REPOR

THE GARTHACK MINING PROPERTY

Thackeray and Garrison Townships, Lightning River Area, Ontario

Room 1502, 372 Bay Street, Toronto.

for

The Directors

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Haileybury, Ontario
October 30th, 1947

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FOREWORD

July 11th to 14th, 1947 a preliminary examination of the Garthack property was made by the writer accompanied by an assistant. Recommendations at that time included a geological survey and a complete prospecting of the property as well as continued surface work on the known vein showings. Accordingly a two months program of work was begun August 22nd, 1947 with the employment of three and sometimes four men under the writer's supervision. The work was completed October 24th, 1947. The program included the following: (a) Ten miles of line cutting and boundary marking were completed, the lines being cut in north-south directions and spaced at 300' distances east-west. Stations were established on the lines at 100' intervals and these locations used as reference points for prospecting and geological mapping; (b) Prospecting, surface trenching, and rock blasting were carried out following the line cutting program. Old showings were reopened and newly found mineralized zones were stripped and blasted, A Warsup gasolene drill being used for the rock drilling operations. A fairly complete sampling of all veins was carried out; (c) A geological mapping of the property was completed by the writer and an assistant. Frequent overburden tests were made for rock in the lightly overburdened sections of the property.

Submitted with this report is a geological plan of the property on a scale of 200' to the inch showing the property outline, the rock outcroppings, the line-cuttings, and various topographical features.

PROPERTY AND LOCATION

The property of the Garthack Mining Company is composed of 10 claims on the boundary of Garrison and Thackeray townships in the Matheson-Lightning River District, Ontario. The Thackeray claims are recorded as patented claims L35447-48-49 and unpatented claims L47538-39-42. In Garrison township the claims are unpatented L45654-55, and L46004-05. The number one post of patented claim L35448 of this group is at the 4 mile post on the Garrison-Thackeray boundary.

The property is reached by a drive of 31 miles east from Matheson, Ontario. The route follows the new gravelled

highway to a point one-half mile east of Perry Lake in Michaud township, where it turns south on the Buffonta Mine road and travels on this road as far as the Garrison Creek crossing. From the Garrison Creek stream crossing a road suitable for car travel has been prepared across sand country for a distance of $5\frac{1}{2}$ miles to the property. At the time the work was carried on the road was washed out at a point $1\frac{3}{4}$ miles from the camp. It is expected that the opening of the new highway will in the near future be followed by improved transportation and communication facilities to south Garrison Township where a number of properties are active closely neighbouring to the north of Garthack.

With respect to gold mining in general the property of the Garthack Mining Company is located in the eastern extension of the Porcupine Belt. This extension is marked by a major fault trending east-west through the area and continuing into the province of Quebec. This feature is known as the Destor-Porcupine Fault. Gold finds are numerous in a belt several miles wide north and south of this fault location through the Matheson-Lightning River District. Exploration of the area will be intensive when transportation facilities are provided by the new highway as many early discoveries are waiting this aid to their development.

In the south end of Garrison township several properties have worked on gold finds periodically over the past few years. This locality is referred to as "South Garrison". During the current year three of these properties have been active. These are the Buffonta Mines Limited, The Garrison Harbour Mining Company and the Bambi Mines Limited. The Garthack property is located in the "South Garrison" section.

Ample supplies of wood and timber are present on the Garthack property where jack-pine, poplar, birch, and spruce, reach dimensions of 20 inches. Water is available from Thackeray Creek which borders the east boundary of the property. While this creek is not large it is very fast flowing and possibly an adequate supply of water could be obtained from it for most purposes. The Garthack claims are overburdened chiefly with sand and silt. Three prominent east-west trending sand ridges are found on the ground. The north-south depressions are sometimes boulder filled. The western half of the property is high compared with the eastern which is in the drainage valley of Thackeray Creek.

