

The Yukon Consolidated Gold Corporation, Limited

DAWSON, Y.T.

CANADA

SUPPLEMENTAL REPORT ON LIARD - HYLAND RIVER PROPERTIES

To obtain further and more definite information regarding the above properties, J. F. Sealey and myself left Dawson by car on the morning of January 5th, arriving in Whitehorse that evening where we met Mr. H. E. Boyd, who informed us that he had already arranged to have Mr. E. N. Butler meet us at Watson Lake. The following morning, January 6th, after purchasing maps of the Liard-Hyland River District from the Mining Recorder at Whitehorse, we proceeded to Watson Lake where we arrived late that evening. We immediately got in touch with Mr. Butler and arranged for a trip over the properties the next day. On the morning of the 7th, we travelled south on the Alaska Highway to a point opposite the lower extremity of the property on the Liard River, stopping en route at the crossing of the Highland River.

On returning to Watson Lake, we contacted two other men who had mined on the bars of the Liard, Mr. Victor Johnson and Mr. Nazar Zinechuk. Later we returned to Mr. Butler's cabin where we spent the remainder of the afternoon discussing the amount and nature of the prospecting he had done and acquiring all information pertinent to the property which he was able to furnish. When this was concluded, we started on our return to Whitehorse, arriving at Teslin about 10:00 P.M. where we spent the night. We continued on to Whitehorse the following forenoon and consulted with Mr. Boyd and Mr. Braden during the afternoon. We returned to Dawson Sunday, January 9th.

SOURCE OF INFORMATION

On meeting Mr. E. N. Butler, we found that he was a former employee of the Yukon Consolidated Gold Corporation, Limited, having worked under A. B. MacDonald at the Arlington for two or three years and after that for a short while on Dredge No. 4. He left Dawson about 1939, moving to Whitehorse where he worked during the wartime period. About 1948 he left Whitehorse and went to Watson Lake where he worked around the airport. He commenced prospecting on the Liard River about 1951. When working for the Company, he was generally known as "Bob" Butler, and of course neither Mr. Sealey nor I had thought he was the same person. Butler is of the garrulous type, prone to exaggeration, and whose statements should usually be taken with reservation. Therefore, we felt that we should not place too much confidence in what he told us. For this reason, we were particularly relieved to find three other men whose statements corresponded closely to what Butler had told us concerning the mining and prospecting done on the Liard River. While on our way back to Whitehorse, we stopped at Upper Rancheria where we saw Mr. Len Kieffer, who had done considerable prospecting and some mining on the Upper Liard. His statements as to the nature of the deposit and the quantity of gold found were approximately the same as those stated by the others.

TOPOGRAPHY

The general topography of the Liard River district is typical of glacial filling and subsequent stream erosion. It is a part of what is generally called the Rocky Mountain Trench, which is bordered on the west by the Cassiar Mountains and on the east by the main Rockies. It is characterized by broad, flat terraces rising at intervals of 50 to 100 feet each. The Liard River generally follows the lower level and has banks of approximately 8 to 20 feet high, that level extending back from the river distances varying between 200 feet and one mile before rising to the next higher terrace. During its course, however, the river has in places incised itself into rock promontories forming canyons whose walls are almost vertical and are from 75 to 100 feet high. These canyons are spaced from 10 to 15 miles apart along the course of the stream. They are, perhaps, ridges which existed between valleys prior to glaciation and their bottoms do not indicate a true bedrock horizon of the areas between the canyons. Geological reports state the general flow of the ice mass in this particular area was southerly and the length of the canyons and their continuity give some indication that the pre-glacial valleys were normal to the ice movement and if so, it may be possible that the gravels in the original streams were not completely destroyed. The depth to these original gravels may be too great for mining or even to be reached by drilling, therefore, whatever gold that is recoverable would be derived from the glacial drift.

The portions of the Liard and Hyland Rivers, which we are presently concerned with, are between canyons, and there is nothing on the surface that would indicate an obstacle to a dredging operation. The surface of the Hyland River valley above the point where the Alaska Highway crosses it, appears almost ideal for dredging. It is flat, a mile or more wide, rising only a few feet above the stream level. Both the Hyland and Liard Rivers are large streams and if it were not for the numerous canyons, they would be navigable for small boats. No large boulders were seen lying on the surface of the ground nor was anyone able to tell us that they existed in the gravels of the immediate area. The surface gravels that lie above the general water table are classified as medium in size, with a few large pieces not exceeding a foot or two in diameter. They contain large amounts of sand, of which the so-called "rare earths" are a constituent. Only a small amount of glacial clay has been observed along the rivers.

