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REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
OF THE
OKE AND FORD TOWNSHIPS AREA,
for
MESPI MINES LTD.

1. INTRODUCTION

This report pertains to the combined airborne EM and magnetometer survey flown on behalf of Mespri Mines Ltd. over a block of ground lying in the southeast corner of Ford Township and the northeast corner of Oke Township, District of Cochrane, Ontario. Lines 1 through 16 were flown March 7, 1965, and lines 17 through 20 were flown May 15, 1965 by the Canadian Aero Mineral Surveys Limited geophysically equipped Otter aircraft, (registration CF-IGM) based at Timmins.

Lines were flown north-south and spaced at 1/8 mile intervals. The aircraft operated at a mean terrain clearance of 100 feet. The geophysical data acquired totalled 43 line miles.

Canadian Aero Mineral Surveys Limited personnel associated with this project were as follows:

G. A. Curtis	-	Project Manager
J. Gaudry	-	Pilot
Dale Smith	-	Pilot
D. McDonnell	-	Navigator
D. Graham	-	Operator
R. Sarsfield	-	Mechanic
D. Barazin	-	Data Compiler and Navigator
G. Granger	-	Draftsman
A. Martin	-	Draftsman
R. Tallyhoe	-	Data Chief

The project was supervised by A. R. Rattew, P.Eng., author of this report.

The EM data and all magnetic anomalies in excess of 100 gammas are plotted on a plan map at the scale of 1 inch equals 1/4 mile. An airphoto laydown provided the base for this map.

Appendix I is a complete listing of all EM anomalies detected.

Appendix II describes the equipment, the records, the survey and map compilation procedures and the data presentation system.

II. GEOLOGY

On all maps available to the writer, this area is shown as unmapped. The area is known to be heavily covered by clay deposits and by swamp, so there is probably very little outcrop.

III. RESULTS

Three definite bedrock conductors have been mapped by this survey and three questionable anomalies are also included on the map.

Zone 1 is a mile long. It exhibits low to fair conductivity and shows a magnetic high throughout its entire length. It is clearly a ionational conductor, probably graphite or graphite-sulphide combination.

Zone 2 is a short, relatively weak conductor but the source material has a fairly high conductivity. On line 4 there may be a 350 gamma coincident magnetic high. On the other lines it flanks a long magnetic feature and in this way it is very similar to zone 1.

Zone 3 consists of a sharp, but weak, single-line EM anomaly, also flanking a magnetic high. The source is probably similar in nature to that causing zones 1 and 2. Anomaly 19A lies along-strike from conductor 3 and is probably related, if real.

IV. RECOMMENDATIONS

Any of the three bedrock conductors mapped in this block could be graphite, but the economic potential of the Timmins area makes any bedrock conductor worthy of examination. Zones 2 and 3 are considered somewhat more interesting than zone 1 due to their limited strike length and the possibility of direct magnetic correlation on one line of zone 2.

If the three x-type anomalies, 3B, 4A, and 19A, are explored it should be remembered that they are questionable features and are very weak. Anomaly 4A falls on a long magnetic feature, and 19A may be related to conductor 3.

Respectfully submitted,

OTTAWA, Ontario,
July 12, 1965.

A. R. Rattew, P.Eng.,
Geophysicist.

PROJECT NO. 5044 - OKE AND FORD TOWNSHIPS AREA

<u>Anomaly</u>	<u>Eiducials</u>	<u>Tr-Phase quad</u>	<u>Altitude</u>	<u>Magnetics</u>	<u>Rate</u>	<u>Comments</u>
1 B	4235/8	30/20	170	Dir. 500g	3	Weak
2 A	4143/6	30/20	160	S.Flank 550g	3	Weak
2 B	4115/7	30/40	155	Dir. 400g	3	
3 A	4050/5	30/40	160	S.edge 200g	3	Broader quad
3 B	4056/9	20/30	155	N.edge 200g	x	Broad
3 C	4077/81	60/30	170	Dir. 400g	3	
4 A	3960/5	20/10	160	Dir. 300g	z	Weak
4 B	3929/52	50/30	160	Dir? 350g	3	
4 C	3901/1	40/80	160	S.edge 2000g	3	Double
5 A	3872/1	30/40	175	S.Flank 300g	3	Broad quad
6 A	3706/10	0/50	160	S.edge 800g	3	
6 A	3493/6	0/50	155	S.edge 500g	3	
17 A	6074/6	50/60	140	S.Flank 900g	3	
18 A	5822/4	20/20	160	S.Flank 2500g	x	Very weak

Ford Twp.

