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REPORT
ON
GEOPHYSICAL SURVEYS
ON THE PROPERTY OF
BLACK RIVER MINING LTD.
ELDORADO TOWNSHIP, ONT.

INTRODUCTION

Geophysical surveys consisting of electro-magnetic and magnetic surveys have been completed over most of the property of Black River Mining Ltd. in Eldorado township.

The object of the surveys was to outline any areas of ultra basic rocks and potential zones of sulphide mineralization that might be associated with these rocks. Nickel-copper mineralization has been found to the east in Langmuir township associated with ultra basic rocks.

PROPERTY AND LOCATION

The property includes 22 claims situated in Eldorado township, Porcupine Mining Division of Ontario.

The claims are registered under the following claim numbers:

	<u>No. of claims</u>
P 66600 - P 66601	2
P 67519 - P 67534	16
P 67540 - P 67541	2
P 76179 - P 76180	<u>2</u>
	22

The surveys were carried out over all but nine claims, as shown on the accompanying map.

GEOLOGY

The area is underlain by basic to intermediate volcanic rocks which have been intruded by a number of ultra basic bodies. From geological maps it would appear that the property of Black River Mining Ltd. is underlain by basic lavas and possible peridotite intrusives, as well as a granite intrusion.

There is one sulphide occurrence known on the property containing some massive and disseminated sulphides.

RESULTS OF THE GEOPHYSICAL SURVEYS AND INTERPRETATION

The results of the electromagnetic and magnetic surveys are plotted on separate maps accompanying this report. A Ronka Mark IV horizontal loop E.M. unit was used in the electromagnetic survey and a Sharpe A-2 magnetometer for the magnetic survey.

The magnetic survey outlined a very definite anomaly in the western portion of the property with an intensity of over 5,000 gammas. This probably represents an ultra basic rock. Two other small anomalies of similar intensity also occur, one in the southern portion of the area surveyed and another just to the north of the main anomaly.

There is another anomalous area with readings ranging from 900 to over 1,000 gammas, as compared to the background of 500 or 600 gammas. This area is in the northern portion of the property and probably represents volcanic rocks whereas the lower readings in the eastern part of the property may represent granitic rocks.

The electromagnetic survey indicated several conductive responses, most of which are within the area

believed to be underlain by volcanic rocks. No conductive responses were obtained within the ultra basic anomaly.

The conductive responses are weak and the two most significant are shown as A and B zones on the accompanying map. "A" zone represents the sulphide zone shown in a trench and the zone has an apparent length of about 400 feet. It has magnetic readings associated with it showing both high and lows which is typical of pyrrhotite.

"B" zone is a broad weak zone that goes off the property to the east. There is an area of magnetic high readings at the west end of the zone but it is questionable if this is related to the conductor.

The other conductive responses are quite weak and they do not appear to be of any significance.

SURVEY METHODS AND INSTRUMENT DATA

The geophysical surveys were carried out along a network of lines cut in a north-south direction and spaced at 400 foot intervals, as shown on the accompanying maps.

The electromagnetic survey was carried out using the Ronka Mark IV horizontal loop equipment with a 200 foot coil interval. In the horizontal loop type of survey both the in-phase and out-of-phase components of the secondary field are measured, whose special characteristics make possible a fairly accurate evaluation of the conductivity. A conductor caused by sulphide mineralization will produce a curve going from positive readings through zero to negative and back again to positive. Both the in-phase and out-of-phase readings show the same general curve. The ratio between the in-phase and out-of-phase readings over a conductor is an indication of the conductivity of the body. A good conductor would cause a greater deviation of the in-phase component than the out-of-phase component. The opposite is true of a poor conductor.

The magnetic readings were taken with a Sharpe A-2 magnetometer measuring the variations of the vertical component of the earth's magnetic field. Readings were plotted as gammas and contoured on the accompanying maps after correction for diurnal variation.

CONCLUSIONS AND RECOMMENDATIONS

The geophysical surveys have indicated several areas that warrant some detailed investigation. At least one of these is known to contain sulphide mineralization.

The two conductive zones warrant detailed examination once the snow has disappeared and some detailed mapping and prospecting is recommended along the ultra basic intrusives. Following this detailed geological examination, a diamond drilling program could be laid out to investigate the anomalous zones. It may be advisable to extend the geophysical surveys to the most westerly claims as it seems likely that these are underlain by favorable rocks.

