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**AMERICAN BARRICK RESOURCES CORPORATION LTD.**

**A Report on Exploration Activity for the Year 1986**

**on the**

**Barrick West Block Property**

**RECEIVED**

**APR 29 1986**

**MINING LANDS SECTION**

R. Brian Alexander

February, 1986





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## INTRODUCTION

The West Block Property is located in the western portion of Harker Township, Ontario, Larder Lake Mining Division.

The property is approximately 5 km. west of the McDermott Project and 51.5 km. east of Matheson, Ontario via highway 101.

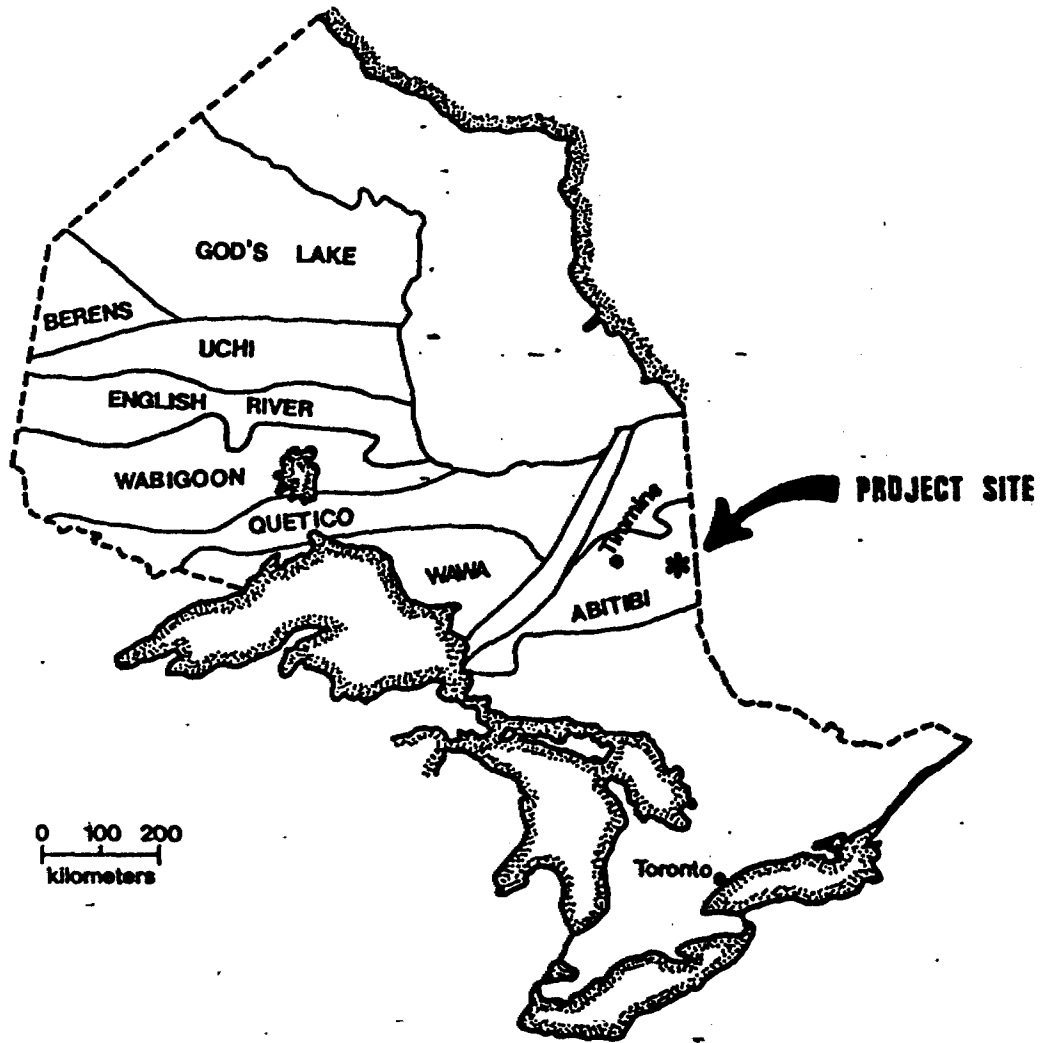
Access to the property is by secondary gravel road, 3.2 km. south, from highway 101.

The West Block includes 37 contiguous, unpatented claims. The claims numbered L641387 to 406, and L641410 to 416 were staked by Camflo Mines Ltd. which merged with Barrick in 1984. Certificates of record were issued to Barrick Resources Corp. in March, 1985. Claims numbered L802656 to 659, L802668 to 669, and L802671 to 674 were staked in May, 1985.

## PREVIOUS WORK

In 1982, Camflo Mines Ltd. staked claims numbered L641382 to 641416, inclusive.

In 1983, Camflo Mines Ltd. established a surface grid for the purpose of ground control. The grid consisted of 30 km. of cut line, with 100 m. line spacing and 25 m. stations. Camflo conducted an EM-16 and a magnetometer survey over the above mentioned grid system. The equipment used was a Scintrex MP-2 proton magnetometer with a compatible base station for diurnal corrections, and the Geonics EM-16 using the transmitter at Cutler, Maine at 17.8 KHz. The survey was conducted over claims L641395 to L641416.



**MAJOR STRUCTURAL SUB-PROVINCES  
OF THE SUPERIOR PROVINCE IN ONTARIO**

In 1984, Camflo Mines Ltd. drilled one diamond drill hole on claim L641406. The drill hole was designated Mc.84-70 and was drilled to a depth of 240.6 m. along the hole. The BQ drilling was orientated at 360 degrees, with a minus 50 degree dip. The drill collar was located 140 m. east and 40 m. north of claim post #3 of L641406. No significant assays were obtained.

In 1984, claims L641407 to L641409 were cancelled by the recorders office due to overstaking.

Barrick and Camflo were amalgamated in July, 1984, as Barrick Resources Corporation.

#### LINE-CUTTING

The surface grid established in 1983 was destroyed by a forest fire in the spring of 1984.

Ground control needed to be re-established for the purpose of geological mapping and further ground geophysical surveys.

The line-cutting contract was awarded to Mario Duquette of Rouyn, Quebec. A total of 59.3 km. of line were cut in 1985, with 100 m. line spacing and 25 m. stations.

#### GROUND GEOPHYSICAL SURVEY

A VLF (EM-16) and a magnetometer survey are in progress. A separate report will be submitted at a later date.

## AIRBORNE GEOPHYSICAL SURVEY

The contract was awarded to Geophysical Surveys Inc., of St. Foye, Quebec. The survey was flown in July, 1985, using a helicopter-born gradiometer. Two cesium vapour magnetometers, of 0.005 gamma resolution and vertically separated by 2 meters, were towed under a helicopter at an average elevation of 45 meters above ground. The average traverse spacing was 200 meters and the flight path recovery was effected using a video tape, recorded by a vertically mounted camera inside the helicopter.

The accessory equipment consisted of:

- 1) a VLF-EM from Herz Industries, the TOTEM-2A, measuring the total field and quadrature component of the electro-magnetic field at two frequencies.
- 2) a Sonotek SDS-1200 digital data acquisition system.
- 3) a radar altimeter, King KRA-10.

The West Block Property was covered by 23,700 meters of flight line.

## AIRPHOTOS

Aquarius Flight Inc. have completed a series of flight lines over the West Block Property for Barrick Resources. Air photos were produced on two scales, 1:10,000 and 1:20,000. These photos were used to facilitate ground control for the geological mapping program, to prepare a photo mosaic for the helicopter-born gradiometer survey, and for the topographic survey.

## TOPOGRAPHIC SURVEY

The topographic survey was done in conjunction with the interpretation of the air photos by Norway Map Technology Ltd. The area was mapped digitally and the final cronaflex sheets were plotted at a scale of 1:5,000. The map provides 10 meter index contours, with a 2 meter contour interval. Contours in areas of heavy relief were limited to a 5 mm. spacing.

## REGIONAL GEOLOGICAL SETTING

The volcanic rocks of Harker and Holloway Townships are of Archean age and belong to the Superior Province of the Canadian Shield. This particular region is referred to as the Lightning River Area of the Abitibi Belt. The stratigraphy of the Abitibi Belt has been sub-divided as follows (Jensen, 1982):

Upper Supergroup	( Timiskaming Group ( Blake River Group ( Kinojevis Group ( Stoughton-Roquemaure Group
Lower Supergroup	( Porcupine Group ( Hunter Mine Group ( Wakewada Group

The two supergroups represent successive volcanic cycles from ultrabasic komatiitic volcanism to acid calcalkalic volcanism. Each cycle is topped by a dominantly sedimentary (tuffaceous), sequence which reflects relative quiescence in extrusive activity.

The tectonic regime in which the majority of these rocks are located is one of regional subsidence. The formation of a broad, east-west trending synclinal basin is



attributable to this subsidence. The Destor-Porcupine Complex forms the north boundary of this basin, and the south side is marked by the Larder Lake-Cadillac break.

A few later intrusives have been emplaced into the volcanic succession. Compositionally, these rocks range from pyroxenite, diabase and lamprophyre, to diorite, granite and syenite. The mafic and ultramafic varieties tend to be found as narrow dykes whereas the intermediate and felsic varieties are more common as larger, more rounded bodies.

The Destor-Procupine Complex strikes approximately 075 degrees across Harker and Holloway Townships in the same approximate position as highway 101. Rocks to the south of this complex, or zone of dislocation, have approximately the same strike and dip 75 to 85 degrees south. All units top south - there has been no reported evidence of overturning in this area.

#### LOCAL GEOLOGY

Bedrock geology was mapped on a scale of 1:5,000, utilizing the surface grid and air photos for control on claims L641387 to 398, L802671 to 674, L802658 to 659 and the northern portion of L802657.

The claim block was found to be underlain by tholeiitic basalts and interflow sediments of the Kinojevis Group (Satterly, 1951).

Generally the units are striking east-west (between 076 and 100 degrees) and dip to the south (between 60 and 74 degrees). The basalts are right side up, younging to the

south, as indicated by vesicular and pillowed flow tops in massive flows. Basalt flows and interflow sediments are cut by dioritic intrusives and syenitic dykes, which are in turn cut by later, fresh syenite and monzonite dykes.

Specific descriptions of the individual lithological units have been provided in the following section entitled "GENERAL LITHOLOGIES".

Bedrock geology samples were taken during the course of the geological mapping program. Geochemically anomalous gold assays were obtained from:

- a) quartz veining with minor pyrite
- b) pyritized argillitic sediments
- c) epidotized and pyritized pillowed flow top

These outcrop samples are listed and described in TABLE 1, with the appropriate assay results.

The 1984 diamond drilling intersected a wide band of sediments in claim L641406, with a true thickness of at least 100 meters. The sediments are striking roughly 060 degrees and probably dip approximately 75 degrees south. Massive beds occasionally contain graded bedding which indicate the sediments are right side up, younging to the south. This band of greywacke and argillitic sediments was not reported in outcrop, although magnetometer data suggests 'formational-type' continuity.

## GENERAL LITHOLOGIES

The following broad generalizations can be made as to the major rock types.

- A) The basalt is usually dark grey-green, very fine to fine grained, weakly to moderately chloritized, variably magnetic, and occurs as both massive and pillowed flows. The massive flows are characterized by the development of brecciated flow contacts. Flow tops are commonly variolitic or amygdaloidal. The pillowed flows contain weakly to strongly developed selvages, up to 3 cm. in width; and pillow margins are commonly variolitic.
- B) The sediments include intercalated dark grey, very fine grained to aphanitic, well laminated argillitic beds and pale grey, fine grained, massive greywacke beds. Cherty sediments were reported in outcrop as grey, aphanitic, highly siliceous, massive beds with a conchoidal fracture.

