



42A07NE0233 63.2184 SHERATON

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VERTICAL MAGNETIC INTENSITY  
SURVEY

VERTICAL MAGNETIC INTENSITY SURVEY

on  
The Jarvi Option  
Sheraton Township  
by

Tri-J Mineral Surveys Ltd.

INTRODUCTION

A vertical magnetic intensity survey began on July 20, 1966 and was completed on July 31, 1966 on 30 claims located in the Township of Sheraton, Larder Lake Mining Division. This survey was performed by Tri-J Mineral Surveys Ltd., Box 820, South Porcupine, Ontario under the supervision of A.J. O'Donnell, Geologist, 15 Cody Avenue E. Timmins, Ontario.

LOCATION & ACCESSIBILITY

The claims are located in Concession 3 & 4 lots 1-2 & 3 Sheraton Township, Larder Lake Mining Division. The thirty unpatented claims are described as follows:

L-81418 to L-81420	Incl.	L-81423 to L-81426	Incl.
L-81429 to L-81432	Incl.	L-85883 to L-85891	Incl.
L-86837 to L-86846	Incl.		

The property can be reached by travelling east on highway No. 11 to the Gibson Lake road, thence south for approximately 27 miles. In order to travel the last two miles and be located on the south east corner of the property it is necessary to employ a four wheel type vehicle.

NAME AND ADDRESS OF OWNER

The claims are owned by northland trust Co. Ltd., Third Avenue, Timmins, Ontario and are under option to A.L. Parres Box 820, South Porcupine, Ontario.

### GEOLOGICAL DATA

The claims are underlain by precambrian formation and the topography varies from flat to slightly rolling hills. The area is covered mainly with drift and muskeg and has very few exposures. The known rock formation which occur in the area are interbedded andesites, dacites with porphyries and diabase. The structural trend of the formation is north south with steep to vertical dips.

### EXPLORATION & DEVELOPMENT TO DATE

Previous exploration was carried out on the north east and southern boundary of the property. To the knowledge of the write, this consisted of electromagnetic surveying and diamond drilling.

### RESULTS OBTAINED & CONCLUSIONS

The readings are plotted every 100 feet along section lines 400 feet apart, with the map area being contoured on a 500 gamma interval. (Ref. map 66-107).

The survey outlined a few isolated anomalous readings which could be caused by small pods or pockets of magnetite rather than pyrrhotite which has strong conductivity. A possible diabase dyke exists just east and parallel to the west boundary of the claim group.

Finally, it is noted that there is no magnetic coincidence with the electromagnetic conductors.

TYPE OF INSTRUMENT

The survey was performed using the sharpe A-2 Magnetometer with a scale constant sensitivity of 20 gammas per scale division. The instrument has an accuracy of 2 gammas, and has an overall range up to 12,000 gammas.

TOTAL NUMBER OF STATIONS ESTABLISHED

The total number of stations established was 1490.

TOTAL NUMBER OF MILES OF LINE CUT

The total number of miles of line cut was 27.91 .

Respectfully Submitted

*A J O'Donnell*

Timmins, Ontario  
August 1, 1967

A. J. O'Donnell  
Geologist

TO WHOM IT MAY CONCERN

Statement of Qualifications - A.J. O'Donnell

(1) That I am a graduate geologist, residing at 15 Cody Avenue East, the town of Timmins, province of Ontario.

(2) That I am a graduate of St. Francis Xavier University, 1953 and hold a Bachelor's degree in geology.

(3) That I have been operating and/or supervising magnetometer surveys since 1961.

A. J. O'Donnell  
A.J. O'Donnell B.Sc.



42A07NE0233 63.2184 SHERATON

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VERTICAL LOOP EM SURVEY

VERTICAL LOOP ELECTROMAGNETIC SURVEY

on  
Thirty claims in Sheraton Township

on  
The Jarvi Option

by  
Tri-J Mineral Surveys Ltd.

INTRODUCTION

A vertical loop electromagnetic survey was started during the month of November 1966 over the 30 claim Jarvi Option in Sheraton Township, Larder Lake Mining Division. Several weak conductors were indicated by the survey, and selected anomalies were detailed during January 1967 for the purpose of pin pointing diamond drill targets.

This survey was performed by Tri-J Mineral Surveys Ltd., Box 820, South Porcupine, Ontario under the supervision of A.J. O'Donnell, Geologist 15 Cody Avenue east, Timmins, Ontario.

LOCATION AND ACCESSIBILITY

The claims are situated in the southeast corner of Sheraton Township Concessions 3 and 4, lot 1-2 & 3, Larder Lake Mining Division and the numbers are: L-81418 to L-81420; L-81423 to L-81426; L-81429 to L-81432; L-85883 to L-85891; L-86837 to L-86846.

The claims can be reached by travelling east on highway No. 11 to the Gibson Lake road, thence south for approximately 27 miles. In order to travel the last two miles and be located on the southeast corner of the property it is necessary to employ a four wheeled type vehicle.

NAME AND ADDRESS OF OWNER

The claims are owned by Northland Trust Co. Ltd., Third Avenue, Timmins, Ontario and are under option to A.L. Parres, Box 820, South Porcupine, Ontario.

GEOLOGICAL DATA

The claims are underlain by precambrian formation with the topography varying from flat to slightly rolling hills. The area

GEOLOGICAL DATA (cont'd)

is mainly covered with drift and muskeg and has few exposures. The known rock types which occur in the area are interbedded andesites, dacites with porphyries and diabase dykes. The structural trend of the formation is north and south.

EXPLORATION & DEVELOPMENT TO DATE

Previous exploration was carried out on the northeast and south boundary of the property. This work consisted of electromagnetic surveying and diamond drilling.

