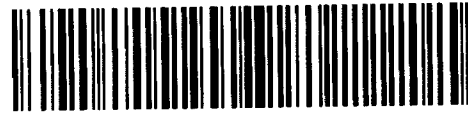


REPORT NO. 133

COPY NO. I



42A10SW0138 63.26 STOCK

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REPORT ON A GEOMAGNETIC SURVEY

OF THE

CLAVOS PORCUPINE MINES LTD.

PROPERTY



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SUMMARY

A geomagnetic survey of the property of Clavos Porcupine Mines Ltd. has outlined two anomalies interpreted as the expression of sediment-greenstone contacts along or near which shearing has resulted in production of talc-serpentine zones.

Since the favourable zones for gold mineralization lie on the greenstone side of the anomalies in this area, acquisition of more property on the north and south is recommended since the anomalies occur near the boundaries of the property.

Should it be desirable to drill immediately, a preliminary diamond drilling program has been suggested to explore the outer anomalies.

REPORT ON A GEOMAGNETIC SURVEY OF THE
PROPERTY OF CLAVOS PORCUPINE MINES LTD.

INTRODUCTION

The property of Clavos Porcupine Mines Ltd. comprises 28 claims (L37438-37442, L37454-37455, L42605-42609, L43304, 44131, 44132, ⁴²²³³ P29600-29605, P28977-28981,, P29895) located in Concessions IV, V and VI, Lots 10, 11, 12 Stock Township; Concessions IV, V, VI, Lots 1 and 2, German Township, Ontario.

In August 1945, a geomagnetic survey was undertaken to delineate the geological features of the bedrock which is here shown overlain by a thick layer of sands and clays.

Geomagnetic field work was conducted by G.E.Noakes using as control a grid composed of north-south picket lines extending north and south at 400' intervals from the surveyed baselines. The north baseline coincides with the boundary between concessions VI and V, German Twp. and runs parallel to and about 30 feet south of the concession line in Stock Twp. which is entirely overgrown. The south baseline coincides with the north boundary of claims P29604, 29605 and runs westward from a point on the west boundary 2800 feet south of 0-0 on the north baseline. Magnetic observations were made at 100 foot intervals along picket lines with closer spacing of observation points over areas of magnetic disturbance.

GEOLOGY OF THE AREA

No outcrops occur on the property which is completely covered with deep overburden. Keewatin volcanic rocks are exposed in scattered outcrops along the north boundaries of German and Stock Townships, the nearest of these being about 1600 feet from the north boundary of the Clavos property. To the east and west no rock exposures are shown on available maps completely across German and Stock Townships.

From a projection of the broad regional geology and from information from scattered drill holes it has been assumed that the northwestern corner of Stock Township and the northeastern corner of German Township are underlain by Temiskaming sediments occurring near the confluence of two large belts of sediments, the southern of which extends eastward through Whitney, Matheson and German Township, the northern belt trending across northern Hoyle, Matheson and German Townships. A belt of Keewatin volcanics has been presumed to exist between the sedimentary belts, the eastern end of which is shown * to enter Stock Township in Concession III Lot 12. The boundaries of this belt are conjectural.

A series of four diamond drill holes in a northwest-southeast direction across claims L37455, 37439, 37442 and 37440 encountered only sediments except D.D.H. 5 in claim 37440 where serpentized gabbro and serpentized sediments, were intersected.

* Ont. Dept. Mines - Map No. 1931a.

GEOMAGNETIC RESULTS

Geomagnetic features of the area are illustrated in the accompanying map on which relative magnetic intensities are shown in the form of profiles along individual picket lines. The value of magnetic intensity in gammas is shown at each observation point.

The geomagnetic survey has outlined two anomaly zones both trending in a general east-west direction.

Near the north boundary of claims P 29895 and 29600 an east-west trending anomaly can be traced completely across the claims and reappears in claims L37440 and 37442, where it is of much greater intensity rising to values of 4260 gammas as compared to a maximum of 654 gammas in claim P 29600. The anomaly fades to the east but can be traced by a series of rather vague highs across L 37438 and 37454. Near the ~~west~~^{East} boundary it again increases in intensity with a marked anomaly on line 92 ~~EE~~.

