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MINING LANDS SECTION

REPORT ON  
MAGNETOMETER SURVEY  
FOR  
TARBUSH LODE MINING LTD.  
SIOUX LOOKOUT AREA, ONT.

June 3, 1981

Robert L. V. Ekstrom  
B.A.Sc. P.Eng.



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## INTRODUCTION

In November, 1980 Tarbush Lode Mining Ltd. (Suite 1250, 2 Robert Speck Pkwy., Mississauga, Ont.) requested Canadian Oresearch Inc. to carry out magnetometer surveys on two groups of claims in the Sioux Lookout area of northwestern Ontario on which linecutting was in progress. Although linecutting had commenced in late October, the work was delayed by open swamp and weather consequently the grids were not completed until February, 1981. Final magnetometer surveys on the lakes were then completed. The whole of the East group was surveyed and parts of the West group, lying north and south of an earlier partial survey, were surveyed.

## SUMMARY

Tarbush Lode Mining Ltd. holds two groups of claims in the Sioux Lookout area of Ontario on which linecutting and magnetometer surveys were carried out from October, 1980 to March, 1981.

The claims are on either side of and along strike from the Goldlund-Windfall gold deposits. The East group of 22 unpatented claims are underlain by basic volcanic rocks, acid volcanic rocks and possible acid intrusives. The West group, of which 34 unpatented claims or part claims were surveyed in the current survey are underlain by basic volcanics, sediments and a granite plug. Both groups

have reported occurrences of gold and acid intrusives on the claims or close by.

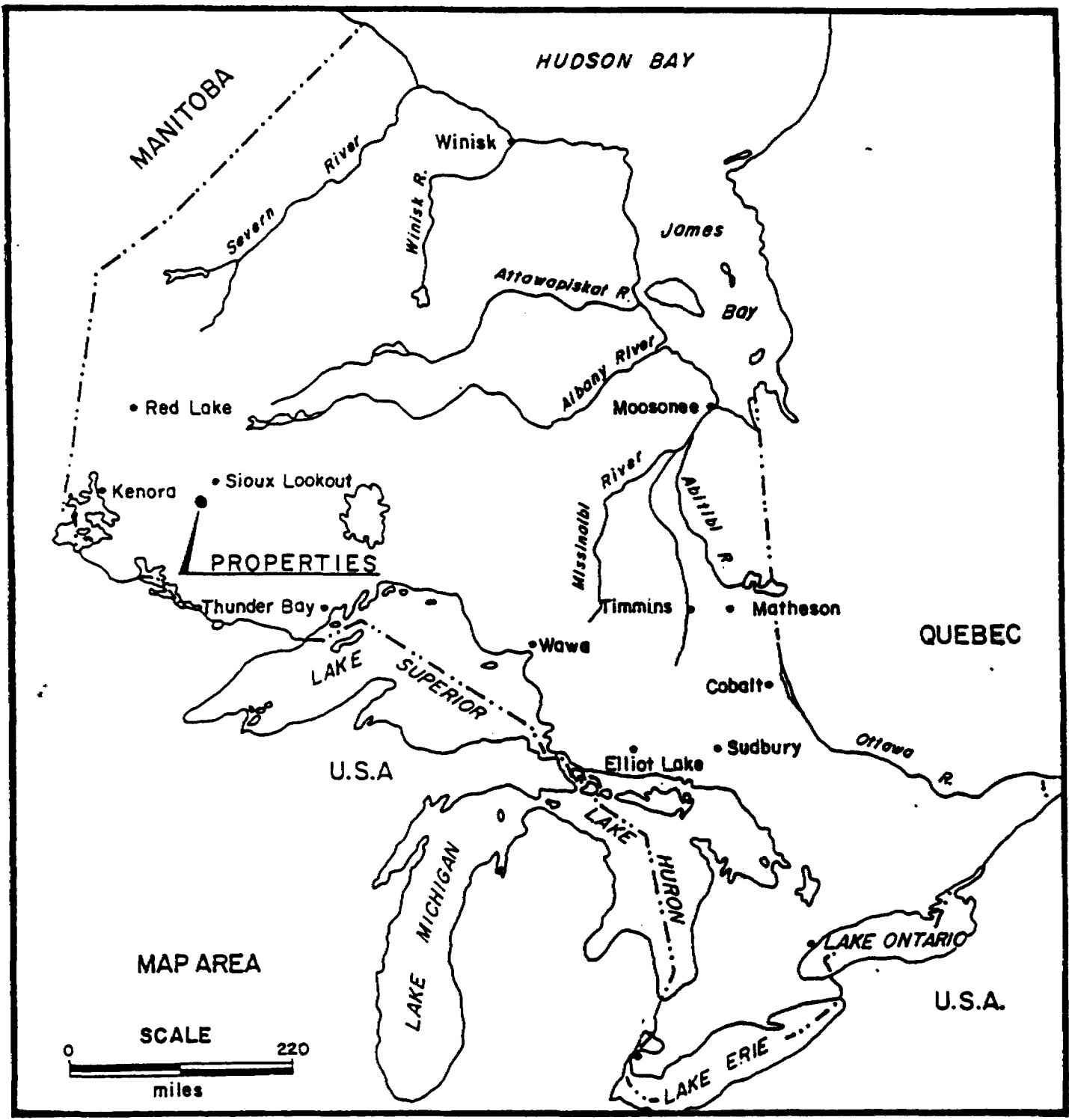
The properties are well located and a programme of work is recommended. All previous data should be correlated to the current survey, old drill collars should be located in the field and if necessary a geological survey should be carried out. Diamond drilling should then be done on targets located.

