnetic inversion) and subsequent mineralization of the shear (conductor).

Target #7 and Target #8: Ratings - Good

Both of these targets have the following characteristics:

a) Magnetic embayments, suggesting magnetite alteration to pyrite,
b) The magnetic embayments are adjacent to moderately magnetic units that may be mafic metavolcanics, and
c) VLF conductors cut both anomalous zones. These may be mineralized (sulphide) shear zones. This is consistant with the alteration process that may generate the observed magnetic response.

Target #9 and Target #10: Ratings - Moderate

These targets are magnetic anomalies on the flanks of a very magnetic units that may be iron formations. Target 9 is a magnetic embayment and target 10 is a magnetic inversion. Although a conductor is indicated in the vicinity, it does not enter either of these anomalous (magnetically) zones. The processes outlined for targets 7 and 8 may be responsible for the generation of these anomalies as well.

Target #11 and Target #12: Ratings - Moderate

Like targets 7, 8 and 9, these two are magnetic embayments adjacent to strongly magnetized units. These units may be iron formations. The magnetic response of these targets may be due to magnetite alteration to pyrite. There is no apparent folding within the magnetic units that host these targets, nor are there any indications of structure from VLF. These are purely magnetic anomalies.

If there are any questions with regard to this report please do not hesitate to contact the undersigned at JVX Ltd.

Respectfully submitted,

JVX LIMITED

Blaine Webster, B.Sc.
Consulting Geophysicist

Report

2 of 4

GEOCANEX

020

REPORT

ON

MAGNETIC AND VLF-EM SURVEYS

ON THE

ISLAND LAKE PROPERTY

DISTRICT OF KENORA, PATRICIA MINING DIVISION

NORTHWESTERN ONTARIO

FOR

669977 ONTARIO LTD.

NTS 52-O/8

December, 1986

Stephen B. Medd, B.Sc.

TABLE OF CONTENTS

APPENDICES

LIST OF DRAWINGS

No. I-1	MAGNETOMETER SURVEY VERTICAL FIELD CONTOURS	In back pocket
No. I-2	VLF EM SURVEY INPHASE AND QUADRATURE PROFILES	" " "
No. I-3	VLF EM SURVEY FILTERED INPHASE CONTOURS	" " "
No. I-4	COMPILATION MAP BY JVX LTD.	" " "

1.0 SUMMARY

Ground magnetic and VLF-EM surveys were carried out during June, 1986, on the Island Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and the 2HB Syndicate.

Magnetic and VLF-EM data in conjunction with geological data indicate two general types of lithologies. The first of these displays high magnetic responses and is more conductive than background. Four of these high magnetic bands cross the property in a north-south direction, portions of which are conductive. Pyrrhotite-pyrite-bearing mafic metavolcanics are the likely cause of this geophysical response. The second type of lithology (interpreted from the geophysics) is characterized by low magnetic and low VLF-EM responses which possibly reflects felsic metavolcanics or clastic metasediments.

Two major faults trending east-west to west-northwest are indicated on the basis of magnetic and/or VLF-EM conductor discontinuities.

Gold occurs in three different geological/structural settings in the Meen-Dempster-Pickle Lake greenstone belts, which are exemplified by the Central Patricia/Pickle Crow mines, the Golden Patricia deposit and the Dona Lake deposit. Using these gold occurrences as models for the Island Lake property, 12 of the most promising drilling targets have been identified and described by JVX Limited, Thornhill, Ontario. Their interpretation forms Appendix B of this report.

2.0 INTRODUCTION

The following report describes the results of a ground magnetic survey and a VLF-EM survey conducted during June, 1986, over the Island Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and the 2HB Syndicate. The two surveys were performed in order to delineate lithological units and structural trends and to locate conductive zones of sulfide-bearing iron formation, other stratabund massive or disseminated sulfide mineralization, and shearing, all of which might host gold.

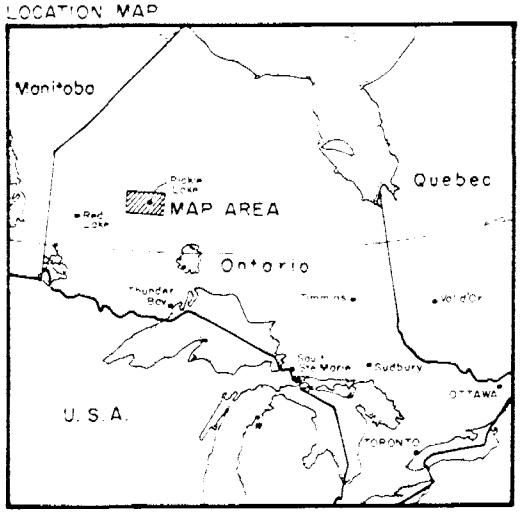
3.0 PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Island Lake property is located 12 miles south of the town of Pickle Lake and 1/3 mile east of Highway 599 in Northwestern Ontario (Fig. No. 1). A block of 18 contiguous, unpatented mining claims forms the property (Fig. No. 2). To the west it is bounded by the Highway property held under a Joint Venture Agreement between Power Explorations Inc. and H.J. Hodge Incorporated. To the north it is bounded by a property held by Sunburst Exploration Ltd. Claim numbers and recording dates are as follows:

Claim Numbers	Recording Date
Pa 720191-720208 inclusive (18)	April 30, 1984

These claims are recorded as being 100% held by Power Explorations Inc. of 804-34 King Street East, Toronto, Ontario, M5C 1E5.

LOCATION MAP



MINES, PAST PRODUCER

A Centre Patricia No 1
B Central Patricia No 2
C Pickle Crow No 1
D Pickle Crow No 2
E Albany River
F Crowshore
G WEX (Thierry Mine)

GOLD PRODUCTION

MINE PROPERTY	TONS	OZS GOLD	OZ/TON
Central Patricia	709,048	62,805	0.359
Pickle Crow	3,237,572	1,446,214	0.44
Total	4,956,820	2,068,020	0.416

90°30'

90°00'

Collishaw Lake

HWY 808

Tarp Lake

Trebell L.

PONSFORD TWP

CONNELL TWP

McCULLAGH TWP

51°30'

Pickle Lake

Pickle L.

Dona L.

Dona Lake Discovery
1,400,000 tons at 0.24 oz/ton Au

Ochig Lake

Kawinogans Lake

ISLAND LAKE PROPERTY

Knupp L.

Hasaga
200,000 tons at 0.19 oz/ton Au

Osnaburgh I.R. 638

Hwy 599

LAKE ST. JOSEPH

center L.

50°15

90°30'

0 2 4 6 8 10 miles
Scale 1 inch = 4 miles

669977 ONTARIO LTD.

ISLAND LAKE PROPERTY
Patricia M.D., Ontario
PROPERTY LOCATION AND REGIONAL GEOLOGY

GEOCANEX

Stephen Mehl
GEOCANEX LTD
TORONTO, CANADA

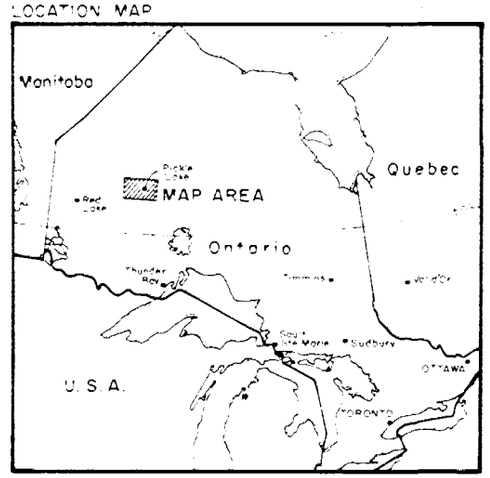
BY: R.T.M.
DATE: Dec 1986
SCALE: 1" = 4 mi
FIG. No: 1

GEOLOGY LEGEND

- Geological boundary
- Diabase dykes (Keewanawan)
- Granitic intrusives — 6
- Mafics, ultramafic intrusives — 5
- Migmatites — 4
- Intermediate to felsic volcanics — 3
- Mafic volcanics — 2
- Sediments — 1
- Mineral occurrence
- Mine, past producer — * A
- Iron formation

Geology from Ontario Geological Survey Misc. paper 199, 1984 Staff G.M.B. Wallace H. and Map 2218, Cat Lake - Pickle Lake, Sage et al., 1972

LOCATION MAP

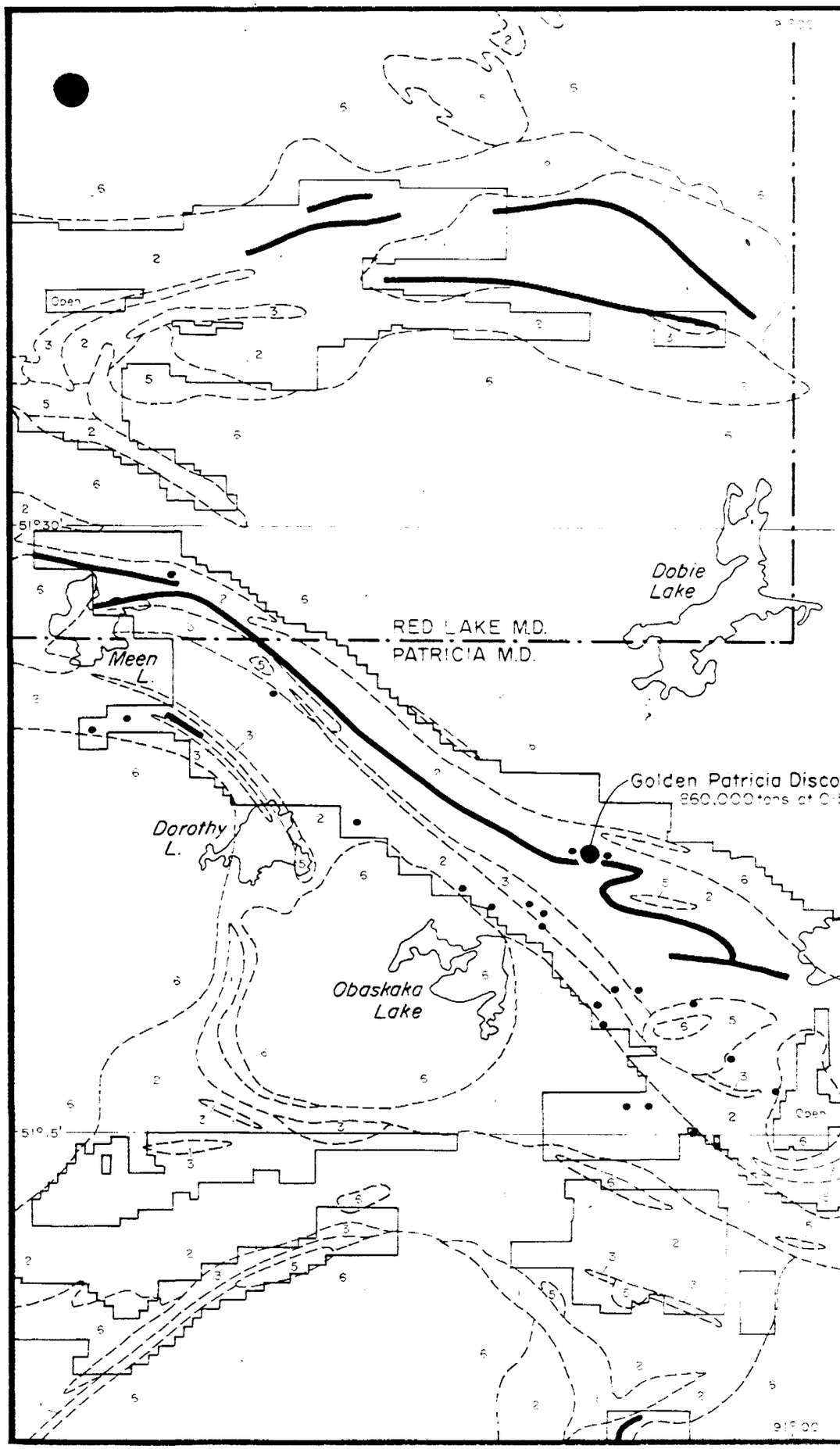


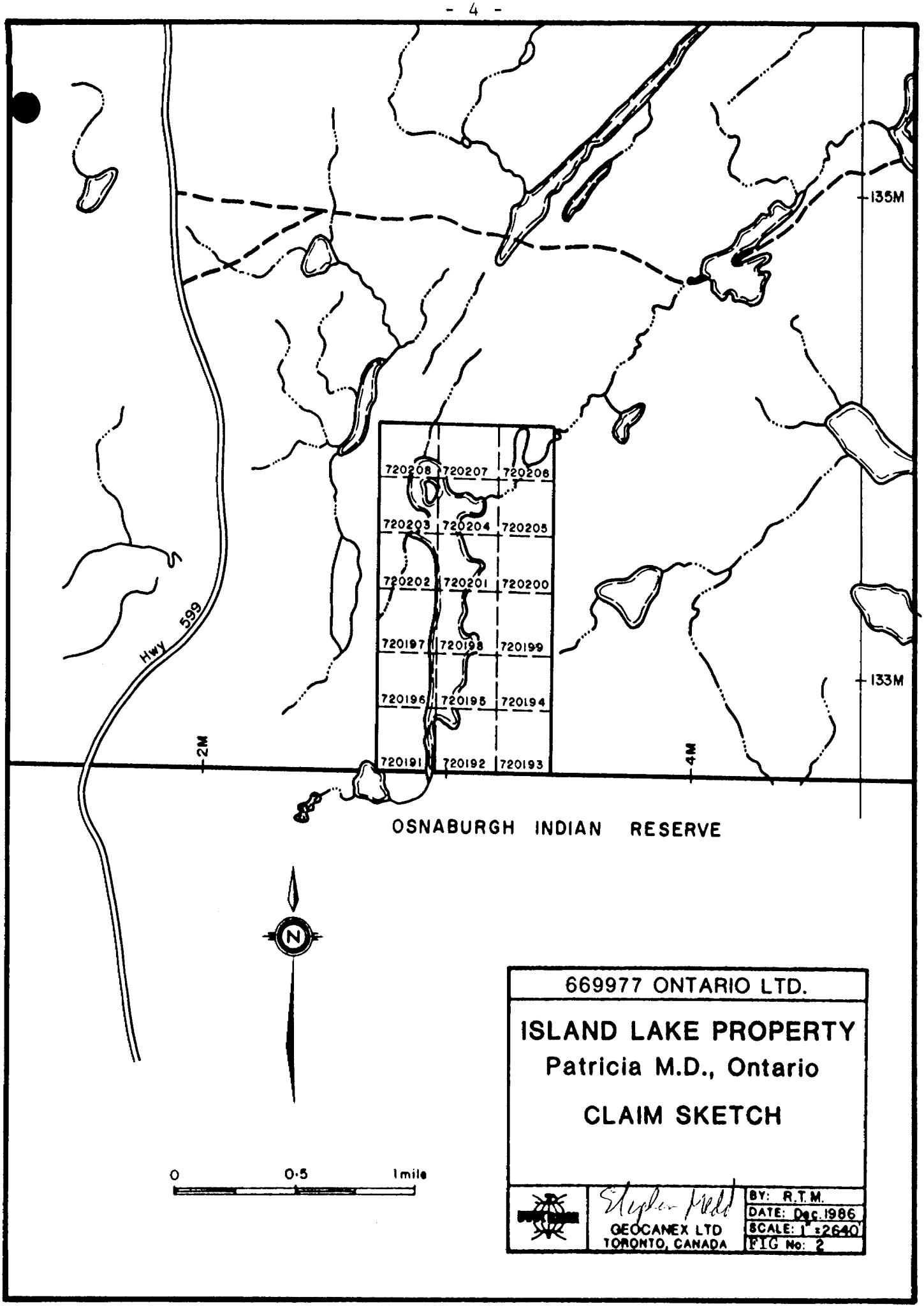
MINES, PAST PRODUCER

- A Central Patricia No. 1
- B Central Patricia No. 2
- C Pickle Crow No. 1
- D Pickle Crow No. 2
- E Albany River
- F Crawshaw
- G MEX (Thierry Mine)

GOLD PRODUCTION

MINE PROPERTY	TONS	OZS. GOLD
Central Patricia	129,048	62,168
Pickle Crow	3,837,672	1,446,000
Total	4,966,720	2,068,000





669977 ONTARIO LTD.

ISLAND LAKE PROPERTY

Patricia M.D., Ontario

CLAIM SKETCH

Stephen Field
GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec. 1986
SCALE: 1 :2640
FIG No: 2

The property is accessible by foot or snowmobile 1/3 mile east of Highway 599 which connects the town of Pickle Lake to the north with Savant Lake and Ignace several miles to the south.

4.0 TOPOGRAPHY AND VEGETATION

Bedrock exposure constitutes less than 5% of the total property area. The central portion of the property is dominated by low relief and black spruce muskeg which is interrupted by several small sandhills, discontinuous eskers and esker outwash. Birch, poplar and spruce exist on these higher areas. A steep irregular scarp running north-south, occurs near the western shoreline of the lake. Birch, poplar and black spruce exist above the scarp and black spruce muskeg exists on the low-lying shoreline areas. Most of the bedrock exposures are located on the western central portion of the property.

5.0 PREVIOUS WORK

1960 Ontario Geological Survey

An airborne magnetic survey was conducted over the Ochig Lake area and results compiled in a set of maps with a scale of 1 inch = 4 miles.

1971 Union Miniere Explorations and Mining Corp. Ltd.

Reconnaissance airborne magnetic and electromagnetic surveys were conducted over the Meen-Dempster-Pickle Lake greenstone

belts. Subsequently, several EM targets were drilled in the area intersecting several sulfide horizons (Higginson, 1986).

1984 2HB Syndicate

The present 18 claim block that forms the Island Lake property was staked.

1985 2HB Syndicate

An airborne magnetic and VLF-EM survey was performed by Terraquest Ltd. over the property.

1986 Power Explorations Inc.

A Joint Venture Agreement was signed between Power Explorations Inc. and the 2HB Syndicate giving the former company the right to earn a 50% interest in the property.

1986 Ontario Geological Survey

The results of an airborne electromagnetic and total intensity magnetic survey of the Meen-Dempster-Pickle Lake greenstone belts were compiled on a set of 59 maps (Scale 1:20,000) and released to the public. The Geotem time-domain EM system of Geoterrex Ltd. was used in the survey.

