

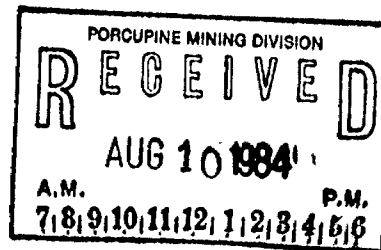


42A07NW0024 2.7077 MACKLEM

R E P O R T

on

MAGNETOMETER SURVEY
ELECTROMAGNETIC (V.L.F.) SURVEY



on

MACKLEM TOWNSHIP PROPERTY

RECEIVED

AUG 21 1984

MINING LANDS SECTION

of

UNITED KINGDOM ENERGY RESOURCES INC.

PORCUPINE MINING DIVISION, ONTARIO

CLAIMS

P-663236 - P663245

P-663254

P-663263 - P-663264

P-663273

June 15, 1984

John R. Boissoneault, B.Sc., P.Eng.
Geologist, Engineer

2790



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- (b) H.E.M. Detail

INTRODUCTION

During the period of September 19 to October 3, 1983, I carried out a radiofrequency (V.L.F.) electromagnetic survey on the Macklem Township property of United Kingdom Energy Resources Inc. This claim block, previously referred to as the "Long Lake Gold Property" lies in the Porcupine Mining Division of northeastern Ontario, about 22 miles east of the City of Timmins. The results of this survey are described in a report entitled "Report on Electromagnetic (V.L.F.) Survey on Macklem Township Property" dated November 4, 1983. In this report, it was recommended that a magnetometer survey follow, so as to complete the preliminary exploration phase. The magnetometer survey was carried out during the period of May 12 to May 16, 1984, and this report, which described the results of the survey, may serve as an addendum to the original geophysical report. Also included are the results of detail H.E.M. electromagnetics, which were conducted in a selected area on June 9, 1983.

Since the property description, the survey grid, and the geological background were covered in the original report of November 4, 1983, these will not be repeated in this one.

The purpose of the magnetometer survey was to provide additional data for interpretation of the electromagnetic anomalies found in the V.L.F. survey. It was also hoped that the magnetics would serve in the determination of the lithological and structural features

which underlie the property. Since the gold deposits of Macklem Township occur within zones of extensive carbonatization, and in zones of shearing and schisting, which differ in magnetic susceptibility from the intermediate metavolcanic host rocks, the magnetometer survey could assist in determining targets for the subsurface phase of the exploration program.

INSTRUMENTATION AND PROCEDURE

A G.E.M. Systems, GSM-8, proton precision magnetometer was used for the survey, with readings taken every 100 feet along the picket lines, to an accuracy of ± 1 gamma. This instrument measures the value of the earth's total magnetic field, at the place where the reading is taken. It is extremely accurate, especially for low gradients, and is subject only to diurnal variation and not to other drift factors. The "tie in" procedure used was as follows; the survey is conducted in loops, (6N, 9N, 9S, 6S); then the base line stations are read during a short interval, and the readings from the cross lines are adjusted to the base line stations. The largest variation encountered was 3 gamma. The corrected readings are presented on the plan entitled "Magnetometer Survey", at a contour interval of 10 gamma, and a scale of 1 inch = 400 feet.

The H.E.M. detail work was done with a Max-Min II electromagnetic unit, at a frequency of 1777 Hz. The horizontal loop configuration is utilized and the cable length was 300 metres. The transmitting and receiving coils are moved in line, held at constant separation by the cable,

through which is passed a reference signal. The inphase and outphase components of the resultant electromagnetic field are expressed as a percentage of the primary field. These are presented as profiles on the plan entitled "H.E.M. Detail" at a surface scale of 1 inch = 400 feet and an H.E.M. scale of 1 inch = 10%.

SURVEY RESULTS

Examination of the magnetic contour plan reveals that the magnetic relief on most of the property is relatively slight, especially on the eastern half. This is undoubtedly due to the deep overburden cover. However, the magnetic background rises to the west, indicating a shallowing of the overburden in that direction, up to about line 27 west. To the west of this line, there is considerably more magnetic relief and several anomalous areas. In the vicinity of line 24 west, there is a sharp rise in magnetics to the west, or a magnetic ridge indicating a fault with the eastern side moved downward and northward about 400 feet. This is probably the northern extension of the "Whitefish River Lineament", which strikes north-south and is clearly indicated, to the south, in Thomas Township.

