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Kimasca Porcupine Gold Mines, Limited

(NO PERSONAL LIABILITY)
1101 TEMPLE BLDG.
62 RICHMOND ST. WEST
TORONTO 1. - CANADA

WAverley 5305

May 20th, 1946.

Messrs. W. D. Latimer & Co., Limited, 244 Bay Street, Toronto 1. Ontario.

Attention: Mr. W. D. Latimer, President

Dear Sir:

The following information incorporates Lundberg's geophysical report on Kimasca Porcupine Gold Mines, Limited property, along with Mr. E. K. Fockler's interpretation and recommendations for further development.

The Directors of Kimasca Porcupine Gold Mines, Limited have approved and arrangements are currently being made to implement the recommendations outlined by Mr. Fockler, with the initial diamond drilling campaign to be embarked upon immediately present negotiations for a drilling contract are completed.

Yours very truly,

Maraging Director.

KIMASCA PORCUPINE GOLD MINES, LIMITED.

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VICTORY BLOG. 80 RICHMOND ST. WEST TORONTO I, ONT.

REPORT ON

THE GEOPHYSICAL SURVEY OF

THE PROPERTY OF

KIMASCA PORCUPINE GOLD MINES LIMITED

THOMAS TOWNSHIP, COCHRANE DISTRICT, PROVINCE OF ONTARIO

DIGEST

The results of the magnetic survey show very uniform magnetic intensity over a large portion of the Kimasca property, so that little or no information as to the structure of the underlying rocks can be obtained here.

However, in the southern part of the property there are formations which possess magnetic characteristics which enabled us to trace them. Here beds of magnetic rocks may be followed from east to west across the claims, showing variations of strike ad possibly indicating a fault zone.

It will be necessary to drill some critical points on this indicated feature in order to determine its importance.

In the magnetic survey, a north-south striking high intensity anomaly was also indicated. Although no outcrops were found along this zone, from our experience in the Porcupine district, we suspect that this north to south trending anomaly is caused by a Keweenawan diabase dyke.

INTRODUCTION

During the period March 15th to April 10th, 1946, a magnetometer survey was conducted on the property of the Kimasca Porcupine Gold Mines Ltd.

The survey was made in search of such structural features that would aid in planning a drilling campaign for gold-bearing veins. It is possible to do this only if formation exists which may be used as a magnetic horizon marker.



HANS LUNDBERG

The property is located in the northwestern corner of Thomas Township, Cochrane District. It consists of 20 claims and one water lot No. 18. The claims are numbered as follows:

P. 31728 - 36 inclusive

P-31749 - 59 inclusive

The property lies about 18 miles east of Timmins on the south shore of Night Hawk Lake. It may be reached by boat or by plane.

Topography and Geology

About 50 percent of the property is on the Night Hawk Lake. The remaining area is generally low and swampy. It is intersected by the White Fish River, and a small creek which rises in a beaver pond in the north central section of the property.

Very few outcrops occur. These are shown on a map (numbered 49H) published by the Ontario Department of Mines and prepared by M. E. Hurst.

These outcrops are shown on the maps accompanying this report. They consist of basic tuffs and agglomerate and do not show any alteration or structural features such as shears or formational trends. Specimens from the outcrops were studied for magnetic content but did not give any positive reactions although some of them are adjacent to the formations that give cause to magnetic high anomalies. It would therefore appear that the magnetic formation is everywhere covered by drift.

THE GEOPHYSICAL SURVEY

General

The successful application of magnetic methods to prospecting for ore deposits and the solution of structural problems in drift covered areas depends upon the fact that all the minerals and metals forming the earth's crust possess character-

istic magnetic susceptibilities. Therefore, wherever deposits of magnetic material are encountered in large enough quantities, measurable magnetic anomalies will occur. The exact form of these anomalies and their relation to the deposits or formations causing them are factors that depend on the shape, size, distribution, depth, magnetic susceptibility and orientation of the body with respect to the earth's magnetic field, as well as the latitude in which it occurs and the amount of residual magnetism which may be present. In the final analysis, it is the complete anomaly and the relation of the magnetic highs and lows studied in conjunction with all available geological data that govern the final interpretation.

Owing to the many factors listed above which may influence the form of a magnetic anomaly, it is manifestly impossible to arrive ata corrective quantitative prediction of the grade and amount of mineralization causing the disturbance by merely examining the character of the anomaly to which it gives rise. A magnetic survey will locate concentrations of magnetic minerals. In some cases, these magnetic minerals may form an ore body. In others, they may be a constituen of an important rock formation which can be used as a horizon marker to deduce the location and trends of such structural features as faults, folds and unconformities. Where the magnetic susceptibility of two adjacent formations is sufficiently different, the approximate location of the contact may be determined.