PROPERTY, LOCATION AND ACCESS

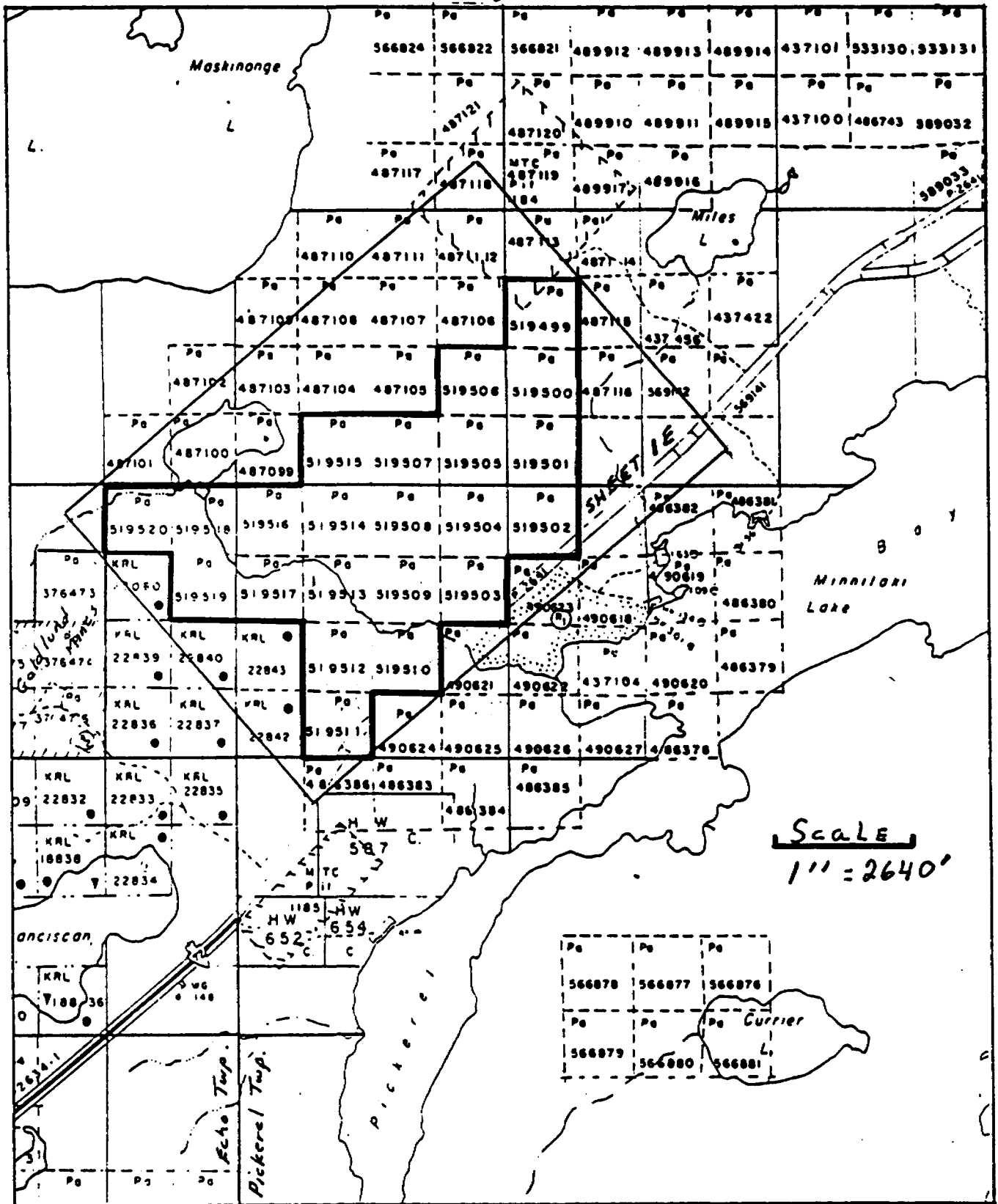
The properties of Tarbush Lode Mining Ltd. covered in the present surveys are comprised of two groups of unpatented claims lying some 160 miles northwest of Thunder Bay in north-western Ontario. The East and West groups are located immediately north of Highway 72, 20 miles and 28 miles respectively west south-west of Sioux Lookout.

The following table lists the claims on which surveys were carried out during the current work:

<u>Group</u>	<u>Claim Nos.</u>	<u>Claims</u>	<u>Township</u>	<u>Mining Division</u>
East	Pa 519499- 519517	19	Pickerel	Patricia
	Pa 519518- 519520	<u>3</u>	Echo	"
	Total - East 22			
West	Pa 436907 436910-11 437008-12	8	Echo	"
	Pa 436913-16 436998 437000-01 437222-23 437225 437229-31 437233-36 533204-09	23	McAree	"
	437237-39	<u>3</u>	Laval	Kenora
	Total - West 34			



