

INTERPRETATION CDENTON-THORNLOE TOWNSHIPS CLAIMSINTRODUCTION

The claim group consists of 57 claims of which 34 lie in Thornloe Township and 23 in Denton Township. Of all these claims only 34 were covered by the magnetometer survey. Parts of a number of other claims were also covered, usually to provide for continuity in the base level. Four claims are covered in the extreme western end. In the central area a block of 6 claims was covered while in the eastern end, 24 claims were surveyed. This results in a "patchwork" effect, making it difficult to provide continuity in the interpretation.

An Askania vertical ground magnetometer was used in the survey along picket lines 400 feet apart with readings taken at 100 foot intervals. Wherever required in anomalous areas, additional stations were read. Detailed mapping was carried out by F. J. Sugden (Report dated January 15, 1951). Insufficient outcrops were available to outline a clear picture of the area. Generally speaking, sediments are found north of the claim block. Within the claims, altered lavas, tuffs and peridotite occurs in the extreme NE corner of the claim group. This outcrop is strongly sheared on the north side. Talcose tuffs in the vicinity, also indicate a fault or shear nearby. In the extreme western end of the claims group, outcrops of amphibolitized and less altered lava are reported. The main interest in the area, is for gold deposits.

Accompanying the report are the following maps:

- (1) Ground magnetics contoured to 100 gamma intervals with the exception of the three main anomalies. Above the 5,000 gamma level, they are contoured to 1,000 gamma intervals.
- (2) Interpretation overlay to be used in conjunction with the contoured magnetics.

SUMMARY

The ground magnetics have been interpreted and show fairly good agreement with known geology. A series of peridotite bands with a possible E-W fault zone have been interpreted in the northeast. Elsewhere altered lavas have been interpreted.

INTERPRETATION

On the interpretation, contacts and faults have been indicated. Anomalies have been numbered for greater ease in reference with numbers 1 to 102 inclusive.

The magnetics may be divided into two main groups:

(1) The area comprising the eastern 22 claims showing three main highly magnetic masses striking roughly E-W with numerous weaker magnetic masses striking NW.

(2) The remaining area to the west is characterized by E-W, highly magnetic and complex masses with broad magnetic lows.

Of main interest is the eastern portion of the surveyed area. A series of peridotite bands have been interpreted on the strength of the high magnetics and the location of an outcrop of peridotite at Anomaly 19. Heavy E-W shearing in the peridotite as well as the presence of a talcose tuff south of Anomaly 16 indicate the presence of a strong fault zone to the north. This zone has been postulated along the north edge of the peridotite. Westward its location becomes obscure and broad limits define the fault. The area south of the peridotite bodies is characterized by low magnetics with numerous, moderately magnetic masses, many of them striking NW. A number of irregular masses indicated by Anomalies 77 to 81 and 35 to 37 may be caused by intrusives with accompanying alteration.

Westward, the area is composed magnetically, of complex highly magnetic masses surrounded by broad magnetic lows. The highly magnetic masses consist of numerous individual, parallel, highly magnetic bands. These can be correlated with amphibolitized lavas in the extreme west. Thus by analogy, it is likely that they all are caused by a similar condition. Anomalies 52, 53, 54 have been interpreted as diabase dikes.

CONCLUSION

Of interest is the proposed extension of the E-W fault zone for possible gold deposition. The bodies of peridotite should be investigated for asbestos. Further exploration by diamond drilling is necessary.

Respectfully submitted,

H. Reimer

H. Reimer,

January 12, 1951.

lj

APPENDIX I

In the appendix the interpretation will be discussed in greater detail.

Of most interest is the eastern surveyed area consisting of 22 claims. The outstanding feature is the three main anomalous masses, indicated by Anomalies 5 to 19 inclusive, as well as Anomalies 28, 49, 50, and 50A. Due to the extreme magnetic gradients these anomalies were contoured to 100 gamma intervals only up to the 5,000 gamma level. Above this an interval of 1,000 gamma was used. Anomalies 5 to 19 indicate a continuous zone with greater complexity at Anomalies 5 to 14. Here, three highly magnetic bands are indicated whereas Anomalies 15 to 19 indicate only one narrow band. Two cross faults have been interpreted between Anomalies 19 and 18 and between 18 and 18A.