RESULTS OBTAINED & CONCLUSIONS

The reconnaissance survey outlined several weak electromagnetic anomalies, which in the majority of the cases suggest conductive overburden or other causes rather than sulphides. (Ref. map 66-107).

Two of the anomalies exhibiting a higher degree of conductivity were detailed and further checked by diamond drilling (Ref. map 66-107 B).

ANOMALY A

Located from 16+00N to 36+00N, straddles the base line for a strike length of 2000 feet. Although this anomaly did show weak conductivity, it also gave indications of width, which could have been attributed to possible sulphides. The drilling did indicate sparse mineralization, however no conductive material was encountered in the core.

ANOMALY B

Situated approximately 3000 feet west of the base line from 60+00N to 72+00N, was tested in one location by diamond drilling. In this hole three feet of heavy magnetite and pyrite mineralization was intersected which could explain the cause of the anomaly, however it should be noted that there is a lack of magnetic coincidence with the electromagnetic crossover.



### RECOMMENDATION

A final stage of exploration would be the conducting of a horizontal loop electromagnetic survey using high frequency (3520 or 3600 C.P.S.) over the previously indicated anomalies. Further exploration would depend upon the results obtained by this survey.

### TYPE OF INSTRUMENT

McPhar SS-15, vertical loop electromagnetic Unit.

This Unit is based on the use of electricity and magnetism. A current of electricity passing through a wire will create a magnetic field in the vicinity of the wire.

An alternating current flowing in a loop of wire suspended above the surface of the earth will cause currents to flow in buried conductors, this process is termed "induction" and occurs in the following steps:

- 1) The alternating current flowing in the loop creates an alternating "magnetic" field (primary magnetic field) in the vicinity of the loop.
- 2) The primary alternating magnetic field will cause currents to flow in a sub surface conductor.

The induced current flowing in the sub-surface conductor will then create a magnetic field (secondary magnetic field) which can be measured at the surface of the earth. The magnetic field in this method is measured by a "search coil" connected to a set of earphones. The intensity of the magnetic field is indicated by the amplitude of the signal in the earphones.

The instrument operates on either 1000 or 5000 C.P.S. with transmitter power being supplied by a 300 watt generator driven by a 1 1/3 H.P. gasoline engine. In the field operation, the receiver is moved along traverses perpendicular to the assumed geologic strike. Measurements can be made on traverses up to 1000 feet from the transmitter, and 1000 feet maximum on each side of the transmitter, therefore it is usually necessary to employ several transmitter locations in order to complete the survey of a property.

TYPE OF INSTRUMENT (cont'd)

The angle between the resultant arrow and the horizontal at any point is termed the "dip angle" and its determination is the fundamental measurement in the search for conductors. Over barren ground, the dip angles are practically zero. The approach to a conductor is marked by increasing dip angles which in turn decrease to zero directly above the conductor, and then increase but in the opposite sense, beyond the conductor. Far from the conductor the dip angles return to zero again.

Depth of exploration is roughly half the distance between transmitter and receiver.

The interpretation of electromagnetic survey data usually is based upon accumulated experience and comparison with results of scale-model experiments.

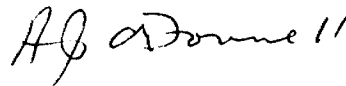
TOTAL NUMBER OF STATIONS ESTABLISHED

The total number of stations established was 1857.

TOTAL NUMBER OF MILES OF LINE CUT

The total number of miles of line cut was 32.26.

Respectfully submitted



Timmins, Ontario

A.J. O'Donnell

July 31, 1967

Geologist

TO WHOM IT MAY CONCERN

Statement of Qualifications - A.J. O'Donnell

(1) That I am a graduate geologist, residing at 15 Cody Avenue East, the town of Timmins, province of Ontario.

(2) That I am a graduate of St. Francis Xavier University, 1953 and hold a Bachelor's degree in geology.

(3) That I have been operating and/or supervising electromagnetic surveys since 1961.

*A.J. O'Donnell*

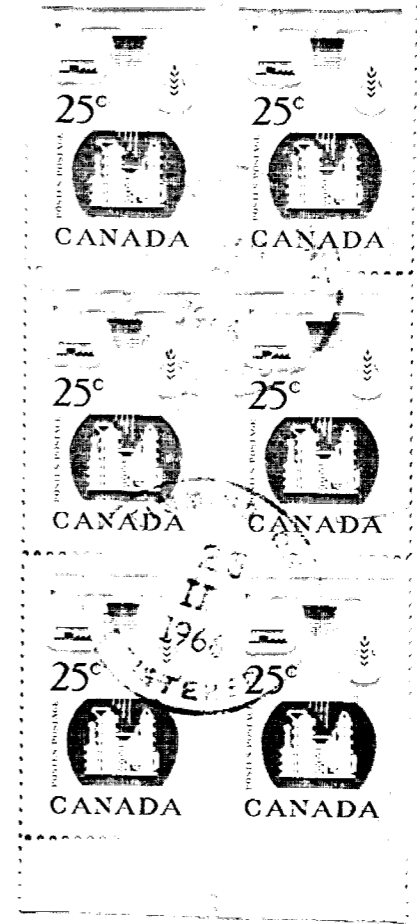
A.J. O'Donnell B.Sc.

ONTARIO DEPARTMENT OF MINES LTD.  
P.O. BOX 290  
TIMMINS - ONTARIO

5100

3685

Ontario Department of Mines,  
Queens Park,  
TORONTO 1, Ontario  
ATTN: Mr. R. V. Scott



KIRKLAND LAKE ONT. JUN 1 1957



# ONTARIO DEPARTMENT of MINES

RETURN AT POINT OF MAILING

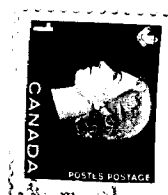
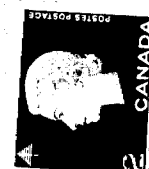
Box 984, Kirkland Lake, Ontario.