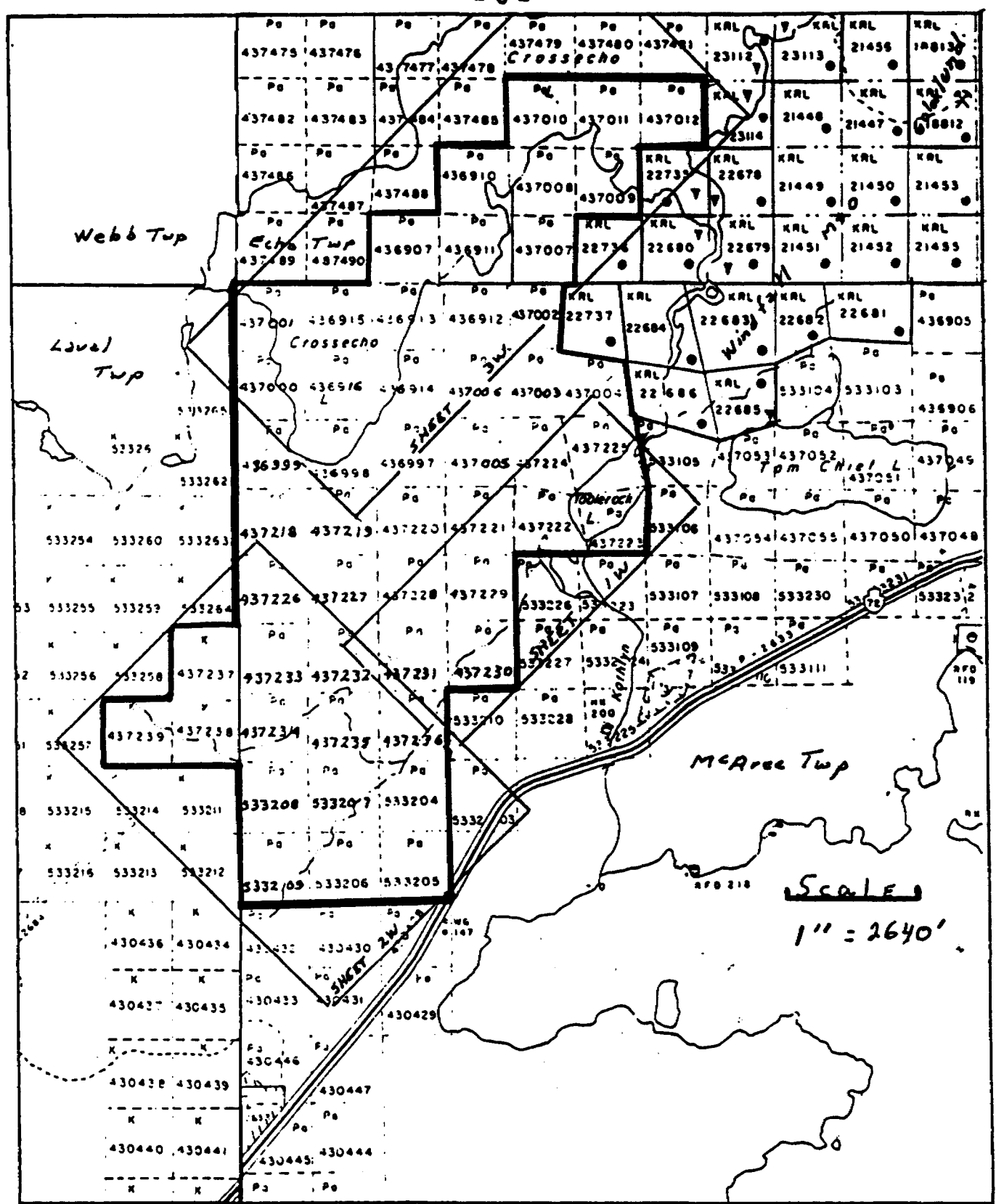
Tarbush Lode Mining Ltd.  
PROPERTY LOCATION MAP  
Sioux Lockout Area



Tartush Lode Mining Ltd.

CLAIM & MAP SHEET LOCATION MAP  
EAST GROUP

Scale 1" = 2640'



Tarbush Lode Mining Ltd.

CLAIM & MAP SHEET LOCATION MAP  
WEST GROUP  
Scale 1" = 2640'



Access to both groups is easily made from Highway 72.

The East group lies along the geological formational trend to the northeast of Goldlund Mines, although only actually joining that property at one common corner. The west group lies immediately to the southwest of the Windfall Mines and Oils property with a strip of three patented claims between the two properties.

#### ENVIRONMENT

Topography is relatively flat on both groups with low ridges parallel to the rock trend rising a maximum of seventy-five feet above the lowest swamps.

Drainage is generally poor and much of the wooded flat areas are marshy.

The area has been extensively cut and burned-over and very little timber remains with second growth balsam, birch and poplar covering the areas.

There are many large lakes close to the groups with minor small lakes and beaver ponds on the claims.

Winters are generally long and cold with an abundance of snow. The 1980-81 winter was surprisingly mild and had very little snow.

#### HISTORY

Prospecting in the area began in the late 1800's following the discovery of gold in the Lake of the Woods area and a belt of

favourable rocks was traced from Lake of the Woods through Sioux Lookout to Sturgeon Lake to the east. A renewal of activity occurred in 1909 with the construction of the Canadian National Railway.

Numerous occurrences of gold and other minerals were located in the area with the Echo Township deposits located in the mid 1940's. Since then Goldlund and Windfall (lying between the Tarbush Groups) are indicated to be potential producers. Shaft sinking, underground exploration, diamond drilling and other surface work has been carried out on both properties.

Work on the Tarbush East Group included ground magnetometer surveys and geological mapping by Clinger Gold Mines Ltd. in 1948 and Mosher Long Lac Mines Ltd. in 1947 and 1950. Parts of the West Group were drilled by Bride Echo Lake Mines in 1950 and geological mapping and drilling were carried out by Conwest Exploration Co. the same year.