At 1,800 feet Nr on Line 408 occurs an outcrop of serpentinized peridotite with heavy shearing on the north side. At 1540 feet N on Line 384 outcrops of talcose tuffs were found. This puts the tuffs just south of Anomaly 16. Anomalies 15 to 19 have been interpreted as a tabular body of peridotite. It is highly probable that Anomalies 5 to 14 inclusive, and Anomalies 28, 49, 50, 50A can likewise be attributed to peridotite.

The heavy shearing striking E-W at the northern edge of the peridotite outcrop indicates the presence of a major shear or fault zone. It is possible that an old "break" existed, controlling the intrusion of the peridotite. Later movement on the fault caused the shearing within the peridotite. The presence of the talcose tuffs also indicates the presence of a shear nearby. The proposed fault zone has thus been interpreted as lying within the peridotite, possibly near the north contact of Anomalies 15, 17, 19, 18, 18A. Westward, the extension of the fault zone becomes rather obscure and wide limits between Anomalies 1 and 14 have been selected as the most probable section through which the fault might pass.

A gap in the magnetics exists between Anomaly 15 and Anomalies 7, 14, and 13. At Anomaly 15 only one narrow band exists whereas Anomalies 7, 14 and 13 indicate at least three parallel and extremely magnetic bands. The highest recorded reading is 28,172 gamma, approximately 25,000 gamma above the base readings. Many off scale values are also indicated. Depth estimates for Anomaly 7 gave $160' \pm 20\%$. Hollinger drilling in the vicinity of Anomalies 13 and 14 gave a depth of overburden of 175 feet. Thus a considerable amount of magnetite must be available to cause anomalies of such intensity with above-mentioned depths.

Anomalies 5 to 19 indicate an E-W trending structure. On the other hand, Anomalies 28, 49, 50, and 50A indicate a trend of N 80° W at 50A swinging to NW at 28. On the speculative side one might consider the possibility of the peridotite indicated by Anomalies 28, 45, 50, 50A as having intruded a subsidiary fault which swings into the main fault zone. This might account for the complexity of the magnetics in the vicinity of Anomalies 5 to 14. The NW direction is parallel to shearing found to the west.

Aeromagnetism indicates that the peridotite belt extends an additional 3,000 feet west of the property and possibly 5 miles to the east. This gives the belt an E-W extent of about 8 miles. The eastward extension appears to be quite straight and narrow and uninteresting, both from an asbestos viewpoint and gold deposition. From an asbestos point of view, the area west of Anomalies 17 and 19 to a point about 3,000 feet west of Anomalies 8 to 12 is of interest. If possible additional claims along this zone should be acquired. As regards gold deposition, the proposed extension of the E-W fault zone should be of interest.

South of Anomalies 1 to 19 (excluding Anomalies 28, 49, 50, 50A) lies an area of low magnetism with numerous minor, moderately magnetic bodies. This area is probably underlain by relatively non-magnetic flows with minor magnetic highs, representing alteration. A large hill of diabase is known in the vicinity of Anomalies 46, and 47 which appear to be in the diabase. However, much of the diabase lies in the magnetic low to the east. One interesting feature noted is that strong shearing striking NW has been noted about 1,200 feet due north of Anomaly 61. This direction parallels many of the weak magnetic masses such as Anomalies 44, 45, 46, 47, 65, 22 and 27. It is possible that these represent alteration controlled by shearing in a NW direction. A number of extremely irregular anomalies occur, e.g., 77 to 81 and 35, 36 and 37. These may be caused by intrusives with associated alteration. Anomaly 66 is parallel to the west side of Anomalies 35, 36 and 37 and may be of a related nature. North of Anomalies 1 to 19 lies a broad belt of sediments. It is not known whether they form the north contact of the peridotite. It is quite possible that they do.

The remainder of the area extending west of Anomalies 61 and 76 indicates a series of E-W highly magnetic masses composed of narrow individual, highly magnetic bands. Anomalies 86 to 102 inclusive have been correlated with a series of amphibolitized lavas. Anomaly 93 is apparently caused by peridotite. Northward, the magnetic low indicates less altered lavas. A similar condition appears to exist in Anomalies 55 to 61 and 70 to 76 indicating altered lavas with less altered lavas lying in the magnetic lows. Three N-S diabase dikes have been interpreted as causing Anomalies 52, 53 and 54.

