REPORT ON
WHISKEY LAKE COPPER PROPERTY

By
C.C. Huston

October 24, 1950

Mr. Robt. A. Bryce, President, GEORGE BAY MINES LIMITED
Macassa Mines Limited,
Toronto

Dear Mr. Bryce:

The following report summarizes my findings on
WHISKEY LAKE COPPER PROPERTY
an examination having been made October 20th-22nd, 1950.

SUMMARY AND CONCLUSIONS

There exists on W.R. 92, a patented mining location
of 94 acres lying in Township 135, Sudbury Mining Division,
Ontario, a copper showing approximately 200 feet long and 20
feet wide, capable of extension to perhaps 500-600 feet in
length and carrying 1-2% copper in the form of chalcocite.
No work has been done in this area for some years and there
are no similar showings known in the immediate area. Investi-
gations made by me indicate that the concentration is effected
by the overlying diabase which acts as a "dam" and is the hang-
ing-wall and that other orebodies may be found where the diabase
is rolled or bent, either vertically or horizontally.
The location of the showing is attractive, the values in the best exposed area most interesting, and the structure intriguing.

RECOMMENDATIONS

It is recommended that Macassa Mines stake additional claims in the area, obtain an option from the owners and find a partner to drill a few vertical holes to see what the showing does and whether repetitions can be found. The cost of the program proposed would entail about $15,000. after staking. No overtures have been made on the deal, and if the price is too high the matter can be forgotten.

PROPERTY AND LOCATION

The property comprises one patented claim, W.n. 92, of 94 acres which is located in the southern-central portion of Township 138, Sudbury Mining Division, Ontario, on a point of land between Whiskey and Bear lakes.

Township 138 lies approximately 20 miles north of Spanish on the C.P.R., between Sudbury and Sault Ste. Marie and access to the properties is by road from Massey Station. The road is a good gravel road approximately 32 miles in length to Whiskey Lake at Johnson's Tourist Camp. From this point to the northwest end of Whiskey Lake and the property there is an old logging road along the north shore of Whiskey Lake or, alternatively, canoes can be used on the lake itself.

OWNERSHIP

The property is owned by the Estate of Major R.G. Leckie, and Miss Edith Leckie of Sultan Street, Toronto, has
paid the taxes and kept the property in good standing.

GEOL OGY

In a previous report by Mr. C.H. Hitchcock, a copy of which is attached, the geology is shown in conformity with the geology as set out on Map 34c, Ontario Department of Mines, but the writer's mapping is somewhat at variance with this interpretation, finding that the showing consists of a mineralized zone in carbonaceous schist lying beneath the olivene diabase which dips approximately 40° to the southwest, the zone being a chalcopyrite-bearing lens-like body in the green carbonaceous schists found along the contact. This material is probably an alteration product of the argillite and limestones found in the immediate vicinity. Little conglomerate was noticed.

The ore zone is a lens-shaped body striking N 45 W and dipping at 45° to the southwest. The surface expression along the rim of the hill does not represent true width and the writer calculates that this possible orebody may have an average thickness of approximately 20 feet.

Outcropping as it does along the hillside, it falls away into low ground on the west and has been picked up across a ravine at a point approximately 200 feet farther to the west, thus allowing a maximum possible length in this shoot, as now interpreted, of somewhat less than 600 feet.

The favorable zone along the diabase contact has been investigated by old trenching farther to the west and if mineralization exists in this contact it is sparse and on surface narrow.
The only possibility for any considerable lateral extension will be to the eastward, the showing pitching under heavy boulders at a point on the picket line of about 3-00 E.

A sketch map has been prepared of the geology as interpreted by the writer and the writer would summarize by saying he believes this showing would be round to have a length of about 500 feet, an average thickness of approximately 20 feet, and an average grade of between 1.5% and 2% copper.

Analyses taken by the writer show no nickel whatsoever. No diamond drilling has been done and this showing is believed to have been developed solely by the sinking of a 50-foot shaft by the late Joe Errinson.

The best chances would appear to lie in the investigation of possibilities of a roll in the overlying diabase, in which larger or richer orebodies might be trapped. The geological map (34c) appended appears to indicate such possible loci for deposition. Any such loci would be expected to be richer in grade and the magnitude of the roll would define the magnitudes of the possible shoots.

"C.C. HUSTON"

Toronto, Canada
October 24, 1950
SCH: WEA
REPORT

THE REYNOLDS COPPER PROPERTY

WHISKEY LAKE, ONTARIO

CANADA

"C.H. Hitchcock"

Mining Engineer

LOCATION

The Reynolds Copper Property is situated at the most westerly end of Whiskey Lake. It can be reached by automobile over a good road from Massey, Ontario, to Johnson's tourist camp on Whiskey Lake, hence four miles by canoe or motor boat to the property.

LANDS

The property is known as the East and West part of WR. 92 consisting of 123 acres.

TITLE

The lands are patented mining claim. No liens or cautions exist against it.

OWNERSHIP

The property is owned by the Major R.G. Leckie Estate. Miss Edith Leckie, Sultan Street, Toronto, has paid the taxes and kept the property in good standing.

