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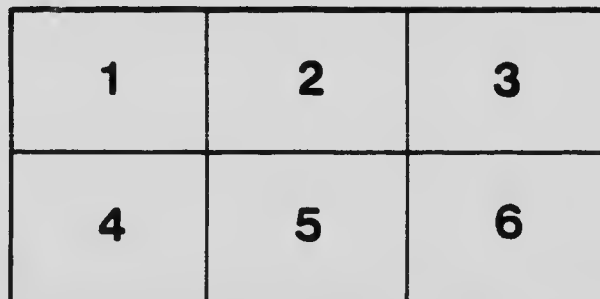
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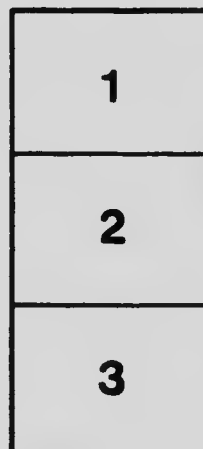
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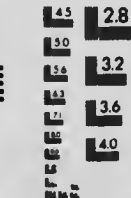
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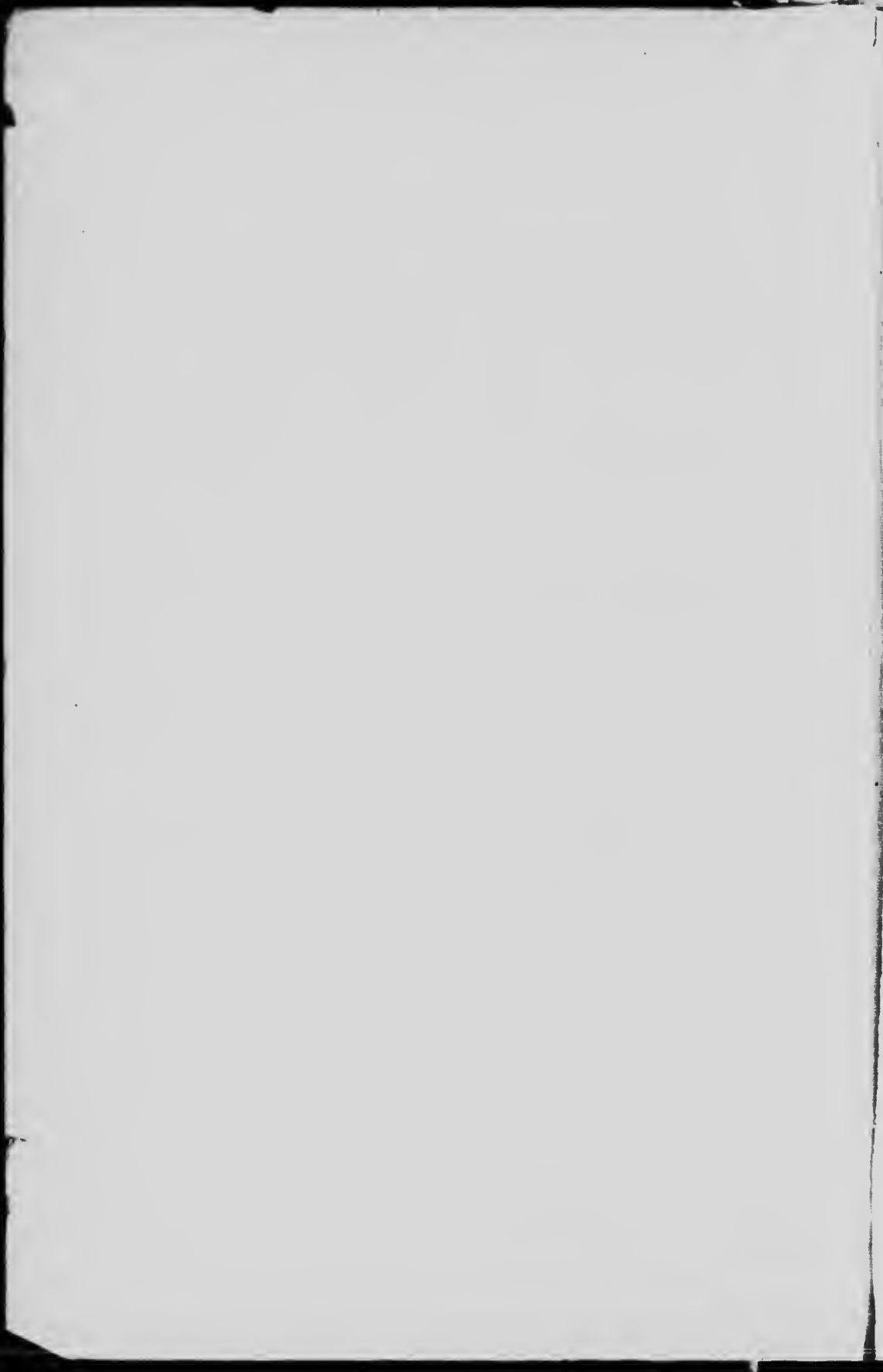


