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WORK REPORT
ON THE
PENASSI LAKE PROPERTY
OF
PROLIFIC PETROLEUM LIMITED
NTS. 52G14
PATRICIA MINING DIVISION
KENORA DISTRICT

JENS E. HANSEN, P.Eng.
Geotest Corporation
Nepean, Ontario
January 19, 1984

I N D E X

I. INTRODUCTION

A group of 26 claims held by Prolific Petroleum has been described by the A.C.A. Howe International report listed in the references. A detailed gold exploration project costing $66,891.00 was recommended.

The writer has studied the available data, including assessment data and it appears that most of the property has been covered by several previous geophysical surveys and at least one hole has been drilled. The earlier exploration apparently was directed towards locating base metals A compilation prepared by MPH Limited and presented in the 1983-84 Northern Miner Canadian Mines Handbook shows two gold occurrences on the property.

The objective of the present program was to locate the previously reported sulphide occurrences and gold showings to establish if they indeed exist A few test profiles, using geophysics were run to verify conductors located by earlier surveys, the results of which were reported in the assessment files. If this data could be verified, a more detailed program can be recommended.

In summary, some samples from one old overgrown pit was found to contain gold varying from less than 0.001 oz/ton Au, up to 0.337 oz/ton Au.

Geologically, it appears that the most interesting area is the contact zone between the Mountain Island Bay Pluton and the surrounding volcanics.

.../..2

II. PROPERTY AND ACCESS - PREVIOUS WORK AND GENERAL GEOLOGY

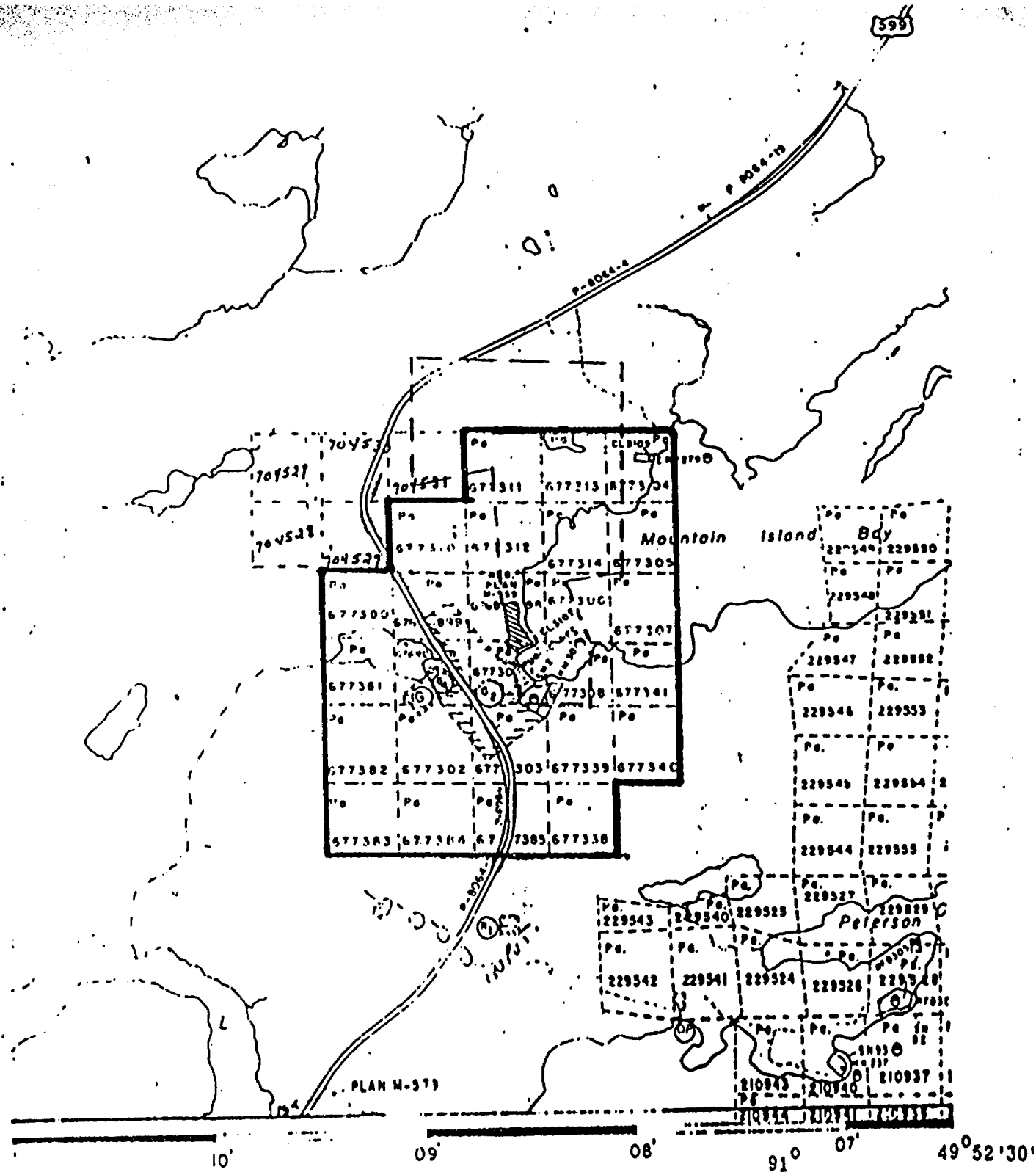
The reader is referred to Appendix "C" which is a copy of a proposed work program by A.C.A. Howe International. This program was not carried out

FIGURE I on the following page shows the location of the claim group

The work was done on the following claims:

Pa 677301
677308
677310
677311
677312
676898
676899
676900

.../..3



PENASSI LAKE PROJECT

NTS. 52G14

PLAN MAP 2257

FIGURE I

III. GEOLOGY

The most detailed map of the area is OGS Map 2268, Granite Bay, (1 inch = 1/4 mile) by N.F. Trowell (FIGURE III). Most of the claim block is Archean mafic to intermediate volcanics, generally flows, locally schistose. These rocks are commonly carbonitized, sometimes resulting in a grey appearance. Two narrow bands of felsic volcanics are also present

A hornblende-biotite granite is present in the east where the Mountain Island Bay Pluton has intruded the volcanics.

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IV MINERALIZATION

An old showing was located in the central portion of the property about 100 metres east of the shore of Mountain Island Bay. The old trenches are accessible by a recent road to a cottage. It is on claim 677301 and 676898.

Three trenches were seen, about 25 metres apart, following a trend of 240°. The trenches are overgrown and the rocks stained black. They appear to be in the order of 50 years old. No evidence of any recent sampling was seen (within say 20 years).

The country rock is a sheared carbonitized mafic flow volcanic. In the vicinity of the trenches a quartz-chlorite schist is present At trench 3, a quartz-carbonate breccia accompanied by a fine grained pink porphyry was observed.

A description of the samples taken on the property is summarized in APPENDIX A. All samples taken were grabs. The mineralization appears to be restricted to the quartz-carbonate breccia. The best three samples ran 0.141, 0.227 and 0 337 oz Au/ton, all from trench 3. (See FIGURE II for sample locations).

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V. GEOPHYSICS

A very limited geophysical test program was carried out on a portion of the property

The main objective of the test was to learn if the pit where positive gold assays were obtained contained associated rocks or minerals that could be detected by proton magnetics or VLF EM Geonics EM-16).

The results from these tests have not been presented because they were negative. The pit is located approximately 50 metres north of a road leading to cottages on Mountain Island Bay.

A power line and a telephone line follows the road which rendered VLF readings impossible to take.

Three magnetic traverses 100 metres long, 25 metres apart with 12.5 metre stations were run across the pits and their on strike projections. The magnetic readings were scattered and all within 50 gammas of 59,900 gammas. No pattern was discerned. Those results were not plotted.

Two VLF profiles using the Geonics EM-16 were run as shown on the attached "Penassi Lake Property - Sample Location Map" (FIGURE II). The results are plotted on the attached map (FIGURE IV).

The reader is referred to the 1970 survey by W.G. Wahl for Chimo Gold Mines (Bibliography # 4). The anomaly referred to as anomaly 1 in that report was verified. The Chimo survey was conducted using the same equipment as the present test.

Chimo flew an airborne INPUT survey in 1970 over part of the area. This survey did not appear to have detected anything of significance.

.../..6

VI. CONCLUSIONS AND RECOMMENDATIONS

1 Of the previously reported mineral occurrences one contained gold values of up to 0.337 oz per ton. The width or extent is not known.

2. None of the other occurrences returned gold values.

3. Anomaly 1 from a previous survey by Chimo (1970) was verified. This anomaly is part of a conductor that should be followed up in first with detailed geochemistry and perhaps later by drilling. A limited Max-Min survey is recommended prior to drilling to establish the nature of the conductor.

4. There does not appear to be any obvious geophysical signature over the pit containing some gold. A detailed mapping, prospecting and sampling program is recommended in the vicinity of the pit. This should be followed by drilling if warranted.

JENS E. HANSEN, P Eng.
Geophysicist

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BIBLIOGRAPHY

REPORTS AND MAPS

1 A.J. Willy P.Eng , 1983 - May 13 - A C.A. Howe International Ltd Report 463 - Report on the Geology and Gold Potential of the Penassi Lake Property, Sturgeon Lake Area Northwestern Ontario for Prolific Petroleum Ltd. (copy attached).

2 Northern Miner Canadian Mines Handbook, 1983-1984 Compilation Map Sturgeon Lake/Savant Lake Area.

3. Questor Surveys Limited, February 1970 Airborne MkV INPUT Survey flown Chimo Gold Mines Ltd., Sturgeon Lake Group

4. W.G. Wahl Limited, June 12 1970 - Report on Mountain Island Bay Claims for Chimo Gold Mines Limited.

5. L.J. Cunningham, 1971 - December 28 - Report on Lewis Red Lake Mines Ltd., in Sturgeon Lake Area.

6. W.G. Wahl Limited, 1970 - March 26 - Report on Geophysical Survey Sturgeon Lake Area for Lewis Red Lake Mines Ltd.

7. Frank Tagliamonte, logged by, 1972 - October - Diamond Drilling Results Lewis Red Lake Mines Ltd. Report no. 37.

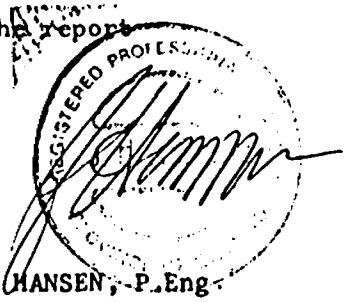
DECLARATION

I, Jens Eskelund Hansen of the City of Nepean, in the Municipality of Ottawa-Carleton do hereby declare:

1. That I am a consulting geophysicist residing at 19 Nesbitt Street, Nepean, Ontario K2H 8C4

2 That I am a graduate of Engineering Physics of Queen's University, Kingston, Ontario in 1964 and have been continuously engaged as a practicing geophysicist since that time, and I am a Registered Professional Engineer in the Province of Ontario.

