

42A04NW0139 2.6176 KENOGAMING

010

REPORT ON
ELECTROMAGNETIC AND MAGNETIC SURVEYS

KENOGAMING TOWNSHIP PROJECT

Prepared For

GOLDEN RANGE RESOURCES INC.

RECEIVED
DEC 19 1983
MINING LANDS SECTION

November, 1983
Timmins, Ontario

Kenneth Guy
Geologist



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SUMMARY AND RECOMMENDATIONS

The horizontal loop electromagnetic (HLEM) survey failed to detect any bedrock conductors. It did however detect some weak features, the source of which can be attributed to faulting and shearing.

The magnetic survey was able to delineate regions of magnetic high which were attributed to ultramafic units trending through the property. The magnetic survey also allowed for structural interpretation as it delineated faulting and shearing.

It is recommended that additional geophysics be carried out, in particular a VLF-EM survey. This might delineate shear zones and fault zones. In view of the known gold occurrences in the area being associated with quartz-carbonate shear zones, these zones might be detectable with the VLF-EM.

It is further recommended that detailed geological mapping and prospecting be carried out. The geological mapping should be directed towards locating areas of carbonatization and shearing, the contacts of the ultramafic rocks should have particular attention.

INTRODUCTION

During September and October, 1983, a combined horizontal loop electromagnetic (H.L.E.M.) survey and magnetic survey were carried out by Mid-Canada Exploration Services Limited on behalf of Golden Range Resources Inc. on the property in Kenogaming Township, District of Porcupine, Ontario.

The following report details the results of the geophysical surveys over 43 contiguous claims.

LOCATION AND ACCESS

The Kenogaming project is located in Kenogaming Township, District of Porcupine, northeastern Ontario. The property is approximately 40 miles southwest of Timmins and about 20 miles east of Foleyet.

Access to the property is via Provincial Highway 101 and all-weather logging roads to the property.

REGIONAL GEOLOGY AND ECONOMIC GEOLOGY

With minor exceptions, all underlying rocks are of Archean age, consisting of mafic and felsic metavolcanics, pyroclastics and metasediments intruded by mafic, ultramafic and felsic igneous rocks. Ultramafic intrusives are generally elongated parallel to the general trend. Carbonatization is common in shear zones and in the contact areas of mafic and ultramafic intrusions.

Gold has been found in the area in quartz veins in carbonatized chlorite schist, chloritic shear zones, and pyritized silicified shear zones.

The Golden Range Resources property lies along strike and between the two main gold occurrences in the area. These two occurrences are:

- 1) Hoodoo Lake Mine Property adjoins Golden Range to the southeast - Au in a pyritized, silicified shear zone. High values were obtained from oxidized surface samples; diamond drilling best result was 0.54 oz. Au/ton over 10 feet.
- 2) Mining Corporation worked an Au occurrence approximately 82 miles to the west - Cu, Au in a quartz-veined chloritic shear zone in granodiorite - best diamond drill intersection .115 oz. Au/ton over 11 feet.

PROPERTY

The following contiguous claims were covered in whole by horizontal loop electromagnetic (H.L.E.M.) surveys and magnetic surveys:

683103 - 683145 Inclusive

Total of 43 claims

LINECUTTING

Linecutting was conducted by Mid-Canada Exploration Services Ltd. during August and September, 1983. A total of 41.67 miles of lines were cut and chained. Lines were cut at 400 foot intervals and 100 foot stations established on all lines.

SURVEY SPECIFICATIONS

The horizontal loop electromagnetic (H.L.E.M.) survey was conducted with a Geonics EM-17 measuring in-phase and out-of-phase components of the secondary electromagnetic field relative to the primary field. The frequency utilized was 1660 Hertz at a separation of 300 feet. Measurements were taken at 100 foot intervals along all section lines.

A total of 37.5 miles of horizontal loop electromagnetic survey was performed.

The magnetic survey was conducted with a Geometrics G-816 total field proton precession magnetometer. In order to establish the diurnal variations of the earth's magnetic field, base stations were established and read periodically, usually within one hour. The measurements were corrected for any diurnal variation noted. Measurements were taken at 100 foot intervals along section lines, base lines and tie lines. The survey was conducted with a sensitivity of +1 gamma.

The magnetic data is presented as corrected station values, above the local background of 59,000 gammas and as a contoured interpretation of this data.

A total of 41.67 miles of magnetic survey was performed.

ELECTROMAGNETIC SURVEY RESULTS

The horizontal loop electromagnetic (H.L.E.M.) survey did not define any strong, significant conductors. A few weak, poorly defined features were noted. Most of these features had expressions of only two to four per cent In-Phase (IP) and no Out-of-Phase (OP). These features could be caused by topographic effects and coil misorientation. However, a few of these weak features appear to occur coincident with interpreted faults. This suggests the possibility of slight conductivity related to shearing and/or faulting. As this would represent the known environment of gold occurrence in the area, these locations are worthy of note.

A weak feature occurs at LO, 3200S and can be followed on L4E, 2950S. This feature occurs coincident with a long, magnetically interpreted, northeast trending fault. The HLEM expression is very weak, -3 or 4% IP with no OP.

A similar HLEM response occurs at LO, 2150S. This is coincident with an interpreted northwest trending fault.

L4W, 2450N - NW trending fault

The remaining weak, doubtful expressions remain unexplained, possibly being due to topographic effects or uninterpreted faults and/or shear zones.

MAGNETIC SURVEY RESULTS

The magnetometer survey shows reasonable correlation with the geological data available from ODM map P 465 by V. G. Milne, 1967.

The magnetic map is dominated by west-northwest trending magnetic unit trending through the south central area of the grid. It is characterized by a magnetic field which is 2,000 to 7,000 gammas higher than the surrounding units. This high is likely caused by an ultramafic unit of up to 800 feet thick. Other smaller ultramafic units are also present throughout the grid area. The lower magnetic units separating the highs is characteristic of felsic volcanic rocks intercalated with mafic volcanic rocks.

The linear trends of the ultramafic units show displacements which can be attributed to faulting and shearing.

The magnetic survey has been successful in aiding in geological and structural interpretation.

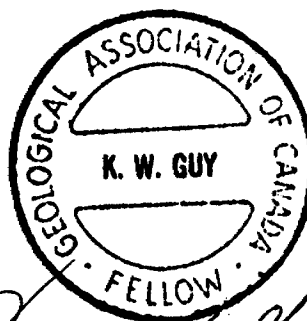
STATEMENT FOR ASSESSMENT WORK

I, Kenneth Guy, certify to the following:

A total of 37.5 miles of horizontal loop electromagnetic survey and 41.67 miles of magnetic survey were performed on the Kenogaming Township Project. The claims are owned by Golden Range Resources Inc. and include the following:

P 683103 - 683145 Inclusive

Total of 43 Claims



Kenneth Guy
Kenneth Guy, Geologist

CERTIFICATE

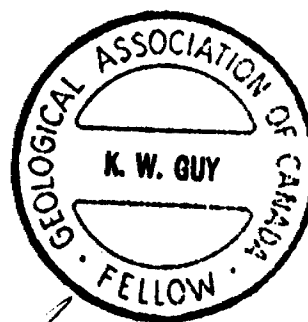
I, the undersigned, Kenneth Guy, residing at 180 Nadine St., South Porcupine, Ontario, graduated with a Bachelor of Applied Science, degree in Earth Science - Geology from the University of Waterloo, Waterloo, Ontario in 1978.

I have been employed in the field of Geology since graduation in 1978.

I am a fellow of the Geological Association of Canada.

I do not hold, nor do I expect to receive an interest of any kind in these claims held by Golden Range Resources Inc., nor in any other mining claims they may have.

Timmins, Ontario
November, 1983



Kenneth Guy
Kenneth Guy, Geologist



Ministry of Natural Resources

Report of Work (Geophysical, Geological, Geochemical and Expenditures)

2.