This anomaly is interpreted as the expression of the contact of sediments to the south and greenstone to the north along which shearing has taken place with the production of a serpentized talcose zone of rocks. In places the shear is mineralized and produces strong anomalies especially where overburden is relatively shallow as in claim L 37440. This conclusion is substantiated by the results obtained from D.D.H.5 which encountered a zone of serpentization. Unfortunately, this hole was drilled practically along strike and down dip and does not completely section the zone.

Along the south boundaries of claims P 29604 and 29605 in German Township, a strong anomaly can be traced for about 2500 feet from the west boundary of claim P 29605, in a direction slightly south of east to the south boundary of the property. Obviously this anomaly continues to the southeast beyond the property boundary. Magnetic intensity along this anomaly reaches a maximum of 1312 gammas on line 4 West. Data on this anomaly is incomplete since part of the southern flank lies outside the limits of the survey, but available information suggests that this anomaly indicates a zone of shearing, possibly occurring along the north contact of a greenstone tongue.

Apart from the anomalies described above, the remainder of the property shows no magnetic features of significance. Diamond drilling has indicated slightly mineralized zones within the sediments, in places with associated gold values, but these are either too small or too diluted to effect the magnetic field appreciably and no major shears or mineralized zones are indicated magnetically in the interior of the property.

RECOMMENDATIONS

Both anomalies warrant exploratory diamond drilling but since both occur near the boundaries of the property, and the favourable zone for gold ore is known to be on the greenstone side of the anomaly in this area, it would be advisable to safeguard possible discoveries by acquisition of more property to the north and to the south of the anomalies. It would be a simple matter to extend the geophysical traverses to survey such ground.

The following preliminary program of drilling
is suggested if it is desired to commence immediately:

Hole No.	Location	Direction	Dip	Length	Over- burden
1	2630' N 4800' E N baseline	Due S	55°	1000'	50-75'
2	900' S 400' W S baseline	Due S	55°	750'	70-100'

Respectfully submitted,

John H. Low.

John H. Low
Geologist & Geophysicist.

N.B. Keevil

N.B. Keevil
Consulting Geophysicist.

September 19, 1945.

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Report No. 171



42A10SW0138 63.26 STOCK

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Report on a Geomagnetic Survey of Part of the Property of

CLAVOS PORCUPINE MINES LIMITED

German and Stock Townships, Province of Ontario.

SUMMARY

A geomagnetic survey of the northern part of the property of Clavos Porcupine Mines Ltd. has outlined seven pronounced magnetic anomalies of irregular shape considered to indicate bodies of gabbro wholly or in part serpentinized. No immediate recommendations are made regarding further drilling of these anomalies pending results of drilling in progress on a similar type anomaly located in Claim A 37440.

The contact between sediments and volcanics in Claim L-42729 is approximately indicated by a broad relatively low anomaly trending about east-west.

No anomalies were encountered which might be considered indicative of the presence of the "Pipestone Fault" zone and a cross-sectional diamond drilling program of a selected zone designed to intersect it if it crosses the property has been suggested.

Report on a Geomagnetic Survey of Part of the Property of

CLAVOS PORCUPINE MINES LIMITED

German and Stock Townships, Province of Ontario

INTRODUCTION

A previous report (No. 133) discussing the results obtained from a geomagnetic survey of the southern portion of the Clavos property stated that most of the southern portion was underlain by magnetically featureless sediments. Greenstones were indicated near the north and south boundaries in which magnetic anomalies occurred, the strongest of these anomalies lying about two hundred feet south of the north boundary in Claim L-37440 and trending slightly north of west. This anomaly was interpreted as the magnetic indication of a serpentinized sheared zone or gabbro body, the presence of which had been suggested by the results of previous drilling in the area.

The present survey was designed to locate the northwesterly extension of this anomaly and any others of similar nature in the greenstone area lying to the north; and if possible to find and trace the westerly continuation of the shear zone which is reported to be located about three miles to the east, on the Montolerg and Wilcarr properties, and which is believed to be the continuation of the "Pipestone Fault"; and to confirm the location of the volcanics-sediments contact across Claim L-42729 which was not included in the previous survey of the southern portion of the property.