Between Anomalies 61, 62, 76 and Anomalies 43, and 77, a fault striking NW has been interpreted by Gulf Research and Development Company, (Memo to Dr. L. J. Peters, April 11, 1950) from aeromagnetism. This has been borne out geologically by the location of a heavily sheared outcrop at 1200 feet N of Anomaly 61, with shearing striking NW. Ground magnetism indicates a definite change in magnetic characteristics across the proposed fault. East of Anomalies 43 and 77, many of the moderately magnetic masses trend roughly NW. Only the peridotite in the north and a few other anomalies strike E-W. West of Anomalies 62 and 76, the predominating magnetic trend is E-W. Thus a fault of considerable offset, probably much of it vertical is indicated. Since there are many magnetic trends parallel to the noted shear direction, it is likely that they are caused by alteration controlled by the NW shear direction. This would suggest that the fault would be older than the latest hydrothermal activity in the area.

CONCLUSIONS

The possible extension of the E-W fault zone has been indicated.

If suitable conditions along this zone occur for gold deposition, then it will definitely be of economic importance. No such indications exist at present except for the possibility of a subsidiary fault coming in from the south to form a junction. However, the occurrence of peridotite and the presence of the highly magnetic bodies interpreted as peridotite makes this an area of considerable interest for asbestos.

It is recommended that Anomalies 14, 49 and 15 be tested by diamond drilling to determine the asbestos possibilities. These locations also would serve to investigate the possible extension of the fault westward through Anomaly 15 and possibly north of Anomaly 14. Anomaly 49 may indicate the position of a subsidiary fault which may be of interest. If the speculation of a subsidiary fault is borne out, the junction with the main E-W fault would be of considerable interest, both for gold and asbestos.

In addition, to drilling, the acquisition of more ground, where and when possible to cover the area between Anomaly 15 and Anomalies 7, 14, and 13 is recommended. The westward extensions of Anomalies 8 to 12 should also be acquired if possible.

Respectfully submitted,

H. Reimer

H. Reimer,

January 12, 1951.



INTERPRETATION OF
GROUND MAGNETOMETER SURVEY
DENTON TOWNSHIP, ONTARIO
CLAIM P-35723

Geological mapping by F. J. Sugden, Dominion Gulf Company, on Claim P-35723, Denton Township, Ontario, failed to reveal any outcrops which could be used to determine geological structure on this claim. Accordingly a ground magnetometer survey was carried out in the area.