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900

Type of Survey(s) **Geophysical Survey** Township or Area **Kenogaming Township**

Claim Holder(s) **Golden Range Resources Inc.** Inspector's Licence No. **T 1324**

Address **189 Preston Street South, Timmins, Ontario P4N 3N4**

Survey Company **Mid Canada Exploration Services Limited** Date of Survey (from & to) **14 Day | 06 Mo. | 83 Yr. | 08 Day | 18 Mo. | 83 Yr.** Total Miles of line Cut **39.25**

Name and Address of Author (of Geo-Technical report) **Kenneth Guy, 180 Nadine St., Box 6045, P.M.S. South Porcupine, Ontario**

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	40
	- Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	683103		P	683126	
	683104			683127	
	683105			683128	
	683106			683129	
	683107			683130	
	683108			683131	
	683109			683132	
	683110			683133	
	683111			683134	
	683112			683135	
	683113			683136	
	683114			683137	
	683115			683138	
	683116			683139	
	683117			683140	
	683118			683141	
	683119			683142	
	683120			683143	
	683121			683144	
	683122			683145	
	683123				

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ Total Days Credits 15 =

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.

RECORDED
OCT 19 1983

RECEIVED
OCT 19 1983
A.M. For Office Use Only P.M.
Total Days Credits Recorded 2580
Date Approved as Recorded 8.3.13

Total number of mining claims covered by this report of work. 43

Date **October 18/83** Recorded Holder or Agent (Signature) *[Signature]*

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 **Denis LaForest, 189 Preston Street South, Timmins, Ontario P4N 3N4**

Date Certified **October 18/83** Certified by (Signature) *[Signature]*



Mining Lands Comments

To: Geophysics Mr. R. Barlow

Comments

Approved

Wish to see again with corrections

Date Jan 21/84

Signature R Barlow

To: Geology - Expenditures

Comments

Approved

Wish to see again with corrections

Date

Signature

To: Geochemistry

Comments

L.D.

Approved

Wish to see again with corrections

Date

Signature

To: Mining Lands Section, Room 6462, Whitney Block.

(Tel: 5-1380)

Initial Check.

December 28, 1983 M. Anderson

Assessed

Approved Reports of Work
sent out

Notice of Intent filed

Approval after Notice of Intent
sent out

Duplicate sent to Resident
Geologist

Duplicate sent to A.F.R.O.

1983 12 21

Your File: 312

Our File: 2.6176

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 and Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 683103 et al in the Township of Kenogaming.

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 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

A. Barr:mc

Golden Range Resources Inc
189 Preston Street South
Timmins, Ontario
P4N 3N4

cc: Kenneth Guy
180 Nadine Street
Box 6045
PMS
South Porcupine, Ontario
PON 1H0



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) Geophysical - E.M. Mag
Township or Area Kenogaming
Claim Holder(s) Golden Range Resources Inc.
189 Preston St., Timmins, Ontario P4N 3N4
Survey Company Mid Canada Exploration Services Ltd.
Author of Report Kenneth Guy
Address of Author Box 6045 P.M.S., South Porcupine, Ontario
Covering Dates of Survey Aug. 15 - Oct. 20, 1983
(linecutting to office)
Total Miles of Line Cut 41.67 miles

MINING CLAIMS TRAVERSED
List numerically

- P 683103
- P. 683104..... P. 683144.....
(prefix) (number)
- P 683105..... P 683145.....
- P 683106
- P. 683107.....
- P 683108
- P. 683109.....
- P 683110
- P. 683111.....
- P 683112
- P. 683113.....
- P 683114
- P. 683115.....
- P 683116
- P. 683117.....
- P 683118
- P. 683119.....
- P 683120
- P. 683121.....
- P 683122
- P. 683123.....
- P 683124
- P. 683125.....
- P 683126
- P. 683127.....
- P 683128
- P. 683129.....
- P 683130
- P. 683131.....
- P 683132
- P 683133
- P. 683134.....
- P 683135
- P. 683136.....
- P 683137
- P. 683138.....
- P 683139
- P. 683140.....
- P 683141
- P. 683142.....
- P 683143

If space insufficient, attach list

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

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

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Oct. 14, 1983 SIGNATURE: Kenneth Guy
Author of Report or Agent

Res. Geol. _____ Qualifications 2.5778

Previous Surveys
File No. Type Date Claim Holder

File No.	Type	Date	Claim Holder

RECEIVED
DEC 19 1983
MINING LANDS SECTION

TOTAL CLAIMS 43

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 2200 Number of Readings 2200
Station interval 100 feet Line spacing 400 feet
Profile scale 1" = 20%
Contour interval 200 gammas

MAGNETIC

Instrument Geometrics G816
Accuracy - Scale constant +/- 1 nT
Diurnal correction method Section Line, Base Line
Base Station check-in interval (hours) 1 hour
Base Station location and value LO, 0+00

ELECTROMAGNETIC

Instrument Geometrics EM17
Coil configuration Horizontal Loop
Coil separation 300 feet
Accuracy +/- 0.5%
Method: [] Fixed transmitter [] Shoot back [x] In line [] Parallel line
Frequency 1660 Hertz (specify V.L.F. station)
Parameters measured In-Phase, Out-of-Phase

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

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

MID-CANADA EXPLORATION SERVICES
LIMITED
P. O. BOX 401
SCHUMACHER, ONTARIO, P0N 1G0

(705) 264-7043

December 14, 1983

Mr. F. W. Matthews
Ontario Ministry of Natural Resources
W-1617, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3

Dear Sir:

Re: Mining Claims P 683103 et al
Kenogaming Township

Enclosed are duplicate copies of a report on Electromagnetic and
Magnetic Surveys carried out over a group of (43) forty-three mining
claims located in Kenogaming Township.

