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REPORT #2  
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**HUNTING SURVEY CORPORATION LIMITED**

1450 O'Connor Drive Toronto 16 Canada • Telephone 755-1141 Cables: Canhunt

Aerial Photography • Topographic Surveys • Control • Photo Interpretation • Geology • Geophysics • Resources Inventories • Route and Site Analysis

July 16, 1964.

REPORT ON THE CONDUCT OF  
AN AIRBORNE GEOPHYSICAL SURVEY  
IN THE MINING DISTRICT OF COCHRANE

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During the period April 29 to April 30, 1964 Hunting Survey Corporation carried out flying operations on a combined magnetometer and electromagnetometer survey over parts of the townships of Byers, Loveland, Fortune, Enid and Cote.

The work was carried out under contract to Mespil Mines Limited.

The location of the area surveyed is shown on a map accompanying this report.

Two data men were stationed in Timmins to give preliminary information to the client.

Final plotting and preparation of maps were carried out in Hunting's Toronto office.

Flying Specifications:

Flying was carried out by a Beechcraft 18 with a crew of four, i.e. pilot, instrument operator, electronic technician and aircraft engineer.

The technician and engineer did not accompany the aircraft on all survey flights.

Traverses were flown in an east-west direction at an average spacing of 660 feet.

Terrain clearance was maintained between 450 and 500 feet, where safety would permit.

Eighty-three traverses were flown over the area, for a total of 501 linear miles.

Instrumentation:

The following instruments were operated during the survey:

1. Gulf magnetometer
2. Hunting Survey Corporation/Canadian Applied Research Ltd.  
dual frequency electromagnetometer measuring the phase displacement of the resultant field with respect to applied field; for frequencies of 400 and 2300 cycles per second.
3. Modified APN-1 radio altimeter
4. CARL/HSC 35 mm discrete frame positioning camera
5. A four-channel curvilinear recorder, showing from top to bottom:

- a) in red ink the terrain clearance record and camera fiducial pulses
- b) in black ink the variations in strength of the earth's magnetic field, sensitivity 100 gammas per inch.

Note: A pulse was shown on the altimeter record, co-incident with every tenth exposure of the 35 mm. camera. This served to relate the records to the terrain over which they were made.

The magnetometer and E.M. detectors were located in separate "birds" towed behind and below the aircraft.

#### Maps and Data Compilation:

Navigation mosaics were prepared on a scale of 1 inch to 2640 feet utilizing "Overthrust" mosaics available to the contractor.

For preparation of base maps uncontrolled mosaics were made on a scale of 1 inch to 1320 feet, utilizing photographs obtained from the Department of Lands and Forests (year 1961 photography).

Flight path was established by visual comparison of the 35 mm. film with the above-mentioned mosaics.

Base maps were traced from these mosaics also, showing recognizable planimetric features.


Township boundaries shown on the base maps were positioned by reference to the Ontario Department of Mines claim maps.

A map was compiled showing (a) flight traverses, and (b) magnetic contours referred to an arbitrary datum. Contour interval was 20 gammas.

A second map was prepared showing

- (a) flight traverses
- (b) extent and location of the peak of the observed low frequency anomalies
- (c) extent of residual low frequency anomalies
- (d) the phase angle of observed high and low frequency anomalies read at peak values
- (e) the phase angle of residual high and low frequency anomalies read at peak values
- (f) value and location of magnetic peaks and lows, referred to an arbitrary datum.

