



42A155W0502 2.1141 AURORA

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RECEIVED  
FEB 1 1973  
PROJECTS  
SECTION

Geophysical Report  
of a  
Magnetometer Survey  
on claims 354198, 354199,  
354200, 354201

by

Robert S. Pekarik  
Geophysicist

The Magnetometer Survey was conducted by Shield Geophysics Limited under the direction of R. J. Bradshaw, P.Eng. The report was written by R. S. Pekarik, Geophysicist, who received his B.S. degree in Geophysics from the Pennsylvania State University and worked on geophysical surveys for Geoterrex Ltd. before operating independently.

↑ Qualification

(a) The claims are located in Northeastern Ontario, Porcupine Mining Division, Cochrane District, in Aurora township. This is 35 miles northeast of Timmins and 6 miles northwest of Iroquois Falls. They are accessible by routes 11, 578, local roads around Nellie Lake and an old logging road which goes directly to the claim group.

(b) The property is held by Robert S. Pekarik, P.O. Box 466, Shalimar, Florida 32579.

(c) This survey is submitted as assessment work by Robert S. Pekarik, P.O. Box 466, Shalimar, Florida 32579.

(d) The work was performed on, and the survey covers claims 354198, 354199, 354200, 354201.

(e) Linecutting was conducted September 14-21, 1972 and the magnetometer survey on September 22, 1972.

(f) The only outcrop on the claims is on claim 354201 and is pillowed lava. There are few outcrops in the township. South of the property and northeast of Nellie Lake are other pillowed lavas striking north and dipping east. Diabase dikes trending north-south cut these outcrops. To the east and northeast of the property, outcrops of granite and syenite are mapped along the Abitibi River, those closest to the property being gneissic.

(g) An aeromagnetic survey at 500 feet was conducted by Dominion Gulf Company in 1947 which covers the property. In 1959 a Turam electromagnetic survey was conducted for Lake Osu Mines over an aeromagnetic anomaly southeast of Cole Lake now covered by the property. Claims had been staked and dropped without recorded ground work over what is now claims 354198, 354199, 354200. The Canadian government sponsored surface geology investigations in 1961 and a 1000 foot aeromagnetic survey by Spartan Air Services Ltd. in 1963. The property was staked in June, 1972 by Robert S. Pekarik as a group of four claims. A ground magnetometer survey was conducted by Shield Geophysics for him in September, 1972.

(h) The 500 foot aeromagnetic survey revealed a prominent magnetic anomaly one half mile southeast of Cole Lake. Analysis by this author yielded a depth estimate of 300 feet and a steep easterly dip. The survey also disclosed that this anomaly occurs at the edge of a large ultrabasic intrusion extending to the south and southwest. Susceptibility analysis of magnetic highs in the ultrabasic intrusion showed them to be significantly less magnetic than the Cole Lake anomaly. In general the aeromagnetic map shows that the immediate area is a contact zone of granites and volcanics. A north striking feature is also obvious which is collinear along strike with the Cole Lake anomaly. On this map it interprets as a dike but there is a lack of information to the north as this was the edge of the survey.

The only record of the Turam survey attempted over the Cole Lake anomaly is that no conductors were detected. A power line 2000 feet away may have caused sufficient interference to invalidate the results.

The surface geology investigation confirmed that the area has granite volcanic contacts. A system of dikes confirms the existence of some structural weakness. The dikes were also collinear with the anomaly and the north striking feature mentioned before.

The 1000 foot aeromagnetic survey flight lines straddled the Cole Lake anomaly but indicated that it was on the edge of the ultrabasic intrusion. The survey extended further north than the previous one and better defined the feature north of the anomaly as a fault or dike filled fault.

The ground magnetic survey establishes a more exact location of the Cole Lake anomaly. The center of the 3500 gamma anomaly is at 8 E on line 4S. It shows a depth of 275 feet dipping steeply east. Again a north striking weakness is evident passing through the pillowed lava outcrop and at 5E on lines 0, 4N, 8N, and 12N. The depth and dip estimate and the location of the anomaly would agree with the possibility that the structural weakness could have provided the path for the emplacement of the magnetically anomalous material causing the anomaly. The survey also suggests that basic rock exists to the south of the anomaly, south of line 8S on claim 354200, probably as part of the large ultrabasic intrusion further south. The change in rock type is evident when compared to the magnetic values in the western part of the claim group on claim 354198. A change in rock type infers that part of the anomaly is due to the basic rock environment and partly to an anomalous concentration of magnetic material.