3. That the foregoing report is based on personal supervision and examination of the property discussed in the report.



JENS E. HANSEN, P.Eng.
Consulting Geophysicist

Nepean, Ontario
January 20, 1984.

APPENDIX A

DESCRIPTION OF SAMPLES

SAMPLE NO.	ASSAY Au oz/ton	LOCATION AND DESCRIPTION
PEN 1	<0.001	- east side highway 599, N.W. corner of block, altered, sheared volcanics, py -10%.
PEN 2	<0.001	- west side highway 599, N.W. corner of block, narrow quartz lens; minor calcite and volcanic wallrock (25%).
PEN 3	<0.001	- pit north of cottage road (trench 1), 75% orange massive calcite with quartz veinlets, 25% sheared altered volcanic, 3% py, grab.
PEN 4	0.045	- trench 2, 20m. S.W. of trench 1, brown to pink quartz - carbonate breccia (altered porphyry?) with 5% py, grab sample.
PEN 5	0.227	- trench 3, 25 m S.W. of trench 2. Sample is chips from dump, generally quartz-carbonate breccia and some altered wallrock.
PEN 6	0.006	- N E. of block near lake green rhyolite with fine grain sulphides
PEN 7	<0.001	- 60 m N.E. of PEN 6, sulphide rich, silicified volcanic, much garnet.
PEN 8	<0.001	- east side highway 599, quartz-chlorite pyritiferous (5%) schist, from shear zone 1 m wide.
PEN 9	<0.001	- narrow quartz stringers in granodiorite which is strongly altered and fractured on lake shore.
PEN 10	<0.001	- on lake shore, narrow quartz vein trending 120°, laminated, 2-6 cm wide, minor sulphides on shear.
PEN 11	<0.001	- S.E. corner of claim block, rusty quartz - chlorite schist, carbonitized, 2 m zone strikes 070.
PEN 12	0 003	- same place as PEN 1, massive sulphides (pyrite) several cm wide, sample is 50% py.
PEN 13	<0.001	- north central block, quartz-carbone - 50%, altered volcanic 50%.
PEN 14	<0.001	- altered silic-volcanics disseminated pyrite, minor carbonate, banded, heavy, rusty.
PEN 15	0.001	- trench 3. grab, quartz-chlorite schist.
PEN 16	<0.001	- trench 3, grab, porphyry, pink fine grained.
PEN 17	0.337	- trench 3, grab from dump, quartz-carbonate breccia.
PEN 18	0.141	- trench 3, grab from dump similar to above.
PEN 19	0.001	- trench 3 grab from dump massive white quartz with minor siderite.

APPENDIX B

ASSAYS BY

BONDAR-CLEGG COMPANY LTD.

BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110

Certificate of Analysis

Geotest Corporation
P.O. Box 11385, Sattion H
19 Nesbitt St., Nepean, Ontario. K2H 7V1

REPORT NO. 413-2896

DATE October 5, 1983

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	oz/ton Au
Pen 1	L0.001
2	L0.001
3	L0.001
4	0.045
5	0.277
6	0.006
7	L0.001
8	L0.001
9	L0.001
10	L0.001
11	L0.001
12	0.003
13	L0.001
14	L0.001

L means less than

BONDAR-CLEGG & COMPANY LTD.

NOTE:
Rejects retained two weeks
Pulps retained three months

BONDAR-CLEGG &

784 DELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5

Certificate of Analysis

TO Geotest Corporation

P.O. Box 11385, Station H, 19 Nesbitt Street

Nepean, Ontario K2H 7V1

REPORT NO. 413-3024

DATE October 20, 1983

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	oz/ton Au	MARKED	oz/ton Au	MARKED	oz/ton Au
HAND-1	LO.001	HAND-16	LO.001	BECK-1	LO.001
2	LO.001	17	LO.001	2	LO.001
3	LO.001	18	LO.001	3	LO.001
4	0.001	19	LO.001	4	LO.001
5	LO.001	20	0.001	5	0.001
HAND-6	LO.001	HAND-21	LO.001	BECK-6	LO.001
7	LO.001	22	LO.001	7	LO.001
8	LO.001	23	LO.001	8	LO.001
9	LO.001	24	LO.001	9	LO.001
10	LO.001	25	0.002	10	LO.001
HAND-11	LO.001	VIC-1	LO.001	BECK-11	LO.001
12	LO.001	2	LO.001	12	LO.001
13	LO.001	3	LO.001	13	LO.001
14	LO.001	4	LO.001	14	LO.001
15	LO.001	5	LO.001	15	LO.001

BONDAR-CLEGG & COMPANY LTD.

NOTE:

Rejects retained two months

BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110

Certificate of Analysis

TO Geotest Corporation

REPORT NO. 413-3024

DATE October 20, 1983

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	oz/ton Au
BECK-17	L0.001
18	L0.001
20	L0.001
RAIN-1	L0.001
2	L0.001
RAIN-3	L0.001
4	L0.001
5	L0.001
6	L0.001
7	L0.001
PEN-15	0.001
16	L0.001
17	0.337
18	0.141
19	0.001

BONDAR-CLEGG & COMPANY LTD.

NOTE:

Rejects retained two weeks

Pulps retained three months

APPENDIX C

A.C.A. HOWE REPORT

APPENDIX C

A.C.A. HOWE REPORT

REPORT ON THE GEOLOGY AND GOLD POTENTIAL OF THE PENASSI LAKE PROPERTY STURGEON LAKE GOLD AREA NORTHWESTERN ONTARIO

- For -

PROLIFIC PETROLEUM LIMITED
CALGARY, ALBERTA

'ORT NO. 463
' 13, 1983

A.J. Willy, P. Eng.
A.C.A. Howe International Ltd.
Toronto, Ontario.

A. C. A. HOWE INTERNATIONAL LIMITED

TABLE OF CONTENTS

SUMMARY

Prolific Petroleum Limited, Calgary, Alberta recently acquired the Penassi Lake property consisting of 26 non-patented mining claims in the Sturgeon Lake area, Patricia Mining Division of Ontario.

The geology of the property consists of Precambrian mafic metavolcanics with minor felsic metavolcanics which generally strike northeast and have subvertical dips. A hornblende granite intrudes these volcanics on the east. The rocks are carbonatized and silicified in the northern portion of the claim group.

Recent previous work appears to have been oriented mainly towards massive sulfide deposits similar to the nearby Mattabi Mine. Undoubtably, gold prospecting was done at various times in the area but no records exist in the government assessment office.

Two minor gold occurrences are indicated to be present on the property based on the Ontario government Mineral Potential Map for the area, but no records were located on these.

The Penassi Lake property is considered to be worthy of a gold exploration program and, therefore, a Two Phase Exploration program is recommended.

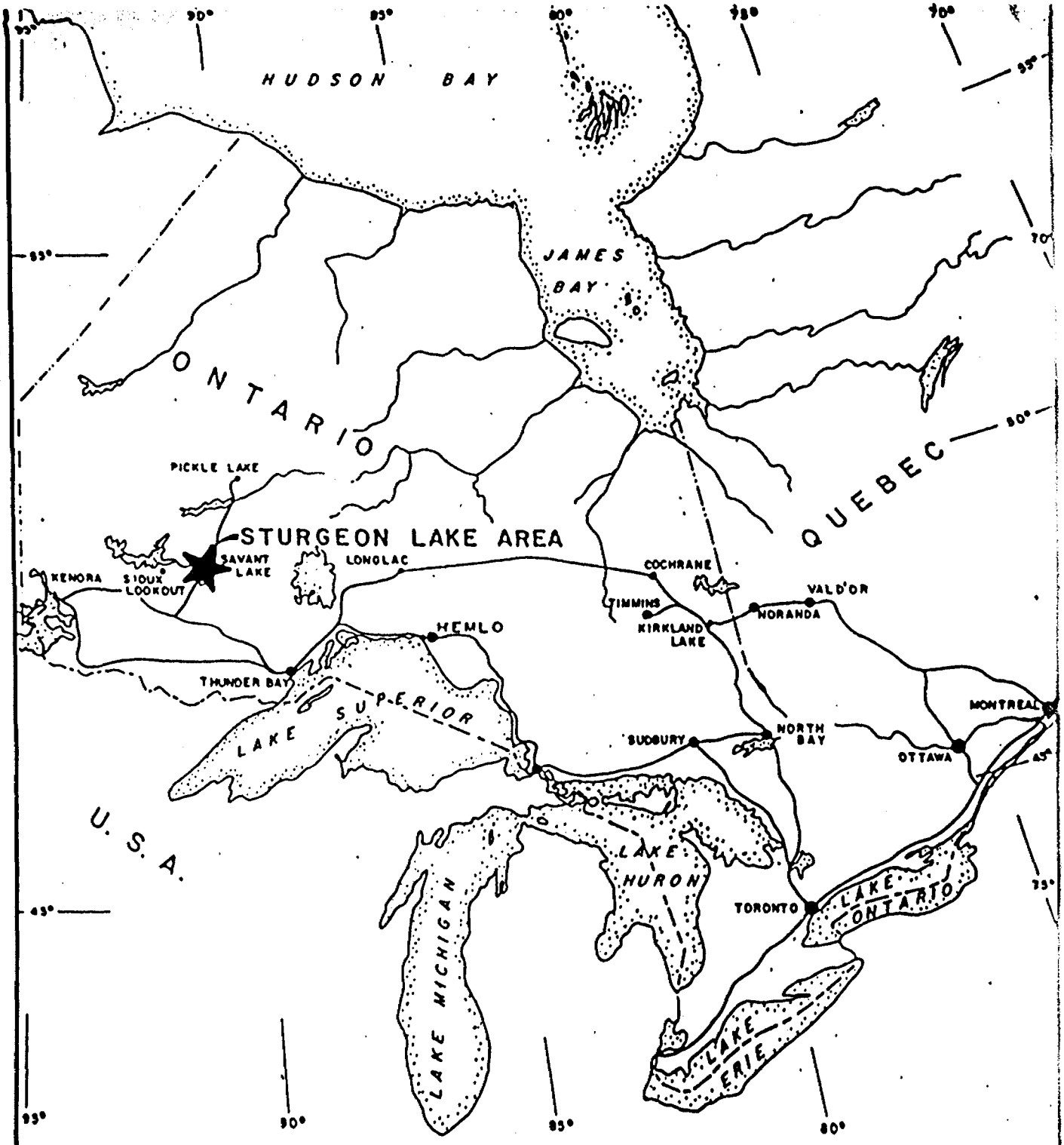
Phase One should consist of line cutting, geological mapping, magnetometer and V.L.F. electromagnetic surveys, and humus soil sampling at an estimated cost of $57,563.00.

Phase Two should consist of a diamond drill program, based on results obtained during Phase One at an estimated cost of $66,891.00.

