



ELECTROMAGNETIC

INTRODUCTION

Late in 1958, Talisman Mines Limited acquired from a Mr. E. Verrier two claims in Pense Township, Ontario, as a base metal prospect. Verrier had blasted a pit in a sulphide showing on one of the claims and taken grab samples assaying several percent copper. The Company subsequently staked 18 adjoining claims.

A magnetometer survey had been performed on 10 of the additional claims by a previous owner. It revealed a number of anomalies, some of which had been examined and found to reflect sulphides with traces of copper, nickel and zinc. Verrier's results, plus favourable local geology suggested the area's base metal possibilities might not have been exhausted.

As part of a program to localize a search for base metals, the Company extended the former magnetic survey to include Verrier's two claims and three others which were previously unexamined. This provided magnetic data for 15 of the claims.

These claims were ^{also} then examined by a dip angle electromagnetic survey. Its object was to seek corroboration for the magnetic anomalies and thereby suggest the best mineralized zones. The method was to indicate good electrical conductors in the hope these would be due to massive sulphides.

*correction
by [signature]*

The following report discusses the results of the electrical work.

SUMMARY

Ten principal conducting zones of medium response and varying from 300 to 900 feet in length were found in areas underlain by sediments. A few shorter conductors are interspersed with these. Strike directions change gradually from north east in the west, to south east in the eastern portion of the property.

None of the conductors have surface expression to verify their causes. These are thought to be one or some combination of sulphides, graphitic shears or basic rock. Seven conductors have magnetic corroboration and are therefore most likely to reflect sulphides. One of these lies 40 feet south of Verrier's showing. The remaining 3 conductors have a variety of technical reasons to recommend them.

A program of prospecting and soil sampling followed by short drill holes has been recommended to assess the conductors. A 210 foot drill hole has been spotted to test Verrier's showing and its accompanying conductor.

LOCATION, ACCESSIBILITY AND EXTENT OF PROPERTY

The property is located in Pense Township, Ontario, midway along the Township's eastern boundary which adjoins the Province of Quebec. Pense Township is approximately 17 miles north of Lake Temiscaming.

A gravel road suitable for cars extends northwards from highway 65 near Judge, Ontario, to within one mile of the property. A trail connects the end of this road to the property. Judge is some 30 miles east of New Liskeard, Ontario.

Talisman controls a group of 20 contiguous claims in Pense Township, covering all of Lot 11, Con. 3; the S 1/4 of Lot 11, Con. 4; the S 1/4 of Lot 10, Con. 4; all of Lot 10, Con. 3; the N.W. 1/4 of Lot 11, Con. 2; the N.E. 1/4 of Lot 9, Con. 3; and the S. W. 1/4 of the N. 1/2 of Lot 9, Con. 3.

The survey discussed in this report was confined to a central block of 15 claims excluding those claims lying in concessions 2 and 4.

A Key Map showing the entire property with an outline of the portion surveyed, accompanies this report. Areas and claim numbers appear in the Appendix.

GENERAL GEOLOGY

The district was mapped in reconnaissance fashion by the Ontario Department of Mines and is discussed in their Report Vol. 31, Part 3 for 1922 with map 31b. There are no detailed maps available.

The underlying rocks are of Precambrian age and include acid to basic lavas, granite gneiss, cobalt series sediments, and diabase. The area of interest is suggested to contain mainly sediments and mica schist. It has a history of intermittent prospecting which has not yet produced any mines.

LOCAL GEOLOGY

A fairly accurate picture of the property has been provided by work performed by Dominion Galt Company during 1953-4. The underlying rocks are mainly sediments - argillite and greywacke, which have been folded about a "U" shaped peridotite intrusive. Verrier's claims are enveloped by this intrusive. At least two diabase dikes are known to strike northwards through the property, and the 10 claims surrounding Verrier's were found by previous magnetic work to contain scattered lenticular anomalies to 600 feet, thought to be due to sulphides.

Limited surface work on some of the anomalies verified this cause and found sub-marginal amounts of copper, nickel and zinc. These zones occur in sediments and predominate along the flanks of folds. Some 1/8 inch asbestos has been reported in peridotite near the Quebec border.

Verrier's showing lies some 400 feet north west of the centre of claim T.33684 (S. 1/2 of N. 1/2 of Lot 11, Con. 3). It consists of a pit in a small outcrop of micaceous argillite mineralized with scattered blebs of pyrite, pyrrhotite and chalcopyrite. A grab sample of this material assayed several percent copper.

The property is extensively drift covered and contains relatively few outcrops. Those which have been observed, are shown on the accompanying map. Overburden depths are considered to be generally a few tens of feet at most.