The magnetic anomaly defined by the ground survey is in the highly favorable Timmins region in an area of contacts between granites and volcanics on the edge of a large ultrabasic intrusion and possibly located on a structural weakness. It could be caused by a circular stock of highly magnetic basic rock or by nickelferous ore.

Report By:

Robert S. Pelant

GEOPHYSICAL - GEOLOGIC  
TECHNICAL DATA



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PROJECTS  
SECTION

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 Magnetic Survey  
Township or Area Aurora Township  
Claim holder(s) Robert S. Pekarik  
P.O. Box 466, Shalimar, Fla., U.S.A.  
Author of Report Robert S. Pekarik  
Address as above  
Covering Dates of Survey Sept. 14, 1972-Jan. 29, 1973  
(linecutting to office)  
Total Miles of Line cut 4.52 miles

MINING CLAIMS TRAVERSED  
List numerically

P 354198  
(prefix) (number)  
354199  
354200  
354201

SPECIAL PROVISIONS  
CREDITS REQUESTED

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

ENTER 20 days for each  
additional survey using  
same grid.

DAYS  
per claim  
Geophysical  
--Electromagnetic 40  
--Magnetometer  
--Radiometric  
--Other  
Geological  
Geochemical

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: January 29, 1973 SIGNATURE: Robert S. Pekarik  
Author of Report or Agent

PROJECTS SECTION  
Res. Geol. \_\_\_\_\_ Qualifications on his file  
Previous Surveys L.D.

Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

TOTAL CLAIMS 4

If space insufficient, attach list

OFFICE USE ONLY

Show instrument technical data in each space for  
type of survey submitted or indicate "not applicable"

## GEOPHYSICAL TECHNICAL DATA

### GROUND SURVEYS

Number of Stations 234 Number of Readings 468  
Station interval 100'  
Line spacing 400'  
Profile scale or Contour intervals 100 gammas  
(specify for each type of survey)

### MAGNETIC

Instrument Sharpe M.F.-1 fluxgate magnetometer  
Accuracy - Scale constant + or- 10 gammas  
Diurnal correction method check of base stations at no greater than 1 hour intervals  
Base station location along base line at 400' intervals from Line 0

### ELECTROMAGNETIC

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)

Parameters measured \_\_\_\_\_

### GRAVITY

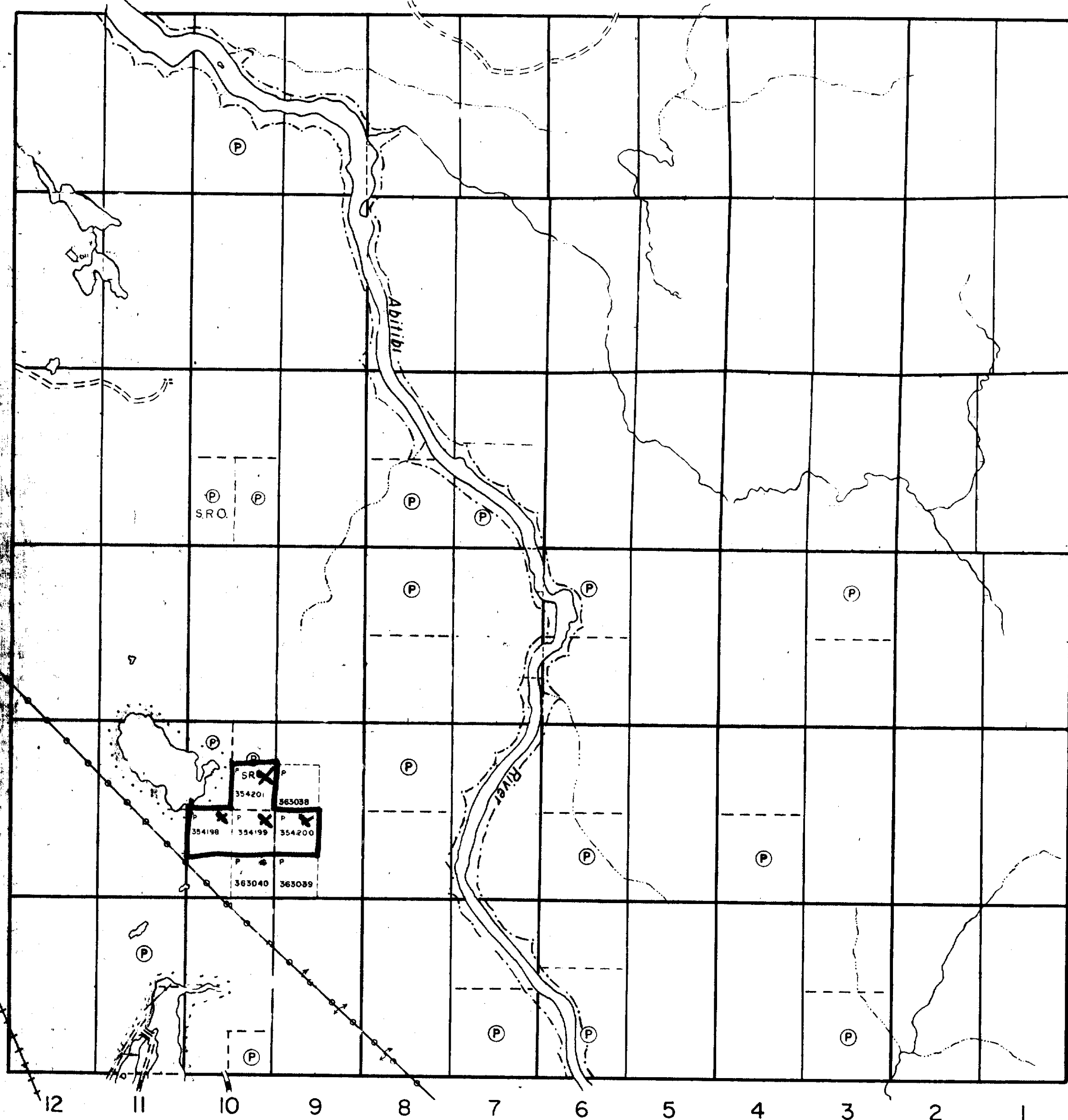
Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

