



32D12SW0092 2.4471 HARKER

010

A Report
on
Magnetometer & VLF Surveys
on the
Harker Twp Group
of
Union Mining Corp.

by
L.G. Hobbs, P. Eng.

FORM NO. L42-411-P REPORT PAPER - GRAND & TOY

RECEIVED

JAN - 5 1982

MINING LANDS SECTION

Dec. 10, 1981

Markham, Ont.

Summary

Seven claims staked by Union Mining Corp. in north-western Harker Twp in 1980 were surveyed in 1981 with both magnetometer and VLF instruments. About 17 miles of picket line served as a control grid. The surveys outlined a structurally complex area with a major intrusive and major faulting present on the claim group. Several of the VLF anomalies offer moderately good drill targets but an I.P. survey and geological mapping are recommended before drilling is done.

Property

The property consists of 7 claims in north-western Harker Twp. The claims are numbered L578047-48 and L578865-66 (recorded Nov. 17, 1980) and L579108-10 (recorded Dec. 23, 1980).

Access

Secondary logging roads leading off Hwy 101 to the north give access to both the east and west sides of the group.

Geology

Satterly's map of the township shows the area covered by the Union claim group to be a structurally complex one in which a large syenite body intrudes volcanics and sediments in the area of the Destor-Porcupine fault zone. Offsetting of the sediments, which include greywackes and iron formation, by a north-easterly striking fault has been observed both in drill core and surface exposures and low gold values associated with these sediments were reportedly encountered on the old Dale property a part of which is now staked by Union. Low gold values are also reported from the syenite.

It is believed that the claim group has the location and structural potential to carry economic gold mineralization possibly in a disseminated sulphide zone near the syenite contact.

Surveys

Control

A base line running approximately east-west and series

of cross lines at 200 ft intervals served as survey control. The lines were cut by crews under the direction of David Glassey of Holtyre and Alan Foster of Matheson. Instrument readings at 100 ft station intervals were done by A. Fisher of Toronto. A total of approximately 17 miles of base & cross-lines were cut.

Magnetometer Survey

A GEM GSM8 proton magnetometer was used with diurnal corrections being made by the time-linear method.

The contour map of the survey shows the following features.

1. Strong magnetic zones on the west side of the survey. The strongest one (2E,7N to 8E, 4N) is due to iron formation and it is assumed the others are too.

2. A large magnetically low area occupying most of the south-east quarter of the survey. This is believed to be the syenite intrusive and in fact syenite outcrops at 33E,8S.

3. A zone of relatively higher magnetic response in the south-west corner of the map extending south-west from a line from about 14E,8S to 0,4N. The area is a relatively higher plateau about 2000 gammas higher than the response from the volcanics adjoining the syenite in the BL,22E area. Its cause is, as yet, unclear.

4. A linear feature running from 0,24N across the sheet to 34E,23N. This probably marks the faulted volcanic/sedimentary contact.

5. A number of linears, mainly trending north-easterly, which may be evidence of fault truncations. As mentioned earlier this is the direction of the faulting shown on Satterly's map. The faulting, however, as suggested by these linears may be much more extensive than that shown on Satterly's map.

VLF Survey

A Geonics EM16 instrument reading the transmitter at Cutler Me (NAA) was used and both in phase and quadrature readings taken. The in phase readings were then filtered by the Fraser method and these results plotted in the form of a contour map.

The Fraser contour map shows -

1. A series of generally north-westerly trending rather discontinuous conductive zones of weak to moderate strength. None of these has any obvious coincidence with magnetic features. The 0,6+50N to 8E,2N anomaly, for example, lies parallel to and about 175 ft south of the magnetic anomaly. A profile plot of in phase and quadrature readings shows quadrature to be nearly flat.

2. A main north-easterly trending linear from BL,9E to 26E, 21N (approx.) which disrupts the pattern described in paragraph 1. This is believed to be the fault mentioned in the section on magnetics and, where truncated by this linear, at least two of the north-westerly trending conductive zones show dragging patterns suggesting the east side moved northerly, possibly as much as 800 ft.

3. Other linears, truncations and discontinuities in the pattern suggest movement along fault planes parallel to the main one although amplitudes and directions are not necessarily the same.

4. At least two conductive zones cross the area believed to be underlain by the syenite intrusive. This type of occurrence in a gold bearing environment suggests the possible presence of gold bearing shear zones within the intrusive similar to the Bras d'Or and Belmoral occurrences near Val d'Or, Quebec.