THE TOWNSHIP OF

OKE

DISTRICT OF COCHRANE

SUDBURY MINING DIVISION

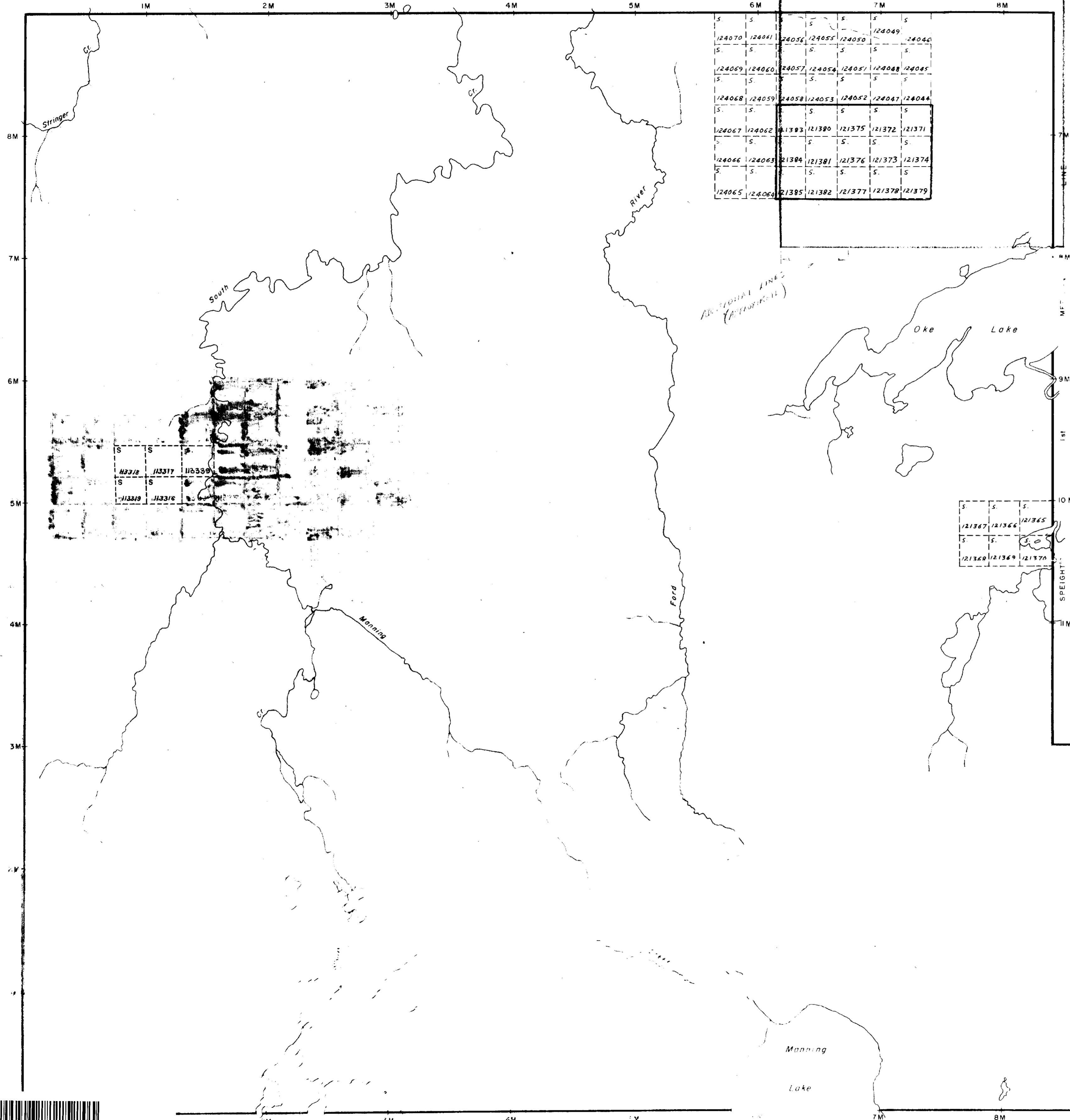
SCALE: 1-INCH = 40 CHAINS

LEGEND

- PATENTED LAND ⊕
- CROWN LAND SALE C.S.
- LEASES ⊙
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS — — — — —
- IMPROVED ROADS — — — — —
- KING'S HIGHWAYS — — — — —
- RAILWAYS — — — — —
- POWER LINES — — — — —
- MARSH OR MUSKEG — — — — —
- MINES ⋈
- CANCELLED C.

NOTES

400' Reserve around all Lakes & Rivers to Dept of Lands & Forests:



S	S	S	S	S	S
124070	124041	124056	124055	124050	124049
S	S	S	S	S	S
124069	124060	124057	124054	124051	124048
S	S	S	S	S	S
124068	124059	124058	124053	124052	124047
S	S	S	S	S	S
124067	124062	121393	121390	121375	121372
S	S	S	S	S	S
124066	124063	121394	121381	121376	121373
S	S	S	S	S	S
124065	124064	121385	121382	121377	121378
S	S	S	S	S	S

S	S	S
113318	113317	113319
S	S	S
113318	113316	

S	S	S
121367	121366	121365
S	S	S
121368	121369	121370



200

Aitken Twp.

PLAN NO. M.2000

DEPARTMENT OF MINES

- ONTARIO -

FORD

LAILAW

OKE

KIRKLAND

OKE LAKE

MUSKEGO RIVER
NORTH

MAGNETIC LEGEND

- S - SHARP
- VS - VERY SHARP
- B - BROAD
- VB - VERY BROAD
- F - FLAT
- M - MULTIPLE
- 200 - AMPLITUDE

LEGEND

- 1 A ANOMALY
- 1 B 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

63-1563
 AIRBORNE ELECTROMAGNETIC SURVEY
 OKE & FORD TOWNSHIPS AREA
 ONTARIO

MESPI MINES LIMITED
 SCALE: 1 INCH = 1/4 MILE (approx.)
 = 20 CHAINS

(APPROX.)

CANADIAN AERO
 Mineral Surveys LTD.
 OTTAWA & TORONTO, ONTARIO

