

DOMINION G.INTERPRETATION OF GROUND MAGNETICSSOTHMAN TOWNSHIP CLAIMS, GROUP IINTRODUCTION

The survey area is located in central Sothman Township in Base Map 41P/14N. It consists of 47 claims located in an arcuate fashion, the concave side pointing east. Accessibility may be gained either by winter road from Timmins or by aeroplane.

An Askania ground magnetometer was used along picket lines 400 feet apart and running north-south. In complex areas, picket lines 200 feet apart were utilized. Stations were usually read at 100 foot intervals but where necessary, in anomalous areas, 50 and 25 foot stations were read.

Outcrops are sparsely exposed in the property. A basic series of diorite, gabbro and peridotite, intrudes rhyolitic and andesitic flows. The peridotite is serpentized. Interest in the area is for possible nickel or gold deposits.

Two maps accompany this report:

- (1) Contoured ground magnetics - 1 inch = 400 feet.
- (2) Interpretation overlay - 1 inch = 400 feet.

SUMMARY

An anticlinal fold, outlined by basic intrusives has been interpreted with an east-west axis through the centre of the property. Highly magnetic masses may be caused by gabbro or peridotite while diorite, rhyolite and andesites usually are found in the broad magnetic lows. The anticlinal nose is the most interesting section in the area and warrants further attention.

INTERPRETATION

The ground magnetic data have been contoured to 100 gamma intervals and an interpretation made. On the interpretation are indicated contacts of magnetic bodies and faults. Anomalies are numbered from 1 to 94 inclusive as an aid in reference.

A highly magnetic band trends through the claim block in a roughly arcuate fashion. The south arm of the "arc" trends nearly northwest while the north arm trends approximately northeast. At the extreme northeast end of the northern arm, there is a suggestion of a change in strike from northeast to the northwest. Two highly complex areas are indicated along the anomalous belt, both at points of flexure in the main anomalous band. Flanking the arc on either side, lies a broad magnetic low upon which are superimposed numerous minor anomalies, generally parallel to the main anomaly. Due to lack of control, and scarcity of outcrops, correlation of geology and magnetics is difficult.

In the northeastern corner of the property, a highly magnetic mass enters, striking northwest. At Anomalies 4 and 6, a change in strike to the southwest occurs. The area indicated by Anomalies 12 to 18 is one of great complexity. Anomalies 4 and 6 are caused by peridotite as indicated by drilling. To the southeast, Anomalies 21 to 34 indicate another complex area. All the anomalies with the exception of 21, trend northwest. Anomaly 21 trends northeasterly. A few exposures of peridotite, diorite and rhyolite occur with the peridotite lying within the anomalous area. In the extreme northeast corner of the property, Anomalies 9, 10 and 11 are also probably due to basic intrusion.

A number of faults have been interpreted in this section. One fault with indeterminate limits has been interpreted between Anomalies 5 and 8, and trending roughly northeast. Two faults trending nearly north-south have been interpreted, one passing between Anomalies 8 and 19, 22 and the other between Anomalies 19, 27, 29 and 28, 31, 30 and 29. A northeast striking fault has been interpreted between Anomalies 21 and 24, 25 and 23. Another northeast fault passes between Anomalies 24, 25, 23 and 32 and 33. A third northeast fault terminates the southeastern extension of Anomalies 32, 33, 34, 30 and 28. Another fault trending northwest passes between Anomalies 20 and 6, 12, 14, 15, and 16.

Extending southwestward from Anomaly 20, the anomalous band continues to Anomaly 38 whence a fault striking west of north, has been interpreted between 38 and 49. A fault indicated by indefinite limits is indicated west of Anomaly 50. The anomalous mass, extending from Anomalies 45, 44, 56 to the southwest to Anomalies 62, 63, 67, 68 becomes quite complex with numerous interrupted masses. A fault is indicated trending east-west north of Anomalies 53, 54, and 56. Another fault striking nearly north-south passes east of Anomalies 65, 69 and 70. South of and parallel to Anomalies 68, 66, 65, a fault striking northeast has been interpreted.

The anomalous mass continues with a change in direction to the southeast. Anomalies 70, 74, 78, 79, 84, 87, 88 and 90 indicate a single, fairly uniform magnetic band. Three offsets are indicated between Anomalies 70 and 74, between 78 and 79 and between 87, 88 and 90. Thence, the band continues out of the map area.