6.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

The Pickle Lake area is located within the Uchi Subprovince, a part of the Superior Province of the Canadian Shield. The

area is characterized by several arcuate, highly deformed and coalescing greenstone belts, consisting of predominantly mafic to intermediate volcanic flows, which have been intruded by numerous granitic to ultramafic intrusive bodies. The metamorphic grade ranges from greenschist-to-amphibolite facies. The volcanics host subordinate amounts of felsic and mafic pyroclastics, sediments and iron formation. Felsic quartz-feldspar porphyry dykes are commonly found in all lithologies.

Ultramafic rocks host copper-nickel mineralization at the Union Miniere (UMEX) Thierry Mine, seven miles northwest of Pickle Lake, with mined ore and mineral reserves totalling 14,000,000 tons grading 1.6% copper and 0.2% nickel.

Historically, gold production in the Pickle Lake area, has been from structurally controlled vein type deposits or sulfide replacement bodies spatially associated with, or contained within, bands of Algoman (chert-magnetite) iron formation.

The former producing Pickle Crow and Central Patricia Mines operated from 1935 to 1966 and 1934 to 1951, respectively, collectively producing 2,068,020 ounces of gold from 4,966,820 tons of ore for an average grade of 0.416 ounces per ton. Gold was recovered from quartz veins, vein networks, and sulfide replacement bodies which occupied shears, faults, fissures and fold axial plane fractures on highly deformed mafic volcanics and iron formation. Gold-bearing quartz veins were also mined within quartz-albite porphyry sills near the contact of mafic volcanics and iron formation.

Recently, two other potentially exploitable gold deposits have been discovered. Dome Mines' Dona Lake property has reported reserves of 1,500,000 tons grading 0.3 ounces gold per ton. Gold mineralization occurs as sulfide replacement bodies within a band of highly deformed oxide facies iron formation. (Northern Miner, September, 1986).

St. Joe Canada's Golden Patricia property is reported to have an estimated 500,000 ounces of gold reserves with a grade of 0.58 ounces gold per ton. The gold mineralization occurs in a quartz vein at a contact between a mylonitized unit and sheared mafic volcanics in close proximity to banded iron formation (Northern Miner Magazine, September, 1986).

7.0 PROPERTY GEOLOGY

Bedrock exposure accounts for less than 5% of the total property area and occurs mainly on the western central part of the property. The remainder of the property is covered by Island Lake, and sand and boulder overburden from glacial till and esker/drumlin deposits.

The property is underlain by a sequence of mafic to intermediate volcanic flows, which host subordinate mafic to felsic pyroclastics and possibly bands of iron formation, as indicated by geophysical data. Quartz-feldspar porphyry and gabbroic sills intrude the volcanic sequence (Higginson, 1986).

The regional metamorphic grade is amphibolite facies. There is no evidence of large scale folding, however, crosscutting faults and shears are suggested by the geophysical data.

Some minor shearing, parallel to the foliation, may be related to the emplacement of quartz-feldspar porphyry and gabbroic sills. The major foliation/cleavage fabric is parallel to the stratigraphy (approximately north-south) but may dip from 50° west through to 50° east. A few bedding measurements indicate that the stratigraphy dips from 50° to 60° west.

For a detailed description of the property geology and the results of a rock and humus geochemical survey refer to a report by R. Higginson, 1986.

8.0 DESCRIPTION OF GEOPHYSICAL PROGRAM

During June, 1986, linecutting, magnetic surveying and VLF-EM surveying were carried out on the Island Lake property. The personnel involved were:

G. Robert	Linecutter	Val d'Or, Quebec	June 11-14
C. Darveau	Linecutter	Val d'Or, Quebec	June 11-14
R. Darveau	Linecutter	Val d'Or, Quebec	June 11-14
M. Lariviere	Linecutter	Val d'Or, Quebec	June 11-14
J. Hodge	Geophysical Operator	Devlin, Ontario	June 16-19
F. Recoskie	Geophysical Operator	Val d'Or, Quebec	June 16-19
C. Beggs	Geophysical Operator	Toronto, Ontario	June 16-19

A north-south baseline was cut along the western boundary of the property and a parallel, north-south tieline was cut along the eastern boundary. East-west survey lines were cut

perpendicularly between the baseline and eastern tieline at 400-foot linespacing intervals with pickets erected at 100-foot intervals along each line.

The magnetic survey was performed using a Scintrex MF-2 Fluxgate magnetometer. Readings of the vertical magnetic field were taken every 100 feet along the survey lines, and in areas of high magnetic gradient readings were taken at 50-foot intervals. Diurnal drift changes in the magnetic field were estimated by taking readings at previously established stations at time intervals not exceeding 1.5 hours. Corrections were made, accordingly, to the vertical magnetic field value obtained at each station. The results of the magnetic survey are presented on the Vertical Field Contours Map (Drawing No. I-4) in back of report.

The VLF-EM survey was performed along the survey lines using a Geonics EM-16 receiver tuned to receive the 21.4 KHz signal transmitted from Annapolis, Maryland (NSS). Inphase (tilt-angle) and quadrature measurements were taken every 100 feet along the survey lines. The results are presented in profiled format and contoured format (Fraser-filtered inphase values) on maps (Drawings No. I-2 and I-3, respectively) in back of the report.

9.0 RESULTS AND INTERPRETATION

Two types of lithologies are apparent from magnetic and VLF-EM data. The first of these displays a high magnetic response and is more conductive than background. Four of these high magnetic bands cross the property in a north-south direction and are indicated as M1, M2, M3 and M4 on the

Compilation Map by JVX Ltd. (Drawing No. I-4) in back of the report. Outcrops of mafic metavolcanics have been mapped in magnetic band M1, located on the western part of the property. Pyrrhotite-pyrite is the probable causative source of the conductive portions of the high magnetic bands, occurring either as stratabound mineralization in mafic metavolcanics or as mineralized shear zones parallel to the stratigraphy.

The second type of lithology (interpreted from the geophysics) is characterized by low magnetic and low VLF-EM responses which possibly reflect felsic or silicious rocks such as clastic metasediments or felsic metavolcanics.

Two major faults trending east-west to west-northwest are indicated on the basis of magnetic and/or VLF-EM conductor discontinuities.

For a detailed description of the results of geophysical surveys conducted on the Island lake property refer to a report by JVX Limited located in Appendix B. Information concerning the JVX report is displayed on the Compilation Map (Drawing No. I-4) in back of the report.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Generally, gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in structurally related, epigenetic, hydrothermal systems, and is often associated with iron formation units.

Gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in three geological/structural settings.

1. Gold in stockwork quartz veins within iron formation or in silicified shear zones, usually with sulfides; associated with complex folding. The Central Patricia and Pickle Crow mines, respectively, are notable examples.

2. Gold in quartz veins associated with regional, mylonitized shear zones which trend subparallel or parallel to the stratigraphy. The Golden Patricia deposit is an example of this type. It is not directly associated with iron formation, but occurs in sheared mafic volcanic rocks between two iron formation units. Gold is commonly associated with pyrrhotite, pyrite and chalcopyrite which generally comprise less than 5 percent of the vein material.

3. Gold in zones of sulfide replacement in folded iron formation, without quartz veins. The Dona Lake deposit is an example of this type, where gold is associated with pyrrhotite.

Using these gold occurrences as models for the Island Lake property, 12 of the most promising areas have been outlined for drilling by JVX Limited in a report located in Appendix B. Information concerning the JVX report is displayed on the Compilation Map (Drawing No. I-4) in back of the report.

Respectfully submitted,

Stephen Medd

Stephen B. Medd, B.Sc.
Geocanex Ltd.

11.0 REFERENCES

Barrie, C.Q., August 29, 1985. Report on an Airborne Magnetic and VLF-EM Survey, Pickle Lake Area, Sioux Lookout Mining Division, Ontario, for Moss Resources Ltd; Report No. T-5025, Terraquest Ltd., Toronto, Ontario, unpublished.

Higginson, R.A.V., 1986. Report on Geological Mapping Prospecting and Geochemical Sampling on the Island Lake Property, District of Kenora, Patricia Mining Division, Northwestern Ontario, for 669977 Ontario Ltd; unpublished report of Geocanex Ltd.

Ontario Geological Survey, 1986. Airborne Electromagnetic and Total Intensity Magnetic Survey, Pickle Lake Area, District of Kenora (Patricia Portion), Ontario; by Geoterrex Ltd., for O.G.S. Geophysical/Geochemical Series, Map 80917, Scale 1:20,000. Survey and compilation from February to July, 1986.

Ontario Geological Survey, Resident Geologist Files - Toronto and Sioux Lookout. Various unpublished assessment reports.

Pearson, W.N. and Woolham, R.W., 1986. Report on Properties of Power Explorations Inc., Pickle Lake Area, Ontario; Ref. No. 86-27, Derry, Michener, Booth, and Wahl, Toronto, Ontario, unpublished, 93p.

Sage, R.P. and Breaks, F.W., 1982. Geology of the Cat Lake - Pickle Lake Area, Districts of Kenora and Thunder Bay, Ontario; O.G.S. Report No. 207, 238p. Accompanied by Map 2218, Scale 1:253,440.

Webster, B., October, 1986. Report on Ground Geophysical Surveys conducted on the Island Lake Property, Pickle Lake Area, Ontario, on behalf of Geocanex Ltd. by JVX Limited. JVX Ref: 8631B, JVX Limited, Thornhill, Ontario, unpublished, 6p.

APPENDIX A

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

THIS IS TO CERTIFY THAT:

I have been a resident of Toronto, Ontario since 1984.

I have been actively engaged in Canadian and foreign mining and explorations since 1979.

I am a graduate of the University of Waterloo, Waterloo, Ontario, with an Honours B.Sc. (1983) in the Co-op Program of Earth Sciences.

I am an associate member, in good standing, of the Geological Association of Canada.

I have disclosed, to the best of my knowledge, all relevant material, descriptive and interpretative, used in the compilation of this report.

DATED THIS 20 DAY OF January, 1987

Stephen Medd

Stephen B. Medd, B.Sc.
Geologist

APPENDIX B

JVX LIMITED REPORT

REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE ISLAND LAKE PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of :

Geocanex Limited
Suite 804
34 King St. E.
Toronto, Ontario
M5C 1E5

Contact: Harry Hodge
Telephone: (416) 363-4376

By:

JVX Limited
33 Glen Cameron Rd - Unit #2
Thornhill, Ontario
L3T 1N9

Contact: Blaine Webster
Tel.: (416) 731-0972

JVX Ref: 8631B
October, 1986

A REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE ISLAND LAKE PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of

GEOCANEX LIMITED

1.0 OVERVIEW OF GEOPHYSICS

1.1 Magnetics

Magnetic vertical field data are presented in the form of contours, with a contour interval of 100 nT. Data were collected at 100 foot intervals on lines spaced 400 feet apart. Occasionally, in areas of high magnetic gradients, stations were filled in every 50 feet.

The contouring is of good quality and long linear trends striking north-south are readily apparent. These vary in amplitude, indicating variations in ferromagnetic minerals content. Known geology indicates the presence of mafic metavolcanics. The strikes measured on outcrop correlate very well with the linear magnetic features that are prevalent throughout the survey area.

Specifically, there appear to be 4 major magnetic units. These are labelled M1, M2, M3 and M4. These all strike approximately north-south, and are all similar in magnitude. Between M3 and M4, and east of M4, the magnetic response is quite flat. Felsic to intermediate volcanics have been observed to the west of M1, and the magnetic response in the vicinity of these rock types is similar to that between M3 and M4, and east of M4. It is possible that similar rock types to these may be the source of the flat magnetic responses observed (in general) between the more highly magnetic units M1, M2, M3 and M4.

The (interpreted) mafic metavolcanics are discontinuous in several places. Two such breaks in the magnetic trends (D1 and D2) may be interpreted as a faults.

1.2 VLF

VLF data are presented in the form of stacked profiles of in-phase and quadrature, and contoured Fraser filtered in-phase data. Data were collected every 100 feet. The Fraser filtering was also performed on this interval. It should be pointed out that the optimum interval for this filter has been shown (Fraser, 1969) to be 50 feet. Using a longer interval will result in poorly defined waveforms from near surface conductors (as these appear to be), and these will alias as deeper conductors. This is in essence adding noise which may somewhat confuse the contoured result.

Neverthless, using the Fraser filtered contours it is readily apparent that a number of linear trends exist in the area. Three very strong linear trends (V1, V2 and V4) and a number of shorter zones (V3, V5, V6 and V7) are observed.

These tend to follow the magnetic zones. V1 is coincident with M1, V2 with M2, V3 with M3 (south of L24N), and V4-V7 with M4. Correlation between VLF and magnetics is generally excellent. The filtered VLF has a large response to units that may be interpreted from magnetics as being mafic metavolcanics. Areas that have a very flat VLF response correlate with those with low magnetic signatures. Flat VLF responses may be indicative of felsic or silicious rock types.

2.0 ANOMALY DEFINITION

In the Pickle Lake camp, gold may occur in a number of diferent geological settings. The following are the geophysical responses that may be expected from these different models:

2.1 Dona Lake

Magnetic lows to inversions due to pyrrhotite alteration may be expected along the flanks of strongly magnetic units. These will be coincident with good VLF anomalies.

2.2 Central Pat No. 1 Type

Magnetic iron formations will produce large amplitude linear magnetic anomalies. If heavy carbonate alteration occurs, there will not be a VLF anomaly. If massive sulphides are present in the veins and stockworks, moderate VLF in-phase and quadrature anomalies may be expected. Depending on the thickness, number and sulphide content of the veins/stockworks, and the spacing of the stations, it may be difficult to pick these VLF anomalies.

2.3 Central Pat No. 2 Type

Small localized magnetic depressions in otherwise magnetic units, due to low sulphide content. VLF is of no use since there is no structure.

2.4 Pickle Crow No. 1

Magnetic lows truncating linear magnetic features of high amplitude may be expected. Shearing presents a VLF target. In-phase anomalies will likely be moderate, with good quadrature.

2.5 Pickle Crow No. 2

No magnetic contrast exists between quartz porphyries and quartz veins, so an overall magnetic low may be expected. In shape, these are generally round to oblate. If any contact metamorphism occured around the intrusion, weak VLF anomalies may be present.

2.6 St. Joe - Golden Patricia

Long linear magnetic lows adjacent to long linear magnetic highs. A weak VLF response, mainly quadrature, may exist.

3.0 INTERPRETATION

3.1 Faults

Two major structures were evident in the survey area, and are marked on the magnetics map as D1 and D2. D1 is selected on the basis of a magnetic discontinuity, and is located roughly on line 52N, west of the large lake. It is approximately parallel to the survey lines. This feature does not seem to continue on the eastern side of the lake.

D2 is selected on the basis of magnetic and VLF discontinuities. It completely cuts units M1, M3 and M4 approximately normal to strike. The feature strikes approximately 10 degrees north of west.

3.2 Structure

Two categories of lithology are apparent from magnetics and VLF. The first of these displays a large magnetic signature and is more conductive than background (VLF profiles and Fraser filtered in-phase contours). Outcrops mapped in these zones indicate mafic metavolcanics.

The second lithology (interpreted from geophysics) is characterized by low magnetic responses and low VLF responses, possibly due to felsic or silicious rock types. A very few occurances of felsic and intermediate sub-volcanic rocks have been noted in the south western part of the property, in an area with this geophysical signature.

3.3 Targets

Target #1: Rating - Excellent

The broadening of magnetic unit M3 at this point may be interpreted as a fold within that unit. The amplitude of the magnetic response of M3 in this area suggests an iron formation. A conductor also cuts through this anomalous zone. This may represent a shear zone.

Target #2: Rating - Excellent

This target is a second potential fold within a highly magnetized unit (M4) that may be an iron formation. The characteristic broadening and distortion of the magnetic signature suggests folding may have occurred. A minor conductor is indicated to the south of and entering the anomalous magnetic zone. This may represent a shear. Any alteration of magnetite to pyrite and subsequent mineralization of the shear with pyrite could produce a conductive zone.

Target #3: Rating - Excellent

A strong combination of a magnetic embayment on the flank of a highly magnetized unit (M3) and a very prominent magnetic inversion define this target. The entire anomalous zone is cross cut by a fault structure. The embayment on the flank of M3 may be due to the alteration of magnetite to pyrite. This is a less magnetic mineral, resulting in a diminished magnetic response. The inversion may be attributed to another sulphide oxidation process - magnetite to pyrrhotite. If this alteration happened at some time after the original emplacement of the unit containing magnetite, and the geomagnetic field was oriented differently than when the oringinal lithologies were emplaced, inversions may occur.

In this zone, unit M3 has a relatively diminished magnetic response in general, but is still highly magnetic and may be a mafic metavolcanic unit.

Target #4: Rating - Excellent

The magnetic signature of this zone suggests three possible events:

a) folding to a minor extent,
b) magnetite alteration to pyrite (embayment to the east of the conductor axis), and
c) possible magnetite alteration to pyrrhotite (major inversion of magnetics west of the conductor axis).

The entire zone is cut by a conductor running parallel to unit M1, approximately north-south. This is consistent with magnetite alteration to pyrite and/or pyrrhotite and subsequent mineralization of the shear.

Just to the north of the target is a major magnetic discontinuity (D2), possibly a fault zone.

Target #5: Rating - Good

Target number 5 is a magnetic embayment on the flank of the magnetic unit M4, and is coincident with both a conductor and a suspected fault (D1). About 200 feet north of the target, the magnetic response of unit M4 is of very high amplitude, which suggests an iron formation. At the target, the diminished magnetic response is probably due to magnetite depeletion, possibly as a result of magnetite alteration to pyrite. It is not possible to distinguish between the magnetic response of pyrrhotite and oxide facies iron formation unless they were emplaced under different geomagnetic conditions.

Target #6: Rating - Excellent

This anomalous zone has a similar magnetic response to that of target number 4. The magnetic unit M1 in this area is more highly magnetic, perhaps indicating a lithological change to a more magnetite-rich rock (iron formation ?). There is potential folding within the zone, a moderately strong magnetic inversion, and the entire target is cut north to south by a conductive zone. These geophysical anomalies are consistant with magnetite alteration to pyrrhotite (magnetic inversion) and subsequent mineralization of the shear (conductor).

Target #7 and Target #8: Ratings - Good

Both of these targets have the following characteristics:

a) Magnetic embayments, suggesting magnetite alteration to pyrite,
b) The magnetic embayments are adjacent to moderately magnetic units that may be mafic metavolcanics, and
c) VLF conductors cut both anomalous zones. These may be mineralized (sulphide) shear zones. This is consistant with the alteration process that may generate the observed magnetic response.

