



42A06NW0030 2.6481 TISDALE

010

REPORT ON THE
GEOLOGICAL SURVEY FOR
MINING CLAIM P.515700

TISDALE TOWNSHIP
PORCUPINE MINING DIVISION
DISTRICT OF COCHRANE
ONTARIO

BY

RECEIVED
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MINING LANDS SECTION

PAMOUR PORCUPINE MINES LIMITED
EXPLORATION DEPARTMENT

FEBRUARY, 1984



42A06NW0030 2.6481 TISDALE

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TABLE OF CONTENTS

	PAGE
Title Page	
Table of Contents	
Introduction	
Location and Access	
Property	
Previous Work	
Geology - Regional	
- Claim Area	
- Description of Formations	
- Structural Geology	
- Metamorphism	
- Mineralization	
Conclusions and Recommendations	
References	

LIST OF TABLES

- Table 1 - Geological Formations
- Table 2 - Quartz Vein Study

LIST OF FIGURES

- Figure 1 - Location Map
- Figure 2 - Geological Map, scale of 1 inch to 100 feet.

APPENDIX

- A - Survey Personnel

INTRODUCTION

Geological mapping was conducted on one claim southeast of Gold Centre, southeast of Schumacher in the south central part of Tisdale Township, Porcupine Mining Division, District of Cochrane, Ontario.

The purpose of the detailed mapping was to define contact relationships between the various lithological units and to identify favourable zones for gold mineralization. In reference to the latter, the carbonate zones and the quartz veins were carefully examined.

The field work was conducted by Kian Jensen from July 27th, to August 13th, 1982. Compilation was completed on February 17, 1984 and interpretation and report was done between February 21st, 1984, by Kian Jensen, Project Geologist, Exploration Department, Pamour Porcupine Mines Limited.

LOCATION AND ACCESS

The "Hydro claim" as it is known as, is located southeast of Gold Centre in the northeast quarter of the north half of Lot 7, Concession I, Tisdale Township as shown in Figure 1.

Access to the claim is via the Gold Centre road to the hydro sub-station, then on foot southwards to the north boundary claim line.

PROPERTY

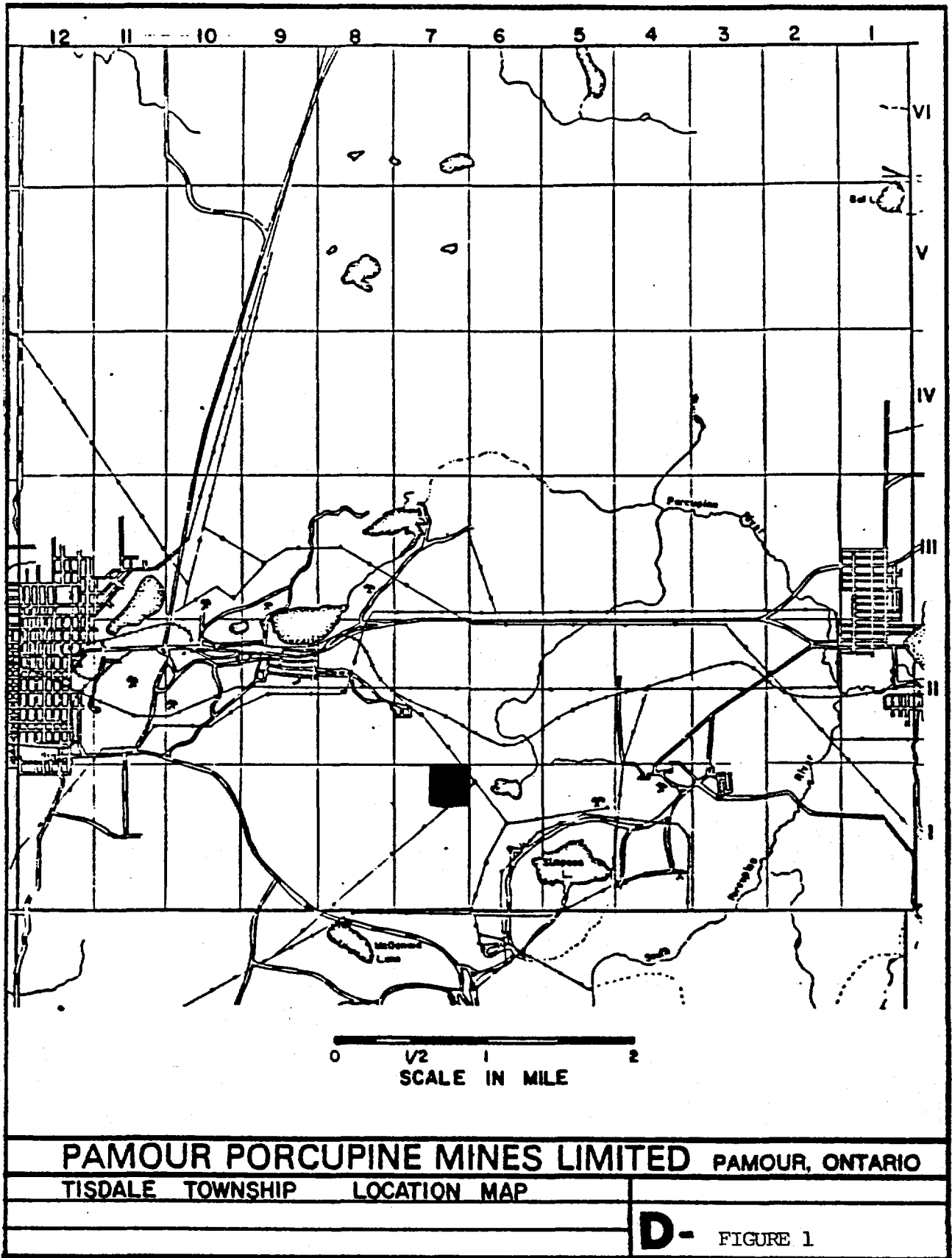
The "Hydro claim" or P.515700 was recorded on June 12th, 1978. The property is owned 100% by:

