



42A06NW0003 2.4901 TISDALE

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JUN 25 1982

**MINING LANDS SECTION**

REPORT ON

VLF - EM SURVEY

FOR

CLAIM NUMBER P.515700

TISDALE TOWNSHIP

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

BY

PAMOUR PORCUPINE MINES LIMITED

JUNE 1982

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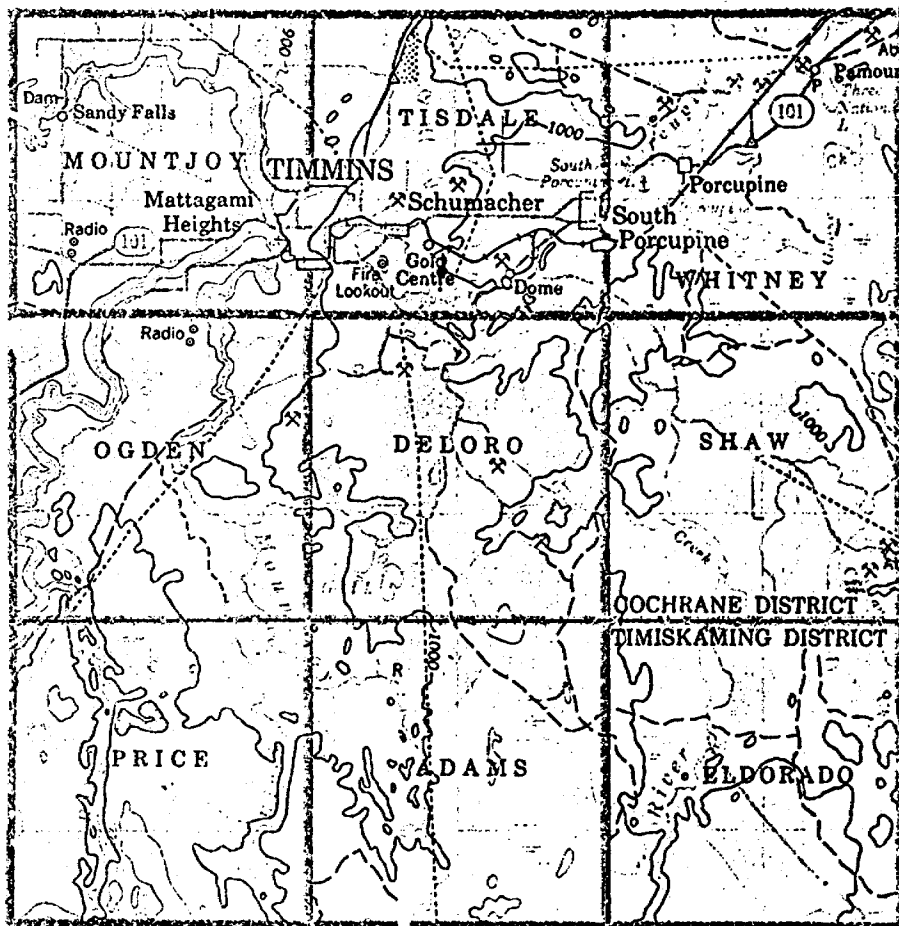


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LOCATION MAP

Scale: 1 inch = 4 miles

## INTRODUCTION

A VLF-EM survey was conducted on one claim southeast of Gold Centre, south of Schumacher in the southern central part of Tisdale Township, District of Cochrane, Ontario. The survey was conducted to assist in identifying structural trends and anomalies related to possible ore zone extensions from the Hollinger and Vipond Mines. Also with the numerous power lines on the property, the Phoenix VLF-2 was used due to its capabilities in surveying with hydro power background noise.

## ACCESSIBILITY

The survey area is accessed from Highway 101 at Schumacher, southwards to the road leading to Gold Centre and the Ontario Hydro sub-station. A short walk south of the sub-station intersects the tie line 13N at line 330W.

## PROPERTY

The property is owned 100% by:

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

The claim, P-515700 was staked for Pamour in June, 1978.

## PREVIOUS WORK

Claim P-515700, was the southeastern claim of the Central Porphyry Contracts Limited Property. During the years the property was held by them numerous trenching was done on the carbonated and "porphyry" zones. There is no record of any diamond drilling. During the 1970's the property was optioned to Noranda which 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 geochemical survey (gold and copper).  
1982 - VLF - EM survey.