Suggestions for Further Work

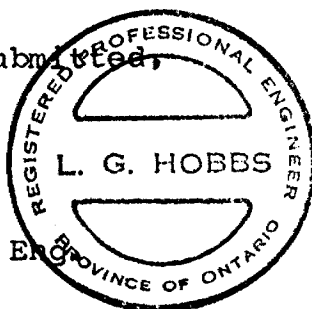
1. The surveys done so far have indicated the claim group to be underlain by a structurally complex sedimentary and volcanic series close to a major fault and intruded by a large syenite intrusion. Gold values are known to occur on the claims. While certain linear features suggest themselves as drilling targets it is recommended that a further survey capable of detecting sulphide disseminations be done. Gold values are often associated with these disseminations and a strong anomaly in a structurally favourable location would provide an important drill target. Induced Polarization (I.P.) is probably the most suitable survey and while it would be preferable to cover the entire

group, at least the syenite intrusive, its contacts and immediate surroundings up to the major east-west fault to the north should be covered. The cost of surveying the entire grid would probably be approximately \$8,000 - 10,000. Following this survey and geological mapping a diamond drill programme would have to be considered.

Respectfully submitted,



L.G. Hobbs, P. Eng.



Dale Gold Mines, Limited

Dale Gold Mines, Limited, hold 33 patented claims adjoining the west boundary of Harker township. The new highway, No. 101, crosses the northern part of the claims.

In March, 1946, a geophysical survey of 20 of the claims was made by Geo-Technical Development Company, Limited. This was followed by a drilling programme in 1946-47 of six holes totalling 5,016 feet. Previous work consisted

of stripping, test-pitting, and trenching of exposures of sediments on claims L. 39931, L. 39933, L. 39934, and L. 40204.

The claims are heavily dirt-covered, and outcrops are few, being found on only 6 of the 33 claims. Some of the geology has already been described in the section dealing with the Destor-Porcupine fault zone (page 21).

The rocks exposed in outcrops and trenches, or located by diamond-drilling, are sediments, lavas, and acid intrusives. The exposures of sediments lie within the sphere of influence of the Destor-Porcupine fault zone or subsidiary faults. The sediments are mainly a fine-grained greywacke showing little to no bedding. Some of the medium-grained sediments may be termed arkose. A band of thinly-laminated, black, specular iron formation, with thin Jasper beds, occurs in the sediments on claims L. 39933 and L. 39934. The greywacke has been variously shattered, brecciated, and altered in different outcrops by the processes of carbonatization and silicification. The resulting rock varies in colour, being shades of buff, brown, pink, and red. This altered greywacke has been called a "felsitized" sediment because it looks so much like a felsite. It may be seen in a cliff-like outcrop across the line between claims L. 39934 and L. 39933, and in trenches on claims L. 39933, and L. 39931. These rocks are frequently well mineralized with finely disseminated pyrite. Grab samples were taken by the writer from trenches in an outcrop in the middle of claim L. 39933 and assayed for gold with the following results: east trench, a trace; west trench, 0.01 ounces per ton. Stripping and trenching southwest of the above outcrop around the edge of a clay-capped hill exposes grey, buff, and red carbonatized and silicified greywacke, well mineralized with finely disseminated pyrite. The rock is minutely shattered with well-defined fractures trending N. 30°-45° E. These fractures contain chlorite. Irregular quartz-carbonate stringers and lenses occur. The pyrite mineralization has a width of 80 feet across the strike of the fractures. A grab sample of this material taken by the writer assayed 0.02 ounces of gold per ton.

Basic lavas outcrop on two claims. On claim L. 43651, there is a small outcrop of pillowed spherulitic basalt, and on claim L. 39932, two small outcrops, one in a creek bottom, of carbonatized fine-grained lava. Drill holes on claims L. 43651 and L. 39933 cut spherulitic, diabasic, and fine-grained basic lavas, which are altered to talc-chlorite schists in fault zones.

Coarse pegmatitic syenite is exposed in pits and trenches in the southern part of claim L. 40204, and in some of the drill holes. It is frequently heavily mineralized with finely disseminated specularite, and more rarely with pyrite.

The limited geological data available, coupled with the geophysical survey, suggest that the sediments and volcanics have been drag-folded, the east limb of the fold being marked by a strong cross-fault trending northeast-southwest.