South of the baseline, there are several broad irregular magnetic lows on both sides of the interpreted fault. Three of the most prominent of these are centered at 39 south on line 21 west, 16 south on line 33 west, and 34 south on line 33 west; the first two of these lows have V.L.F. conductors along their central axes (conductors 'H'

and 'E'). The other V.L.F. conductors do not have direct magnetic coincidence, although some of them have interesting associations with magnetic features.

The two most prominent magnetic features occur on the western edge of the property. The first of these has a relief of about 50 gamma and is an oval shaped high occurring near the base line between the western boundary and line 33W and has an associated low to the south. The second is an east-west striking linear anomaly with a high to the south and a flanking low to the north crossing lines 33W, 36W, and 39W at about 22+00 south; here the relief is also about 50 gamma. Both of these magnetic anomalies are associated with V.L.F. conductors, the former with 'B' and the latter with 'F₁'. In both cases, the conductor axis crosses the magnetic features both high and low.

The results of the H.E.M. detail work shows two weak conductive zones on the western edge of the property, both mainly on line 33 west, and neither one coinciding with V.L.F. anomalies. The most southerly of these is at 21 south and has an east-west strike, coinciding with the low of the linear magnetic feature described in the preceding paragraph. The most northerly of these is at 6 south and appears to strike northwesterly; it lies somewhat to the south of the oval shaped magnetic high and crosses a magnetic low, which runs east-west. No strong or even moderate conductivity was indicated by the H.E.M. work.

CONCLUSIONS

Gold occurrences are generally difficult to locate directly by geophysical methods and therefore indirect means must be employed, and attention must be focused on the more subtle geophysical features encountered, when interpreting survey results. This is especially true in areas of deep overburden, although the magnetic relief shows that the overburden depth, on the western part of the property, may not be so great as previously anticipated. I have kept this in mind in reaching the following conclusions.

The conductor axis F-F₁ is undoubtedly the reflection of a fault which strikes north-60°-west (300°), and has been located to the northwest. This fault is a subsidiary of the main Destor break and is associated with gold deposits on Gold Island in Night Hawk Lake. Conductors 'G' and 'H' parallel 'F-F₁' to the south, indicating that the fault may really be a fault zone rather than a single break.

In the original report, it was mentioned that the gold occurrence, southwest of the property, was located in a shear zone within a large area of carbonatization, which has not been delineated and could extend along the metavolcanic trend toward the Long Lake property. The irregular, broad magnetic lows on the southern part of the property lie near the interpreted subsidiary fault and could be caused by destruction of the magnetic minerals, in the metavolcanics during the process of carbonatization. The two magnetic anomalies, near the base line, and at

22 south, near the western edge of the property, could be a reflection of intrusive masses, possibly syenite porphyries, which are not uncommon in the region. Where weak conductivity, which could be caused by shear zones, is associated with any of these features, the potential for gold occurrence increases.

For these reasons, I suggest that exploration activities be concentrated in the following four areas:

- (a) where conductor 'B' intersects the oval magnetic high just south of the base line.
- (b) where the H.E.M. conductor coincides with the magnetic low at 22 south, to the end of conductor 'F'.
- (c) where conductor 'E' crosses a broad magnetic low between 15 and 16 south.
- (d) where conductor 'H' crosses another magnetic low between 38 and 39 south on line 21 west.

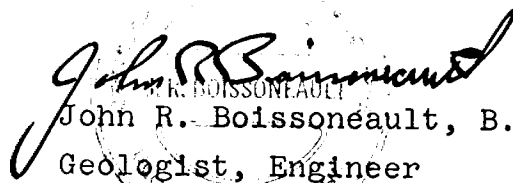
RECOMMENDATIONS

Since we are dealing with broad zones of interest rather than distinct targets, I suggest that exploration techniques designed to gain subsurface data over large areas be utilized. Overburden drilling would obtain basal till and bedrock samples at a considerable number of locations at relatively low costs. I therefore recommend that this method be used in the next phase of exploration with vertical

holes being put down at intervals in the four areas of primary interest. The drilling would be done between 1 south and 6 south, between 15 south and 17 south, and between 20 south and 25 south on line 33 west and possibly between 37 south and 39 south on line 21 west.