Mr. R. V. Scott, Esq.,  
Director,  
Mining Lands Branch,  
Ontario Department of Mines,  
Parliament Buildings,  
TORONTO, Ontario.



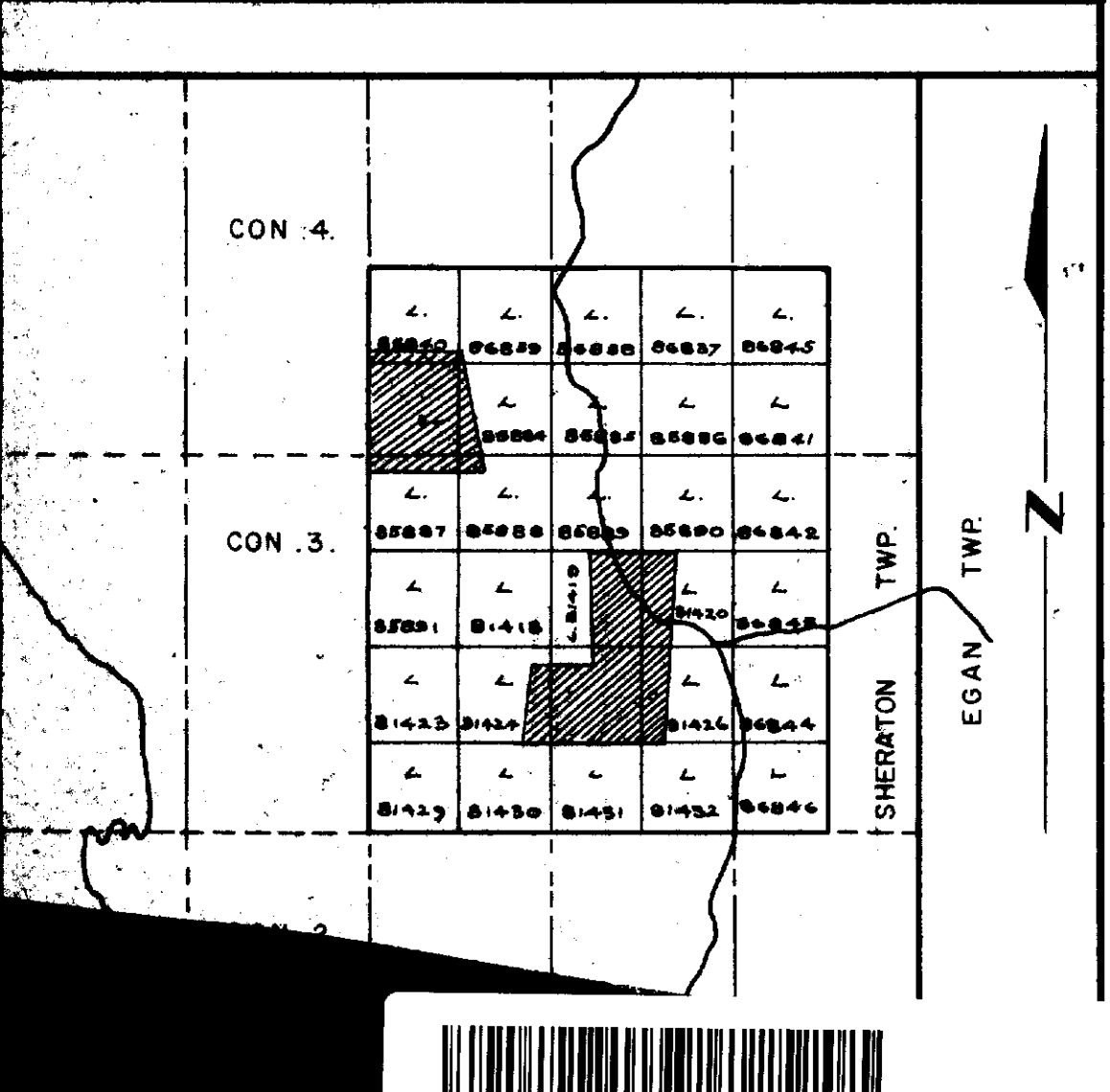
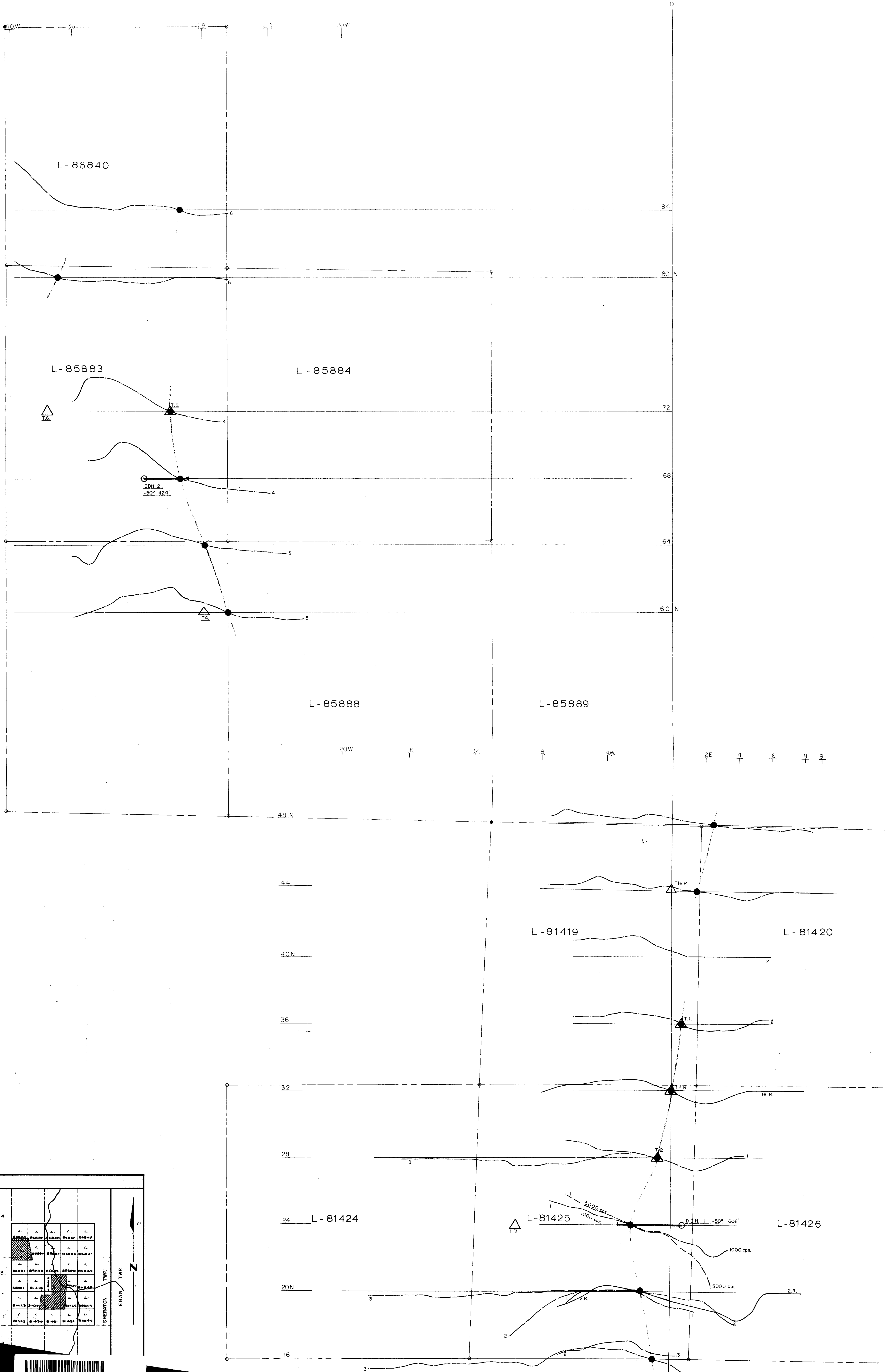
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