Yours truly,

Orville E. Hicks
Orville E. Hicks *per* *EH*

/ch

Enclosures

RECEIVED

DEC 19 1983

MINING LANDS SECTION

EM MAG

EM MAG

2.6176

P683103

✓ ✓

683126

✓ ✓

04

✓ ✓

27

✓ ✓

05

✓ ✓

28

✓ ✓

06

✓ ✓

29

✓ ✓

07

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✓ ✓

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✓ ✓

16

✓ ✓

39

✓ ✓

17

✓ ✓

40

✓ ✓

18

✓ ✓

41

1/4 1/4

except as is

19

✓ ✓

42

✓ ✓

20

✓ ✓

43

✓ ✓

21

✓ ✓

44

✓ ✓

22

✓ ✓

45

✓ ✓

23

✓ ✓

24

✓ ✓

25

✓ ✓

Mary Ella
Anderson
March 12, 84

Sewell Twp M.102

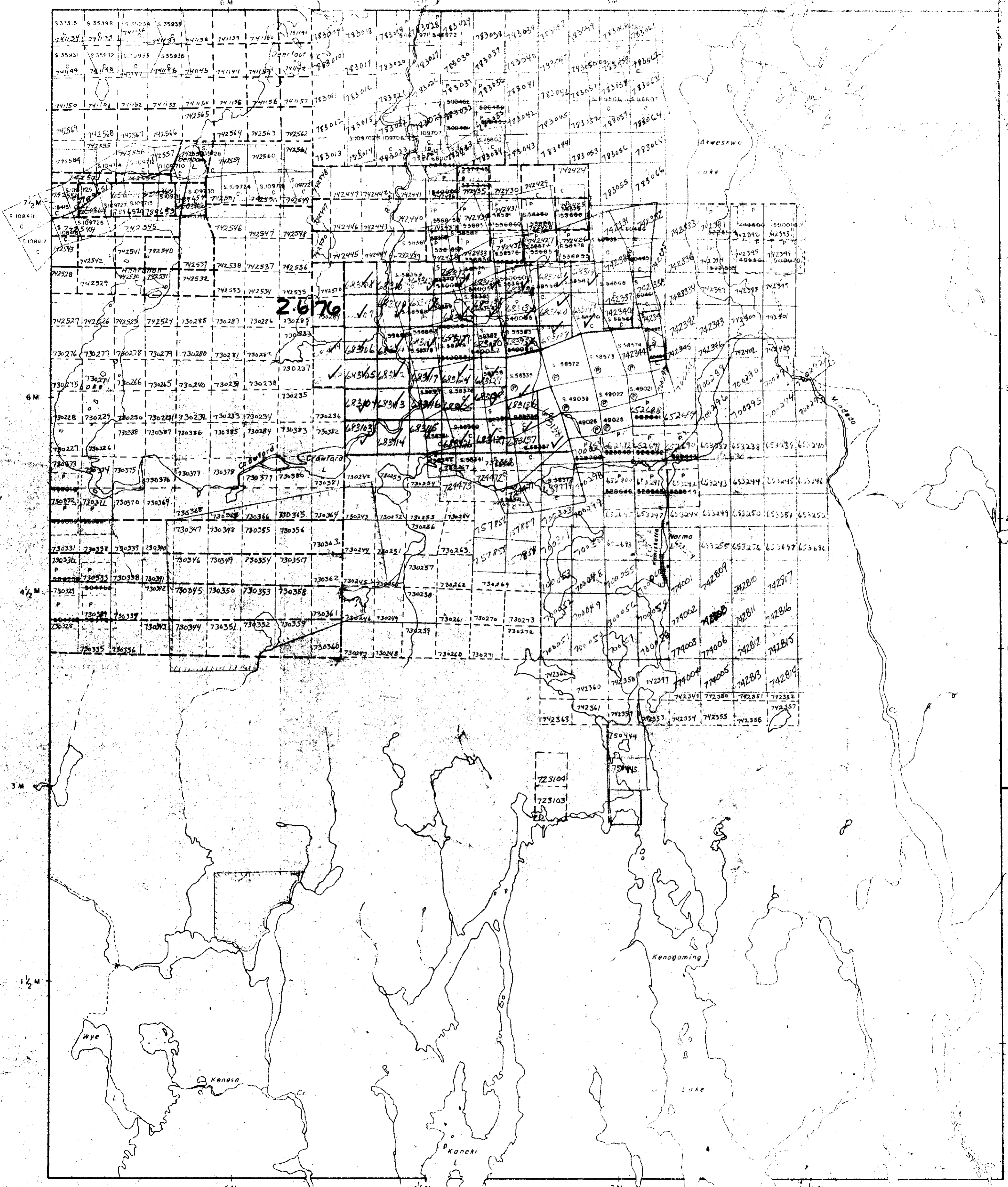
Penhorwood Twp. M.1055

Pharand Twp M. 306

Crothers Twp. M. 742

Regan Twp. M.1075

THE TOWNSHIP OF
OF
KENOGAMING
DISTRICT OF
SUDBURY
PORCUPINE
MINING DIVISION
SCALE: 1-INCH 40 CHAINS



LEGEND

- PATENTED LAND ● or ⊕
- CROWN LAND SALE C.S.
- LEASES ⊙
- LOCATED LAND Loc
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS —
- IMPROVED ROADS —
- KING'S HIGHWAYS —
- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKEG —
- MINES ⊕
- CANCELLED ⊕
- PATENTED S.R.O. ⊕

NOTES

400' Surface Rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE

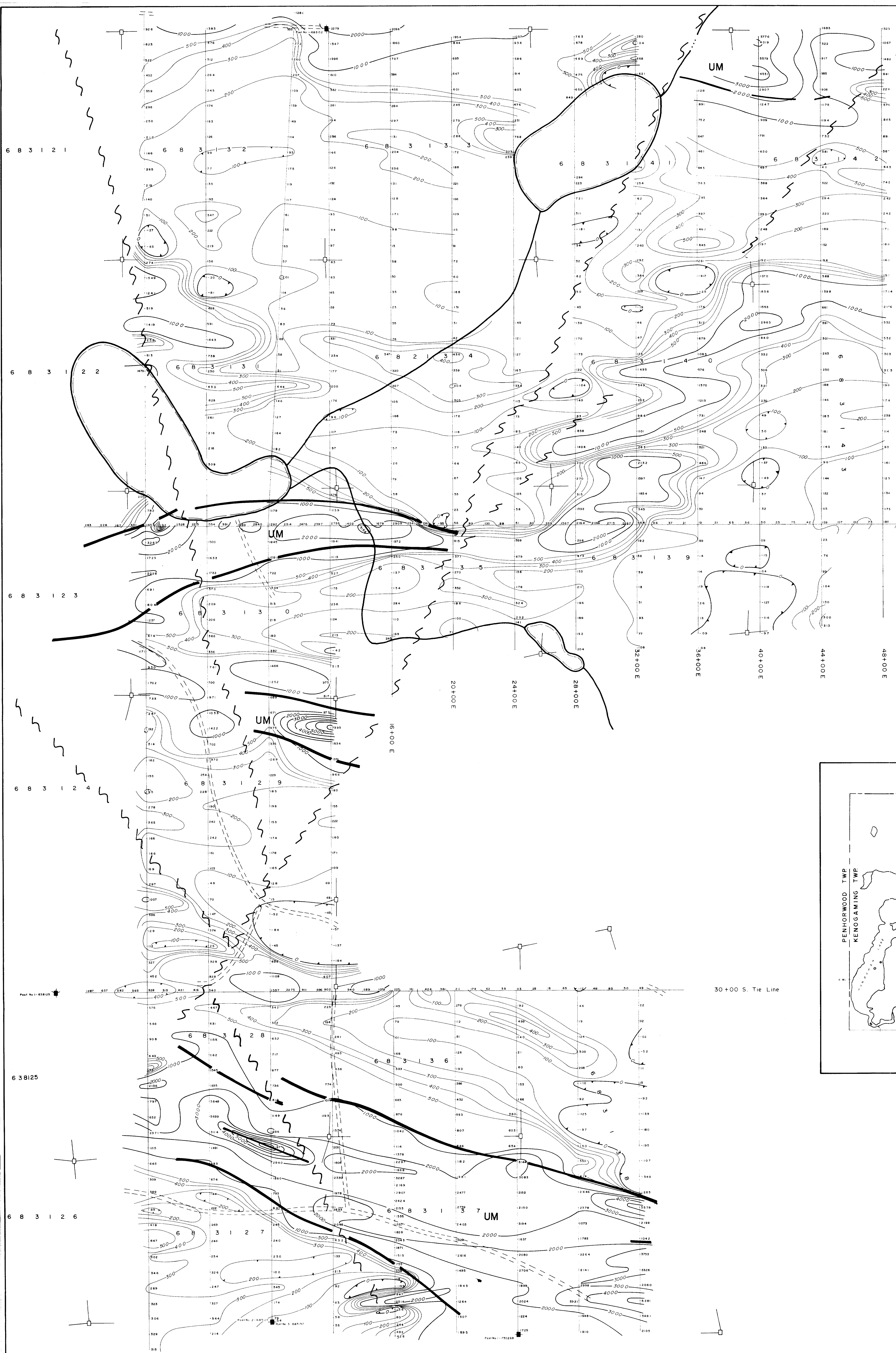
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Ministry of Natural Resources
TORONTO