Pamour Porcupine Mines Limited,
P.O. Bag 2010,
TIMMINS, Ontario.
P4N 7X7

PREVIOUS WORK

Claim P-515700 was originally the southeastern claim of the Central Porphyry Contracts Limited property. During the years the property was held by them, a vast amount of trenching was done on the carbonated and "porphyry" zones.

During the 1970's the property was optional to Noranda, who conducted magnetic and VLF surveys, geological mapping and limited amount of diamond drilling.



Since the acquisition of the claim by Pamour, the following has been done:

- 1980 - Magnetic Survey
- 1981 - Soil Sampling
- 1982 - VLF Survey
 - Overburden sampling
 - Geological mapping. (present report)

GEOLOGY

REGIONAL GEOLOGY

Tisdale Township is located in the western portion of the Abitibi Greenstone belt of the Superior Structural Province.

The regional geology has been studied and described in many government publications since 1911. (Burrows, 1911, 1912, 1915, 1924; Ferguson, 1966, 1968; Fyon, 1979; Jensen, 1978, 1979; Pyke, 1975, 1981, 1982). Also, since Tisdale Township is within the Porcupine Gold Camp many articles have appeared in other publications, notably G.A.C., G.S.C., C.J.E.S., G.S.A. and C.I.M.M.

Within the township the volcanic rocks predominantly belong to the Tisdale Group and consist of early Precambrian felsic to intermediate, mafic and ultramafic volcanics, sediments and a few diabase dikes, as shown in Table 1.

The majority of the lithological units have been altered in various degrees by the regional metamorphism and local carbonatization.

GEOLOGY WITHIN THE CLAIM

The Hydro claim area consists predominantly of early Precambrian (Archean) metavolcanics probably of tholeiitic composition and minor amounts of metasediments and diorite intrusives (diabase dikes).

The metavolcanics are chiefly fine to medium grained, uniform massive flows, fine grained pillows, and flow top breccias with varying degrees of carbonitization. In a few locations, there are either interflow metasedimentary (argillites) or fine grained tuff units.

Scattered throughout the rock units are numerous quartz veins which may or may not contain sulphide mineralization. There appears to be at least three generations of quartz veins based upon the degree of deformation.

Intruded into the above metavolcanics are north trending diorite or diabase dikes.