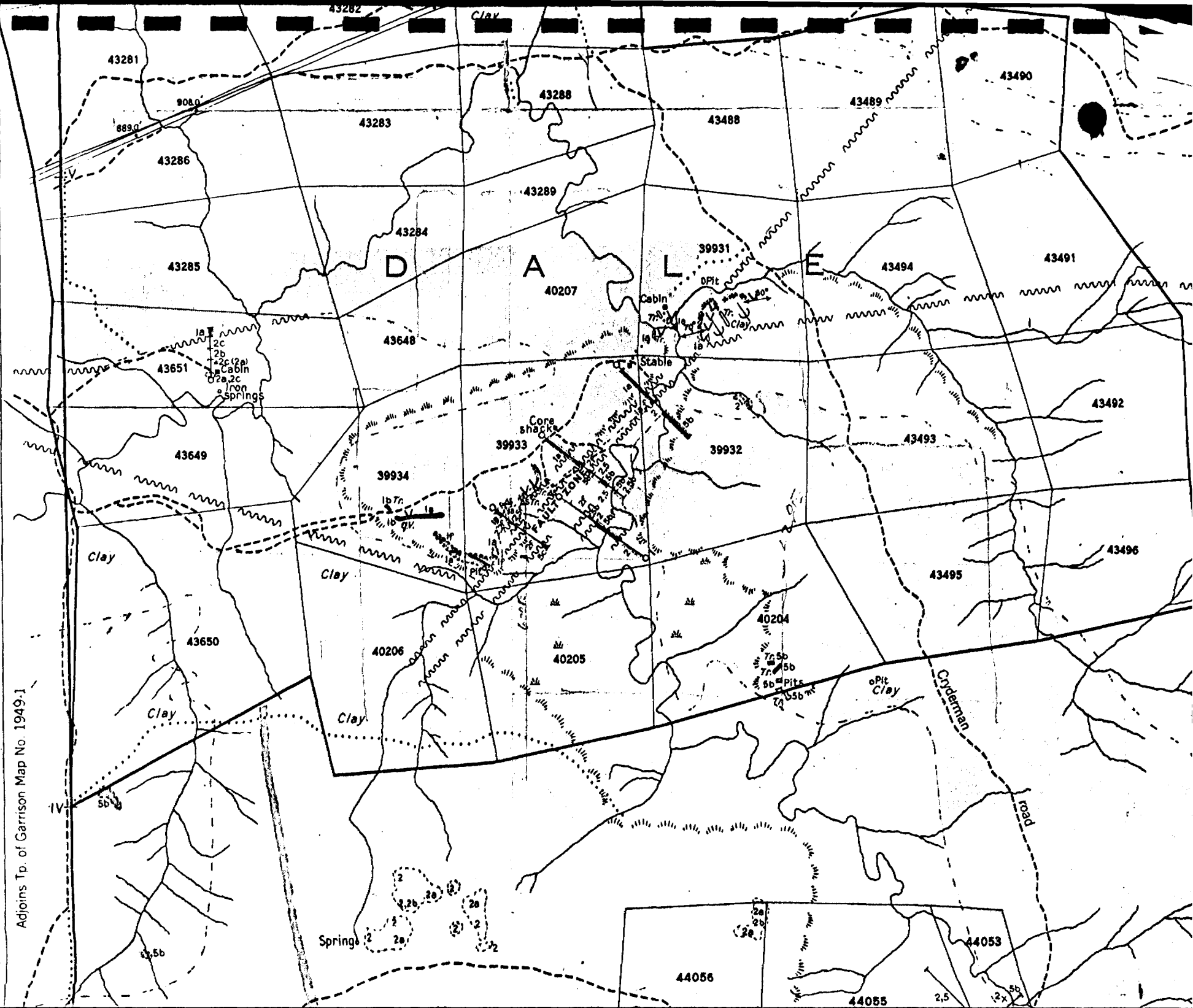
G. Demers

G. Demers holds a group of four patented claims, L. 11547 and L. 11459-L. 11461, situated in the east-central part of the township between the Imperial Reserve and Consular-Harker properties.

The claims are underlain by basic volcanics and sediments. The volcanics are pillow lavas and diabasic flows, which face south. They are highly sheared near the strike fault in the south part of L. 11547 and carbonatized in the exposures adjacent to Teddy Bear creek.

The sediments are exposed mainly on claim L. 11460 and in the extreme northwest corner of claim L. 11459. They are a continuation of a band mapped to the west on the Imperial Reserve property. These sediments are greywackes

Adjoins Tp. of Garrison Map No. 1949-1





Ministry of
Natural
Resources

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

The Mining Act

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." column.
- Do not use shaded areas below.

10/11/81
710-2576041
533

Type of Survey(s) VLF EM + MAGNETOMETER	Township or Area HARKER
Claim Holder(s) WALTER FOSTER	Prospector's Licence No. K17618
Survey Company L.G. HOBBS	Survey Dates (linecutting to office) Day Mo. Yr. Day Mo. Yr. Total Miles of Line Cut 1 5 81 1 11 81 16
Name and Address of Author (of Geo-Technical report) L.G. HOBBS SUITE 4 - 101 AMBER ST. MARKHAM ONT L3R3K6	

Special Provisions Credits Requested

Instructions	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	

Mining Claims Traversed (List in numerical sequence)

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	578047				
	578048				
	578865				
	578866				
	579108				
	579109				
	579110				

Man Days

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures ÷ 15 = 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.