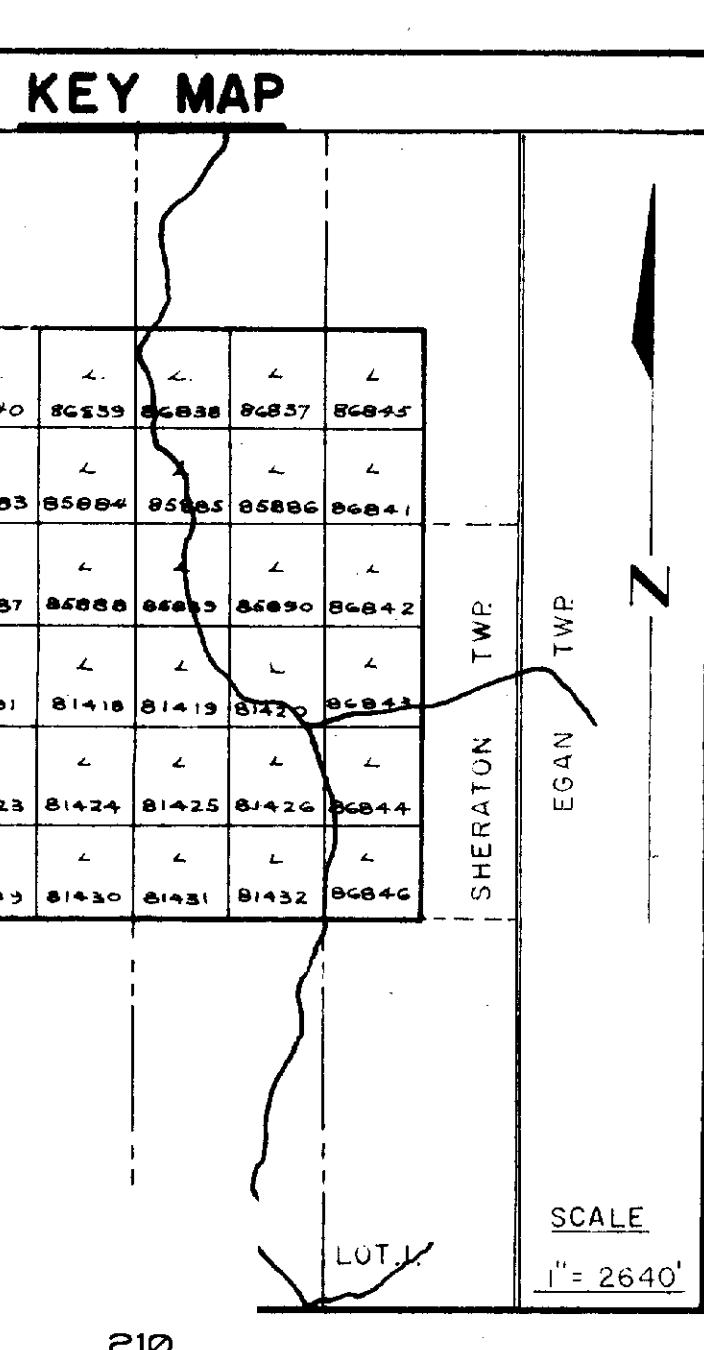
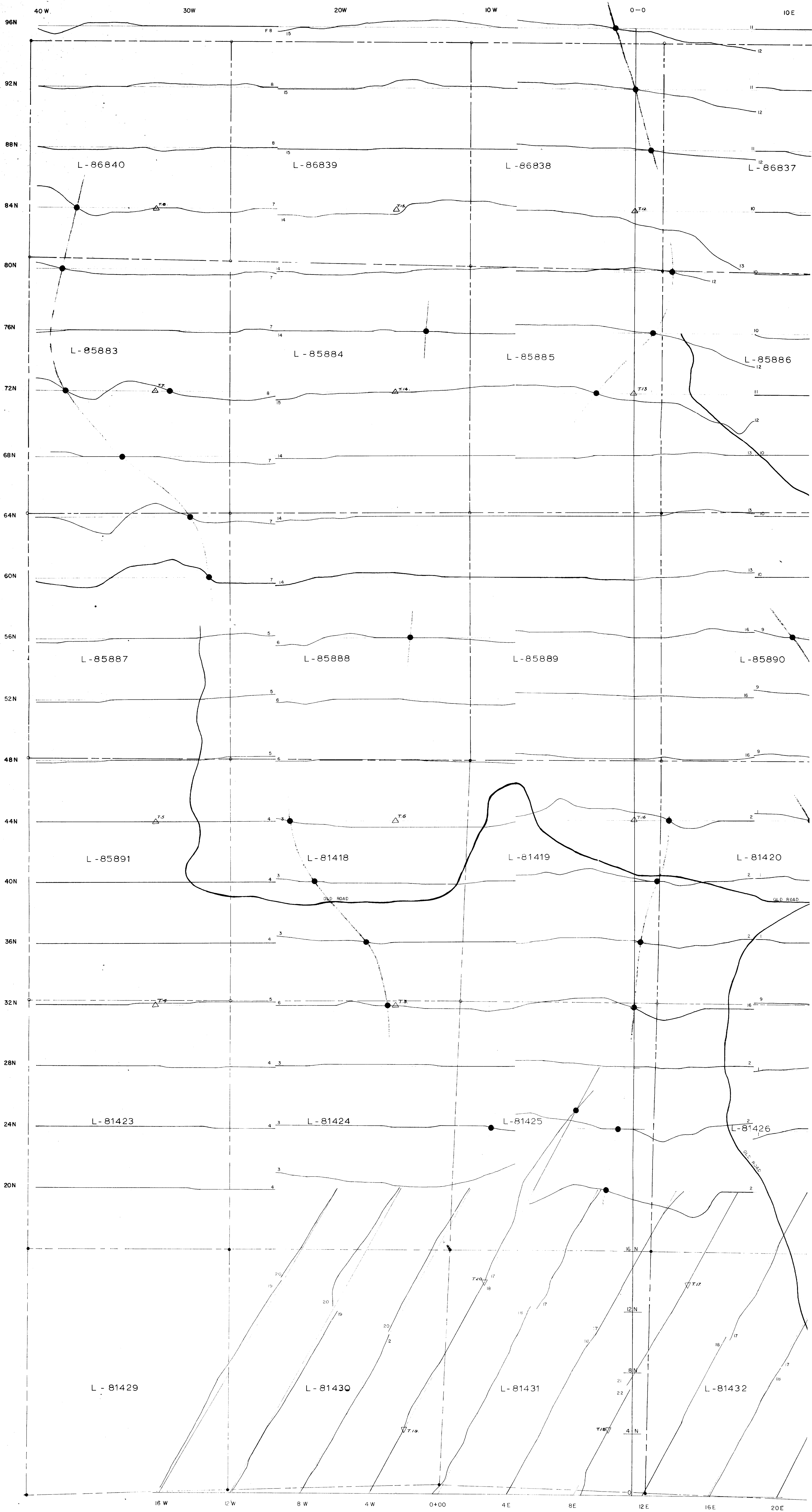
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**LEGEND**