In the southwest corner of the claim block, Anomalies 82, 83 indicate an isolated, highly magnetic mass. A zone of gradational magnetic intensity is indicated on the south flank. This may be caused by one of the following: (1) alteration zone, (2) gradational magnetite content, (3) sloping contact, (4) deep phase of magnetic mass. In this case, as far as known geology is concerned, it could be caused by anyone of the above.

In the northwest corner of the property including Anomalies 35, 36, 39, 40 and 41 lies an anomalous mass, with a fairly well defined contact on the east side and a wide band of more or less evenly spaced contours on the west and south, indicating another gradational zone. It may be due to a basic intrusive with alteration. Anomalies 37, 43, 44 are probably caused by intrusion.

On the east and west flanks of the "arcuate" anomalous mass, a broad magnetic low is attained on which are superimposed numerous weakly magnetic

masses usually parallel to the main mass. Most of the highly magnetic masses are probably due to peridotite and possibly gabbro while diorite, rhyolite and andesites are found in the magnetic lows. Some of the weakly magnetic masses may be due to magnetic flows or alteration.

In the southern part of the property in claim S-56438, occur outcrops of andesite with pillows striking northwest and facing south. On the basis of this, and the magnetics, an anticlinal fold has been interpreted. The axis passes east-west through the centre of the property.

CONCLUSIONS

The anticlinal structure, indicated, is a potential ore trap. Further detailed exploration is warranted in the central portion of the property, as well as in the complex area in the northeastern part of the claim group.

Respectfully submitted,

*H. Reimer*

H. Reimer.

May 11, 1951.  
lj

DOMINION GULF COMPANY

INTERPRETATION OF GROUND MAGNETICS

APPENDIX I

The area of greatest interest economically is that comprised by Anomalies 58 to 70 in the central portion of the claim block. This area, centred on the nose of the interpreted anticline is quite complex. Faulting has been discussed above. It is felt that there is a definite break or interruption of some kind between Anomalies 68, 66, 65 and 70. This has been tentatively explained by a fault trending northeast. However, this area warrants extensive detail exploration to complete the picture.

Just north of Anomaly 73 and parallel to it, lie two electromagnetic conductors at 100 feet and 500 feet to the north. The conductors and Anomaly 73 show a variance in strike with Anomalies 70, 74, 78, etc., and strike more nearly south of east. The area covered by Anomalies 57 to 75, should receive considerable attention.

In the northeast corner of the claim group, the complex area, indicated by Anomalies 1, 2, 4, 5, 6, 7, 8, 12 to 34 should also be considered for additional work.

Anomalies 35, 36, 39, 40, and 41 in the northwest corner are difficult to explain. Some additional work should be directed into this area.

Respectfully submitted,

*H. Reimer*

H. Reimer.

May 11, 1951.

lj

	<u>Actual Man-days</u>	<u>Assess- ment Factor</u>	<u>Assessment Credit In Man-days</u>
Linecutters (G. T. Hurd, Chief)	104.5	4	418
Instrument Operators and Assistants (T. G. Robinson, Chief)	99.	4	396
Interpretation of Data	<u>1.5</u>	4	<u>6</u>
Total	<u>205</u>		<u>820</u>

The linecutting time shown above represents only 50% of total line-cutting performed. The balance will be reported as part of a geological survey at a later date.

On the basis of the above, we ask that geophysical work credit be granted as follows:

<i>GR</i>	Claims S-55797 to S-55818 inclusive, S-56441, S-56634, and S-57397-25 claims at 17.4 days each	435
	Claims S-56208 to S-56219 inclusive S-56431 to S-56440 inclusive-22 claims at 17.5 days each	<u>385</u>
	Total Geophysical Work Credit	<u>820</u>

Very truly yours,

*E. W. Westrick*

E. W. Westrick.

RSF/JMG

Attachments follow in this order:

1. Ground magnetometer interpretation report by H. Reimer.
2. Interpretation map, scale 400 feet to the inch.
3. Contoured map of field data, scale 400 feet to the inch.