1.0 INTRODUCTION

In May, 1983, Prolific Petroleum Limited, Calgary, Alberta commissioned A.C.A. Howe International Limited, Toronto, Ontario to conduct a geological evaluation of their Penassi Lake property. The property is located in the Sturgeon Lake area, Ontario (Map 1).

This report represents the geological evaluation of this property and is based solely on a review of government maps, reports and assessment file data, and discussions with the vendor's consultants. No visit was made to the property due to spring break-up conditions.



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PROLIFIC PETROLEUM LTD.

MAP 1

LOCATION MAP

STURGEON LAKE AREA

May, 1983

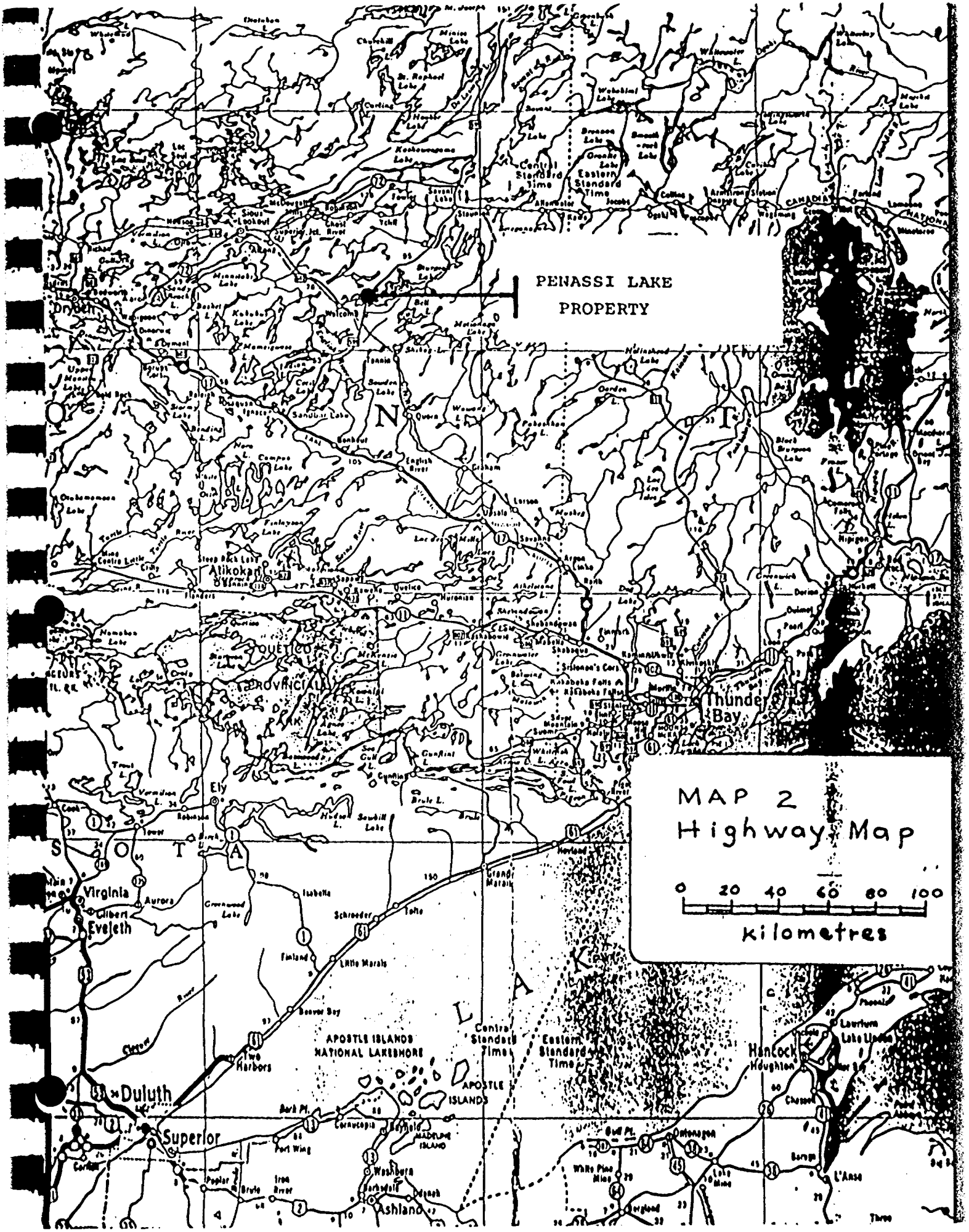
A.C.A. HOWE INTERNATIONAL

2.0 LOCATION, ACCESS AND INFRASTRUCTURE

The Penassi Lake property is located some 210 kilometres by air (approximately 320 road kilometres) northwest of Thunder Bay, Ontario (Map 2).

The property is easily accessible by automobile from either Sioux Lookout or Thunder Bay, both of which are serviced by scheduled commercial aircraft. From Sioux Lookout, access is achieved by travelling 78 km southeast on gravelled Highway 642 then travelling north on paved Highway 599 for approximately 15 km. Highway 599 passes through the central portion of the property.

A line of the Canadian National Railways passes approximately 20 km south of the Penassi Lake claims connecting to the main line of the CNR at Sioux Lookout.


PENASSI LAKE
PROPERTY
MAP 2
Highway Map
0 20 40 60 80 100
kilometres
Thunder Bay
Atikokan
Dryden
Ely
Virginia
Aurora
Gilbert
Eveleth
Duluth
Superior
Two Harbors
Ashland
Hancock
Houghton
APOSTLE ISLANDS
NATIONAL LAKESHORE
APOSTLE ISLANDS
Central Standard Time
Eastern Standard Time
ONTARIO
MINNESOTA
WISCONSIN
MICHIGAN

3.0 PROPERTY DESCRIPTION

The Penassi Lake property consists of the following 26 unpatented mining claims in the Patricia Mining Division of Ontario (Map 4):

Claim No.	Recording Dates	Expiry Dates
PA676898	January 26, 1983.	January 27, 1984.
PA676899	"	"
PA676900	"	"
PA677301	"	"
PA677302	"	"
PA677303	"	"
PA677304	"	"
PA677305	"	"
PA677306	"	"
PA677307	"	"
PA677308	"	"
PA677310	"	"
PA677311	"	"
PA677312	"	"
PA677313	"	"
PA677314	"	"
PA677338	"	"
PA677339	"	"
PA677340	"	"
PA677341	"	"
PA677380	"	"
PA677381	"	"
PA677382	"	"
PA677383	"	"
PA677384	"	"
PA677385	"	"

If 20 days of work per claim are performed and filed before the above due date, the claims will all be kept in good standing for another year. The claims may then be maintained in good standing by filing 40 days per year per claim until the fifth year, when 60 days work per claim in required. If, at this time, a claim boundary survey is done, the claims may be leased for 21 years, without further work requirements.

No title searches have been made on these claims.

4.0 PREVIOUS WORK

An assessment file search at the Toronto office of the Ontario Geological Survey indicates work on at least part of the Penassi Lake claims:

a) An airborne electromagnetic and magnetic survey covering the east half of the Penassi claims in early 1970 for Chimo Gold Mines Ltd. No anomalies are indicated on the map.

b) A ground magnetic survey covering the east part of the Penassi claims for Chimo Gold Mines Limited in 1970.

c) Two drill holes (926 feet) located in the south central part of the Penassi claim group in 1970. No assays reported.

d) A ground magnetic survey (for Lewis Red Lake Mines Ltd.) located on the extreme west central part of the Penassi claim group.

Undoubtably, some prospecting for gold has been done in the past but no records exist. Old pits and trenches are indicated to be present on the claims.

5.0 MINING ACTIVITY - STURGEON LAKE AREA

The Sturgeon Lake area has recently been the scene of a major staking rush following the announcement by Steep Rock Iron Mines Ltd. of Toronto of what appears to be a significant gold discovery on the north side of King Bay in the central Sturgeon Lake area in late 1982. Results of three of five diamond drill holes which intersected the gold-quartz vein system reported in the January 13th, 1983, issue of The Northern Miner showed the following intersections:

Hole 3: 0.23 oz Au/ton over core length of 10.9 ft.

Hole 4: 0.41 oz Au/ton (1.36 oz Au/ton uncut) over core length of 29.7 ft.

Hole 5: 0.38 oz Au/ton (1.80 oz Au/ton uncut) over core length of 6.9 ft.

Geological details of the discovery have not yet been released but, based on published results of previous work on the property, the gold is understood to occur in a structurally-controlled, black quartz stockwork in close association with a siliceous porphyry unit.

There are presently two drills operating on the property. Further results are expected in the near future.

A second major project in the immediate area is the drilling by Aubet Resources of Toronto on the old St. Anthony Gold Mine. This was the only successful gold producer in

the area to date having produced some 63,000 ounces of gold between 1905 to 1941. It is reported that the mine ceased operations due to water problems and loss of manpower during World War II rather than exhaustion of reserves. The present program therefore has an excellent chance of proving additional reserves possibly with the result that the mine will be re-activated. A work program involving diamond drilling and tailings evaluation is presently underway.

The Mining Recorder in Sioux Lookout reports that in excess of 2,500 claims have been recorded to date with more recordings yet to be entered. While not on the scale of a Hemlo or Timmins (following the Texas Gulf discovery), this is a major staking rush and reflects the potential of the area for gold deposits.

Major companies in the area include Cominco, Esso Minerals, Sulpetro and Kerr Addison. The Kerr Addison property is located directly south of the Steep Rock discovery and reportedly contains several bounders of high grade gold float.

Numerous junior interests are represented in the area, including Coastoro Resources, Petromet Resources, Silver Pack Resources, Gossan Resources, Santa Maria Mines Ltd., United Westland Resources, Copconda-York Resources, Tandem

Resources, Canadex Resources and many others.

The Sturgeon Lake Area is quickly shaping up as the next major gold play in Eastern Canada.