### INDUCED POLARIZATION - RESISTIVITY

Instrument \_\_\_\_\_  
Time domain \_\_\_\_\_ Frequency domain \_\_\_\_\_  
Frequency \_\_\_\_\_ Range \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_

Pyne Twp.



Calvert Twp.

VI

V

IV

III

II

I

Edwards Twp.

THE TOWNSHIP OF

# AURORA

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE 1-INCH = 40 CHAINS

### LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	CS
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	— — — — —
IMPROVED ROADS	— — — — —
RAILWAYS	— + + + —
POWER LINES	— o — o —
MARSH OR MUSKEG	~ ~ ~ ~ ~
TRAIL	— · — · —
WATER POWER LEASE	W.P.L.

### NOTES

400' Surface rights reservation around all lakes and rivers.

Flooding area shown thus:  
Flooding rights reserved to H.E.P.C.

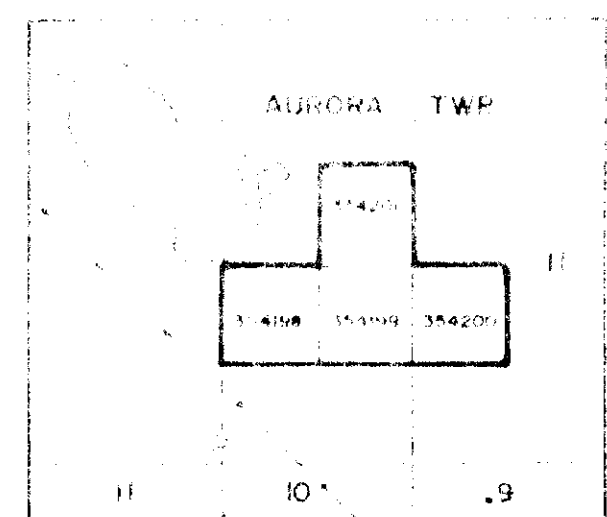
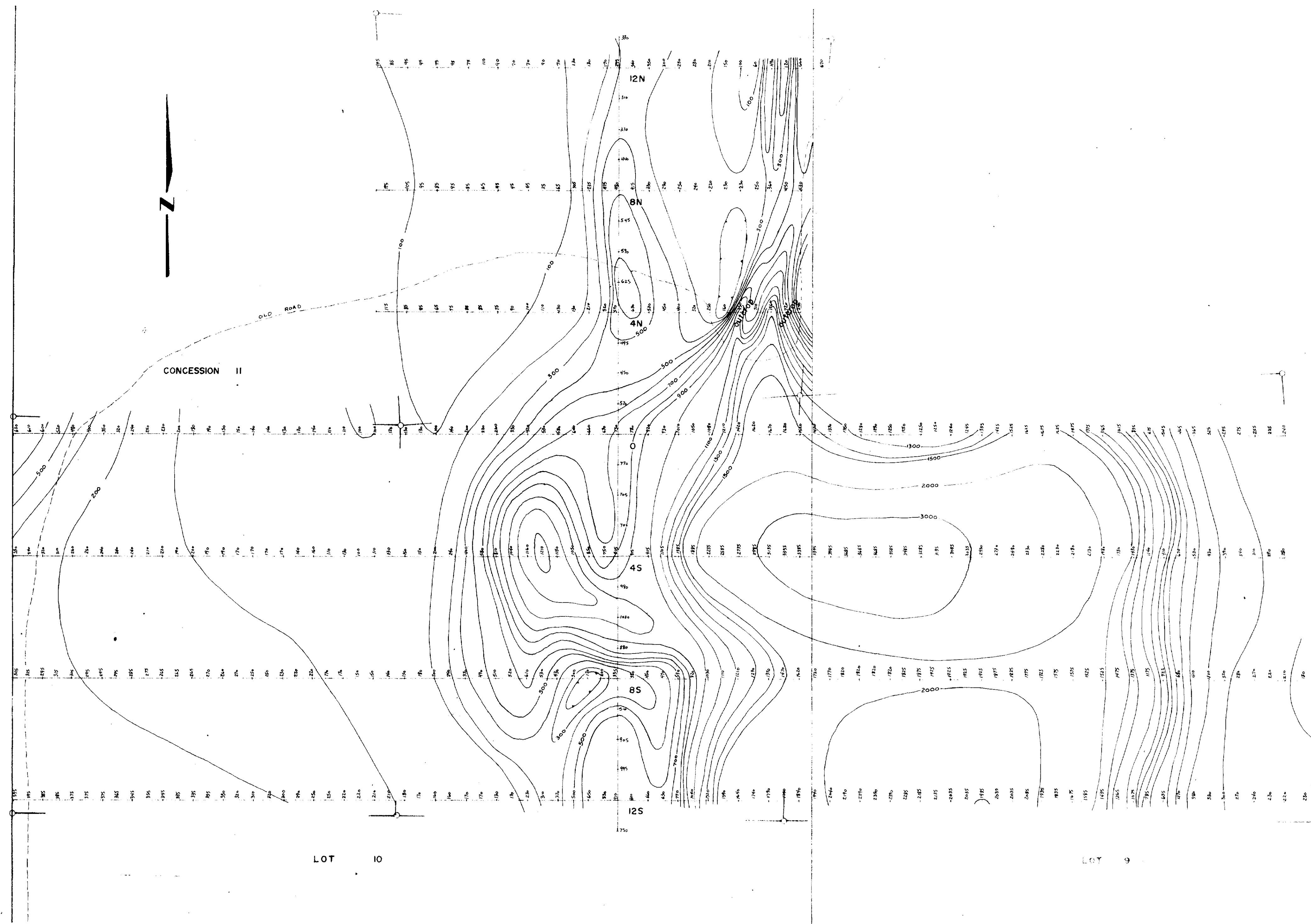
MINING LANDS  
 DATE OF ISSUE  
 FEB 6 1973  
 MINISTRY  
 OF NATURAL RESOURCES

PLAN NO. — M. 408

MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH







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KEY MAP  
one inch to one half mile

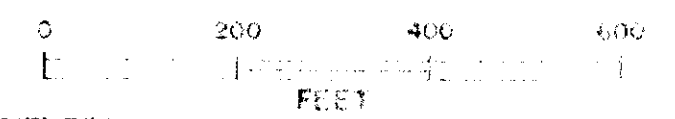
LEGEND

-  Measurement station along picket line
-  Relative value of the vertical component of the earth's magnetic field in gammas
-  Magnetic contour
-  Magnetic depression

INSTRUMENT: Sharpe M.F.-I fluxgate

Report by:  
*Robert S. Pekarik*

MAGNETOMETER SURVEY  
ON THE  
R. S. PEKARIK PROPERTY  
AURORA TOWNSHIP, ONTARIO  
BY  
SHIELD GEOPHYSICS LIMITED  
SCALE



SEPTEMBER 1972