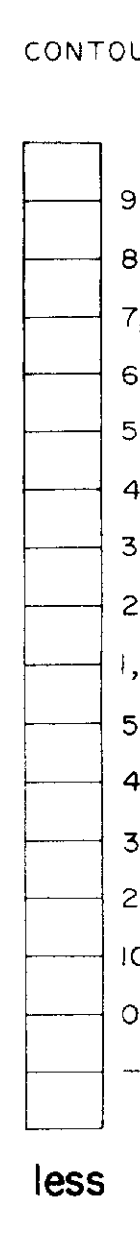
PLAN NO. **M.967**

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

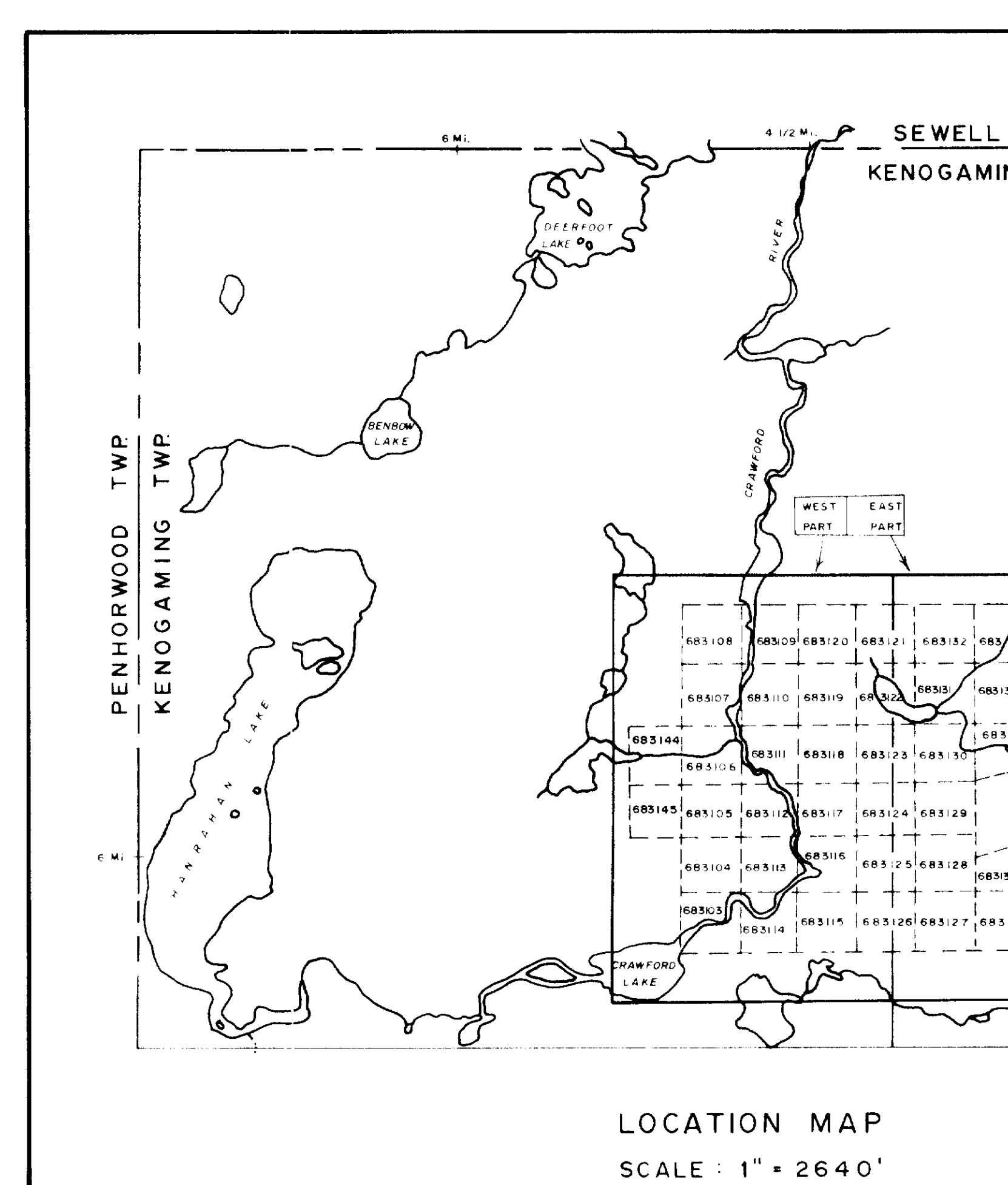




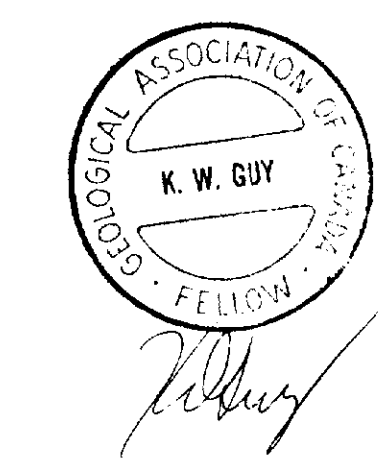
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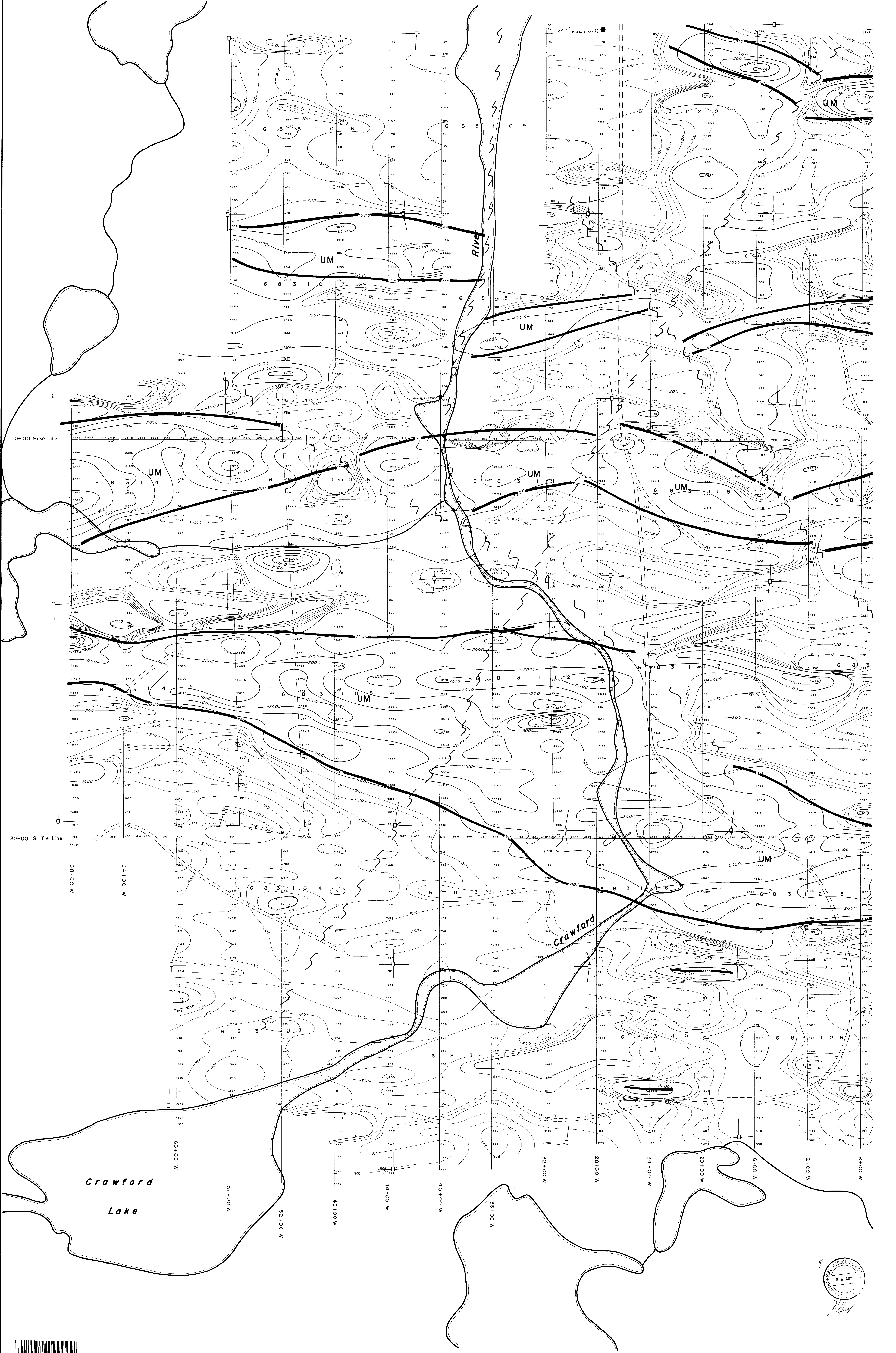
GOLDEN RANGE RESOURCE
Kenogaming Twp. Ont.
MAGNETIC SURVEY