**NOTE:** The following intrusive lithologies have been tentatively identified by visually observed characteristics. These field terms may not be mineralogically correct.

- C) Syenitic intrusives have been described as having a pink to reddish-brown, aphanitic to very fine grained, siliceous groundmass, with up to 50% euhedral to subhedral feldspar phenocrysts. The phenocrysts are usually white to pink in colour and range in size up to 5 mm.
- D) Monzonitic intrusives are generally described as being pinkish-grey in colour, with an aphanitic to very fine grained, massive, crystalline texture. Quite often the intrusive is pervasively carbonatized and may have a variable magnetic character.

E) Dioritic intrusives are generally a dark green-grey colour, fine to medium grained and locally magnetic. Pervasive carbonatization may also be present. The diorite is identified in the field by the presence of rectangular laths of feldspar in a mafic groundmass, forming a sub-ophitic texture. Occasionally, sections of the diorite may contain a decussate texture, formed by randomly orientated chlorite in a finer grained, massive groundmass.

### STRUCTURAL GEOLOGY

Faulting in the area has been classified by Satterly (1951) as:

- a) strike faults trending east-west; and
- b) cross faults striking to the east and west of north, which offset the rock formations and strike faults.

Recent diamond drilling in the area has shown the east-west strike faults to be cross-cutting the stratigraphy at a very small, acute angle. Therefore, they can not be termed strike faults in the classical sense.

As a result of measuring fracture directions in outcrop, seven major fracture trends were determined by the use of stereographic projections, and are listed as follows:

- 1) 004/83 west
- 2) 024/82 northwest
- 3) 047/85 northwest
- 4) 068/84 southeast
- 5) 091/82 south
- 6) 145/87 southwest
- 7) 159/82 southwest

The poles to the measured fracture planes and the general trends produced are plotted in FIGURE 1, contained in the appendix. FIGURE 1A is an example of how the linear trend AA' is interpreted as the major fracture trend striking 004 degrees and dipping 83 degrees west. The remaining fracture trends were interpreted similarly.

Shearing has been observed parallel to each of the above fracture trends. The movement on each of the individual shear planes may be small, but the total displacement on a series of closely spaced, parallel shears is probably cumulative and quite large. As a result, geological correlation along strike becomes complicated and disjointed. The West Block Property is therefore described as structurally complex.

It is generally observed that north-south faulting post-dates east-west fracture. Locally there has been some evidence that 068 degree faulting offsets 004 degree faulting, and further proof should be sought after in future geological mapping.

#### CONCLUSIONS AND RECOMMENDATIONS

Diamond drilling results from 1984, show a band of sediments striking east-west and dipping 75 degrees south. The true thickness of the sediments is at least 100 meters in claim L641406, and they are expected to extend across the southern portion of the claim block.

The 1985 geological mapping program covered claims L641387 to 398, L802668 to 669, L802671 to 674, L802658 to 659, and the northern portion of L802657. Claims L641387 to 392, L641398, L802668 and L802671 to 674 were covered with glacially transported overburden. The northwest corner of the property was found to be underlain by tholeiitic basalt and interflow sediments of the Kinojevis Group as previously described by Satterly (1951).

The units were found to be striking between 076 and 100 degrees and dipping steeply to the south between 60 and 75 degrees. Amygdaloidal and pillowed flow tops indicated that the flows are right side up, and younging to the south.

The area is described as structurally complex, with at least seven major fracture trends noted. Faulting or shearing was observed to be associated with each of these trends. Therefore geological correlation of the units along strike was found to be complicated and disjointed.

The geological mapping program did not cover the southern portion of the West Block Property and it is recommended to be completed in the 1986 field season.

Geochemically anomalous gold assays were obtained from:

- a) quartz veining with minor pyrite
- b) pyritized argillitic sediments
- c) epidotized and pyritized pillowed flow top.

There is no evidence at present to support the existence of gold mineralization, similar to the McDermott model (Workman, 1985), on the West Block Property.

Assessment work must be submitted for most of the West Block claims by February, 1986, and by March, 1986. In order to complete these requirements, a diamond drilling program will probably be initiated in early 1986. Diamond drill targets should be dependant upon the ground geophysical survey that is presently in progress. A separate report on the geophysical program will be submitted at a later date. Particular attention should be paid to results from the magnetometer survey, since the VLF survey has been known in the past to be affected by conductive overburden. Any

VLF conductor axis used as a drill target should be coincident with a magnetic low. The low magnetic values have been correlated with drill targets associated with the McDermott model for gold mineralization.

## REFERENCES

- 1) Satterly, J.; 1951  
"Geology of Harker Township"  
Ontario Department of Mines,  
Volume LX, Part VII
  
- 2) Jensen, L.S.: 1982  
"Precambrian Geology of the Lightning River Area"  
Cochrane District,  
Ontario Geological Survey, Map P2433,  
Geological Series - Preliminary Map,  
Scale 1:63,360 or 1 inch = 1 mile  
Geology 1973
  
- 3) Jensen, L.S. and Langford, F.F.; 1983  
"Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake  
Area, Ontario"  
Ontario Geological Survey  
Open File Report 5455
  
- 4) Tousignant, G.; 1984  
"Geophysical Survey on the West Block Property"  
Harker Township, Ontario  
Larder Lake Mining Division  
NOTE: Internal report for Camflo Mines Ltd.
  
- 5) Workman, A.W.: 1985  
"The McDermott Gold Deposit"  
C.I.M. Distribution, Annual Meeting,  
Timmins, 1985

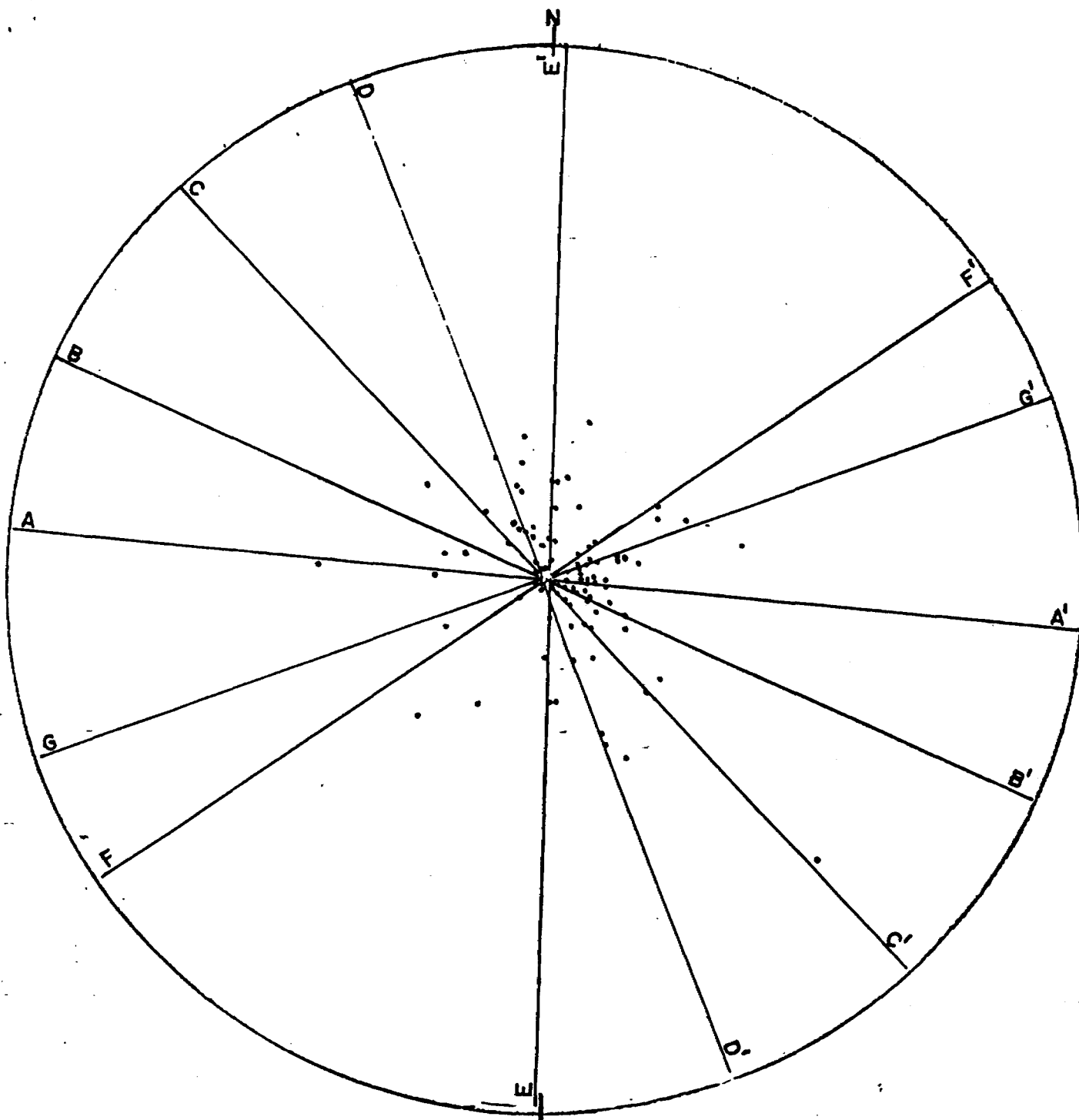


**APPENDIX**

TABLE 1 BEDROCK GEOLOGY SAMPLE DESCRIPTION AND ASSAYS

<u>SAMPLE NO.</u>	<u>LOCATION</u>	<u>SAMPLE DESCRIPTION</u>	<u>AU ASSAY gm/tonne</u>
20110	15+88W/6+75N	Grab sample taken from north side of small trench. Probably argillitic with pyrite up to 5%.	0.17
20111	15+88W/6+75N	Grab sample of quartz vein in the NW corner of small trench with pyrite and hematite alteration.	0.17
20112	15+76W/5+75N	Grab sample of dark green grey, very fine grain breccia with fragments up to 3 cm., 5-10% pyrite, and minor hematite alteration. (0.5 M. wide)	0.34
20113	16+25W/1+05N	Grab sample of pillowed flow top with epidote and disseminated pyrite up to 4%.	0.69
20114	16+08W/1+12N	Grab sample of quartz vein contact with basalt. Strongly epidotized, minor pyrite and hematite alteration.	Tr
20115	16+90W/3+90N	Grab sample of pyritic basalt, highly fractured with pyrite up to 3%.	Tr