Target #9 and Target #10: Ratings - Moderate

These targets are magnetic anomalies on the flanks of a very magnetic units that may be iron formations. Target 9 is a magnetic embayment and target 10 is a magnetic inversion. Although a conductor is indicated in the vicinity, it does not enter either of these anomalous (magnetically) zones. The processes outlined for targets 7 and 8 may be responsible for the generation of these anomalies as well.

Target #11 and Target #12: Ratings - Moderate

Like targets 7, 8 and 9, these two are magnetic embayments adjacent to strongly magnetized units. These units may be iron formations. The magnetic response of these targets may be due to magnetite alteration to pyrite. There is no apparent folding within the magnetic units that host these targets, nor are there any indications of structure from VLF. These are purely magnetic anomalies.

If there are any questions with regard to this report please do not hesitate to contact the undersigned at JVX Ltd.

Respectfully submitted,

JVX LIMITED

Blaine Webster, B.Sc.
Consulting Geophysicist

Report 3

3 of 3

030

REPORT

ON

MAGNETIC AND VLF-EM SURVEYS

ON THE

HIGHWAY PROPERTY

DISTRICT OF KENORA, PATRICIA MINING DIVISION

NORTHWESTERN ONTARIO

FOR

669977 ONTARIO LTD.

NTS 52 - O/8

December, 1986

Stephen B. Medd, B.Sc.

TABLE OF CONTENTS

APPENDICES

LIST OF DRAWINGS

No. H-1	MAGNETOMETER SURVEY VERTICAL FIELD CONTOURS	In map pocket
No. H-2	VLF-EM SURVEY INPHASE AND QUADRATURE PROFILES	" " "
No. H-A-3(1	VLF-EM SURVEY FILTERED INPHASE CONTOURS Tx NLK	" " "
No. H-B-3(2	VLF-EM SURVEY FILTERED INPHASE CONTOURS Tx NSS	" " "
No. H-4	COMPILATION MAP BY JVX LIMITED	" " "

1.0 SUMMARY

Ground magnetic and VLF-EM surveys were carried out during June, 1986, on the Highway property, held under a Joint Venture Agreement between Power Explorations Inc. and H.J. Hodge Incorporated.

Magnetic and VLF-EM data, in conjunction with geological data, were used to outline four general lithological units. Collectively, these units are interpreted as containing the following rock types (in order of decreasing abundance): mafic metavolcanics, clastic metasediments, a felsic or silicic rock, and iron formation.

Several major structures that may be interpreted as faults, are located on the basis of magnetic discontinuities, sometimes in conjunction with good VLF-EM conductors.

Gold occurs in three different geological/structural settings in the Meen-Dempster-Pickle Lake greenstone belts, which are exemplified by the Central Patricia/Pickle Crow mines, the Golden Patricia deposit and the Dona Lake deposit. Using these gold occurrences as models for the Highway property, 22 of the most promising drilling targets have been identified and described by JVX Limited, Thornhill, Ontario. Their interpretation forms Appendix B of this report.

2.0 INTRODUCTION

The following report describes the results of a ground magnetic survey and a VLF-EM survey conducted during June, 1986, over the Highway property, held under a Joint Venture Agreement between Power Explorations Inc. and H.J. Hodge Incorporated. The two surveys were performed in order to delineate lithological units and structural trends and to locate conductive zones of sulfide-bearing iron formation, other stratabound massive or disseminated sulfide mineralization, and shearing, all of which might host gold.

3.0 PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Highway property is located 12 miles south of the town of Pickle Lake in Northwestern Ontario (Fig. No. 1). A block of 35 contiguous, unpatented mining claims, form the property (Fig. No. 2). To the east, it is bounded by the Island Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and the 2HB Syndicate. Claim numbers and recording dates are as follows:

Claim Numbers		Recording Dates
Pa 769479 - 769493 inclusive	(15)	May 9, 1984
Pa 781465 - 781484 inclusive	(20)	April 30, 1984
TOTAL	35 Claims	

These claims are recorded as being 100% held by Power Explorations Inc., 804 - 34 King Street East, Toronto, Ontario, M5C 1E5.

LOCATION MAP

MINES, PAST PRODUCER

A
B
C
D
E
F
G

GOLD PRODUCTION

MINE PROPERTY	TONS	OZS GOLD	OZ/TON
Central Patricia	129,248	52,806	0.359
Pickle Crow	3,237,572	1,646,214	0.44
Total	4,966,820	2,068,020	0.416

90°00'

Collishaw Lake

HWY 808

Tarp Lake

Trebell L.

PONSFORD TWP

CONNELL TWP

McCULLAGH TWP

51°30'

Pickle Lake

Pickle L.

Dona L.

Dona Lake Discovery
1,400,000 tons at 0.24 oz/ton Au

Ochig Lake

Kawinogans Lake

HIGHWAY PROPERTY

Scale 1 inch = 4 miles

Knupp L.

Hesaga
200,000 tons at 0.19 oz/ton Au

Osnaburgh I.R. 63B

Hwy 599

LAKE ST. JOSEPH

Carpenter L.

90°30'

50°15

90°00'

669977 ONTARIO LTD.

HIGHWAY PROPERTY

Patricia M.D., Ontario

PROPERTY LOCATION AND REGIONAL GEOLOGY

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec 1986
SCALE 1" = 4 mi
FIG. No: 1

GEOLOGY LEGEND

Geological boundary

Dolerite dykes - Keewatinian

Granitic intrusives

Mafic, ultramafic intrusives

Migmatites

Intermediate to felsic volcanics

Mafic volcanics

Sediments

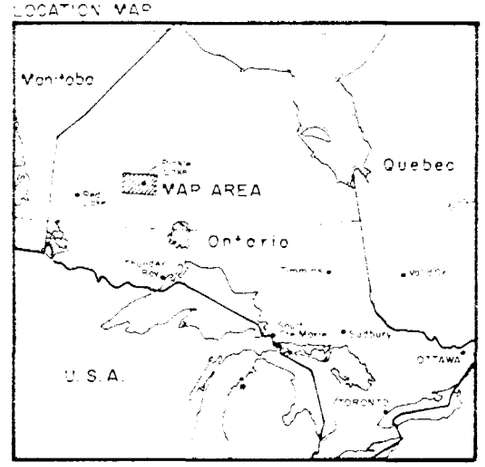
Mineral occurrence

Mine / past producer

Iron formation

Geology from Ontario Geological Survey
Misc. paper 99, 1982
Stott G.M. & Wallace H.
and Map 2218, Cat Lake - Pickle Lake
Sage et al. 1982

LOCATION MAP



MINES, PAST PRODUCERS

A Central Patricia Mine
B Central Patricia Mine
C Pickle Crow Mine
D Pickle Crow Mine
E Albany River
F Crowshyre
G Mex Tharp Mine

GOLD PRODUCTION

MINE PROPERTY	TONS	
Central Patricia	1,709,248	
Pickle Crow	3,237,572	
Total	4,946,820	2

93-30

51°30'

RED LAKE M.D.
PATRICIA M.D.

Dobie Lake

Meen L.

Open

Golden Patricia Discovery
860,000 tons at 0.58 oz/ton Au

Dorothy L.

Obaskaka Lake

Wright Lake

Kawinogans Lake

Trebell L.

Pickle

Ochi Lak

Knupp L.

Dempster L.

Hasaga
200,000 tons at 0.18 oz/ton Au

Teevin L.

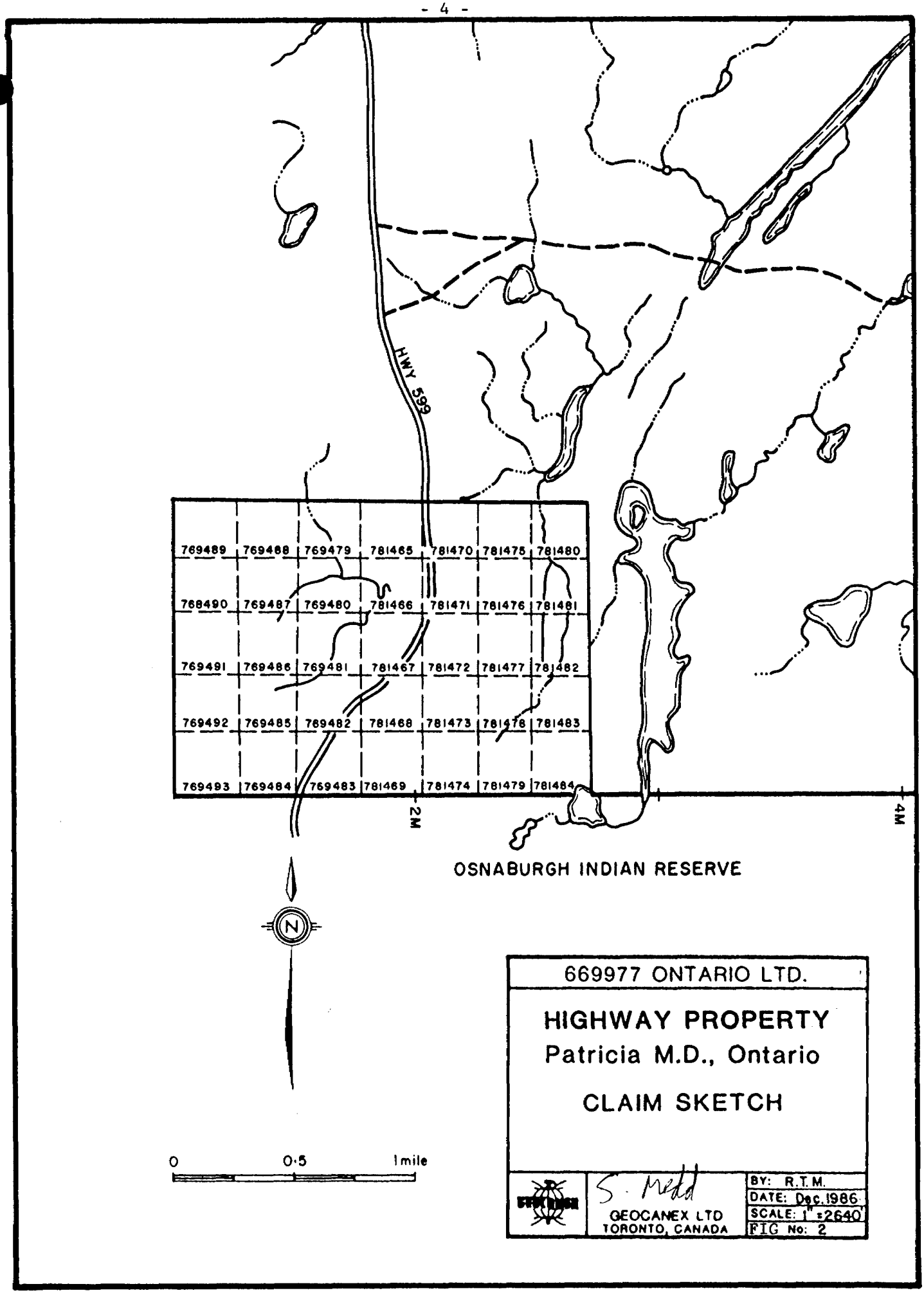
Carpenter L.

LAKE ST. JOSEPH

51°15'

91°00'

90°30'



669977 ONTARIO LTD.

HIGHWAY PROPERTY

Patricia M.D., Ontario

CLAIM SKETCH

S. Metd

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec. 1986
SCALE: 1" = 2640'
FIG No: 2

The property is accessible from Pickle Lake, to the north, or from Ignace and Savant Lake, to the south, by Highway 599 which bisects the property from north to south.

4.0 TOPOGRAPHY AND VEGETATION

Bedrock exposure constitutes approximately 5 percent of the total property area. West of Highway 599, the property has low relief and is dominated by black spruce and muskeg swamp that surrounds a small lake. The northwestern corner is transected by a northeast-trending esker of moderate relief. East of Highway 599, the property is dominated by a drainage basin-lake system that empties to the north. Thick boulder and sand glacial till cover most of this area.

5.0 PREVIOUS WORK

1967 C. Huston & Associates

Ground magnetic and VLF-EM surveys were carried out. Three VLF-EM anomalies were located, but no further work was performed.

1971 UMEX Corporation Ltd.

Reconnaissance airborne magnetic and electromagnetic surveys were conducted over the Meen-Dempster-Pickle Lake greenstone belts. Two holes were drilled to test airborne EM anomalies on the present Highway property. Drill hole C-21, collared near L4+00E,51+00N was 146 feet long and intersected mafic volcanics with localized quartz, quartz-calcite and

pyrrhotite stringers and veins. No assays were reported. The second hole (C-72), was drilled under the small lake on the eastern part of the property. This drill hole intersected mafic metavolcanics with minor graphitic metasediments. No assays were reported (Higginson, 1986).

1971 Inco Ltd.

One hole (No. 49217) was drilled at L0+00E, 23+00N. The hole intersected 188 feet of amphibolite with minor pyrite and pyrrhotite. No assays were reported.

1984 H.J. Hodge Incorporated

The present 35 claim block that forms the Highway property was staked.

1985 H.J. Hodge Incorporated

An airborne magnetic and VLF-EM survey was performed by Terraquest Ltd. over the property.

1986 Power Explorations Inc.

A Joint Venture Agreement was signed between Power Explorations Inc. and H.J. Hodge Incorporated giving the former company the right to earn 50% interest in the property.

1986 Ontario Geological Survey

The results of an airborne electromagnetic and total intensity magnetic survey of the Meen-Dempster-Pickle Lake

greenstone belts were compiled on a set of 59 maps (Scale 1:20,000) and released to the public. The GEOTEM time-domain EM system of Geoterrex Ltd. was used in the survey.

6.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

The Pickle Lake area is located within the Uchi Subprovince, a part of the Superior Province of the Canadian Shield. The area is characterized by several arcuate, highly deformed and coalescing greenstone belts, consisting of predominantly mafic to intermediate volcanic flows, which have been intruded by numerous granitic to ultramafic intrusive bodies. The metamorphic grade ranges from greenschist to amphibolite facies. The volcanics host subordinate amounts of felsic and mafic pyroclastics, sediments and iron formation. Felsic quartz-feldspar porphyry dykes are commonly found in all lithologies.

Ultramafic rocks host copper-nickel mineralization at the Union Miniere (UMEX) Thierry Mine, seven miles northwest of Pickle Lake, with mined ore and mineral reserves totalling 14,000,000 tons grading 1.6% copper and 0.2% nickel.

Historically, gold production in the Pickle Lake area has been from structurally controlled, vein type deposits or sulfide replacement bodies spatially associated with, or contained within bands of Algoma (chert-magnetite) iron formation.

The former producing Pickle Lake Crow and Central Patricia mines operated from 1935 to 1966 and 1934 to 1951, respectively, collectively producing 2,068,020 ounces of

gold from 4,966,820 tons of ore for an average grade of 0.416 ounces gold per ton. Gold was recovered from quartz veins, vein networks and sulfide fissures and fold axial plane fractures in highly deformed mafic volcanics and iron formation. Gold-bearing quartz veins were also mined within quartz-albite porphyry sills near the contact of mafic volcanics and iron formations.

Recently, two other potentially exploitable gold deposits have been discovered. Dome Mines' Dona Lake property has reported reserves of 1,500,000 tons grading 0.3 ounces of gold per ton. Gold mineralization occurs as sulfide replacement bodies within a band of highly deformed oxide facies iron formation (Northern Miner, September, 1986).

St. Joe Canada's Golden Patricia is reported to have an estimated 500,000 ounces of gold reserves with a grade of 0.58 ounces per ton. Gold mineralization occurs in a quartz vein at a contact between a mylonitized unit and sheared mafic volcanics which are spatially associated with banded iron formation (Northern Miner Magazine, September, 1986).

7.0 PROPERTY GEOLOGY

Bedrock exposure accounts for approximately 5 percent of the total property area, and occurs mainly on the eastern part of the property. Overburden thickness is generally relatively thin (less than 15 feet) except on the northwestern corner of the property which is transected by a northeast-trending esker.

The property is located in a complex structural zone at the junction of the Meen-Dempster and Pickle Lake greenstone belts. A westerly younging sequence of amphibolitized, pillowed and foliated basaltic to andesitic flows host clastic metasediments and iron formation. Mafic metavolcanics make up the dominant lithology on the property followed by clastic metasediments. Minor metagabbro dykes and sills occur throughout the sequence. The regional metamorphic grade ranges from greenschist to upper amphibolite facies. Bedding measurements from the property generally indicate northwest-striking stratigraphy, dipping steeply to the southwest. At least two foliation directions exist, one of which is subparallel to the stratigraphy.

For a detailed description of the property geology and the results of a rock and humus geochemical survey, refer to a report by R. Higginson, 1986.

8.0 DESCRIPTION OF GEOPHYSICAL PROGRAM

During June, 1986, linecutting, magnetic surveying and VLF-EM surveying were carrried out on the Highway property. The personnel involved were:

G.Robert	Val d'Or, Quebec	Linecutter	June 2 - 10
C.Darveau	Val d'Or, Quebec	Linecutter	June 2 - 10
R.Darveau	Val d'Or, Quebec	Linecutter	June 2 - 10
M.Lariviere	Val d'Or, Quebec	Linecutter	June 2 - 10
J.Hodge	Devlin, Ontario	Geophysical Operator	June 9 - 15
F.Recoskie	Val d'Or, Quebec	Geophysical Operator	June 9 - 15
C.Beggs	Toronto, Ontario	Geophysical Operator	June 9 - 15

An east-west baseline was cut along the southern boundary of the property and perpendicular, north-south lines were cut northward, 400 feet apart with pickets erected at 100-foot intervals. Also, on the eastern part of the property, a number of east-west lines were cut eastward from L12+00W to L12+00E and eastward from L12+00E to TL41+00E to form an orthogonally cut grid.

The magnetic survey was performed using a Scintrex MF-2 Fluxgate magnetometer. Readings of the vertical field were taken every 100 feet along the survey lines, and in areas of high magnetic gradient, readings were taken at 50-foot intervals. Diurnal drift changes in the magnetic field were estimated by taking repeat readings at previously established stations at time intervals not exceeding 1.5 hours. Corrections were made, accordingly, to the vertical magnetic field value obtained at each station. The results of the magnetic survey are presented on the Vertical Field Contours Map (Drawing No. H-1) in back of the report.

The VLF-EM survey was performed on north-south lines and east-west lines using a Geonics EM-16 receiver tuned to receive, respectively, the 24.8 KHz signal transmitted from Seattle, Washington (NLK) and the 21.4 KHz signal transmitted from Annapolis, Maryland (NSS). Inphase (tilt angle) and quadrature measurements were taken every 100 feet along the survey lines. The results are presented in profiled format on Drawing No. H-2 and contoured format (2 maps of Fraser - filtered inphase values) on Drawings No. H-A-3(1) and H-B-3(2) in back of the report.