PROSPECTING AND MINING

Mining on the bars of the Liard River has been carried on sporadically since 1872, when a Mr. McCollock discovered gold and worked on a bar which has been subsequently called "McCollock's Bar". It is located near Old Fort Halcut at the mouth of Smith

River. Later, some Chinamen mined on the bars and on the tops of the banks a short distance below where the Alaska Highway crosses the Upper Liard. In recent years a few men have mined in the same locality because of its present accessibility. No coarse gold nor anything really rich has ever been found, but the amount of gold and its distribution has been fairly consistent. At the present time there are two persons mining on the Hyland River, one below the point where the Alaska Highway crosses it and the other several miles above. They have been able to make a reasonable living by the usual mining method employed, which is using a short sluice about 8 feet long and furnishing water with a small gasoline-driven pump. The material is all hand-shovelled. Corduroy cloth and expanded metal are the gold saving medium. Last year Mr. Butler and his partner, Mr. H.J. Baker, worked on the Liard River approximately two and one-half miles below the highway bridge across the Upper Liard. They also did casual prospecting along the various bars of the river downstream as far as the first canyon, which is about 16 miles below the bridge. Mr. Johnson and Mr. Kieffer stated that they had worked on several of the better bars in the same locality and were able to recover as much as one ounce per day using the conventional mining apparatus. They estimated they handled approximately two cubic yards in a day. This represented the best they were able to do. Many of the bars contained less gold, but rarely on any was the gravel barren. Both Mr. Johnson and Mr. Kieffer said that they only dug from one to two feet deep, because they thought the best values were near the surface and also, if they dug deeper, the water would enter their pits, which were naturally near the river in order to operate the pump.

Mr. Zinechuk spent many years in the Liard district, going there first in 1926. The greatest amount of his prospecting was done on the Nehanni River, which is a tributary of the Liard, entering several miles downstream. His prospecting on the Liard and Nehanni Rivers showed conditions very similar to those reported by the other men, but he stated that he had taken out as much as two ounces in a day. He also said that on the Lower Nehanni there were strata of pure black sand several inches in thickness, which contained gold. He also said that he had found very good prospects on the Liard River farther downstream, and believed it to be as good if not better than the area we were investigating.

The conventional way of travelling, prospecting and mining is to use a small boat with an outboard motor, stopping at various bars, taking a few pans of gravel to see what gold there is in it and if the indications are favourable, set up their small sluice and pump and then work there for a few days or until they feel that they have worked out the best of it, and then proceed to another place. The information they are able to give is nothing on which the value of ground can be reckoned, but the fact exists that there is a substantial amount of gold present in the sands and gravels on these river bars, the source of which is unknown and may be a concentration by

erosion of the river banks upstream and gold accretion on the bars or else by the erosion or carrying away of the lighter materials on the bars themselves. There appears to be a renewal of gold on some of the bars from time to time but there is no evidence of any extensive bank cutting upstream. Mr. Butler stated that he panned gold taken from dirt around the roots of trees some distance from the river and Mr. Kieffer said he had found a streak of very fine gold where the bank had been recently washed. Mr. Zinechuk stated that he had found gold to a depth of six feet in a prospecting pit he had dug on the Lower Liard.

CHARACTER OF GOLD

The gold in the Liard District is generally very fine even to the point where it must be gathered together to be clearly visible. The coarser pieces rarely exceed the size of a pin-head. The consensus of the men interviewed was that it is difficult to save, particularly since it is associated with heavy sands. They feel that their gold losses both in prospecting and mining are substantial. The gold we saw when panning down some of the concentrate was much finer than what we have in Dawson, the coarser pieces only being large enough to be readily seen. The fineness of the gold is, of course, characteristic of glacial deposits.