Assuming that the depth of overburden is approximately 100 feet, this would require some 25 to 30 holes for a total of about 3000 feet, using 50 foot spacing. If gold values are found in the basal till, the pattern would be closed in until favourable bedrock results are obtained. Following this, a diamond drilling program would be considered, if justified by the results of the overburden drilling phase.

Respectfully submitted,

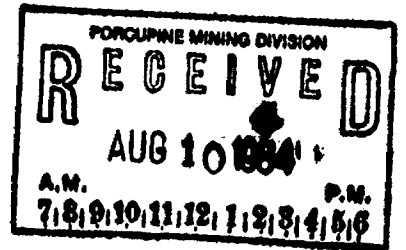

John R. Boissoneault, B.Sc., P.Eng.
Geologist, Engineer

(A circular professional seal is partially visible behind the signature and text.)

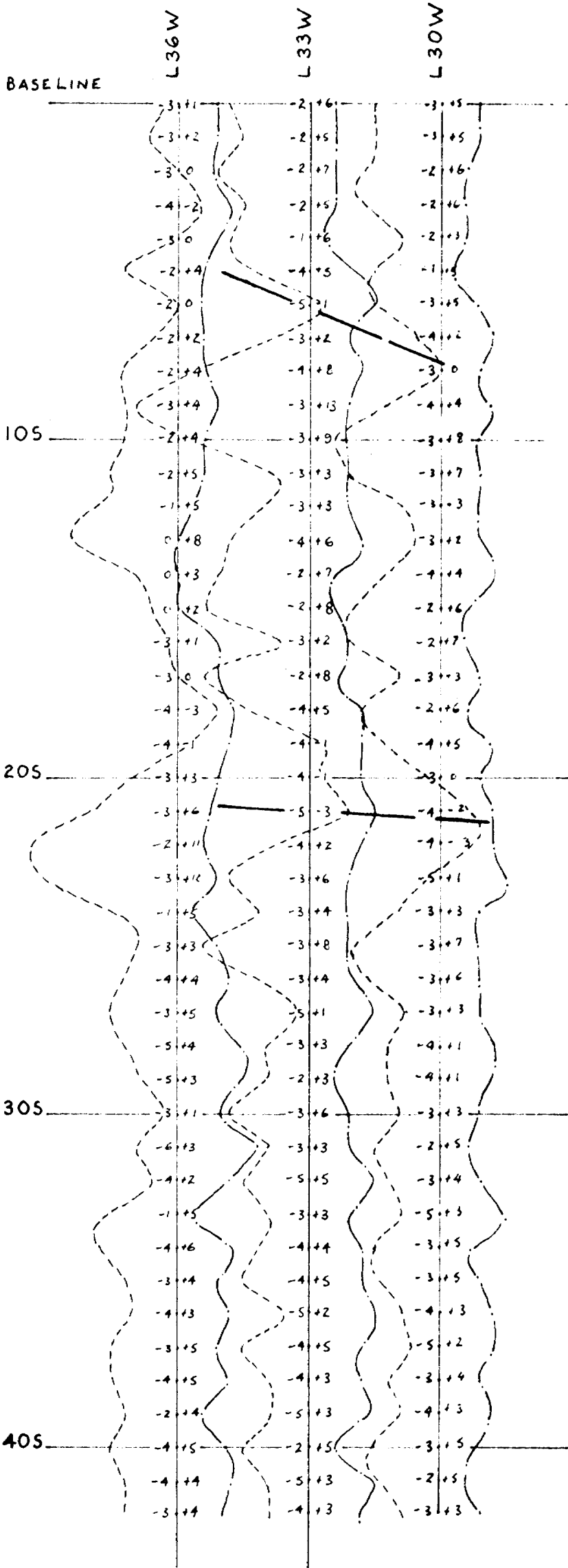
H.E.M. DETAIL

MACKLEM TOWNSHIP

UNITED KINGDOM ENERGY RESOURCES



SCALE: 1 in. = 400 ft.