RESULTS OF THE SURVEY

All of the survey results are shown on the accompanying map number 1959-5a drawn to the scale 1 inch equals 200 feet.

The instruments used consisted of a portable transmitter and receiver which occupied consecutive 100 foot stations on parallel traverses. Beside each reading station is shown the tilt of the resultant magnetic field in degrees to the horizontal. Northerly tilt directions are shown negative, and southerly tilts with no sign. Tilt angles have been profiled to the scale 1 inch equals 20 degrees. Transmitter to receiver alignment is indicated by a short arrow at the lower end of each traverse. Electrical conductor axes are shown as short solid lines. The important ones have been numbered "1", "2" - - "10", and are later discussed.

Technical details of the survey appear in the Appendix to this report.

DISCUSSION OF RESULTS

Ten weak to medium strength conductive zones 300 to 900 feet long, plus a few short scattered conductors were found. They have strike directions which gradually change from north east in the western part of the property, to south east in the eastern part of the property. All but one (28+00 W-850 S) are underlain by sediments.

There is no evidence to verify the exact cause of any of the conductors. They could arise from any one or some combination of sulphides, graphitic shears or conductive basic rock. Seven marked "1", "2" - - "7", have magnetic corroboration and are most likely therefore to reflect sulphides. Of these, 1, 2 and 7 suggest the longest zones.

Conductor "4" lies some 40 feet south of Verrier's showing and would be the expected location of the most abundant mineralization in this vicinity.

Conductor "5" could arise from sulphides or from a small plug of basic rock.

Conductors "8", "9" and "10" lack magnetic corroboration, but have various other features to recommend them. Conductor "8" produced the strongest response of any; conductor "9" may well be an eastward continuation of "6", and "10" has a favourable geological location near the flank of the main peridotite intrusive.

RECOMMENDATIONS

It is recommended that each of the marked conductive zones be prospected and soil sampled for evidence of base metals, and that this information plus the geophysical data guide a series of short test drill holes.

The Verrier showing together with its adjacent conductor "4" could be tested with a 210 foot drill hole inclined at 45° and bearing south along line 9W from 9W-11N.

LIST OF REFERENCES

- (1) Dominion Gulf Co. Report by J. H. Ratcliffe to accompany magnetometer survey on Pense I, Pense Township, Ontario, dated July 14, 1954.

APPENDIX

TECHNICAL DETAILS OF THE ELECTROMAGNETIC SURVEY

1. Area Investigated

Talisman Mines Limited controls a group of 20 contiguous claims in Pense Township, numbered T.33684-5; T.46371-6; and T.47223-34. The electromagnetic survey covered 15 of these which comprise an area of 600 acres and are numbered:

T.33684-5	(2)	Verrier Option
T.46371-4	(4)	Staked
T.47223	(1)	"
T.47227-34	(8)	"
	<u>(15)</u>	

2. Period of Investigations

The necessary picket lines were out and chained during the period June 13 to July 3, 1959. Electromagnetic measurements were taken between July 4 and 20, 1959.

3. Personnel

Line cutting and chaining were done by S. Nowicki and F. Touzin. Geophysical measurements were made by R. A. Geisler assisted by S. Nowicki and F. Touzin. Reduction, compilation, drafting and report were also done by R. A. Geisler.

4. Picket Line Mileage

A total of 7.6 miles of new picket line were cut and chained over the 5 claims T.33684-5; T.47230-2, and 9.4 miles of previously cut lines over the 10 claims T.46371-4; T.47223; T.47227-9; and T.47232-4 were brushed out and re-chained. Electrical measurements were taken along a total of 16.7 miles of these picket lines.

5. Topography

The property is very hilly with relief in places of the order of 75 feet. Bush consists of second growth spruce and balsam with occasional stands of poplar. Some sections contain a considerable amount of underbrush.

6. Network of Measurement Stations

The network of measurement stations for the 5 claims T.33684-5 and T.47230-1, for which no previous geophysical data existed, consisted of pickets placed 100 feet apart along parallel north-seeking picket lines each 300 feet. A base line was cut and chained westwards along their lower boundary from a 0-0 point at their south east corner on the interprovincial boundary. This point had been previously defined.

The grid lines were turned off at right angles to this base line, and cut and chained northwards from it to cover the claims. Picket line ends were tied into pre-existing lines.

The stations for the remaining 10 claims which had been previously surveyed, were established by pacing along their original picket lines, and tying in the ends of these traverses to adjacent lines. Locations along these traverses are reckoned northwards from their lowest point where lines occur north of the base line, and southward from their junction with the base line where lines extend below the base line.