TIMMINS AREA

TABLE 1

TABLE OF LITHOLOGIC UNITS FOR THE TIMMINS AREA

PHANEROZOIC	
CENOZOIC	
QUATERNARY	
RECENT	
	Swamp and stream deposits.
PLEISTOCENE	
	Clay, sand, gravel, till.
	Unconformity
PRECAMBRIAN	
LATE PRECAMBRIAN	
MAFIC INTRUSIVE ROCKS	
	Olivine diabase
	Intrusive Contact
MIDDLE PRECAMBRIAN	
MAFIC INTRUSIVE ROCKS	
	Quartz diabase
	Intrusive Contact
HURONIAN SUPERGROUP	
GOWGANDA FORMATION	
COBALT GROUP	
	Arkose, wacke, argillite, conglomerate.
	Unconformity
EARLY PRECAMBRIAN (ARCHEAN)	
MAFIC INTRUSIVE ROCKS	
	Diabase
	Intrusive Contact
FELSIC INTRUSIVE ROCKS	
	Quartz and feldspar porphyry, felsite, hornblende-biotite trondhjemite, porphyritic- monzonite, porphyritic granodiorite, leucocratic equigranular granodiorite, hornblende diorite, quartz diorite, diorite.
	Intrusive Contact
METAMORPHOSED MAFIC INTRUSIVE ROCKS	
	Gabbro, quartz gabbro, pegmatoidal gabbro.
	Intrusive and Gradational Contact
METAMORPHOSED ULTRAMAFIC INTRUSIVE ROCKS	
	Serpentinized diorite, peridotite, and lherzolite; pyroxene hornblendite; carbonatized dunite- peridotite, talc magnesite alternation.
	Intrusive Contact
METAVOLCANICS AND METASEDIMENTS	
METASEDIMENTS	
	Conglomerate, lithic wacke, siltstone, lithic arenite, iron formation (siliceous sulphide and oxide-bearing phases, minor carbonate phases).

METAVOLCANICS

FELSIC CALC-ALKALIC METAVOLCANICS

Massive, fine-grained flows, tuff, lapilli-tuff and breccia, schistose-sericitic varieties common.

MAFIC CALC-ALKALIC METAVOLCANICS

Massive fine-grained flows, pillowed flows, amygdaloidal flows, pillow breccia, tuff, lapilli-tuff and breccia, sheared and carbonatized pyroclastics and flows.

THOLEIITIC METAVOLCANICS

Massive fine to medium-grained flows, pillowed flows and flow breccia, amygdaloidal variolitic and epidote veined flows, minor tuff, lapilli-tuff and breccia.

KOMATIITIC METAVOLCANICS

Massive polysutured serpentized peridotitic komatiite, olivine spinifex, massive and pillowed basaltic komatiite, pyroxene spinifex, extensive carbonate and talc alteration.

Overlying the bedrock is Pleistocene proglacial lacustrine silt, clay and fine sand. Near the northeast ridge of outcrops, there is a boulder field with erratics several feet in diameter. It is possible that the area represents a re-worked beach environment.

DESCRIPTION OF FORMATIONS

The lithological units were mapped using the more modern rock classification based upon litho-geochemistry and report by Pyke, 1982.

The early Precambrian (Archean) is sub-divided into the following groups (youngest to oldest):

- a) Mafic Intrusives
- b) Felsic Intrusives
- c) Metamorphosed Mafic Intrusives
- d) Metamorphosed Ultramafic Intrusives
- e) Metavolcanics and Metasediments

The rock units located within the claim belong to the a) Mafic intrusives and e) the Metavolcanics and Metasediments.

The Metavolcanics are further sub-divided based upon their litho-geochemistry as follows:

- 1) Felsic Calc-Alkalic Metavolcanics
- 2) Mafic Calc-Alkalic Metavolcanics
- 3) Tholeiitic Metavolcanics
- 4) Komatiitic Metavolcanics

The metavolcanics mapped all belong to the Tholeiitic Metavolcanics group which can be subdivided further based upon the dominance of either iron or magnesium.

The description of the units are as follows (the numbers correlate to the units shown on the geological map Figure 2 located in the back of this report):

EARLY PRECAMBRIAN (ARCHEAN)

Metavolcanics and Metasedimentary Rocks Metavolcanics:

1) Tholeiitic Metavolcanics

The tholeiitic metavolcanics are subdivided into two main groups: (1) magnesium rich and (2) iron rich, which can be identified in the field.