Report Completed

Date of Report: **Nov 1/81**

Recorded Holder or Agent (Signature): **L.G. Hobbs**

For Office Use Only

Total Days Cr. Recorded: **420**

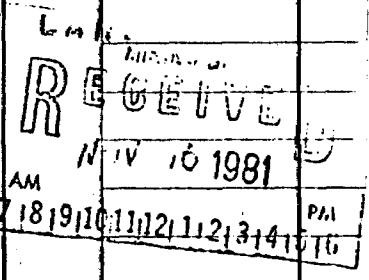
Date Recorded: **NOV 16 1981**

Date Approved as Recorded:

Total number of mining claims covered by this report of work: **7**

Mining Record Act No. **374**

Regional/Branch Director



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



Ministry of
Natural
Resources

Ontario



32D12SW0092 2.4471 HARKER

900 71

- # 535
- ons: - Please type or print.
 - If number of mining claims traversed exceeds space on this form, attach a list.
 - ote: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Type of Survey(s) VLF EM + MAGNETOMETER		Township or Area HARKER.	
Claim Holder(s) WALTER FOSTER		Prospector's Licence No. K17618	
Survey Company L.G. HOBBS	Survey Dates (linecutting to office) Day Mo. Yr. Day Mo. Yr. 1 5 81 1 11 81		Total Miles of line Cut 16
Name and Address of Author (of Geo-Technical report) L.G. HOBBS SUITE 4 - 101 AMBER ST. MARKHAM ONT L3R3B2			

Special Provisions Credits Requested

Instructions	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	

Mining Claims Traversed (List in numerical sequence)

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	578047				
	578048				
	578865				
	578866				
	579108				
	579109				
	579110				

Man Days

Instructions	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ = Total Days Credits

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.

Report Completed

Date of Report **Nov 1/81** Recorded Holder of Act (Signature) **L.G. Hobbs**

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
L.G. HOBBS SUITE 4 - 101 AMBER ST. MARKHAM ONT. L3R3B2

Date Certified **Nov 9/81** Certified by (Signature) **L.G. Hobbs**

For Office Use Only

Total Days Cr. Recorded **420** Date Recorded **NOV 16 1981**

Mining Record Action **Ally J. Hash** Branch Director

Date Approved as Recorded **83:04:14**

Total number of mining claims covered by this report of work. **7**

RECEIVED
DEC 1 - 1981
MINING LANDS SECTION

RECEIVED
NOV 16 1981
AM
7 18 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12

1983 02 23

2.4471

Mr. Walter Foster
P.O. Box 376
Matheson, Ontario
POK 1N0

Dear Sir:

RE: Geophysical (Electromagnetic & Magnetometer) Survey
submitted on Mining Claims 578047 et al in the
Township of Harker.

Enclosed is a copy of our letter dated December 14, 1982
requesting additional information for the above mentioned survey.

Unless you can provide the required data by March 10, 1983 the
mining recorder will be directed to cancel the work credits
recorded on November 16, 1981.

For further information, please contact Mr. F.W. Matthews at
416/965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

Diane Wice:sc

Encls?

cc: Mining Recorder
Kirkland Lake, Ontario

cc: L.G. Hobbs
Markham, Ontario

1982 12 14

2.4471

Mr. Walter Foster
P.O. Box 376
Matheson, Ontario
POK 1N0

Dear Sir:

RE: Geophysical (Electromagnetic & Magnetometer)
Survey submitted on Mining Claims 1578047
et al in the Township of Harker

Enclosed is the Mag map (in duplicate) for the above mentioned survey. Please indicate all claim posts, claim lines and numbers. Also please provide a set of W.L.F. maps (in duplicate) with the raw data plotted at each station.

For further information please contact Mr. F.W. Matthews at 416/965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

A. Barr:sc

Encls:

cc: Mining Recorder
Kirkland Lake, Ontario



Ontario

Action Memo

Time

Date

02/02/83

To Fred Matthews

From Bob Owen - Assessment Files

<input type="checkbox"/> Phoned	<input type="checkbox"/> Please Call	<input type="checkbox"/> Will Call Back	Telephone No.
<input type="checkbox"/> On Hold	<input type="checkbox"/> Returned Your Call	<input type="checkbox"/> Wishes Appointment	


<input type="checkbox"/> Waiting in Person	<input type="checkbox"/> Was Here	<input type="checkbox"/> Will Return	Message Taken By
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- | | | | |
|--|--|--|---|
| <input type="checkbox"/> File | <input type="checkbox"/> Draft Reply For My Signature | <input type="checkbox"/> Provide More Details | <input type="checkbox"/> For Your Information |
| <input type="checkbox"/> Type Draft | <input type="checkbox"/> For Your Approval and Signature | <input type="checkbox"/> Keep Me Informed | <input type="checkbox"/> Per Discussion |
| <input type="checkbox"/> Type Final | <input type="checkbox"/> Circulate, Initial and Return | <input type="checkbox"/> Take Appropriate Action | <input type="checkbox"/> Per Your Request |
| <input type="checkbox"/> Make Copies | <input type="checkbox"/> Return With Comments | <input type="checkbox"/> Note and See Me | <input type="checkbox"/> Returned With Thanks |
| <input type="checkbox"/> Please Answer | <input type="checkbox"/> Investigate and Report | <input type="checkbox"/> Note and Return | <input type="checkbox"/> |

Comments:

- Mr. Hobbs asked me to send these 2 maps over to you - they are to fulfill requirements not initially included in ~~at~~ his first submittal

- File # 2.4470 (WALTER FOSTER)

- if any further questions contact  Over

Mr. Hobbs at the number on
his business card (enclos.).