REGIONAL GEOLOGY

The country rock of the area is greenstone striking in a general east-west direction and composed chiefly of andesite and basal lava flows. The township of Garrison in which the north claims of Garthack are located contains two geological features of regional mining significance. One of these is the presence of a large granite plug occupying possibly 25% of the surface rocks of the township. This is the largest exposure of acid intrusive rocks in the district. The second is the presence of the Destor-Porcupine Break which trends east-west across the north end of Garrison township. Attention has been drawn to this "break" as having regional significance for gold deposition. This large dislocation in the rocks traceable for many miles has received diamond drill exploration by a number of the larger mining companies in the past two years. Good values in gold have been obtained in isolated drill holes and it is expected that considerable more effort will be made to locate mines in this region. The proximity of the above mentioned granite intrusive to the Destor-Porcupine Break is regarded as a favorable relationship for gold occurrence. The country is overburdened to a large extent which prevents but a meagre knowledge to date of the local detailed geological structures. Geological mapping by the Ontario Geological Survey is progressing eastward and during the summer season of 1947 Garrison township was mapped by Dr. Satterly and party.

GEOLOGY OF THE GARTHACK MINING PROPERTY

Rock exposures on the Garthack mining property occur as a belt of low outcroppings stretching across the central part of the property in a northwest-southeast direction. These rocks are chiefly greenstone and diorite. One occurrence of syenite porphyry has been found on the west boundary of claim 35447. The greenstone rocks are andesite and basalt with some showings of amygdaloidal basalt. No good evidence of the strike of these rocks was obtained. Alignments of top breccia and flow structures would indicate that the rocks are striking northeast-southwest. The diorite rock, which probably belongs to the older series of basic intrusives, shows almost as many outcrops as the greenstone. The diorite varies from fine grained which is difficult to distinguish from greenstone to a coarse phase of dioritic texture containing in some outcrops coarse feldspar phenocrysts. A thin section analysis of this rock is included at the end of this report.

The contacts between the diorite and the greenstone which were observed striking in various directions sometimes contain vein matter. The one occurrence of syenite porphyry exposed is about six feet wide and strikes north 70 degrees east dipping steeply north. This is a dark red rock with coarse feldspar phenocrysts. Considerable quartz and pyritization is associated with the dyke.

VEIN OCCURRENCE

No. 1 Vein --- The No. 1 which is the largest vein feature found is a stockwork of quartz in greenstone and diorite, striking, north 20 degrees west. The individual quartz veins show widths up to two feet and a northeast trend across the vein zone with a dip of 45 degrees northwest. The zone itself is believed to dip to the west at about 45 degrees. One section of 35 feet of vein matter has been trenched across what is believed to be the width of the vein. Depending on the dip however this will be somewhat greater than the true width. The vein matter is composed of quartz and silicified wall rock with a fair amount of pyritization throughout. Lesser amounts of chalcopyrite and specular hematite are found with the latter appearing in some abundance in small patches.

The vein has been opened by cross-trenching and rock blasting along 300' of its length. Sampling of the exposed vein has shown most assay results to contain gold values varying from 17¢ to $4.20 in channel and chip samples. The high sample showed $5.25 across 3.2' of vein matter. It is reliably reported that visible gold was taken from this showing when the claims were earlier worked as the "Alec Gillies" claims. A few high assays over small widths have also been reported. Structurally the No. 1 zone may be related to rock fracturing caused by north-south faulting. Veins of this direction are found in faults of small lateral offset neighbouring the granite contact to the north. The location is also on strike of the trend of the Garrison Canyon, a marked topographic depression running north 15 degrees west for two miles through Garrison township. Considering the size of the No. 1 vein occurrence and the presence of the gold values found, the feature presents attractive diamond drilling possibilities.

Veins 2-3-4 --- These veins have received exploration by stripping, cross-trenching and some rock blasting. The No. 2 refers to two veins occurring in diorite each showing a vein filled fracture with widths up to 16" in the north part of claim 35447. The veins are well mineralized with pyrite but gold values gained so far have been low. The No. 3 vein in the northeast corner of claim

35448 shows considerable vein matter in crossing fractures taking two directions, north-south and east-west; the more prominent direction being north-south. The most consistent values were found in an 8" vein on the east side of the outcrop. These ran between $1.00 and $2.00. Trenching in an area 100' by 75' around the No. 3 location has exposed a number of veins with some vein widths of 30". The No. 4 vein is a contact vein between diorite and greenstone striking northeast and dipping 60 degrees southeast in claim 45654. Widths up to 3 feet are exposed but values of only 35¢ have been obtained. Overburden allowed trenching for a length of only 35 feet.