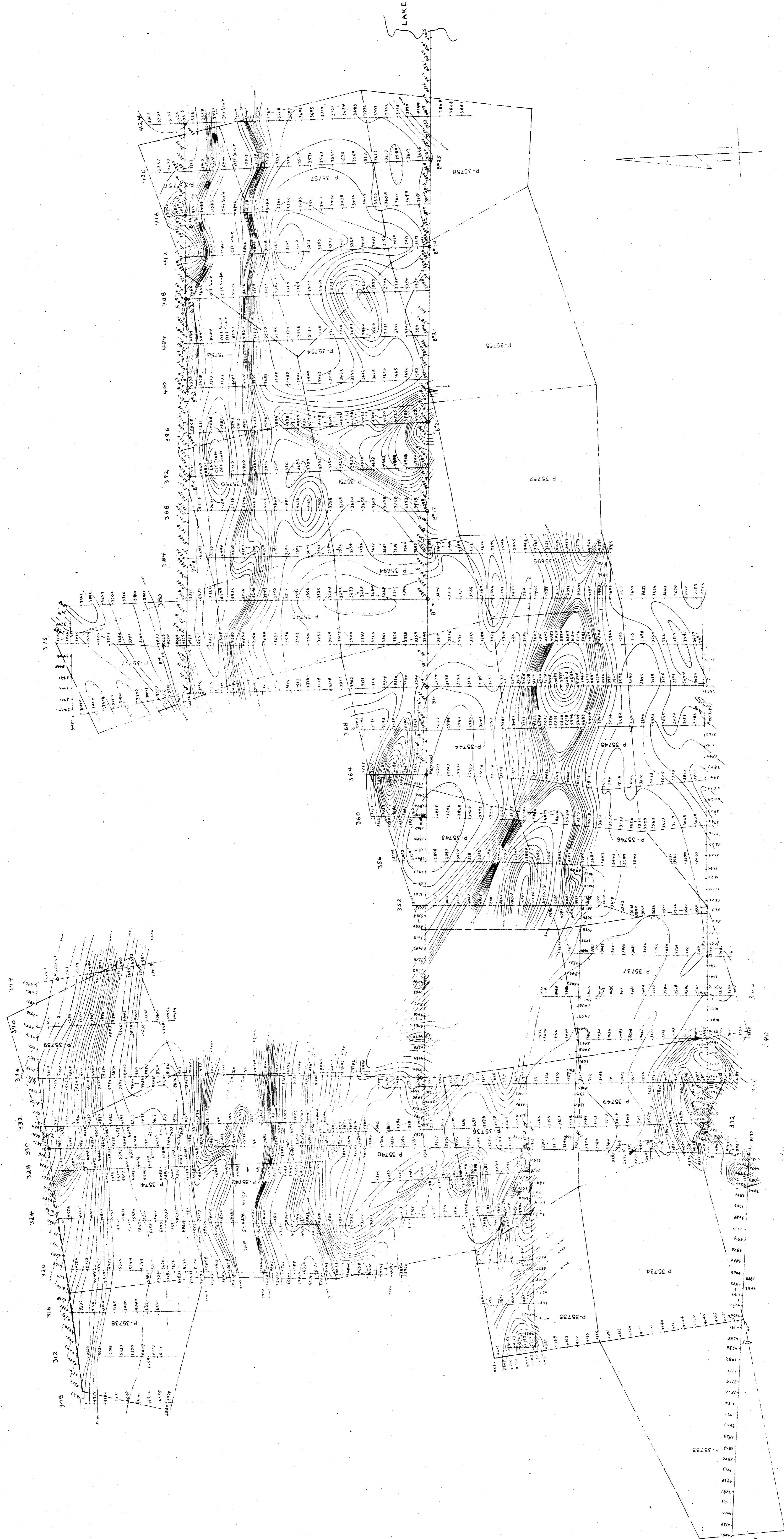
Control for the survey was provided by eight picket lines, requiring a total of 12,800 feet of cutting and chaining. The vertical component of magnetic intensity was read at 111 stations in the claim area with an Askania Schmidt type magnetic balance.

Results of the survey indicate that the southern part of the area is magnetically uniform. A tongue of more magnetic material extends in an east-west direction across line 206 E, 210 E and 214 E, 1100 feet north of the base line. This tongue, which is open to the east, appears to cut off abruptly between lines 202E and 206E. Another tongue of more magnetic material is indicated on line 202E, 1400 feet north of the base line. This anomaly is open to the west and appears to cut off sharply to the east between lines 202E and 206E.

One might speculate on the significance of the sharp cut-offs on the two above noted anomalies. The possibility of a fault cutting the two more magnetic masses displacing the west side north must be considered. On the evidence at hand such an interpretation is dangerous and must be regarded as strictly in the realm of speculation.

The area appears to lie in the andesite belt just south of the andesite, sediment contact mapped by Mr. Sugden in 1950. The occurrence of the magnetic anomalies appears to substantiate the belief that the area does lie within the andesite belt. Furthermore, the regularity of the anomalies and the suggestion of shallowness to bedrock (less than 100 feet) imply that the anomalies are not caused by a secondary magnetite but rather by a more massive structure. Thus the possibility that the anomalies may be caused by a faulted intrusive is presented as a final speculation.