LAND SURVEY

The present survey covers Lots 1, North 1/2 Concession VI German Township, Lot 12, North 1/2 Concession VI, Stock Township (excluding Claim L-42233) Claim L-42729 and Lot 10, North 1/2 Concession VI, Stock Township.

The baseline for the northern portion of the property (Baseline B) lies exactly 2640 feet north of, and parallel to, the baseline employed in the

thern part of the property. Its location was established by surveying a due north line from O-O on Baseline A. At a point 2640 feet north of O-O Baseline B was turned off in a due east direction.

North-south picket lines at 200 foot intervals were put and chained across the north halves of Lot 1, Concession VI German Township, and Lot 12, Concession VI, Stock Township and Claim L-42729. Lines were spaced at 400 foot intervals across the south 1/2 of the North 1/2 of Lot 10, Concession VI with every second line extended to the north boundary of the property.

In the course of the survey, claim posts were observed lying 120 feet north of Baseline B on line O-O and indicating the centre line of Concession VI, German Township, as staked. The north boundary of the south portion of the property as shown in our map of September 19, 1945, therefore, coincides with the baseline of the present survey and not with the south claim line shown.

The north boundary of the property in Lot 1, Concession VI, German Township has been shown exactly 1/2 mile north of the North boundary of Claim P-29895. However, a survey line considered to be the Dundonald-German Township line observed about 370 feet further north, probably represents the true north boundary.

GEOMAGNETIC RESULTS

In the previous survey, where magnetic relief was generally low and uniform, results were shown in the form of a geomagnetic profile map. In the present work, however, many high anomalies were encountered. The results, therefore, are more clearly displayed by geomagnetic contours. To provide continuity between the northern and southern map sheets, however, the northern part of the southern map sheet has also been contoured and shown on the northern sheet.

As shown on the accompanying map several large, irregularly shaped anomalies were encountered. Six of these occur in the western portion of

pe property and appear intermittently along zones trending irregularly north of west. Strongest magnetic intensity is reached on lines 0 and 2-E about 1840 feet north of the baseline where a peak of over 6,000 gammas occurs. Generally, however, the peaks range between 1500 and 3000 gammas.

In the south-eastern corner of Lot 10, North 1/2 Concession VI, Stock Township, an anomaly similar in character to those described above extends for about 1600 feet in a northeasterly direction and apparently continues to the northeast beyond the property limits.

Two smaller anomalies closely associated with the large peaks occur at 1100' N on line 102-E and between 900 and 1500 feet north on Lines 32-E and 34-E.

A broad positive anomaly of relatively low intensity trends east-west across Claim L-42729 merging to the east with a high anomaly zone.

GEOLOGICAL INTERPRETATION

The northern portion of the Clavos property is underlain, for the most part, by volcanic rocks, their contact with sediments to the south occurring on the southern flank of the broad, relatively low anomaly which crosses Claim L-42729. The depth of overburden in the vicinity of the contact has had the effect of flattening the anomaly to such an extent that accurate definition of the contact is not possible, and the contact as shown should be considered as approximate only. For the most part, the bedrock is covered by a considerable thickness of overburden and the magnetic field over the volcanics is quite uniform except where outcrops occur, as on line 52-E between 650 and 900 feet north of the baseline where readings become more erratic. ✓

The strong magnetic anomalies encountered are believed to indicate the presence of gabbro bodies partly or completely serpentinized and with associated magnetite and sulphide mineralization. The alignment of these bodies in

ones roughly parallel to the regional strike, suggests that they are portions of large irregular sills, which penetrate to the surface of the volcanics only in the areas indicated by the anomalies, but some may be continuous at depth.

A small dike-like offshoot from the large body in the south-eastern corner of Lot 1, North 1/2 Concession VI German Township is suggested by the narrow anomaly which branches to the northeast.

Drilling on the large anomaly in Claim L-37440 encountered sulphide mineralization associated with serpentine, and similar mineralization would be expected to occur in connection with the anomalies of this type outlined by the recent survey.

No anomalies possibly indicative of the Pipestone or other fault zone were encountered due, perhaps to interference caused by the strong magnetic fields of the gabbro-serpentine bodies. It is understood that the delineation of this fault on the Montclerg property was arrived at indirectly through contortion of north-south anomalies and not from the existence of an anomaly over the fault. No such north-south anomalies occur on the Clavos claims and the existing anomalies are too irregular to justify the use of them as marker horizons for determination of east-west movement.