SCALE: 1 inch to 200 feet

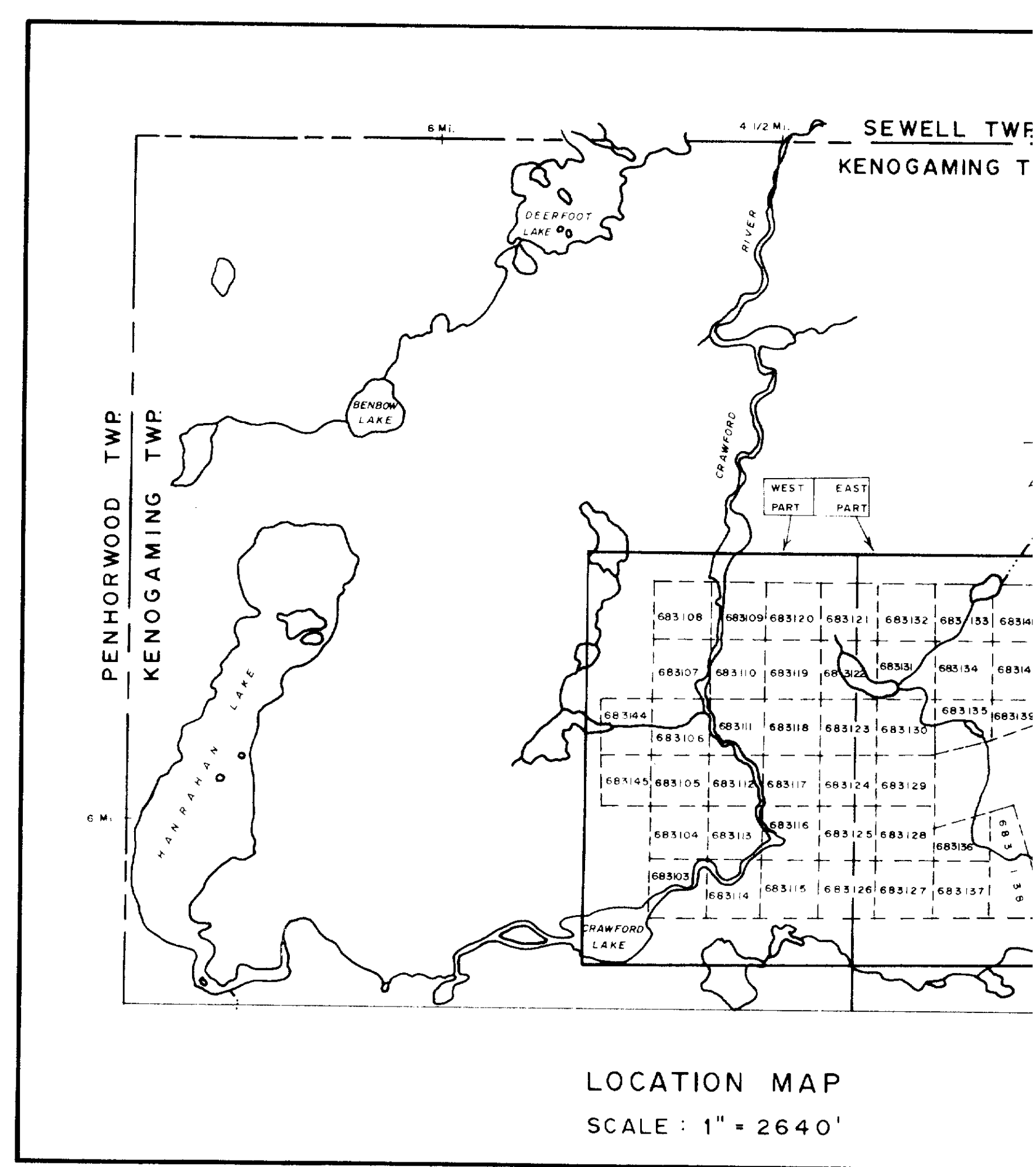
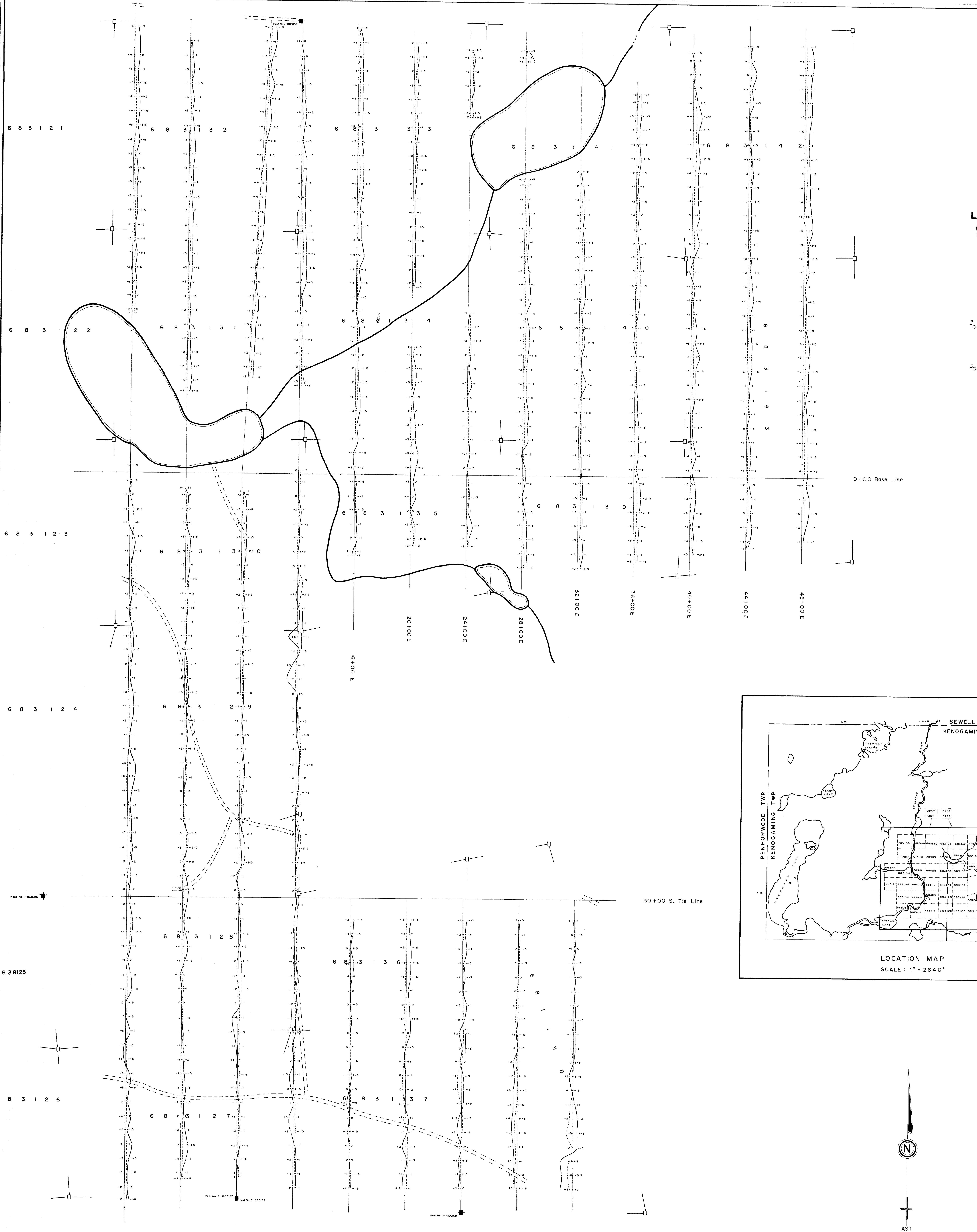
(EAST PART)