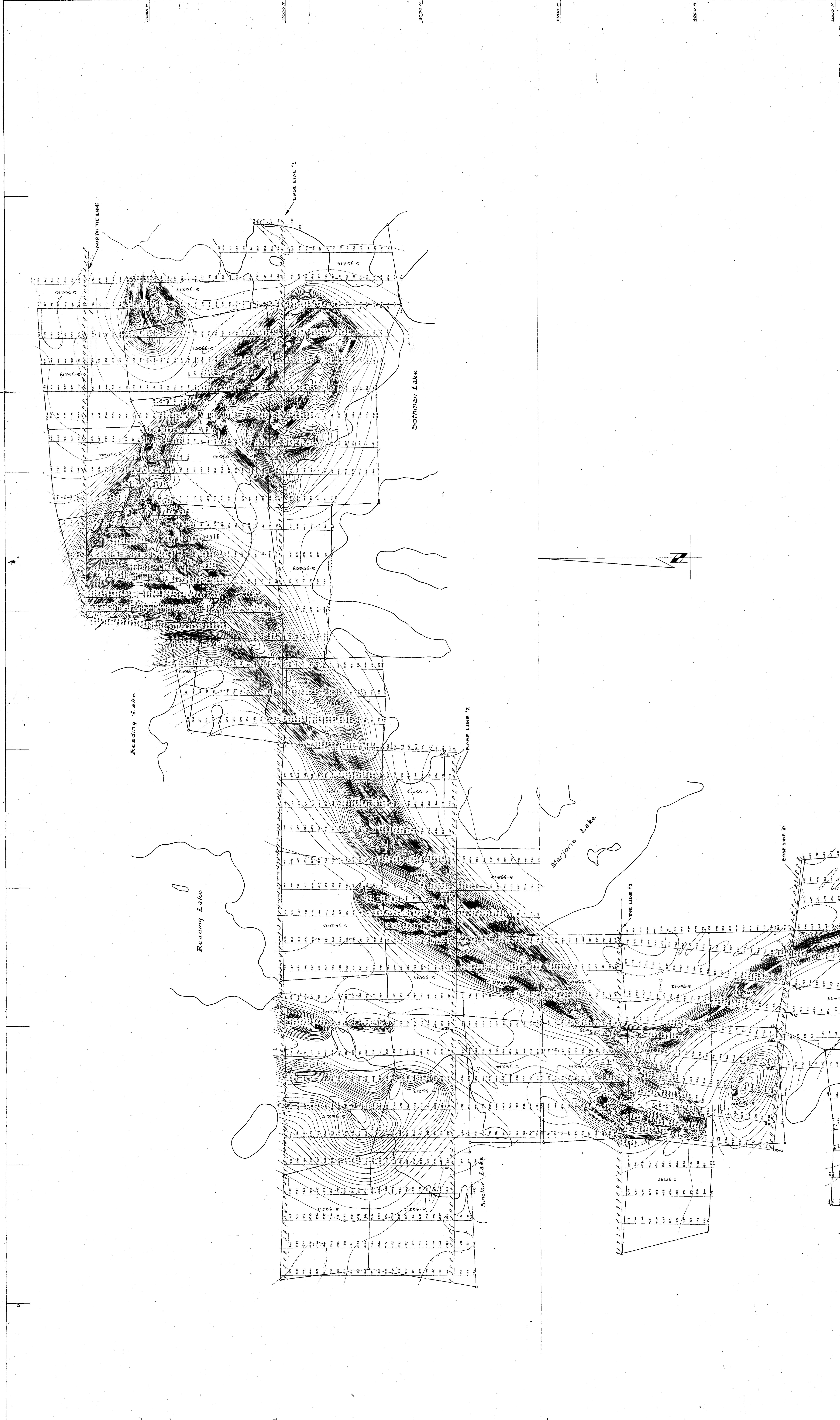
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*5*  
*23*