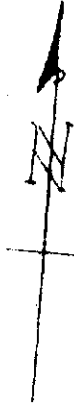
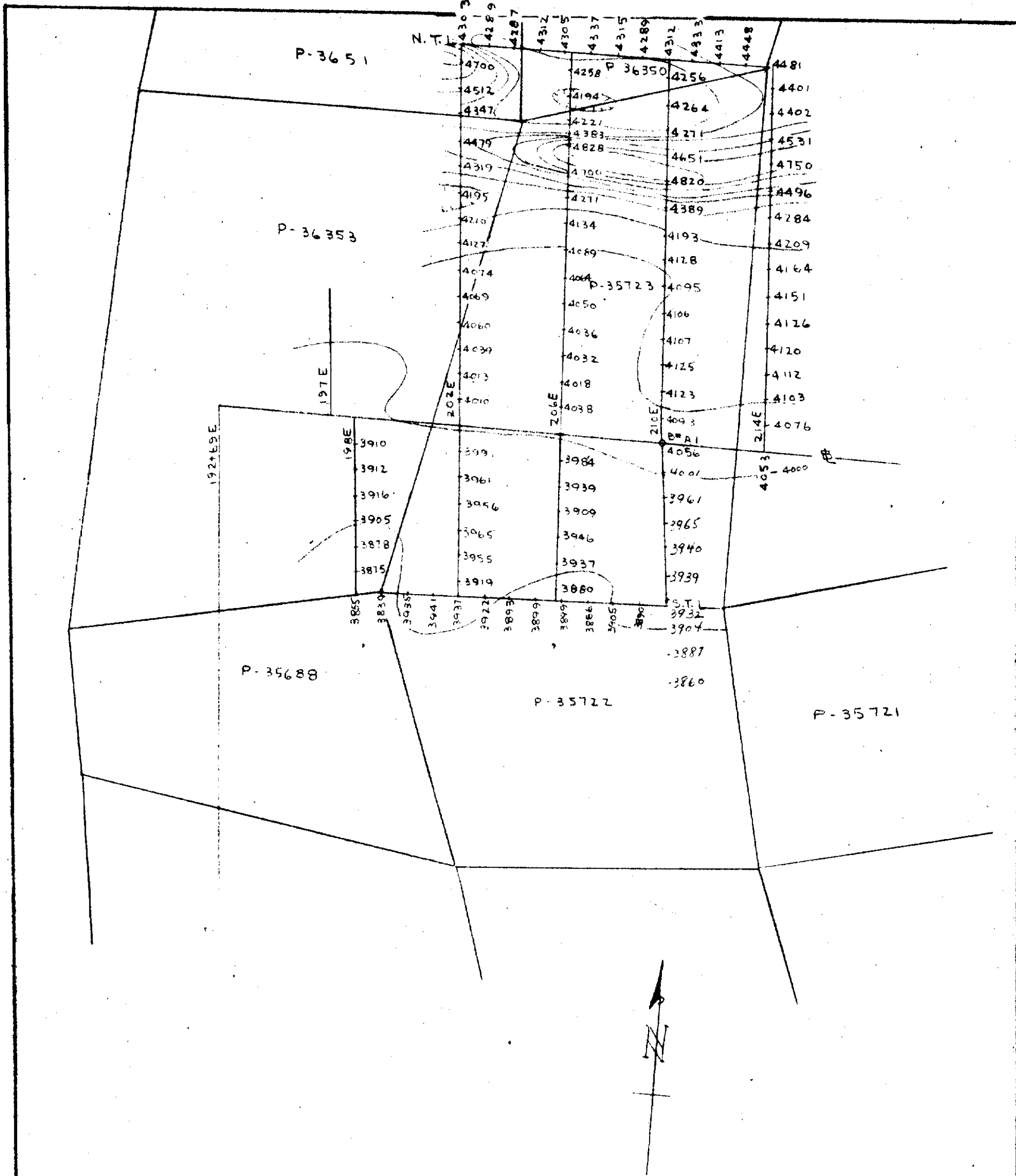
John H. Ratcliffe.



DOMINION GULF COMPANY
CONTOURED GROUND MAGNETICS
DENTON-THORNLOE T.W.P.S. CLAIMS

PROVINCE OF ONTARIO
 SCALE 1 INCH = 400 FEET DATE JANUARY 12, 1951
 TO ACCOMPANY REPORT BY H. REIMER
 CONTOUR INTERVAL - 100 GAMMA