Tarbush Lode Mining Ltd. carried out magnetometer surveys on the central core of the West Group in the summer of 1980 and three preliminary diamond drill holes were completed in late 1980. The grid for the present work was commenced in October, 1980 and surveys were completed in March, 1981.

#### GEOLOGY

The claim groups lie along a WSW-ENE trending belt of metavolcanic and metasedimentary rocks with younger granitic rocks

on both sides and in places intruding the belt as plugs, tongues, dykes and sills. All the rocks are Precambrian age.

The volcanics are generally basic flows and clastics with minor more acid sections. The sediments are arkose, greywacke, conglomerate, slate and iron formation. Quartz porphyry and feldspar porphyry found only in the volcanic rocks are assumed to be older than the sediments.

Geological mapping to date indicates the East group to be underlain by basic volcanics with some quartz porphyry observed near the west boundary. Bands of felsic volcanics may touch the northeast corner and the southern edge of the group.

The West group is indicated to have basic volcanics crossing the northern part of the group with sediments to the south-east. Part of a granite plug lies in the northwestern part of the group. Logs of the previous drilling indicate that quartz and/or feldspar porphyry and granodiorite have been intersected on the property.

The Goldlund and Windfall gold deposits occur with quartz veins in a granodiorite intrusive.

#### MAGNETOMETER SURVEY

The survey was carried out using a McPhar M-700 fluxgate magnetometer. The instrument measures the vertical magnetic field. The instrument is self leveling and is equipped with a latitude adjustment screw. The instrument has a range of plus or minus 100,000 gammas with full scale meter settings at 1000, 3000, 10000, 30000 and 100000 gammas. Sensitivity is 20 gammas per scale

division on the 1000 gamma setting and readability is five gammas.

The survey was carried out on grids of lines at 400-foot spacing cut from base lines. All lines were chained with pickets at 100-foot intervals. Readings were taken at 50-foot intervals along the lines. All readings were taken facing grid west.

At the start of the survey the prime base on Goldlund Mines' base line was read and the latitude adjustment made to bring the reading close to the value of that base which is 450 gammas. A base on the East grid was tied in to the Goldlund base and further bases carried from there as required. Bases were set out so that loop station tie-ins would be not longer than two hours. Readings were corrected for diurnal variations, plotted at one inch equals two hundred feet and contoured at 500 gamma intervals.

#### SURVEY RESULTS

##### East Grid

The magnetometer survey confirms the west southwest - north northeast general trend of the rocks. Readings were seen to be erratic with large changes of intensity in short distances. Numerous long narrow high ridges are present lying on general broad highs with broad lows between. Prominent lows extend from 800W, 050N to 7200E, 1600S; 800W, 1000N to 4400E, 300S; and 800W, 1900N to 1200E, 1600N (a, b and c respectively).

Magnetic lows below zero gammas lie in the northeastern corner and along the southwestern edge of the group.

##### West Grid

The magnetometer survey map of the claims in the northern

part of the group (Sheet 3W) under Crossecho Lake shows a broad low anomaly under the northern and western claims. Three moderate high ridges occur in the three northeastern claims which trend NE-SW.

On Sheets 1W and 2W a belt of sharp high ridges with no pronounced lows is seen striking NE-SW through the map sheets. To the northwest and along the southeast side are pronounced lows. Two high ridges and one steeper trough lie in the low area.

### CONCLUSIONS

#### East Grid

The elongated troughs mentioned above (a, b & c) may represent magnetic lows over acid intrusive rocks. Low anomaly (a) may be the expression of the mapped outcrop of quartz porphyry south of the baseline at 800W. Anomalies (b) or (c) could be the continuation of the granodiorite horizon from the Goldlund property (location from verbal communication).

The lows in the northeast corner and along the southwest edge may be over acid volcanic rocks.

The erratic nature of the readings (particularly the high readings) probably indicate narrow bands of magnetite-rich volcanic flows or tuff. The steep profiles also indicate relatively shallow overburden.

#### West Grid

The low anomaly on Sheet 3W is probably basically representative of the granite intrusive. An outcrop of greenstone

on the lakeshore at the township line gave similar low readings and it will be necessary to map outcrops to differentiate between the rocks in this area. The high anomalies in the northeast corner continue anomalies seen on the mainland to the southwest.

In the central volcanic belt seen on Sheets 1W and 2W, no definite low trough was seen which might indicate a strong acid intrusive body. The low anomaly in the northwest part of the grid is probably on the continuation of the granite plug which extends up to Crossecho Lake. The low on the south side of the sheets is probably on sediments with lenses of iron formation (either magnetite or sulphide) explaining the ridges.

The claim groups are well located on the strike of the Goldlund-Windfall gold bearing structure. Traces of gold have been reported on the West group and on both sides of the East group. Acid intrusive rocks favourable for gold deposition have been reported to be on both groups. The claims represent a good exploration possibility and more work should be carried out.

#### RECOMMENDATIONS

The data on both claim groups is not sufficiently complete to spot holes for a diamond drill programme without some preliminary work.

A detailed study of the existing government and assessment data should be made with an attempt to correlate previous work to

the present survey. A field programme should also be carried out. Location of the old drill collars and some key previously mapped outcrops may be sufficient or it may be required to map the area completely.

A drill programme should be fielded as soon as sufficient data is available at any stage in the above recommended programme.

Respectfully submitted

A circular professional seal for a Registered Professional Engineer in the Province of Ontario. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top inner edge and "PROVINCE OF ONTARIO" around the bottom inner edge. In the center, the name "R. L. V. EKSTROM" is printed, with "Robert L. V. Ekstrom" written in cursive below it. The initials "B.A.Sc." and "P. Eng." are also present. A signature is written across the seal, and a horizontal line is drawn through the name.