TOPOGRAPHY

The claim is rough and covered by thick brush. No trails to old workings can be found.
EXPLORATION

A shaft was sunk in 1910 by Chas. Haycroft to a depth of 50 feet. The shaft entered the footwall indicating that the ore dips easterly.

ORE BODY

A gossan area 40 feet wide and 200 feet long outcrops, but dips into a deep ravine at the west end.

Dr. A.P. Coleman reports in Vol. XXII, Part I, as follows: (quote) "This is a deposit of green schist with copper pyrites near the contact of greenstone with sedimentary rocks, including impure limestone. The ore contains much quartz and is widely diffused, but with indefinite boundaries. The zone including some infiltrated ore can be traced, it is said, for 1,000 feet with a south-westerly strike, but comparatively little of the ore seemed high enough in grade to work. It is stated that at one point a width of 30 feet of ore averaged five percent of copper. A shaft 50 feet deep ends in schist, the ore body, 'which is very irregular, dipping away from it."

W.H. Collins, Summary Report 1917, Part E, reports as follows on the Reynolds property, (quote): "This mineralized contact zone extending north 50° west, is exposed at two places 500 feet apart, between which lies a soil filled ravine. The larger and more richly mineralized of the two outcrops situated on the eastern edge, is about 80 feet wide and 200 to 300 feet long. Sulphides are not entirely lacking in any part of this outcrop, but are chiefly concentrated in a number of patches and belts that altogether make up 15 to 20% of the whole outcrop."
These richer portions are of mineable size, but so distributed that a large amount of rock will have to be removed with them, if they prove rich enough in copper."

**ANALYSIS**

Gossan outcrops are very difficult to sample. However, a sample broken across 7 feet of a belt of the heavier gossan by the writer, assayed as follows:

<table>
<thead>
<tr>
<th>Sample Length</th>
<th>Copper</th>
<th>Nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.1 7 feet</td>
<td>1.95%</td>
<td>0.25%</td>
</tr>
</tbody>
</table>

The outcrop of gossans is made up largely of rock, quartz pyrite, chalcopyrite, pyrrhotite, etc. The ore-body might be expected to be richer in copper and nickel where the diabase is in contact with the argillite (see plan).

**CONCLUSIONS**

It is difficult for an engineer to report favourable on this property, because the favourable contact of diabase and argillite west of the shaft is all soil covered. The gossan appears to widen to the west where it dips under overburden. There is every reason to believe that the most favourable zone for better mineralization exists under the overburden to the west.

Some geophysical work followed by diamond drilling is necessary to prove any tonnage of ore that may exist.

Very rich pieces of float have been found in the area.

There is a fair chance that a small tonnage of copper nickel ore (say 250,000 tons) may exist on this property. With good luck it might do better.

Signed

*Mining Engineer*
WHISKEY LAKE CUPPER AREA

LOCATION, HISTORY, AND DEVELOPMENT

The copper deposits of the Whiskey lake area have been known for about 50 years. Some attention was given to them during and prior to the First World War but there is no record of any subsequent activity. Only surface work has been done on most of the showings; a 50-foot shaft was sunk on the Reynolds location (W.K. 92) in 1910.

The main showings lie in the southern part of township No. 138 and the northern part of township No. 137 (see fig. ). This area lies about 18 miles north of Spanish station on the Canadian Pacific railway. It is reached by a good motor road...

REFERENCES


Jan. 1931
that extends from the village of Massey on highway No. 17 to the east side of Whiskey lake.

**GEOLOGY**

The geology of the area is shown on the Blind River sheet (No. 1970) accompanying Memoir 143 of the Geological Survey of Canada. The geology of Whiskey lake is also indicated on map No. 34C of the Ontario Department of Mines. The copper deposits are in Huronian sediments (Bruce series) adjacent to bodies of diabase. According to Collins (1) they are either quartz-chalcopyrite veins or a combination of disseminated sulphide replacements and quartz veinlets.


**COPPER DEPOSITS**

Collins (2) has described the main showings as follows:

2. C1. c12.
fixing agent for the mineral matter expelled from the diabase during the cooling of the latter.

This mineralized contact-zone, extending north 30 degrees west, is exposed at two places 500 feet apart, between which lies a soil filled ravine. The larger and more richly mineralized of the two outcrops, situated on the eastern edge of the ravine, is about 80 feet wide and 200 to 300 feet long. Sulphides are not entirely lacking in any part of this outcrop, but are chiefly concentrated in a number of patches and belts that altogether make up 15 to 20 per cent of the whole outcrop. These richer portions are of mineable size, but so distributed that a large amount of rock will have to be removed with them, if they prove to be rich enough in copper. To help ascertain this latter point, several of the best looking patches were roughly sampled by Mr. R.A. Teasdale, one of the joint owners of the property. A sample fairly representative of the richer bodies, which was collected by Mr. Teasdale, was found upon assay to contain 4.57 per cent copper.

Caribou. Mining location Y 401. This claim is situated on the eastern side of a high ridge that parallels Caribou lake. The ridge consists of a core of diabase intruded through and flanked by a white feldspathic quartzite belonging to the Serpent quartzite, or uppermost member of the Bruce series. A heavy talus of quartzite blocks embedded in soil covers the lower slope. Some of the talus blocks are mineralized with chalcopyrite and pyrite.