## GEOLOGY

The geology of the claim consists predominately of altered and carbonated massive, uniform metabasalts and flow top breccias. The outcrop of bedrock appears to be limited to the south and western portion of the claim. The remainder of the claim is covered by Pleistocena sands and clays to a depth in excess of 100 feet. Structurally there may exist a syncline-anticline in the south western portion of the claim. Scattered throughout the outcrop area numerous quartz veins are present.

## GEOPHYSICAL SURVEY

The two fold purpose of the VLF-EM survey was to identify possible structural trends and to locate anomalies related to possible ore zones. The grid was cut with lines bearing north and every 330 feet apart. Readings were observed every 100 feet on the traverse lines with a total of 60 stations observed. At three locations readings were not obtained due to the interference of the hydro power lines.

A list of survey personel is found in Appendix A.

## SURVEY PROCEDURES

The instrument specifications for the Phoenix VLF-2 are found in Appendix B.

Before commencing with the survey, a calibration station was located at 13+20N on line 13+20W, and the instrument was calibrated at this location to read 100% of the horizontal field strength (H.F.S.) using Cutler, Maine, (17.8 KHz) as a radio transmitting source. Upon completion of the calibration, north-south traverse lines were surveyed every 100 feet using the Crone convension. The operator faced southwards to record the HFS and then at a right angle to the HFS (facing eastwards) to record the dip with the bottom of the instrument indicating the direction of dip.

## DATA PRESENTATION

The data of the dip is profiled on a 1 inch to 200 foot base map of the claim, and both values of the HFS and dip are recorded at each 100 foot station. The map is located at the end of the report.

## INTERPRETATION

The VLF anomalies are marked by blue dashed lines. The

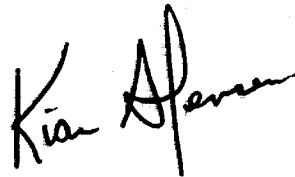
data (dip) was Fraser Filtered (Crone conversion) and three of the four anomalies coincide with the locations of high voltage power lines. The fourth anomaly located on line 660W at 5+50N may be due to the interference of the north and south power lines or possibly a contact in the meta-basalt.

#### CONCLUSIONS AND RECOMMENDATIONS

Due to the numerous power lines and their interference, the VLF-EM survey had limited success in identifying structural trends and possible ore zones.

It is recommended to conduct an overburden sampling program to locate the source of the geochemical anomalies and to identify the fourth VLF-EM anomaly. Also a geological survey should be conducted on the property.

I hereby submit that this report and accompanying map are accurate and true to the best of my knowledge and that they were completed by myself this 8th day of June, 1982.



Kian A. Jensen, B.Sc.,  
Exploration Geophysicist-  
Geologist.

KAJ/kg

## CURRICULUM VITAE

NAME: JENSEN, Kian A.  
ADDRESS: 374 Patricia Boulevard, Timmins, Ontario P4N 6Y6  
TELEPHONE: (705) 264-5748  
BIRTHDATE: September 24, 1951  
SEX: Male  
STATUS: Married  
EDUCATION: University of Waterloo, 1971 - 1975, B.Sc. Honour Earth Science, Geology Major

### RELATED EXPERIENCE

March 2 to  
Present

PAMOUR PORCUPINE MINES LIMITED, PAMOUR NO. 1

Employed as a geologist/geophysicist in the Exploration Department, Pamour No. 1. Responsible for conducting ground geophysical surveys, interpretation and reports. Other duties include geological mapping, drill core logging, ore calculations, and property evaluation.

September 1978  
to  
February 1981

GEOTERREX LIMITED, 2060 Walkley Road, Ottawa

Employed as a geophysicist/party chief conducting various types of ground geophysical surveys. Other responsibilities included training personnel, logistic reports, job proposals, billings, data reduction and interpretation. Clients and types of surveys involved in are as follows:

Amoco Oil Limited - gravity survey

Ontario Hydro - seismic survey

Urangeschellshaft Canada Limited - Max-Min and horizontal PEM surveys

Energy, Mines and Resources, Earth Physics Branch - inertial gravity survey

Geoterrex Limited, Calibogle test site - CEM, Max-Min, Proton magnetic and horizontal PEM surveys

Newmont Exploration of Canada Limited - drillhole PEM survey

Newmont Exploration of Canada Limited - EMP survey

E & B Exploration of Canada Limited - gravity survey

Energy, Mines and Resources, Earth Physics Branch -  
inertial gravity survey

Geoterrex Limited, Calibogie test site - Elfast turam,  
IP and DEEPFM surveys

Abitibi-Price Inc. - interpretation of drillhole PEM  
survey

May to  
September 1978

RAYROCK RESOURCES LIMITED (MINES), 1011-2200 Yonge Street,  
Toronto

Employed as a field geologist conducting a reconnaissance  
geochemical survey for uranium in central North West  
Territories. Other responsibilities included rock sampling,  
reconnaissance mapping, claim work, and assisted in  
compiling airborne radiometric results.