DOMINION GULF COMPANY
MAGNETOMETER SURVEY

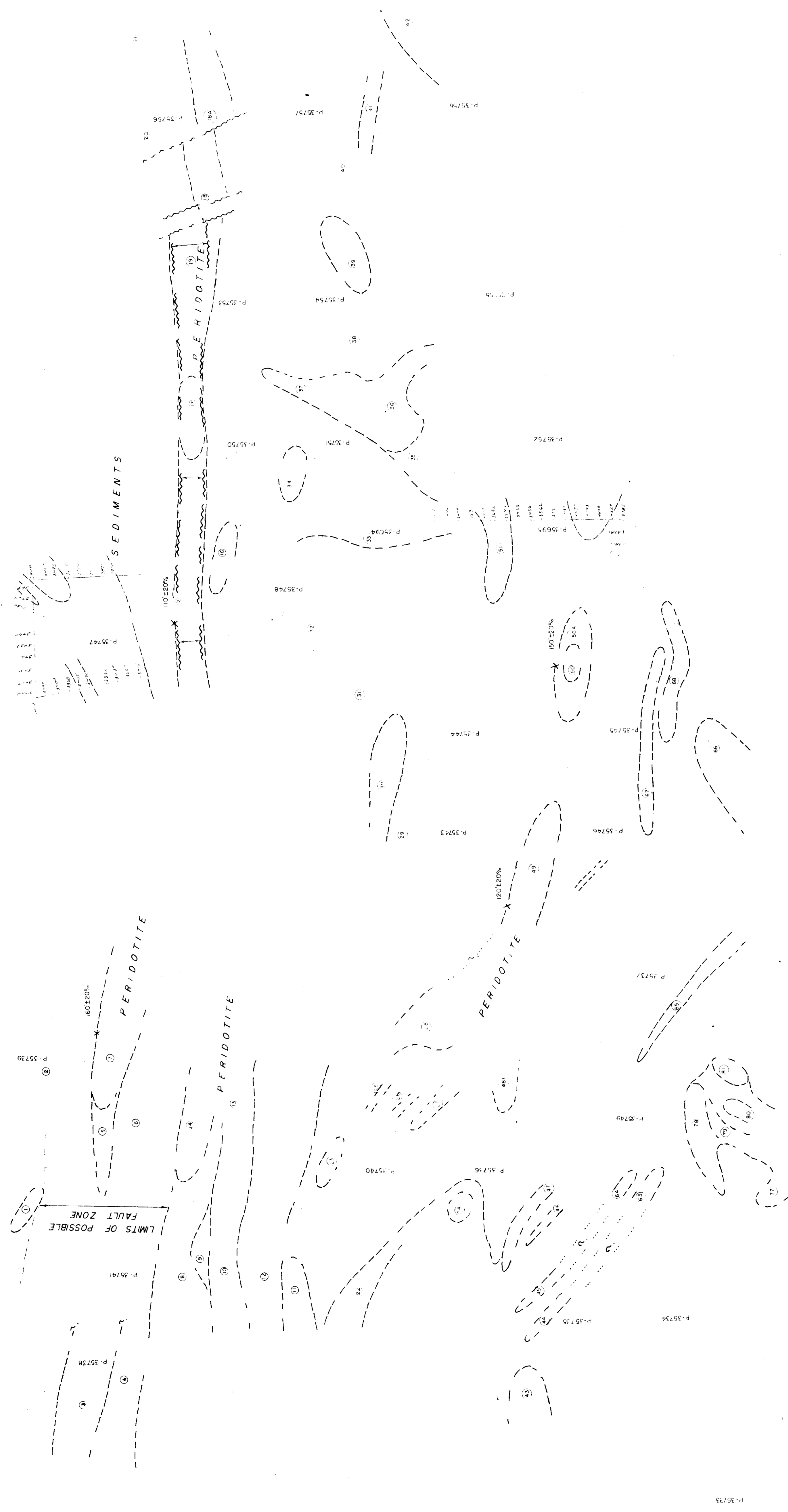
DENTON-THORNLOE TWPS CLAIMS

PROVINCE OF ONTARIO

SCALE-1 INCH= 400 FEET DATE-MARCH 30, 1951

OPR. W. WHITFORD
ASST. R. JUTRAS 63.246





LEGEND

- Fault indication
- Fault limits, Ecton unshaded
- Contacts outlined
- Anomalous numbers for ease in reference
- X 1:50,000 Each 10 magnetic units with probable error