PROFILE SCALE —————

CONDUCTOR ————

CROSSOVER ————

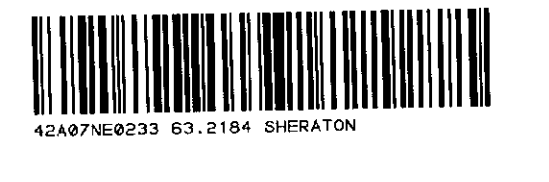
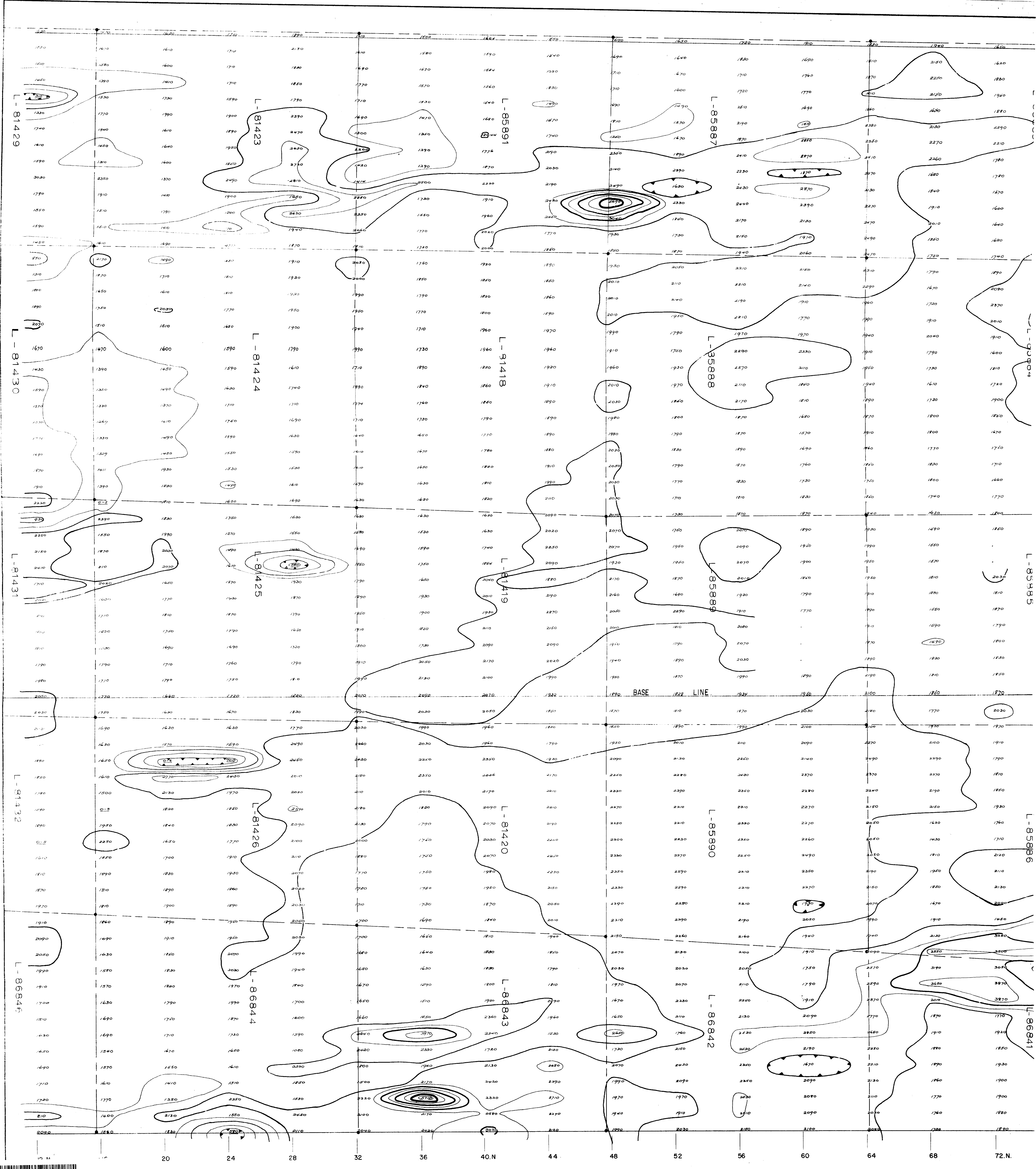
TA LOCATION ————