9.0 RESULTS AND INTERPRETATION

Four lithologies are suggested by the geophysical data. The western one-third of the property has very small amplitude magnetic and VLF-EM responses, suggesting metasediments. The remainder of the property is comprised of three rock units with moderate to very high magnetic response and with varying conductances. The three units are interpreted as representing, respectively, mafic metavolcanics, felsic or siliceous rocks and iron formation.

Several major structures that may be interpreted as faults are located on the basis of magnetic discontinuities, sometimes in conjunction with good VLF-EM conductors. Northwest and northeast faults are the two major structural trends on the property (Webster, 1986).

For a detailed description of the results of geophysical surveys conducted on the Highway property, refer to a report prepared by JVX Limited on behalf of Geocanex Ltd., for H.J. Hodge Incorporated located in Appendix B. Information concerning the JVX Limited report is displayed on the Compilation Map (Drawing No. H-4) in back of the report.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Generally, gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in structurally-related, epigenetic, hydrothermal systems, and is often associated with iron formation units.

Gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in three geological/structural settings:

1. Gold in stockwork quartz veins within iron formation or in silicified shear zones, usually with sulfides; associated with complex folding. The Central Patricia and Pickle Crow mines, respectively, are notable examples.

2. Gold in quartz veins associated with regional, mylonitized shear zones which trend subparallel or parallel to the stratigraphy. The Golden Patricia deposit is an example of this type. It is not directly associated with iron formation, but occurs in sheared mafic volcanic rocks between two iron formation units. Gold is commonly associated with pyrrhotite, pyrite and chalcopyrite which generally comprise less than 5 percent of the vein material.

3. Gold in zones of sulfide replacement in folded iron formation, without quartz veins. The Dona Lake deposit is an example of this type, where gold is associated with pyrrhotite.

Using these gold occurrences as models for the Highway property, 22 of the most promising areas have been outlined for drilling by JVX Limited in a report located in Appendix B. Information concerning the JVX report is displayed on the Compilation Map (Drawing No. H-4) in back of the report.

Respectively submitted

Stephen Medd

Stephen B. Medd, B.Sc.,
Geocanex Ltd.

11.0 REFERENCES

Barrie, C.Q., August 29, 1985. Report on an Airborne Magnetic and VLF-EM Survey, Pickle Lake Area, Sioux Lookout Mining Division, Ontario for Moss Resources Ltd.; Report No. T-5025, Terraquest Ltd., Toronto, Ontario, unpublished.

Higginson, R.A.V., 1986. Report on Geological Mapping Prospecting and Geochemical Sampling on the Highway Property, District of Kenora, Patricia Mining Division, Northwestern Ontario for 669977 Ontario Ltd.; Unpublished report of Geocanex Ltd.

Pearson, W.N. and Woolham, R.W., 1986. Report on Properties of Power Explorations Inc., Pickle Lake Area, Ontario; Ref. No. 86-27, Derry, Michener, Booth and Wahl, Toronto, Ontario. Unpublished, 93p.

Sage, R.P. and Breaks, F.W., 1982. Geology of the Cat Lake - Pickle Lake Area, Districts of Kenora and Thunder Bay; O.G.S. Report No. 207, 238 p. Accompanied by Map 2218, Scale 1: 253,440.

Ontario Geological Survey, 1986. Airborne Electromagnetic and Total Intensity Magnetic Survey, Pickle Lake Area, District of Kenora (Patricia Portion), Ontario, by Geoterrex Ltd. for Ontario Geological Survey; Geophysical/Geochemical Series, Map 80917, Scale 1:20,000. Survey and compilation from February to July 1986.

Ontario Geological Survey, Resident Geologist Files - Toronto and Sioux Lookout, Various unpublished assessment reports.

Webster, B., October, 1986. Report on Ground Geophysical Surveys conducted on the Highway Property, Pickle Lake Area, Ontario, on behalf of Geocanex Ltd. by JVX Limited; Thornhill, Ontario. Unpublished, 8p.

APPENDIX A

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

THIS IS TO CERTIFY THAT:

I have been a resident of Toronto, Ontario since 1984.

I have been actively engaged in Canadian and foreign mining and explorations since 1979.

I am a graduate of the University of Waterloo, Waterloo, Ontario, with an Honours B.Sc. (1983) in the Co-op Program of Earth Sciences.

I am an associate member, in good standing, of the Geological Association of Canada.

I have disclosed, to the best of my knowledge, all relevant material, descriptive and interpretative, used in the compilation of this report.

DATED THIS 4 DAY OF February, 1987

Stephen Medd

Stephen B. Medd, B.Sc.
Geologist

APPENDIX B

JVX LIMITED REPORT

REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE HIGHWAY PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of :

Geocanex Limited
Suite 804
34 King St. E.
Toronto, Ontario
M5C 1E5

Contact: Harry Hodge
Telephone: (416) 363-4376

By:

JVX Limited
33 Glen Cameron Rd - Unit #2
Thornhill, Ontario
L3T 1N9

Contact: Blaine Webster
Tel.: (416) 731-0972

JVX Ref: 8631C
October, 1986

A REPORT ON GROUND GEOPHYSICAL SURVEYS
CONDUCTED ON THE HIGHWAY PROPERTY
PICKLE LAKE AREA, ONTARIO

On Behalf Of

GEOCANEX LIMITED

1.0 OVERVIEW OF GEOPHYSICS

1.1 Magnetics

Magnetic vertical field data are presented in the form of contours, with a contour interval of 100 nT. West of line 16+00W, lines run north-south and are 400 feet apart. East of line 24+00E, the lines run east-west and are 400 feet apart. In both of these sub-sections of the survey area, data were collected at 100 foot intervals. In areas of high magnetic gradients, stations were filled in every 50 feet.

Between 16+00W and 24+00E, and 0+00 and 64+00N, lines run through the survey area at 400 foot intervals in both the north-south and east-west directions. In this portion of the grid, data were collected at 50 foot intervals on both sets of lines. The result is a regular 50 by 50 foot grid of magnetics data.

The following may be said of the data presentation:

1) Where there are only 1 set of lines surveyed (west of line 16W, east of line 24E), the contouring is of good quality and long linear trends striking north-south (east portion of the grid) and south west-north east (west portion of the grid) are readily apparent. These vary in amplitude, indicating variations in ferromagnetic minerals content. Known geology indicates the prescence of mafic metavolcanics. The strikes measured on outcrop correlate well with these linear magnetic features.

2) In the area covered by bi-directional lines, the contours are very irregular and seem to display an interpretational bias imposed by the contourer. Close examination of the data for this area indicates very complicated structures may be present, and it is difficult to select features.

There are a great number of magnetic units of varying intensity throughout the survey area. The zones of greatest magnetic response appear to be mafic metavolcanics to iron formations. To the west of line 14W there is a large unit of very small magnetic response, possibly metasediments. The balance of the survey area appears to consist of felsic to intermediate metavolcanics, which have a low to moderate magnetic response.

It is difficult to determine structure from most of the magnetics, but a number of discontinuities are apparent that suggest faults. The geological contact between metasediments and metavolcanics is a very prominent magnetic feature.

1.2 VLF

Two VLF transmitters were read in this survey: NLK (Seattle, Washington, 24.8 kHz) and NSS (Annapolis, Maryland, 21.4 kHz). The data were collected at 100 foot intervals over the same grid as was used to collect magnetics information.

VLF data are presented in the form of stacked profiles of in-phase and quadrature, and contoured Fraser filtered in-phase data. The Fraser filtering was performed on the 100 foot interval. It should be pointed out that the optimum interval for this filter has been shown (Fraser, 1969) to be 50 feet. Using a longer interval will result in poorly defined waveforms from near surface conductors (as these appear to be), and these will alias as deeper conductors. This is in essence adding noise which may somewhat confuse the contoured result.

Using two different VLF transmitters allows discrimination of conductors that run either north-south or east-west. Using the Fraser filtered contours it is readily apparent that a number of linear trends exist in the area. A number of these are coincident with magnetic trends. Some of them cross cut magnetic units. Others are coincident with structure interpreted from magnetic discontinuities.

The filtered VLF has a large response to units that may be interpreted from magnetics as being mafic metavolcanics to iron formations. Areas that have a very flat VLF response correlate with those with low magnetic signatures. Flat VLF responses may be indicative of felsic or silicious rock types.

2.0 ANOMALY DEFINITION

In the Pickle Lake camp, gold may occur in a number of diferent geological settings. The following are the geophysical responses that may be expected from these different models:

2.1 Dona Lake

Magnetic lows to inversions due to pyrrhotite alteration may be expected along the flanks of strongly magnetic units. These will be coincident with good VLF anomalies.

2.2 Central Pat No. 1 Type

Magnetic iron formations will produce large amplitude linear magnetic anomalies. If heavy carbonate alteration, there will not be a VLF anomaly. If massive sulphides are present in the veins and stockworks, moderate VLF in-phase and quadrature anomalies may be expected. Depending on the thickness, number and sulphide content of the veins/stockworks, and the spacing of the stations, it may be difficult to pick these VLF anomalies.

2.3 Central Pat No. 2 Type

Small localized magnetic depressions in otherwise magnetic units, due to low sulphide content. VLF is of no use since there is no structure.

2.4 Pickle Crow No. 1

Magnetic lows truncating linear magnetic features of high amplitude may be expected. Shearing presents a VLF target. In-phase anomalies will likely be moderate, with good quadrature.

2.5 Pickle Crow No. 2

No magnetic contrast exists between quartz porphyries and quartz veins, so an overall magnetic low may be expected. In shape, these are generally round to oblate. If any contact metamorphism occured around the intrusion, weak VLF anomalies may be present.

2.6 St. Joe - Golden Patricia

Long linear magnetic lows adjacent to long linear magnetic highs. A weak VLF response, mainly quadrature, may exist.

3.0 INTERPRETATION

3.1 Faults

Several major structures that may be interpreted as faults exist in the survey area. These were selected on the basis of magnetic discontinuities, sometimes in conjunction with good VLF conductors. These are marked on the map as F1 through F6. F1, F2, F3 and F5 were interpreted on breaks in magnetics. The north west extension of F4 and the north east end of F6 were based on magnetics; the balance of these two (F4 and F6) faults are coincident magnetic discontinuities and VLF conductors.

3.2 Structure

Four lithologies are suggested by the geophysical data. Roughly the western one-third of the survey area has very small amplitude magnetics and VLF responses. This suggests sediments or metasediments. Geological mapping in this area has not verified this interpretation. However, the apparent weathering (based on topography and geomorphology) in this area also suggests the rocks are softer than other rock types in the area, suggesting sedimentary rocks.

The balance of the survey area is divided between rocks of moderate to very high magnetic response. Conductivity varies between the units also. These may be interpreted as three broad categories of rocks:

1) The first of these displays a moderate magnetic response and is more conductive than background (VLF profiles and Fraser filtered in-phase contours). Outcrops mapped in these zones indicate mafic metavolcanics.

2) A second interpreted lithology is characterized by lower magnetic and VLF responses, possibly due to felsic or silicious rock types. No geological evidence to support this interpretation is available.

3) The final type is possibly an iron formation. These are localized zones within the mafic metavolcanics that display a much greater magnetic signature. Again, no geological evidence supports this surmission.

3.3 Targets

Target #1: Rating - Excellent

This anomaly consists of a magnetic embayment adjacent to a very strongly magnetized unit that may be an iron formation. Magnetic lows may be the result of local alteration of magnetite in iron formations to pyrite. The area is also crossed by a conductive zone, which may be interpreted as as shear with sulphide (pyrite?) mineralization.

Target #2: Rating - Fair

A very strong magnetic inversion adjacent to a moderately magnetic unit is the basis for selecting this target. The magnetic inversion exists in a region of relatively low magnetic responses. This could be the result of magnetite alteration to pyrrhotite under the following conditions:

a) the magnetic unit (mafic volcanics?) was emplaced,
b) time progressed, during which the orientation of the geomagnetic field changed, perhaps to reverse polarity,
c) metamorphism occurred, including magnetite alteration to pyrrhotite, and
d) pyrrhotite crystals aligned to the geomagnetic field at a different orientation than the magnetite in nearby rocks.

The manifestation of this is an inversion in magnetic response, or an embayment. Whether an embayment or an inversion is dependant on the relative orientations of the geomagnetic field at the time the events described above occurred. Inversions are easy to find, but embayments cannot be distinguished from those caused by magnetite alteration to pyrite. In general, magnetite alteration to pyrrhotite provides a magnetic response that is indistinguishable from that of oxide facies iron formation.

Targets #3, 4, and 5: Ratings - Excellent

These anomalies are moderate magnetic inversions on the edge of a large unit (M4) that is strongly magnetized. The amplitude of the magnetic response of M4 is great enough to suggest an iron formation. The inversions may be due to magnetite alteration to pyrrhotite, under conditions of varying geomagnetic field orientation, as described above.

All of these anomalous zones are cut by conductors. These conductive zones may be interpreted as mineralized (massive sulphide - pyrrhotite?) shears. Target number 4 is also adjacent to an interpreted fault.

Target #6: Rating - Excellent

Geophysically, this anomaly is similar to that of target number 1. The difference is that the magnetic unit M7A, to which the target is adjacent, is not as strongly magnetic as unit M3. Unit M7A is likely a mafic metavolcanic rather than an iron formation.

Targets #7 and 11: Ratings - Good

These targets are similar to numbers 1 and 6. In these cases, there are no evident conductive zones (mineralized shears?). However, there is an interpreted fault cutting through both of these zones that may provide a pathway for hydrothermal solutions. Both of these are magnetic embayments on the edges of moderately (11) to strongly (7) magnetized units. These may be mafic metavolcanics to iron formations.

Target #8: Rating - Fair

This anomaly consists of a magnetic embayment on the flank of a moderately magnetic unit, possibly mafic metavolcanics. The embayment extends over two lines (400 feet). There are no cross cutting conductors or faults. The lack of an electromagnetic response may be indicative of silicification rather than magnetite alteration to pyrite. This is also consistant with the magnetic response.

Target #9: and Target #10: Ratings - Good

Both of these targets consist of magnetic embayments within moderately magnetic units that have physically widened at these points. These units have a magnetic response of amplitude similar to that of mafic metavolcanics. The localized widening of these units may be indicative of folding within them. There is no EM conductor associated with either target, suggesting no mineralized shears. The magnetic response is consistant with either magnetite alteration to pyrite or silicification.

Target #12: Rating - Excellent

This target is a magnetic embayment on the edge of a very strongly magnetic unit. The amplitude of the magnetic response suggests an iron formation. The anomalous zone is cut by both a conductor and a fault. Widening and distortion of the magnetic unit M13 may be due to folding within the unit. The geophysical response may be due to magnetite alteration to pyrite, with mineralization of the shear. This wil cause a local decrease in magnetic amplitude. Pyrite, when massive, provides a good EM conductor. Pyrite mineralization along a shear/fault could provide the electromagnetic response.

Targets #13, 14, 15, and 16: Ratings - Excellent

These zones consist of magnetic inversions adjacent to moderately magnetic units that may be mafic metavolcanics. Targets 13 and 15 are moderate inversions, and zone 14 is a very strong inversion. Target 15 also shows a magnetic embayment, suggesting two types of magnetite alteration, or alteration at two different times. Either magnetite to pyrrhotite or magnetite to pyrite alteration would be consistant with the magnetic response.

Targets 13, 15 and 16 are cut by a good EM conductor that may be a fault or a shear. The EM response may also be attributed to pyrrhotite and/or pyrite mineralization.

Target #17: Rating - Excellent

Magnetite alteration to pyrrhotite may be responsible for this anomaly. It consists of a moderate magnetic inversion on the edge of a moderately magnetized unit. This unit may be a mafic metavolcanic. Two good EM conductors cross this target, approximately normal to one another. Magnetite alteration to pyrrhotite and mineralization of the shears could explain both the magnetic and electromagnetic responses observed.

Target #18: Rating - Excellent

This zone is a moderate magnetic embayment on the flank of a very strongly magnetized unit that may be an iron formation. A good EM conductor also cuts through the target. Pyrite mineralization in the shear could provide this type of EM response. This could also cause the magnetic embayment.

Target #19: Rating - Excellent

This target is a moderate magnetic inversion associated with a very strongly magnetized unit that may be an iron formation. The magnetic inversion may be attributed to magnetite alteration to pyrrhotite (as described for target number 2). A good EM conductor is in contact with the zone of magnetic inversion. This may be due to a mineralized shear. Massive pyrrhotite is a good electrical conductor, and may be the cause of the VLF anomaly.

Targets #20 and 21: Ratings - Good

Both of these areas are localized magnetic lows, that is, embayments. Target 20 is adjacent to a highly magnetized unit thay may be an iron formation. Target number 21 is on the flank of a moderately magnetized unit, possibly mafic metavolcanics. The magnetic responses of both of these targets may be due to localized magnetite depletion. The alteration of magnetite to pyrite may generate such magnetic effects.

Target #22: Rating - Excellent

The magnetic anomlay associated with this target is an embayment. It is located adjacent to a highly magnetic unit that may be an iron formation. The magnetic anomaly is located near the juncture of two nearly perpendicular conductors. Both the magnetic and electromagnetic responses observed may be due to magnetite alteration to pyrite. There is also some distortion of the magnetic response of the unit M12 (iron formation?) near this target, which may indicate some folding within M12.

If there are any questions with regard to this survey please do not hesitate to contact the undersigned at JVX Ltd.

Respectfully submitted,

JVX LIMITED

Blaine Webster, B.Sc.
Consulting Geophysicist

Report

40'9

040

REPORT

ON

MAGNETIC AND VLF-EM SURVEYS

ON THE

KASAGIMINNIS LAKE PROPERTY

DISTRICT OF KENORA, PATRICIA MINING DIVISION

NORTHWESTERN ONTARIO

FOR

669977 ONTARIO LTD.

NTS 52-0/8

December, 1986

Stephen B. Medd, B.Sc.

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1.0 SUMMARY

Ground magnetic and VLF-EM surveys were carried out during July, 1986, on the Kasagiminnis Lake property, held under a Joint Venture Agreement between Power Explorations Inc. and Moss Resources Ltd.

Magnetic and VLF-EM data indicate two general types of lithologies. The first type is characterized by relatively high magnetic and conductive background. This type may be further differentiated into three subtypes on the basis of the amplitude of the magnetic response. Collectively, these three subtypes are interpreted as representing (1) iron formations, (2) iron-rich mafic metavolcanics and (3) intermediate to mafic metavolcanics hosting (1) and (2). The second type of lithology is characterized by low magnetic and conductive responses, possibly due to felsic metavolcanics or granitic intrusive bodies.