ASSOCIATION
K. W. GUY
FELICITY



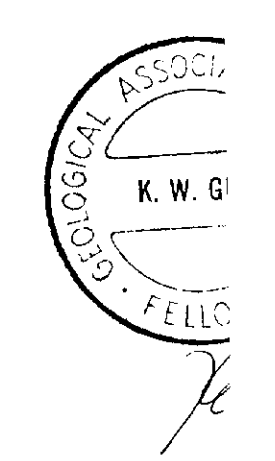


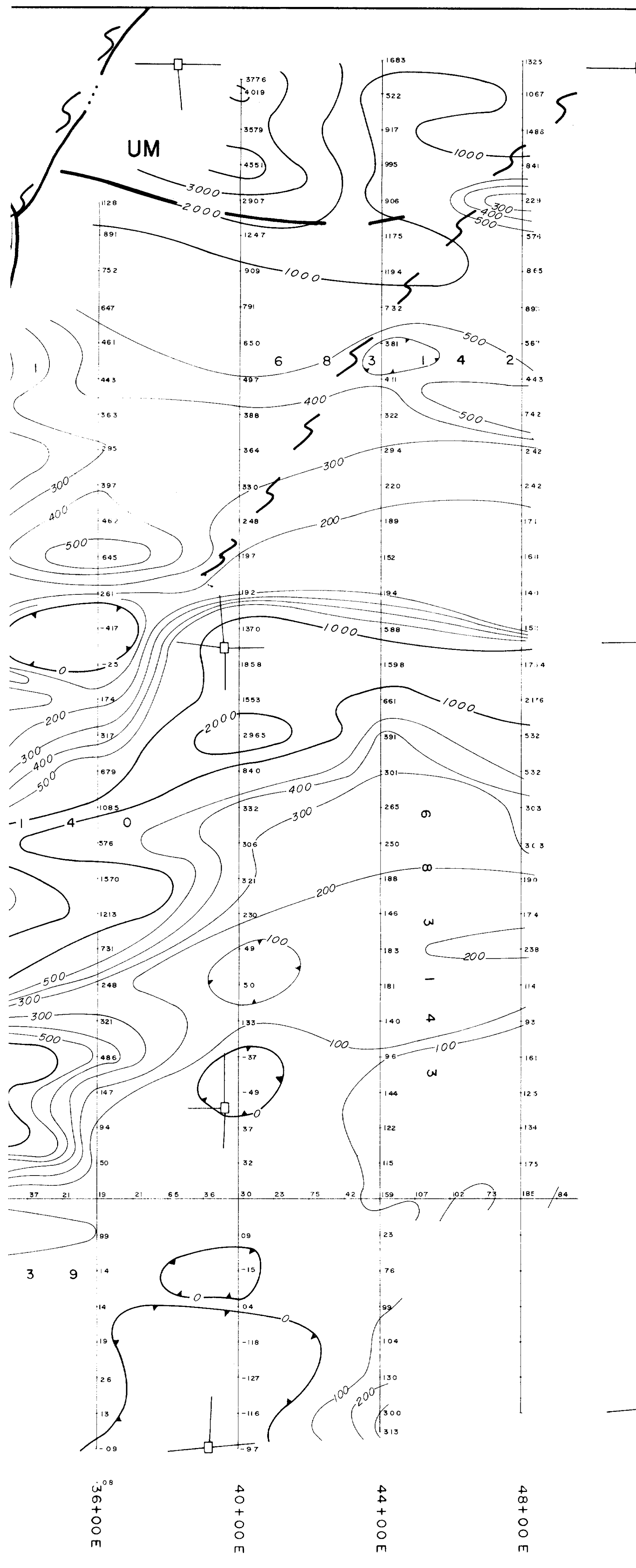
GOLDEN RANGE RESOURCES
Kenogaming Twp. Ont.

H.E.M. SURVEY
(1660 Hz)

SCALE : 1 inch to 200 feet

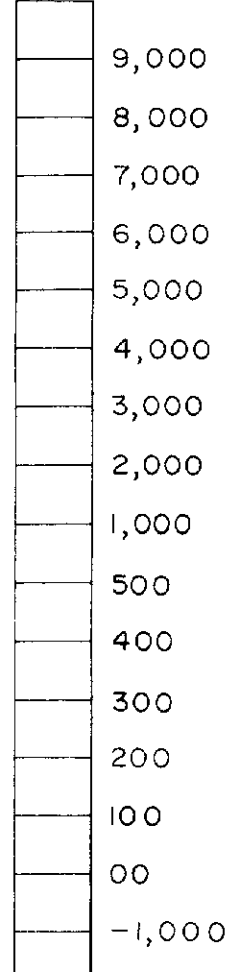
(EAST PART)





LEGEND

CONTOUR INTERVALS:
(in gammas)