WEST BLOCK  
STRUCTURAL ANALYSIS



**FIGURE 1** Plot of the poles to all measured fracture planes, and the general trends produced.

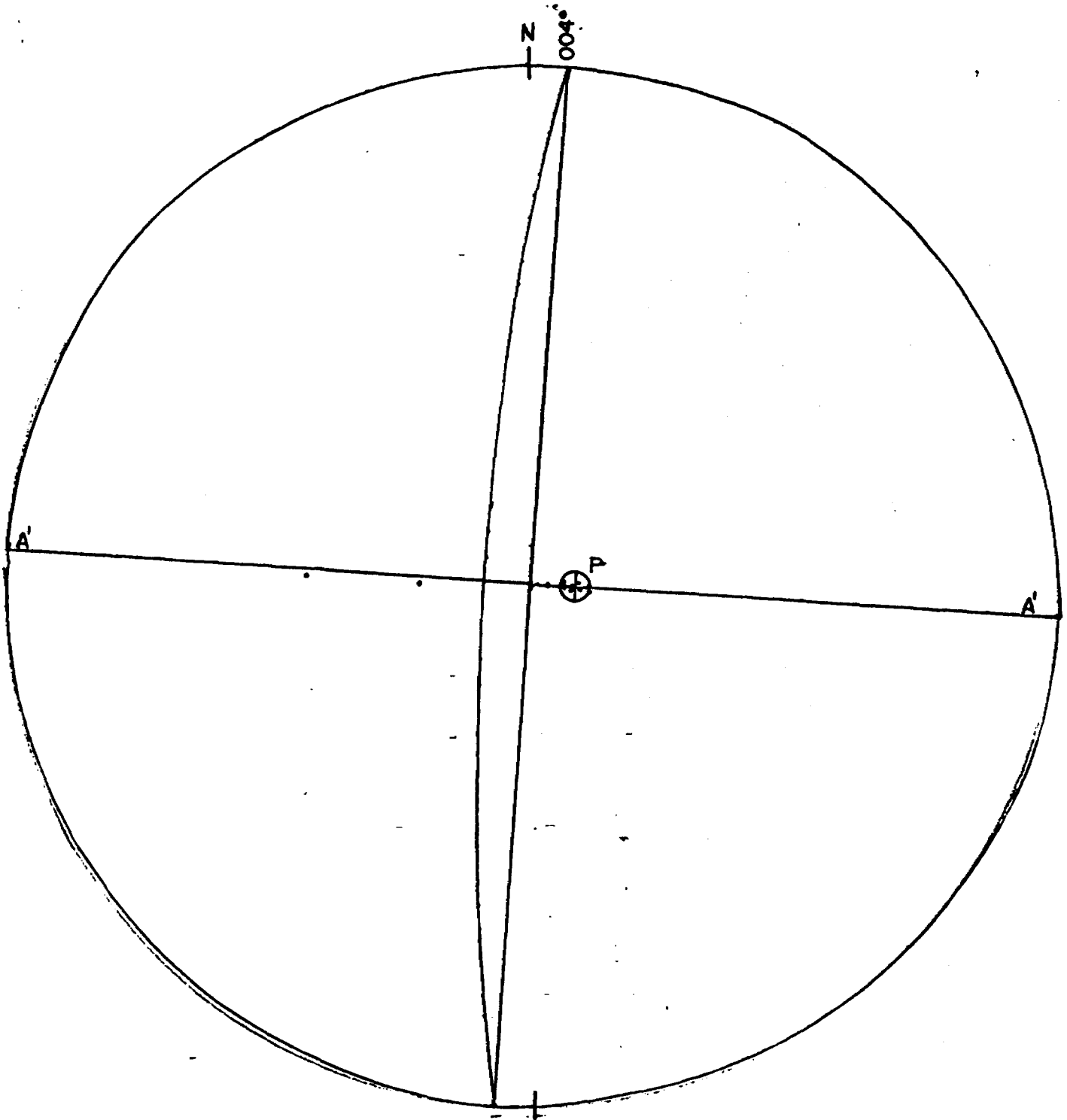
**NOTE** Linear trends are produced by those fracture planes with the same strike direction, although the dip of the fracture plane may vary.

FIGURE 1A

Linear trend AA'

Strike 004°

Dip 83° West



NOTE Linear trend AA' produces a strike direction of 004°, with a variable dip to the generalized fracture plane. An average dip to the fracture plane of 83° West is obtained from the crosshaired circle (P) or average pole to the great circle, drawn on the stereonet.



Ministry of Natural Resources  
 Report of Work  
 (Geophysical, Geological,  
 Geochemical and Expenditures)

923



32D12SE6727 2.9055 HOLLOWAY

900

W8608-095 *cash* The M

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

Claim Holder(s) **American Barrick Resources Corporation** Prospector's Licence No. **T 834**

Address **24 Hazelton Avenue, Toronto, Ontario M5R 2E2**

Survey Company **Mario Duquette et al, Rouyn, Quebec** Date of Survey (from & to) **not incl. Day 07 Mo. 85 Day 31 Mo. 85** Total Miles of line Cut **36.8**

Name and Address of Author (of Geo-Technical report) **Brian Alexander, C.P. 178, Duparquet, Quebec, J0Z 1W0**

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(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	Geological	
	Geochemical	

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

Total = 588 days

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	641387	80	L	641413	20
	641388	80		641414	20
	641389	80		641415	20
	641390	80		641416	20
	641391	80		802656	80
	641392	80		802657	80
	641393	80		802658	80
	641394	80		802659	80
	641395	20		802668	80
	641396	20		802669	80
	641397	20		802671	80
	641398	20		802672	80
	641399	20		802673	80
	641400	20		802674	80
	641401	20			
	641402	20			
	641403	20			
	641404	20			
	641405	20			
	641406	20			
	641410	20			
	641411	20			
	641412	20			

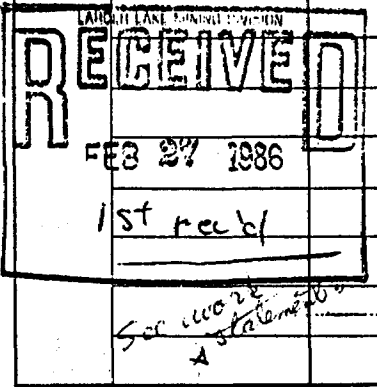
Expenditures (excludes power stripping)

Type of Work Performed **RECEIVED**

Performed on Claim(s) **MAR 12 1986**

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷ 15 =



See attached sheet for individual entries

Total number of mining claims covered by this report of work. **37**

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 Days Cr. Recorded **1820** Date Recorded **MAR 12 1986** Mining Recorder *[Signature]*

Date Approved as Recorded **1820** Branch Director *[Signature]*

Date **Feb 25, 1986** 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 **M.E. Holt, American Barrick Resources Corporation**

**24 Hazelton Avenue, Toronto M5R 2E2** Date Certified **Feb 25, 1986** Certified by (Signature) *[Signature]*



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

Township or Area Harker Township

Claim Holder(s) American Barrick Resources Corp.  
(formerly Barrick Resources Corp.)

Survey Company Duquette et al., Rouyn, Quebec

Author of Report Brian Alexander

Address of Author C.P. 178, Duparquet, Quebec J0Z 1W0

Covering Dates of Survey July - December 1985  
(linecutting to office)

Total Miles of Line Cut 36.8 miles

**MINING CLAIMS TRAVERSED**  
List numerically

L	641387
(prefix)	641388 (number)
	641389
	641390
	641391
	641392
	641393
	641394
	641395
	641396
	641397
	641398
	641399
	641400
	641401
	641402
	641403
	641404
	641405
	641406
	641410
	641411
	641412
	641413
	641414
	641415
	641416
	802656
	802657
	802658
	802659
	802668
	802669
	802671
	802672
	802673
	802674
<b>TOTAL CLAIMS</b> <u>37</u>	

If space insufficient, attach list

**SPECIAL PROVISIONS  
CREDITS REQUESTED**

ENTER 40 days (includes  
line cutting) for first  
survey.

ENTER 20 days for each  
additional survey using  
same grid.

	DAYS per claim
Geophysical	
-Electromagnetic	<u>40</u>
-Magnetometer	<u>20</u>
-Radiometric	_____
-Other	_____
Geological	_____
Geochemical	_____

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

Magnetometer  Electromagnetic  Radiometric \_\_\_\_\_  
Total=588 days (enter days per claim)

DATE: Feb 25, 1986 SIGNATURE: *Brian Alexander*  
Author of Report or Agent

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

**Previous Surveys**

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 2610 Number of Readings 2610  
Station interval 25 meters Line spacing 100 meters  
Profile scale 1:5000  
Contour interval 250 gammas/10 units

MAGNETIC

Instrument Scintrex Model MP-2, portable magnetometer  
Accuracy - Scale constant ± 10 gammas  
Diurnal correction method compatible base station  
Base Station check-in interval (hours) approx. 5 hours  
Base Station location and value \_\_\_\_\_

ELECTROMAGNETIC

Instrument Geonics EM-16  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy ± 1%  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency 17.8 KHz, Cutler, Maine  
(specify V.L.F. station)  
Parameters measured Vertical in-phase component and quadrature

GRAVITY

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_  
Elevation accuracy \_\_\_\_\_

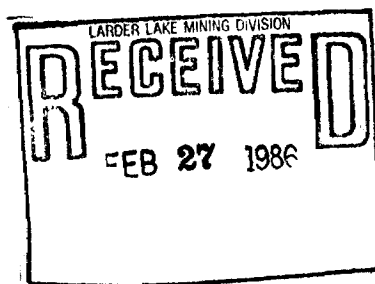
INDUCED POLARIZATION  
RESISTIVITY

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 \_\_\_\_\_

Attachment to Geophysical Report of Work

The following claims were not covered by the geophysical ground survey:

L-641399  
641406  
641410  
641411  
641412  
641413  
802674





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) gradiometer/VLF-EM

Instrument(s) cesium vapour magnetometer/TOTEM-2A

(specify for each type of survey)

Accuracy ± 0.005 gammas

(specify for each type of survey)

Aircraft used helicopter

Sensor altitude 43 meters

Navigation and flight path recovery method radar altimeter, King KRA-10 and video camera vertically mounted in helicopter for flight path recovery

Aircraft altitude 45 meters Line Spacing 200 meters

Miles flown over total area 96.9 miles Over claims only 14.7 miles

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 \_\_\_\_\_



Recorded Holder  
**AMERICAN BARRICK RESOURCES CORPORATION**

Township or Area  
**HARKER TOWNSHIP**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic <u>20</u> days Magnetometer <u>20</u> days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column <b>Geological</b> _____ days <b>Geochemical</b> _____ days Man days <input type="checkbox"/> Airborne <input checked="" type="checkbox"/> Special provision <input type="checkbox"/> Ground <input type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	L 641387 to 406 inclusive 641410 to 416 inclusive 802656 to 59 inclusive 802668 - 69 802671 to 74 inclusive

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.



Recorded Holder  
**AMERICAN BARRICK RESOURCES CORPORATION**

Township or Area  
**HARKER TOWNSHIP**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ <b>40</b> days	<p>L 641387 to 406 inclusive 641413 to 416 inclusive 802656 to 59 inclusive 802668 - 69 802671 to 74 inclusive</p>
Magnetometer _____ <b>20</b> days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

\_\_\_\_\_

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       insufficient technical data filed

L 641410 to 12 inclusive

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.

# AMERICAN BARRICK RESOURCES CORPORATION

April 28, 1986

DELIVERED

Mr. Andrew Barr  
Assessment Office  
Mineral Resources Branch  
Ministry of Northern Development & Mines  
Whitney Block  
99 Wellesley Street West  
Toronto, Ontario  
M7A 1W3

**RECEIVED**

**APR 29 1986**

Re: West Block Project #161  
Harker Township, Ontario

**MINING LANDS SECTION**

Dear Mr. Barr

This is further to our submission to the mining recorder's office in Kirkland Lake pertaining to work performed on mining claims L641387 et al. (37 in total) in the Harker Township.

Enclosed is the following:

Duplicate signed maps of; Section 2+00 W (2 holes)  
Geology  
VLF EML6 Profiles  
VLF EML6 Fraser Filter  
Magnetic Data  
Magnetic Contours  
Interpreted Anomalies

Report on Exploration Activity for 1986 (duplicate copies)

Your attention to this matter shall be appreciated.

Yours very truly  
AMERICAN BARRICK RESOURCES CORPORATION

*C. Mathews*

Ms. C.A. Mathews  
Office Geologist

Enc.