6.0 REGIONAL GEOLOGY AND MINERAL OCCURRENCES

6.1 Geology

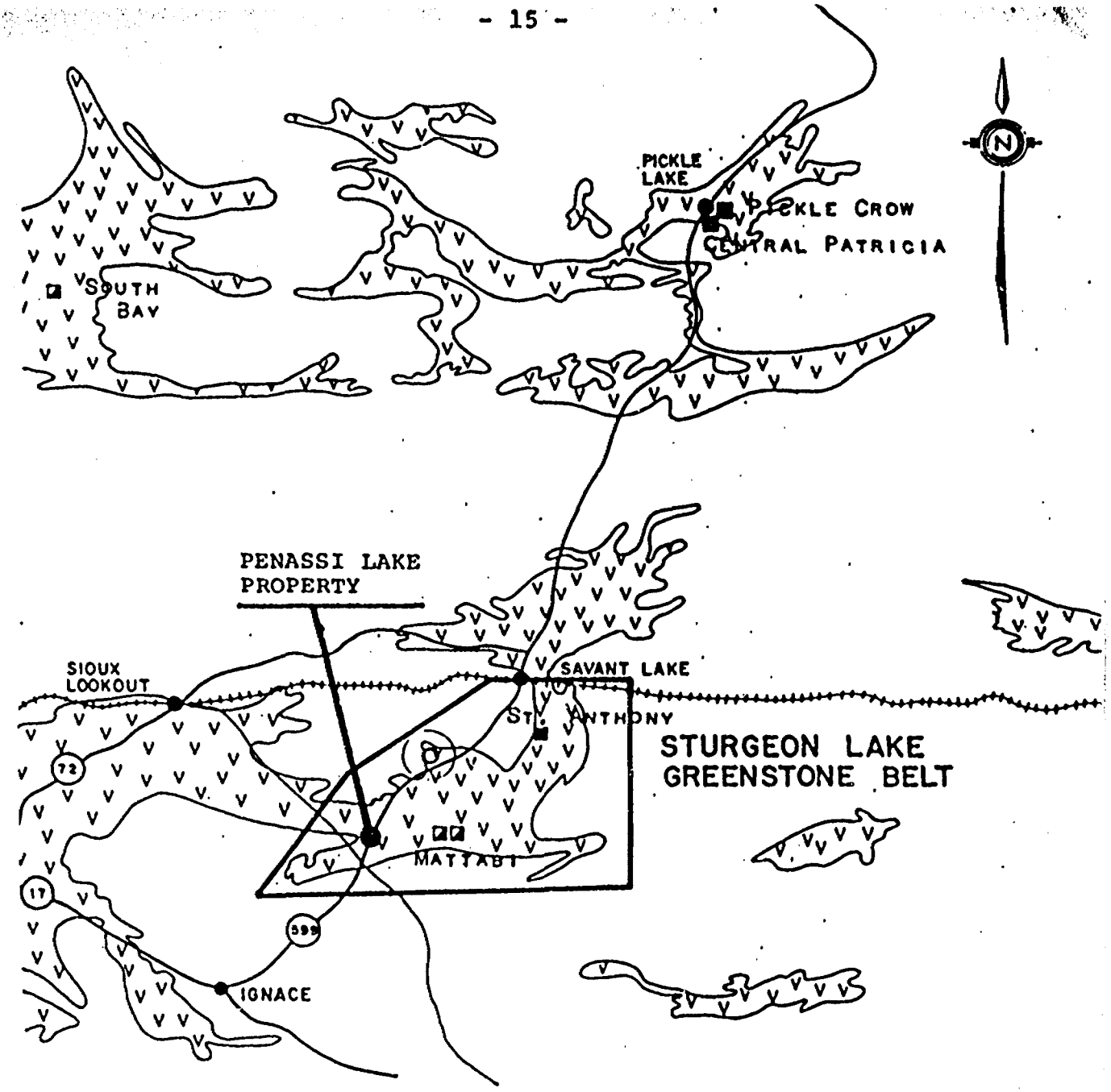
The Sturgeon Lake metavolcanic-metasedimentary belt (Map 3) is a portion of the Wabigoon Subprovince of the Superior Province of the Canadian Shield. It is of early precambrian age.

Trowell (1983) has subdivided the Sturgeon Lake belt into four sub-belts on the basis of lithology and geographic distribution as follows:

1) the South Sturgeon Lake Assemblage
2) the North Sturgeon Lake Assemblage
3) the Northeast Arm-Beckington Lake Assemblage
4) the Sturgeon Lake Assemblage

The sub-belts have been further subdivided into various volcanic cycles and finally into informal formations. Each cycle consists generally of a lower unit of mafic metavolcanics and an upper unit of intermediate to felsic, generally fragmental volcanics.

Mafic to intermediate metavolcanics are reported to comprise the dominant bedrock lithology in the Sturgeon Lake area.



SCALE

KMS. 0 20 40 60 80

MILES 0 20 40

LEGEND

- PRODUCING MINE
- PAST PRODUCING MINE
- GREENSTONE BELT

PROLIFIC PETROLEUM LTD.

MAP 3

REGIONAL GEOLOGY MAP

SHOWING THE STURGEON LAKE GREENSTONE BELT

NORTHWESTERN ONTARIO

A.C.A. HOWE INTERNATIONAL

These consist of massive flows, porphyritic flows, pillowed flows, amygdaloidal/vesicular flows, pyroclastic rocks and autoclastic/hyaloclastic breccias.

Chemical work has shown the majority of these rocks to be basalts with minor andesite both primarily of tholeiitic affinity.

Two major episodes of clastic sedimentation have occurred in the area. Interbedded sulphidic and graphitic iron formation are associated with intermediate to felsic metavolcanics. Interbedded chert and magnetite iron formation are found associated with clastic metasedimentary sequences.

The clastic metasediments consist of sandstone (wacke, arkose), mudstone and debris flow deposits and conglomerate. Chemical metasediments comprise sulphide, oxide and graphite facies iron formation including interbedded chert with quartz-magnetite and mudstone with sulphide and graphite iron formation. These iron formations typically have distinct geophysical expressions - electromagnetic conductors in the case of the predominantly sulphide-graphite iron formations and magnetic anomalies in the case of magnetite iron formations. The presence of precambrian iron formations is felt to be of particular significance by some explorationists in that these rocks are host to major gold deposits in many parts of the world.

A variety of intrusives have invaded the metavolcanic-metasedimentary supracrustal assemblage. Subvolcanic gabbroic and ultramafic intrusions occur dominantly in lower mafic metavolcanics. These also intrude felsic to intermediate fragmental rocks in many areas. Batholithic granitic complexes primarily of trondhjemitic to granodioritic composition bound the volcano-sedimentary sequence to the south, east and northwest. Late to post tectonic quartz monzonite stocks and alkalic intrusive bodies were emplaced marginal to and within the confines of the volcano-sedimentary belt (Trowell, 1980).

The metavolcanic-metasedimentary rocks and grossly coeval intrusives have been elevated to greenschist/lower amphibolite rank during regional dynamothermal metamorphism.

Major fold axes in the area trend east-west and north to northwest. Earlier north to northwest-trending folds in the area appear to have been re-folded about a later, east-west generation. The volcano-sedimentary sequences are clearly "warped" around the granitoid batholiths. This pattern is typical of the Canadian Shield and reflects concomitant downwarping of the volcanic-sedimentary supracrustals with rise of granitic batholith material during the processes of orogeny.

There are several directions of fracturing, faulting and shearing in the area with prominent sets in east-west and

north to northeasterly directions. A major zone of shearing more than 50 km long, the Sturgeon Narrows Cataclastic Zone, transects the east portion of the area. A major east-west shear is also interpreted in the King Bay area adjacent to the recent Steep Rock gold discovery. There are numerous zones of shearing parallel to stratigraphy throughout the area. Some kind of east-west structure also appears to pass through the area of the old St. Anthony Gold Mine.

6.2 Mineral Occurrences

Copper, zince, silver, lead gold, molybdenum, iron, fluorite and uranium mineralization have been reported from the area (Trowell, 1983).

The south portion of the area was the scene of a major staking rush following the discovery in 1969 of the Mattabi Zn-Cu-Pb-Ag deposit. Three additional base metal deposits (Sturgeon Lake, Lyon Lake and Creek Deposit) were discovered by 1972. The Mattabi and Lyon Lake ore bodies are presently in production. All of these deposits are associated with felsic metavolcanic rocks and are proposed to be of synvolcanic-exhalative origin.

Of main interest in the present study is the gold potential of the region. The history of gold exploration dates from 1898 when gold was first discovered. What subsequently became the St. Anthony Gold Mines was discovered

in 1900. The Darkwater Mine operated in 1935 to 1937 at which time underground exploration was carried out on a series of auriferous quartz-tourmaline veins in a felsic intrusive. There was no commercial production at the Darkwater.

Three main types of gold deposits are recognized in the area:

a) those related to volcanic and subvolcanic stratigraphy (e.g. Darkwater Mine),

b) those associated with later felsic intrusives that invade mafic volcanic stratigraphy (e.g. St. Anthony Mine, possibly Steep Rock discovery),

c) those within quartz veins unrelated to specific volcanic stratigraphy or intrusives (e.g. Au-bearing quartz-carbonate veins along Northeast Arm of Sturgeon Lake (Trowell, 1977).

The only gold production to date was from the former St. Anthony Gold Mine on the east shore of the North Arm of Sturgeon Lake. The deposit was mined intermittently from 1905 to 1941 with a recorded production of 332,720 tons of ore from which 63,310 ounces of gold and 16,341 ounces of silver were produced. This equates to an average recovered grade of 0.19 oz Au per ton and 0.05 oz Ag per ton.

It is clear from old records, however, that mine grades in the early years of the mine, particularly in the upper levels, were substantially in excess of this being in the 0.40 to 0.65 oz Au per ton range. Milling techniques of the time gave very poor recoveries relative to present day techniques.

The St. Anthony deposit is situated within a northerly trending belt of mafic to intermediate metavolcanics and carbonate rocks close to their contact with a major granitic batholith to the west. Separate from the main batholith in the immediate vicinity of the deposit is a small felsic pluton (St. Anthony Pluton).

The ore body or No. 1 vein consisted of a north-northeasterly trending vein/breccia system of white quartz which extended from volcanics northwards into the St. Anthony Pluton. The vein was developed over a maximum length of approximately 1,000 ft. Intense hydrothermal alteration is reported in both the St. Anthony Pluton and volcanics in the vicinity of the ore body.

Vein mineralogy consisted of pyrite-marcasite, galena, sphalerite and sericite in a quartz $\pm$ carbonate gangue. Cross-cutting relationships indicated that the gold mineralization clearly postdates the granitic pluton which in turn postdates the volcanics.

In terms of an exploration model or guidelines based on the St. Anthony deposit, the key association would appear to be the superposition of a felsic intrusive porphyry hydrothermal system on carbonate-bearing mafic flow stratigraphy. Specific attention should therefore be paid to any areas where felsic to intermediate intrusive rocks invade appropriate volcanic stratigraphy.

There has been little information released on the Steep Rock discovery to date. It is understood to consist of a fracture-controlled, black quartz stockwork in volcanic-sedimentary rocks in close proximity to a fine-grained siliceous porphyry. Sulphides and gold are present in the quartz vein material. The deposit may be somewhat pipe-like in shape with a steep dip/plunge. A VLF-EM conductive unit is reportedly present immediately to the south. This is part of a major conductive trend which extends to the west for at least 16 km considering the results of previous mining assessment work filed with the Ministry of Natural Resources in Sioux Lookout (Map P 1039). This conductive trend is also interpreted to represent the locus of a major east-west shear/fault structure which may have had some influence on the localization of the Steep Rock occurrences.

There are numerous other gold showings and deposits in the Sturgeon Lake Gold Area. Table 1 presents a brief review of the better known of these.