Respectfully submitted,

PROSPECTING GEOPHYSICS LTD.


H. J. Bergmann, P. Eng.

Montreal, Que.
April 22, 1966

OFFICE OF MINING RECORDER



ONTARIO
DEPARTMENT OF MINES

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PORCUPINE MINING DIVISION

127 THIRD AVENUE
TIMMINS, ONTARIO

May 16th, 1966

Mr. R. V. Scott,
Director,
Mining Lands Branch,
Ontario Department of Mines,
Parliament Buildings,
Toronto 2, Ontario

Dear Sir:

Re: Mining Claims P-67519-20 ✓
P-67523-26 ✓ incl., P-67528-31 ✓ incl.,
P-67534 ✓ P-67540 ✓ P-76180 ✓

An assessment work credit of 49.4 days, geophysical,
was recorded on each of the above mining claims on May 5th.

These claims are recorded in the name of Black River
Mining Limited, Suite 804, 400 St. James Street West,
Montreal, Quebec.

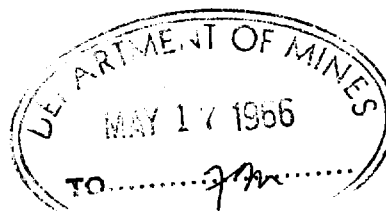
The reports and maps are being forwarded direct to the
Department.