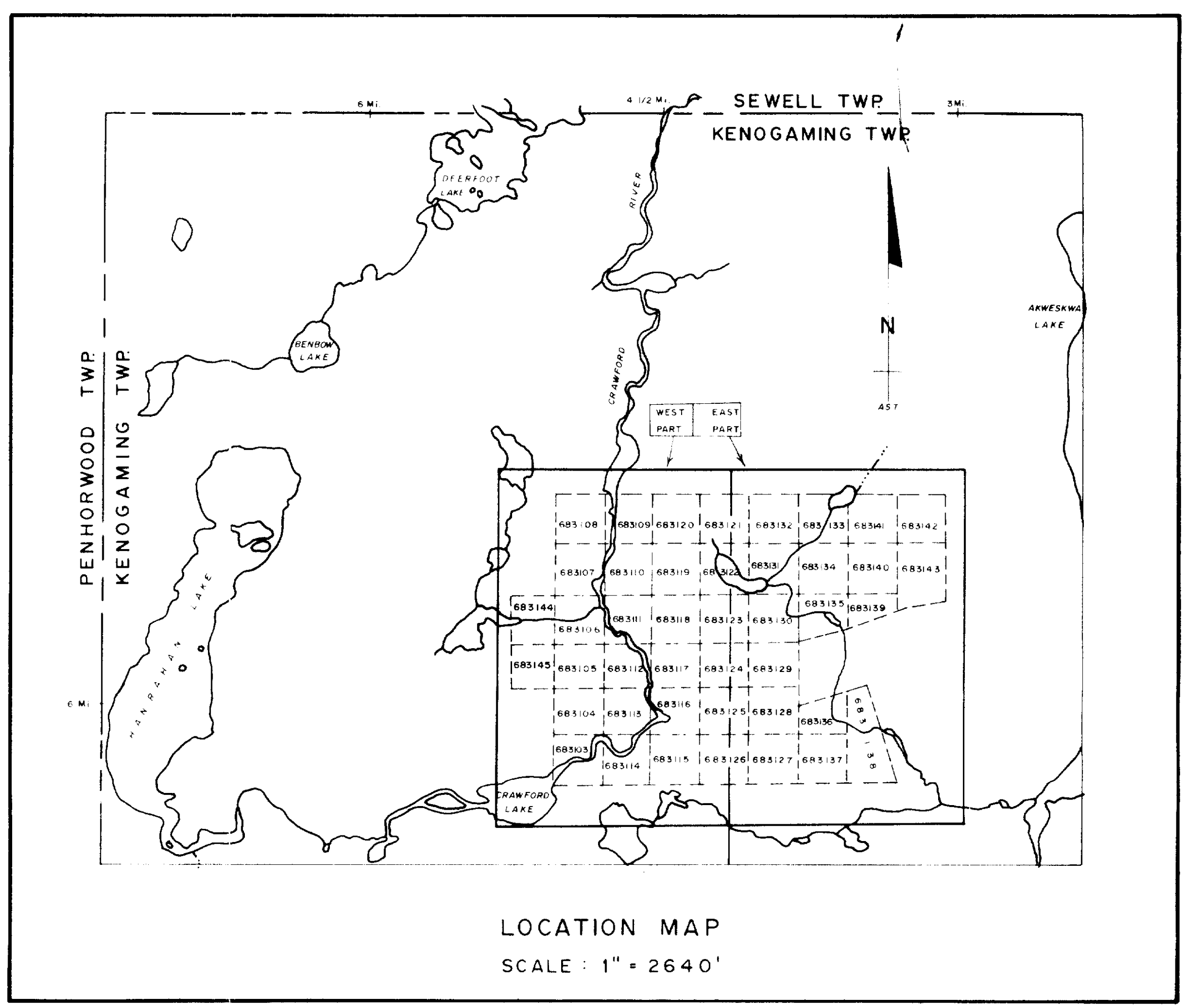


less 59 000 gammas

UM Ultramafic Rock
Fault

0+00 Base Line

3600E 4000E 4400E 4800E



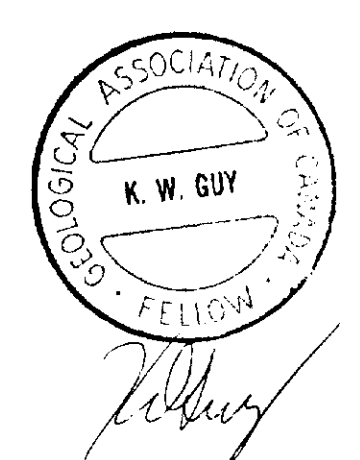
LOCATION MAP
SCALE: 1" = 2640'



GOLDEN RANGE RESOURCES LTD.

Kenogaming Twp. Ont.

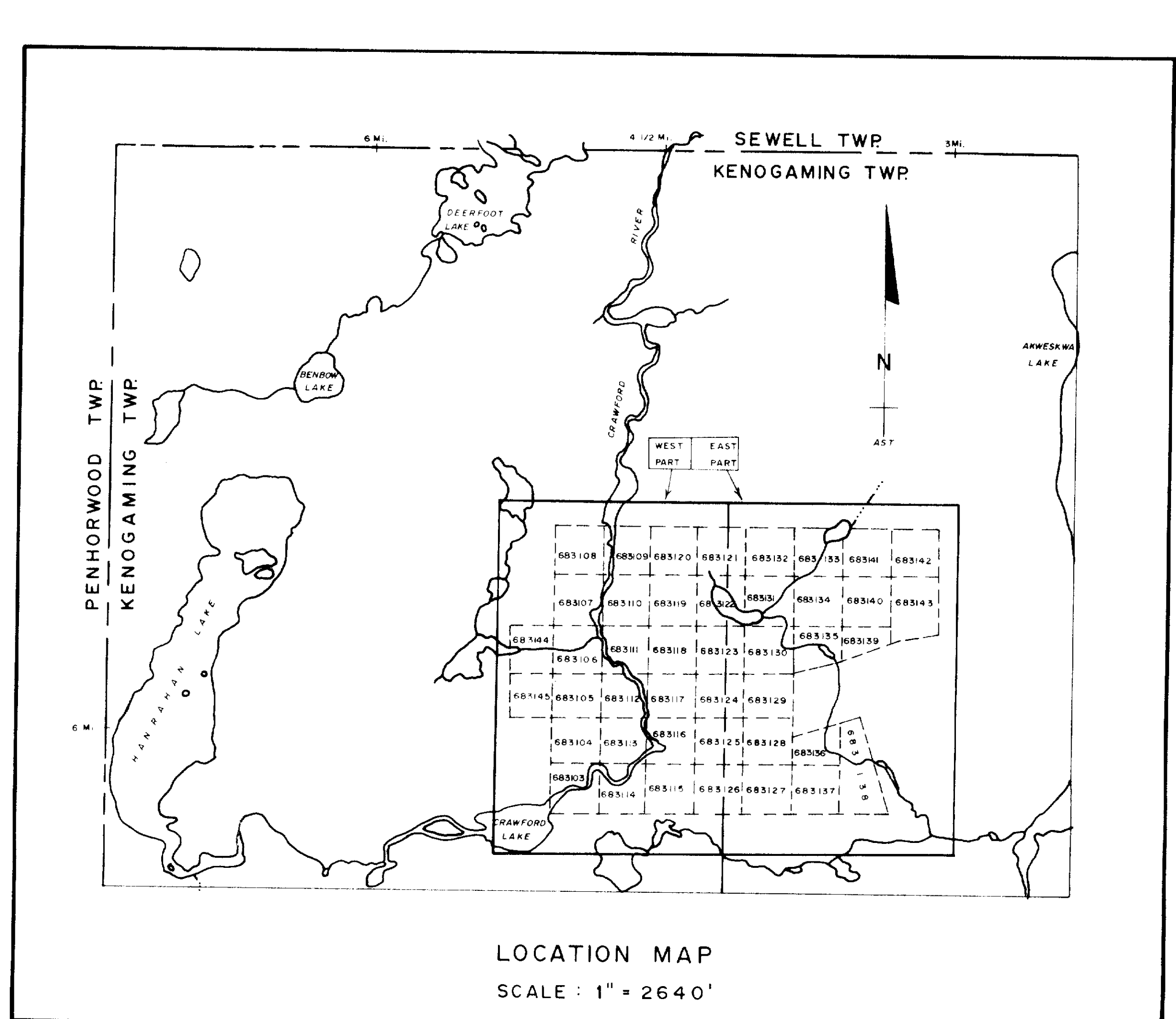
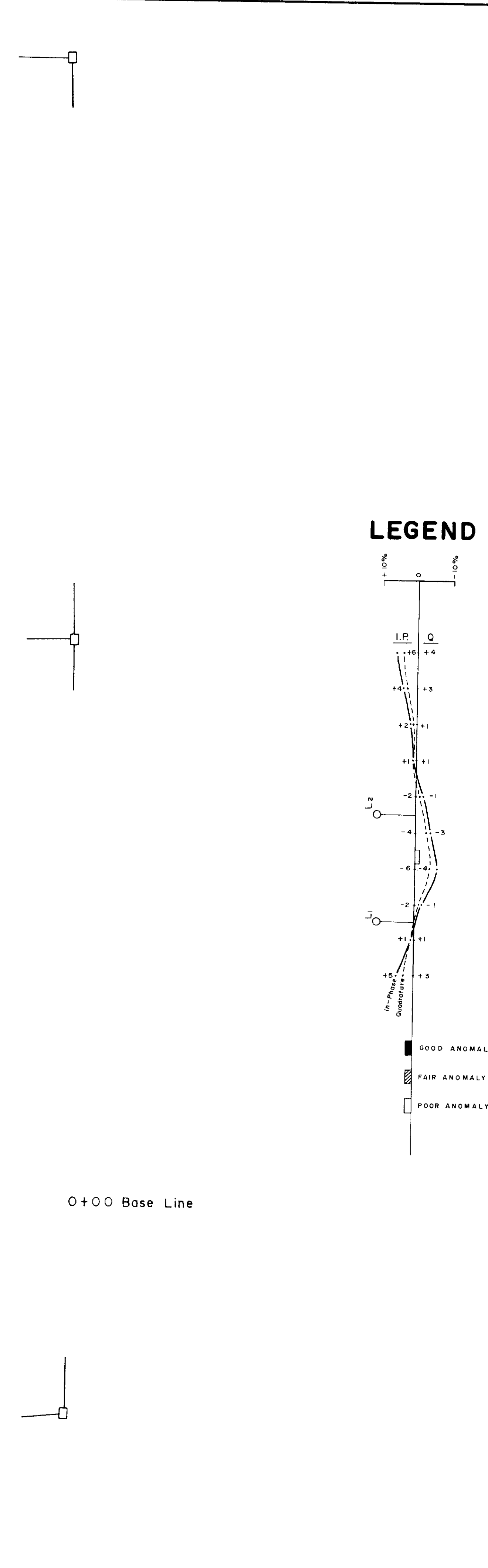
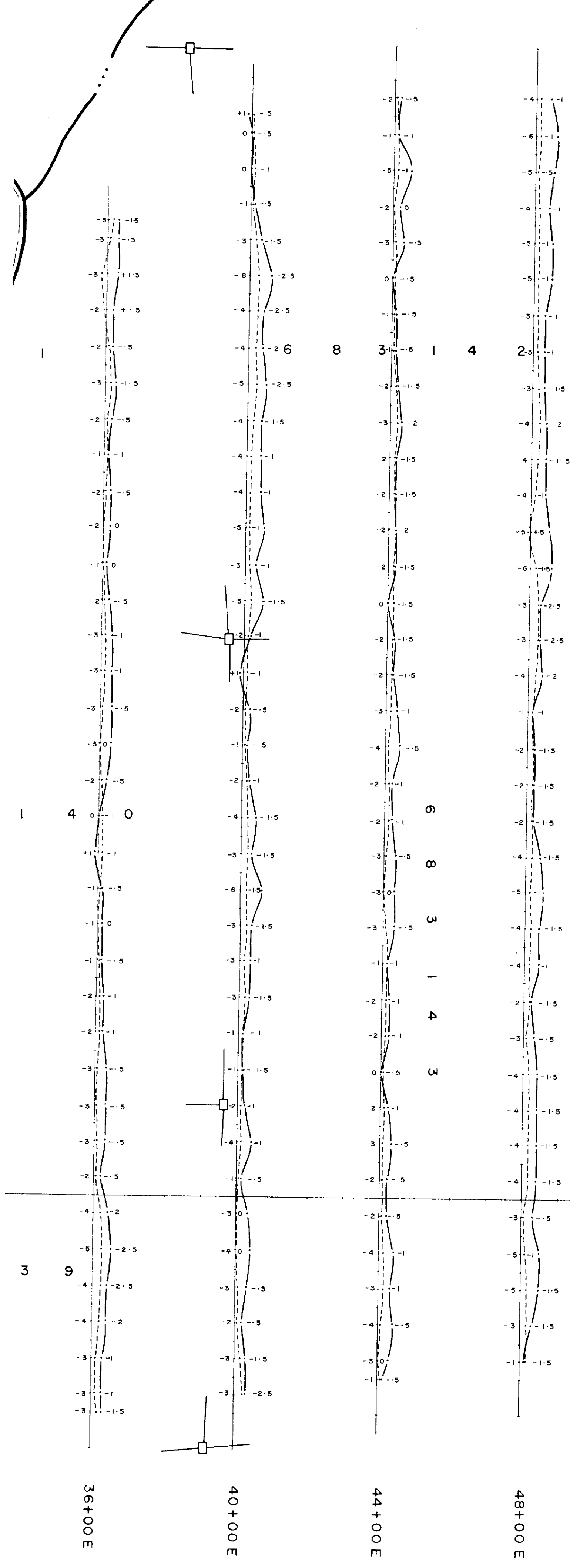
MAGNETIC SURVEY