TABLE 1

DESCRIPTION OF MINERAL OCCURRENCES

Locality Designation	General Geology	Host Rock	Element	Mineral Assemblage
Dawson-White Deposit	Mafic metavolcanic rocks intruded by granodiorite dykes and quartz vein	Quartz vein in metavolcanic rocks	Au	Pyrite-pyrrhotite-chalcopyrite, galena, sphalerite + tremolite + actinolite, siderite, calcite, sericite, and smoky grey quartz
Northern Lights Deposit	Northeast-trending, coarse grained mafic/ultramafic metavolcanics intercalated with fine to medium-grained yellowed mafic to intermediate metavolcanics	Irregular quartz masses cross-cutting schistose dioritic/gabbro mafic metavolcanic rock	Au	Pyrite + chalcopyrite +marcasite + fuchsite + quartz + carbonate
Powell Occurrence	Quartz vein cross-cutting schistose carbonatized felsic metavolcanics and mafic to intermediate metavolcanics	Quartz veins cross-cut and follow the contact between mafic intrusive diorite (porphyritic gabbro) and felsic to intermediate tuff, lapilli tuff	Au	Pyrite + chalcopyrite + malachite + azurite set in quartz carbonate matrix
Davidson Carr Prospect	Quartz vein (cherty unit ?) along contact between mafic and felsic metavolcanic rocks	Two meter quartz vein)charty unit?)	Au	Pyrite + chalcopyrite + fuchsite ? + quartz + carbonate
Richelieu Deposit	Mafic metavolcanic rocks in contact with felsic metavolcanic/intrusive rocks concordantly veins	NE-trending quartz veins approximately along contact between mafic and felsic metavolcanic/intrusive rocks	Au	Pyrite + tourmaline + quartz + carbonate

TABLE 1

DESCRIPTION OF MINERAL OCCURRENCES

Locality Designation	General Geology	Host Rock	Element	Mineral Assemblage
Bennett Pacaud Deposit	Mafic metavolcanic rocks intruded by quartz vein	Quartz vein in carbonate sericite schist intruding massive, pillowed, amygdaloidal andesite/intermediate-mafic volcanic flow	Au	Pyrite + chalcopyrite marcasite + quartz + carbonate
Coveney Prospect	Contact region between granodiorite/trondhjemite with massive mafic metavolcanic rocks	Narrow quartz vein crosscutting foliated granodiorite/trondhjemite (variable locally to quartz diorite/quartz monzonite)	Au	Pyrite (marcasite + sphalerite + galena + quartz + carbonate
Belmore Bay Deposit	Zone of northeast trending intercalated tuff/tapilli tuff in mafic to intermediate metavolcanics that have cataclastic deformation from east-northeast trending local faulting/shearing	Very irregular quartz veins and stringers that pinch and swell intruded into predominantly massive mafic volcanic flow	Au	Pyrite + chalcopyrite ± pyrolusite + quartz ± carbonate
Davidson-Jarvis Deposit	Contact Zone between schistose (east-west) trending coarse-grained intermediate-mafic metavolcanics	Number of quartz veins in sulphide facies iron formation penetrating disconcordantly felsic and mafic volcanic flows	Au	Pyrite + chalcopyrite (± pyrrhotite?) + quartz
Barnard Deposit	Massive mafic metavolcanics discordantly crosscut by massive trondhjemite and granodiorite	Quartz Veins intruding mafic metavolcanics which are cut by intrusive trondhjemite	Au	Pyrite + quartz + carbonate

TABLE 1

DESCRIPTION OF MINERAL OCCURRENCES

Locality Designation	General Geology	Host Rock	Element	Mineral Assemblage
Dark Water Mines Limited	NE-trending quartz veins intruded into a subvolcanic felsic intrusion (Beidelman Bay Pluton) - trondhjemite, minor granodiorite, quartz diorite and quartz-feldspar porphyry	Northeast-trending quartz veins swarm entirely in subvolcanic (epizonal) intrusive rocks	Au	Tourmaline-quartz-ankerite
Numerous gold occurrences along the NE arm of Sturgeon Lake	North-northeast trending felsic to intermediate pyroclastic assemblages containing thin intercalated mafic (Fe-Ti rich) to intermediate 'carbonatized' metavolcanic flows and breccias intruded by quartz, quartz-carbonate veins. Veins are located within the mafic metavolcanic rocks and along the contact between mafic and felsic metavolcanic rocks	Quartz, quartz-carbonate veins	Au	Pyrite + chalcopyrite $\pm$ fuchsite $\pm$ tourmaline $\pm$ quartz + carbonate

In summary, the Sturgeon Lake Area displays most or all of the critical elements observed in other gold camps in rocks of this age throughout the world. These would include the numerous gold occurrences, felsic intrusions, extensive faulting and shearing, abundant carbonate rocks, etc. The available evidence therefore suggests very strongly that the area has excellent potential for the discovery of economic gold deposits.

7.0 PENASSI LAKE PROPERTY

In 1969, Trowell (1974) mapped the area containing the Penassi Lake Property on a scale of one inch to one-half mile.

Map 4 is a generalization of Trowell's work and shows the position of the Penassi Lake claims relative to the Darkwater (gold) and Mattabi (base metal) mines.

The property is underlain predominantly by mafic meta-volcanics containing infrequent lenses of felsic metavolcanic and minor metasediments. A hornblende granite intrudes the volcanics in the northeastern portion of the claim group . The rocks are Precambrian in age.

The rocks generally strike northeast with dips being either steep to the north, vertical or steep to the south. Strikes change in the central portion of the claim group indicating a possible fold nose or effects of faulting. It is possible that the rocks are tightly folded into a series of synclines and anticlines with northeasterly trending axes.

Trowell (1974) has noted an easterly trending lineament which bifurcates immediately west of the west central part of the property. Its possible that this lineament represents faulting which may continue easterly across the property.

In addition, Trowell (1974) indicates mylonite near the felsic metavolcanic lense on the south of the property, which indicates the presence of shearing.

Outcrops on the west and north parts of the claim group have been carbonatized and silicified, and sulphides (probably pyrite) are recorded..

Two minor occurrences of gold on the property have been noted on the Ontario Geological Survey Ontario Mineral Poetential map, Ignace Sheet (Springer, 1978). The location of these are shown on Map 4. Assessment File searches in Sioux Lookout failed to locate any details of these showing (pers. comm., consultants to Petromet Resources, May 1983).

8.0 CONCLUSIONS AND RECOMMENDATIONS

The Penassi Lake property is considered to have a potential for gold deposits of the quartz-carbonate vein association, which are frequently located near contacts between granitic intrusives and metavolcanics. The possible existence of two minor occurrences of gold located near the Penassi Lake property intrusive contact (Section 7.0) increases the favorability for this target type. In addition, the felsic metavolcanics lying in the northern portion of the claim group may have potential for gold deposits hosted in pyritiferous horizons.

Based on this evaluation, a Two Phase exploration program is recommended for the Penassi Lake property. Phase One should consist of line cutting, geological mapping, proton magnetometer and V.L.F. electromagnetic surveys, and humus geochemical sampling. Phase Two should consist of diamond drilling based on favorable results obtained in Phase One.

9.0 BUDGET PROPOSAL

9.1 Phase One Exploration

(a)	Line Cutting - 40 km @ $187.50/km		$7,500.00
(b)	Wages -		
	Geologist (field/office) : 42 days @ $275./day		11,550.00
	Assistant (field) : 30 days @ $100./day		3,000.00
	Geophysical Consultant (office): 3 days @ $400./day		1,200.00
(c)	Geophysical Surveys -		
	V.L.F. Electromagnetic : 40 km @ $156./km		6,240.00
	Proton magnetometer : 40 km @ $156./km		6,240.00
(d)	Analytical -		
	Rock assays : estimate 100 samples @ $10./sample		1,000.00
	Humus samples : 700 @ $10./sample		7,000.00
(e)	Transportation -		
	Airlines, rental vehicles, fuel, freight, etc.		2,500.00
(f)	Room and Board		
	2 people at $60./day each for 30 days		3,600.00
(g)	Drafting/printing		1,500.00
(h)	Communications		500.00
(i)	Field Supplies		500.00
		Subtotal	$52,330.00
(j)	Contingency @ 10%		5,233.00
		TOTAL	$57,563.00

9.2 Phase Two Exploration

(a)	Diamond Drilling -	
	Mobilization/demobilization cost	$2,500.00
	1500 feet at $30./foot all inclusive	45,000.00
(b)	Geologist (field/office) : 30 days at $275./day	8,250.00
(c)	Analytical -	
	Estimate 100 rock assays @ $10./assay	1,000.00
(d)	Transportation -	
	Airlines, vehicle rental, freight, etc.	1,500.00
(e)	Room and Board -	
	One person @ $60./day for 21 days	1,260.00
(f)	Communications	250.00
(g)	Field Supplies	300.00
(h)	Drafting/Printing	750.00
	Subtotal	$60,810.00
(i)	Contingency @ 10%	6,081.00
	TOTAL	$66,891.00

Respectfully submitted,

A. J. WILLY

A. J. Willy, P. Eng.
A. C. A. Howe International Ltd.
Toronto, Ontario

May 13, 1983

REFERENCES AND SELECTED BIBLIOGRAPHY

Breaks, F.W. 1980: Sioux Lookout-Armstrong Geological Compilation Series, Ontario Geological Survey, Map 2442, Geological Compilation Series, Scale 1:253,440. Geology 1976-79.

Gledhill, T.L., 1924: Geology Along an Eastward Continuation of Niven's 4th Base Line; Ontario Dept. of Mines, Annual Report, Vol. 33, Pt. 6, p. 18-39.

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Trowell, N.F.:
1970a: Bell Lake-Sturgeon Lake Area (Southeast Part), Preliminary Map p. 591, Scale 1:15,840
1970b: Bell Lake-Sturgeion Lake Area (Southwest Part), Preliminary Map p. 590, Scale 1:15,840
1970c: Bell Lake-Sturgeon Lake Area (Northwest Part), Preliminary Map p. 588, Scale 1:15,840

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Trowell, N.F., 1974: Geology of the Bell Lake-Sturgeon Lake Area, District of Kenora; Thunder Bay, Geological Report 114 with Geological Maps #2268 and #2269; Scale 1:31,680

Trowell, N.F., 1977: Geology of the Squaw Lake-Sturgeon Lake Area, District of Thunder Bay; Ontario Division of Mines, Open File Report 5225 with Geological Map 2420, Scale 1:31,680

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Trowell, N.F., 1980b: Geology of the Sturgeon Lake Area: Ontario Geological Survey, Open File Report 5291

Trowell, N.F., 1981: North Arm of Sturgeon Lake; Ontario Geological Survey Map 2456, Precambrian Geology Series, Scale 1:50,000, Geology 1975-76

Trowell, N.F., 1983: Geology of the Sturgeon Lake Area, Districts of Thunder Bay and Kenora, Ontario, Geological Survey Report 221.

CERTIFICATE

I, ALLAN JAMES WILLY, of Apartment 1803, 555 Sherbourne Street, Toronto, Ontario, hereby certify that:

1. I am a geologist and am currently working on a contract basis for A.C.A. Howe International Ltd. Mining and Geological Consultants, with offices at Suite 801, 159 Bay Street, Toronto, Ontario, M5J 1J7.

