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## INTERPRETATION OF GROUND MAGNETICS

### BELMONT TOWNSHIP CLAIMS, GROUP I

#### INTRODUCTION

The claim block consisting of four claims lies in Belmont Township in the County of Hastings in Southeastern Ontario. It is composed of Lot 5 (east and west half) and lies immediately south of Highway #7 whence it is easily accessible. An Askania magnetometer was used to carry out the survey along picket lines spaced 200 feet and 400 feet apart. Readings were taken at 100-foot intervals.

Regionally, the geology consists of the Grenville-Hastings series intruded by acidic and basic intrusives. Numerous and varied mineral occurrences are known but of prime importance is magnetite. It is found along the contacts of the dioritic and granitic intrusives with limestone as contact metamorphic deposits. In the area covered by the survey, the Precambrian rocks are overlain by a mantle of Palaeozoic sediments. Thus location of any ore deposits will depend on the magnetic method.

#### SUMMARY

A highly magnetic mass striking N-S through the western half of the property has been interpreted as a body of magnetite overlain by a substantial cover of limestone and drift. A magnetic low to the east may be interpreted as unaltered limestone or acidic intrusive. Drilling is recommended to test the magnetic mass for economic iron deposits.

#### INTERPRETATION

The basic data have been contoured to 100-gamma intervals. On the interpretation overlay, contacts have been indicated and anomalies numbered for east in reference.

Magnetically the area may be divided into two parts. The east half of the claim block consists of a broad magnetic low. The west half is characterized by a broad, highly magnetic mass striking nearly N-S through the area.

Of most economic interest is the highly anomalous area striking N-S through the western half of the claim group. The anomalies are nearly all characterized by broad and gentle magnetic gradients and suggest a depth to the magnetic mass of 300 to 500 feet subsurface. This is based on the assumption of a uniformly magnetized body. If the edges of the body are characterized by a gradational magnetite content, then the depths will be considerably less.

Local geology at the Blairton Mine to the north indicates a dioritic intrusive cutting limestone and schists with development of magnetite bodies at the contact. The magnetic mass outlined in the claim block may be

interpreted as a body of magnetite. It is also possible for basic intrusives to cause the anomaly but the former interpretation is considered more likely. Anomalies 9, 10, 11 and 16, 17, 18 strike NW whereas the main mass strikes nearly N-S. What their significance is can only be speculated. One possible explanation is that the main zone of mineral deposition is N-S along a contact while subsidiary cross-structures, possibly fracture zones, controlled enriching solutions in the northwest direction.

The broad magnetic low which flanks the anomalous mass on the east may be interpreted either as relatively non-magnetic intrusives or limestone of the Grenville-Hastings series. A few minor wrinkles in the magnetics occur but these are near surface effects and are probably due to magnetite float in the overlying glacial drift.