R. L. V. EKSTROM  
Robert L. V. Ekstrom  
B.A.Sc. P. Eng.

B I B L I O G R A P H Y

- M. E. Hurst - Geology of Sioux Lookout Area  
O.D.M. An. Rep. 1932 Pt. VI p. 1-33 (Map No. 4lh).
- F.J. Johnston - Geology of the Western Minnitaki Lake Area  
(Map 2155) O.D.M., Geol. Rep. 75, 1969.
- Ont. Geol. Survey - Preliminary Maps P.2332, P.2333, P.2334.  
- Assessment work files.





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### 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) Magnetometer  
Township or Area Pickering, Eche, M<sup>o</sup>Arce & Level Tps  
Claim Holder(s) Tarbusk Lode Mining Ltd

Survey Company Canadian Overseas Inc  
Author of Report Robert L.V. Ekstrom  
Address of Author 1 Ralph Rd, Toronto Ont.  
Covering Dates of Survey Oct 20 - May 28/81  
(linecutting to office)  
Total Miles of Line Cut 48.458

#### MINING CLAIMS TRAVERSED List numerically

- P<sub>2</sub> 436907 ✓  
(prefix) (number)
- P<sub>2</sub> 436910 - 11 ✓
- P<sub>2</sub> 436913 - 16 ✓
- P<sub>2</sub> 436998 ✓
- P<sub>2</sub> 437000 - 01 ✓
- P<sub>2</sub> 437008 - 12 ✓
- P<sub>2</sub> 437222 - 23 ✓
- P<sub>2</sub> 437225 ✓
- P<sub>2</sub> 437229 - 31 ✓
- P<sub>2</sub> 437233 - 36 ✓
- K 437237 - 239 ✓
- P<sub>2</sub> 519499 - 520 ✓
- P<sub>2</sub> 533204 - 09 ✓

If space insufficient, attach list

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	<u>DAYS per claim</u>
ENTER 40 days (includes line cutting) for first survey.	Geophysical - Electromagnetic _____
	- Magnetometer <u>40</u>
ENTER 20 days for each additional survey using same grid.	- Radiometric _____
	- Other _____
	Geological _____
	GEOCHEMICAL _____

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

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

DATE: June 5/81 SIGNATURE: Robert Ekstrom  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications 2.737

#### Previous Surveys

File No.	Type	Date	Claim Holder
			L.O

MINING RECORDS OFFICE - TORONTO  
**RECEIVED**  
JUN - 5 1981  
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

TOTAL CLAIMS 56

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 2585 Number of Readings 5130
Station interval 100 feet Line spacing 400 feet
Profile scale
Contour interval 500 gammas

MAGNETIC

Instrument McPhar M700 Fluxgate Magnetometer
Accuracy - Scale constant 20 gammas per scale div on 2000 gamma range
Diurnal correction method Base station tie-ins less than 2 hours
Base Station check-in interval (hours) less than 2 hrs
Base Station location and value Main base on Goldlund property 4509 gamma
Group bases on R

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
Method [ ] Time Domain [ ] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode



Ministry of  
Natural  
Resources

Ontario

Your file: 52F/16 NE (47)

1982 07 26

Our file: 2.3930

Mining Recorder  
Ministry of Natural Resources  
P.O. Box 669  
Sioux Lookout, Ontario  
POV 2T0

Ministry of Natural Resources

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JUL 22 1982

RESIDENT GEOLOGIST  
SIOUX LOOKOUT

Dear Sir:

RE: Magnetometer Survey on Mining Claims  
Pa.436907 et al, in the Townships of  
Pickernel, Echo, McAree and Laval

The Magnetometer Survey assessment work credits as listed with my Notice of Intent dated February 5, 1982 have been approved as of the above date.

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

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

A. Barr/sc

c.c. Tarbush Lode Mining Limited  
Mississauga, Ontario

c.c. G.H. Ferguson, Q.C.  
Mining & Lands Commissioner  
Toronto, Ontario

c.c. C.J. Kuryliw  
Sault Ste. Marie, Ontario

c.c. Robert L.V. Ekstrom  
Toronto, Ontario

c.c. ✓ Resident Geologist  
Sioux Lookout, Ontario

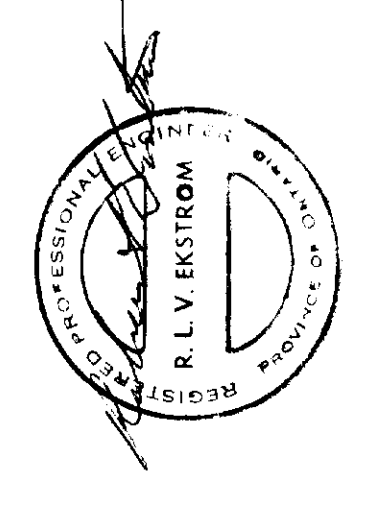
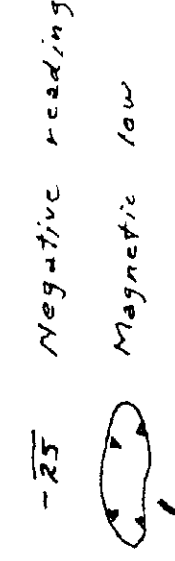
FOR ADDITIONAL  
INFORMATION

SEE MAPS:

52F/16NW-0058 # (1-4)