It is obvious that in order to complete the geological picture by means of a magnetic survey, at least some rock has to be observed at key points. If, therefore, there are no outcrops, it is necessary to drill a number of short holes at certain key places to make a final interpretation of any magnetic survey.

Land Survey

The land survey was carried out under the direction of C.B. Alton. An east-west base line was cut across the southern part of the property, and from this, profile lines were turned off at 400 foot intervals and extended north and south of the base line. From the information on the map sent into this office by our engineer, the base line is not tied into any specific point. would be advisable to have this done so that our survey can be correlated with your property maps. If no survey points can b found nearby, a post should be set at 0+00; 80+00W and plainly marked so that it may be used, if necessary, to relocate the line, at a future date.

Methods

For the survey, a magnetic method was used. A sensitive variometer (Schmidt Balance, Askania type) adjusted to a sensitivity of 25 gamma per scale division, was employed to observe variations in the vertical component of the earth's magnetic field.

Intensity observations were made at 50 foot intervals along the profile lines. A total of 154,350 linear feet wasthus surveyed. 1,450 acres of land were examined by this method.

Personnel

Lloyd Leach carried out the magnetic survey.

RESULTS OF THE GEOPHYSICAL SURVEY

The Maps Nos. 14-242-1, 14-242-2

Map No. 14-242-1 drawn to a scale of 1 inch equal to 200 feet, shows the value of the vertical intensity in gamma units at each point of observation.

Map No. 14-242-2 drawn to the same scale, shows the interpretation of the magnetic trends by means of iso-dynamic lines. Zones of magnetic intensity

which have value between 1100 and 1200 gamma are assumed to be normal for the region, and are left uncoloured. Areas of intensities greater than 1200 gamma are coloured red. Greater deviation from normal is shown by deeper shades of colour.

Map No. 14-242-2 also shows the location of outcrops, lakes, streams and islands. The sections recommended for drilling are also indicated by a heavy full line.

A broken heavy line indicates the position of a probable fault, or the direction along which a well developed flexure may have occurred.

The Magnetic Results

Most of the area is magnetically uniform, suggesting that the rocks underlying this section are homogeneous in composition. This does not necessarily mean that they are similar in texture nor that shears are lacking. An electrical survey using a resistivity method will be needed to locate shears, if they are present.

In the southern part of the property there are extensive formations that possess traceable magnetic characteristics. Outcrops of agglomerate and tuff occur near and on the edge of the zones of high magnetic intensity. Tests of samples of these rocks showed no magnetite content and therefore we must assume that the formations causing the magnetic attraction must be of different composition and carry an appreciable amount of magnetite. The rock underlying the east-west trending magnetic zones is probably diorite or basalt.

Study of map No. 14-242-2 shows that there are two parallel or almost parallel magnetic zones of high intemity. These zones enter the property from the west with a trend slightly south of east until well past the east shore of Night Hawk Lake, where they appear to be offset towards the north. This offset may

be caused by a fault having a northeasterly strike. This line of probable faulting is shown on the map by a heavy broken line.

This offset could also be caused by a flexure in the formation. Whether the offset is caused by faulting or folding may not be important, but the presence of such a structural disturbance may have economic significance, since it may have formed openings favourable for the deposition of vein material. Therefore a zone along this offset should be investigated by drilling.

A north-south striking zone of slightly higher than normal magnetic intensity occurs between lines 72+00W and 68+00W. There are no outcrops along this zone, but from our experience in the Timmins Area, we would suggest that this type of magnetic zone most likely is caused by quartz diabase of Keweenawan age and therefore not of any economic significance.

A very narrow and rather short zone of high magnetic intenity occurs at 21+50N, 32+00W. This may indicate a shear carrying some magnetic mineralization, and should be tested by one drill hole.

Recommendations

It is recommended that the following sections be drilled for the purpose of determining the character of the rock underlying the east-west magnetic zone and to determine whether the offset of this zone is caused by a fault or a flexure. This geological information should furnish data on which to base your future prospecting program.