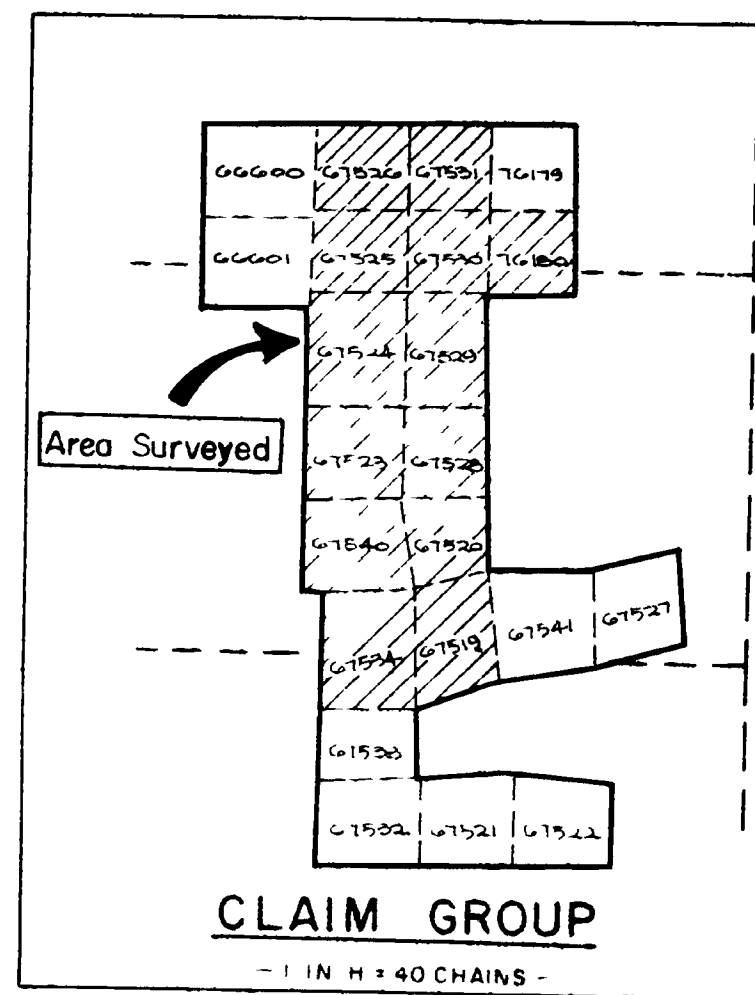
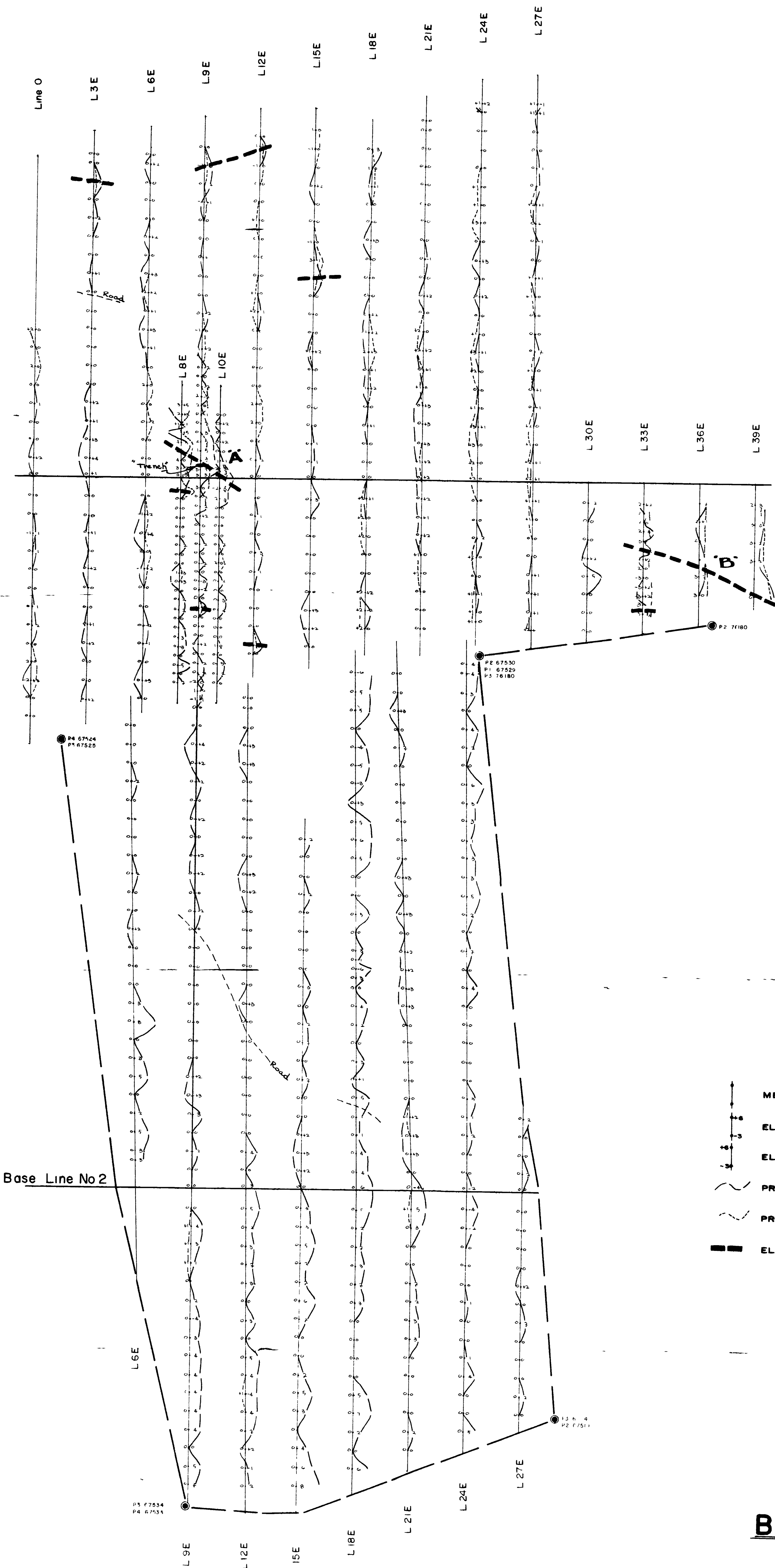
Yours very truly



C. D. Egerton,
Mining Recorder.

CDE/jt





Base Line No 1

Base Line No 2



LEGEND

- MEASUREMENT STATIONS ALONG PICKET LINES
- ELECTROMAGNETIC READINGS - In Phase Component (%)
- ELECTROMAGNETIC READINGS - Out of Phase Component (%)
- PROFILE - In Phase Component (Scale 1"=20%)
- PROFILE - Out of Phase Component (Scale 1"=20%)
- ELECTRICAL CONDUCTOR