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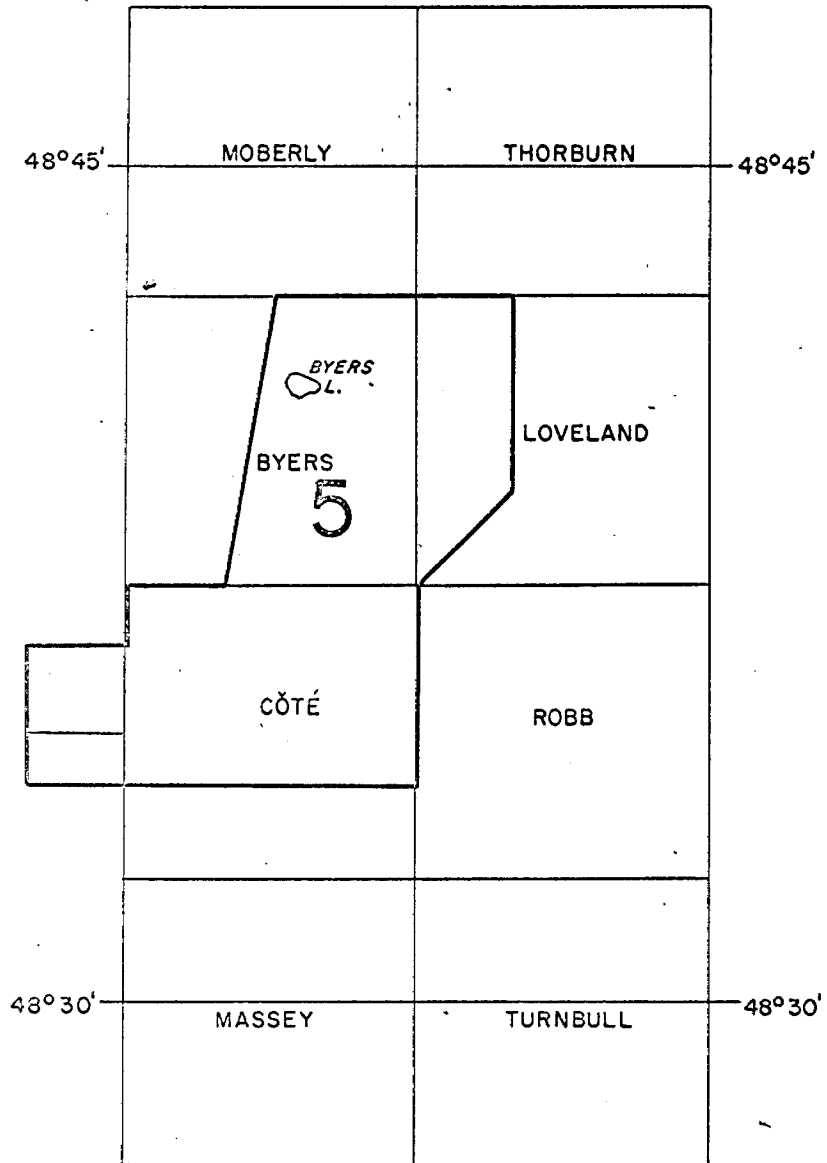


R. N. Parkinson, P.Eng.

Receipt

I note that applicant was not required  
to pay for the report. It is now too late to  
pay for it. Let go as is!

*J. M. ...*



SCALE: 1 inch to 4 Miles



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AIRBORNE GEOPHYSICAL SURVEY  
OF COTE - ROBB TOWNSHIPS AREA,  
DISTRICT OF COCHRANE, NORTHERN ONTARIO  
FOR B. W. LANG

INTRODUCTION

During the period July 29th to August 5th, 1963, Canadian Aero Mineral Surveys Limited, conducted airborne geophysical surveys for B. W. Lang over five selected areas in Cote, Robb, Turnbull, and Jamieson Townships in the Cochrane District of Northern Ontario. The areas were flown using C.A.M.S. geophysically equipped Otter Aircraft utilizing the Rio In-Phase, Out of Phase Electromagnetic System, with Elliott Magnetometer, and a Nuclear Enterprises Scintillometer. This equipment is further described in Appendix II of this report.

The areas were designated by number, and the following is a description of the survey of the Cote - Robb Township Area:

This area straddles the boundary of Cote and Robb Townships and covers some 12 square miles. A total of 60 line miles was flown with N.N.W. - S.S.E. lines spaced at one-eighth mile.

PERSONNEL

The personnel employed in this survey were as follows:

Pilot:	Mr. K. Atkins, Ottawa, Ontario.
Operator:	Mr. D. Graham, Ottawa, Ontario.
Mechanic:	Mr. T. Lloyd, Ottawa, Ontario.
Supervisor:	Mr. G. Curtis, Ottawa, Ontario.
Data Reduction:	Mr. D. Sarazin, Golden Lake, Ontario.
Drafting:	Mr. P. Tallyhoe, Ottawa, Ontario.
Geophysicist:	Mr. D. Wagg, Toronto, Ontario.

CANADIAN AERO

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*Mineral Surveys* LIMITED

GEOLOGY

The geology covering the areas in question is indicated in the Ontario Department of Mines Preliminary Geological Map No. P.139 "PAMOUR SHEET".

The Cote - Robb Township Area has been mapped primarily as basic volcanics.