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REPORT
UPON THE
PROPERTY
OF THE
GREAT BRAS D'OR
GOLD MINING
COMPANY

PROPERTY OF THE LIBRARY
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Report Upon the Property of the Great Bras D'Or Gold Mining Company

Goldbrook, September 1st, 1908.

This property is situated in the Wagamatkook Gold District, Victoria County, Island of Cape Breton, Nova Scotia, Canada, about 22 miles, in a northwesterly direction, distant from Baddeck, the county seat, having an excellent harbor, and daily steamship connection with the Intercolonial Railway, at Grand Narrows, C. B.

The second Gold Brook, a branch of the Middle River, a magnificent stream, passes through the property, from South to North.

The holdings of the Company consist of 208 areas, held by 40 years Leases from the Government, and 76 areas, held by Prospecting License.

The Company has also applied and paid for 600 acres of timber-lands, adjoining the above Mining ground on the East and South.

All the property is covered with a dense growth of timber, such as Birch, Maple, Beech and some Spruce and Fir, and is all very well watered.

GEOLOGY:

The district, being of the Pre-Cambrian age, has been visited by eminent Geologists and Mining men, such as Messrs. Hugh Fletcher, E. R. Faribault, J. Edmund Woodman and B. Sadtler, all expressing great possibilities for the future yield of Gold.

Mr. Fletcher who visited the country in 1880-81-82 says in his "Report on the Geology of Northern Cape Breton," 1884, published by authority of Parliament:

"In the Second Gold Brook the following rocks are found, the dip being uniform, and the aggregate thickness about 5500 feet.

"1. Light-grey and bluish-grey, fine, pearly, micaceous, felsitic shales, sometimes contorted, thickly covered with rusty spots. The mica is finely divided and sometimes predominates.

"2. Schistose diorite and greenish or black horn-blende-schist with porphyritic crystals of hornblende.

"3. Bluish grey and greenish, obscurely granular quartz mica rock, with a light tinge of pink, passing into fine gneiss. A large quantity of calcite is present in the joints, and also as one of the constituents.

"4. Bright green, chloritic and talcose, pearly schist.

"5. Compact and obscurely porphyritic felsite.

"6. Bluish-grey felspathic schists, containing both mica and hornblende, and breaking into rhomboidal blocks.

"All the rocks contain white vitreous quartz, full of cavities, filled with iron-ochre, part of which at least seems to result from the decomposition of a ferruginous carbonate. Calcite also exists in some of the veins, and the quartz is not unlike some of the goldbearing quartz of the Nova Scotia Gold Districts.

"7. Pearly, felspathic shales with long, dark crystals of actinolite.

"8. Light bluish-grey, argillaceous slates containing much finely divided mica; quartz veins in the bedding, one of which, 2 feet thick, has an obscurely laminated structure.

"9. Grey flinty shales, perhaps a more altered form of No. 8.

"10. Bright red syenite, without much hornblende, not included in the above estimate of the thickness, and occurring at the head of the brook."