#### CONCLUSIONS

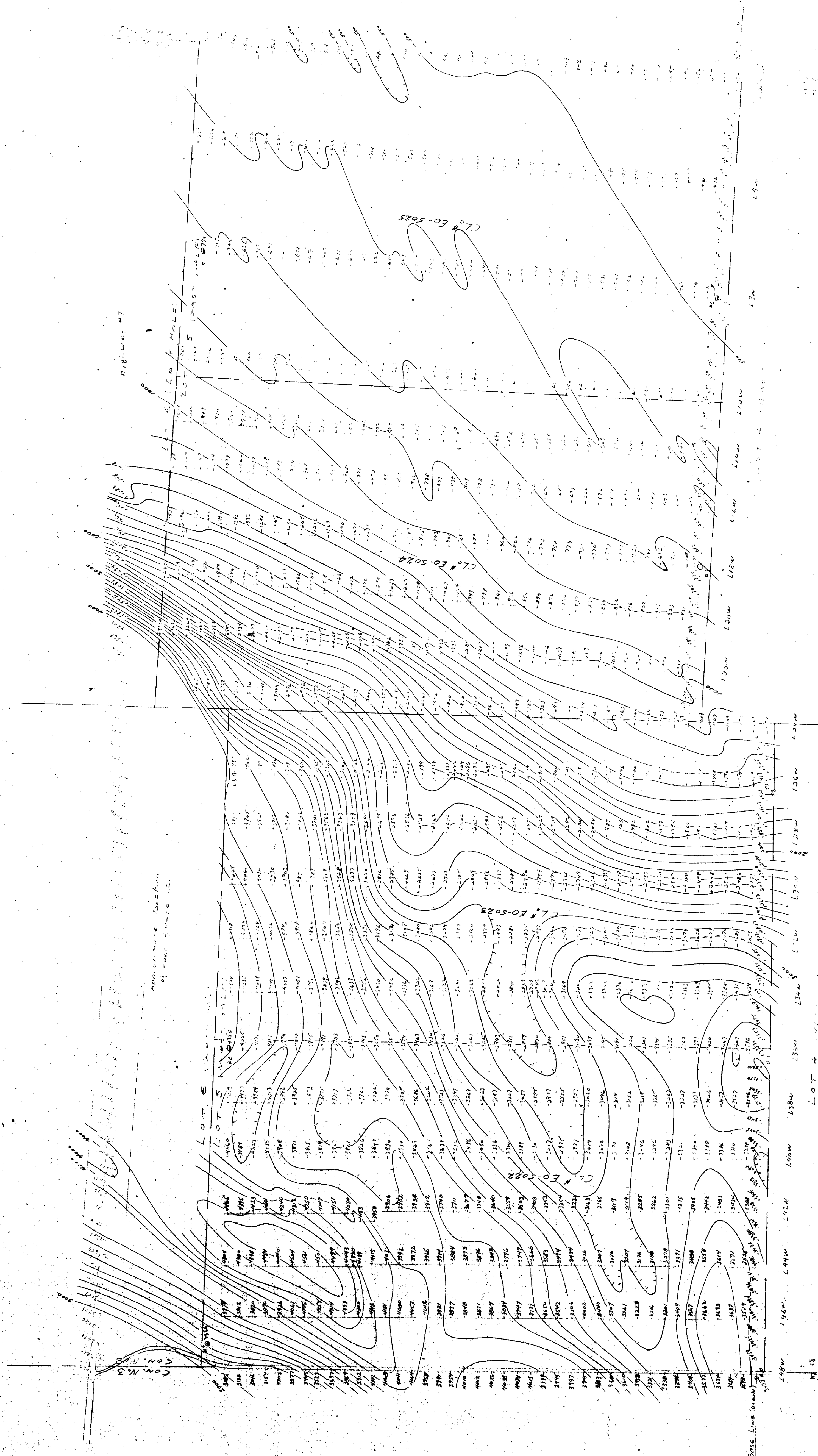
The highly anomalous area should be drilled to determine whether the anomaly is caused by magnetite concentrations of economic tenor. Of special note are the areas indicated by Anomalies 3, 5, 9, 10, 11, 16, 17, 18. These may represent enrichments and should receive priority in a diamond drilling program.

