

63.1583

REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
OF THE
CARSCALLEN TOWNSHIP AREA, ONTARIO
FOR
MESPI MINES LTD.



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I. INTRODUCTION

This report pertains to the combined airborne EM and magnetometer survey flown on behalf of Mespri Mines Ltd. over a small block in Carscallen Township, Ontario. The survey was performed March 7, 1965 by the Canadian Aero Mineral Surveys Limited geophysically-equipped Otter aircraft (registration CF-IGM) based at Timmins.

Lines were flown east-west and were spaced at 1/8-mile intervals. The mean terrain clearance of the equipment during survey was approximately 150 feet. The mileage flown in this area totals 33 line miles.

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

G.A. Curtis	- Project Manager
J. Gaudry	- Pilot
D. McDonell	- Navigator
D. Graham	- Operator
R. Sarsfield	- Mechanic
D. Sarazin	- Data Compiler
G. Granger	- Draftsman
A. Martin	- Draftsman
P. 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

The Ontario Department of Mines preliminary geological map P118, published at the scale of 1 inch = 1 mile, gives a generalized picture of the western third of the survey area.

The survey covers the east-west trending contact of basic volcanic rocks to the south with a vast area of basic intrusive material to the north. Some acidic volcanics are indicated in the north-central part of the block flanked by an acidic intrusive to the north. North-south diabase dikes are prevalent.

III. RESULTS

Three zones of bedrock conductivity have been located by the airborne EM survey. Two questionable EM anomalies are also plotted.

Zone 1 contains extremely strong EM response directly associated with strong magnetic highs. These characteristics

indicate a substantial occurrence of massive sulphides with a large pyrrhotite content. Unfortunately the zone occurs outside the boundary of the area so the positions may not be accurate. Neither the strike direction nor the number of conductors can be determined clearly.

Zone 2 is also an excellent prospect for massive sulphides, especially in the vicinity of anomaly 4C. The dimensions and strike of this conductive zone are not positively established; we have tentatively correlated the strong anomaly, 4C, with the weak anomaly, 5A, and the questionable anomaly, 6A. There are coincident magnetic highs on all these EM anomalies.

Conductor 3 was detected by a single EM anomaly. It is a clearcut feature but not strong. It occurs on what appears to be a long north-south trending zone of magnetic activity. This may mean that it is associated with, or close to, one of the north-south striking diabase dikes.

Both the questionable anomalies are weak, out-of-phase blips. Anomaly 8A is considered a doubtful feature but 10A has a fair chance of being legitimate.

IV. RECOMMENDATIONS

All three zones of bedrock conductivity merit careful ground exploration as sulphide prospects. In zones 1 and 2 the geophysical data suggest large occurrences of massive

sulphides carrying substantial amounts of pyrrhotite. Zone 3 is interesting due to its isolated nature and its relationship to the north-south magnetic zone.

Respectfully submitted

A handwritten signature in cursive script, appearing to read 'A. R. Rattew', written in dark ink.

A. R. Rattew, P.Eng.
Geophysicist

Ottawa, Ontario
May 10, 1965

PROJECT NO. 5044 - CARSCALLEN TOWNSHIP AREA, ONTARIO

<u>Anomaly</u>	<u>Fiducials</u>	<u>In-Phase Quad</u>	<u>Altitude</u>	<u>Magnetics</u>	<u>Rate</u>	<u>Comments</u>
2A	9957/60	50/60	150	Dir on Broad 700y	3	
3A	0009/0014	+1.100/700	125	Dir 2000y(?)	1A	Broad
4A	0239/45	620/360	155	Dir Broad 2000y	1A	Broad-Double
E	0233/7	420/450	140	Dir 1800y	2A	Broad Double Quad - Strong
C	0221/5	320/280	150	Dir 650y	2A	Broad Double
5A	0265/8	30/40	170	Dir 150y	3	Weak
6A	0439/42	10/30	160	Nil	X	Weak
8A	0670/4	0/20	145	Nil	X	
10A	0978/81	0/30	165	Nil	X	