Mining Lands Comments

~~no quantification~~
 need all claim part, lines & numbers?

To: Geophysics

Mr Barlow.

Comments

- VLF map needs raw readings plotted

Approved

Wish to see again with corrections

Date Oct 30 / 82

Signature [Signature]

To: Geology - Expenditures

Comments

Approved

Wish to see again with corrections

Date

Signature

To: Geochemistry

Comments

LD

Approved

Wish to see again with corrections

Date

Signature

February 3, 1982

2,4471

Office of the Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

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 L.578047 et al, in the
Township of Harker.

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 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

J. Skura/bk

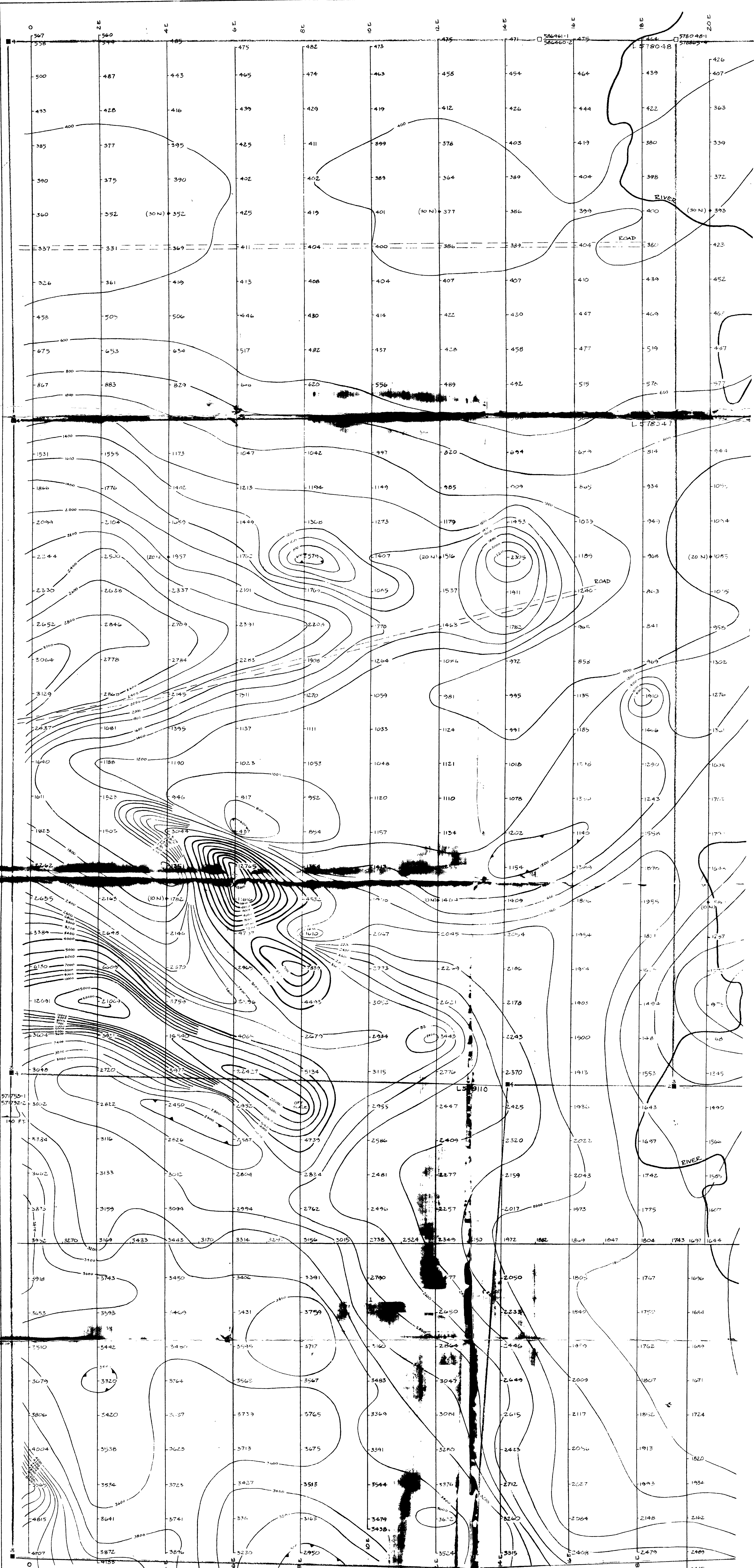
cc: L.G. Hobbs
Markham, Ontario

Bus: (416) 491-4075
4077

~~Res: (416) 884-7547~~

L. G. HOBBS, P.Eng.
Consulting Geologist

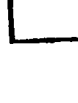
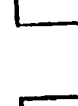