In the expectation of finding the source of these mineralized blocks deeper in the side of the ridge a trench was made into the talus. A mass of quartzite so large that it was taken to be the undisturbed Serpent formation, was found about 8 feet below the surface. However, on comparing the dip and strike of such bedding planes as are recognizable in this mass, with those in the quartzite higher up the hill, it appears that the former is not in place, but has been displaced, though probably only a few feet or yards, down-hill. This quartzite mass contains splashes of chalcopyrite as much as 2 feet long and 3 or 4 inches wide. A careful inspection of the face exposed-40 square feet-indicates an average copper content of slightly over 2 per cent. A carload of hand-picked ore taken from this place last winter and sent to a smelter in the eastern United States yielded 7g per cent copper.

The present trench exploration seems to be well located. As long as it continues in ore like that now exposed it can be done at little or no net expense. It is likely, however, that the huge block uncovered by trenching has not moved.

THE OFFICE OF THE RESIDENT GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.
more than a few feet down the side of the ridge, consequently whatever remains of the original deposit is the same short distance away. If as rich ore can be found in quantity at that depth in the side of the ridge, it should, under present market conditions, be profitably mineable. However, the mineralized quartzite block affords a doubtful clue to the size and shape of the ore-body from which it was broken. Because other blocks have been found at intervals along the slope for a total distance of 500 feet they might be assumed to have come from a continuous ore-body of that length, or longer, but if this deposit originated from the diabase, like the other copper deposits near Whiskey Lake, it is more likely to consist, like them, of several comparatively small fissure deposits.

Whiterfish. Mining location Y 352. The copper deposits on this claim are situated near the top of the southwest slope of a diabase ridge, 200 feet high, that extends along the southwest side of Whiterfish Lake. They form a series of lenticular mineralized fractures in the diabase. Each fracture strikes about 100 degrees and is offset about 25 feet south from its neighbor to the west, so that a line passing through the middle of each runs at 160 degrees. They dip 45 to 50 degrees southwest, being only 10 to 15 degrees steeper than the side of the diabase ridge. Three lenses have been uncovered, 35 feet apart, each of which has been test-pitted for 1 to 4 feet deep and can be traced along the surface for a few yards. The largest shows ore for a maximum width of 8 feet and a length of 25 feet. They are filled with angular fragments of diabase cemented together by a mixture of quartz, ankerite, chalcopyrite, and pyrite deposited in the order in which they are named. This ore carries about 2 per cent copper but can be concentrated by hand-sorting to about 10 per cent. A general sample taken from the largest of the three lenses and assayed by Thos. Hey's and Son, Toronto, yielded 0.16 ounce gold per ton, in addition to the copper.

These mineralized lenses are probably unconnected parts of a single fracture system that coincides approximately with the southwestern face of the diabase ridge, and it is quite possible that further exploration along the ridge will result in the discovery of other lenses. None of those already discovered appears to be extensive either horizontally or in depth.

Long. Mining locations W.R. 91, 113, 114. A vertical fracture plane mineralized in much the same manner as the Whiterfish property has been traced from Corner Lake eastward along the north side of Moook Lake for over a mile.

Geologist, Ont. Dept. of Mines
Sault Ste. Marie, Ont.
It is in Huronian sediments, but diabase occurs just to the south and east. Chalcopyrite is found more or less continuously along this fracture, for widths ranging from a few inches to 5 feet. Quite recently the more promising part of it was examined by Mr. C.H. Mitchcock, mining engineer, of Sudbury, who has kindly allowed the general results of his examination to be given here. Samples taken at intervals of 25 to 50 feet along the vein for several hundred feet yielded average values of 1% per cent copper and from 0.02 to 0.04 ounce of gold and of silver per ton.

The length of this deposit may be taken to indicate a considerable depth, but the values in copper, gold, and silver are rather low for profitable mining, even at the present time.

**RECENT EXAMINATION OF CLAIM W.R. 92**

In 1950 the showing on claim W.R. 92 was mapped and sampled by C.C. Huston, mining engineer, for Macassa Mines, Ltd. He concluded: "... there exists on W.R. 92 ... a copper showing approximately 200 feet long and 20 feet wide, capable of extension to perhaps 500 to 600 feet in length, and carrying one to two per cent copper in the form of chalcopyrite." Sampling, at the points indicated in Fig. 2, showed a length of 280 feet averaging 1.11 per cent copper over an average width of 15 feet. The best section averaged 1.59 per cent copper across 19 feet for a length of 140 feet. The samples contained no nickel and only traces of gold and silver.

Fig. 2 shows that the main mineralized zone is a lens-shaped body striking north 45 degrees west and dipping at 45 degrees to the southwest.

**ACKNOWLEDGEMENT**

The writer has not visited the area. He is indebted to Macassa Mines, Ltd., for supplying a report by C.C. Huston.
Geological sketch map of the copper showing on claim W.R. 82, Whiskey lake.
(Modified after C.C. Huston, Macassa Mines, Ltd, October, 1950)