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Mr. N.S. McAllister, 4650 West 10th., Vancouver, B.C.

Dear Sir:

## RE MARGJERITE SUDBURY MINING PROPERTY Greenwood District, B.C.

Having given considerable additional study to the matter of conducting further exploratory work on this copper-baring Mineral Claim Group, I wish to supplement my original writton description, as contained in my letter of November 20th.,1956, by adding more detailed recommendations than was possible at that earlier time.

The exploratory work with which these recomendations are concemed are, in my opinion, not only well warranted but are properly suited to the initial serious exploration of the property. The imnediate problems are concemed with three particular areas: On the Marguerite claim the shaft and the workings from it should be completely dewatered. The orkings should be carefully studied and mapped geologically and the ore exposures should be sampled. There would seem to be little doubt that the workings will disclose ore infomation of interest. If such is proven to be the case it now seems most likely that diamond drilling should be next in order. Wheth $r$ this can best be done from the surface or from underground sites has yet to be detemined. It is to be recalled that ore occurrences in this locality can, in all probability, be best developed through an adit.

On the Sudbury claim the workings include a shaft, said to be 200 feet in depth, and drifts from it. These workings are filled with water. I suggest that the area at and in the vicinity of these old vorkings be surveyed by dip-needle. The abundance of magnetite at this place should permit of mapping the complete length of this ore oc urence with reasonable ease. The mapping work, indicating the anomalies, would be used for outlining a diemond drilling campaign. \#ventual development of this area may, probably, be possible through a long adit entry.

The vicinity of the Anaconda claim should be studied and explored by dipneedle proceedure as should certain other areas elsewhere wich are underlain by skam and limestone. Anomalies which may thus be located soould be tested by drilling. As is usual in conducting this type of exploratory work the desirability of having additional confimatory information becomes apparent. I am of the opinion that a fund of $\$ 15,000$ should be made available for affecting this work.

Yours very truly.
B.W.W. McDougall.

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# "The Duck Group" <br> of <br> Mineral Claims 

Situated in the Greenwood Area
of
British Columbia

Extracts from letter received from B.W.W. McDougall, B.A., B.Sc., Consulting Mining Engineer, dated July 5th, 1956:
(1) In regard to the economic factors affecting the carrying forward of mining work including climate, transportation, power, and so on, these factors are almost unexcelled at any other mining camps in the Province. Greenwood Camp or, as it was once known, the Boundary District, in the years prior to the First World War, was the most important copper-producing area in Canada and the town of Greenwood once boasted a population of 10,000 or more.
(2) Most localities of mining interest in this Boundary District are accessible to motor transport; numbers of old roads are now overgrown and new ones have been cut for servicing logging operations.
(3) In the Boundary District there are gold and silver bearing quartz-pyrite veins - usually occurring in granitic rocks of the batholith, there are quartz veins carrying galena and blende in addition to pyrite and with some gold and silver, there are replacement zones which are usually near sedimentary - granitic contacts and there are the massive copper - zinc - iron deposits which have been formed by both mineral-bearing vapors and solutions and to which the designation of pyrometasomatic occurrences has been given. It is these large massive orebodies that once made Greenwood famous and would seem now about to do so again.
(4) The two most important localities in which these massive orebodies occur and which were once mined to the extent of some millions of tons, are the Phoenix and Deadwood camps. The two properties here under discussion
are in the Deadwood Camp. Taking the famous Motherlode and Sunset Mineral Claims as the central portion of this Camp, the M.L.G. GROUP lies from about I. 1 to 2.4 miles distant to the south and the DUCK GROUP lies from $\frac{1}{4}$ mile to 1.7 miles to the northeast.
(5) THE DUCK GROUP, as represented by its owners, includes some 16 location mineral claims and (or) fractions. The Group is contiguous but there is included in its area two Crown Grants, the Black Warrior and Anaconda claims Which are not a part of the Group. The claims are partly a re-staking of old reverted Crown Grants which among others include the Marguerite, Sudbury, J.A.C. andG.A.R. claims conceming which there is mention in the M. of M. Reports.