Suite 4, 101 Amber Street, Markham, Ontario L3R 3B2



- 200 gam
- 1000 and
- LINEAR
- INFERRI
- CLAIM F
- CLAIM F
- CLAIM

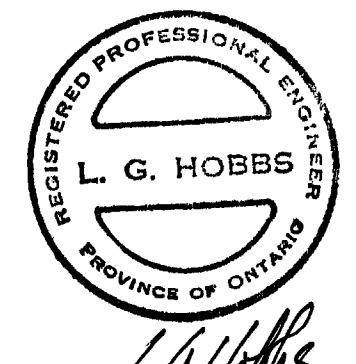


Instrument GEM GSM-8 proton magnetometer

-  5000+ gammas
-  3000-5000
-  2000-3000
-  1000-2000
-  0-1000

Contour
50 gamma contour

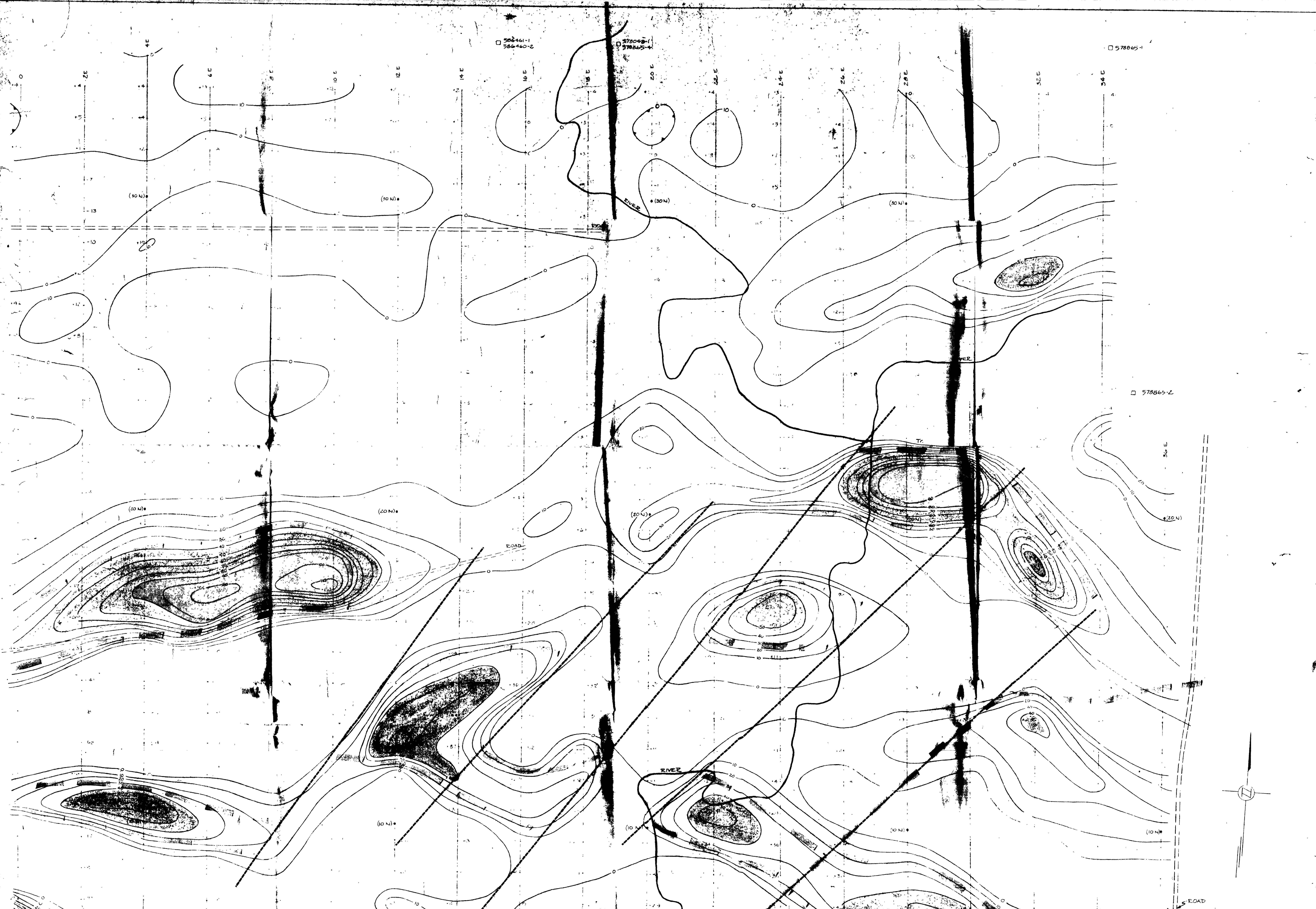
CONTACTS
T (LOCATION EXACT)
E (LOCATION APPROX)
E