In the "bright green, chloritic and talcose, pearly schist" (No. 1 above), which belt is 75 feet wide, as shown in the "Working Tunnel," is located the "Lizard Vein." Of this Dr. Woodman, in his report to the Commissioner of Mines for the Province of Nova Scotia, on page 9, says:

"This (the 'Lizard Lode') is irregular in strike, but runs very roughly parallel with the bedded leads. Its dip is north, at a somewhat higher angle than that of the country rock, and in places vertical. The fissure varies in width from 15 inches to three feet, and is filled almost entirely by quartz, often with a banded structure near and parallel to the margins and with drusy cavities near the centre. The vein is frequently swelled and pinched, and slickensides along its contact show much slipping. Both walls are of soft schist. Close to the foot-wall is a mass of hornblende-syenite-gneiss one hundred feet wide. (Aetnal measurement shows this to be thirty-six feet wide. T. K.) South of this intrusive is a peculiar black schist, more massive than those on

the north; which may be either a more metamorphosed portion of the same series as before noted, or of quite different origin. (See page 7 of Dr. W. report.) It is conformable under it. On the southern border of this, five hundred feet from the Lizard Lode (actual measurement: One hundred and forty feet. T. K.) and 2500 feet from the mouth of the brook is a dike of quartz porphyry fifteen to thirty feet wide. This dike has the same east and west strike as the schists and apparently a somewhat higher dip. Its margins are irregular. It has been followed for three and one-half miles eastward from First Brook and is fairly persistent in Strike." (First Brook is 4800 feet west of Second Brook. T. K.)

As almost all the

DEVELOPMENT WORK

has been done on this "Lizard" Vein or Lode, I wish to state that on the whole, Dr. Woodman's description is correct, except that the size of the vein varies from that of a "knife-blade" to 6 feet in width.

To tap this vein at a lower level than exposed at the Dr.'s visit a Working Tunnel was started low enough to allow the vein to be worked on each side of the brook with the same outlet to the Mill. This tunnel crosses the Mic Mac Vein, black schist and chlorite-talose schist at almost right angle for..... 162 feet.
 At this point the "Lizard" was struck and crosscut for.. 4 "
 and the crosscut continued into a very hard dark grey schist for..... 28 "

(The "hornblende syenite gneiss" *not* being encountered at this point, as expected, since it showed immediately South of the vein on the brook, above the Blacksmith shop.)

From the intersection of the Working Tunnel with the Lizard Vein, Drifts were run, on said vein, in an Easterly direction..... 115

and in a Westerly direction..... 50 "

At the end of this Westerly drift appears the same hard dark-grey schist as mentioned above and a 2 1/2 ft. vein of Pyrrholite, with copperpyrite and some arsenopyrite, which latter ends up against the "hornblende syenite gneiss" appearing here.

Along this hornblende syenite gneiss a prospecting Drift was run in a Northerly direction for..... 110 "

and from the latter a drift West, along what appears to be the Lizard vein, in the talose-chloritic schist, was run for..... 17 "

On the Brook-level, above the Blacksmith shop, a Drift was run on the "Lizard" vein, in an Easterly direction, for.....	113	"
with a crosscut in northeasterly direction for.....	17	"
From the Working Tunnel an upraise was made, along the vein, on an incline of about 55 degrees.....	60	"
and vertical, to surface.....	35	"
From the collar of this upraise, or shaft, now being used, as storage-bin and chute for Mill-ore, a tunnel was dug along the ore-zone, called the "Intermediate," for.....	104	"
an open cut above same.....	67	"
a cut-off, to overcome the many short curves in the said "Intermediate".....	78	"
a Drift along the "Bonanza" chute on this level.....	29	"
extension of "Intermediate" from junction of original and cut-off, to present face.....	90	"
An upraise to connect this "Intermediate" level with the "Upper Adit" level, serving as chute for Mill-ore..	33	"
The "Upper Adit," along ore for 220 feet.....	280	"
A drift along "Lizard" zone, West from end of West slope.....	35	"

A total of1486 feet

besides the slopes above the Working tunnel and several open-cuts below the "Intermediate" level.

These workings being practically all "in ore," except the cross-cuts, have proven the continuity of the "Lizard" vein in an easterly and westerly direction, and also shown that the ore is "going down" below the working tunnel-level. Since the mountains on each side of the brook raise to a perpendicular height above the brook of 500 or more feet, it is well to consider the possible quantity of this "Lizard" ore, to be mined above and through this Working-tunnel, necessitating no hoisting or pumping for years to come, since the mouth of this tunnel is on the same level with the top of the grizzly in the Stamp-mill. The average angle of dip of vein is 55 degrees N., this would in a vertical height of 500 feet, give us an ore-body of 610 feet high.