24 Hazelton Avenue, Toronto, Ontario, Canada, M5R 2E2 Telephone: (416) 923-9400 Telex: 06-218626 BRC TOR

October 17, 1986

Your File: 95/86  
Our File: 2.9055

Mining Recorder  
Ministry of Northern Development and Mines  
4 Government Road East  
Kirkland Lake, Ontario  
P2H 1A2

Dear Madam:

RE: Notice of Intent dated September 19, 1986  
Geophysical (Electromagnetic & Magnetometer)  
Surveys on Mining Claims L 641387, et al,  
in Harker Township

---

The assessment work credits, as listed with the  
above-mentioned Notice of Intent, have been approved  
as of the above date.

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

Yours sincerely,

J.C. Smith, Supervisor  
Mining Lands Section

Whitney Block, 6th Floor  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Telephone: (416) 965-4888

DK/mc

cc: American Barrick Resources Corporation  
24 Hazelton Avenue  
Toronto, Ontario  
M5R 2E2  
Attention: M.E. Holt

Resident Geologist  
Kirkland Lake, Ontario

Brian Alexander  
C.P. 178  
Duparquet, Quebec  
J0Z 1W0

Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

Encl.



**LEGEND**

quadrature

total field

Vertical scale of profiles (1% = 1 mm)

Flight lines 4501

7200

200

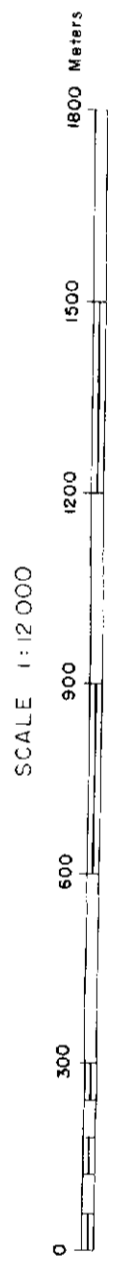
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# HARKER - HOLLOWAY

TOTAL FIELD AND QUADRATURE  
PROFILES OF THE VLF-EM

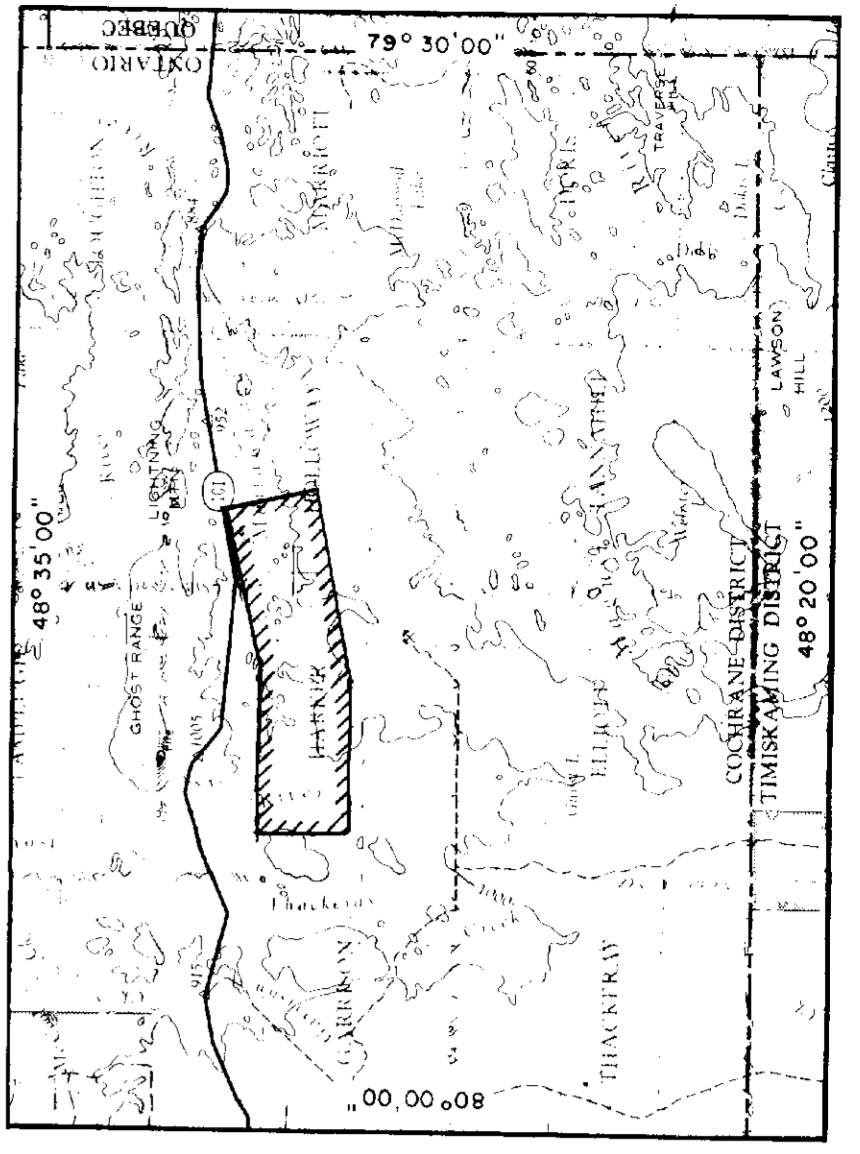
1985

SURVEY AND COMPILATION BY  
GEOLOGICAL SURVEYS INC



Semi-controlled mosaic  
VLF station used: NAA, Cutler, Maine - USA, 24.0 KHZ

N.A.A.



This map and profile data were compiled by Geological Survey Inc. in June 1985 from data collected by the same organization in 1984. The data were collected using a VLF-EM system consisting of a transmitter and receiver mounted on a helicopter. The receiver was a GEOMATEC model 4501 and the transmitter was a GEOMATEC model 4502. The data were processed by a GEOMATEC model 4503. The accuracy of the data is approximately 10%.

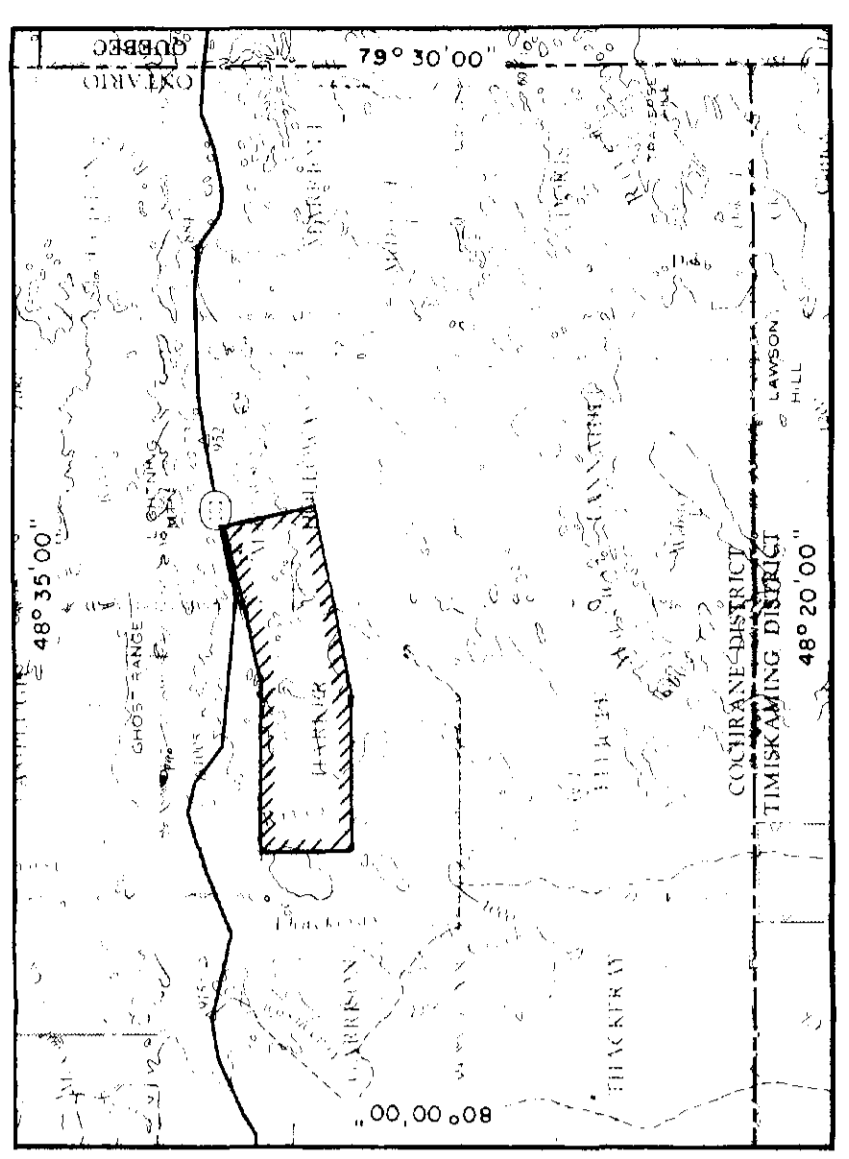
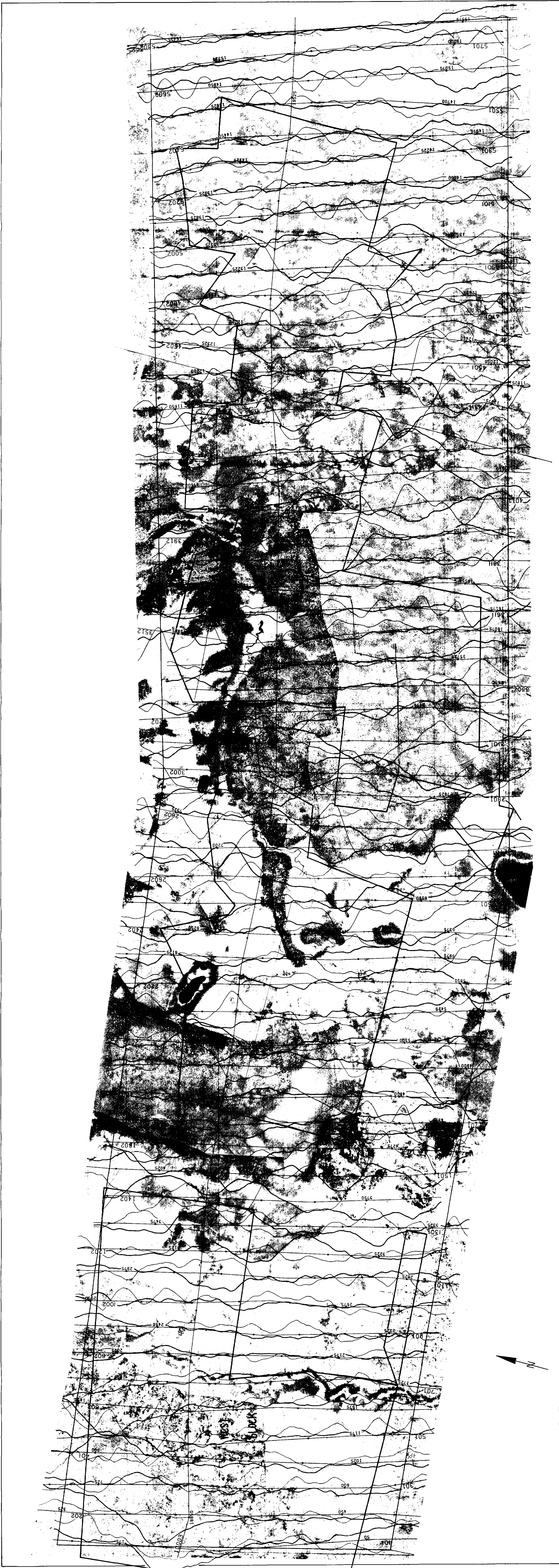
1. A 1000 Hz VLF-EM transmitter, GEOMATEC model 4501, was used to transmit a signal to the receiver. The receiver was a GEOMATEC model 4502. The data were processed by a GEOMATEC model 4503.