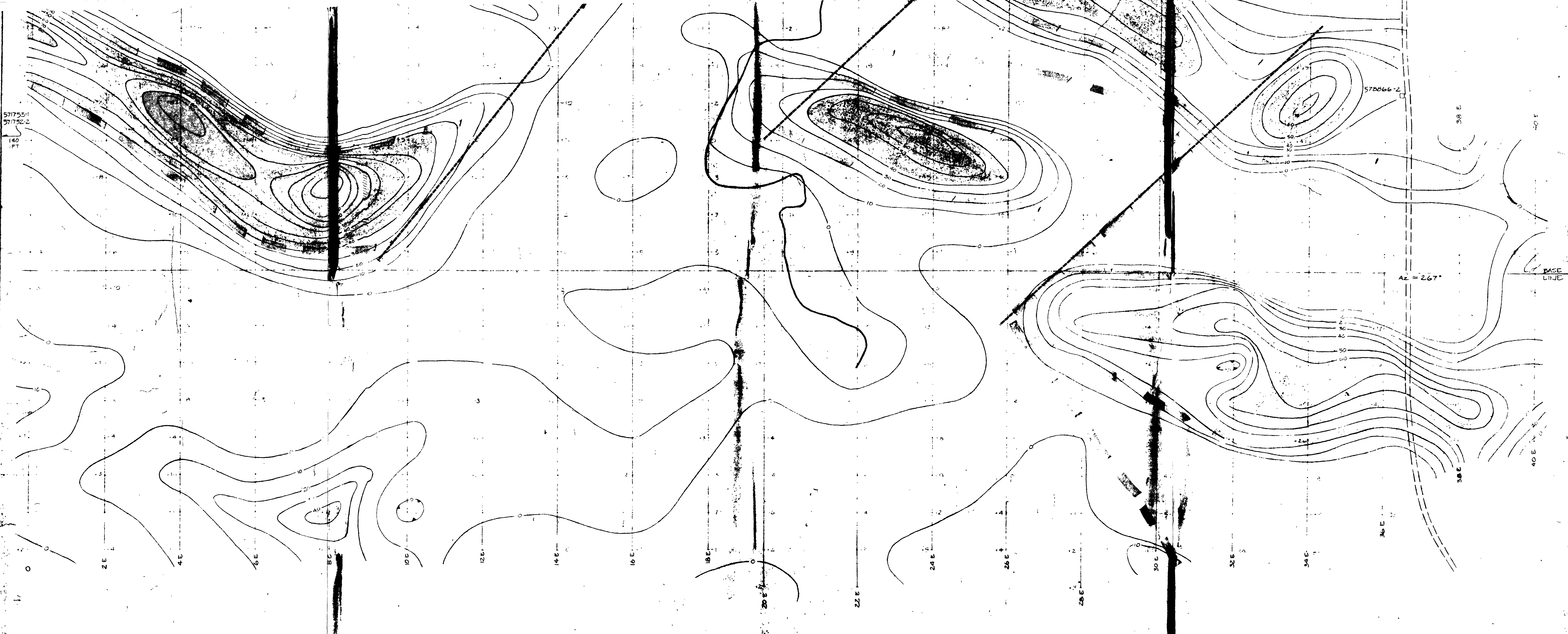
UNION MINING CORP.	
MAGNETOMETER SURVEY OF HARKER TWP. GROUP	
Scale 1 in. = 100 ft	
Oct. 1981	L. G. HOBBS, P. ENG.