September 1974  
to  
April 1975

B.Sc. Thesis, "A Geophysical Investigation for Buried  
Bedrock Valleys in the Belwood Lake Area".

This involved data acquisition, computer modelling, and  
interpretation of gravity and resistivity surveys.

September 1974  
to  
April 1975

UNIVERSITY OF WATERLOO, Waterloo, Ontario

Employed to sort and catalogue rock suites and set up  
museum displays of ore suites from Canadian mines.

May to  
September 1974

CANADIAN OCCIDENTAL PETROLEUM LIMITED, 311-215 Carlingview  
Drive, Rexdale, Ontario

Employed as a field geologist conducting reconnaissance  
and detail geochemical surveys for base metals in south-  
central British Columbia. Other responsibilities included  
claim work, rock sampling, and the preparation of geochemical  
anomaly maps.

October to  
December 1973

UNIVERSITY OF WATERLOO, Waterloo, Ontario

Employed as a geophysical assistant conducting gravity,  
resistivity, and seismic surveys.



#### OTHER EMPLOYMENT

October 1977 to May 1978 GOLDEN TRIANGLE SECURITIES AND INVESTIGATIONS, 52A Francis Street, Kitchener, Ontario

Employed as a security guard at Pirelli Cables in Guelph, Ontario.

June 1975 to September 1977 TOWERS DEPARTMENT STORES, 1013 Ontario Street, Stratford, Ontario

Employed as a department manager responsible for staff schedules, ordering, inventory, and sales.

#### MEMBERSHIPS

Society of Exploration Geophysicists (1981) - Associate Member

Prospector's Licence (Individual) - A44525

## REFERENCES

Ferguson, Stewart A.

1968: Geology and Ore Deposits of Tisdale Township, Ontario, Ontario Department of Mines, GR58, 171p. Accompanied by Map 2075, scale 1 inch to 1000 feet.

Pyke, D.R.

1981: Relationship of Gold Mineralization to Stratigraphy and Structure in Timmins and Surrounding Area; p. 1-15 in Genesis of Archean, Volcanic-Hosted Gold Deposits, Symposium held at the University of Waterloo, March 7, 1980. Ontario Geological Survey, MO97, 175p.

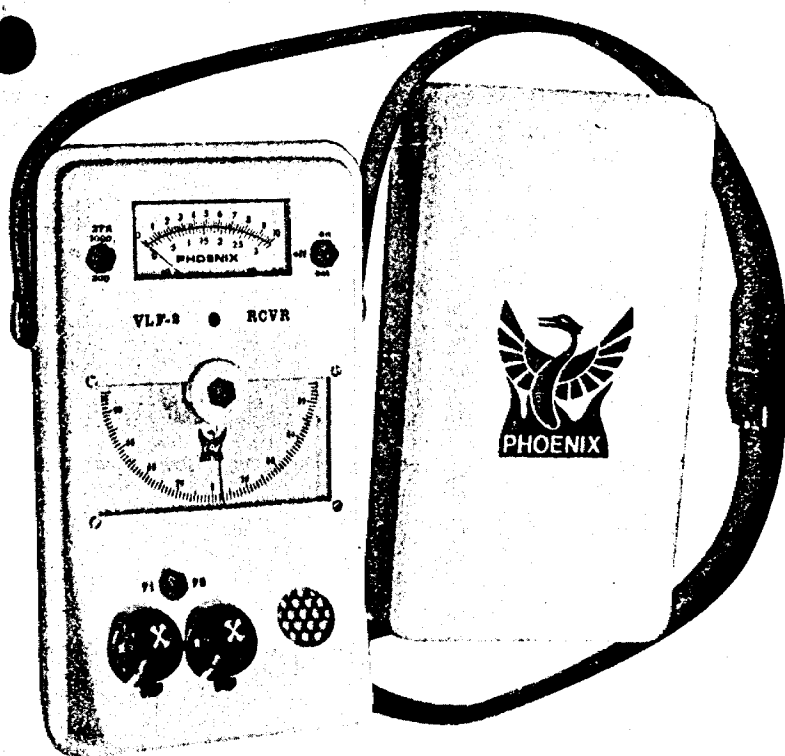
## APPENDIX A

DATE	PERSONEL	FUNCTION
June 3, 1982	Kian Jensen	Data Aquistion
June 5, 1982	Kian Jensen	Data Aquistion
June 8, 1982	Kian Jensen	Compilation, Interpretation and Report