7. Classification of Electromagnetic Measurements

Stations of Main Network	848
Repeat Readings	72
Check Readings to Correct Instruments	<u>21</u>
Total Measurements Performed	941

8. Electromagnetic Survey

The instruments employed comprised a portable unit consisting of a battery powered 1000 cycle oscillator with vertical coil transmitter, plus a receiver measuring the tilt of the resultant magnetic field in degrees to the horizontal. The energizing field was always horizontal and normal to the axis of rotation of the receiver coil.

The transmitter and receiver moved in unison over the area, and were kept either 300 or 400 feet apart (depending on line spacing) by occupying opposite stations on parallel lines. In several cases, selected portions of certain lines were re-read. At regular intervals check readings were taken to correct minor errors which may have arisen in receiver measurements. Transmitter to receiver mis-alignment was corrected for at each station by determining the direction of the vertical plane of the energising field before tilt angles were read.

Respectfully submitted,



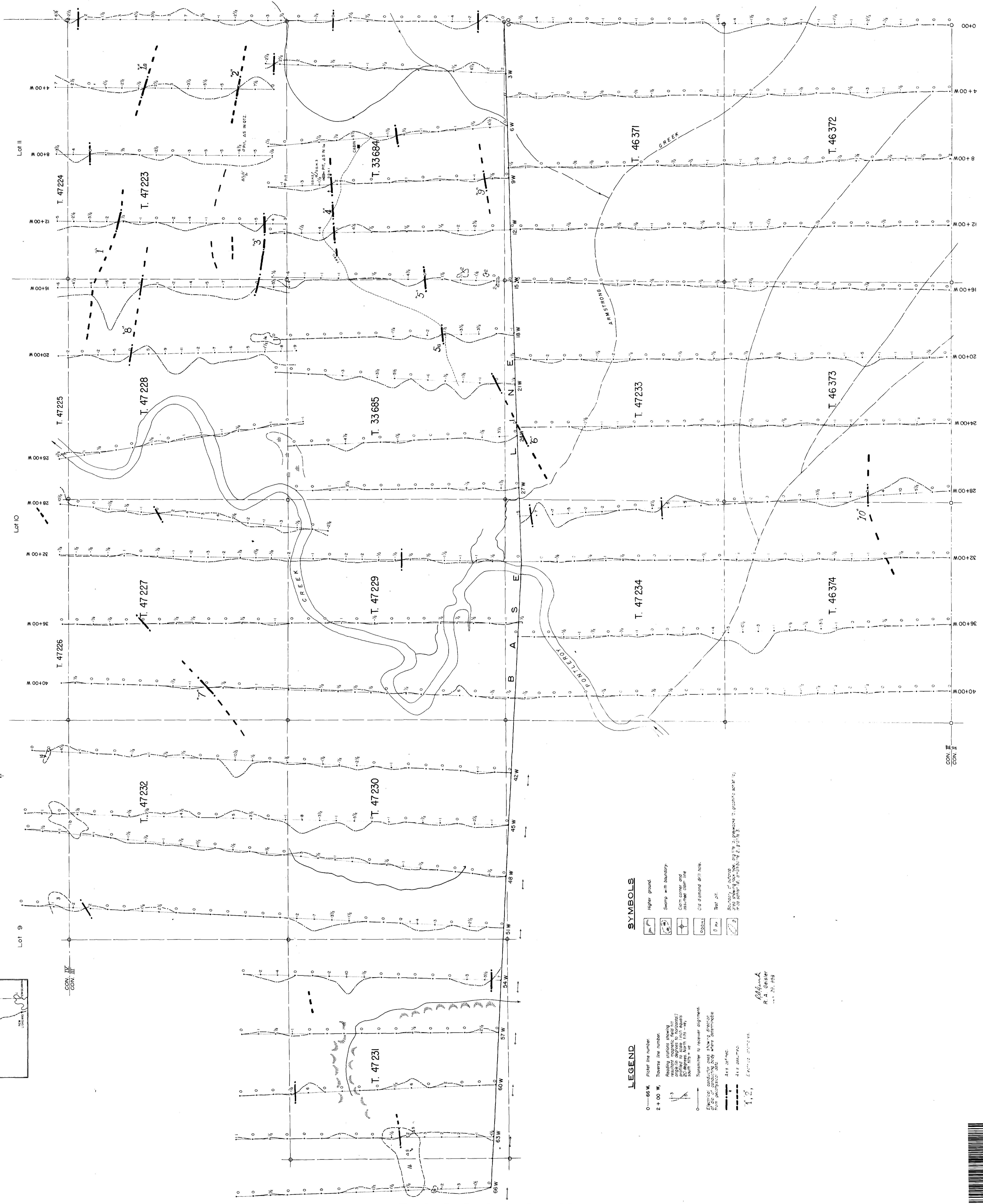
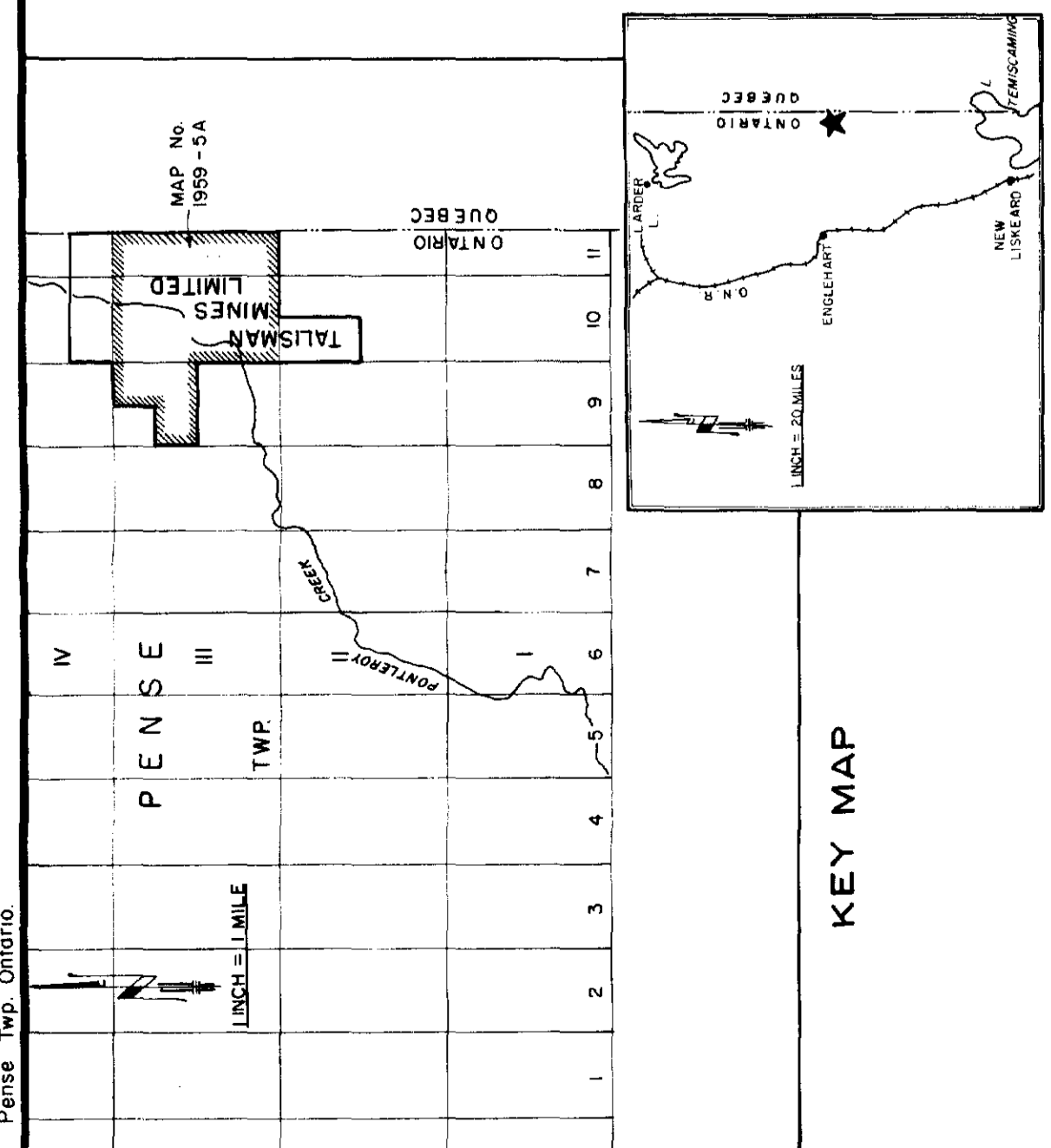
R. A. GEISLER.

TORONTO, Ontario,

August 15, 1959.

TALISMAN MINES LIMITED
ELECTROMAGNETIC SURVEY
OF PART OF
VERRIER PROPERTY
PENSE TOWNSHIP
TIMISCAMING MINING DIVISION
ONTARIO
Scale: 1 inch to 200 feet

KEY MAP



SYMBOLS

- Higher ground
- Survey with boundary
- Contour and assumed claim line
- Old abandoned drill hole
- Test pit
- Boundary of survey

LEGEND

- 66 W. Picket line number
- 2 x 00 W. Traverse line number
- Ready to survey
- Survey in progress
- Survey completed
- Electric conductor
- A.T.S. OFFICE
- A.T.S. OFFICE
- A.T.S. OFFICE

R.A. Gester
R.A. Gester
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