**LEGEND**

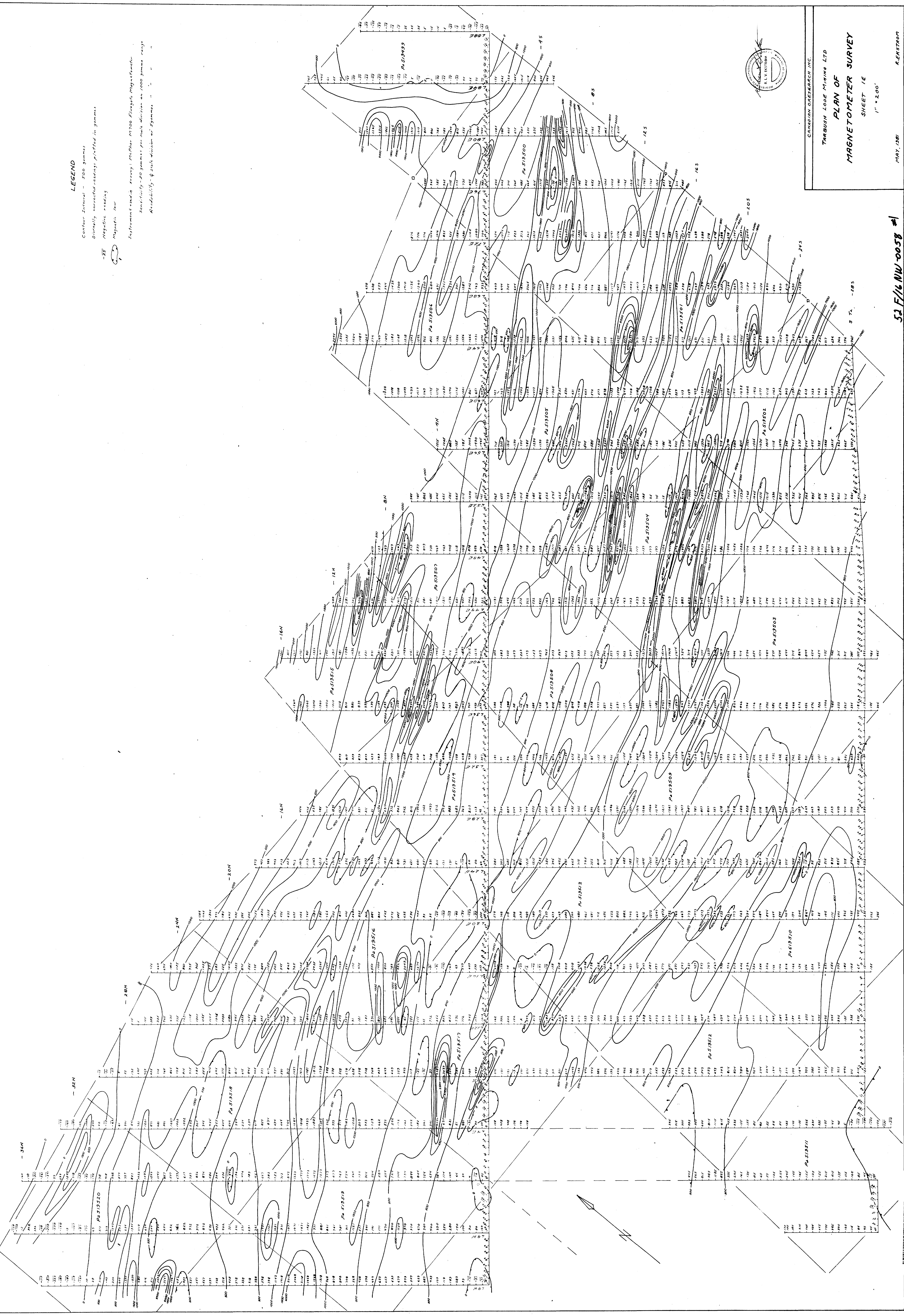
- Contour Interval - 500 gamma
- Originally corrected readings plotted in gamma
- Magnetic declination
- Instrument used: Surveying Magnetometer Model M7000
- Sensitivity: 20 gamma per scale division on 2000 gamma range
- Accuracy:  $\pm 1$  gamma