Several east-west conductors are associated with the first type of lithology described above and probably represent stratabound pyrrhotite-pyrite mineralization in iron formation and intermediate to mafic tuffs.

On the basis of magnetic discontinuities, several faults striking north-northwest have been located. Also indicated, is a north-northeast fault and a north-south fault.

Gold occurs in three different geological/structural settings in the Meen-Dempster - Pickle Lake greenstone belts, which are exemplified by the Central Patricia/Pickle Crow mines, the Golden Patricia deposit and the Dona Lake deposit. Using these gold occurrences as models for the Kasagiminnis Lake property, 20 of the most promising drilling targets have been identified and described by JVX Limited, Thornhill, Ontario. Their interpretation forms Appendix B of this report.

2.0 INTRODUCTION

The following report describes the results of a ground magnetic survey and a VLF-EM survey conducted during July, 1986, over the Kasagaminnis Lake property held under a Joint Venture Agreement between Power Explorations Inc. and Moss Resources Ltd. The two surveys were performed in order to delineate lithological units and structural trends, and to locate conductive zones of sulfide-bearing iron formation, other stratabound massive or disseminated sulfide mineralization, and shearing, all of which might host gold.

3.0 PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Kasagiminnis property is located 16 miles south-southwest of the town of Pickle Lake in Northwestern Ontario (Fig. No. 1). A block of 80 contiguous, unpatented mining claims forms the property (Fig. No. 2). To the west it is bounded by a large claim block held by Golden Terrace Resources Corp. Claim numbers and recording dates are as follows:

Claim Numbers		Recording Date
Pa 769510 - 769524 inclusive	(15)	April 30, 1984
Pa 769535 - 769554 inclusive	(20)	April 30, 1984
Pa 769574, 769575	(2)	April 30, 1984
Pa 786788 - 786812 inclusive	(25)	April 30, 1984
Pa 786827 - 786836 inclusive	(10)	April 30, 1984
Pa 786841	(1)	April 30, 1984
Pa 786843	(1)	April 30, 1984
Pa 786849	(1)	April 30, 1984
Pa 786858 - 786862 inclusive	(5)	April 30, 1984
Total	80 Claims	

LOCATION MAP

MINES, PAST PRODUCER

- A Central Patricia No 1
- B Central Patricia No 2
- C Pickle Crow No 1
- D Pickle Crow No 2
- E Albany River
- F Crowshore
- G LYNX - Thierry Mine

GOLD PRODUCTION

MINE PROPERTY	TONS	OZS GOLD	OZ/TON
Central Patricia	1,729,249	621,806	0.359
Pickle Crow	3,237,572	1,446,214	0.44
Total	4,966,820	2,068,020	0.416

90°30'

90°00'

Collishaw Lake

Hwy 808

Tarp Lake

Trebell L.

PONSFORD TWP

CONNELL TWP

McCULLAGH TWP

51°30'

Pickle Lake

Pickle L.

Dona L.

Dona Lake Discovery
1,400,000 tons at 0·24 oz/ton Au

Ochig Lake

Kawinogans Lake

KASAGIMINNIS LAKE PROPERTY

Knuppi L.

Hasaga
200,000 tons at 0·19 oz/ton Au

LAKE ST. JOSEPH

Carpenter L.

Hwy 599

Osnaburgh I.R. 63B

50°15

0 2 4 6 8 10 miles

Scale 1 inch = 4 miles

90°00'

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Patricia M.D., Ontario

PROPERTY LOCATION AND REGIONAL GEOLOGY

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.M.
DATE: Dec 1986
SCALE: 1" = 4 mi
FIG. No: 1

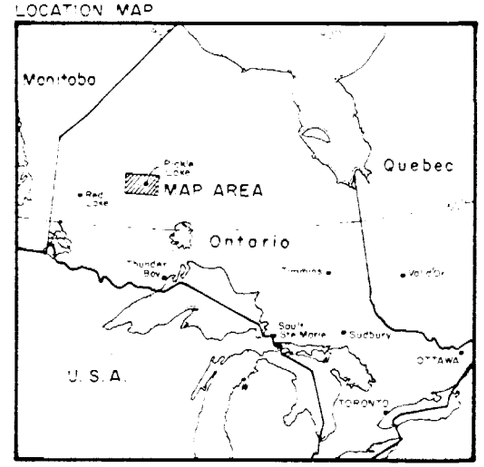
90°30'

GEOLOGY LEGEND

- Geological boundary
- Diabase dykes (Keewanawan)
- Granitic intrusives — 6
- Mafics, ultramafic intrusives — 5
- Migmatites — 4
- Intermediate to felsic volcanics — 3
- Mafic volcanics — 2
- Sediments — 1
- Mineral occurrence
- Mine, past producer — A
- Iron formation

Geology from Ontario Geological Survey
Misc. paper 199, 1984
Stott G.M. & Wallace H.
and Map 2218, Cat Lake - Pickle Lake,
Sage et al., 1972

LOCATION MAP



MINES, PAST PRODU

A Central Patricia No
B Central Patricia No
C Pickle Crow No 1
D Pickle Crow No 2
E Albany River
F Crowshore
G UWEX Thierry Min

GOLD PRODUCTI

MINE PROPERTY	TONS
Central Patricia	1,728,248
Pickle Crow	3,237,572
Total	4,966,820

90°30'

51°30'

51°15'

RED LAKE M.D.
PATRICIA M.D.

Dobie Lake

Meen L.

Dorothy L.

Golden Patricia Discovery
960,000 tons at 0·58 oz/ton Au

Wright Lake

Obaskaka Lake

Kawinogans Lake

Trebell L.

Pickle

Ochi Lak

KASAGIMINNIS LAKE PROPERTY

Knuppi L.

Dempster L.

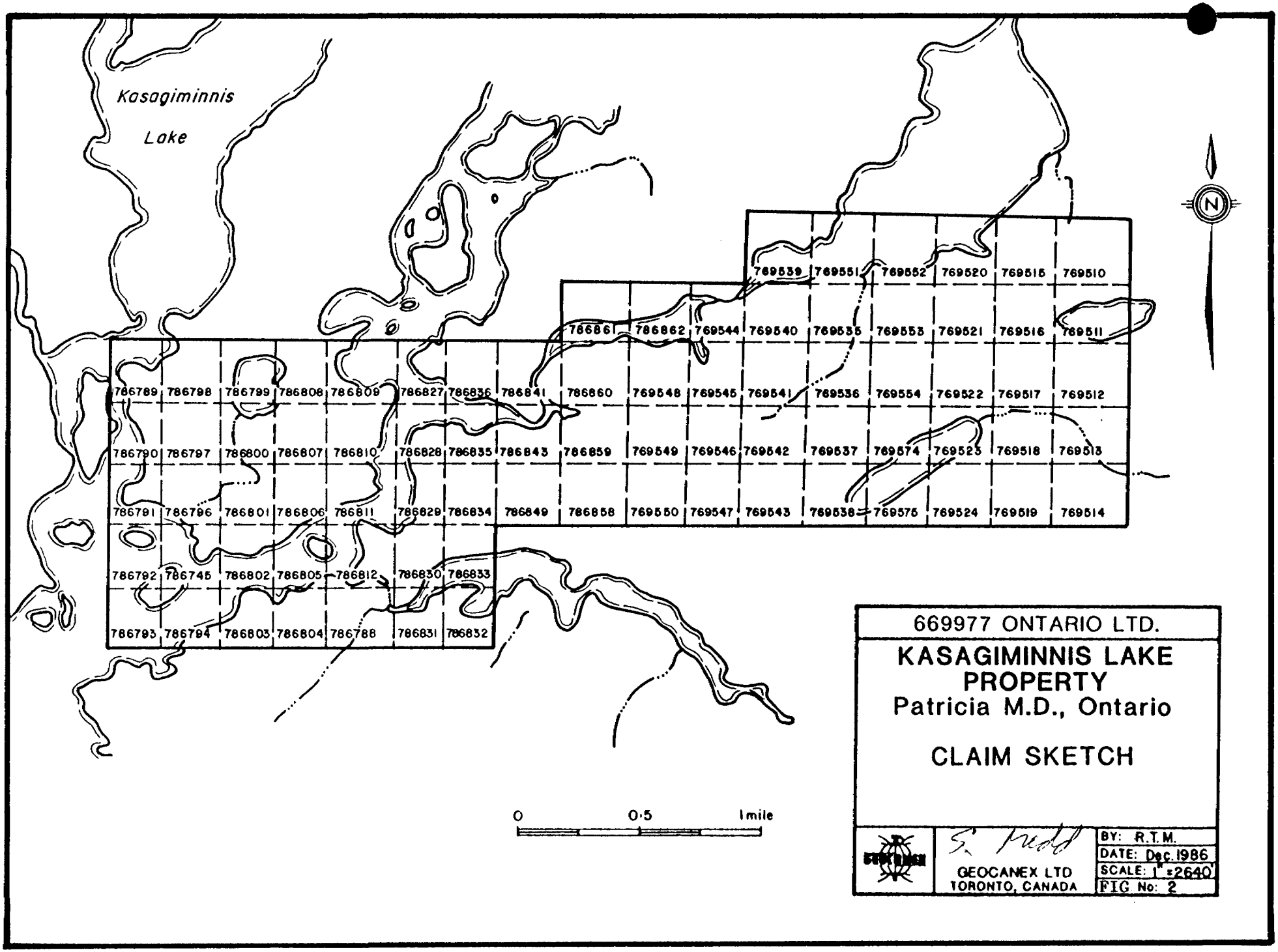
Open

Hasaga
200,000 tons at 0·19 oz/ton Au

Teevin L.

Carpenter L.

LAKE ST. JOSEPH


Kasagiminnis
Lake
N
769539 769551 769552 769520 769515 769510
786861 786862 769544 769540 769535 769553 769521 769516 769511
786789 786798 786799 786808 786809 786827 786836 786841 786860 769548 769545 769541 769536 769554 769522 769517 769512
786790 786797 786800 786807 786810 786828 786835 786843 786859 769549 769546 769542 769537 769574 769523 769518 769513
786791 786796 786801 786806 786811 786829 786834 786849 786858 769550 769547 769543 769538 769575 769524 769519 769514
786792 786745 786802 786805 786812 786830 786833
786793 786794 786803 786804 786788 786831 786832
0 0·5 1mile
669977 ONTARIO LTD.
KASAGIMINNIS LAKE PROPERTY
Patricia M.D., Ontario
CLAIM SKETCH
GEOCANEX LTD
TORONTO, CANADA
BY: R.T.M.
DATE: Dec. 1986
SCALE: 1" = 2640'
FIG No: 2

These claims are recorded as being 100% held by Power Explorations Inc., 804 - 34 King Street East, Toronto, Ontario, M5C 1E5.

The property is accessible by helicopter or fixed-wing float or ski aircraft onto Kasagiminnis Lake. It can also be reached by canoe or snowmobile from Highway 599 at the north boundary of the Osnaburgh Indian Reserve.

4.0 TOPOGRAPHY AND VEGETATION

Bedrock exposure constitutes approximately 10 percent of the total property area. Glacial tills and esker/drumlin deposits form a sand and boulder cover over most of the property. Vegetation on the overburden varies from open poplar to thick birch, spruce and alder forests. Low-lying areas are poorly drained with muskeg, black spruce or cedar and alder swamps.

5.0 PREVIOUS WORK

1960 Ontario Geological Survey

An airborne magnetic survey was conducted over the Ochig Lake area and results compiled in a set of maps with a scale of 1 inch = 4 miles.

1971 Union Miniere Explorations and Mining Corporation Ltd.

Reconnaissance airborne magnetic and electromagnetic surveys were conducted over the Meen-Dempster - Pickle Lake greenstone belts. Two holes were subsequently drilled to test two EM anomalies on the present Kasagiminnis Lake property.

1984 Moss Resources Ltd.

The present 80-claim block that forms the Kasagiminnis Lake property was staked.

1985 Moss Resources Ltd.

An airborne magnetic and VLF-EM survey was performed by Terraquest Ltd. over the property.

1986 Power Explorations Inc.

A Joint Venture Agreement was signed between Power Explorations Inc. and Moss Resources Ltd. giving the former company the right to earn a 50% interest in the property.

1986 Ontario Geological Survey

The results of an airborne electromagnetic and total intensity magnetic survey of the Meen-Dempster - Pickle Lake greenstone belts were compiled on a set of 59 maps (Scale 1:20,000) and released to the public. The GEOTEM time-domain EM system of Geoterrex Ltd. was used in the survey.

6.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

The Pickle Lake area is located within the Uchi Subprovince, a part of the Superior Province of the Canadian Shield. The area is characterized by several arcuate, highly deformed and coalescing greenstone belts, consisting of predominantly mafic to intermediate volcanic flows, which have been intruded by numerous granitic ultramafic intrusive bodies. The metamorphic grade ranges from greenschist to amphibolite

facies. The volcanics host subordinate amounts of felsic-to-mafic pyroclastics, sediments and iron formation. Felsic quartz-feldspar porphyry dykes are commonly found in all lithologies.

Ultramafic rocks host copper-nickel mineralization at the Union Miniere (UMEX) Thierry Mine, seven miles northwest of Pickle Lake, with mined ore and mineral reserves totalling 14,000,000 tons grading 1.6% copper and 0.2% nickel.

Historically, gold production in the Pickle Lake area has been from structurally controlled, vein type deposits or sulfide replacement bodies spatially associated with, or contained within bands of Algoma (chert-magnetite) iron formation.

The former producing Pickle Lake Crow and Central Patricia mines operated from 1935 to 1966 and 1934 to 1951, respectively, collectively producing 2,068,020 ounces of gold from 4,966,820 tons of ore for an average grade of 0.416 ounces gold per ton. Gold was recovered from quartz veins, vein networks and sulfide fissures and fold axial plane fractures in highly deformed mafic volcanics and iron formation. Gold-bearing quartz veins were also mined within quartz-albite porphyry sills near the contact of mafic volcanics and iron formations.

Recently, two other potentially exploitable gold deposits have been discovered. Dome Mines' Dona Lake property has reported reserves of 1,500,000 tons grading 0.3 ounces of gold per ton. Gold mineralization occurs as sulfide replacement bodies within a band of highly deformed oxide facies iron formation (Northern Miner, September, 1986).

St. Joe Canada's Golden Patricia property is reported to have an estimated 500,000 ounces of gold reserves with a grade of 0.58 ounces per ton. The gold mineralization occurs in a quartz vein at a contact between a mylonitized unit and sheared mafic volcanics which are spatially associated with banded iron formation (Northern Miner Magazine, September, 1986).

7.0 PROPERTY GEOLOGY

Bedrock exposure accounts for approximately 10 percent of the total property area. The remainder of the property is covered by Kasagiminnis Lake and sand and boulder overburden from glacial till and esker/drumlin deposits.

The property is underlain by a complex sequence of mafic to intermediate flows, mafic-to-felsic pyroclastics, sediments and possible iron formation. This sequence has been intruded by a number of small gabbroic bodies, granitic pegmatite dykes and felsite dykes. Two granitic bodies, the Kasagiminnis Lake and Carling Granitic Plutons have compressed the greenstone belt, from the north and south, respectively, resulting in a narrowing of the belt to approximately one mile in width. A number of faults, interpreted from geological and geophysical data, strike northeast and northwest, across the east-west striking stratigraphy. The major foliation/cleavage fabric is parallel to the stratigraphy and inclined at nearly the same angle as the bedding (between 65°and 85° north). Pervasive shearing and small scale folding exists on the property.

For a detailed description of the property geology, and the results of a rock and humus geochemical survey refer to a report by R. Higginson, 1986.

8.0 DESCRIPTION OF GEOPHYSICAL PROGRAM

During June and July, 1986, linecutting, magnetic surveying and VLF-EM surveying were carried out on the Kasagiminnis Lake property. The personnel involved were:

C.Darveau	Linecutter	Val d'Or, Quebec	June 20-July 7
R.Darveau	Linecutter	Val d'Or, Quebec	June 20-July 7
M.Lariviere	Linecutter	Val d'Or, Quebec	June 20-July 7
G.Grenier	Linecutter	Val d'Or, Quebec	June 20-July 7
R.Champagne	Linecutter	Val d'Or, Quebec	June 20-July 7
J.Hodge	Geophysical Operator	Devlin, Ontario	July 4 - 13
F.Recoskie	Geophysical Operator	Val d'Or, Ontario	July 1 - 13
C.Beggs	Geophysical Operator	Toronto, Ontario	July 1 - 13

An east-west baseline was cut through the centre of the property and parallel tielines were cut in several places to maintain control of the survey grid. North-south lines were cut perpendicular to the baseline, 400 feet apart with pickets erected at 100-foot intervals.

The magnetic survey was performed using a Scintrex MF-2 Fluxgate magnetometer. Readings of the vertical magnetic field were taken every 100 feet along the survey lines, and in areas of high magnetic gradient readings were taken at 50-foot intervals. Diurnal drift changes in the magnetic field were estimated by taking repeat readings at previously

established stations at time intervals not exceeding 1.5 hours. Corrections were made, accordingly, to the vertical magnetic field value obtained at each station. The results of the magnetic survey are presented on the Vertical Field Contours Maps (Drawings No. K-A-1, K-B-1, K-C-1, K-D-1) in back of the report.

The VLF-EM survey was performed along the north-south survey lines using a Geonics EM-16 receiver tuned to receive the 24.8 KHz signal transmitted from Seattle, Washington (NLK). Inphase (tilt-angle) and quadrature measurements were taken every 100 feet along the survey lines. The results are presented in profiled format and contoured format (Fraser-filtered inphase values) on maps (Drawings No. K-A-2, K-B-2, K-C-2, K-D-2 and K-A-3, K-B-3, K-C-3, K-D-3, respectively) in back of the report.

9.0 RESULTS AND INTERPRETATION

Two general types of lithologies are suggested by the geophysical data. The first of these displays a relatively high magnetic and conductive background compared to the second type. The first type may be further differentiated into three subtypes on the basis of the amplitude of the magnetic response. Collectively, these three subtypes are interpreted as representing (1) iron formations, (2) iron-rich mafic metavolcanics, and (3) intermediate to mafic metavolcanics hosting (1) and (2). The second type of lithology is characterized by low magnetic and conductive responses, possibly due to felsic metavolcanics or larger granitic and intrusive bodies.