ELECTROMAGNETIC SURVEY
- for -

BLACK RIVER MINING LTD.
ELDORADO TOWNSHIP, ONT

- by -

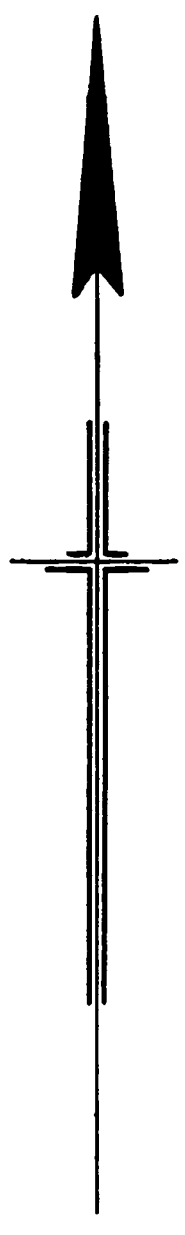
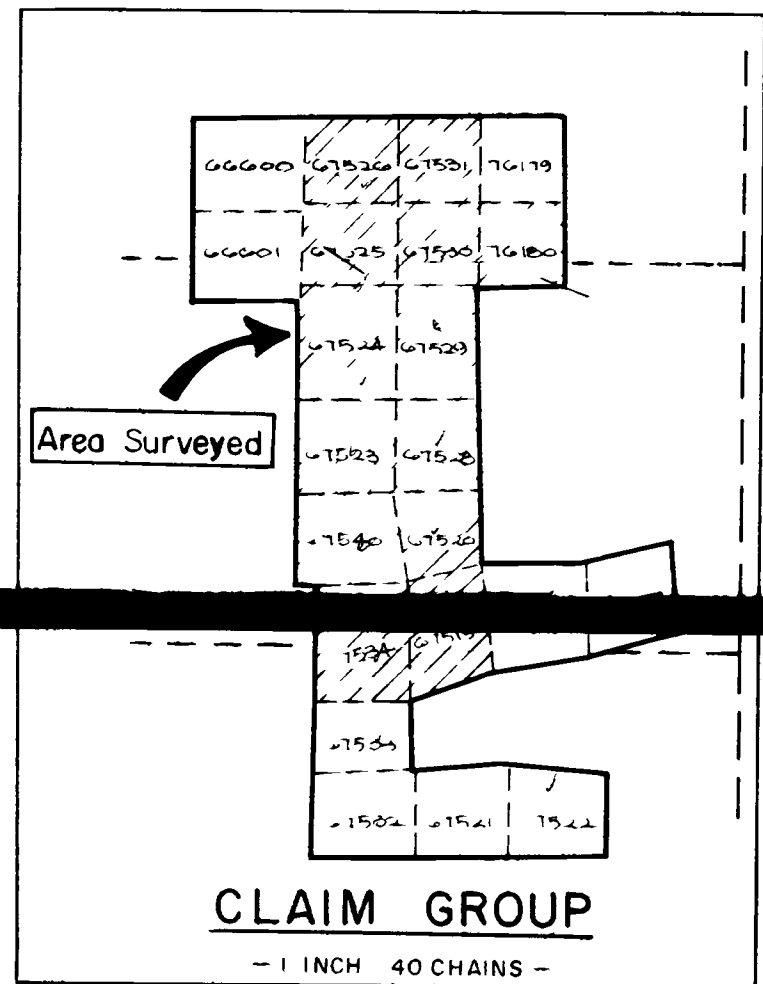
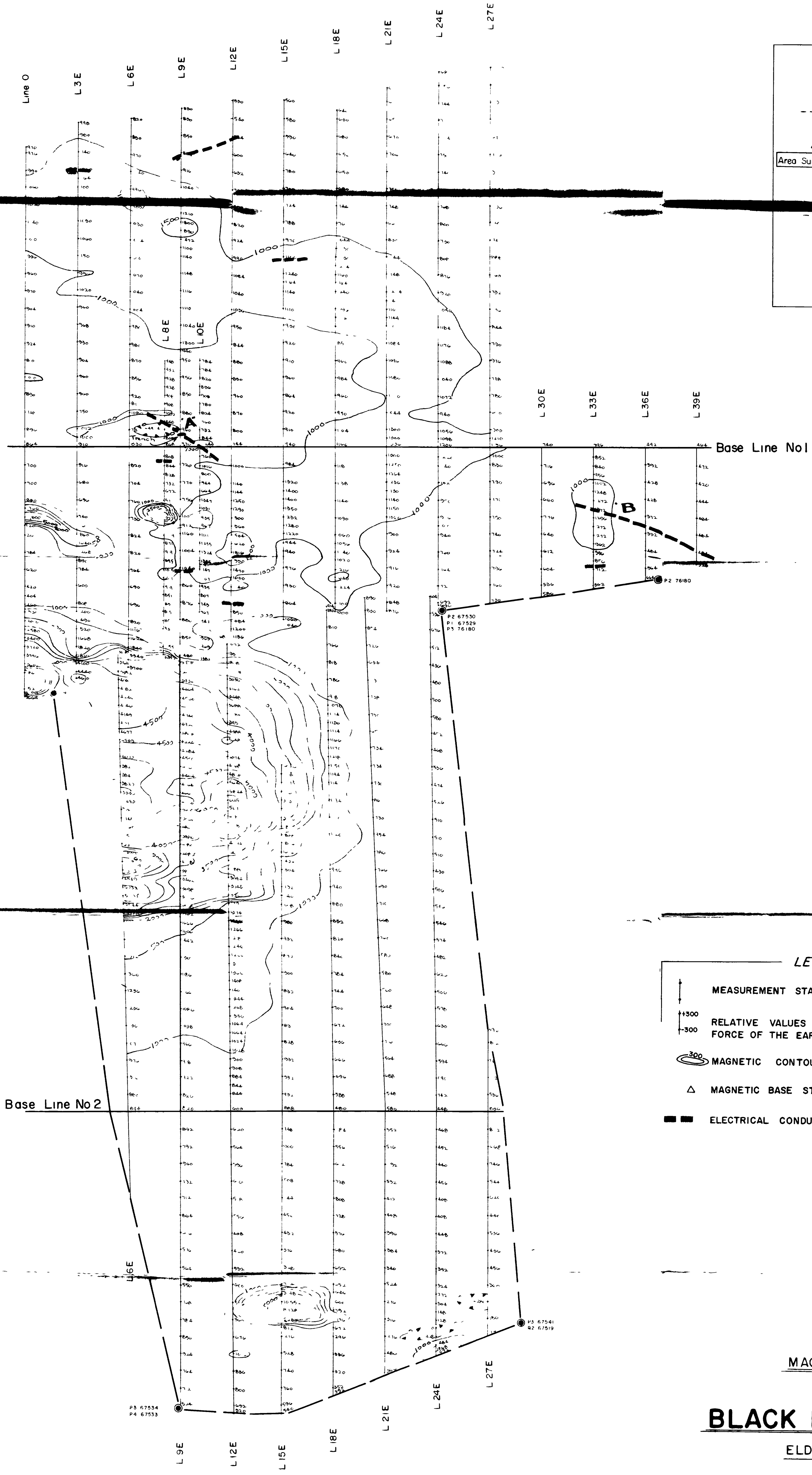
PROSPECTING GEOPHYSICS LTD.

SCALE 0 300 600 900 FEET

Apr '66

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LEGEND

- ↑ MEASUREMENT STATIONS ALONG PICKET LINES
- ↑+300
↓-300 RELATIVE VALUES OF THE VERTICAL COMPONENT FORCE OF THE EARTH'S MAGNETIC FIELD (In Gammas)
- 300 MAGNETIC CONTOURS
- △ MAGNETIC BASE STATION
- ELECTRICAL CONDUCTOR

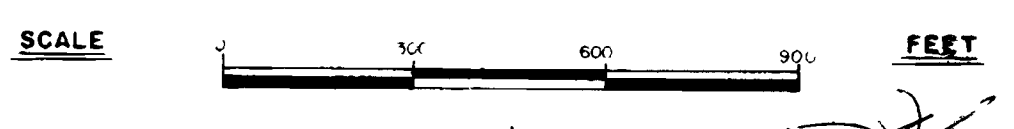
MAGNETOMETER SURVEY
- for -

63 1937

BLACK RIVER MINING LTD.
ELDORADO TOWNSHIP, ONT

- by -

PROSPECTING GEOPHYSICS LTD.



Apr '66

[Signature]



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