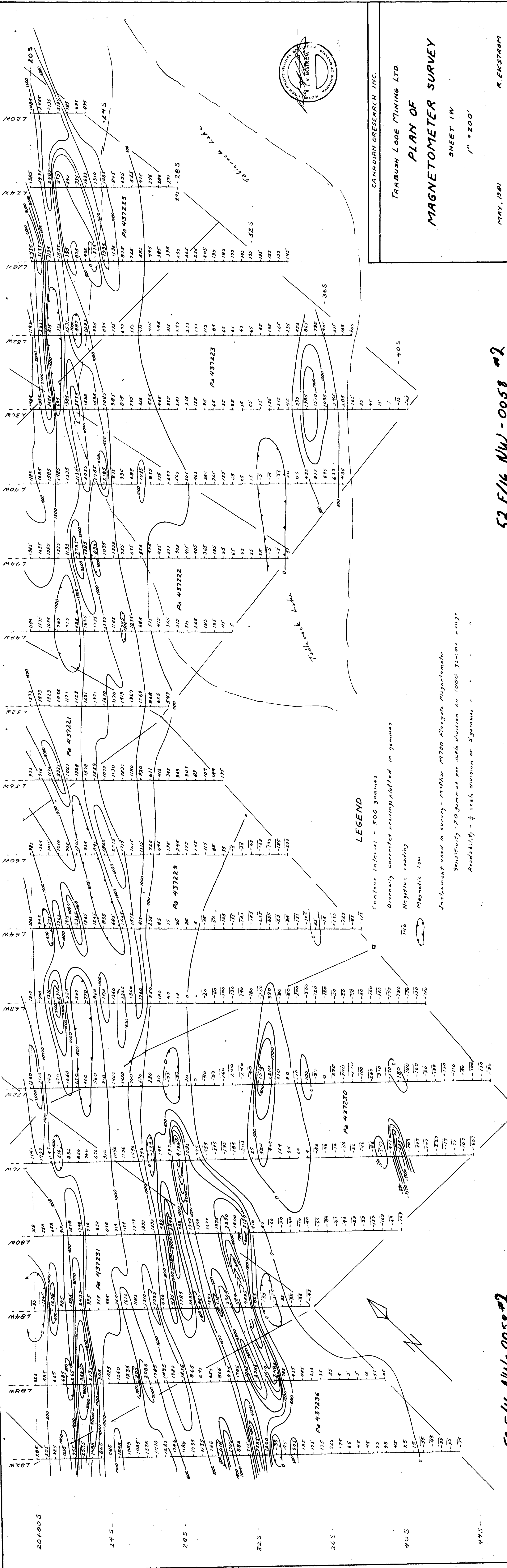


CANADIAN GEOSPATIAL RESEARCH INC.  
TARBUSH LOOSE MINING LTD  
**PLAN OF  
MAGNETOMETER SURVEY**  
SHEET 1E  
1" = 200'

52 File NW-0058 #1

MAY 1981  
A. EKSTROM





CANADIAN ORESEARCH INC.

TARBUSH LOOSE MINING LTD.

## PLAN OF MAGNETOMETER SURVEY

SHEET 1W  
1" = 200'

MAY, 1961  
R. EKSTROM

**LEGEND**

Contour Interval - 500 gammas

Diurnally corrected readings plotted in gammas

-176 Negative reading

Magnetic low

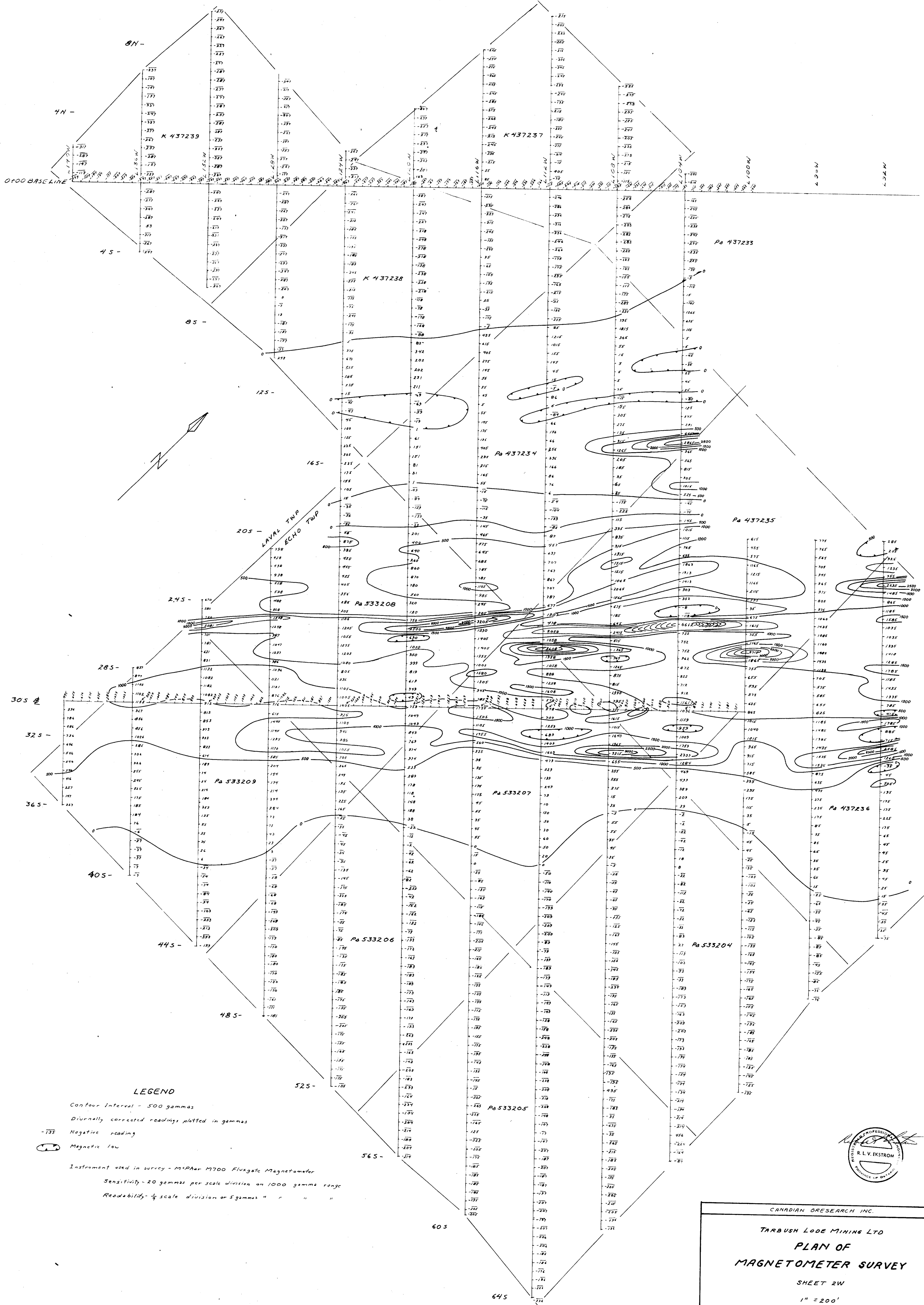
Instrument used in survey - Maphar M700 Fluxgate Magnetometer