LEGEND

IN PHASE -3|-----

OUT PHASE |5-----

E.M. SCALE: 1 in. = 10%

CONDUCTOR AXIS -----



INSTRUMENT: MAX MIN II

FREQUENCY: 1777 HZ.

SEPARATION: 330 FT. (300 m)

COILS HORIZONTAL COPLANAR



J.A. Boissonneault, June, 1984



Ministry of
Natural
Resources

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

W8406-321

#32



42A07NW0024 2.7077 MACKLEM

270

900

Min...

Type of Survey(s) GEOPHYSICAL GROUND MAGNETOMETER		Township or Area MACKLEM
Claim Holder(s) UNITED KINGDOM ENERGY RESOURCES		Prospector's Licence No. T-1339
Address 409 GRANVILLE ST SUITE 808 VANCOUVER B.C.		
Survey Company JOHN R. BOISSONEAULT	Date of Survey (from & to) Day Mo. Yr. Day Mo. Yr. 11 5 84 16 5 84	Total Miles of line Cut 18.4
Name and Address of Author (of Geo-Technical report) JOHN R. BOISSONEAULT, 670 SPRUCE STREET NORTH, TIMMINS, 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	
	- Magnetometer	20
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
	Geophysical	
	Days per Claim	
Main Days Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Geological	
	Geochemical	
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)			Mining Claims Traversed (List in numerical sequence)		
Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
P	663236	→			
	663237				
	663238				
	663239				
	663240				
	663241				
	663242				
	663243				
	663244				
	663245				
	663254				
	663263				
	663264				
	663273				

RECEIVED

AUG 21 1984

MINING LANDS SECTION

RECORDED
AUG 10 1984
Receipt No. *R.h.*

Expenditures (excludes power stripping)		
Type of Work Performed PORCUPINE MINING DIVISION	Performed on (Date)	Total Days Credits
<p>RECEIVED AUG 10 1984 A.M. P.M.</p>		
Calculation of Expenditures		
\$ <input type="text"/>	÷ 15 =	<input type="text"/>
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.		

For Office Use Only		Total number of mining claims covered by this report of work
Total Days Cr. Recorded	Date Recorded	14
280	Aug. 10/84	
Date Approved as Recorded	Branch Director	
Sept 4/84	<i>[Signature]</i>	

Date	Recorded Holder or Agent (Signature)
Aug 10, 1984	<i>[Signature]</i>

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 JOHN R. BOISSONEAULT, 670 SPRUCE ST. NORTH, TIMMINS, ONTARIO P4N 6P3		
Date Certified	Certified by (Signature)	
Aug 10, 1984	<i>[Signature]</i>	

1984 08 30

Your File: 321
Our File: 2.7077

Mr. Bruce Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geophysical
(Magnetometer) Survey submitted under Special Provisions
(credit for Performance and Coverage) on Mining Claims
P 663236 et al in the Township of Macklem.

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

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-6918

A. Barr:sc

cc: United Kingdom Energy Resources
409 Granville Street
Suite 808
Vancouver, B.C.
V6C 1T2

cc: John R. Boissoneault
670 Spruce Street North
Timmins, Ontario
P4N 6P3

PORCUPINE MINING DIVISION
RECEIVED
 AUG 10 1984
 A.M. 7:18 P.M. 11:12 11:28 4:56

MAGNETOMETER SURVEY

LONG LAKE PROPERTY

MACKLEM TOWNSHIP, ONTARIO

UNITED KINGDOM ENERGY RESOURCES

SCALE : 1in.=400ft.