2. A 2000 Hz VLF-EM transmitter, GEOMATEC model 4501, was used to transmit a signal to the receiver. The receiver was a GEOMATEC model 4502. The data were processed by a GEOMATEC model 4503.

3. A 3000 Hz VLF-EM transmitter, GEOMATEC model 4501, was used to transmit a signal to the receiver. The receiver was a GEOMATEC model 4502. The data were processed by a GEOMATEC model 4503.

4. A 4000 Hz VLF-EM transmitter, GEOMATEC model 4501, was used to transmit a signal to the receiver. The receiver was a GEOMATEC model 4502. The data were processed by a GEOMATEC model 4503.

200



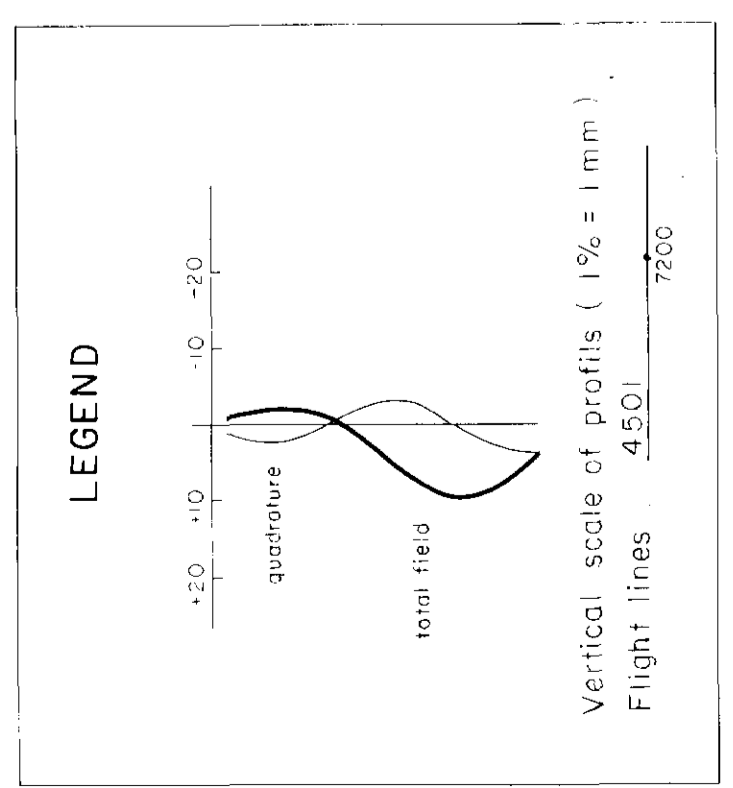
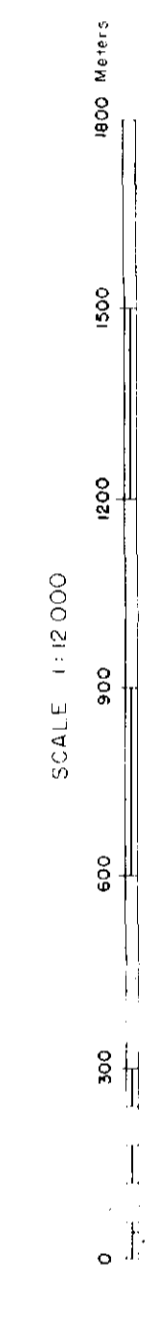
# HARKER - HOLLOWAY

TOTAL FIELD AND QUADRATURE  
PROFILES OF THE VLF-EM

1985

SURVEY AND COMPILATION BY  
GEOPHYSICAL SURVEYS INC

Semi-controlled mosaic  
VLF station used - NSS, Annapolis, MD-USA, 21.4 KHZ



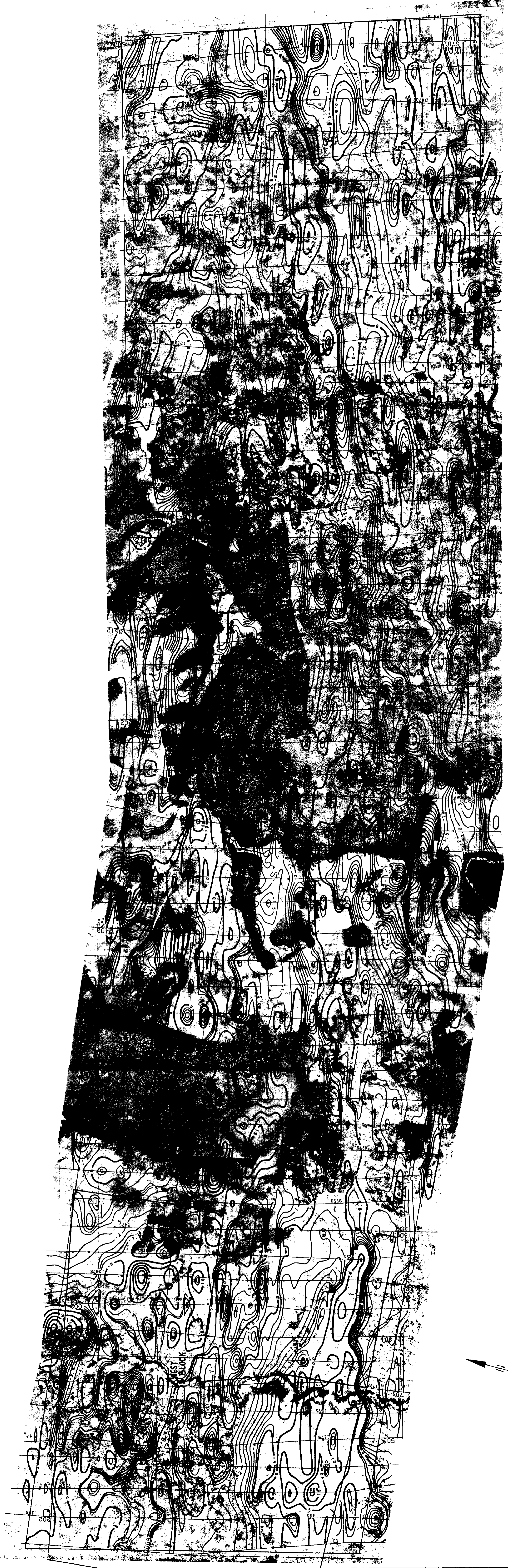
THIS IS A PRELIMINARY REPORT AND SHOULD NOT BE USED FOR ANY DECISIONS WITHOUT THE ASSISTANCE OF A PROFESSIONAL GEOPHYSICIST. THE DATA WERE OBTAINED FROM A VLF-EM SURVEY CONDUCTED BY GEOPHYSICAL SURVEYS INC. IN 1985. THE SURVEY WAS CONDUCTED AT A FREQUENCY OF 21.4 KHZ. THE DATA WERE CORRECTED FOR DIURNAL VARIATION AND TIME-DEPENDENT DRIFT. THE RESULTS ARE PRESENTED IN THE FORM OF TOTAL FIELD AND QUADRATURE PROFILES. THE VERTICAL SCALE OF THE PROFILES IS 1% = 1 MM. THE HORIZONTAL SCALE IS 1:12,000. THE SURVEY AREA IS SHOWN IN THE INSET MAP. THE SURVEY WAS CONDUCTED AT A STATION IN ANAPOLIS, MD-USA. THE SURVEY AREA IS SHOWN IN THE INSET MAP.

*Handwritten signature*









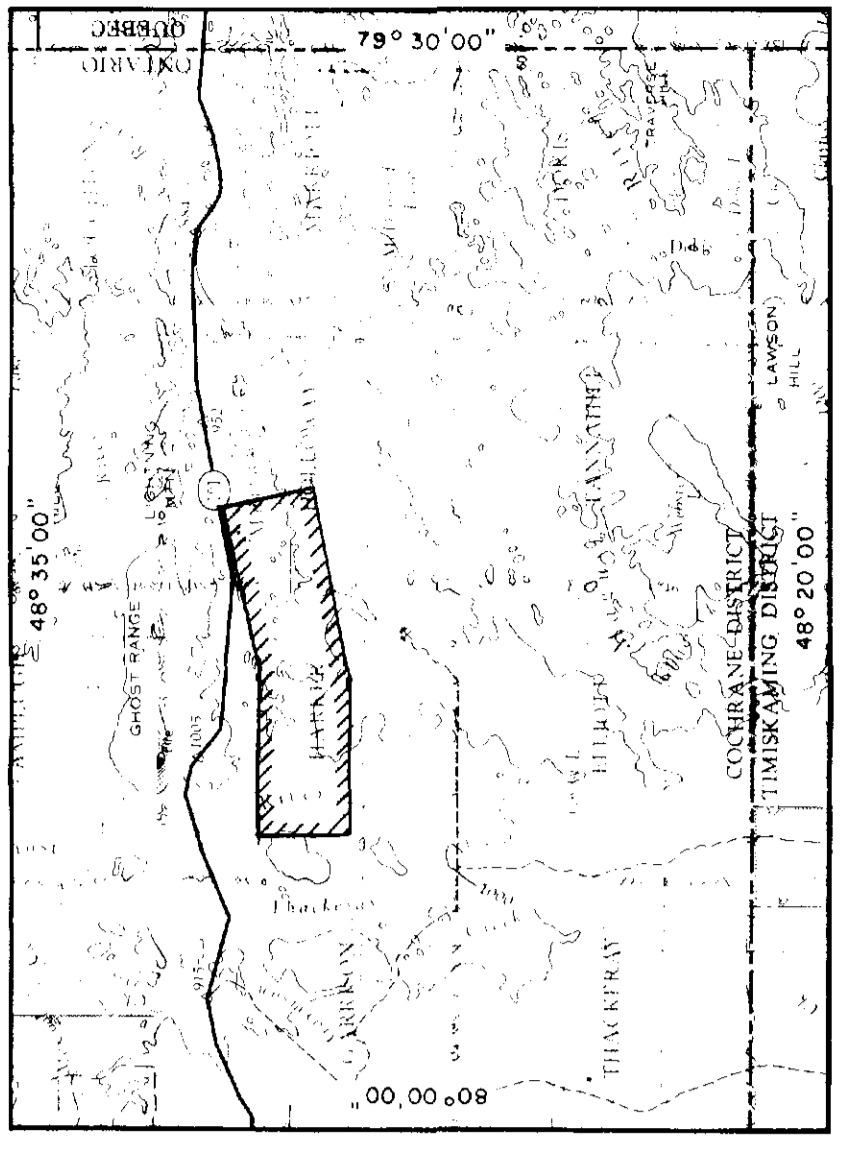
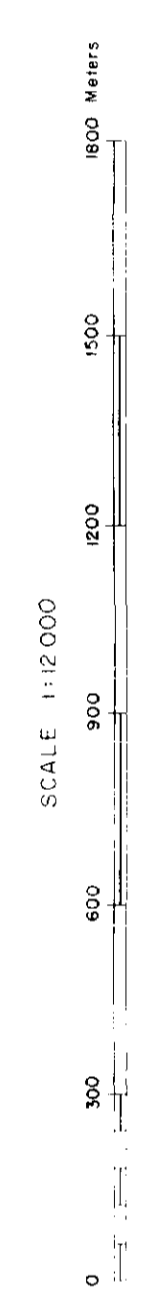
# HARKER - HOLLOWAY