Several long east-west conductors with moderate to strong conductances exist on the property. Most of them are contained within a broad zone of high magnetic background that corresponds to the first type of lithology described above. These conductors are often associated with narrow, moderate to strong, linear magnetic trends and probably represent pyrrhotite-pyrite-bearing iron formation or intermediate to mafic tuffs.

Several major structures that may be interpreted as faults are located on the basis of magnetic discontinuities. The dominant fault trend is north-northwest with minor trends of north-northeast and north-south (Webster, 1986).

For a detailed description of the results of geophysical surveys conducted on the Kasagiminnis Lake property, refer to a report prepared by JVX Limited. on behalf of Geocanex Ltd. for Moss Resources Ltd. located in Appendix B. Information concerning the JVX report is displayed on the Compilation Maps (Drawings No. K-A-4, K-B-4, K-C-4, K-D-4) in back of the report.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Generally, gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts occurs in structurally related, epigenetic, hydrothermal systems, and is often associated with iron formation units.

Gold mineralization in the Meen-Dempster - Pickle Lake greenstone belts, occurs in three geological/structural settings:

1. Gold in stockwork quartz veins within iron formation or in silicified shear zones, usually with sulfides; associated with complex folding. The Central Patricia and Pickle Crow mines, respectively, are notable examples.

2. Gold in quartz veins associated with regional; mylonitized shear zones which trend subparallel or parallel to stratigraphy. The Golden Patricia deposit is an example of this type. It is not directly associated with iron formation but occurs in sheared mafic volcanic rocks between two iron formation units. Gold is commonly associated with pyrrhotite, pyrite and chalopyrite which generally comprise less than 5 percent of the vein material.

3. Gold in zones of sulfide replacement in folded iron formation, without quartz veins. The Dona Lake deposit an example of this type, where gold is associated with pyrrhotite.

Using these gold occurrences as models for the Kasagiminnis Lake property, 20 of the most promising areas have been outlined for drilling by JVX Limited in a report located in Appendix B. Information concerning the JVX report is displayed on the Compilation Maps (Drawing No. K-A-4, K-B-4, K-C-4, K-D-4) in back of the report.

Respectfully submitted,

Stephen Medd

Stephen B. Medd, B.Sc.
Geocanex Ltd.

11.0 REFERENCES

Barrie, C.Q., August 29, 1985. Report on an Airborne Magnetic and VLF-EM Survey, Pickle Lake Area, Sioux Lookout Mining Division, Ontario, for Moss Resources Ltd.; Report No T-5025, Terraquest Ltd., Toronto, Ontario unpublished.

Higginson, R.A.V., 1986. Report on Geological Mapping Prospecting and Geochemical Sampling on the Kasagiminnis Lake Property, District of Kenora, Patricia Mining Division, Northwestern Ontario for 669977 Ontario Ltd.; unpublished report of Geocanex Ltd.

Pearson, W.N. and Woolham, R.W., 1986. Report on properties of Power Explorations Inc., Pickle Lake Area, Ontario. Ref. No. 86-27, Derry, Michener, Booth and Wahl, Toronto, Ontario; unpublished, 93p.

Sage, R.P. and Breaks, F.W., 1982. Geology of the Cat Lake - Pickle Lake Area, Districts of Kenora and Thunder Bay; O.G.S., Report No. 207, 238 p. Accompanied by Map 2218, Scale 1:253,440.

Ontario Geological Survey, 1986. Airborne Electromagnetic and Total Intensity Magnetic Survey, Pickle Lake Area, District of Kenora (Patricia Portion), Ontario; by Geoterrex Ltd. for O.G.S. Geophysical/Geochemical Series, Map 80916, Scale 1:20,000. Survey and compilation from February to July 1986.

Ontario Geological Survey, Resident Geologist Files - Toronto and Sioux Lookout, Various unpublished assessment reports.

Webster, B., October, 1986. Report on Ground Geophysical Surveys conducted on the Kasagiminnis Property, Pickle Lake Area, Ontario, on behalf of Geocanex Ltd. by JVX Limited, Thornhill, Ontario. Unpublished, 6p.

APPENDIX A

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

THIS IS TO CERTIFY THAT:

I have been a resident of Toronto, Ontario since 1984.

I have been actively engaged in Canadian and foreign mining and explorations since 1979.

I am a graduate of the University of Waterloo, Waterloo, Ontario, with an Honours B.Sc. (1983) in the Co-op Program of Earth Sciences.

I am an associate member, in good standing, of the Geological Association of Canada.

I have disclosed, to the best of my knowledge, all relevant material, descriptive and interpretative, used in the compilation of this report.

DATED THIS 4 DAY OF February, 1987

Stephen Medd

Stephen B. Medd, B.Sc.
Geologist

APPENDIX B

JVX LIMITED REPORT

REPORT ON GROUND GEOPHYSICAL SURVEYS CONDUCTED ON THE KASAGIMINNIS PROPERTY PICKLE LAKE AREA, ONTARIO

On Behalf Of :

Geocanex Limited
Suite 804
34 King St. E.
Toronto, Ontario
M5C 1E5

Contact: Harry Hodge
Telephone: (416) 363-4376

By:

JVX Limited
33 Glen Cameron Rd - Unit #2
Thornhill, Ontario
L3T 1N9

Contact: Blaine Webster
Tel.: (416) 731-0972

JVX Ref: 8631D
October, 1986

A REPORT ON GROUND GEOPHYSICAL SURVEYS
CONDUCTED ON THE KASAGIMINNIS PROPERTY
PICKLE LAKE AREA, ONTARIO

On Behalf Of

GEOCANEX LIMITED

1.0 OVERVIEW OF GEOPHYSICS

1.1 Magnetics

Magnetic vertical field data are presented in the form of contours, with a contour interval of 100 nT. Data were collected at 100 foot intervals on lines spaced 400 feet apart. Occasionally, in areas of high magnetic gradients, stations were filled in every 50 feet.

The contouring is of good quality and long linear trends striking approximately east-west are apparent. These vary in amplitude, indicating variations in ferromagnetic minerals content. The high amplitude trends may be iron formations. Lower amplitude trends are likely mafic metavolcanics. The area north of 25+00S on sheets "A" and "B" are generally moderately to highly magnetic and undifferentiated. South of this station the magnetic response is of much lower amplitude. This lower amplitude unit has been shifted north somewhat on sheets "C" and "D", perhaps to between 5+00S and 0+00S. North of this in the eastern half of the property, the higher amplitude units are again present. These areas of flat magnetic response may be metasediments.

The (interpreted) mafic metavolcanics are discontinuous in several places. These breaks in the magnetic trends may be interpreted as faults.

1.2 VLF

VLF data are presented in the form of stacked profiles of in-phase and quadrature, and contoured Fraser filtered in-phase data. Data were collected every 100 feet. The Fraser filtering was also performed on this interval. It should be pointed out that the optimum interval for this filter has been shown (Fraser, 1969) to be 50 feet. Using a longer interval will result in poorly defined waveforms from near surface conductors (as these appear to be), and these will alias as deeper conductors. This is in essence adding noise which may somewhat confuse the contoured result.

Neverthless, using the Fraser filtered contours it is readily apparent that a number of linear trends exist in the area. These tend to follow the magnetic zones. Correlation between VLF and magnetics is generally excellent. The filtered VLF has a large response to units that may be interpreted from magnetics as being mafic metavolcanics. Areas that have a very flat VLF response correlate with those with low magnetic signatures. Flat VLF responses may be indicative of felsic or silicious rock types.

The VLF station selected for the survey (NLK, Seattle, Washington) is appropriate for optimal coupling with the east-west trending structures. However, earlier interpretation of airborne data suggested a number of structures, interpreted as folds and/or faults, trending approximately north-south. To delineate these structures it would have been useful to use a second VLF transmitter, perhaps Annapolis or Cutler.

2.0 Anomaly Definition

In the Pickle Lake camp, gold may occur in a number of diferent geological settings. The following are the geophysical responses that may be expected from these different models:

2.1 Dona Lake

Magnetic lows to inversions due to pyrrhotite alteration may be expected along the flanks of strongly magnetic units. These will be coincident with good VLF anomalies.

2.2 Central Pat No. 1 Type

Magnetic iron formations will produce large amplitude linear magnetic anomalies. If heavy carbonate alteration, there will not be a VLF anomaly. If massive sulphides are present in the veins and stockworks, moderate VLF in-phase and quadrature anomalies may be expected. Depending on the thickness, number and sulphide content of the veins/stockworks, and the spacing of the stations, it may be difficult to pick these VLF anomalies.

2.3 Central Pat No. 2 Type

Small localized magnetic depressions in otherwise magnetic units, due to low sulphide content. VLF is of no use since there is no structure.

2.4 Pickle Crow No. 1

Magnetic lows truncating linear magnetic features of high amplitude may be expected. Shearing presents a VLF target. In-phase anomalies will likely be moderate, with good quadrature.

2.5 Pickle Crow No. 2

No magnetic contrast exists between quartz porphyries and quartz veins, so an overall magnetic low may be expected. In shape, these are generally round to oblate. If any contact metamorphism occured around the intrusion, weak VLF anomalies may be present.

2.6 St. Joe - Golden Patricia

Long linear magnetic lows adjacent to long linear magnetic highs. A weak VLF response, mainly quadrature, may exist.

3.0 Interpretation

3.1 Faults

Several major structures were evident in the survey area, and are marked on the magnetics map as F1 through F7. These trend to be north-northwest in general, except F2 which is striking approximately north-northeast and F7 which is nearly north-south.

3.2 Structure

Two categories of lithology are apparent from magnetics and VLF. The first of these displays a large magnetic signature and is more conductive than background (VLF profiles and Fraser filtered in-phase contours). This group may be further differentiated into three types on the basis of the amplitude of the magnetic response.

1) Linear features, fairly short along strike, characterized by a very large amplitude magnetic response. These may be iron formations.

2) Very long linear features, narrow, with moderate to high magnetic responses. These have magnetic signatures typical to those of mafic metavolcanics.

3) Country rock hosting 1) and 2), with low to moderate magnetic signatures. These may be intermediate to mafic metavolcanics.

The second lithology is characterized by low magnetic responses and low VLF responses, possibly due to felsic or silicious rock types. The responses to both of these geophysical techniques are uniform throughout the survey area.

3.3 Targets

3.3.1 SHEET "A"

A-1, A-2 and A-3: All three of these targets are magnetic embayments coincident with the point at which faults cross cut moderately magnetized units. The units may be mafic metavolcanics. VLF data indicates moderate conductors at these points. The magnetic and conductivity anomalies are consistent with alteration of magnetite in the metavolcanics to pyrite.

A-4: This anomalous zone is defined by a large amplitude magnetic inversion adjacent to a unit that is locally very strongly magnetized. The amplitude of the magnetic signature of this unit suggests an iron formation. The magnetic inversion could be due to magnetite alteration to pyrrhotite, if alteration occurred in a geomagnetic field orientation radically different from that present when the iron formation was emplaced. An increase in conductivity is indicated in this zone by the VLF data. This could be due to massive pyrrhotite in the target zone.

A-5: Target A-5 is a long linear magnetic inversion associated with a well defined unit of moderate to strong magnetic response trending across the entire width of the property. The amplitude of the magnetic response exceeds 5000 gammas in some places and may be classified as iron formation. A very strong VLF anomaly is coincident with the magnetic unit. In the target area the VLF anomaly exhibits a slight weakening of the response, suggestive of a change in character of the source, perhaps a decrease in conductivity due to silicification.

A-6: The geophysical signature of this target is similar to that of target A-4, but of smaller amplitude in the magnetics response. It is associated with a moderately magnetic unit, with amplitudes typical of magnetic mafic volcanics. A moderate strength VLF conductor lies adjacent to the target, just to the north. The same alteration process for A-4 described above may be responsible for the observed response in this zone.

3.3.2 SHEET "B"

B-1 and B-2: Both of these anomalous zones are large amplitude magnetic inversions. They are associated with moderately magnetic units that may be mafic metavolcanics, adjacent to where these units are cross cut by faults. VLF data in the vicinity of target B-1 indicates the entire unit is very conductive, with an increase in conductivity in the target zone. Both the conductivity anomaly and the magnetic inversion may be the result of magnetite alteration to pyrrhotite.

B-3, B-4 and B-5: These three targets are also magnetic inversions, but of smaller amplitude. They are associated with the same moderately magnetic units as targets B-1 and B-2. VLF responses in these zones indicate an increase in conductivity. This could be the result of localized massive sulphides. This is consistent with the process of magnetite alteration to pyrrhotite, which could cause the observed magnetic inversions.

B-6: The final target on this sheet is a magnetic embayment adjacent to a magnetic unit with a moderate amplitude response. The unit may be a mafic metavolcanic. VLF data shows a decrease in conductivity in this zone. Since the unit the anomaly is associated with displays a certain degree of conductivity, the localized conductivity decrease suggests a depletion of sulphides. Silicification would provide a more resistive target, and the magnetic low could also be attributed to this magnetite depletion.

3.3.3 SHEET "C"

C-1, C-2, C-3 and C-4: All of these targets are associated with units with large enough magnetic responses to suggest iron formations. C-3 is a magnetic inversion of large amplitude. This may be explained by magnetite alteration to pyrrhotite when the geomagnetic field was in a radically different orientation than when the iron formation was emplaced. C-1 and C-2 are also magnetic inversions, but of smaller amplitudes. C-4 is a magnetic embayment, and could be attributed to magnetite alteration to pyrite.

The units these targets are associated with display moderate conductivity. All four targets display an increase in conductivity, suggesting the presence of massive conductive sulphides (pyrite and/or pyrrhotite).

C-5: Spatially this is a large feature that is "sandwiched" between two units with moderate amplitude magnetic responses. These units may be mafic metavolcanics. The magnetic response of the target varies from an inversion at the eastern end to an embayment at the western end. Magnetite alteration is indicated by the magnetic response. The inversion may be the result of magnetite alteration to pyrrhotite. The embayment could be the result of mangetite alteration to pyrite. The eastern end of the target (inversion) comes into contact with a fault zone.

The entire unit is indicated by VLF to be moderately conductive. In the target zone there is an evident increase in conductivity which is more evidence for the presence of massive sulphides.

3.3.4 SHEET "D"

D-1: This target is found adjacent to a unit that has a very large magnetic response. The unit may be an iron formation. The magnetic response of the target is an embayment. There is no VLF response from the iron formation or the embayment, suggesting a silicification rather than a magnetite alteration process.

D-2: Geophysically, this target has the same response as D-1. It is found where the iron formation and a fault are coincident. Again, the lack of a conductivity anomaly suggests a silicification rather than a magnetite alteration.

D-3: The final target is a broadened zone in an otherwise narrow zone with a moderate amplitude magnetic response. The localized widening of the unit suggests local folding within the unit. The magnetic response on the unit suggests a mafic metavolcnic. The entire unit displays moderate conductivity. There is no evidence of magnetite alteration from magnetics or VLF data.

If there are any questions with regard to this report please do not hesitate to contact the undersigned at JVX Ltd.

Respectfully submitted,

JVX LIMITED

Blaine Webster, B.Sc.
Consulting Geophysicist

#63.5036

OM 86-2-P-119

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

Report on Geological Mapping "Geochemical Sampling on Kawashe Lake Property, 669977 Ontario Ltd, T.S. Jolliffe, 1986 → see fiche 52Ø/06SE-0038 or TORONTO file #2.9757 R.O.W. #27 for 1987

Magnetic and VLF-EM surveys on Kawashe Lake Property, 669977 Ontario Ltd, Stephen B. Medd, 1987 → see fiche 52Ø/06SE-0036 or TORONTO file #2.9756 R.O.W. #26 for 1987

Geological Mapping, Prospecting, Geochemical sampling on Kasaginnis Lake Property, 669977 Ltd., R. Higginson, 1986 → see fiche 52Ø/08SW-0017 or TORONTO file #2.9758 R.O.W. #23 for 1987

Magnetic & VLF-EM Surveys on Muskeg Lake Property, 669977 Ontario Ltd., S.B. Medd, 1987 → see fiche 52ϕ/06SE-0037 or TORONTO file #2.9760 R.O.W #28 for 1987

Geological Mapping - Geochemical Sampling on Muskeg Lake Property, 669977 Ontario Ltd., T.S. Jolliffe, 1986 → see fiche 52ϕ/06SE-0035 or TORONTO file #2.9761 R.O.W #29 for 1987

Magnetic & VLF-EM Surveys on Meen Lake Property, 669977 Ontario Ltd., S.B. Medd, 1986 → see fiche 52ϕ/06NW-0025 or TORONTO file #2.9754 R.O.W. #13 for 1987

Geological Mapping & Geochemical sampling on Meen Lake Property, 669977 Ontario Ltd., T.S. Jolliffe, 1986 → see fiche 52ϕ/06NW-0023 or TORONTO file #2.9755 R.O.W. #14 for 1987

Geochemical Soil Sampling on Kaw River Property, 669977 Ontario Ltd., J.H. Adams, 1986 → see fiche 52P/12SW-0039 or TORONTO file #2.9762 R.O.W #22 for 1987

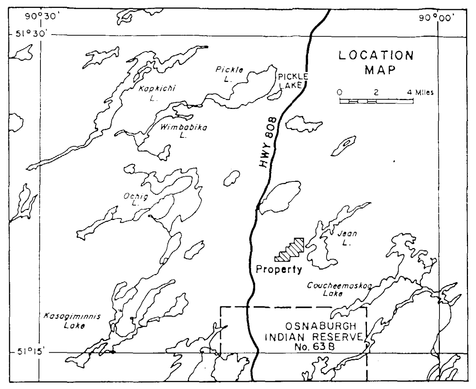
Geological Mapping, prospecting, geochemical sampling on Firstloon Lake Property, 669977 Ontario Ltd., R. Higginson, 1986 → see fiche 52P/12SW-0035 or TORONTO file #2.9753 R.O.W. #180 for 1986

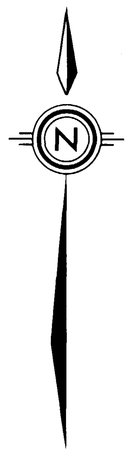
Magnetic + VLF-EM Surveys, on Firstloon Lake Property, 669977 Ontario Ltd., SB. Medd, 1986 → see fiche 52P/12SW-0040 or TORONTO file #2.9752 R.O.W. #181 for 1986

Geological Mapping, Prospecting, + Geochemical sampling on Long Lake Property, 669977 Ontario Ltd., R. Higginson, 1986 → see fiche 52Ø/08SE-0021 or TORONTO file #2.9763 R.O.W #20 for 1987

Geological Mapping, Prospecting, + Geochemical sampling on Island Lake Property, 669977 Ontario Ltd., R. Higginson, 1986 → see fiche 52Ø/08SE-0019 or TORONTO file #2.9764 R.O.W. #24 for 1987

Geological Mapping, Prospecting, Geochemical sampling on Highway Property, 669977 Ontario Ltd., R. Higginson, 1986 → see fiche 52Ø/08SE-0020 or TORONTO file #2.9759 R.O.W #21 for 1987





LEGEND

Instrument ..... Scintrex Fluxgate MF-2
Contours of vertical field at 250 gammas
250 gamma contour .....
1000 gamma contour.....
5000 gamma contour.....
Depression.....