29M

27M

26M

25M

84

P 68347	P 68349	P 68348	P 68361	P 68360	P 68359	P 55673	P 55672	P 55671	P 55670	P 71806	P 71807	P 71808	P 71804	P 71805	P 70957	P 70956	P 70955	P 70954	P 70953	P 70952	P 70951	P 70950	P 70949	P 52961	P 52949	P 52947
P 68345	P 68346	P 68344	P 68350	P 68351	P 68352	P 55640	P 55667	P 55668	P 55669	P 70949	P 70978	P 70977	P 70970	P 70969	P 70960	P 70959	P 70962	P 70961	P 52943	P 52944	P 52950	P 52951	P 55956	P 55029	P 55030	
P 68342	P 68336	P 68356	P 68357	P 68362	P 68363	P 55650	P 55651	P 55652	P 55653	P 70979	P 70975	P 70958	P 72736	P 72735	P 72740	P 72739	P 72738	P 72727	P 72726	P 55955	P 55028	P 55027	P 55954	P 53546	P 54364	
P 68334	P 68338	P 68354	P 68355	P 68364	P 68365	P 55654	P 55655	P 55656	P 55657	P 70976	P 70973	P 70992	P 72737	P 72734	P 72721	P 72722	P 72723	P 72724	P 72725	P 55954	P 53546	P 54364	P 55954	P 53546	P 54364	
P 68335	P 68337	P 68353	P 68358	P 68366	P 68367	P 55658	P 55659	P 55660	P 55661	P 70974	P 70971	P 70980	P 72741	P 72733	P 72720	P 72719	P 72718	P 72717	P 72716	P 55954	P 53546	P 54364	P 55954	P 53546	P 54364	
P 68339	P 68340	P 68341	P 68343	P 68368	P 68369	P 55662	P 55663	P 55664	P 55665	P 70972	P 70971	P 70980	P 72742	P 72732	P 72710	P 72711	P 72712	P 72713	P 72714	P 55954	P 53547	P 54363	P 55954	P 53547	P 54363	
P 72778	P 72779	P 72768	P 57220	P 57221	P 55591	P 55592	P 55593	P 55594	P 55595	P 70985	P 70984	P 70983	P 72743	P 72731	P 72753	P 72762	P 72761	P 72760	P 72759	P 72758	P 72757	P 54362	P 72758	P 72757	P 54362	
P 58871	P 58870	P 58869	P 57222	P 57223	P 57224	P 55596	P 55597	P 55598	P 55599	P 70988	P 70987	P 70986	P 72744	P 72730	P 72749	P 72750	P 72751	P 72752	P 72753	P 72754	P 72755	P 72756	P 72754	P 72755	P 72756	
P 58533	P 58534	P 58868	P 57225	P 57226	P 57227	P 55600	P 55601	P 55602	P 55603	P 70989	P 70989	P 72745	P 72729	P 72748	P 72747	P 72746	P 72705	P 72706	P 72707	P 72708	P 72709	P 72708	P 72709	P 72708	P 72709	
P 5853	P 58535	P 58867	P 57228	P 58869	P 56870	P 55605	P 55606	P 55607	P 55608	P 72728	P 72697	P 72698	P 72699	P 72700	P 72701	P 72702	P 70941	P 70993	P 70941	P 70993	P 70941	P 70993	P 70941	P 70993	P 70941	
P 5854	P 58544	P 58866	P 58865	P 58864	P 56871	P 56872	P 56873	P 56874	P 57219	P 57217	P 57215	P 57212	P 57208	P 57204	P 72696	P 72686	P 60676	P 60681	P 60682	P 60687	P 70943	P 70942	P 70944	P 70943	P 70942	
P 58859	P 58860	P 58861	P 58862	P 58863	P 71238	P 71227	P 71228	P 73892	P 73872	P 57218	P 57216	P 57213	P 57209	P 57205	P 57202	P 57198	P 57195	P 57192	P 60679	P 62238	P 70947	P 70946	P 70948	P 70947	P 70946	
P 58854	P 58855	P 58856	P 58857	P 58858	P 71244	P 71232	P 71229	P 73893	P 73641	P 73640	P 73660	P 73659	P 57210	P 57206	P 57203	P 57199	P 57196	P 57193	P 72674	P 72675	P 70982	P 70981	P 72675	P 70982	P 70981	
P 25178	P 25177	P 71237	P 71236	P 71239	P 71242	P 71231	P 71230	P 73894	P 73886	P 73879	P 73887	P 73655	P 73644	P 73643	P 57201	P 57200	P 57197	P 57194	P 72673	P 72676	P 72431	P 72680	P 72683	P 72676	P 72431	
P 25179	P 25176	P 71247	P 71240	P 73869	P 73865	P 73650	P 73895	P 73880	P 73878	P 73888	P 73658	P 73642	P 73863	P 72690	P 72689	P 72671	P 72672	P 72677	P 72430	P 72681	P 72682	P 72681	P 72682	P 72681	P 72682	
P 64854	P 64855	P 71243	P 71241	P 73870	P 73867	P 73890	P 73882	P 73881	P 73877	P 73844	P 73657	P 73841	P 73641	P 72690	P 72689	P 72671	P 72672	P 72677	P 72430	P 72681	P 72682	P 72681	P 72682	P 72681	P 72682	