The average width of the ore-body can be safely taken as 2 feet.

The length of the ore-body, as controlled by this Company, can, from above development, surface indications, and general geological features, be safely taken as continuing through the whole length, from East to West of your holdings, viz: 6450 feet. From

this we have to deduct the area of erosion by the brook, which amounts to an average of about 800 feet, leaving an ore-body in length of 5650 feet.

These 5650 feet, at an average height of 610 feet and an average width of 2 feet, would produce 6,893,000 cubic feet, or 492,357 tons of ore (of 2000 lbs. each).

The average value of the ore, taking the mill-run in August for an example, would reach \$10 per ton, making a gross value of \$4,923,570.

The cost of mining and milling should not exceed \$3 per ton; therefore, a net value of \$7 being a conservative estimate, the net value of the ore above the present Working-tunnel would be \$3,416,499.

EQUIPMENT:

MINE.

The tunnels are equipped, where necessary, with 15" gauge R. R. track, of 12, 18 and 24 lbs. T. Rails, on which are used the usual steel ore-cars. The Mine and Mill are connected with track of same gauge and weight, a distance of 500 feet.

A Blacksmith-shop with necessary tools for same and the Mine, is located near the entrance to the Mine.

The Magazine for Explosives is situated 750 feet up the Gulch from the mouth of the Working Tunnel, and is well protected from sun and frost.

MILL.

A modern 10 Stamp Mill, Homestake pattern, with Concentrating table, Clean-up barrel, and all other necessary equipment was erected last year, and is doing excellent work. The power plant of this mill is sufficient to add 30 more stamps whenever the mine has been opened up enough to produce the additional supply of ore.

ASSAY OFFICE, ETC.

An assay office and chemical laboratory, sufficient to answer the requirements for the Mine and Mill, is located in the Office Building, which latter is ample to act as such and a comfortable home for the Supt. and his assistants.

A commodious two-story house answers the purpose of a home for the men employed.

WATER-POWER.

The "Second Brook" will furnish a sufficient Water-power to run the 10 Stamp Mill, by damming the brook above the Falls, which are 2000 feet distant above the Mill.

The Company also holds, on Middle River, a water-right, which can be made to supply enough power for all future require-

ments, 9000 cubic feet of water per minute flowing in this beautiful stream, at the dry season.

CONCLUSION:

From the very favorable conditions of the location of the property, regarding abundance of water, for power as well as for domestic and milling purposes, and wood for fuel and mining-timbers, beside the reasonable outlay for labor, I have no hesitation in saying, that this is one of the most favored Gold properties I have had the privilege of being connected with.

Respectfully,
THEODOR KNUTZEN.

Professor Theodor Knutzen has had charge of the development and operation of this mine since February 15th, 1907. His long and close connection with this property fits him in no small degree to speak with accuracy regarding same. He leaves our service to go to Mexico to take charge of a mine there. We are sorry to lose the services of so able a man, but pleased to state that we were fortunate in being able to fill the vacancy by the appointment of Mr. D. Patriquin as Superintendent, and Mr. N. Hammond as Assistant Superintendent, both men of experience in mining; therefore, well equipped to carry on the work.

Professor Knutzen has the reputation of being careful and conservative in making reports; therefore, this should be considered as reliable a report as can be made at this stage of development. If anyone wishes to enlarge on his report by figuring the amount and value of the ore below the working tunnel down several thousand feet, and also what is in the other veins on this property besides the Lizard, I am sure the result will be pleasing.

The operation of the mill, ten stamps, the past thirty days produced sixty-five hundred dollars. The total expense of the operation of this Company and mine during that time was approximately Fifteen hundred dollars. It is possible that some future runs will show better results, and some not as good, but we feel that we can safely count on the average being very satisfactory.

Other important work and the lack of competent help will prevent the completion of the water power this fall, but it will be done early in the spring, and thus save from three to four thousand dollars a year. It is our aim to eventually get the working of this mine on to such an economical basis as to be able to produce gold cheaper than any mine in this or any other country.

We are working about twenty-five men, and expect to keep this number employed all the time until next spring, at which time we hope to be justified in enlarging our operations to quite an extent.

Respectfully submitted,
A. H. MERCHANT, President