0 500 Ft.
SCALE 1" = 200 Feet

63.5086
OM86-119

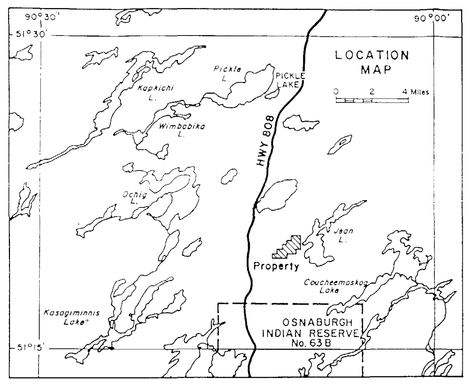
669977 ONTARIO LTD.

LONG LAKE PROPERTY
Patricia M.D., Ontario

Magnetometer Survey
VERTICAL FIELD CONTOURS

GEOCANEX LTD.
TORONTO, CANADA

BY: R.T. MARCROFT	
DATE: AUG. 1986	
SCALE: 1" 200 Ft.	
DWG. No: L-1	



LEGEND

Instrument ..... Geonics EM-16
Transmitter ..... NLK, Seattle, Wash., 24.8kHz
Readings, taken facing north, plotted IP OP
Profiles at 1" = 20% plotted ..... −/+
Inphase profile .....
Quadrature profile .....

0 500 Ft
SCALE 1" = 200 Feet

63.5036
OM86-119

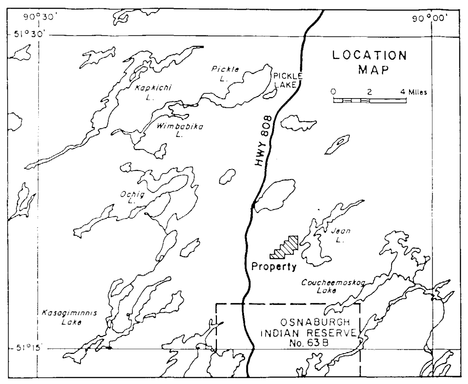
669977 ONTARIO LTD.

LONG LAKE PROPERTY
Patricia M.D., Ontario

VLF EM Survey
INPHASE & QUADRATURE PROFILES

GEOCANEX
GEOCANEX LTD
TORONTO, CANADA

BY:	R.T. MARCROFT
DATE:	AUG. 1986
SCALE:	1" = 200 Ft.
DWG. No:	L-2



LEGEND

Instrument.....Geonics EM - 16
Transmitter.....NLK, Seattle, Wash., 24·8 kHz
Contours of Fraser filtered Inphase VLF data
+5% contour.....
+10% contour.....
+50% contour.....

0 500 Ft
SCALE 1" = 200 Feet

63.5036
OM86-119

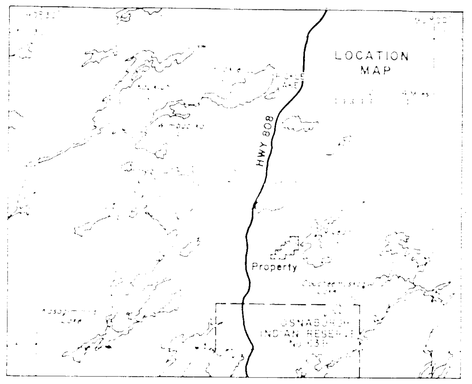
669977 ONTARIO LTD.

LONG LAKE PROPERTY
Patricia M.D., Ontario

VLF EM Survey
FILTERED INPHASE CONTOURS

GEOCANEX LTD
TORONTO, CANADA

BY: R.T. MARCROFT
DATE: AUG. 1986
SCALE: 1" = 200 Ft.
DWG. No: L-3



F1
F2
F3
Zone C
Zone E
Zone B
Zone D
Zone A
V1
V2
V3
V4
V5
C-2
C-1
E-1
B-4
B-5
B-3
B-2
B-1
QFP
Long Lake

LEGEND

Instrument ..... Scintrex Fluxgate MF-2
Contours of vertical field at 250 gammas
250 gamma contour .....
1000 gamma contour .....
5000 gamma contour .....
Depression .....

COMPILATION MAP

by JVX Ltd.

63.5036
OM86-119

669977 ONTARIO LTD

LONG LAKE PROPERTY
Patricia M.D., Ontario

Magnetometer Survey
VERTICAL FIELD CONTOURS
ANOMALY MAP

GEOPHYSICIST Stephen Mudd

BASE LINE 00

10 E

20 E

30 E

TIE LINE 38E

L 72N

L 68N

L 64N

L 60N

L 56N

L 52N

L 48N

L 44N

L 40N

L 36N

L 32N

L 28N

L 24N

L 20N

L 16N

L 12N

L 8N

L 4N

L 00

720208

720207

720206

720203

720204

720205

720202

720201

720200

720197

720198

720199

720196

720195

720194

720191

720192

720193

POND

POND

island

island

N

LOCATION MAP

90°30'

90°00'

51°30'

51°15'

Pickle L.

PICKLE LAKE

Kapkichi L.

Wimbabika L.

HWY 808

Ochig L.

Jean L.

Property

Coucheemoskog Lake

Kasagiminnis Lake

OSNABURGH INDIAN RESERVE No. 63B

0 2 4 Miles

LEGEND

Instrument ..... Scintrex Fluxgate MF-2

Contour interval ..... 100 gammas

100 gamma contours .....

1000 gamma contour .....

5000 gamma contour .....

Depression .....

0 500 Ft.

SCALE 1" = 200 Feet

669977 ONTARIO LTD.

ISLAND LAKE PROPERTY
Patricia M.D.,Ontario

Magnetometer Survey
VERTICAL FIELD CONTOURS

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200 Ft
DWG. No: I-1

63.5036
OM86-119

OSNABURGH INDIAN RESERVE No. 63 B

BASE LINE 00

10 E

20 E

30 E

TIE LINE 38E

L 72N

L 68N

L 64N

L 60N

L 56N

L 52N

L 48N

L 44N

L 40N

L 36N

L 32N

L 28N

L 24N

L 20N

L 16N

L 12N

L 8N

L 4N

L 00

720208

720207

720206

720203

720204

720205

720201

720202

720200

720197

720198

720199

720196

720195

720194

720191

720192

720193

POND

POND

Island

Island

OSNABURGH INDIAN RESERVE No. 63B

N

LOCATION MAP

0 2 4 Miles

PICKLE LAKE

Pickle L.

Kapkichi L.

Wimbabika L.

HWY 808

Ochig L.

Jean L.

Property

Coucheemoskog Lake

Kasagiminnis Lake

OSNABURGH INDIAN RESERVE No. 63B

LEGEND

Instrument ..... Geonics EM-16

Transmitter ... NSS, Annapolis, MD., 21.4 kHz

Readings, taken facing west, plotted IP / QP

Profiles at 1" = 20%, plotted

Inphase profile .....

Quadrature profile .....

0 500 Ft

SCALE 1" = 200 Feet

669977 ONTARIO LTD.

ISLAND LAKE PROPERTY
Patricia M.D., Ontario
VLF EM Survey
INPHASE & QUADRATURE PROFILES

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: R.T. MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200 Ft
DWG. No: I - 2

63.5036
OM86-119

BASE LINE 00 | 10E | 20E | 30E | TIE LINE 38E

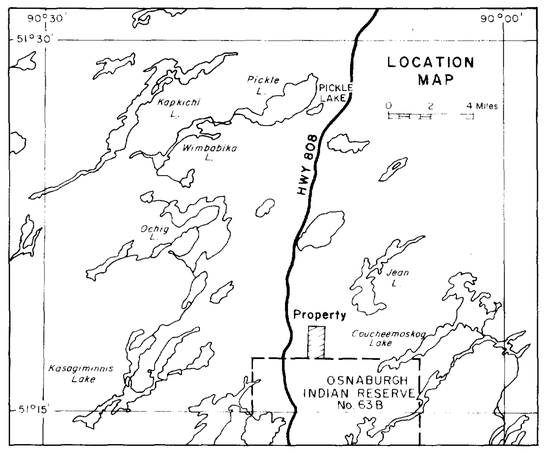
L 72N | L 68N | L 64N | L 60N | L 56N | L 52N | L 48N | L 44N | L 40N | L 36N | L 32N | L 28N | L 24N | L 20N | L 16N | L 12N | L 8N | L 4N | L 00

720208 | 720207 | 720206 | 720203 | 720204 | 720205 | 720201 | 720202 | 720200 | 720197 | 720198 | 720199 | 720196 | 720195 | 720194 | 720191 | 720192 | 720193

POND | POND | Island | Island

N

LOCATION MAP



LEGEND

Instrument . . . . . Geonics EM-16
Transmitter . . . NSS, Annapolis, MD., 21.4 kHz
Contours of Fraser filtered VLF inphase data
+5% contour . . . . . ~ ~ ~
+10% contour . . . . . ~ ~ ~
+50% contour . . . . . ~ ~ ~

0 500 Ft
SCALE 1" = 200 Feet

63.5036
OM86-119

669977 ONTARIO LTD.

ISLAND LAKE PROPERTY
Patricia M.D., Ontario

VLF EM Survey
FILTERED INPHASE CONTOURS

GEOCANEX LTD
TORONTO, CANADA

BY: R.T.MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200 Ft
DWG. No: I-3

OSNABURGH INDIAN RESERVE No. 63B

63.5036
OM86-119

Pickle Lake
25 miles

TIE LINE 64N
60N
TIE LINE 50N
40N
30N
20N
10N
BASE LINE 00

L 64N
L 60N
L 56N
L 52N
L 48N
L 44N
L 40N
L 36N
L 32N
L 28N
L 24N
L 20N
L 16N
L 12N
L 8N
L 4N
BASE LINE 00

769489 769488 769479
769490 769487 769480
769491 769486 769481
769492 769485 769482
769492 769484 769483
769491 769486 769484

781455 781474 781475 781480
781466 781471 781476 781481
781467 781472 781477 781482
781468 781473 781478 781483
781469 781474 781479 781484

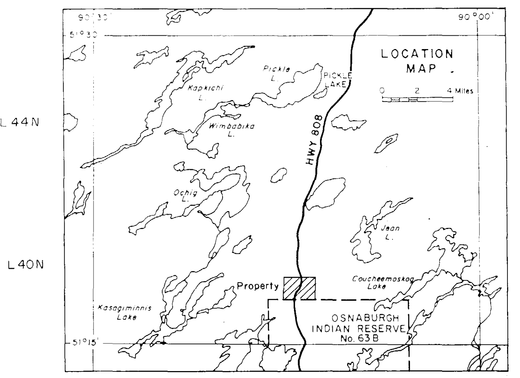
POND

L 48W L 44W L 40W L 36W L 32W L 28W L 24W L 20W L 16W L 12W L 8W L 4W L 00 L 4E L 8E L 12E L 16E L 20E L 24E 30E 40E

Osnaburgh
Indian Reserve

N

LOCATION MAP



LEGEND

Instrument Scintrex Fluxgate MF-2
Contours of vertical field at 100 gamma interval
100 gamma contour
500 gamma contour
1000 gamma contour
5000 gamma contour
Depression

0 500 Ft.
SCALE 1" = 200 Feet

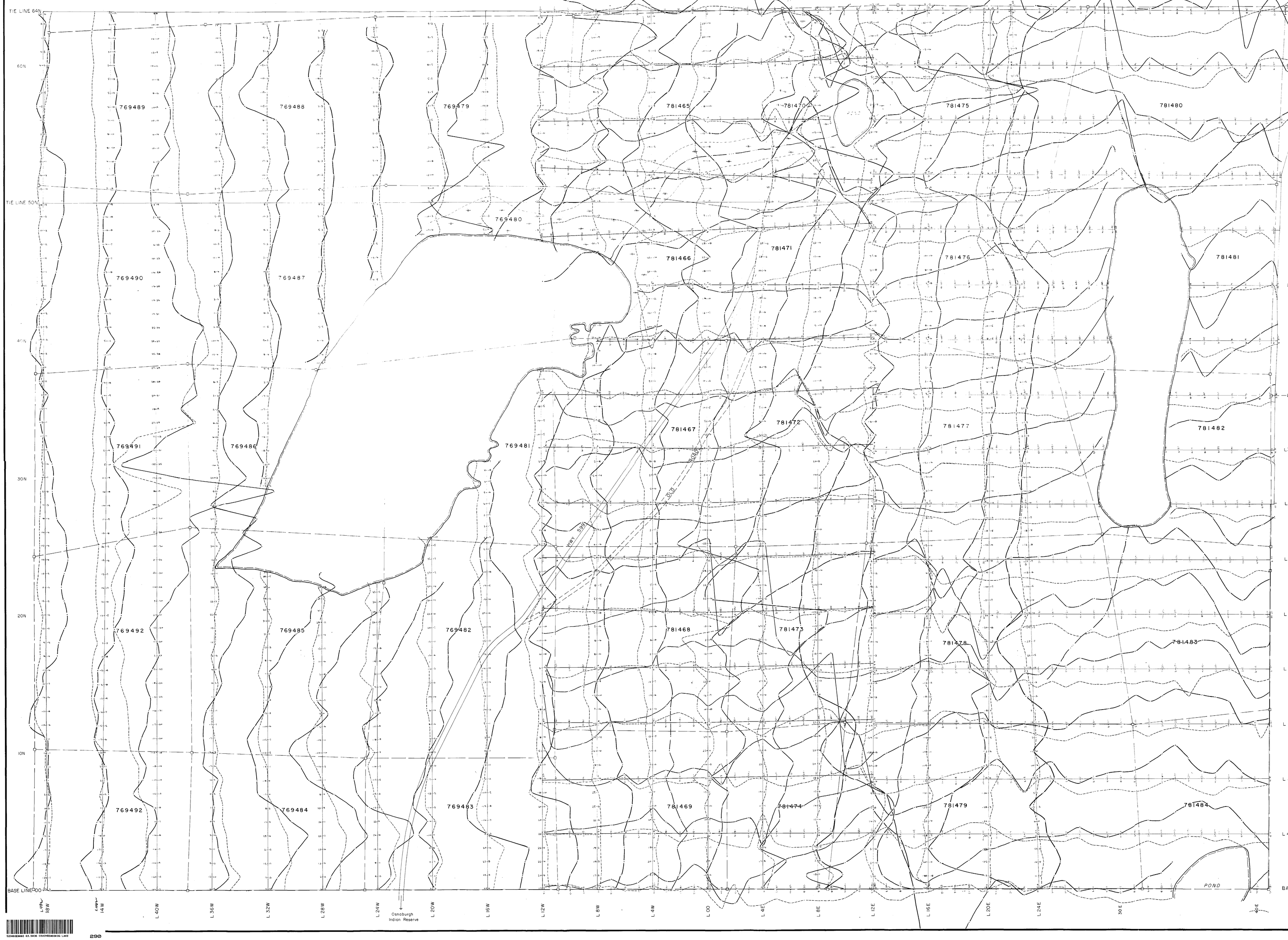
63.5036
0486-117

669977 ONTARIO LTD.

HIGHWAY PROPERTY
Patricia M.D., Ontario
Magnetometer Survey
VERTICAL FIELD CONTOURS

GEOCANEX
GEOCANEX LTD
TORONTO, CANADA

BY: R.T. MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200'
DWG. No: H-1



63.5036
OM86-119

669977 ONTARIO LTD.

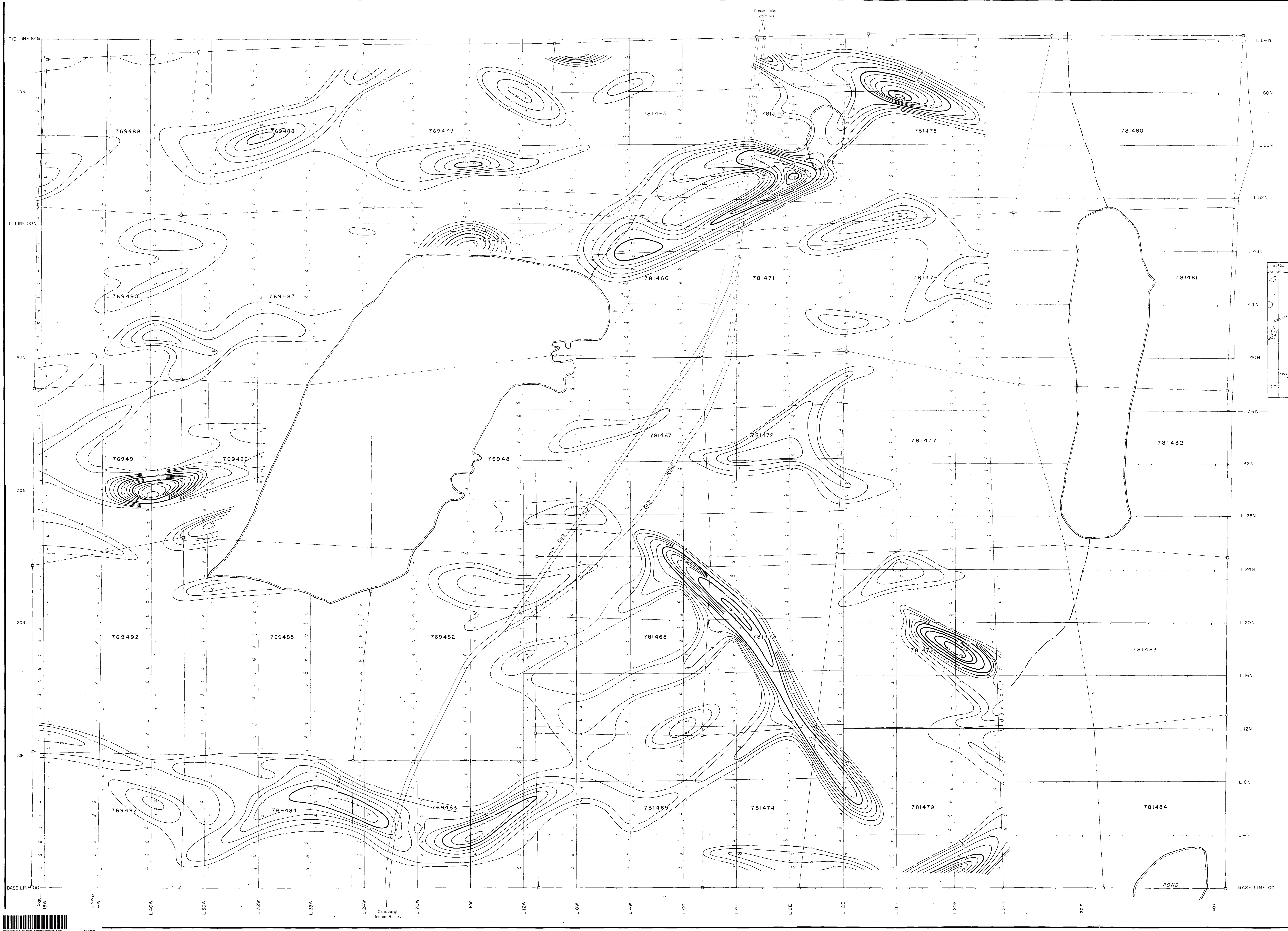
HIGHWAY PROPERTY
Patricia M.D., Ontario

VLF EM Survey

INPHASE & QUADRATURE PROFILES

GEOCANEX LTD
TORONTO, CANADA

BY: R.T. MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200'
DWG. No: H - 2