RECOMMENDATIONS

The decision to investigate more fully the anomalies in the Northern part of the property will depend to some extent on the results obtained in drilling of the zone in L-37440 and it is, therefore, advisable to withhold specific recommendations in this regard until the final results of the present drilling program are forthcoming.

Cross-sectional diamond drilling of a selected area is suggested as the best means of locating the Pipestone fault zone if it crosses the property. Assuming that the trend of this zone is approximately parallel to the trend of the sedimentary-volcanic contact it would appear that cross-sectional

Drilling in the northwestern part of the property commencing at the north boundary and working south, would have maximum probability of encountering the zone. This, however, is the very region in which most of the gabbro-serpentine bodies are indicated geophysically. Since these might seriously interfere with the drilling and limit the lateral extent of any part of the zone encountered, a section along the lines A-B, B-C, C-D (as shown in the map) in Lot 12, Concession VI, Stock Township would appear to be the best choice for a series of sectioning diamond drill holes. This would involve about 4600 feet of drilling assuming a dip of 50° for each hole.

Respectfully submitted,

MINING GEOPHYSICS CORPORATION LIMITED

N. B. Keevil per *J.H.L.*

N. B. Keevil
Consulting Geophysicist.

John H. Low

John H. Low
Geologist and Geophysicist.

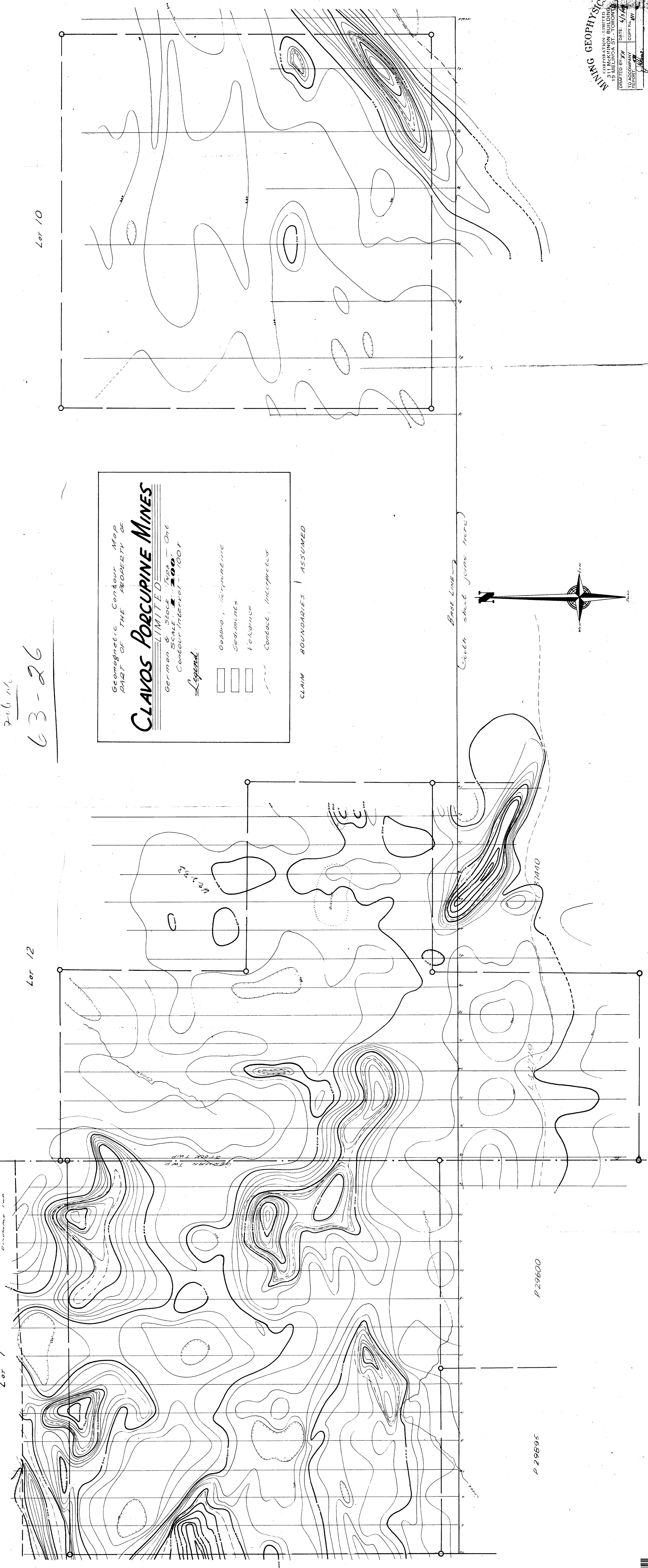
March 6th, 1946.