CLAIM CORNER (LOCATED) ————

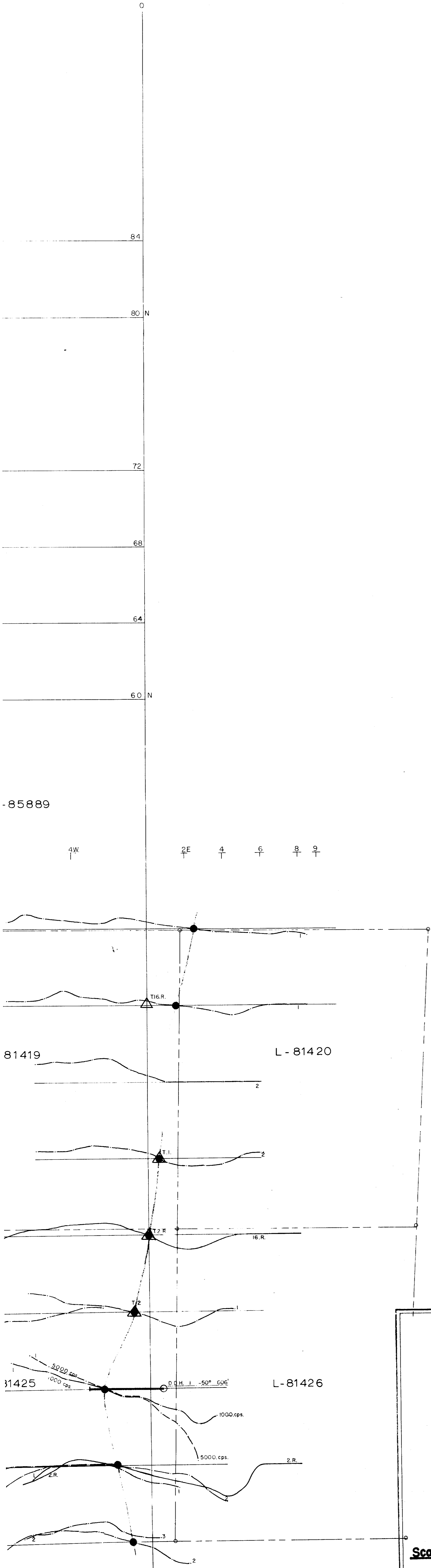
CLAIM CORNER (ASSUMED) ————

INSTRUMENT ———— McPhar SS-15

FREQUENCY ———— 160cps







-85889

81419

81425

L - 81420

L - 81426



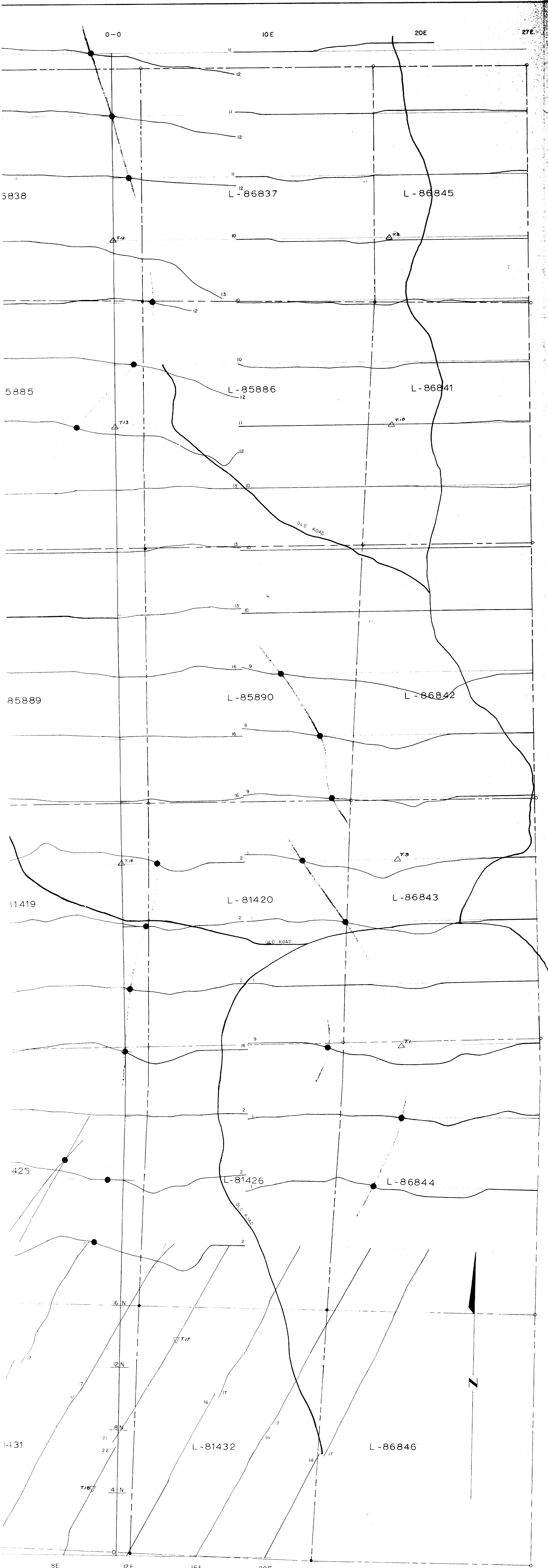
**LEGEND**

- PROFILE SCALE ———— 1" = 20'
- CONDUCTOR AXIS ————
- CROSSOVER ————
- Tx LOCATION ————  $\Delta$
- CLAIM CORNER (LOCATED) ————  $\bullet$
- " " (ASSUMED) ————  $\circ$
- INSTRUMENT ———— McPHAR, SS-15
- FREQUENCY ———— 1000 cps

**DETAIL ELECTROMAGNETIC SURVEY**  
 of the  
**JARVI PROPERTY**  
 comprising  
**30 CLAIMS — SHERATON TWP**  
**ONTARIO**  
 by  
**TRI-J MINERAL SURVEYS Ltd**