669977 ONTARIO LTD.

HIGHWAY PROPERTY
Patricia M.D., Ontario
VLF EM Survey
FILTERED INPHASE CONTOURS
Tx NLK

GEOCANEX LTD
TORONTO, CANADA

BY: R.T. MARCROFT
DATE: JUNE 1986
SCALE: 1":200'
DWG. No.: H-A-30

300

669977 ONTARIO LTD.
HIGHWAY PROPERTY
Patricia M.D.,Ontario
VLF EM Survey
FILTERED INPHASE CONTOURS
Tx NSS
BY: R.T.MARCROFT
DATE: JUNE 1986
SCALE: 1" = 200'
DWG. No: H-B-3/2
GEOCANEX LTD
TORONTO, CANADA
63.5036
OM86-119
SCALE 1" = 200 Feet
0
500 Ft.
LEGEND
Instrument .... Geonics EM-16
Transmitter ...... NSS, Annapolis, MD., 21.4 kHz
Contours of Fraser filtered VLF inphase data
+50% contour
+10% contour
+5% contour
LOCATION MAP
HWY 808
Pickle L.
PICKLE LAKE
Kapkichi L.
Wimbobiko L.
Ochig L.
Jean L.
Coucheemoskog Lake
Kasagiminnis Lake
Property
OSNABURGH INDIAN RESERVE No. 63B
90°30'
90°00'
51°30'
51°15'
Pickle Lake 25 miles
Osnaburgh Indian Reserve
POND
ROAD
OLD
HWY 599
TIE LINE 64N
TIE LINE 50N
BASE LINE 00
L 64N
L 60N
L 56N
L 52N
L 48N
L 44N
L 40N
L 36N
L 32N
L 28N
L 24N
L 20N
L 16N
L 12N
L 8N
L 4N
L 48W
L 44W
L 40W
L 36W
L 32W
L 28W
L 24W
L 20W
L 16W
L 12W
L 8W
L 4W
L 00
L 4E
L 8E
L 12E
L 16E
L 20E
L 24E
30E
40E
60N
40N
30N
20N
10N
781465
781466
781467
781468
781469
781470
781471
781472
781473
781474
781475
781476
781477
781478
781479
781480
781481
781482
781483
781484
769479
769480
769481
769482
769483
769484
769485
769486
769487
769488
769489
769490
769491
769492
769492
310


COMPILATION MAP
by JVX Ltd.
669977 ONTARIO LTD.
HIGHWAY PROPERTY
Patricia M.D., Ontario
Magnetometer Survey
VERTICAL FIELD CONTOURS
GEOCANEX LTD
TORONTO, CANADA
DWG. No. H-4
SCALE 1" = 200 Feet
63.5036
OM86-119
LEGEND
Instrument Scintrex Fluxgate MF-2
Contours of vertical field at 100 gamma interval
100 gamma contour
500 gamma contour
1000 gamma contour
5000 gamma contour
Depression
Geological Contact
VLF Conductors
NLK, Seattle, USA - 24.8 k Hz.
NSS, Annapolis, USA - 21.4 k Hz.
Fault
Magnetic Units
Magnetic Embayment or Inversions
12 Target Areas
LOCATION MAP
POND
Osnaburgh Indian Reserve
BASE LINE 00
M1
M1A
M2
M3
M4
M5
M6
M7
M7A
M8
M9
M10
M11
M12
M12A
M 12 B
M13
M13A
M14
M15
M16
M17
M18
M19
F1
F2
F3
F4
F5
F6
769489
769479
769490
769487
769491
769486
769492
769485
769482
769483
769484
781466
781471
781473
781480
781481
781482
781467
781472
781468
781469
781474
781478
781483
781484
320

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet A

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

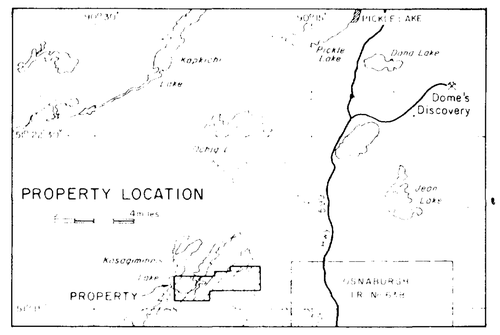
GEOCANEX
GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Mehl
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-A-1

63.5036
OM86-117

SHEET INDEX

A	B	C	D
60W - 16W	12W - 40E	44E - 92E	96E - 148E



0 200' 400' 600' 800'
SCALE 1 2400

T.L. 26 N
T.L. 36 S
B.L. 0+00
20 N
15 N
10 N
5 N
5 S
10 S
15 S
25 S
30 S
L 60 W
L 56 W
L 52 W
L 48 W
L 44 W
L 40 W
L 36 W
L 32 W
L 28 W
L 24 W
L 20 W
L 16 W
L 12 W
A-1
A-2
A-3
A-4
A-5
A-6
WP
ISLAND
Marsh
Kasagiminnis Lake

LEGEND

Grid line with 100' stations
Stream, swamp, lakeshore
Claim post and line

DATA LEGEND

Instrument.....Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour
500 gamma contour
1000 gamma contour
5000 gamma contour
Depression

Very good VLF conductors
Moderate VLF conductors
Geological contact
Faults / Fold structure
Magnetic embayments / Inversions
Magnetic Units
Possible iron formation
A-1 Target Areas

LEGEND

Grid line with 100' stations

Stream, swamp, lakeshore

Claim post and line

Very good VLF conductors

Moderate VLF conductors

Geological contact

Faults / Fold structure

Magnetic embayments / Inversions

Magnetic units

Possible iron formation

B-6 ··· Target areas

DATA LEGEND

Instrument ..... Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour .....

500 gamma contour .....

1000 gamma contour .....

5000 gamma contour .....

Depression .....

TIE LINE 38N

T.L. 24 N

BL 18N

Kasagiminnis Lake

BL. 0+00

ISLAND

T.L. 16 S

Marsh

TIE LINE 36S

786 809
786 827
786 810
786 828
786 811
786 812
786 836
786 835
786 830
786 831
786 833
786 861
786 84
786 860
786 843
786 859
786 858
786 849
786 832
786 788

B-1
B-2
B-3
B-4
B-5
B-6

L12W L8W L4W L0 L4E L8E L12E L16E L20E L24E L28E L32E L36E L40E

35 N
30 N
20 N
15 N
10 N
5 N
0
5 S
10 S
20 S
25 S
30 S
35 S

PROPERTY LOCATION

PICKLE LAKE
Dome's Discovery
PROPERTY
TASHOTA TWP. No. 648

0 200' 400' 600' 800'

SCALE 1 2400

SHEET INDEX

A	B	C	D
60W - 4W	12W - 40E	44E - 92E	96E - 148E

63.5036
OM86-119

669977 ONTARIO LTD.

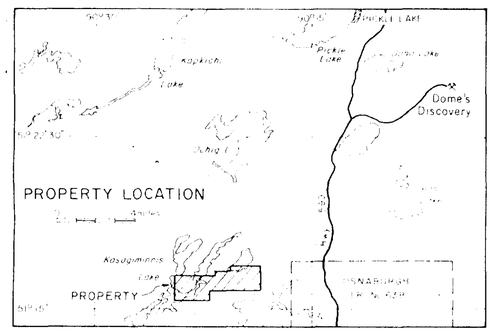
KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet B

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Pedd
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-B-1



Very good VLF conductors

Moderate VLF conductors

Geological contact

Faults / Fold structure

Magnetic embayments/Inversions

Magnetic Units

Possible iron formation

C-2 Target Areas

55 N

TIE LINE 52N

50 N

45 N

40 N

BL 38N

35 N

30 N

25 N

BL 18N

20 N

15 N

10 N

5 N

BL 16S

5 S

769 539

769 551

786 861

786 862

769 544

769 540

769 545

769 535

786 860

769 548

769 546

769 542

769 537

786 859

769 549

786 858

769 550

769 547

769 543

769 538

C-1

C-2

C-3

C-4

C-5

L40E L44E L48E L52E L56E L60E L64E L68E L72E L76E L80E L84E L88E L92E L96E

63.5036
OM86-119

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet C

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX
GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Fredd
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-C-1

SHEET INDEX

A	B	C	D
60W - 0W	0 - 40E	44E - 92E	96E - 148E

0 200' 400' 600' 800'

SCALE 1:2400

LEGEND

Grid line and stations

Stream, swamp, shoreline

Claim post and line

DATA LEGEND

Instrument ..... Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour .....

500 gamma contour .....

1000 gamma contour .....

5000 gamma contour .....

Depression .....

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet D

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX LTD
TORONTO, CANADA

BY:
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-D-1

63.5036
OM86-119

· · · Very good VLF conductors
· · · Moderate VLF conductors
· · · Geological contact
· · · Faults/ Fold structure
· · · Magnetic embayments/ Inversions
· · · Magnetic units
· · · Possible iron formation
D-3 · · · Target areas

N

SHEET INDEX

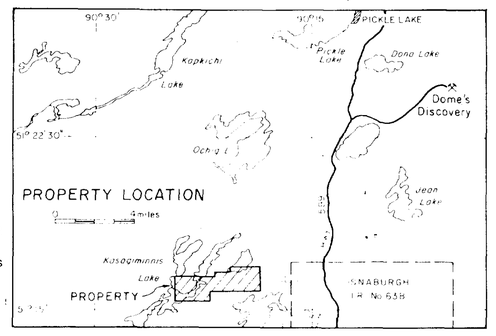
A	B	C	D
60W - 16W	12W - 40E	44E - 92E	96E - 148E

DATA LEGEND

Instrument ..... Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour .....
500 gamma contour .....
1000 gamma contour .....
5000 gamma contour .....
Depression .....



LEGEND

Grid line with 100' stations
Stream, swamp, lakeshore
Claim post and line

0 200' 400' 600' 800'
SCALE 1: 2400

T.L. 52N
769 551
769 552
ISLAND
769 520
769 515
769 510
769 535
769 563
769 511
769 536
769 522
769 537
769 574
769 523
769 518
769 513
769 575
769 524
769 519
769 514
D-1
D-2
D-3
L 92E
L 96E
L 100E
L 104E
L 108E
L 112E
L 116E
L 120E
L 124E
L 128E
L 132E
L 136E
L 140E
L 144E
L 148E
40 N
35 N
T.L. 32 N
30 N
25 N
20 N
B.L. 18N
15 N
10 N
5 N
0+00
5 S
10 S
15 S
B.L. 16S

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet A

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Hall
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-A-4

COMPILATION MAP
by JVX Ltd. 63.5036
OM86-119

SHEET INDEX

A	B	C	D
60W - 16W	12W - 40E	44E - 92E	96E - 148E

PROPERTY LOCATION

Pickle Lake
Dome's Discovery
Kasagiminnis Lake
PROPERTY

0 200' 400' 600' 800'
SCALE 1:2400

T L 26 N
20 N
15 N
10 N
5 N
B.L. 0+00
5 S
10 S
15 S
25 S
30 S
L 60 W
L 56 W
L 52 W
L 48 W
L 44 W
L 40 W
L 36 W
L 32 W
L 28 W
L 24 W
L 20 W
L 16 W
L 12 W
T.L. 36 S
W.P.
A-1
A-2
A-3
A-4
A-5
A-6
ISLAND
Marsh
Kasagiminnis Lake

LEGEND

Grid line with 100' stations
Stream, swamp, lakeshore
Claim post and line

DATA LEGEND

Instrument.....Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour
500 gamma contour
1000 gamma contour
5000 gamma contour
Depression

Very good VLF conductors
Moderate VLF conductors
Geological contact
Faults / Fold structure
Magnetic embayments / Inversions
Magnetic Units
Possible iron formation
A-1 Target Areas

LEGEND

Grid line with 100' stations

Stream, swamp, lakeshore

Claim post and line

Very good VLF conductors

Moderate VLF conductors

Geological contact

Faults / Fold structure

Magnetic embayments / Inversions

Magnetic units

Possible iron formation

B-6 Target areas

DATA LEGEND

Instrument ..... Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

100 gamma contour

500 gamma contour

1000 gamma contour

5000 gamma contour

Depression

TIE LINE 38N

T.L. 24N

BL 18N

BL 0+00

T.L. 16S

TIE LINE 36S

Kasagiminnis Lake

ISLAND

Marsh

B-1

B-2

B-3

B-4

B-5

B-6

786 809

786 827

786 810

786 828

786 811

786 812

786 830

786 831

786 832

786 836

786 841

786 843

786 849

786 860

786 859

786 858

786 861

786 788

L20E

L24E

L28E

L32E

L36E

L40E

L12W

L8W

L4W

L0

L4E

L8E

L12E

L16E

38 N

30 N

10 N

5 N

10 S

20 S

25 S

30 S

35 S

PROPERTY LOCATION

PICKLE LAKE

Dome's Discovery

PROPERTY

0 200' 400' 600' 800'

SCALE 1:240'

SHEET INDEX

A B C D

63.5036
OM86-119

COMPILATION MAP

by JVX Ltd.

669977 ONTARIO LTD.

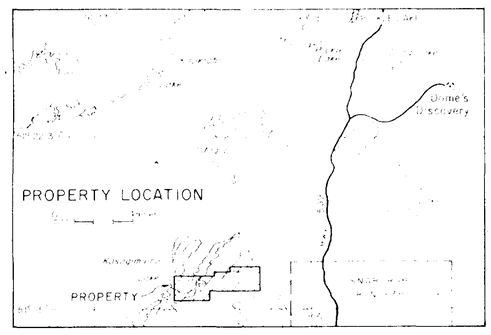
KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet B

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX

GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Mudd
DATE: August '86
SCALE: 1" = 200'
DWG. No. K-B-4



- Very good VLF conductors
- Moderate VLF conductors
- Geological contact
- Faults / Fold structure
- Magnetic embayments/Inversions
- Magnetic Units
- Possible iron formation
- C-2 Target Areas

55 N
TIE LINE 52N
50 N
45 N
40 N
BL 38N
35 N
30 N
20 N
BL 18N
5 N
0+00
5 S
L40E
L44E
L48E
L52E
L56E
L60E
L64E
L68E
L72E
L76E
L80E
L84E
L88E
L92E
L96E
B.L. 16S
C-1
C-2
C-3
C-4
C-5

63.5036
OM86-119

COMPILATION MAP
by JVX Ltd.

669977 ONTARIO LTD.

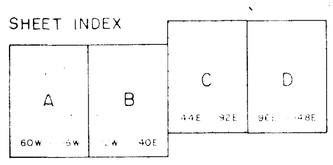
KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet C

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX
GEOCANEX LTD
TORONTO, CANADA

BY:
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-C-4

SHEET INDEX



0 200' 400' 500' 800
SCALE 1:2400

LEGEND

DATA LEGEND

Instrument ..... Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals

- 100 gamma contour
- 500 gamma contour
- 1000 gamma contour
- 5000 gamma contour
- Depression

669977 ONTARIO LTD.

KASAGIMINNIS LAKE PROPERTY
Pickle Lake Area, Ontario
Sheet D

MAGNETOMETER SURVEY
VERTICAL FIELD CONTOURS

GEOCANEX LTD
TORONTO, CANADA

BY: Stephen Pedley
DATE: August '86
SCALE: 1" = 200'
DWG. No: K-D-4

COMPILATION MAP
by JVX Ltd.

63.5036
OM86-119

Very good VLF conductors
Moderate VLF conductors
Geological contact
Faults/ Fold structure
Magnetic embayments/ Inversions
Magnetic units
Possible iron formation
D-3 Target areas

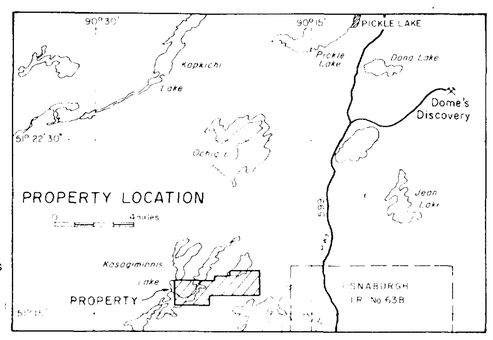
SHEET INDEX

A	B	C	D
60W - 16W	12W - 40E	44E - 92E	96E - 148E

DATA LEGEND

Instrument.....Scintrex fluxgate MF-2

Contours of vertical field, 100 gamma intervals
100 gamma contour
500 gamma contour
1000 gamma contour
5000 gamma contour
Depression



LEGEND

Grid line with 100' stations
Stream, swamp, lakeshore
Claim post and line

0 200' 400' 600' 800'
SCALE 1 2400

T.L. 52N
769 551
769 552
ISLAND
769 520
769 515
769 510
769 535
769 563
769 511
769 536
769 522
769 537
769 574
769 523
769 518
769 513
769 575
769 524
769 519
769 514
D-1
D-2
D-3
T.L. 32 N
B.L. 18 N
B.L. 16S
L 92E
L 96E
L 100 E
L 104E
L 108E
L 112E
L 116E
L 120E
L 124E
L 128E
L 132 E
L 136E
L 140E
L 144E
L 148E
40 N
35 N
30 N
25 N
20 N
15 N
10 N
5 N
0.00
5 S
10 S
15 S