2. I am a graduate of the University of Saskatchewan, Saskatoon, Saskatchewan, with a Bachelor of Science Degree (1972), a Bachelor of Science Advanced Certificate (1973) and a Post Graduate Diploma (1976), all in the area of geological science.

3. I am an engineer licensed to practice in the Province of Ontario through the Association of Professional Engineers of the Province of Ontario.

4. I am a member of the Association of Professional Engineers of the Province of Saskatchewan.

5. I am a Fellow of the Geological Association of Canada.

6. I have practiced my profession as geologist for 10 years with various mining companies in Canada; the most recent experience being a Project Geologist with Brinco Mining Limited, Toronto, Ontario.

7. I have no interest in the Penassi Lake Property, assumed to be owned by Prolific Petroleum Limited by agreement with Petromet Resources, nor do I anticipate such interest.

8. This report is based upon communications with Petromet Resources' consultants, government reports and maps and assessment file data. No visit was made to the property due to spring break up conditions. No title searches have been made on the claims.

REGISTERED PROFESSIONAL ENGINEER
A. J. WILLY
PROVINCE OF ONTARIO

Toronto, Ontario
May 13, 1983

ALLAN J. WILLY, P. Eng.
A. C. A. HOWE INTERNATIONAL LTD.

Ontario

Ministry of
Northern Development
and Mines

2.6324

900

The following material (2 VLF, 1 Geol, 1 Geo 1 mag map) has been placed on file from OMEP submittal 83-2-C-184 . The following material was not included in the assessment submittal but has been placed on file due to its significance to this report.

MINISTRY OF NATURAL RESOURCES

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

Type of Survey: Geology, sampling VLFEM

Township or Area: Penassi Lake M2257

Claim Holder(s): Petromet Resources Ltd
Suite 2050, 300 - 5th Avenue
Calgary, Alberta

Survey Company: Geotest Corp.

Author of Report: Jens & Hansen

Address of Author: 19 Nesbitt St.
Nepean, Ontario

Covering Dates of Survey: 23-9-83, 11-10-84

MINING CLAIMS TRAVERSED

PA 677301, 677308, 677310, 677311, 677312, 676898, 676899, 676900

Date: 20-1-83

Instrument: Geonics VLF EM-16

Accuracy: dip 1° quadratone 2%

Frequency: Cutler Maine

Parameters measured: Dip angle of In-Phase & % Quadratone

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOLOGY, SAMPLING VLF-EM (EXPENDITURES)
Township or Area PENASSI LAKE M2257
Claim Holder(s) PETRONET RESOURCES LTD
SUITE 2050 300-5th Ave CALGARY
Survey Company GEOTEST CORP
Author of Report JENS E HANSEN
Address of Author 19 NESBITT ST NEPEAN ONT
Covering Dates of Survey 23-9-83 - 11-10-84
(linecutting to office)
Total Miles of Line Cut 1.8 kilometres.

SPECIAL PROVISIONS CREDITS REQUESTED (No) USE EXPENDITURES

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 20-1-83 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder
			No

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
Pa	677301
	677308
	677310
	677311
	677312
	676898
	676899
	676900

If space insufficient, attach list

TOTAL CLAIMS 8

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument GEONICS VLF EM-16

Coil configuration _____

Coil separation _____

Accuracy dip 1° Quadrature 2%

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency CUTLER MAINE
(specify V.L.F. station)

Parameters measured dip angle of In-Phase and % Quadrature

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

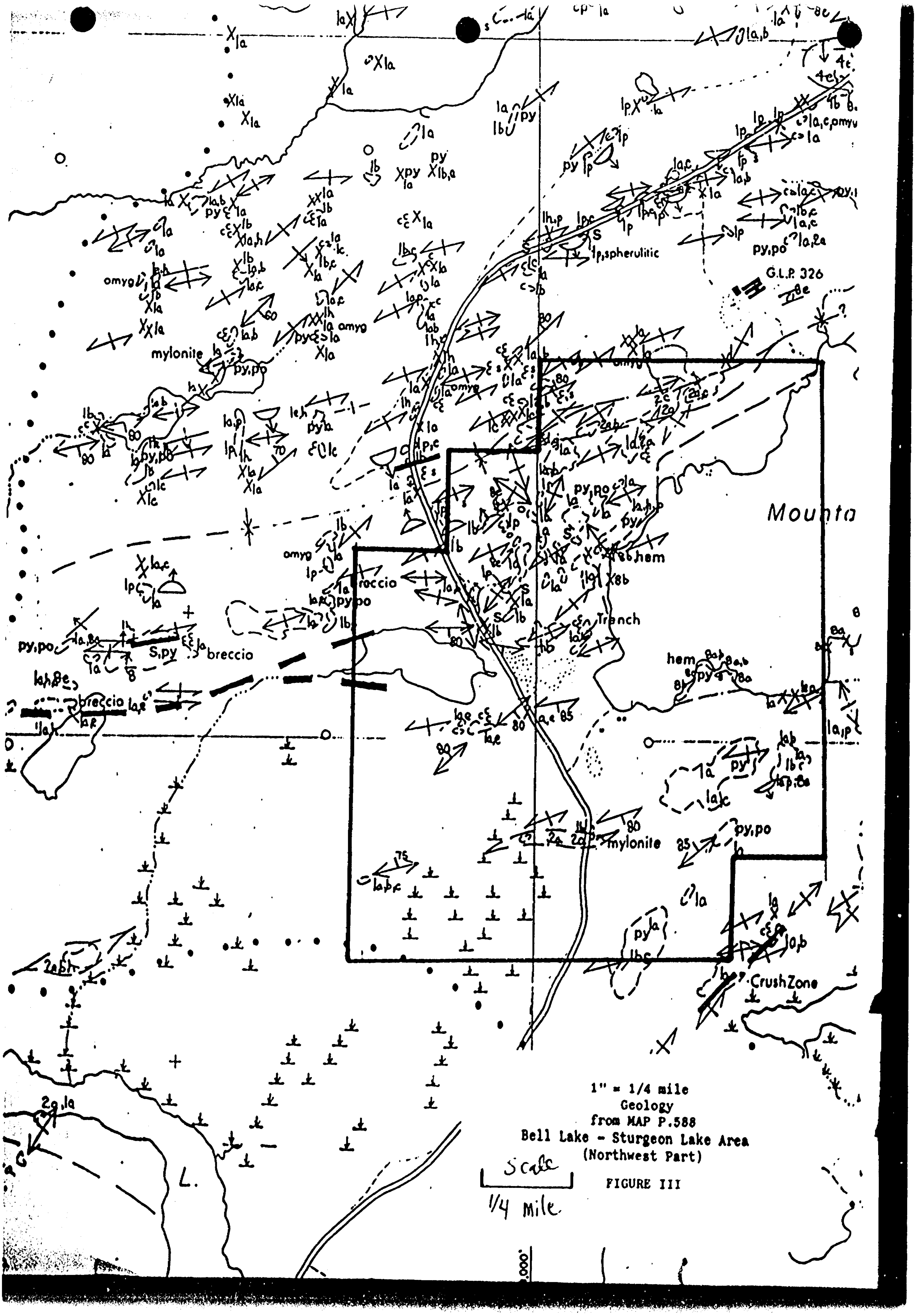
– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

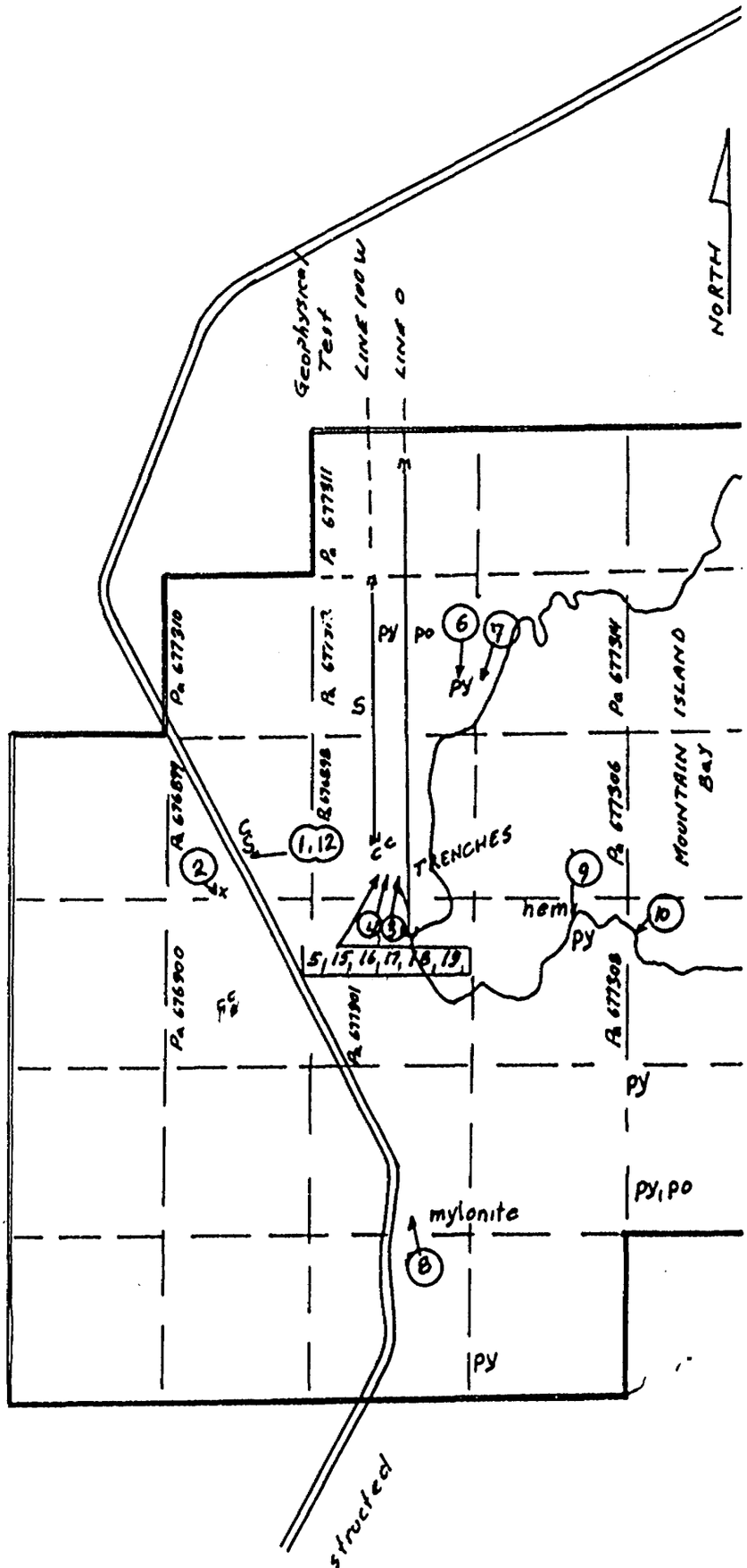


1" = 1/4 mile
Geology
from MAP P.588
Bell Lake - Sturgeon Lake Area
(Northwest Part)

FIGURE III

ASSAY RESULTS

- see report.