1a) Iron Tholeiites

These appear as medium to dark blackish green in colour on a fresh surface and generally weathers a dark greyish

green to a dark green. In the more darker phase, the rocks are slightly magnetic. The majority of this unit appears as fine to medium grained massive flows with nil to approximately 10% carbonatization. In the southwest corner of the claim, a pillow unit and its pillow breccia was identified. The pillows were from 12 by 8 inches to 24 by 18 inches in size and the rims were generally thin and were oxidized. The fine grained, black green pillows appear to have a top direction of N208°E and the unit had a strike of N122°E. The vast number of quartz veins appear in this unit.

1b) Magnesium Tholeiites

On a fresh surface the colour ranges from a light grey to light green and weathers to a medium grey to greyish green. The grain size in the massive flows ranges from fine to medium grain and the degree of carbonatization is as high as 10 to 15%. In two locations, there appears to be a variolitic flow, which weathers a light beige colour and the varioles from white, pink to rusty brown and to 1/16 inch in diameter in the eastern outcrops and 1/4 inch in the western outcrop. Another variety of the magnesium tholeiites is a very large tuff unit north of the eastern variolitic unit. This fine grained tuff appears to be sheared (N120°E dipping 70°N). Individual tuffs are thick while the ash beds vary in thickness from 1/4 to 1 inch. This unit has an overall pyrite composition of 2%, however, some beds are as high as 30% pyrite.

1h) Flow Top Breccia Tholeiites

Due to the extremely high degree of carbonatization (50% or higher) and oxidation, it is difficult to identify these units belonging to either the iron tholeiite or the magnesium tholeiite. However, since they are strata bound by iron tholeiites, it may be accurate to say that these breccias are the top of an iron tholeiite flow. Based upon this relationship at least three (3) individual flows can be identified. It appears that the middle flow top breccia host numerous quartz veins and the sulphide rich formation (gossan).

Metasedimentary Rocks:

2a) Argillite

The argillite found on the claim occurs in two locations within a larger flow top breccia unit. This unit is very thin, approximately 6 to 8 inches and in one location, what appears to be a drop stone was found. The bedding is at N274°E dipping at 45°N. Due to the size and extent of this unit, it is possible that it is really an ash bed with a bomb fragment.

2b) Iron Formation

This unit has been used for the sulphide gossans in the middle flow top breccia unit. These have been exposed in one shallow pit, six trenches and in the shallow shaft. The most common sulphide is pyrite (10 to 50%) and is associated with a "quartz system". They vary in width from 6 inch to 12 inches in the trenches and 2 feet to 2½ feet wide on the west face of the shaft. The strike of these pyrite rich iron formations strike at N116°E to N130°E and dip between 65° to 72° North.

3) Mafic Intrusives

These intrusives are very hard, fine grained, black diabase dikes. The northern dike fills fractures in the iron tholeiites and has a thickness of 10 to 12 inches while the southern dike fills fractures in the flow top breccia with widths of 6 and 3 inches. The southern dikes are displaced 1 foot to the west. The general strike is N173°E to N178°E and dips at 50° to 60° east.

Quartz Veining

In the claim group, there appears to be at least three (3) generations of veins. These are classified by their overall appearance and degree of deformation. The oldest veins are an echelon system, the next generation appears to be slashed and minor kninkled and the youngest are straight long veins. Of the 72 veins located and measured the following was noted:

	NUMBER	BEARING
1st. generation	25	N10°W
2nd. generation	8	N40°E
3rd. generation	25	N20 to 40°W
Unknown	14	

The width varies from 1 inch to 12 inches and the length from 2 feet to over 20 feet. Generally these veins are "bull quartz" however, about 25% are quartz carbonate veins. Less than 10% of the veins are mineralized with pyrite and/or chalcopyrite.

STRUCTURAL GEOLOGY

From previous mapping, there may exist a syncline-antcline structure in the central part of the claim. However, geological information gathered in the claim area, neither confirms nor disproves their existence.

The faulting illustrated on the geological map is inferred, since there are definite offsets. These fault trend in a north-northeast direction.