# VLF-2

## Electromagnetic Unit

- Lightweight, low battery drain, rugged, simple to operate
- Two independent channels
- Each channel may select any station between 14.0 and 29.9 kHz
- Single crystal used for all frequencies
- Locking clinometer provides tilt-angle memory
- Superheterodyne detection and digital filtering provide extremely high selectivity and noise rejection



Military and time standard VLF transmitters are distributed over the world. These stations are used for geophysical EM surveying thus eliminating the need for a local transmitter and permitting one-man operation.

To ensure that a station excites the prospective conductor, two stations at approximately right angles are used during a survey (see data on back).

The choice of 160 frequencies in the range 14.0 to 29.9 kHz permits the use of a local EM transmitter when no suitable regular VLF station is available.



## PHOENIX GEOPHYSICS LIMITED

Geophysical Consulting and Contracting, Instrument Manufacture, Sale and Lease.

Head Office: 200 Yorkland Blvd. Willowdale, Ont., Canada M2J 1R5. Tel: (416) 493-6350  
310 - 885 Dunsmuir St. Vancouver, B.C., Canada V6C 1N5. Tel: (604) 684-2285  
4690 Ironton St. Denver, Colorado, U.S.A. 80239. Tel: (303) 373-0332

# Specifications

- Parameter Measured** : Orientation and magnitude of the major and minor axes of the ellipse of polarization.
- Frequency Selection, Front Panel** : Dual channel, front panel selectable (F1 or F2) each with independent precision 10-turn dial gain control.
- Frequency Selection, Internal** : F1 and F2 can be selected by internal switches within the range 14.0 to 29.9 kHz in 100 Hz increments.
- Detection And Filtering** : Superheterodyne detection and digital filtering provide a much narrower bandwidth and thus greater rejection of interfering stations and 60 cycle noise than conventional receivers.
- Meter Display** : 2 ranges: 0 to 300 or 0 to 1000. Background is typically set at 100. Meter is also used as dip angle null indicator and battery test.
- Audio** : Crystal speaker. 2500 Hz used as null indicator.
- Clinometer** :  $\pm 90^\circ$ ,  $+0.5^\circ$  resolution. Normal locking, push button release.
- Battery** : One standard 9v transistor radio battery. Average life expectancy - 1 to 3 months (battery drain is 3 mA)
- Temperature Range** :  $-40^\circ$  to  $+60^\circ$  C.
- Dimensions** : 8 x 22 x 14 cm (3 x 9 x 6 inches).
- Weight** : 850 grams (1.9 pounds).

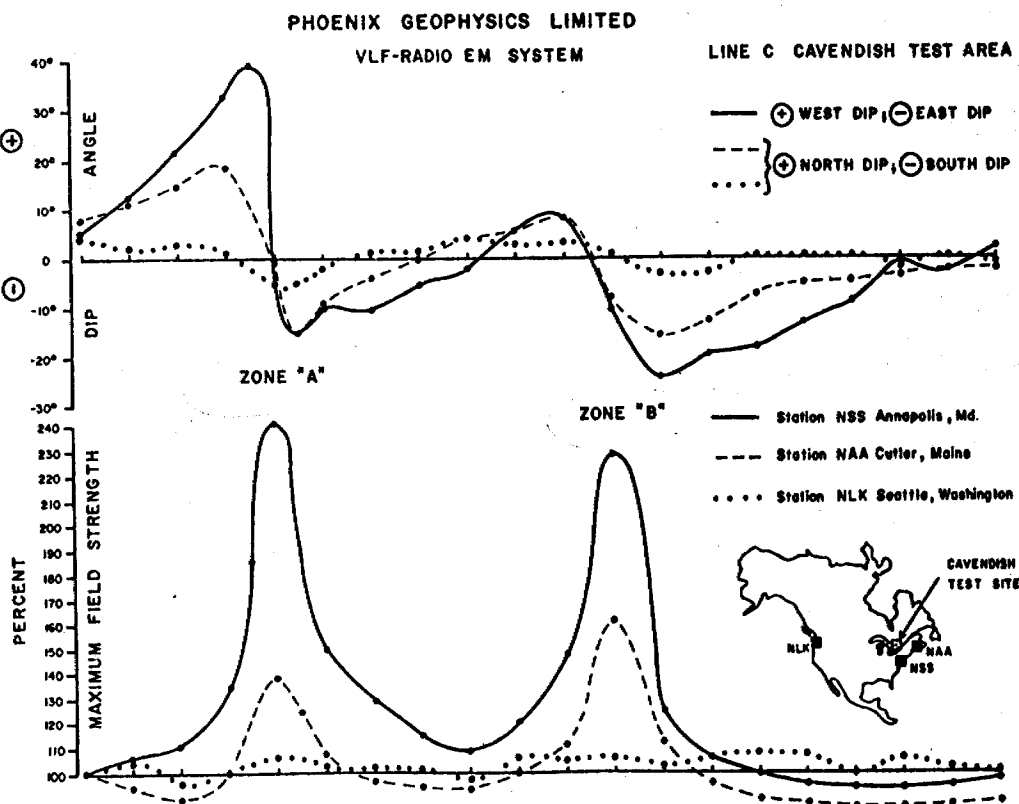
All of the established stations may be selected, or alternatively, a local VLF transmitter may be used which transmits at any frequency in the range 14.0 to 29.9 kHz.