LEGEND

TYPE OF SURVEY : MAGNETOMETER, ACCURACY: ± 1 gamma

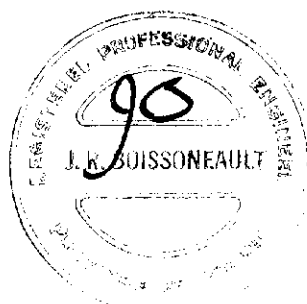
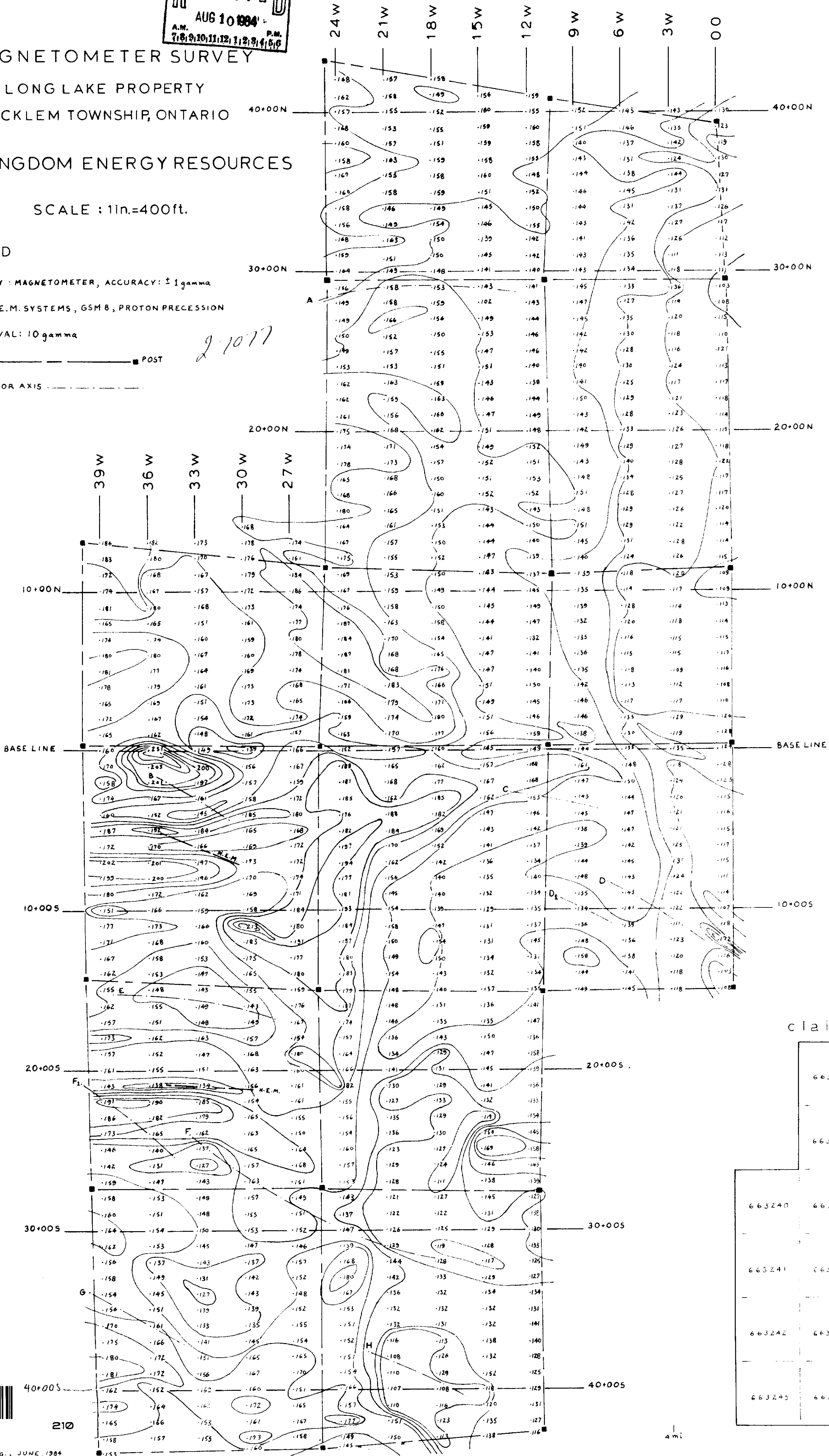
INSTRUMENT : G. E. M. SYSTEMS, GSM 8, PROTON PRESSION

CONTOUR INTERVAL: 10 gamma

CLAIM LINE ———— POST

V.L.F. CONDUCTOR AXIS ————

2-1077



claim block

663236	663237	663238
663239	663240	663241
663242	663243	663244
663245	663246	663247

Scale 1 in = 400 ft