METAMORPHISM

The abundance of chlorite in all the volcanic rock types signifies a greenschist facies of regional metamorphism. Local metamorphism is characterized by the degree of carbonatization.

MINERALIZATION

Sulphide mineralization in the form of pyrite is generally less than 1% in all the metavolcanics with the exception of the tuff unit, on the eastern part of the claim, which carries as high as 30% very fine grained pyrite.

The gossan or iron formations in the middle flow top breccia unit carries as high as 50% pyrite.

One quartz vein in the flow top breccia contained pyrite and chalcopryrite. About 10% of the quartz veins were sparsely mineralized with pyrite.

All samples assayed for gold ran trace to 0.01 o.p.t. with the exception of the sulphide gossan and quartz vein in the shaft (0.06 o.p.t. Au) and the quartz vein with chalcopryrite (0.09 o.p.t. Au and 10% Cu).

CONCLUSIONS AND RECOMMENDATIONS

In the process of mapping this claim, at least three individual iron tholeiite flows were identified with the middle flow top breccia being the host to the majority of quartz veins and gossan (iron formation). Also, this middle flow top breccia has yield interesting gold assays in two different areas.

It is recommended that this flow top breccia be stripped and trenched to obtain a possible strike length and width of the gold mineralization. If the above proves successful, several short diamond drill holes may be warranted.

APPENDIX A
SURVEY PERSONNEL

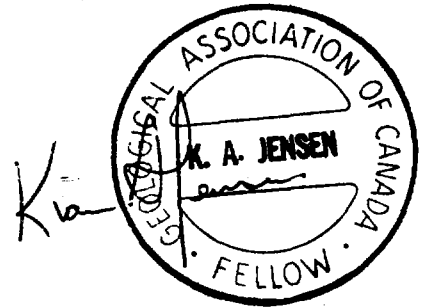
DATE	PERSONNEL	FUNCTION
July 27, 28, 29, 1982	Kian Jensen	Mapping
August 4, 5, 6, 1982	Kian Jensen	Mapping
August 6, 1982	Danny Pietracupa	Sampling
August 9, 13, 1982	Kian Jensen	Mapping
August 9, 1982	Danny Pietracupa	Sampling
February 15, 1984	Kian Jensen	Compilation
February 16, 17, 1984	Allison Huntley	Compilation
February 21, 1984	Kian Jensen	Interpretation and Report

CERTIFICATE

I, Kian A. Jensen, submit this document to certify that the following statements are, to the best of my knowledge, true and accurate.

1. That I received an Honour B.Sc. degree in Earth Science, Geology Major at the University of Waterloo in 1975.
2. That I have been employed as a geologist and/or geophysicist by various exploration or consulting companies since 1978.
3. That I have been employed by Pamour Porcupine Mines Limited in the Exploration Department since March 2, 1981, to conduct and supervise a variety of geochemical, geophysical and geological surveys in the Timmins area.
4. That I have been and still am a member in the following associations:
 - a) Society of Exploration Geophysicists (1981) - Associate
 - b) Geological Association of Canada (1983) - Fellow
5. That I supervised the survey conducted on the claim(s) covered by this report, I am the author of the corresponding assessment report, and I am familiar with the geology of the area under consideration.

Respectfully,



Dated: 27th day of February, 1984

Kian A. Jensen

*Deal
2,3969*

Problem Page

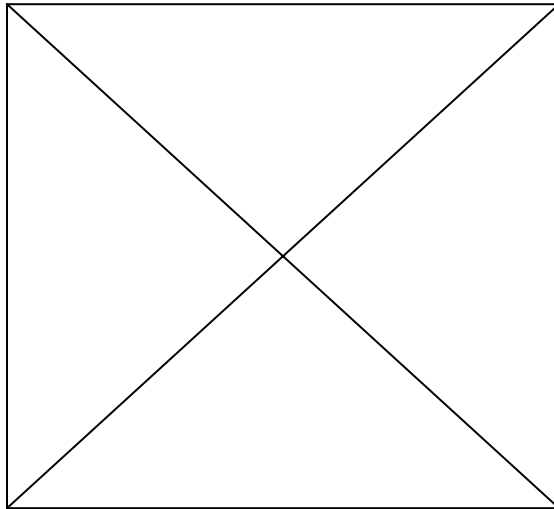
The original page in this document had a problem when scanned and as a result was unable to convert to Portable Document Format (PDF).