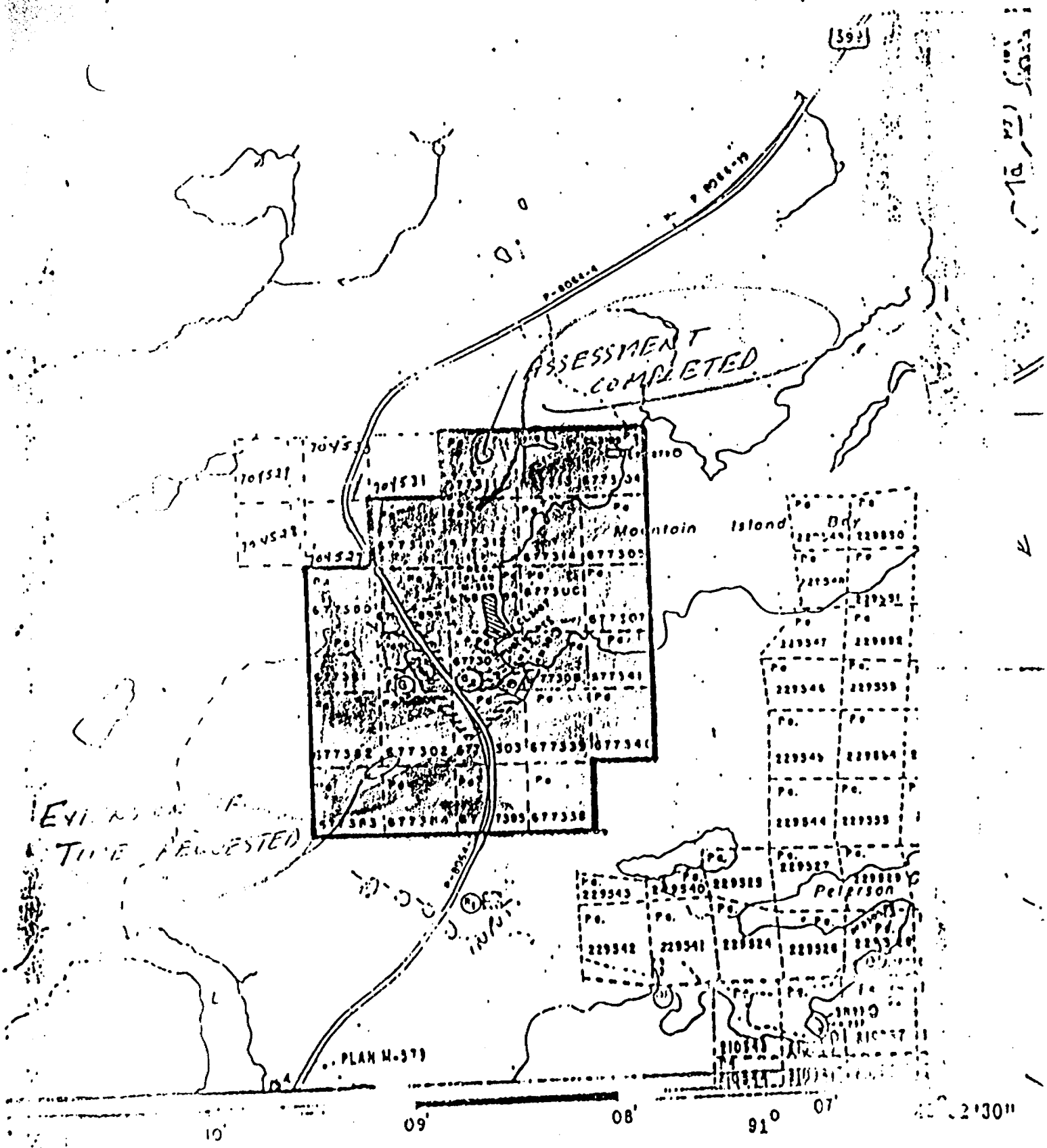
DENASSI LAKE PROPERTY

SAMPLE LOCATIONS

SCALE 1" = 1/4 mile. Scale 1/4 Mile

S - SULPHIDES
C - CARBONITIZATION
(D) - SAMPLE LOCATION AND NUMBER
For geology see Map P588 - copy attached.

FIG II Jan, 1984



PENASSI LAKE PROJECT

NTS. 52G14

PLAN MAP 2257

FIG I

Ministry of Natural Resources
Ontario

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

#84-17

2.6324

The Mining Act

Instructions - Please type or print
- If number of mining claims traversed exceeds space on this form, attach a list.

Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

FROM Mining Lands

Type of Survey(s)
GEOLOGY, SAMPLING, GEOPHYSICS

Township or Area
Penassi Lake M-2257

Claim Holder(s)
PETROMET RESOURCES LTD

Prospector's Licence No.
T-1011

Address
SUITE 2050, 300-5th Avenue SW, CALGARY AL T2P 3C4

Survey Company
GEOTEST CORP

Date of Survey (from & to)
From: 23 Day | 9 Mo. | 83 Yr. — To: 11 Day | 10 Mo. | 83 Yr.

Total Miles of line Cut

Name and Address of Author (of Geo-Technical report)
JENS E. HANSEN, Box 11385 STN "H" NEPEAN ONT K2H 8G4 7V1

Credits Requested per Each Claim in Columns at right

		Days per Claim
Special Provisions For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
Pa	677301	60
	677308	20
	677310	20
	677311	20
	677312	20
	676898	36
	676899	20
	676900	20

PATRICIA MINING DIV.
RECEIVED
JAN 30 1984
A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M.

Expenditures (excludes power stripping)

Type of Work Performed Sect. 77-19
GEOLOGY, SAMPLING, GEOPHYSICS

Performed on Claim(s)
As ABOVE

Calculation of Expenditure Days Credits

Total Expenditures $ 3240.00 + 15 = Total Days Credits 216

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

Pa. 676898

Total number of mining claims covered by this report of work. 8

Date Jan 16, 1984

Recorded Holder or Agent (Signature)

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
216	Jan. 20, 1984	A. Bascom
	Date Approved as Recorded	Branch Director

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying
JENS E HANSEN P.Eng. Box 11385 STN "H"
NEPEAN ONT K2H 7V1

Date Certified Jan 16, 1984

Certified by (Signature)

362 (81/9)

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.6324

Date 1984 08 30

Mining Recorder's Report of Work No. 84-17

Recorded Holder: PETROMET RESOURCES LTD

Township or Area: PENASSI LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days ☐ Airborne ☐ Special provision ☐ Ground ☐ ☐ Credits have been reduced because of partial coverage of claims. ☐ Credits have been reduced because of corrections to work dates and figures of applicant.	$3240.00 SPENT ON ASSAYING SAMPLES TAKEN FROM MINING CLAIMS: P 677308-12 676899 216 DAYS CREDIT ALLOWED WHICH MAY BE GROUPED IN ACCORDANCE WITH SECTION 77(19)

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19) — 60

Ontario Ministry of Natural Resources

Geotechnical Report Approval

File 2.6324

Mining Lands Comments

You wanted to see this again

☐ To: Geophysics

Comments

☐ Approved ☐ Wish to see again with corrections	Date	Signature

☒ To: Geology - Expenditures C. Kuntz

Comments

☑ Approved ☐ Wish to see again with corrections	Date Aug 22/84	Signature C. Kuntz

☐ To: Geochemistry

Comments

L.D. Dept.

☐ Approved ☐ Wish to see again with corrections	Date	Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.6324

Mining Lands Comments

— require receipts and/or cancelled cheques

☐ To: Geophysics

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☑ To: Geology - Expenditures M. C. Mustra

Comments

let's get the receipts for a breakdown of what they did.
They did no geology.

☐ Approved ☒ Wish to see again with corrections | Date April 12/84 | Signature C Kustra

☐ To: Geochemistry

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1693 (81/10)

July 16, 1984

Jens:

Attached are copies of expenditures made to date by Prolific Petroleums Ltd. on the Pennassi Lake Project, Sturgeon Lake.

Geotest	#331	$2625.00
GNU	#84-06	190.00
GNU	#84-34	364.03
	TOTAL	$3179.03

Jens:

July 16/84

Attached are copies of expenditures made to date by [redacted] on the Pennassi Lake Project, Sturgeon Lake.

Geotest	# 331	$ 2625.-
GNU	# 84-06	190.-
GNU	# 84-34	364.03
	TOTAL	$ [redacted]

[redacted]

3.6 3 2 4

GOLDEN RULE RESOURCES LTD.

150 - 1300 - 8th Street S.W., Calgary, Alberta T2R 1B2 Ph. (403) 233-7207

INVOICE NO. : 84-06

DATE : November 8, 1983

Project No. : Sturgeon Lake

IN ACCOUNT WITH : Prolific Petroleum
150, 1300-8 Street S.W.
Calgary, Alberta
T2R 1B2

REFERENCE : Sample Analysis Charges

To invoice you for your share of sample analysis performed by Bondar-Clegg, Invoice #439

(Penassi area)	5 samples @ $10	$ 50.00
Invoice #380		
(Penassi area)	14 samples @ $10	$140.00
	TOTAL THIS INVOICE	$190.00

L.M. Bitz, Accountant
GOLDEN RULE RESOURCES LTD.

TERM : Payable upon receipt; interest at 2% per month charged on accounts outstanding over 30 days.

GEOTEST

GEOTEST CORPORATION
P.O. Box 11385
Station "H"
19 Nesbitt Street
Nepean, Ontario, Canada
K2H 7V1

Telephone: 613 828-6462
Telex: 053-3911

Project: 60-088

December 30, 1983

Prolific Petroleum Ltd.
c/o 150-1300-8th street S.W.
Calgary, Alberta
T2R 1B2

I N V O I C E

NO: 331

DATE: December 30, 1983

RE: PENASSI LAKE PROJECT, STURGEON LAKE

Work program carried out by Geotest Corporation September to December 1983.

1.	Geologist 3 days at $300	$900.00
2.	Geophysicist, preparation of program and report - 3 days at $300	$900.00
3.	Assistants - 3 days at $175.00	$525.00
4.	Mobilization/demobilization	$300.00

TOTAL AMOUNT DUE: $2,625.00

Thank you,

GEOTEST CORPORATION

CLIENT: Goldin Pride
2626-
APPROVED
PROJECT: Sturgeon

GOLDEN RULE RESOURCES LTD.