Sensitivity - 20 gammas per scale division on 1000 gammas range

Readability - 1/4 scale division or 5 gammas

52 F/16 NW-0058 #2

51 E/11 NW-0058 #2




**LEGEND**

Contour Interval - 500 gammas

Diurnally corrected readings plotted in gammas

-733 Negative reading

 Magnetic low

Instrument used in survey - MPAAR 1700 Fluxgate Magnetometer

Sensitivity - 20 gammas per scale division on 1000 gamma range

Readability - 1/4 scale division or 5 gammas



CANADIAN RESEARCH INC.

TARBUSH LODE MINING LTD  
**PLAN OF  
 MAGNETOMETER SURVEY**

SHEET 2W

1" = 200'

52 F/16 NW-0058 # 3

MAY, 1981

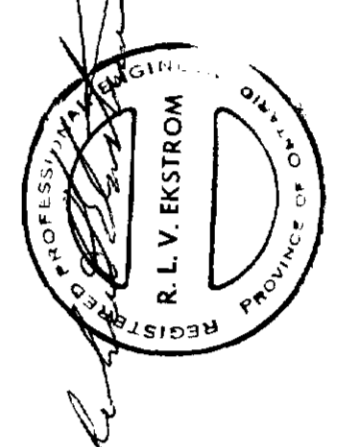
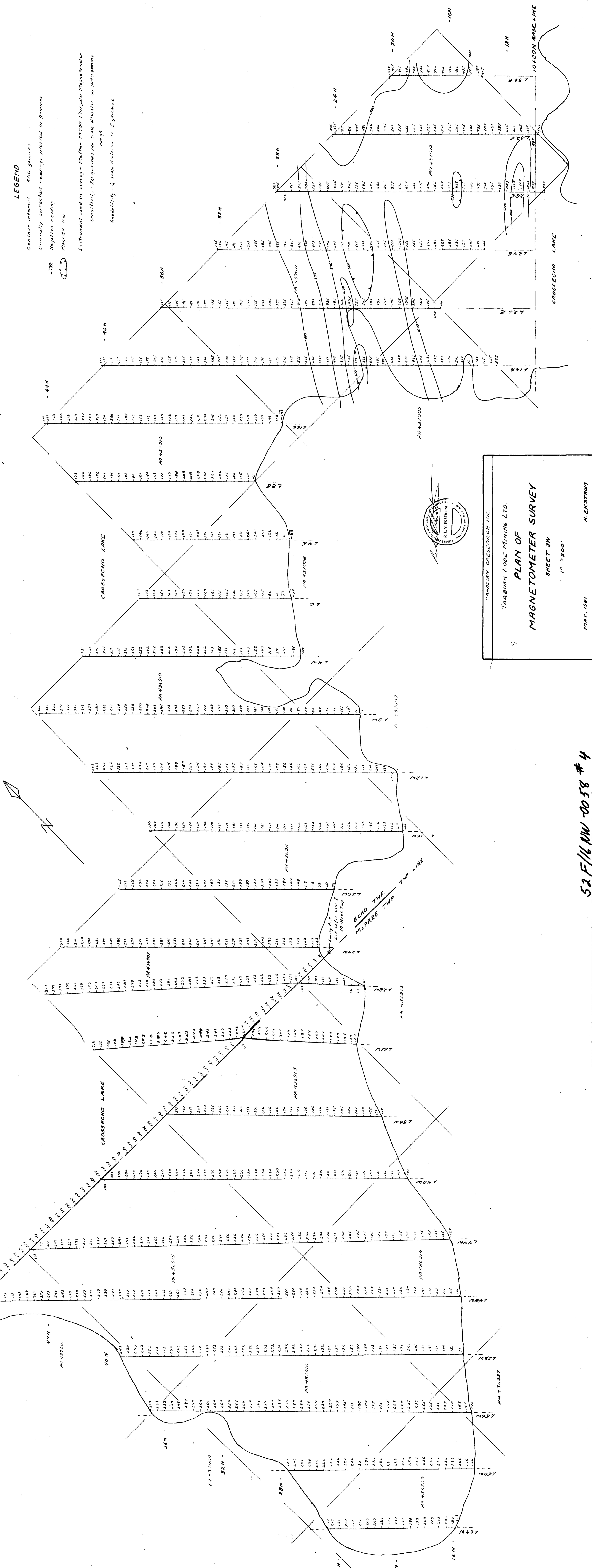
R. EKSTROM



**LEGEND**

Contour interval - 500 gammas  
Normally corrected readings plotted in gammas  
-772 Negative readings  
Magnetics low

Instrument used in survey - McPhar M700 Fluigate Magnetometer  
Sensitivity - 20 gammas per scale division on 1000 gamma range  
Readability - 1/4 scale division or 5 gammas



CANADIAN RESEARCH INC.  
TARBUSH LODGE MINING LTD.  
**PLAN OF  
MAGNETOMETER SURVEY**  
SHEET 3W  
1" = 200'  
MAY, 1981  
R. EKSTROM

52 F/16 NW 0058 # 4