VLF Station	Frequency (kHz)
Bordeaux, France	15.1
Odessa (Black Sea)	15.6
Rugby, U.K.	16.0
Moscow, U.S.S.R.	17.1
Yosama, Japan	17.4
Hegaland, Norway	17.6
Cutler, Maine	17.8
Seattle, Washington	18.6
Malabar, Java	19.0
Oxford, U.K.	19.6
Paris, France	20.7
Annapolis, Maryland	21.4
Northwest Cape, Australia	22.3
Laulualei, Hawaii	23.4
Buenos Aires, Argentina	23.6
Rome, Italy	27.2

# Field Data

Results below illustrate the need for using two orthogonal stations when the strike of the prospective conductor is not well-known. The dip angle and amplitude data measured using station NLK in Seattle, Washington, show only a very weak anomaly associated with the two conductive sulphide zones at Cavendish, Ontario.

The results obtained using Cutler, Maine reveal a more prominent anomaly, but the best response was obtained using Annapolis, Maryland since the station lies almost due south and the transmitted electromagnetic field is thus maximum-coupled with the North-South trending conductors.







Mining Lands Comments

~~is this number not on map~~

To: Geophysics *Mr. Barlow*

Comments

Approved  Wish to see again with corrections

Date *Jan 30 / 83* Signature *Ryan Barlow*

To: Geology - Expenditures

Comments

Approved  Wish to see again with corrections

Date Signature

To: Geochemistry

Comments

*LD*

Approved  Wish to see again with corrections

Date Signature

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

1982 07 05

2.4901

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

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic) survey submitted under Special Provisions (credit for Performance and Coverage) on mining claim P 532113 in the Township of Tisdale.

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

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1316

J. Skura/sc

c.c. Pamour Porcupine Mines Limited  
Timmins, Ontario  
Attn: Kian A. Jensen

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

**pamour**

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**MINING LANDS SECTION**

June 21, 1982

Mr. E. F. Anderson,  
Director,  
Land Management Branch,  
Whitney Block, Room 6450,  
Queens Park,  
TORONTO, Ontario.  
M7A 1W3

Re: VLF-EM Surevey Assessment Report for Mining Claim  
P.532113, Tisdale Township, District of Cochrane.

Dear Sir:

Please find enclosed the complete reports for claim  
P.532113. The required assessment form was filed in Timmins  
on June 8, 1982.

Yours truly,

*Kian Jensen*

Kian A. Jensen, B.Sc.,  
Exploration Geophysicist-  
Geologist.

KAJ/kg

*Inval.  
23969.*



Murphy Twp.

THE TOWNSHIP  
OF  
**TISDALE**

DISTRICT OF  
COCHRANE  
PORCUPINE  
MINING DIVISION

SCALE: 1-INCH=40 CHAINS


**LEGEND**

- PATENTED LAND (P)
- CROWN LAND SALE (S) or C.S.
- LEASES (L)
- LOCATED LAND (Loc.)
- LICENSE OF OCCUPATION (L.O.)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- ROADS
- IMPROVED ROADS
- KINGS HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- GEODECTIC STATION
- SURFACE RIGHTS ONLY PATENTED

**NOTES**

This township lies within the Municipality of CITY of TIMMINS.