ELECTROMAGNETIC RESULTS

Are as follows:

With one exception, conductive anomalies in this area were weak. However, two conducting zones were detected as follows:

Conductor #1 Anomalies 6-A and 7-B

These anomalies are strong and definite. They show very good conductivity, and anomaly 6-A may represent a double zone. There is some question that anomaly 8-A may represent an Easterly extension of this zone. Although these anomalies do not show direct magnetic correlation, they lie adjacent and North of a definite magnetic feature. Complete ground investigation is recommended.

Conductor #2 Anomalies 2-B, 3-A and 4-A

These anomalies are weak, but show apparently good conductivity. Again direct magnetic correlation is questionable, but a minor magnetic feature does exist in close proximity. The zone should be ground checked.

In addition to the above conductors a questionable zone is indicated on line 1 and on line 2, anomaly 2-C. This zone is very doubtful however and is not likely worth a ground check unless favourable local conditions indicate otherwise.

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SUMMARY

Three conductive zones have been outlined and discussed,  
and two of these have been recommended for ground checking.

Respectfully Submitted,

*Don M Wagg*

Don M. Wagg,  
P. Eng. (Ontario).

Toronto, Ontario,  
September 18th, 1963.

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A P P E N D I X I

<u>Project 3026 (1)</u>			<u>B. W. LANG</u>		<u>COTE - ROBB AREA</u>	
<u>Anomaly</u>	<u>Fiducials</u>	<u>In-Phase Quad</u>	<u>Altitude</u>	<u>Magnetics</u>	<u>Rate</u>	<u>Comments</u>
2-A	9640/3	70/-	150'	Nil	3	Poor character.
-B	9658/60	40/-	150	Dir? 10g	3	Minor Mag. Side Peak
-C	9686/90	20/30	150	Poss. Slight	x	Broad, weak.
3-A	9558/62	40/10	145	N. edge 40g	x	Poor character.
4-A	9357/60	80/-	150	Dir? 60g	3	Poor character - Turbulence?
6-A	9143/8	260/50	145	N. edge 90g	2B	Broad, double
7-A	8959/61	40/-	125	N. flank 70g	x	Weak.
-B	8885/8	320/120	125	N. edge 70g	2B	Poss. Mag. Correlation.
8-A	8847/9	40/-	130	Broad Mag. Peak	x	Doubtful

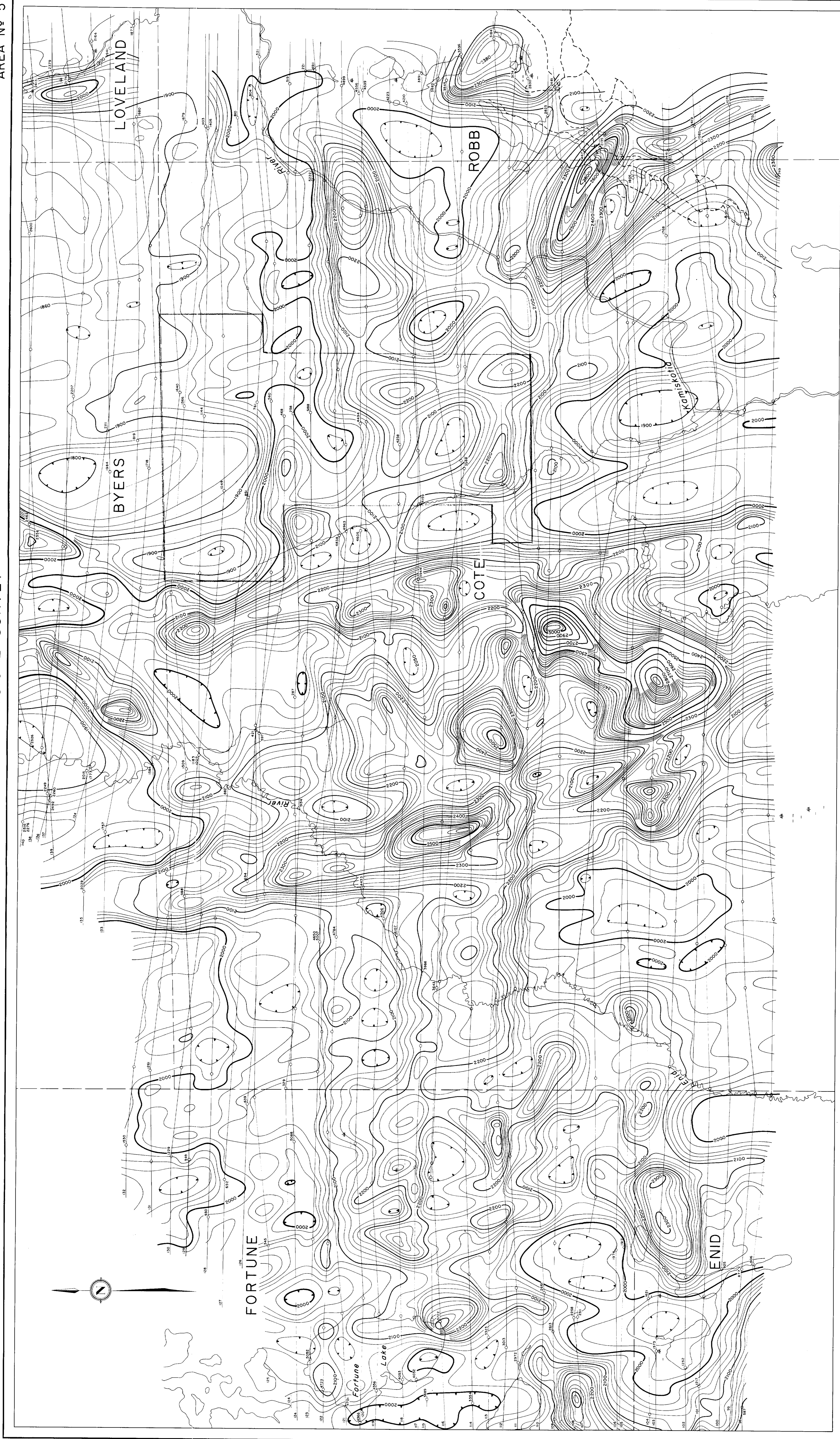
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# MESPI MINES LIMITED AIRBORNE GEOPHYSICAL SURVEY