SCALE: 1 inch to 200 feet

(EAST PART)

26116



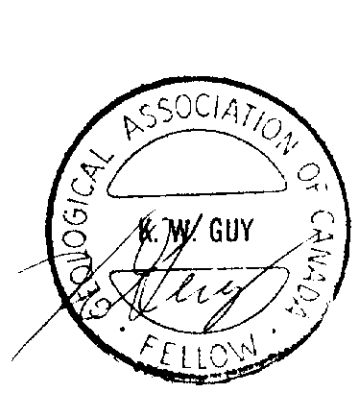
LOCATION MAP
SCALE: 1" = 2640'



GOLDEN RANGE RESOURCES LTD.
Kenogaming Twp. Ont.

H.E.M. SURVEY
(1660 Hz.)

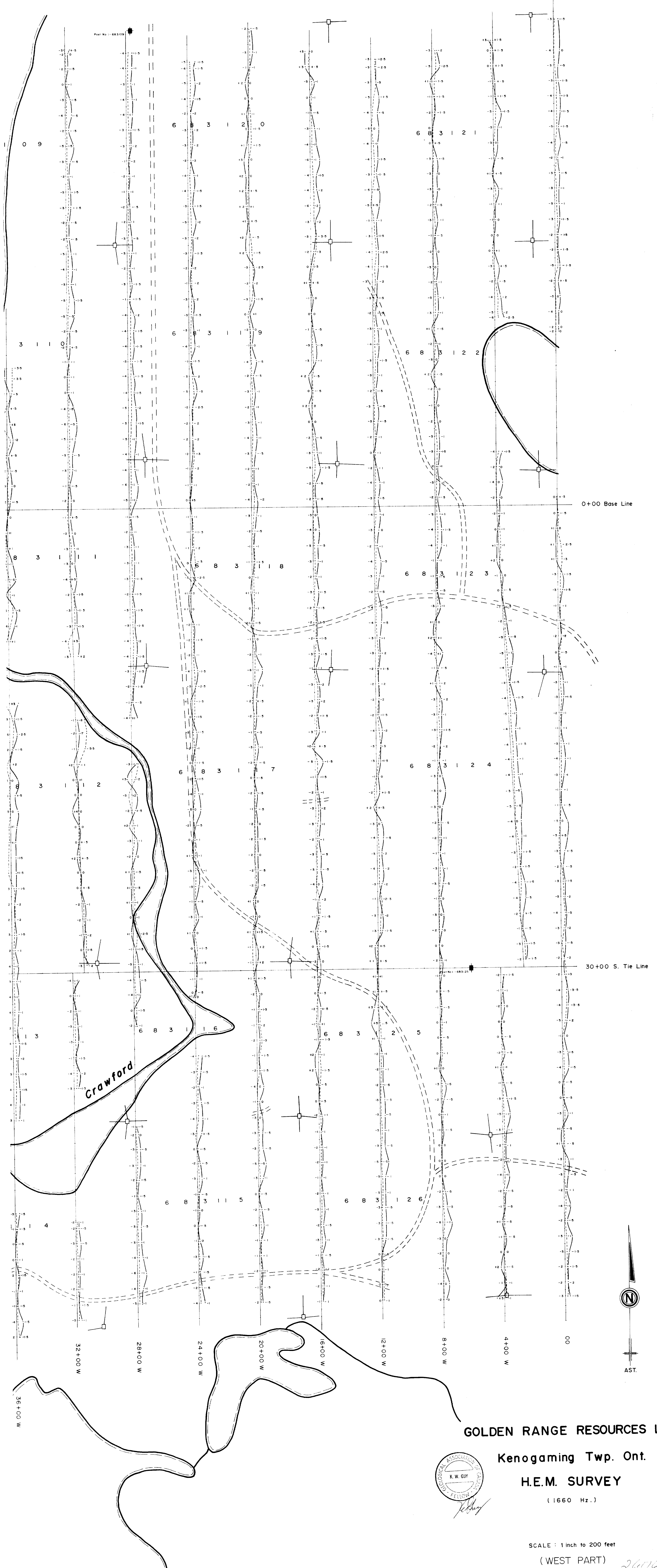
SCALE: 1 inch to 200 feet



(EAST PART)

2016

Post No. 683109



0+00 Base Line

30+00 S. Tie Line

Crawford



GOLDEN RANGE RESOURCES LTD.

Kenogaming Twp. Ont.

H.E.M. SURVEY

(1660 Hz.)



SCALE: 1 inch to 200 feet

(WEST PART)

2016