*47 ds.*

*205*  
*4*  
*820*

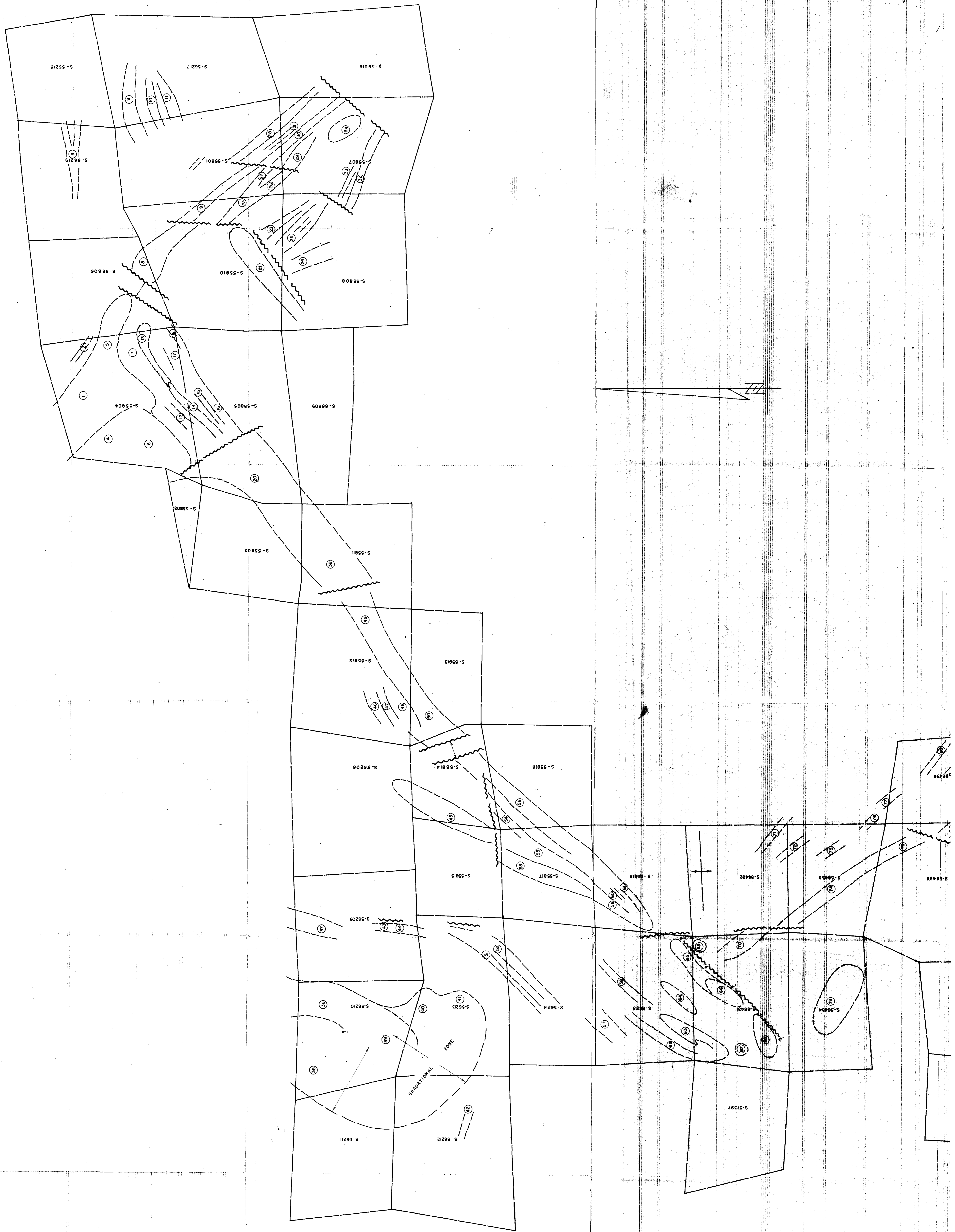
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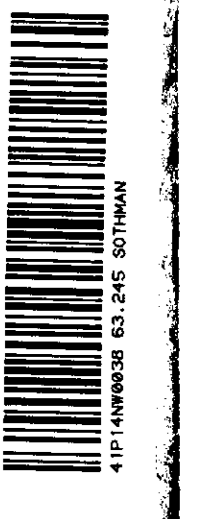
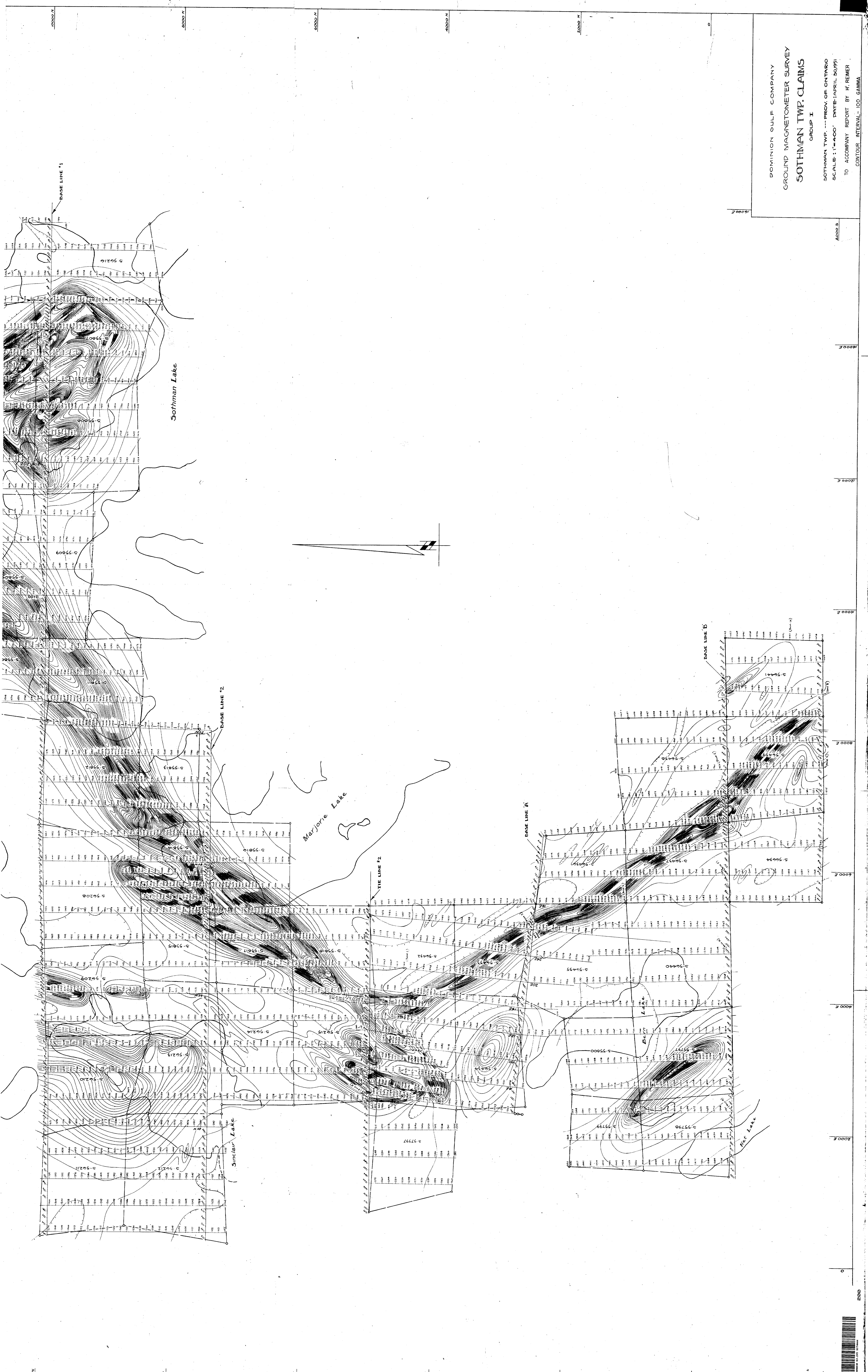


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DOMINION GOLF COMPANY  
 GROUND MAGNETOMETER SURVEY  
**SOTHMAN TWP. CLAIMS**  
 GROUP I  
 SOTHMAN TWP. --- PROV. OF ONTARIO  
 SCALE: 1"=400' DATE: APRIL 30/95  
 TO ACCOMPANY REPORT BY H. REIMER  
 CONTOUR INTERVAL- 100 GAMMA





**LEGEND**

- Fault indication
- Fault limits, position uncertain
- Contacts outlined
- Anomalies numbered for ease in reference
- GRADATIONAL ZONE--may be one of the following:  
(1) Alteration zone, (2) Gradational magnetite content, (3) Slipping contact, (4) Deep phase of magnetic mass.

DOMINION GULF COMPANY  
**INTERPRETATION OF GROUND MAGNETICS**  
**SOTHMAN TWP CLAIMS GROUP I**  
PROVINCE OF ONTARIO

SCALE- INCH = 400 FEET    DATE- MAY 11, 1951

TO ACCOMPANY REPORT BY H. REIMER



63.2x5