Ref: OMNR file 24471

24471



571753-1
571752-2
140
FT



578866-2

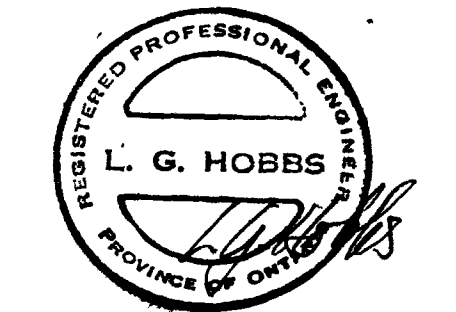
AZ = 267°

BASE
LINE

———— LINEAR
INFERRED CONTACTS
○ CLAIM POSTS

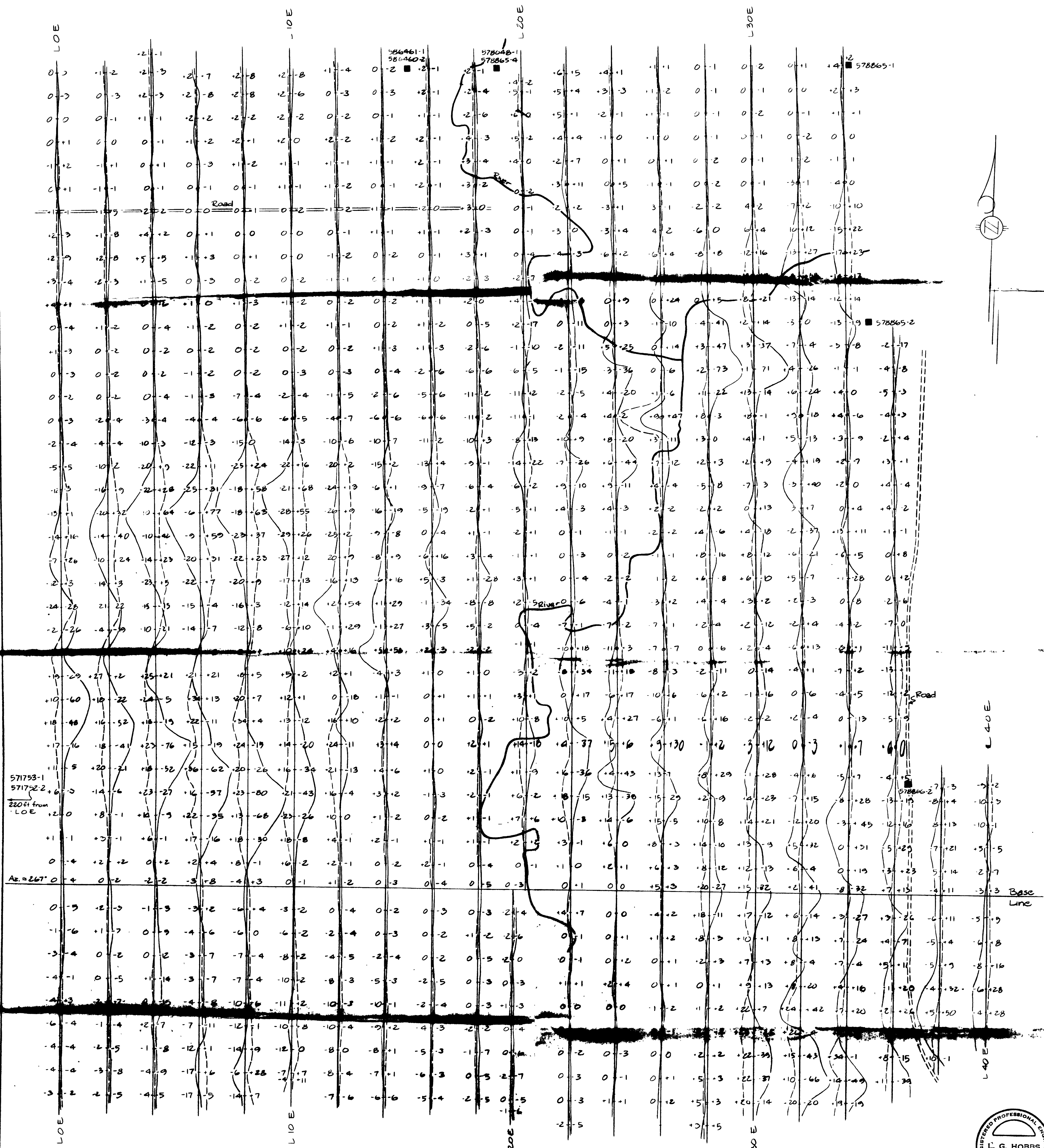
Instrument: Geonics EM16
Transmitting Station: Cutler Me.
FRASER FILTER VALUES
■ 80+
■ 40-80
□ < 40

UNION MINING CORP
FRASER PLOT
OF
EM16 VLF SURVEY
HARKER TWP. GROUP
Scale: (feet) 0 100 200 300 400
Oct 1981 L.G. HOBBS, P. ENG.
Revised: Dec 11, 1981



N
210

24471



LEGEND

-2 - In Phase dip angle
 -6 -2 - Out of Phase dip angle

———— In Phase Profile
 - - - - - Out of Phase Profile

Profile Amplitude : 1in : 100 ft.

■ Claim Post located

Instrument : Geonics EM 16
 Transmitter : Cutler Me.

UNION MINING CORP.	
EM16 SURVEY	
HARKER TWP. GROUP	
Scale	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 1 2 4 8 16
JAN 1983	L. G. HOBBS, P. ENG.

Drawn by S.B.H.