We apologize for the inconvenience.

Problème de conversion de page

Un problème est survenu au moment de balayer la page originale dans ce document. La page n'a donc pu être convertie en format PDF.

Nous regrettons tout inconvénient occasionné par ce problème.



Pamour Porcupine Mines, Limited
Administration Building
P.O. Bag 2010
Timmins, Ontario, Canada P4N 7X7

pamour

February 29, 1984

Lands Administration Branch,
Mining Lands Section,
Ministry of Natural Resources,
Room 1617, Whitney Block,
Queen's Park,
TORONTO, Ontario.
M7A 1W3

Dear Sir or Madame:

Please complete the attached letter and return it to Pamour in the self addressed envelope. Thank you for your co-operation.

RECEIVED
MAR 9 1984
MINING LANDS SECTION

PG/kg

Yours truly,



Paul Greene,
Office Supervisor,
Exploration Department.

1984 03 19

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geological survey submitted under Special Provisions (credit for Performance and Coverage) on mining claim # 515700 in the Township of Tisdale.

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 with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

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

A. Barr:dg

cc: Pamour Porcupine Mines Ltd.
P.O. Box 2010
Timmins, Ontario
P4N 7X7

cc: Kian Jensen
374 Patricia Blvd.
Timmins, Ontario
P4N 6Y6

Mining Lands Section

File No 2.6481

Control Sheet

TYPE OF SURVEY _____ GEOPHYSICAL
 _____ GEOLOGICAL
 _____ GEOCHEMICAL
 _____ EXPENDITURE

MINING LANDS COMMENTS:

_____ L.D. _____

P. Heust

Signature of Assessor

June 11/84

Date

Type of Survey(s): **GEOLOGICAL MAPPING** Township or Area: **TISDALE**

Claim Holder(s): **PANOUR PORCUPINE MINES LIMITED** Prospector's License No.: **T-498**

Address: **P.O. BOX 2010, TIMMINS, ONTARIO, P4N 7X7**

Survey Company: **EXPLORATION DEPT.** Date of Survey (from & to): **27 7 82** | **13 8 82** Total Miles of line Cut: **2.64**
Day | Mo. | Yr. | Day | Mo. | Yr.

Name and Address of Author (of Geo-Technical report): **KIAN JENSEN, 374 PATRICIA BLVD, TIMMINS ONTARIO, P4N 6Y6**

Credits Requested per Each Claim in Columns at right

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	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	20
	Geochemical	
Aerial Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	515700				

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 FEB 27 1982
 MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ 15 = Total Days Credits