To *Beaumont*
 7-6-46
 63-26

Lot 1

Lot 12

Lot 10



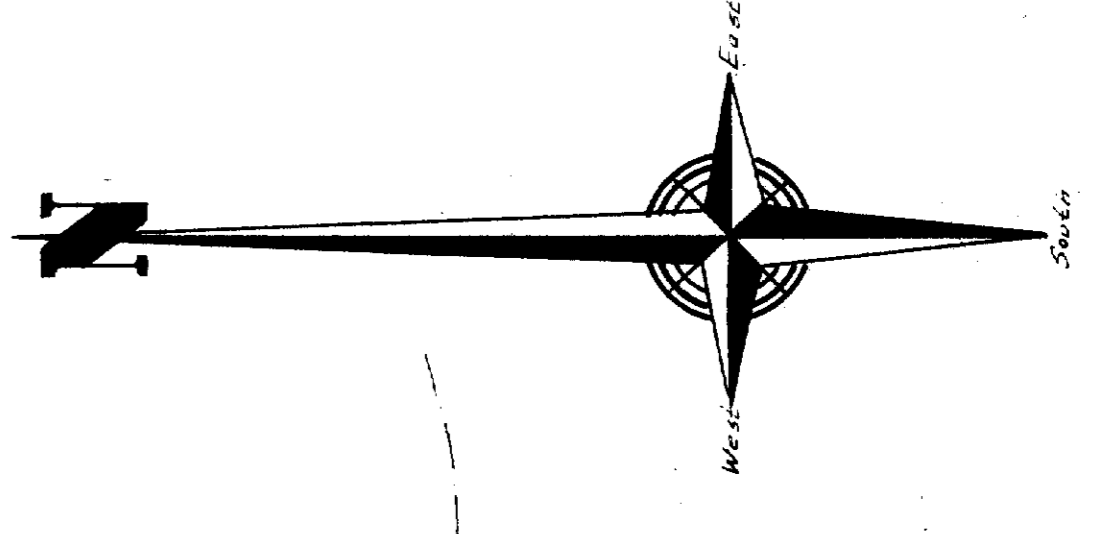
Geometric Contour Map
 PART OF THE PROPERTY OF
CLAVOS PORCUPINE MINES
 LIMITED
 German & Stock Twp., Ont.
 Contour Interval - 100'

Legend:

- Gabbro, Serpentine
- Sediments
- Volcanic
- Contact, Interpreted

CLAIM BOUNDARIES | ASSUMED

BASE LINE
 (with shed joins here)



GERMAN TWP.

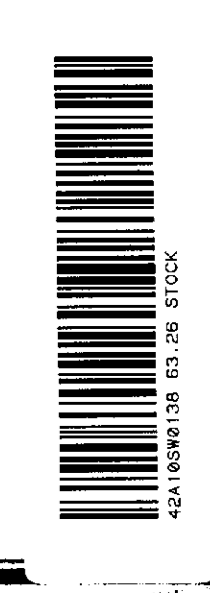
STOCK TWP.