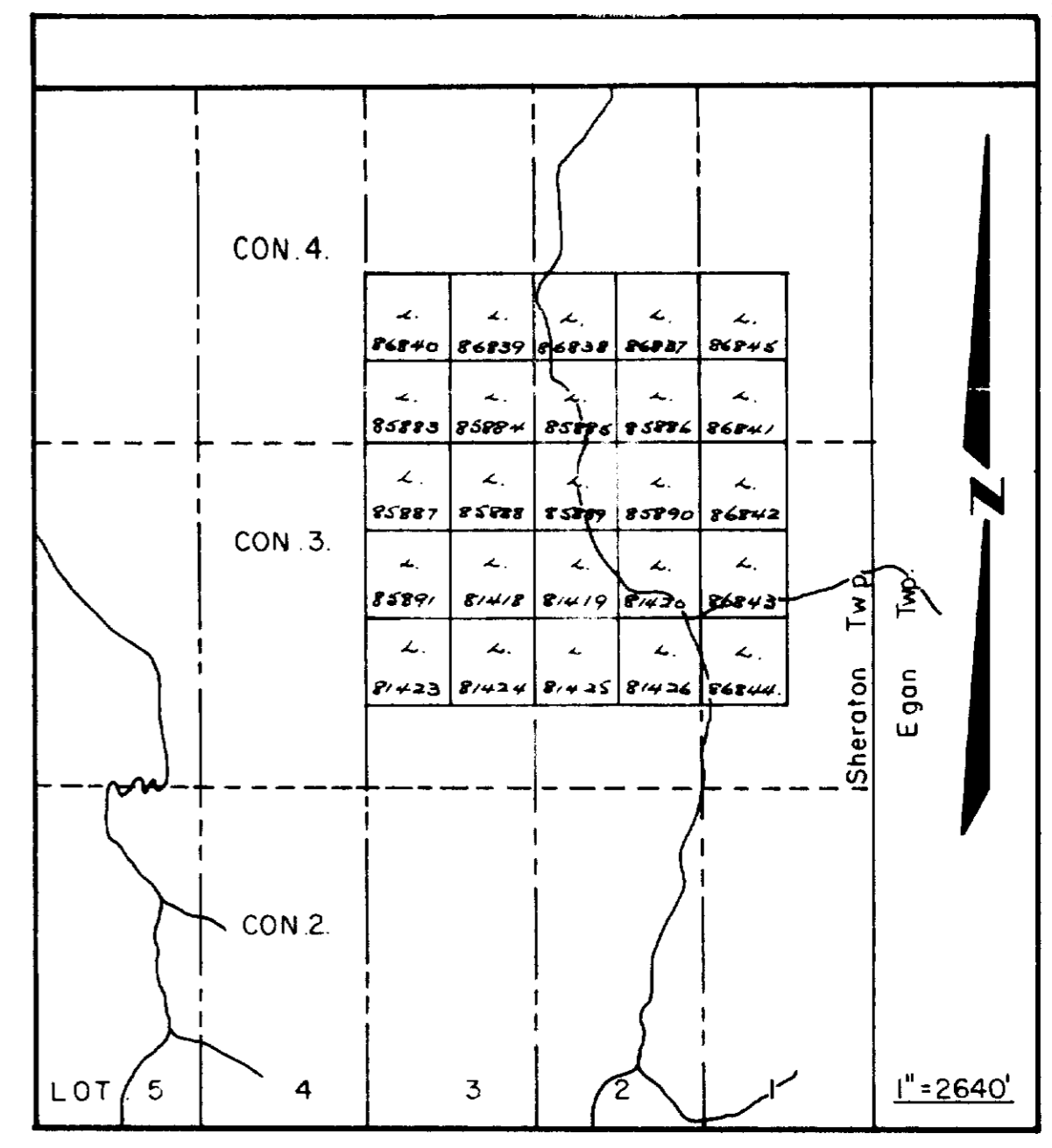
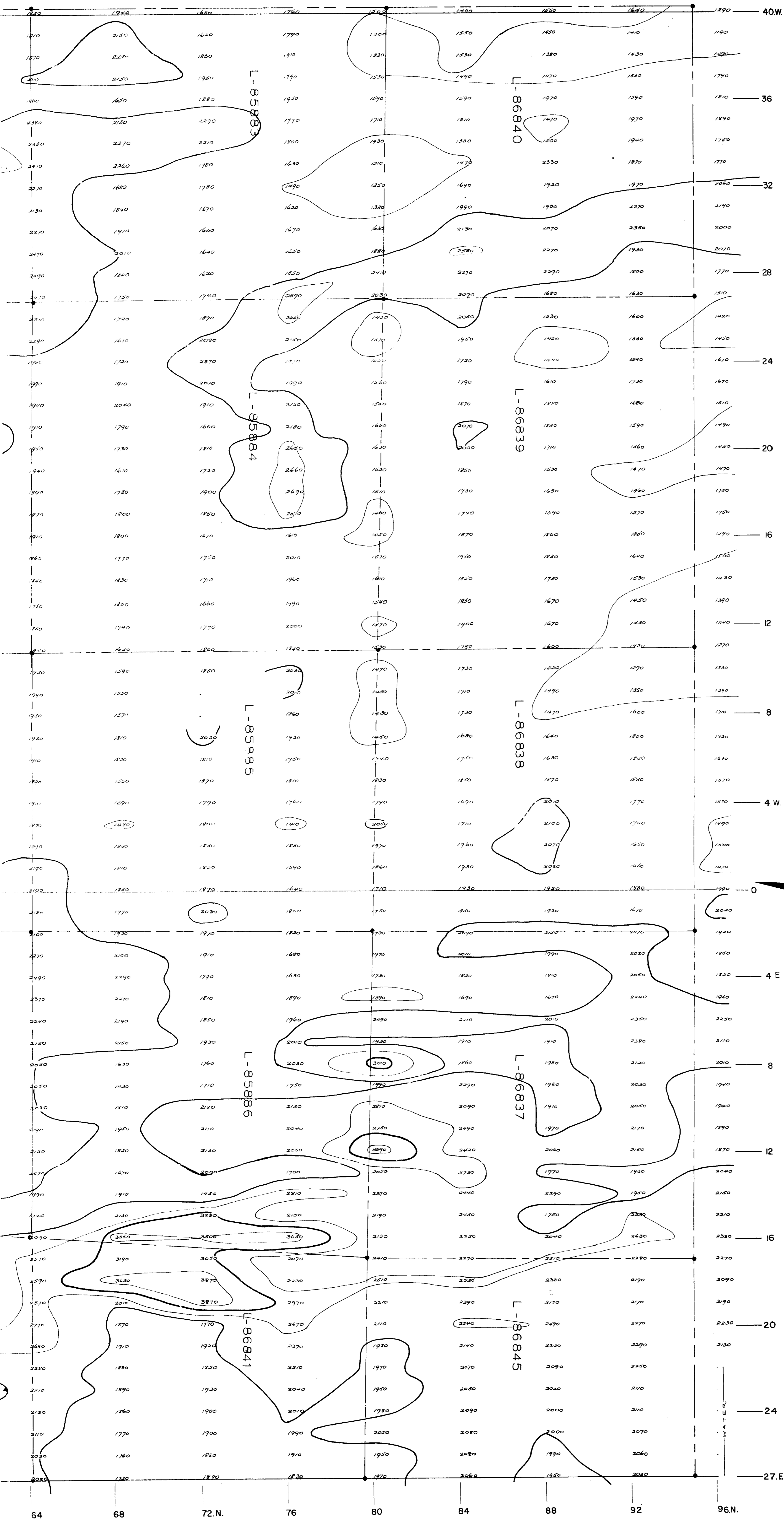
**Scale: 1" = 200'**  
*A. J. O'Donnell*

**66-107-B**



VERTICAL E.M. SURVEY  
 of the  
**JARVI PROPERTY**  
comprising  
 30 CLAIMS — SHERATON TWP  
 ONTARIO  
by  
 TRI-J MINERAL SURVEYS LTD

Scale: 1" = 200'  
 66-107-A  
*J. J. O'Donnell*



**MAGNETOMETER SURVEY**  
of  
**JARVI PROPERTY**  
comprising  
**30 CLAIMS**  
in  
**SHERATON TWP-ONTARIO**  
by  
**TRI-J MINERAL SURVEYS LTD.**

**LEGEND**

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—	= 2000	" "
—	= 2500	" "
—	= 3000	" "
—	= 3500	" "
—	= 4000	" "
—	= 4500	" "
—	= 5000	" "

Instrument used - - - - - Sharpe A.2. Magnetometer.

Scale: 1" = 200'  
A. J. & D. Dennis H.