AEROMAGNETIC VERTICAL GRADIENT MAP

1985

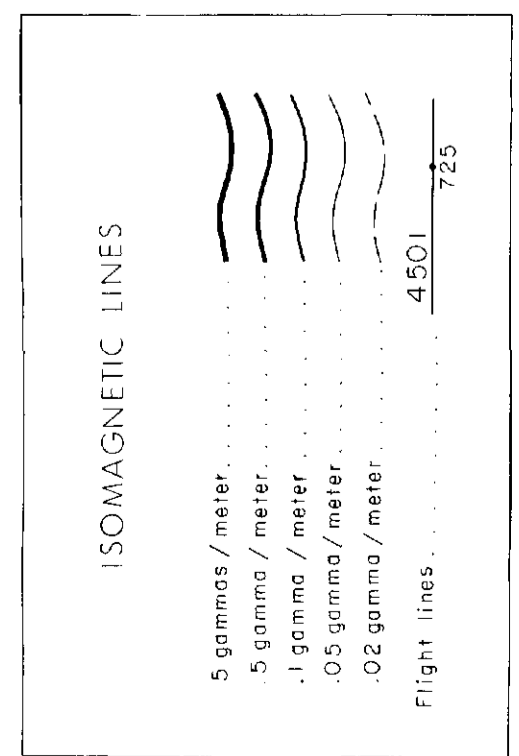
SURVEY AND COMPILATION BY  
GEOPHYSICAL SURVEYS INC

Semi-controlled mosaic

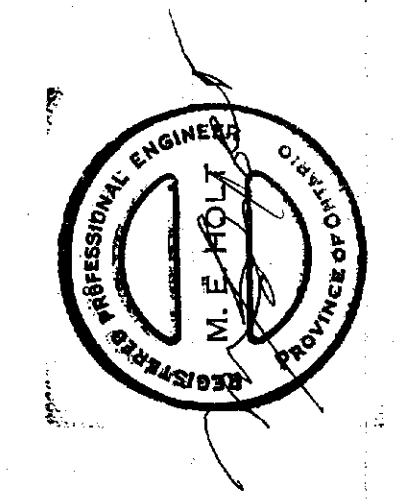
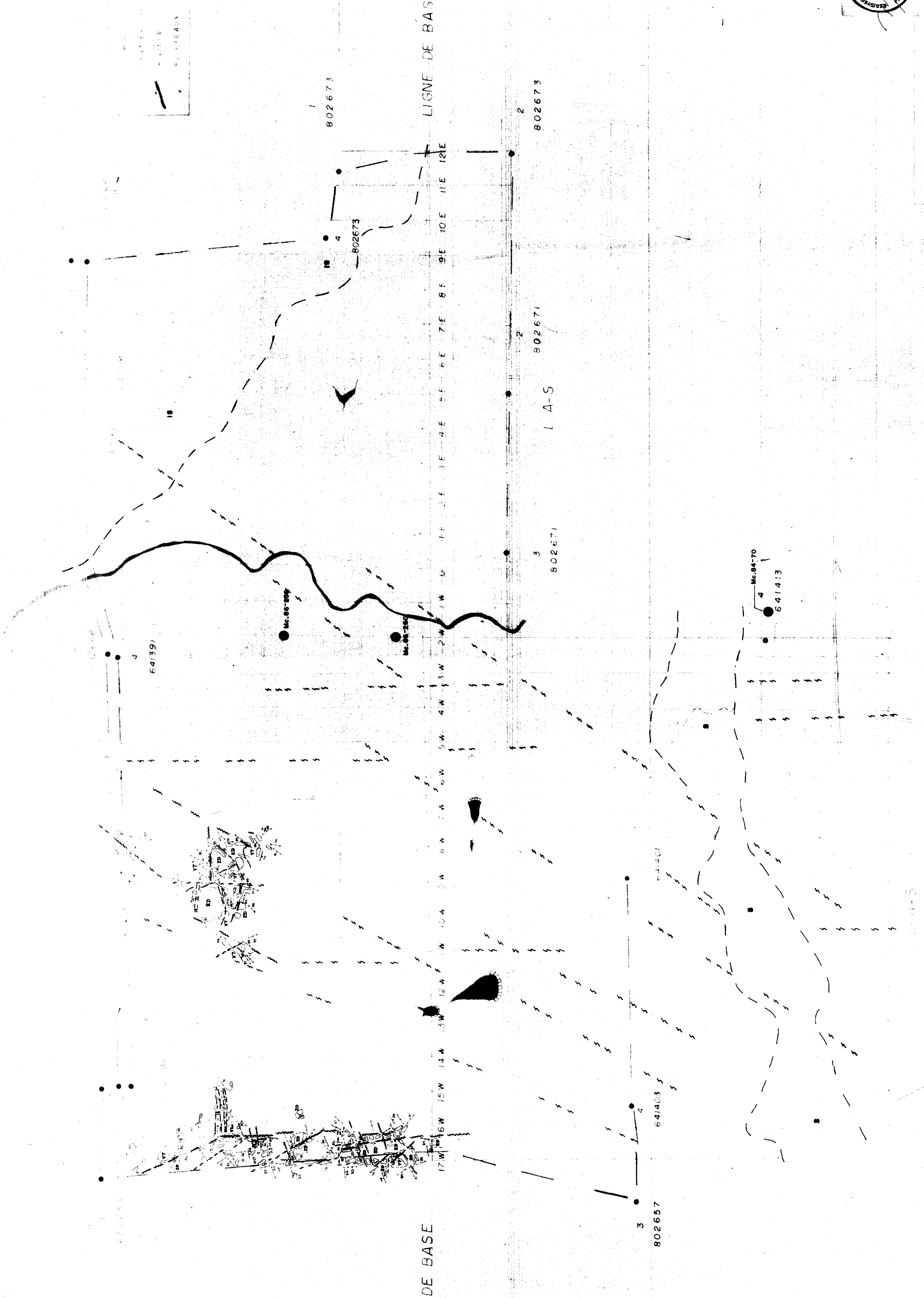


This map was prepared from data collected by aeromagnetic survey systems using a magnetometer system with a 2000 Hz carrier frequency and a 1000 Hz sampling rate. The data was processed using a digital filter with a pass band of 0.5 Hz to 1000 Hz. The resulting magnetic intensity values are in gamma/meter. The map is a semi-controlled mosaic of several flight lines. The accuracy of the map is approximately +/- 5 gamma/meter. The map is a compilation of data collected between 1980 and 1985. The map is a compilation of data collected by aeromagnetic survey systems using a magnetometer system with a 2000 Hz carrier frequency and a 1000 Hz sampling rate. The data was processed using a digital filter with a pass band of 0.5 Hz to 1000 Hz. The resulting magnetic intensity values are in gamma/meter. The map is a semi-controlled mosaic of several flight lines. The accuracy of the map is approximately +/- 5 gamma/meter. The map is a compilation of data collected between 1980 and 1985.

*[Handwritten signature]*



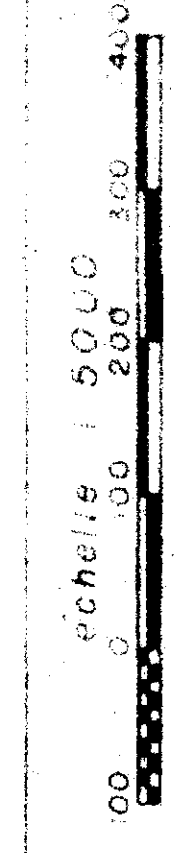
230



**BARRICK RESOURCES CORR**

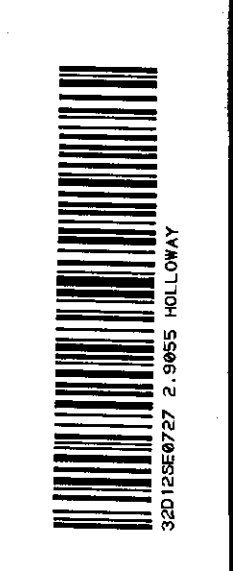
HARKER TWP. 10N

**WEST BLOCK GEOLOGY** 29055



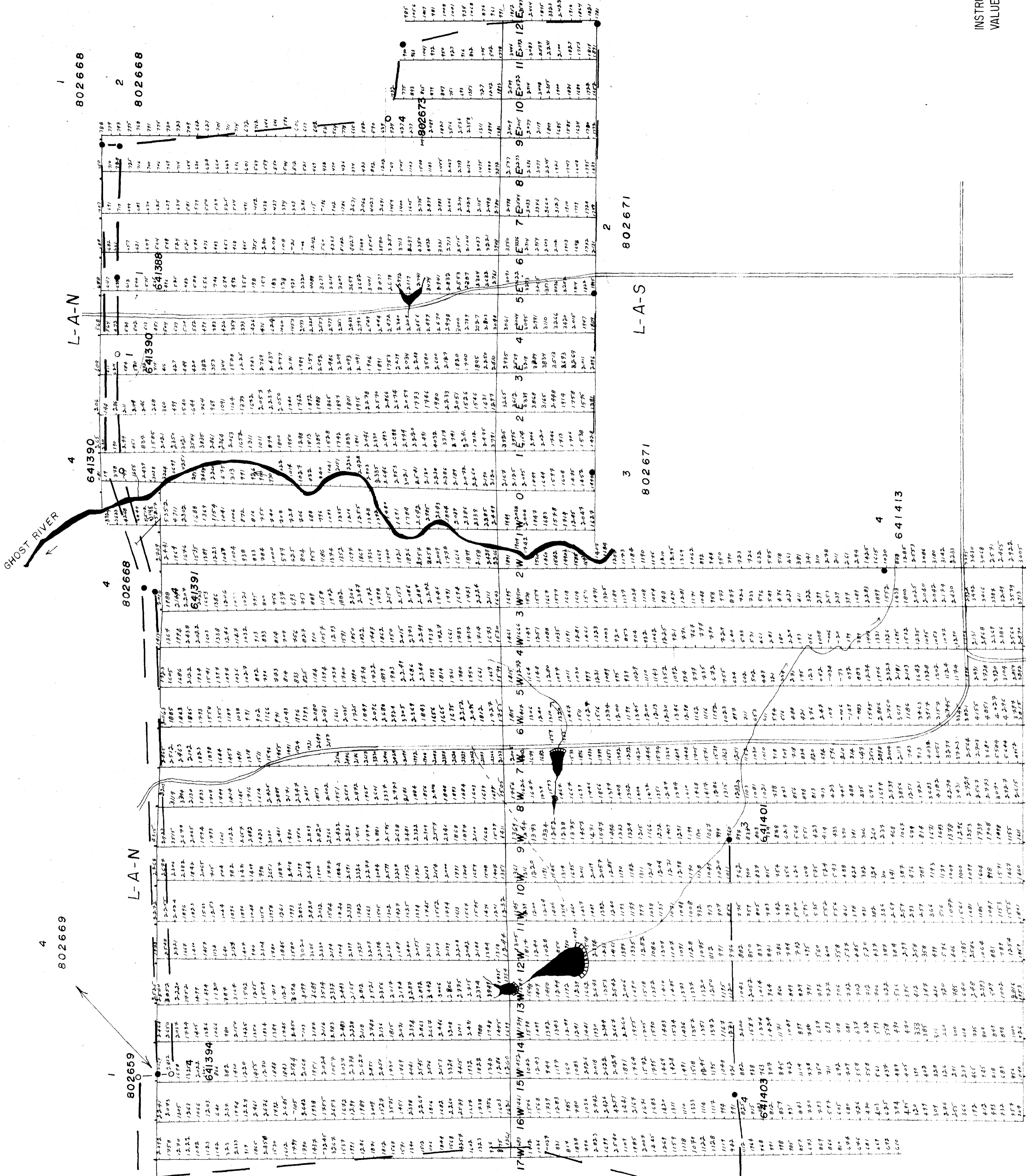
Date d'exécution SEPT, 1985 N.T.S. NO. 32 D/12