P 29600

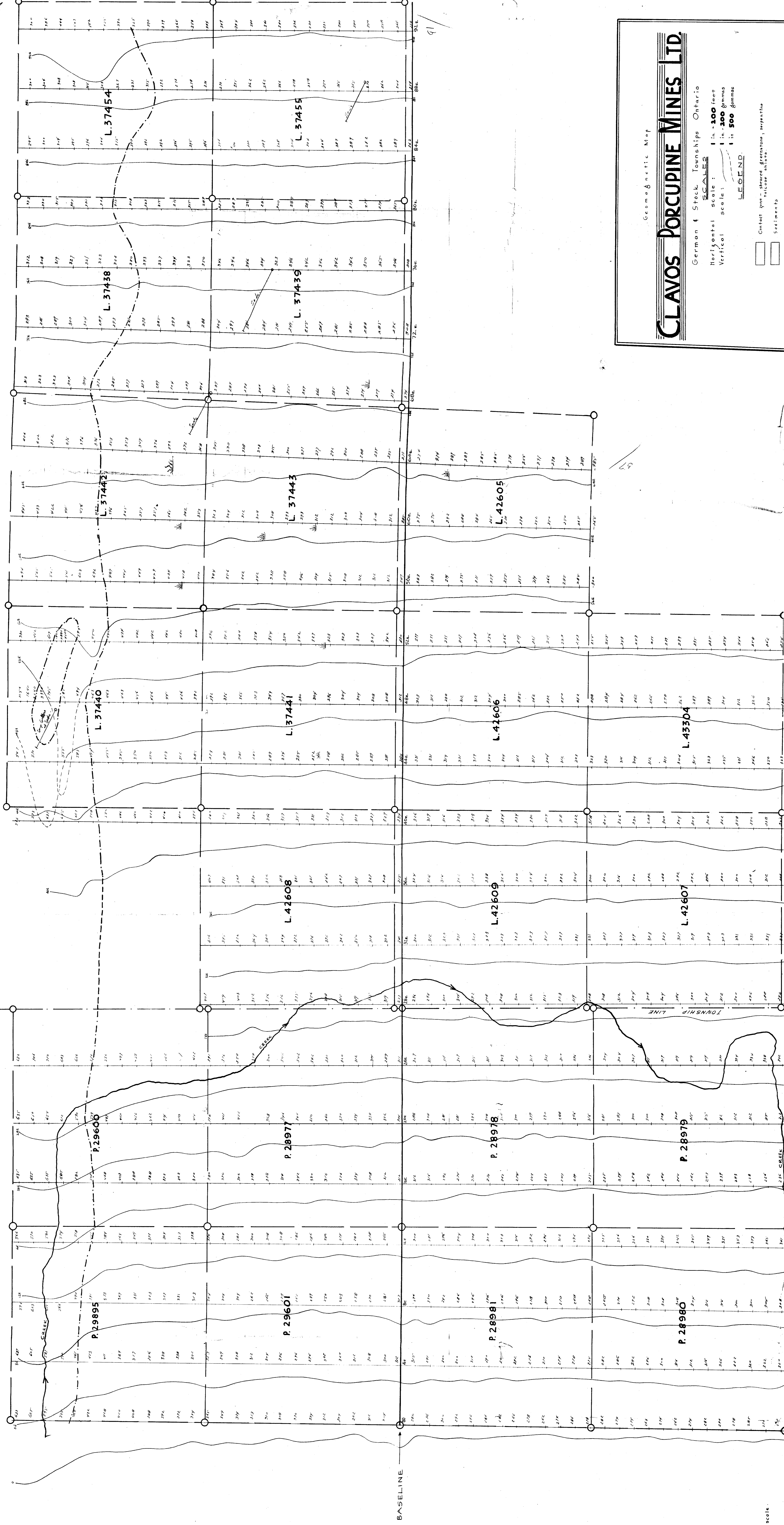
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CON. VI

MINING GEOPHYSICS
 CORPORATION - LIMITED
 311 MCKINNON BUILDING
 19 MELINDA ST. TORONTO
 DRAFTED BY: JH DATE: 4/3/46
 PLS ACCOMPANY COPY NO. VII



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Geomagnetic Map

CLAVOS PORCUPINE MINES LTD.

German & Stock Townships Ontario

Horizontal scale: 1 in 100 feet
Vertical scale: 1 in 200 gamma
1 in 500 gamma

LEGEND

Contact zone - shown greenstone, serpentine
Tectonic shifts
Sediments

Note: Line 4N-24W inclusive on 500 gamma per in scale.