Section No. 1 From 200S to 100N line 9600W Section No. 2 From 200S to 550S line 9600W Section No. 3 From 100S to 900S line 8400W Section No. 4 From 0+00 to 700S line 7600W Section No. 5 From 200N to 900N line 6400W Section No. 6 From 2300N to 2000N line 3200W

Conclusion

In the magnetic survey, a highly interesting structure has been indicated where openings could have been developed favouring the formation of veins. The best place to look for shears or fracture zones in which vein deposition may occur, would be in the formations underlying the zones of high magnetic intensity, since it is in these zones that rocks differing in composition, and probably differing competently, should occur.

A preliminary drilling program has been recommended. If favourable results are obtained, a more elaborate drilling campaign may be outlined, based on the combined study of the geophysical results and those obtained in the preliminary drilling.

This report is respectfully submitted.

		HANS LUNDBERG	
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		Basil T. Wilson Chief Geologist	
Toronto, Ont. May 6th,			
1 9 4 6.	Approved	Hans Lundberg	

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E. K. FOCKI Mining Geologi TORONTO



80 Richmond Street West, May 8th, 1946.

The Directors, Kimasca Porcupine Gold Mines Limited, 62 Richmond Street West, Toronto 1. Ontario.

Dear Sirs:

Re; Geophysical Survey Results
KIMASCA PORCUPINE PROPERTY, Thomas Township
Nighthawk Lake Gold Area, Ontario.

Magnetometric mapping of the Kimasca Porcupine property in Thomas Township, Ontario is now completed and results are incorporated in a report with accompanying maps which have now been made available to the Company. The magnetic survey was conducted by Hans Lundberg geophysicists who collaborated with me in the interpretation of results obtained.

The property of Kimasca Porcupine Gold Mines Limited, constitutes a rectangular area of approximately 1450 acres comprising land and water location in the locality of the mouth of the Whitefish River which empties into the south-eastern end of Nighthawk Lake. Water location in Nighthawk Lake amounts to 528 acres, or approximately 35% of the property acreage. Land area, comprising 20 claims, is generally low and swampy with rock outcrop confined to a few shorelines exposures and small islands. Overburden is largely stratified clay of varying thickness, but probably not excessive in depth in the shore area. Exposed outcrop of volcanic tuffs and breccia.

the entire property was mapped magnetometricably along north-south profile lines spaced 400' apart and along which intensity observations were made at regular 50% intervals. A total of 29.2 miles of profile lines were covered in this manner and in addition an east-west base line was laid out across the entire length of the property for a distance of 22 miles.

Uniform magnetic intensity or urs over most of the northern portion of the property, embracing most of the northeast land area and the greater part of the water location. In the southern portion, which is largely land area, an irregular zone of pronounced magnetic intensity trends roughly in an east-west direction across the holdings for a length of slightly more than two miles. Variations in strike and apparent offset positions of a number of positive magnetic anomalies suggest the possibility of a pronounced fault zone extending diagonally across the holdings from south-west to north-east.

Kimasca Porcupine Gold Mines Limited.

May 8th. 1946.

Most of the high anomaly areas occur in the south-central portion of the property between the shore of Nighthawk Lake and Whitefish River. Because no positive magnetic reactions were obtained over shoreline rock exposures adjacent to areas exhibiting high magnetic anomalies, it is assumed that the magnetic formation giving rise to the anomalies in question is everywhere covered by overburden. The underlying bed-rock responsible for the zone-like trend of the magnetic highs may be due to basaltic flow rock or intrusive diorite each of which frequently carry an appreciable amount of Magnetite. A relatively weak north-south magnetic trend in the north-central portion of the property on the water location probably indicates a diabase syke similar to those commonly found in the Nighthawk Lake are

The magnetically indicated structural dislocation in the south-central portion of the ground designtes an area which may contain conditions favourable for the occurrence of ore deposits. This north-easterly trending zone of apparent structural disturbance definitely warrants investigation by drilling in order to ascertain the significance of the magnetic indications, and to determine whether important ore structures exist in the anomaly area described. Owing to lack of outerop, exploratory cross-section drilling at widely-spaced intervals is recommended as the most effective way in which to investigate the indications in question.

The proposed drilling, designed to traverse a zone length of approximately 4000 feet and comprising a series of four parallel sections lying 800 feet to 1200 feet apart, will, require six or eight holes ranging from 350 feet to 900 feet in length for a total footage of approximately 4000 feet. The programme outlined is essentially exploratory drilling of a preliminary nature intended to furnish geological information on which to base further exploratory or confirmatory drilling if warranted. I recommend that the Company proceed immediately with the programme as outlined above.

Yours very truly,

(Signed) E.K. Fockler

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