LEGEND		REVISION FEB. 1986 R.B.A.	
[V2]	REVOLUTE	[S]	SEDIMENTS
[V4]	DALITE	[S]	SYENITE
[V5]	ANGESTE	[D]	GRANITE
[V7]	BASALT	[2D]	DIORITE
[V7m]	BASALT (magnetic)	[3D]	DIABASE
[V9]	TUFF	[3]	LAMPORPHYRE
[V0]	AGGLOMERATE		
[V3]	SLICIFIED	[S]	ARILLITE
[V4]	CHLORITIZED	[S]	ARGILLITE
[V5]	PILLOWED		
[V6]	ANTICLINAL		
[V7]	BRECCIATED		
[V8]	FLOW BRECCIA		
[V1]	fold (defined)	[S]	fold (undefined)
[V2]	foliation	[S]	younging direction
[V3]	fracture trend	[S]	fracture trend
[V4]	bedding (dip unknown)	[S]	bedding (dip unknown)
[V5]	geologic contact	[S]	geologic contact
[V6]	outcrop (defined)	[S]	outcrop (undefined)
[V7]	outcrop (undefined)	[S]	swampy ground
[V8]	swampy ground	[S]	diamond drill hole
[V9]	diamond drill hole		

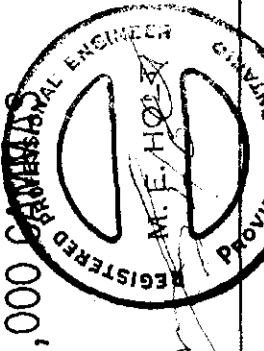


LÉGENDE

- L-A-N LIGNE ARRET NORD
- L-A-S LIGNE ARRET SUD
- POTEAU DE CLAIMS VUS SUR LE TERRAIN.
- POTEAU DE CLAIMS NON VUS SUR LE TERRAIN, MAIS LA POSITION EST FORT PROBABLE.
- LIGNE DE CLAIMS.
- CHEMIN.
- SENTIER DE TIMBER JACK.
- RIVIERE.
- RUISSEAUX.



INSTRUMENT USED SCINTREX MAGNETOMETER MODEL MP-2  
 VALUES SHOWN ARE READINGS MINUS 58,000

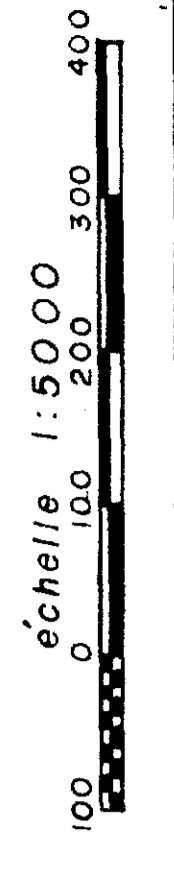


BARRICK RESOURCES CORP.

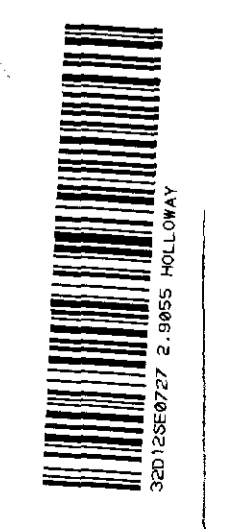
HARKER TWP: OMT

Contratée par: *M.D.S.*  
 Dessinée par: **MARIO DUQUETTE**  
 Technicien Minier en Géologie

Mise à l'encore par:  
 Jalonné par: **EUCLYDE DUQUETTE**



Date d'exécution 12/07/85 NTS. NO. 32 D/12





MAGNETIC CONTOUR MAP

SCALE 1:5000

Date FEB. 1986

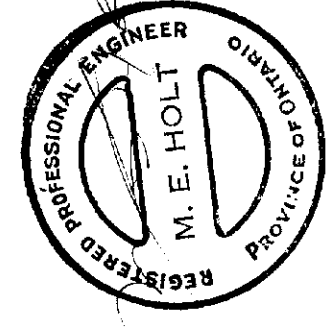
WEST BLOCK PROPERTY

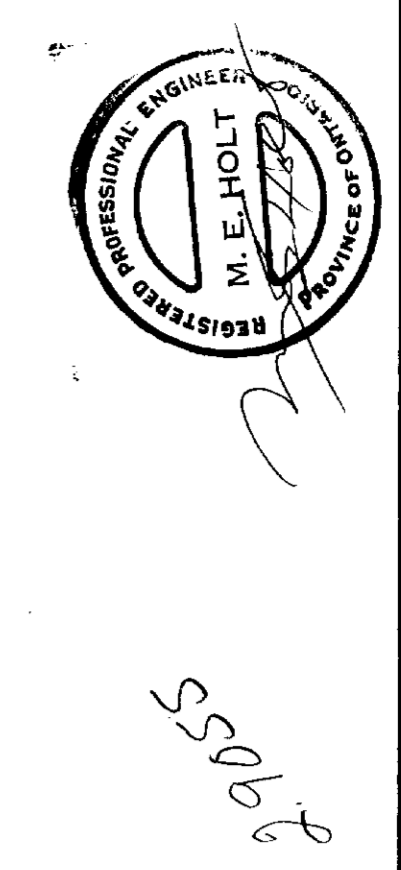
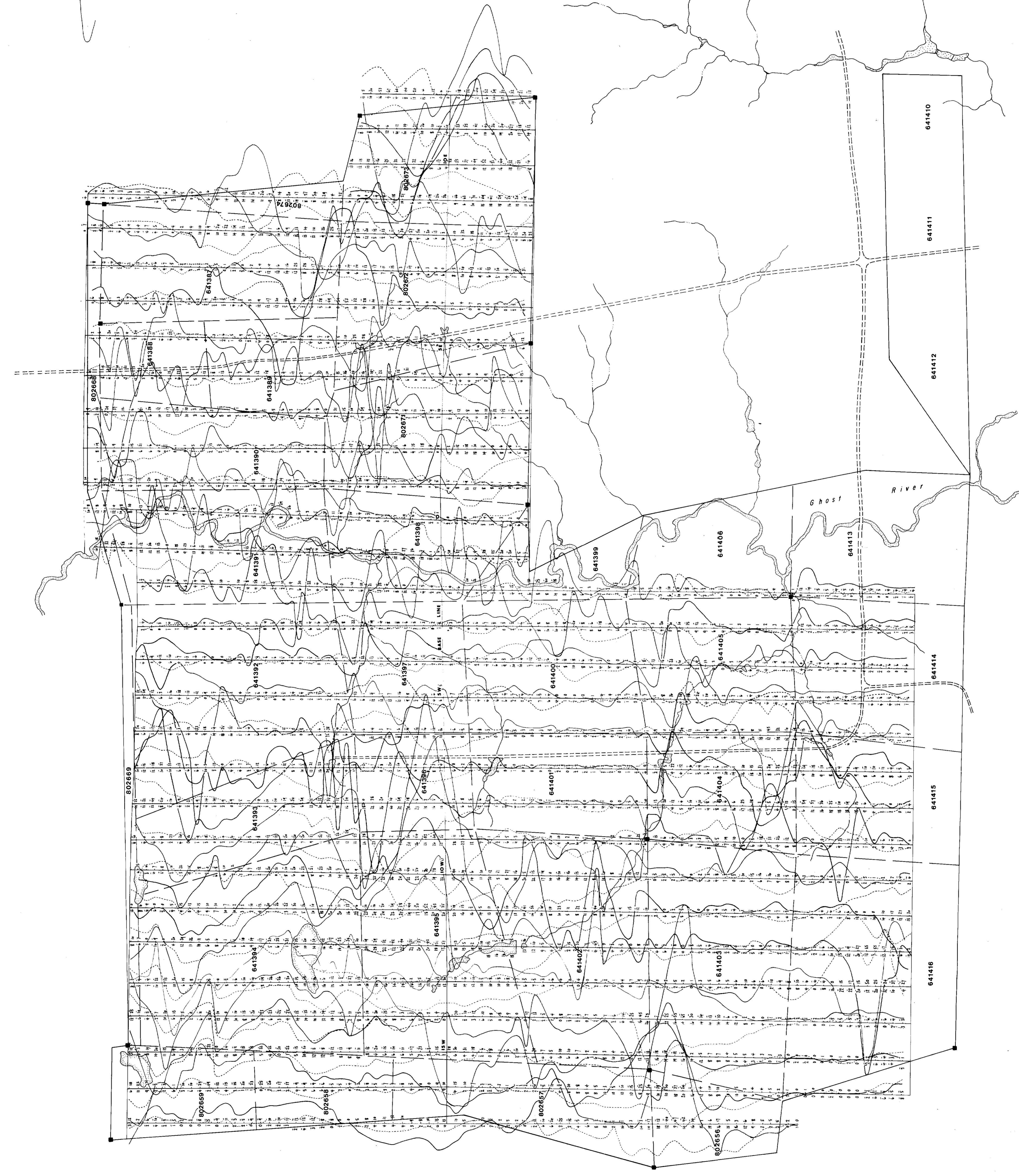
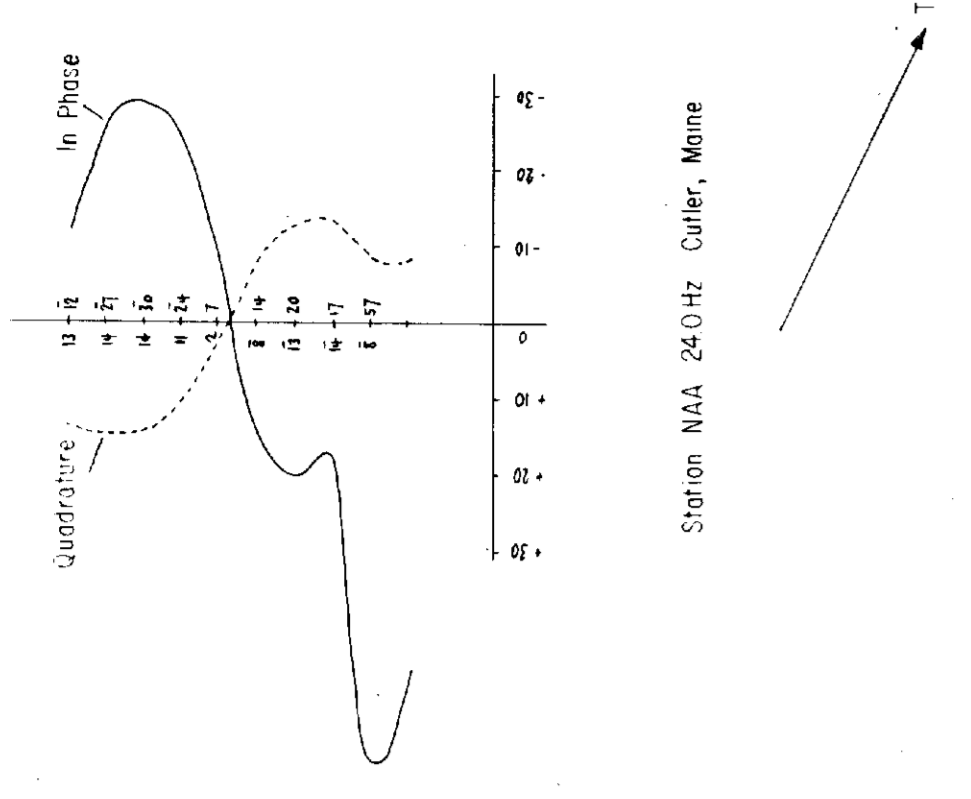
CONTOUR INTERVALS