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

Total number of mining claims covered by this report of work. **1**

For Office Use Only

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

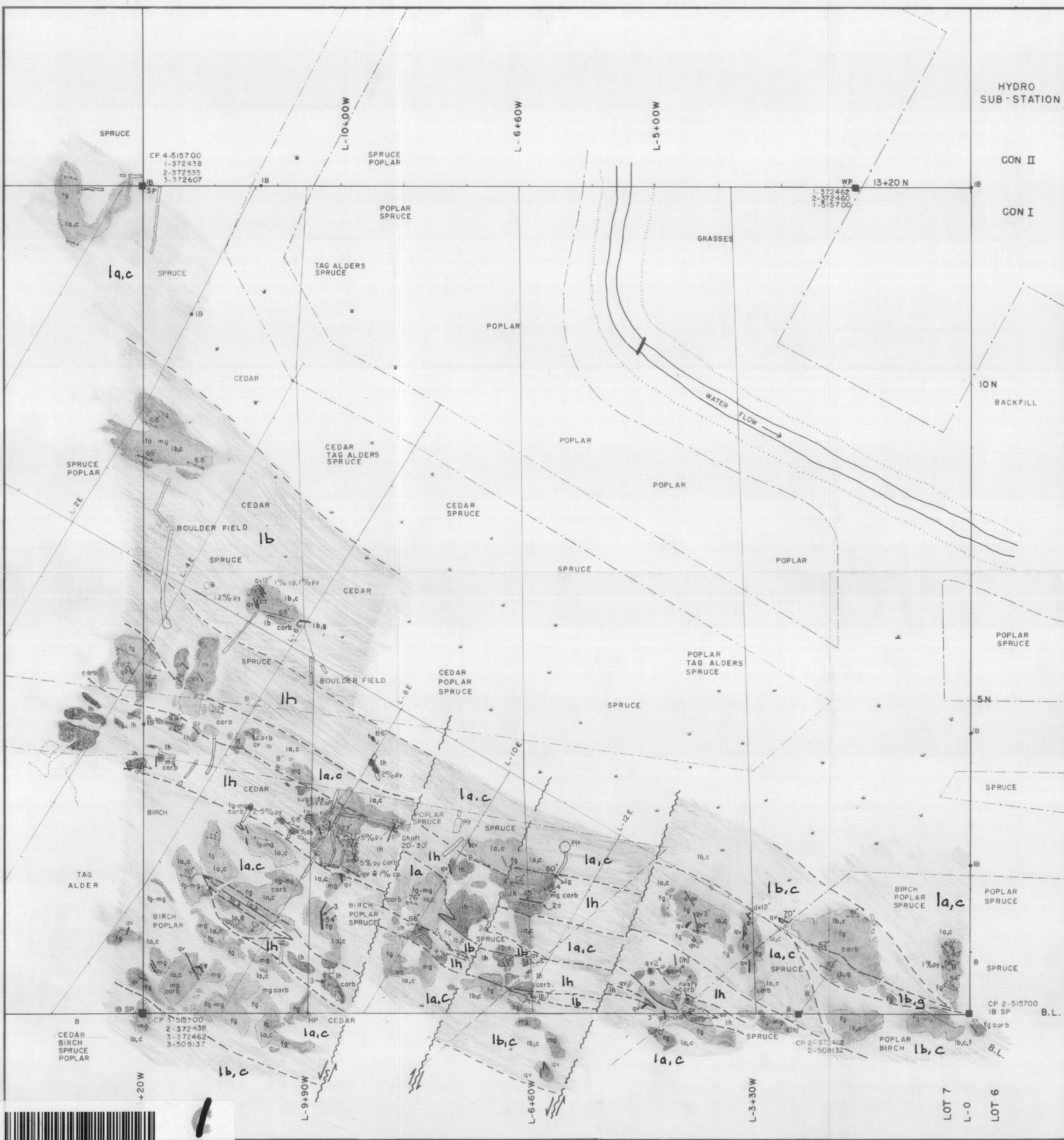
Date: **Feb 27/84** Recorded Name of Agent (Signature): *Kian Jensen*