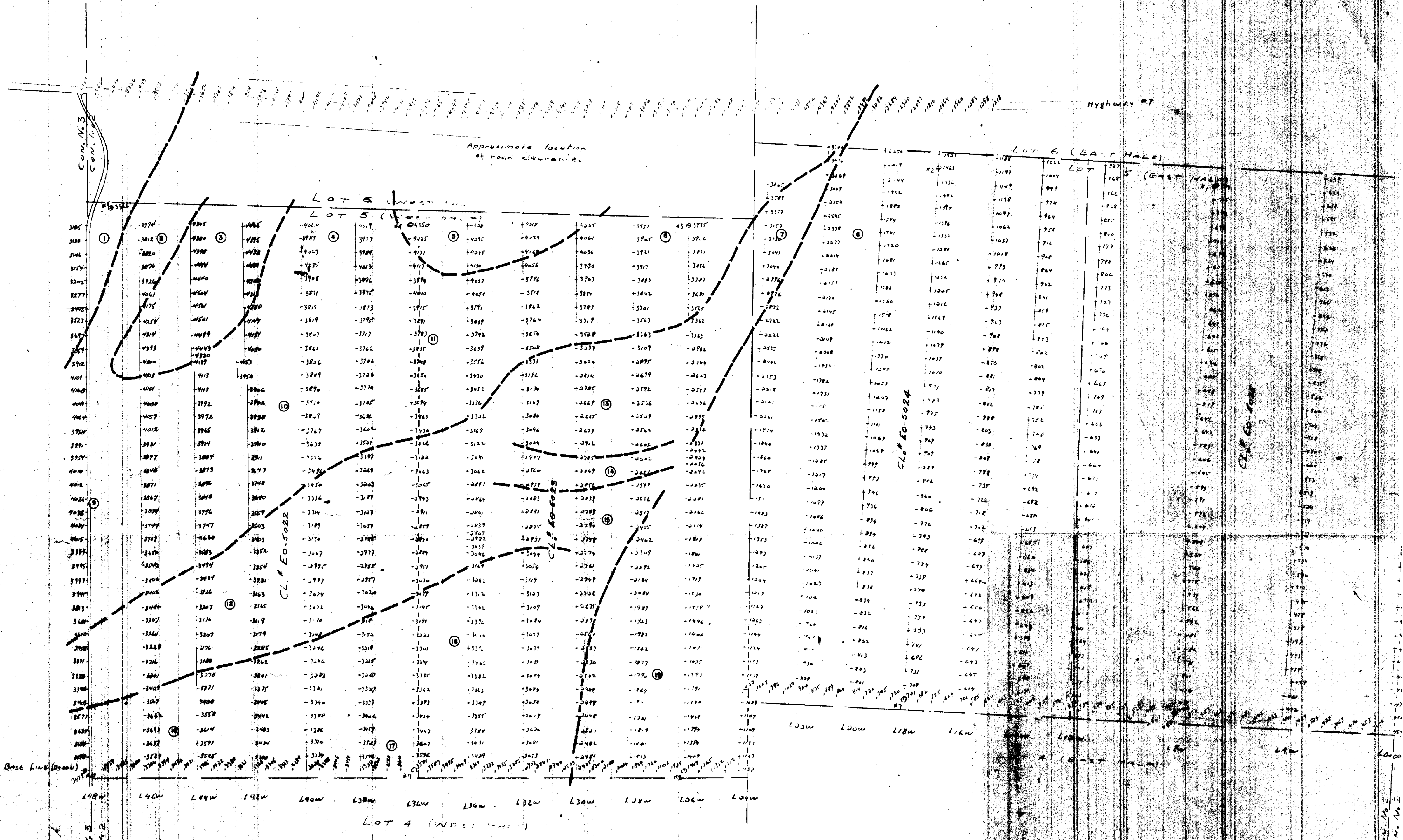
Respectfully submitted,

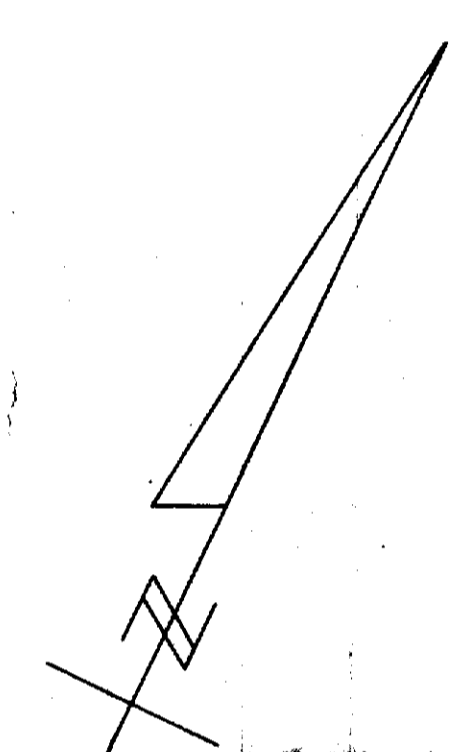
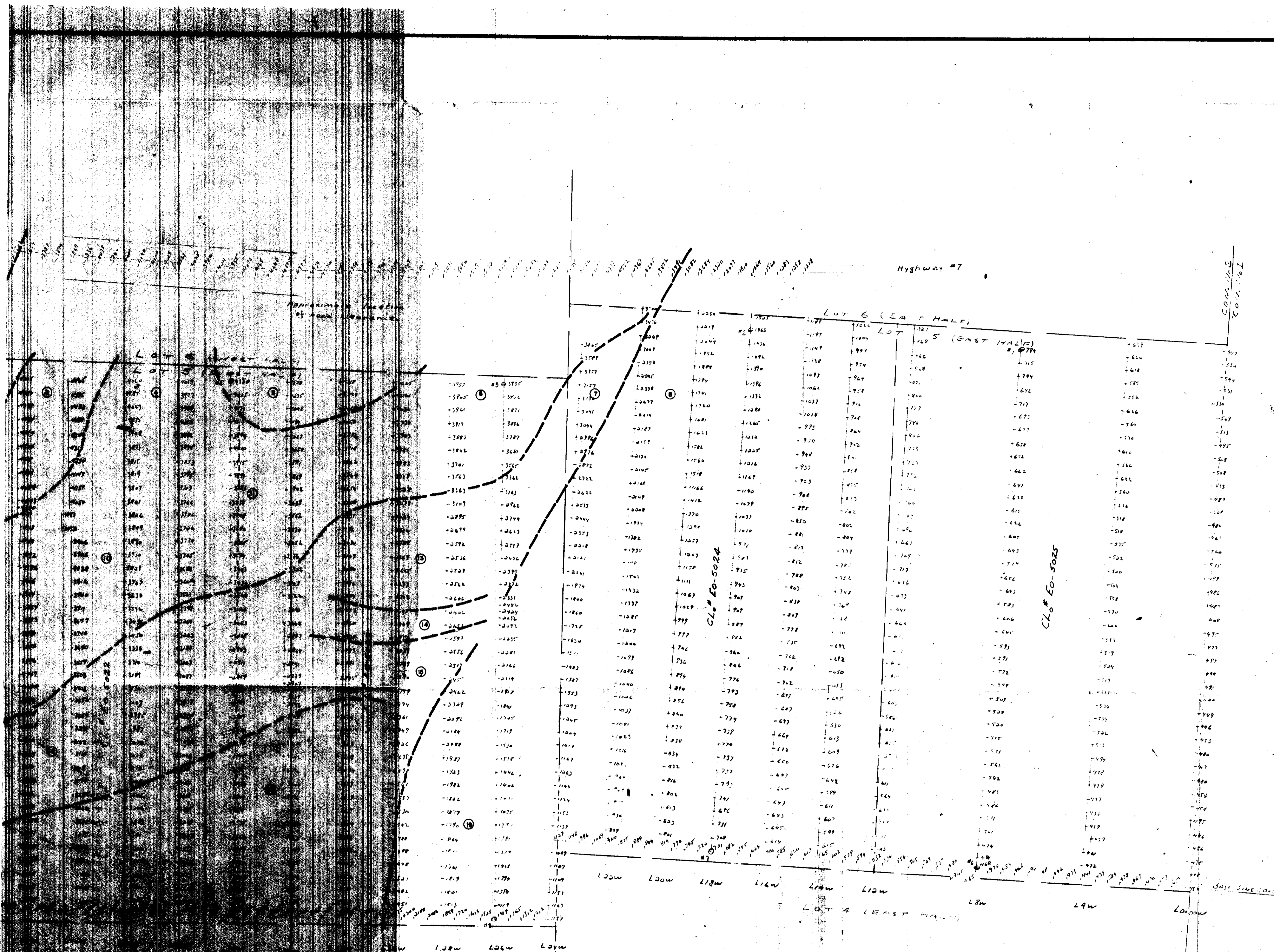
*H. Reimer*

H. Reimer

:C  
March 22, 1951







**LEGEND**

--- Contacts outlined

⑦ Anomalies numbered for ease of reference

DOMINION GULF COMPANY  
 INTERPRETATION OF GROUND MAGNETICS  
 BELMONT TWP. CLAIMS GROUP I  
 PROVINCE OF ONTARIO  
 SCALE-1 INCH=200 FEET DATE-MARCH 22, 1951  
 TO ACCOMPANY REPORT BY H. REIMER