0-500	□
500-1000	□
1000-1500	□
1500-2000	□
2000-3000	□
3000-4000	□
4000 & UP	□



505



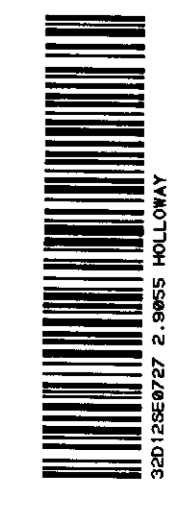


**AMERICAN BARRICK RESOURCES CORPORATION**

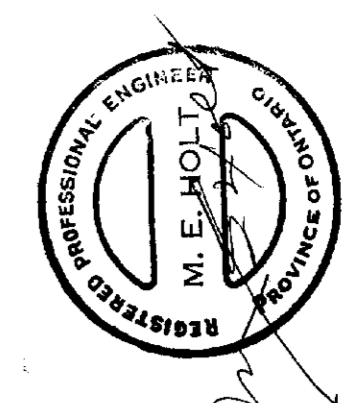
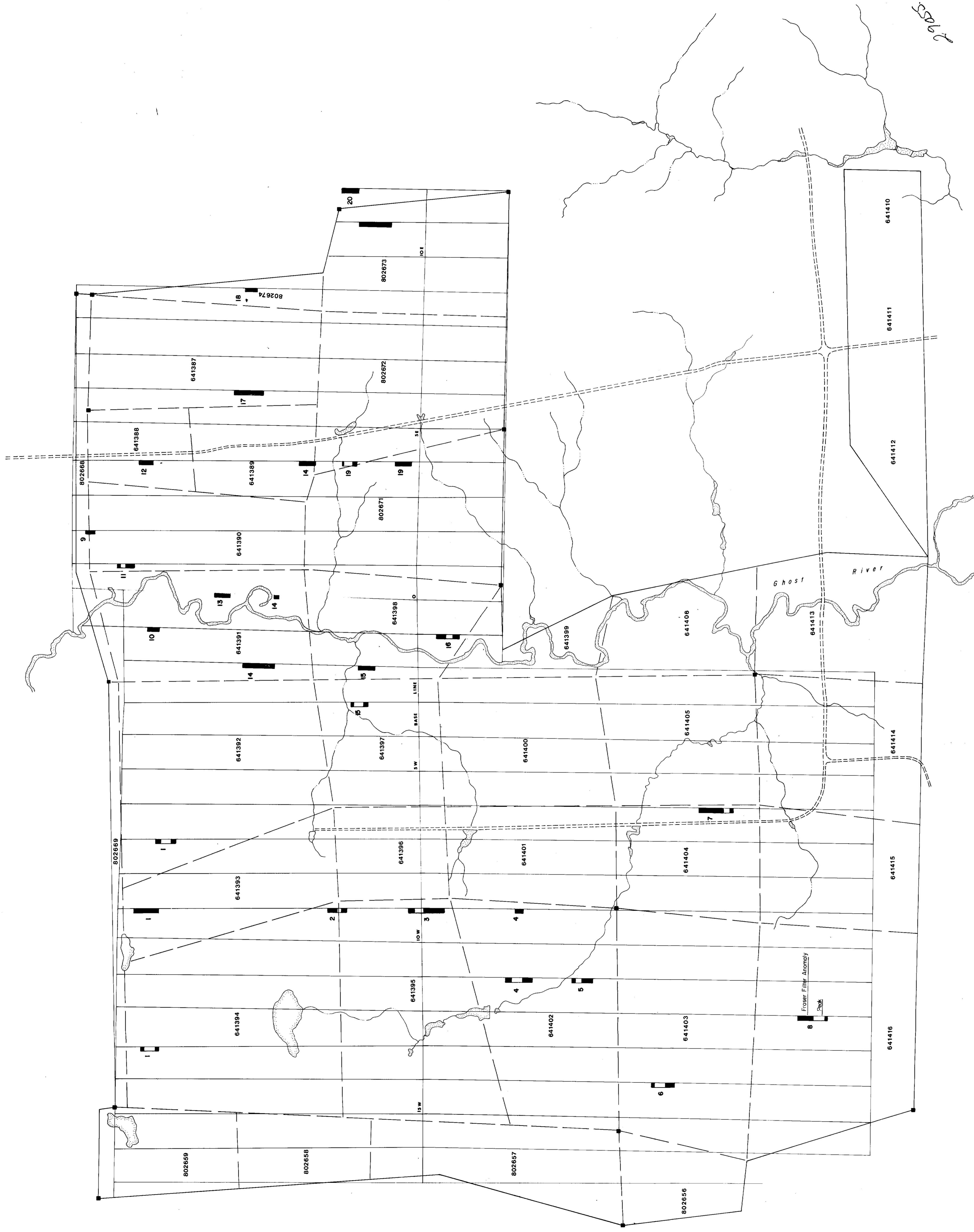
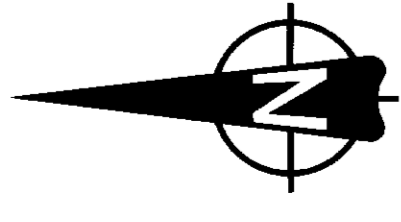
McDERMOTT PROJECT - WEST BLOCK  
Harker Township - Ontario  
VLF EM-16 PROFILES

DATE:            DRAWN BY:            CHECKED BY:            MTS NO.           

100 50 0 100 200 300 METRES







**AMERICAN BARRICK  
RESOURCES CORPORATION**

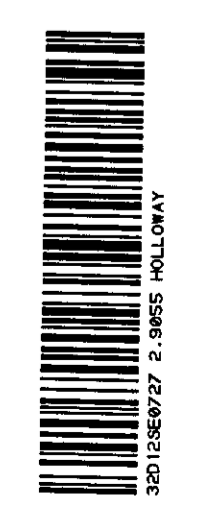
McDERMOTT PROJECT - WEST BLOCK  
Harker Township - Ontario

INTERPRETED ANOMALIES

DATE: April 16, 1997  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]

100 50 0 100 200 300  
M.F.T.S.

NTS. NO.



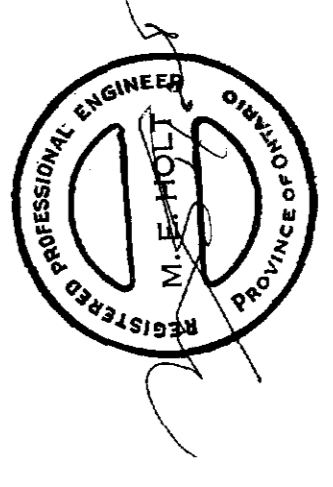


0  
10  
20  
30  
40  
50  
60  
70  
80  
90  
100

VLF (EM-16)

Quadrature  $\nabla$

In Phase  $\circ$



PARIKA RESOURCES  
CORPORATION

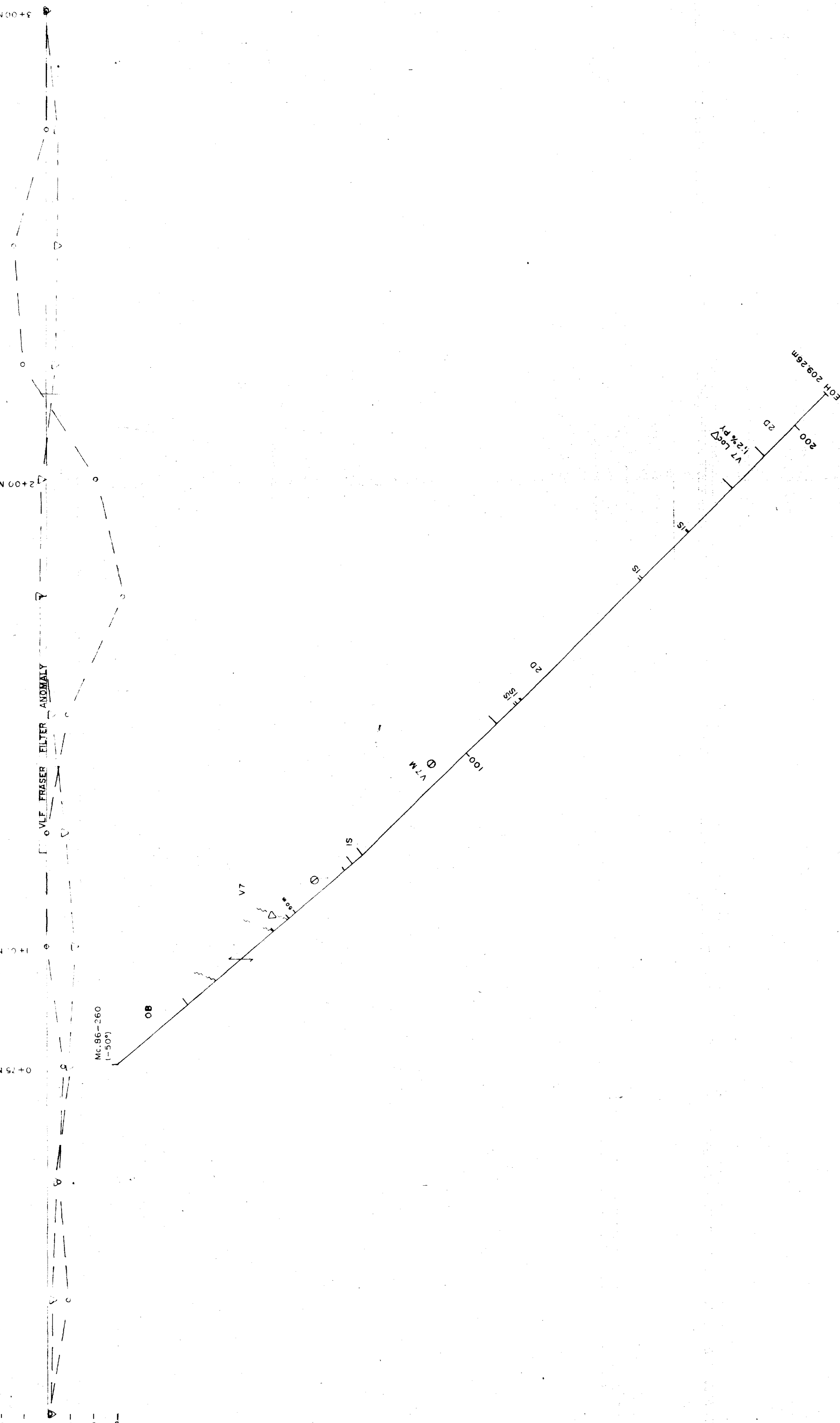
WEST BLOCK  
L2+00W

(LOOKING WEST 270°)  
SCALE 1:500

FEB. 1996

R.B.A.





VLF (EM-16)  
 Quadrature ▽  
 In Phase ○

5985

**BARRICK RESOURCES CORPORATION**  
**WEST BLOCK**  
**L2+00W**  
 (LOOKING WEST E.T.C.)  
 SCALE 1:500  
 DATE FEB. 1986 DRAWN BY R.B.A. CHECKED BY N.T.N.