AREA NO 5

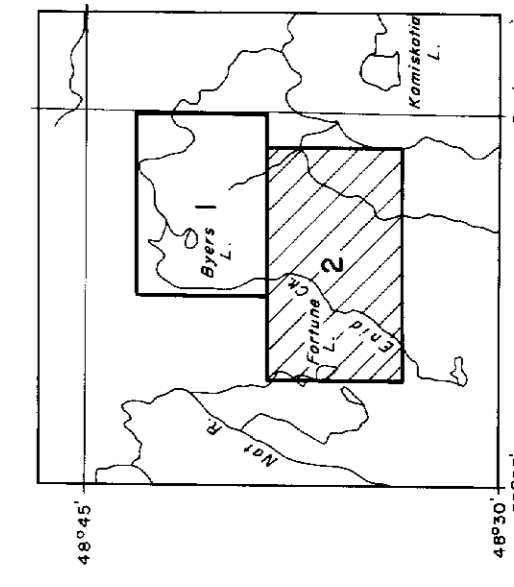


- CONTOUR INTERVAL..... 20 GAMMA
- MEAN FLIGHT LINE SPACING..... 660 FEET
- MEAN TERRAIN CLEARANCE..... 400 FEET
- 500 GAMMA CONTOUR.....
- 100 GAMMA CONTOUR.....
- 20 GAMMA CONTOUR.....
- MAGNETIC LOW.....
- FIDUCIAL POINTS.....
- FLIGHT LINES.....

## TIMMINS AREA, ONTARIO MAGNETOMETRIC MAP

SCALE  
 10000 0 1000 2000 3000 4000 5000  
 FEET  
 1 inch to 1320 Feet

Flown and Compiled by  
**HUNTING SURVEY CORPORATION LIMITED**  
 TORONTO, CANADA  
 1964