## (6)

The Group is but a short distance to the $\mathbb{N} . E$. from the famous Motherlode and Sunset claims from which upwards of $1,000,000$ tons of copper ore has been mined many years ago. These two claims along with certain other adjacent ones are owned or controlled by Security Oils Ltd. and, I have been informed, plans have been completed for the construction of a 1,000-ton mill at once. Contractor's equipment for this construction project was on the ground at the time of our visit. The present operators, I believe, have already proven that this deposit contains at least several million tons of about $1.0 \% \mathrm{Cu}$ ore. Pormerly part of the mining was done by glory-hole or open pit methods and part by large-scale underground procedures. This large deposit occurs over an area of about 20 acres and is a very good illustration of the well-known fact that very large deposits of ore can and do occur in relatively small areas - and that large groups of mineral claim holdings do not necessarily assure the possession of orebodies to their owners.
(7)

Dr. Brock's map shows an occurrence of limestone enclosed in granitic intrusives in the Motherlode-Sunset area and its presence there, together with the resulting structural relations of the granodiorite and the limestone mass, are among the geological reasons for the ocurrence of these large orebodies. Dr. Brock's map also shows a mass of limestone, enclosed in granodiorite, trending northerly in the vicinity of the workings on the old Marguerite claim. Elsewhere on portions of this Duck Group property which were traversed during our inspection, much of the terrain, apart from prominent limestone masses, is underlain by grenodiorite and its associated satellite dykes.
(8) At the site of the Marguerite workings there is a vertical water-ifilled shaft said, in the M. of M. Reports, to be 110 feet in depth. This work was begun in 1899. The
shaft collar is at an elevation of 3,535 feet. A road once gave access to the site and there was a small mining plant. The shaft is $12 \times 7$ feet in dimensions and, where it can be seen above the water, there is no timbering. Some ore shipments were made from this place.
(9)

At the surface, within 80 feet of the shaft collar there are three north - south trending veins or shear structures. About the only minerals showing now are the oxidized or decomposition products from magnetite and pyrite. They show abundant limonite. The dump rock is diorite. The M. of M. Reports state that at the 100 -foot level two X-Cuts were run. One was extanded easterly some 240 feet and, of this, about 80 feet was through ore. T'wo shoots of 22-feet and 17 feet widths are mentioned. From the 17foot shoot values of $\$ 2.40$ to $\$ 4.20$ in gold and $4.0 \%$ to $10.0 \%$ in copper, - also from $\$ 1.80$ to $\$ 4.80$ in silver are reported. The available records are not complete and the full story is unavailable. The occurrence of copper-bearing lodes of important widths and the presence of a large body of limestone in the diorites, I think, warrant considerable exploration investigation.
(10)

Copper-bearing mineralization also occurs on what was formerly the Sudbury claim which, I belleve, adjoins the Anaconda claim. At this place and at an altitude of 3,285 feet there is a water-filled shaft stated to be 200 feet in depth. The dump rock is mostly marbelized limestone. It is stated in one M. of M. Report that good copper ore was exposed in this shaft. Details, however, are lacking. A three-ton shipment made to Greenwood smelter is stated to have assayed $0.25 \mathrm{oz} / \mathrm{t}$ gold, $12.04 \mathrm{oz} / \mathrm{t}$ silver and $8.54 \%$ copper. From this it is reasonably apparent that the ore was cobbed and sorted. The average grade, width and other details concerning this copper occurrence are unavailable. At this site there are other surface workings in the nature of trenchings, pits and cuts which indicate that there is probably other mineralization than that exposed in the shaft. These workings are caved and sloughed and not properly available for close study.
(11) In numbers of places on both these claim Groups, and particularly on the Duck Group, there are outcrops of skam some of which appear never to have been investigated. This hybrid rock is a result of contact metamorphism and is commonly associated with ores of pyrometasomatic origin. Magnetite, also, is irequently associated with the skam, garnetite and sulphide minerals including pyrite and chalcopyrite.
(12) I am of the opinion that this Duck Group warrants substantial exploration attention. There are several reasons for this opinion; one is that the Marguerite area is less then half-a-mile distant from the large ore masses of the Motherlode and Sunset claims, - a second is that this Marguerite area is near the inose? of a mass of limestone which appears to have been engulfed by the granitic intiusives, - still another is the occurrence of iron-stained lodes or shear-zones near the old shaftt, - finally, the occurrence of skam zones in many places over these claims plainly indicate that copper-bearing mineralization was general where favorable conditions were available.
(13) Exploration work by diamond drilling could be undertaken in both the Marguerite and Sudbury areas with comparatively little preparatory work for access and transportation. I believe that exploration work to the extent of $\$ 25,000$ to $\$ 40,000$ is warranted on this claim Group. Such expenditure, if made, however, is properly to be regardod as 'risk' capital.

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