Geomagnetic Map

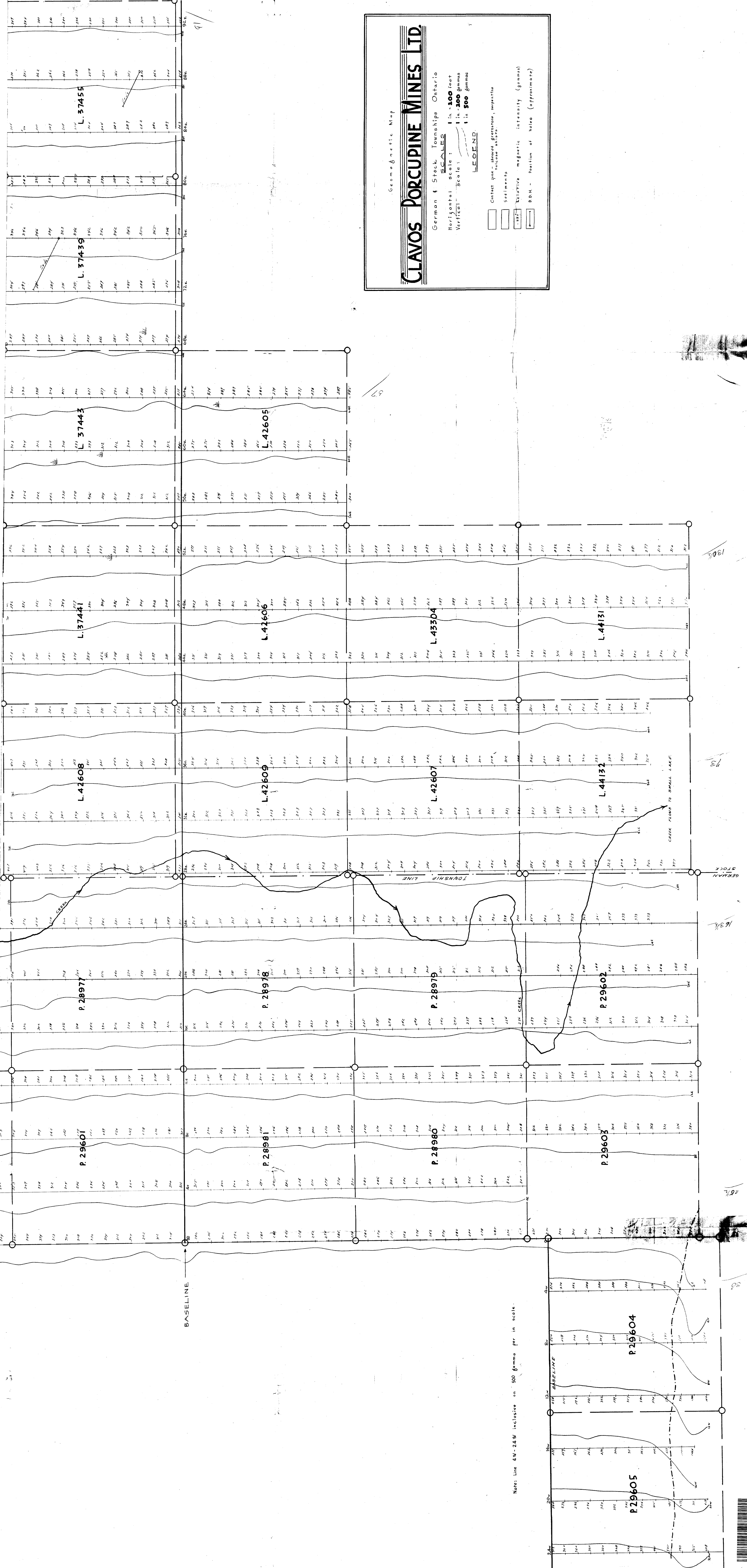
CLAVOS PORCUPINE MINES LTD.

German & Stock Townships Ontario

Horizontal scale: 1 in = 100 feet
 Vertical scale: 1 in = 200 gamma
 1 in = 500 gamma

LEGEND

- Contact zone (shaded lightstone, separate)
- Sediments
- Relative magnetic intensity (gamma)
- DDH - Position of hole (approximate)



Note: Line 4W-24W inclusive on 500 gamma per in scale.