No. 5 Vein --- The No. 5 vein is the occurrence of mineralized quartz stringers associated with the syenite porphyry dyke in claim 35447. This showing was opened at the close of the recent work program and its full importance has not yet been investigated. Mineralization is fairly abundant in both the quartz and the silicified porphyry. The dyke has a strike of north 70 degrees east and a steep dip to the north. The presence of the dyke is an indication that more acid intrusives probably occur under the general overburden.

RECOMMENDATIONS

The No. 1 vein is a wide stockwork of vein quartz striking north 20 degrees west and dipping to the west. This occurrence has shown widths up to 35 feet on surface and has been traced for a length of 300'. Where exposed in the cross-trenches most assays have returned gold values with a high value of $5.25 across 3.2'. It is recommended that an initial program of 2500' of diamond drilling be directed to the exploration of this zone, the first holes to be directed to cut the zone at a vein depth of 200' below the surface. Depending on the results of the initial 2500' of drilling, additional drilling might be required to outline any ore indicated.

The local geological structure is concealed by overburden and it is possible that the above recommended drilling may reveal a relationship between the No. 1 vein and adjacent rocks which would give direction to further exploration.

SUMMARY

A two months program of surface work has been completed on the property of the Garthack Mining Company in Garrison and

Thackeray townships, Lightning River Area, Ontario. This work was begun August 22nd and completed October 24th, 1947. The program included prospecting, trenching, rock drilling, geological mapping, and line cutting. The work has opened up a number of veins the largest of which is a stockwork of quartz striking north 20 degrees west and dipping west in claim 35447. This vein, now referred to as the No. 1, has been exposed in surface widths up to 35' and traced for a length of 300'. Due to general overburden conditions the No. 1 vein has been exposed by cross-trenching. Where sampled all the vein material has proved to be gold bearing and while most values are low, moild samples as high as $5.25 across 3.2' have been gained. It is recommended that 2500' of preliminary diamond drilling be directed to the No. 1 vein zone. Other veins of low gold content were exposed and are known as Nos. 2-3-4-5. Of these the No. 5 is the most interesting being an occurrence of mineralized quartz stringers in basic syenite porphyry. This occurrence is to further exposed and sampled.

The geology of the property is shown by only a few outcrops of greenstone and diorite. These rock types occur in equal abundance with contacts striking in various directions. One occurrence of basic syenite porphyry was found striking north 70 degrees east on the west boundary of claim 35447. Not much is known of the local geological structure due to overburden. The general trend of veins and fractures is north-south to northeast-southwest. The diorite intrusive appears to be an irregular body or bodies of rock with some evidence that vein matter is localized along its contacts with the greenstone.

CONCLUSION

The No. 1 vein is an attractive bet for diamond drill exploration and it is recommended that an initial program of 2500' of drilling proceed. The cost for this work can be estimated at $2.00 per foot for diamond drilling plus $1.00 a foot for drilling extras, supervision, sampling, core boxes, etc., or a total cost of approximately $7500 for the 2500' providing unusually difficult overburden conditions are not met.

Respectfully submitted by

E. L. MacVeigh B.A., M.Sc.
October 30th, 1947

see following page

ROCK THIN SECTION ANALYSIS

Description - coarse grained dark rock of dioritic texture

Location - 880' east and 1820' south of 4 mile post on Garrison-Thackeray townships boundary.

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certificate of analysis No. 21128

This is a dark coloured, massive, fairly coarse grained rock. It is noticeably attracted by a small Alnico magnet, and has a clay odour when damp.

Under the microscope it is seen to consist essentially of a plagioclase (badly decomposed) and hornblende. There is also much coarse magnetite, amounting to perhaps five per cent of the rock. The plagioclase is largely altered to secondary aggregates containing kaolin, epidote, etc., and on this account their form and nature have to be to some extent inferred. They appear to have formed a plexus of stout lath-shaped individuals. The hornblende is in large, rather ragged looking crystsls, some equidimensional, other elongated, and measuring up to a couple of millimetres in length. Some show twinning. Both quartz, and the carbonate which is so often present in altered rocks of this type, appear to be lacking in this instance. A few long slender apatite needles were noted.

The rock appears to be an old diorite, and suggests an intrusive type rather than a coarse phase of a flow.

SWASTIKA LABORATORIES LIMITED

per Dr. D.E. Kerr-Lawson
October 31st, 1947