150 - 1300 - 8th Street S.W. Calgary, Alberta T2R 1B2 Ph (403) 233-7207

INVOICE NO. : 84-34

DATE : May 15, 1984

PROJECT NO. : GR-ONT-4

IN ACCOUNT WITH : Prolific Petroleum Ltd.
150, 1300-8 Street S.W.
Calgary, Alberta

REFERENCE : Billing of administrative expenses incurred for Dighem Airborne Survey on Hemlo claims

Consulting

Hardscrabble Resources G.H.Harper @ $325/day		
1½ days		$ 406.25

Expenses

December, 1983 airfare 50% of YYC-Toronto-YYC	$336.50	
Expenses	$188.52	
Phone charges	$ 37.54	
Taiga Consultants (drafting)	$ 24.00	$ 586.56
		$ 992.81
Management fee of 10%		$ 99.28
		$1092.09
Your 1/3 share		$ 364.03
TOTAL THIS INVOICE		$ 364.03

R.S. Edmunds, Accountant
Golden Rule Resources Ltd.

TERMS : Payable upon receipt; interest at 7% per month charged on accounts outstanding over 30 days.

GEOTEST

GEOTEST CORPORATION
P.O. Box 11385
Station "H"
19 Nesbitt Street
Nepean, Ontario, Canada
K2H 7V1

Telephone: 613 828-6462
Telex: 053-3911

Project: 60-088

January 20, 1984

Mr. Albert Hanson
Mining Recorder
Ministry of Natural Resources
P.O. Box 669
Sioux Lookout, Ontario
P0V 2T0

Dear Mr. Hanson:

Enclosed please find two copies of our work report on a group of claims in the Penassi Lake Area.

The work report form as attached was sent in on January 17, 1984.

We trust this meets with your requirements.

Yours sincerely,

Jens E. Hansen

JENS E. HANSEN, P.ENG.
Geophysicist

Our File: 2.6324

1984 02 10

Mr. Albert Hanson
Mining Recorder
Ministry of Natural Resources
P.O. Box 669
Sioux Lookout, Ontario
P0V 2T0

Dear Sir:

We have received data for Assaying and Geological Sampling submitted under Section 77 (19) of the Mining Act R.S.O. 1980 for mining claims PA 677301 et al in the Area of Penassi Lake.

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

We do not have a copy of the report of work which is normally filed by you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

J. R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416 (965-1380)

A. Barr:dg

cc: Petromet Resources Ltd.
Suite 2050
300 - 5th Avenue S.W.
Calgary, Alberta
T2P 3C4

April 24, 1984 Our File: 2.6324

Petromet Resources Ltd
Suite 2050
300 5th Avenue S.W.
Calgary, Alberta
T2P 3C4

Dear Sirs:

RE: Data for Assaying submitted on Mining Claims
PA 677301 et al in the Penassi Lake Area

In order to complete your submission for the above-described survey, please remit (in duplicate) receipts, cancelled cheques, etc. as verification for the expenditures claimed.

When submitting this information, please quote file 2.6324.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

S. Hurst:mc

cc: Mining Recorder
Sioux Lookout, Ontario

REGISTERED

1984 06 21 File: 2.6324

Petromet Resources Limited
Suite 2050
300 5th Avenue S.W.
Calgary, Alberta
T2P 3C4

Dear Sir:

RE: Data for Assaying submitted on Minagg Claims
PA 677301 et al in the Area of Penassi Lake.

Enclosed is a copy of our letter dated April 24, 1984 requesting additional information for the above-described survey.

Unless you can provide the required data by July 3, 1984, the mining recorder will be directed to cancel the work credits recorded on January 20, 1984..

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

S. Hurst:sc

cc: Mining Recorder
Sioux Lookout, ontario

Encl.

REGISTERED

July 3, 1984 File: 2.6324

Petromet Resources Limited
Suite 500
67 Richmond Street West
Toronto, Ontario
M5H 1Z4

Dear Sirs:

RE: Data for Assaying submitted on Mining Claims
PA 677301 et al in the Area of Penassi Lake

Enclosed is a copy of our letter dated April 24, 1984 requesting additional information for the above-described survey.

Unless you can provide the required data by July 13, 1984 the mining recorder will be directed to cancel the work credits recorded on January 20, 1984.

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

S. Hurst:mc

cc: Mining Recorder
Sioux Lookout, Ontario

Encl.

Ministry of Natural Resources
Ontario

52 G/14 NE

1984 08 30

Your File: 84-17
Our File: 2.6324

Mr. Albert Hanson
Mining Recorder
Ministry of Natural Resources
P.O. Box 309
Sioux Lookout, Ontario
P0V 2T0

Dear Sir:

RE: Assaying submitted under Section 77(19) of the Mining Act RSO 1980, on Mining Claims PA 677301 et al in the Area of Penassi Lake

The enclosed statement of assessment work credits for assaying expenditures has been approved as of the above date.

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

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

RS. Hurst:mc

cc: Petromet Resources Ltd
Suite 500
67 Richmond Street West
Toronto, Ontario
M5H 1Z4

cc: Resident Geologist
Sioux Lookout, Ontario

FOR ADDITIONAL INFORMATION SEE MAPS:

52G/14 NE-0035 # 1-5

2.6324

CALPETRO RESOURCES INC.
HAGAR RESOURCES INCORPORATED
DELAWARE RESOURCES CORPORATION

BECKINGTON LAKE PROJECT
STURGEON LAKE REGION
NTS 52 J/2

SURVEY	— PROTON MAGNETOMETER
DATA	— MAGNETIC CONTOURS
PARAMETERS	— CONTOUR INTERVAL 50 GAMMAS
	— 58000 gammas subtracted from all readings
SURVEYED BY	— GEOTEST CO.
REPORT BY	— GEOTEST CORPORATION
DATE	— DECEMBER 1983, and JULY 1984
PROJECT	— 60-088 60-131
SCALE	— 1:2500

MAP: 2
SHEET: 1

METRES
FEET

FOR LOCATION MAP
REFER TO REPORT

MAP 3
MAP 2
MAP 1

N

POWER LINE

L-1+50 N
ROAD TO SAVANT LAKE
BL 0
TL-14+00 S
L-0+00
L-1+00 S
L-1+50 S
L-2+00
L-3+00
L-3+50 S
L-4+00
L-4+50 S
L-5+00 S
L-6+00
L-6+00 S
L-7+00
L-7+50A S
L-8+00
L-9+00
L-9+00 S
L-10+00 S
L-8+00 S
L-7+50 S
L-10+50 S
L-11+00
L-11+00 S
L-12+00
L-12+00 S
L-13+00
L-13+50 S
L-14+00
L-14+00 S
L-15+00 S
L-15+00 S
L-16+00
L-16+50 S
LAKE
CALPETRO
HAGAR
PROPERTY BOUNDARY
CL 684234
CL 684235
CL 684236
CL 684237
CL 684238
CL 684233
CL 684232
CL 684231
CL 684230
CL 684226
CL 684227
CL 684228
CL 684229
CL 698169
CL 698170
CL 698171
CL 698172
CL 698173
CL 698168
CL 698167
CL 698166
CL 698165
CL 698164
CL 698163
PI 684234
PI 684235
PI 684236
PI 684237
PI 684238
PI 684230
PI 684233
PI 684232
PI 684231
PI 684228
PI 684227
PI 684229
PI 698169
PI 698170
PI 698171
PI 698172
PI 698173
PI 698163
PI 698164
PI 698165
PI 698166
PI 698167
PI 698168

52G/14NE-0035 #1

2.6324

CALPETRO RESOURCES INC.
HAGAR RESOURCES INCORPORATED
DELAWARE RESOURCES CORPORATION

BECKINGTON LAKE PROJECT
STURGEON LAKE REGION
NTS 52 J/2

SURVEY	— VLF EM-16
DATA	— VLF PROFILES
PARAMETERS	— IN PHASE (I) — scale 1cm = 20% o—o—o — QUADRATURE (Q)— scale 1cm = 20% x—x—x
SURVEYED BY	— GEOTEST CO
REPORT BY	— GEOTEST CORPORATION
DATE	— DECEMBER 1983, and JULY 1984
PROJECT	— 60-088 60-131
SCALE	— 1:2500

MAP: 2
SHEET: 2

FOR LOCATION MAP
REFER TO REPORT

MAP 3
MAP 2
MAP 1

POWER LINE

PROPERTY BOUNDARY

52G/14 NE_0035 #2

2.6324

CALPETRO RESOURCES INC.
HAGAR RESOURCES INCORPORATED
DELAWARE RESOURCES CORPORATION

BECKINGTON LAKE PROJECT
STURGEON LAKE REGION
NTS 52 J/2

SURVEY	—	VLF EM-16
DATA	—	VLF CONTOURS
PARAMETERS	—	FRASER NUMERICAL FILTERING TECHNIQUE
	—	CONTOUR INTERVAL 5 units
SURVEYED BY	—	GEOTEST CO.
REPORT BY	—	GEOTEST CORPORATION
DATE	—	DECEMBER 1983, and JULY 1984
PROJECT	—	60-088 60-131
SCALE	—	1:2500

MAP: 2
SHEET: 3

METRES
FEET

FOR LOCATION MAP
REFER TO REPORT

MAP 3
MAP 2
MAP 1
N

POWER LINE

PROPERTY BOUNDARY

CALPETRO
HAGAR

52G/14NE-0035 #3

220

2.6324

CALPETRO RESOURCES INC.
HAGAR RESOURCES INCORPORATED
DELAWARE RESOURCES CORPORATION

BECKINGTON LAKE PROJECT
STURGEON LAKE REGION
NTS 52 J/2

SURVEY	—	GEOLOGY AND GEOCHEMISTRY
DATA	—	
PARAMETERS	—	
	—	
SURVEYED BY	—	GEOTEST CO.
REPORT BY	—	GEOTEST CORPORATION
DATE	—	DECEMBER 1983, and JULY 1984
PROJECT	—	60-088 60-13
SCALE	—	1:2500

MAP: 2
SHEET: 4

METERS
FEET

FOR LOCATION MAP
REFER TO REPORT

MAP 3
MAP 2
MAP 1
N

GEOLOGY

Legend:

- X — OUTCROP, LARGE, SMALL
- qv — QUARTZ VEIN OR LENS
- — FOLIATION, HORIZONTAL
- OB-1 — SAMPLE No BECK 1 (ROCK SAMPLE)
- — — GRANITE – VOLCANIC CONTACT
- 3 — GRANODIORITE
- 2 — FELSIC VOLCANICS
- 1 — MATIC VOLCANICS
  - 1 UNDIFFERENTIATED
  - 1a PILLOWED
  - 1b SILICIFIED

GEOCHEMICAL SOIL SAMPLE POINT FOR GOLD

- ● — LESS THAN 5 ppb.
- ●35 — 35ppb Au.

POWER LINE

PROPERTY BOUNDARY

CALPETRO

HAGAR

ROAD TO SAVANT LAKE

LAKE

52G/14NE-0035 #4

230

PROLIFIC PETROLEUM PENASSI LAKE

VLF-EM 16 GEONICS

TEST SURVEY

OPERATOR R. MOYLE

SEPT 1983 SCALE 1:2500 NTS 52G/14

VLF TRANSMITTER - CUTLER MAINE

#5

52G/14NE-0035