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: **374 PATRICIA BLVD, TIMMINS, ONTARIO, P4N 6Y6**
KIAN JENSEN

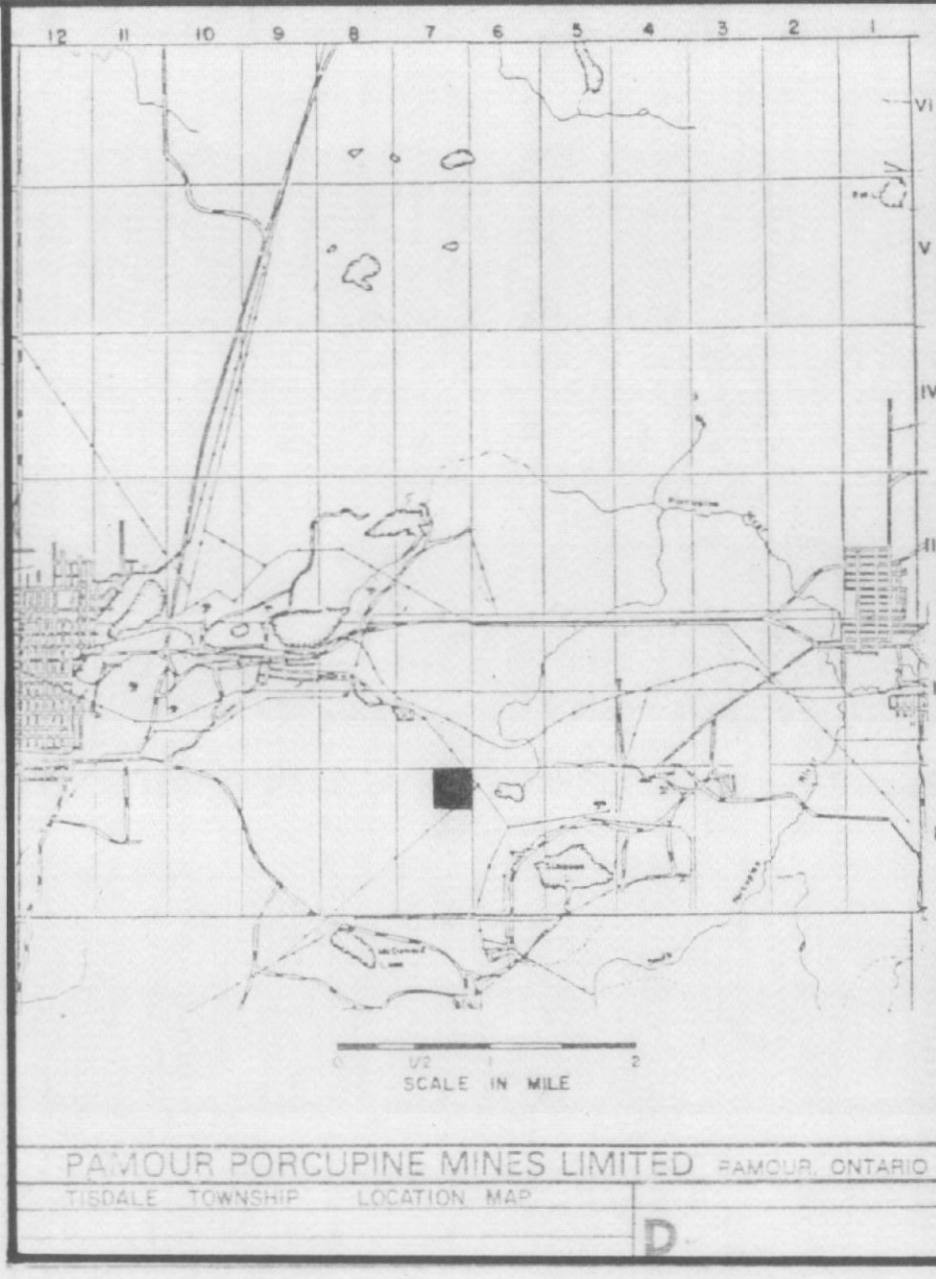
Date Certified: **Feb-27/84** Certified by (Signature): *Kian Jensen*



HYDRO SUB-STATION
CON II
CON I
ION BACKFILL
5N
B.L.
LOT 7
LOT 6
LOT 6

- LEGEND**
- PRECAMBRIAN
- 3 MAFIC INTRUSIVE ROCK
Diabase
 - 2a METASEDIMENTARY ROCK
Argillite
Iron Formation (siliceous sulphide and oxide bearing phases)
 - 2b METAVOLCANIC ROCK
THOLEIITIC METAVOLCANICS
Unsubdivided
Iron dominate tholeiite
Magnesium dominate tholeiite
Pillow flow
Amygdaloidal
Variolitic
Tuff, lapilli tuff
Breccia, flow top
Sheared
Pillow Breccia

- SYMBOLS**
- WP Witness Post
 - CP Claim Post
 - SP C.L.S. Post
 - IB Iron Bar
 - HP Hydro Survey Pin
 - Survey line
 - Claim line
 - Hydro fence
 - Hydro line clearing
 - Shaft
 - Dump
 - Trench
 - Swamp
 - Outcrop
 - Top of creek valley
 - B Boulder
 - Shear zone
 - Fault (assumed)
 - Schistosity with dip
 - Pillow tops
 - Bedding with dip
 - Geological contact, definite
 - Geological contact, assumed
 - fg Fine grained
 - mg Medium grained
 - qv Quartz vein
 - carb Carbonated
 - py Pyrite
 - cp Chalcopyrite



PAMOUR EXPLORATION

HYDRO PROJECT

TISDALE TOWNSHIP

GEOLOGY

SCALE 1 inch = 100 feet
DRAWN BY: K.J., A.H. DATE: Jan. 21/84



26481