SHEET NO 2



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LOVELAND

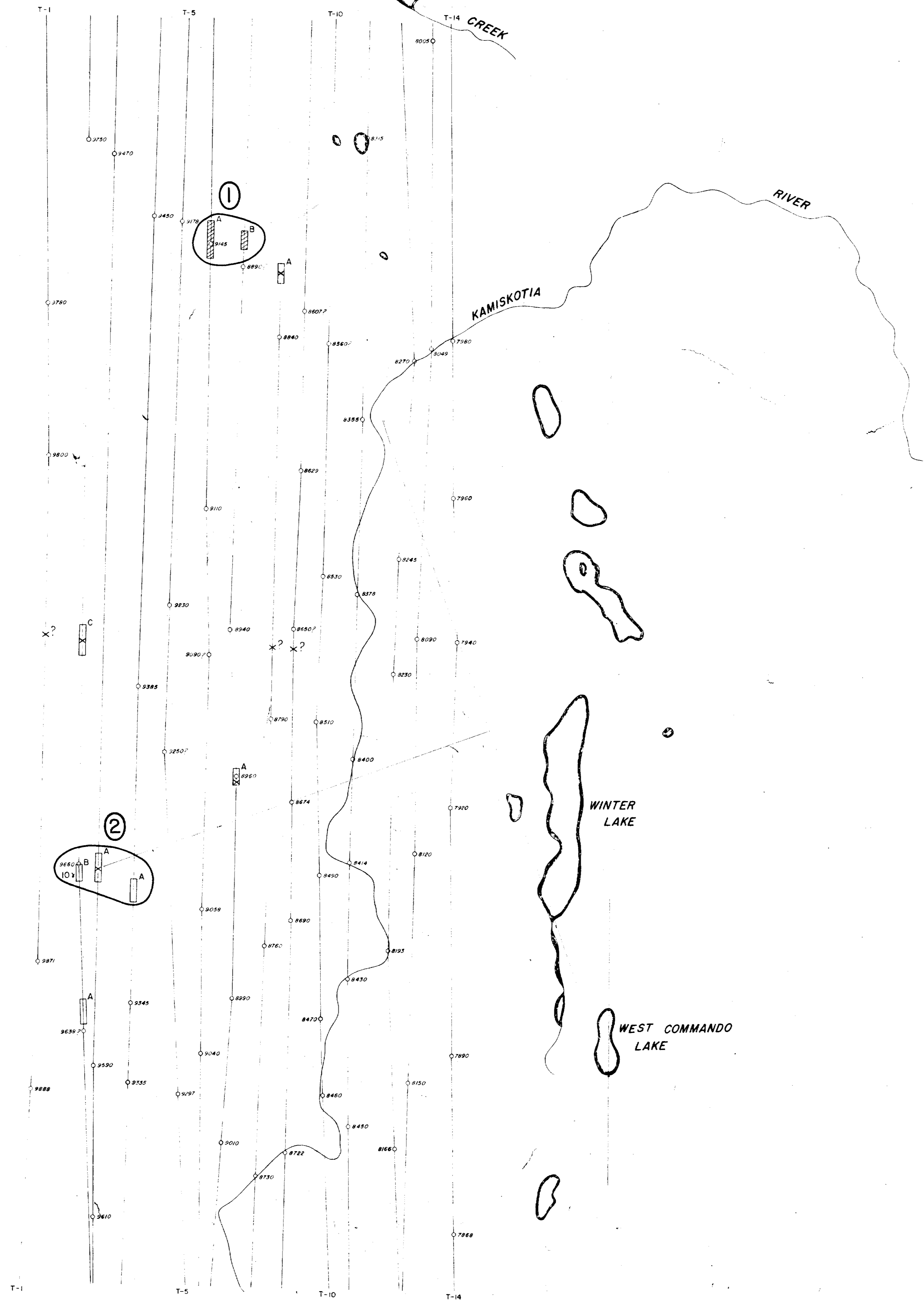
T-14 CREEK

RIVER

KAMISKOTIA

WINTER LAKE

WEST COMMANDO LAKE



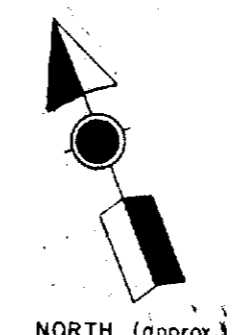
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LEGEND

- 1 A ANOMALY
- 2 A ANOMALY
- 2 B ANOMALY
- 3 ANOMALY
- X type ANOMALY

MEAN TERRAIN CLEARANCE ..... 150 FEET  
 FLIGHT LINE SPACING ..... 1/8 MILE  
 RIVERS AND LAKES .....  
 HORIZONTAL CONTROL ..... BASED ON PHOTO LAYDOWN

AIRBORNE ELECTROMAGNETIC SURVEY  
 CÔTE-ROBB TWP'S AREA  
 ONTARIO  
 B. W. LANG  
 SCALE: 1 INCH TO 1320 FEET



CANADIAN AERO Mineral Survey LTD.  
 TORONTO, ONTARIO

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