CARSCALLEN

CARSCALLEN SURVEY AREA

WEST SIX MILE



5M

4M

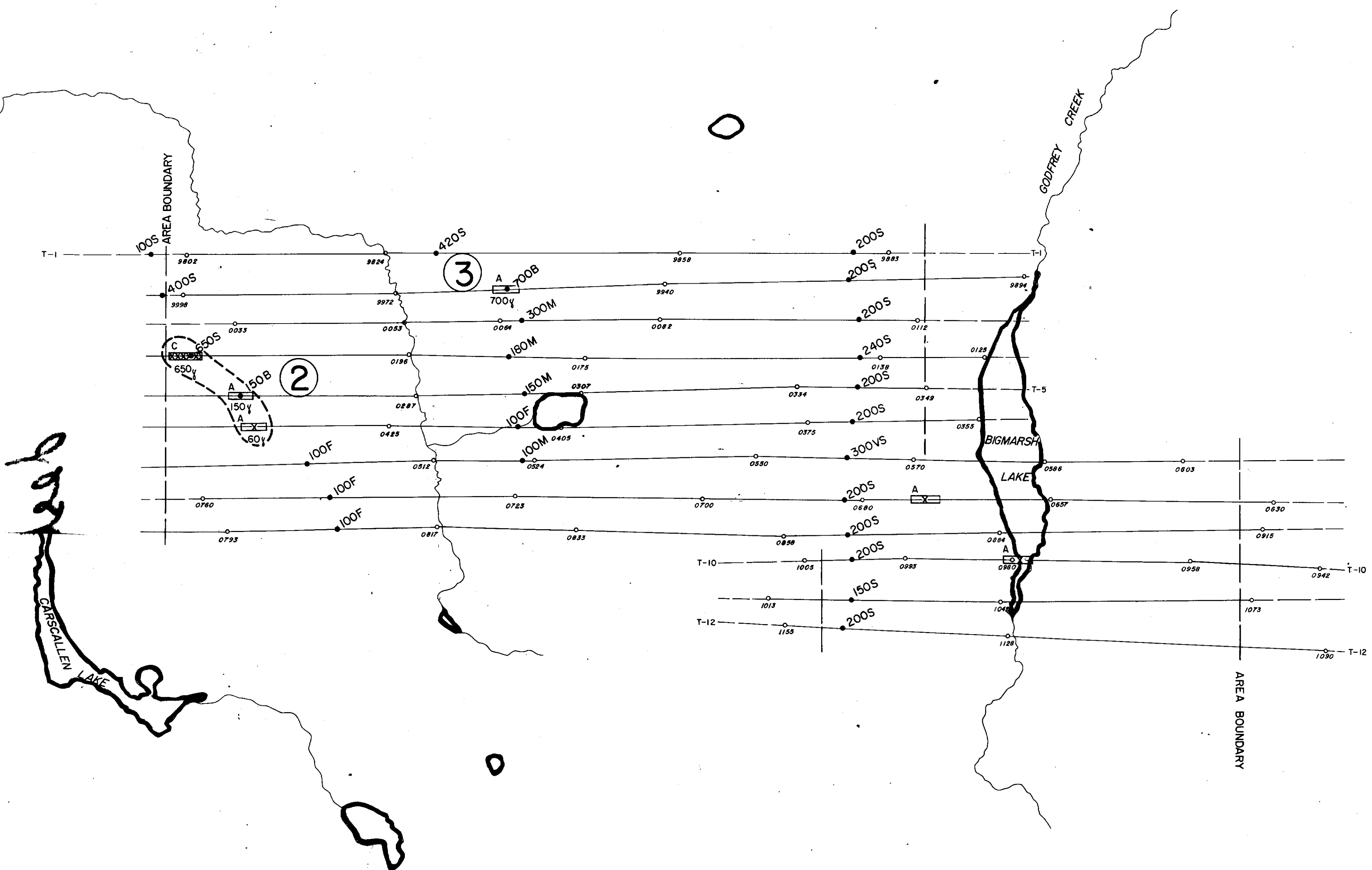
3M



TURNBULL

MASSEY

CARSCALLEN



MAGNETIC LEGEND

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



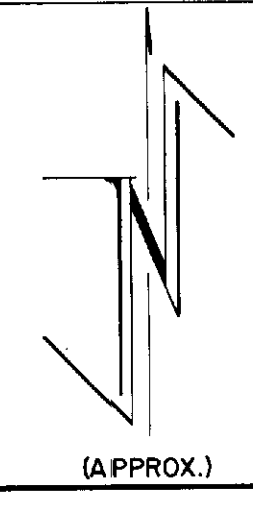
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LEGEND

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

AIRBORNE ELECTROMAGNETIC SURVEY
CARSCALLEN TOWNSHIP AREA
 ONTARIO
MESPI MINES LIMITED
 SCALE: 1 INCH = 1/4 MILE (approx.)



CANADIAN AERO
Mineral Surveys LTD.
 OTTAWA & TORONTO, ONTARIO

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