INTERPRETATION OF GROUND MAGNETICS

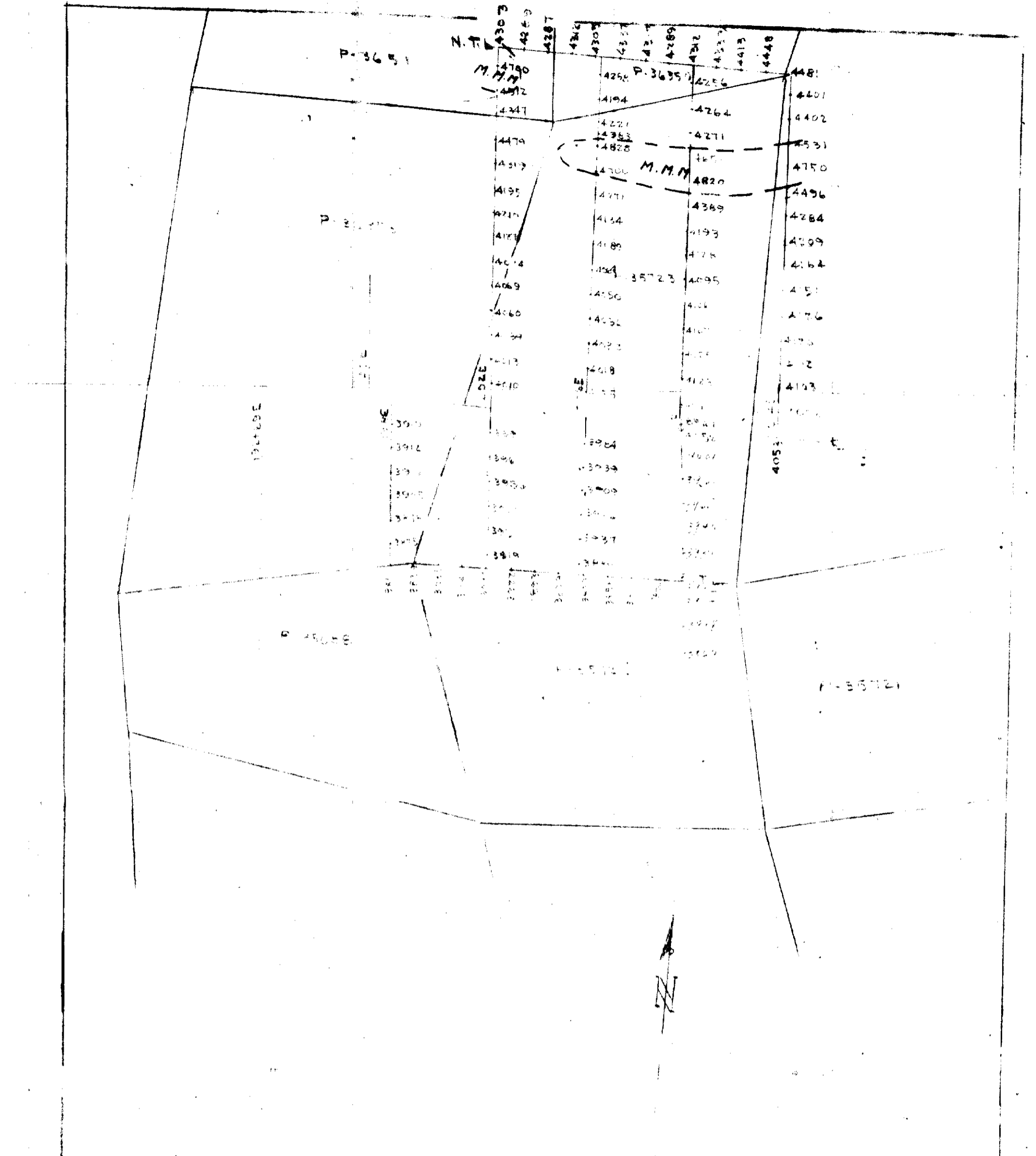
CONDUCTED BY GULF COMPANY

PROVINCIAL OFFICE OF ONTARIO

SCALE: 1 INCH = 40 MILES DATE: JANUARY 12 1951

TO ACCOMPANY REPORT BY H. R. R. R.





DOMINION GULF COMPANY
 MAGNETOMETRIC SURVEY

DENTON-THOPELDE TOWNSHIP CLAUDE

PROJECT NO. 121110

SCALE - 1 INCH = 400 FEET DATE - MARCH 10, 1957

DR. W. W. WHITEFORD
 ASSISTANT SURVEYOR

— — MAGNETIC CONTACT
 M.M.M. MORE MAGNETIC MASS



42A05SE0097 63.246 DENTON