400' Surface rights reservation around all lakes & rivers.

Town boundary of TIMMINS shown thus  NOW WITHIN THE CITY OF TIMMINS.

DATE OF ISSUE

FEB - 2 1983

Ministry of Natural Resources  
TORONTO

PLAN NO.- M. 315

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEY AND MAPPING BRANCH

Mountjoy Twp.

Whitney Twp.

VI

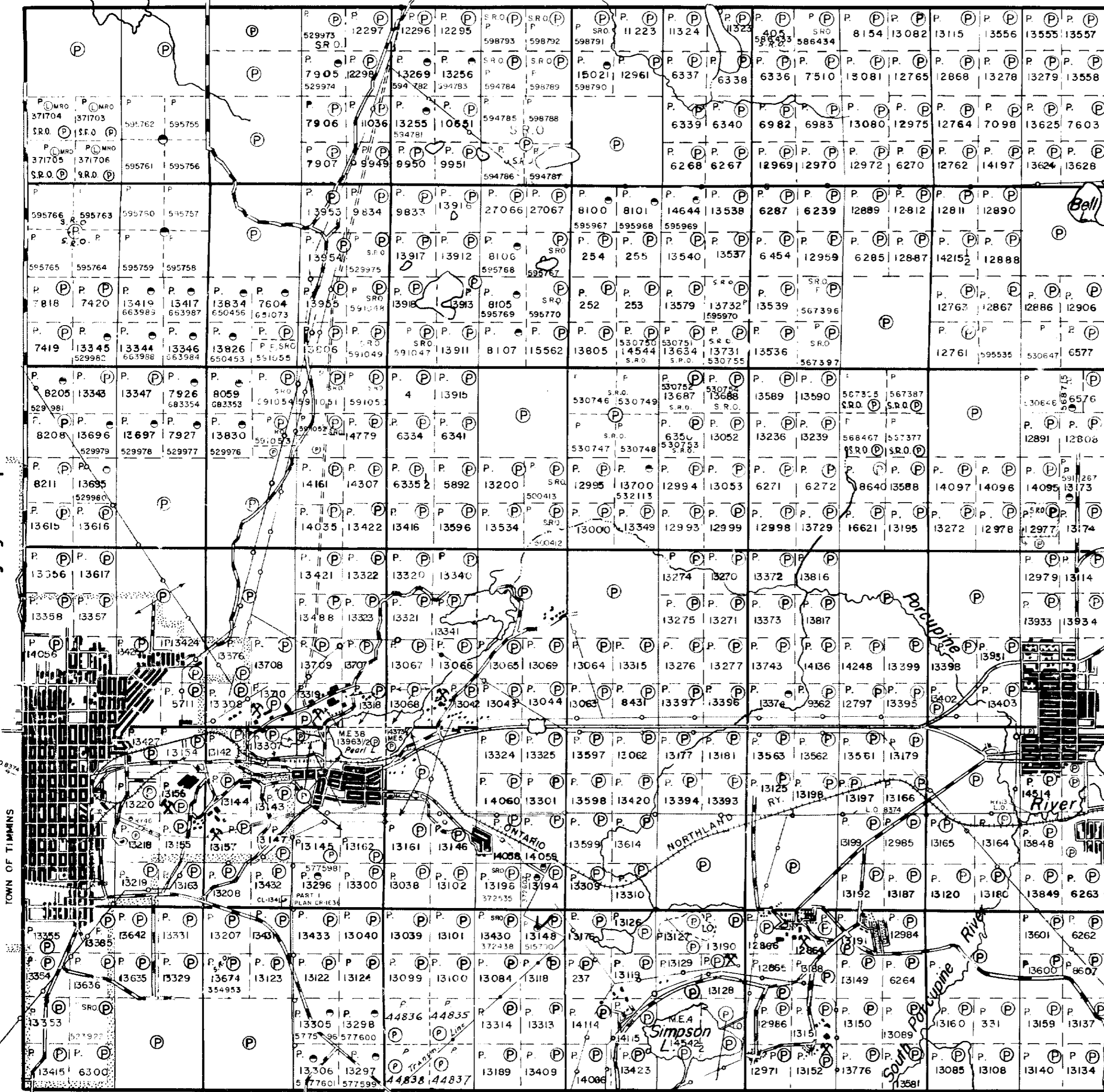
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IV

III

II

I



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Deloro Twp.



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