CHARACTER OF SANDS

The heavy sands which form a part of the gravel are composed of very fine particles varying in color and specific gravity. The major constituent appears to be magnetite, which gives a dark hue and for this reason the sands are called "black sands". There are many other particles of grey, brown and red color which form a fairly large part. Some of the latter are believed to be of economic importance, and have been classified as "rare earths". For many years these sands have been considered a hindrance to mining operations and an annoyance to the miner. In 1953, Mr. Butler had an assay made by G.S. Eldridge, of Vancouver and also sent a small sample to Derby & Co. of London, England, for analyzing. The results indicated that the sands contained some rare metals. He believed the degree of concentration in obtaining these samples was approximately one-half of one percent but he had taken no actual measurement or weight of the raw gravels nor of the final concentrate, so his figure at best is a rough estimate. During the past summer he set up a short sluice using a pump and reduced approximately 27 cubic yards of raw material to 500 pounds of concentrate which he has stored. The concentrating device employed was a sluice on the bottom of which he placed canvas covered with corduroy cloth, over which he placed a screen with fairly fine holes and on the top expanded metal. He felt that it was a fairly efficient concentrator. Also during the last season, in approximately the same area which was two miles downstream from the Alaska Highway bridge crossing the Upper Liard, the Tecumseh Petroleum carried on a small testing operation using a Wilfley table. They shipped several hundred pounds of concentrate for analyzing and processing by plants in the Eastern

United States. They also have a considerable amount presently stored at the site of their operations. Mr. Butler was not greatly impressed with the efficiency of the Wilfley Table and thought that his own device was much more efficient. He also believed that much of the gold and fine sands were lost when using a Wilfley table.

We were able to procure samples of both Mr. Butler's concentrate and that of Tecumseh Petroleums. The ground from which the samples were taken and where the mining was done by Butler, Johnson and Kieffer lies between the Upper Liard highway crossing and the first canyon below and is not ground that we are now considering. The Liard River is known as Upper Liard from the townsite of Lower Post upstream, and Lower Liard below. All of our ground is on the Lower Liard. The ground on which Mr. Butler's work was done and also the Tecumseh Petroleums, is held by many different people in claims and small leases, Butler and Baker being among them. The Tecumseh Petroleums also hold a fairly substantial block.

PROPERTY RIGHTS AND TERMS

While in Whitehorse, we conferred with Mr. Boyd and Mr. Braden relative to the status of the property now held under a lease or an application for lease, and to the extent of the Company's commitment in undertaking a drilling program on all or any part of the ground. The Gold Commissioner at Victoria, B.C., has issued regular leases in the names of the various persons who staked the ground on the Liard River and on that portion of the Hyland River lying within British Columbia. The date of issuance of the leases is January, 1955, and all rental payments and fees necessary have been paid to January, 1956. For the portion of ground on Hyland River lying within Yukon Territory, grants for prospecting leases on the first ten miles were issued on 19th August, 1954 and will not expire until 19th August, 1955. The applications for prospecting leases farther upstream have not been granted as of this date. The terms of agreement they suggest between the Company and themselves are as follows:

DRILLING

1. The Company to pay \$100.00 per square mile or fraction thereof before commencement of drilling.
2. Company to have drilling option until June 30th, 1955, at which time they will decide to accept or reject the ground under option.
3. Drilling results to be made available upon request.
4. Certificate of assessment work to be provided.

MINING

1. Upon acceptance of the ground, the Company to pay \$25,000. as advance royalties and once each year thereafter until commercial production is reached, with a minimum advance royalty of \$25,000. payable each year whether the Company operates or not.
2. All ground optioned to be kept in good standing according to B.C. or Yukon regulations as the case may be and surveyed at the Company's expense if required to be done. If the Company intends to drop any ground under option, they are to notify the lease-holders at least three months prior to the expiration of the lease.
3. Any future staking by the Company in the vicinity of the lease-holders placer leases to be in the lease-holders' names and to be considered as forming part of the original leases and subject to the conditions specified herein.
4. Royalties on gold to be at the rate of 5% on gross mint returns and on all other minerals to be 15% of the gross production. Royalties to be paid as returns are received by the Company.
5. Certified annual returns of production to be furnished to the lease-holders.

In undertaking a drilling program, our commitment, besides the cost of the drilling program itself, is the payment of \$100.00 per square mile or fraction thereof for the option agreement. If on June 30th we decide to abandon the examination, we do so free from all further liability.

CONCLUSION

From all information available, it appears that the gravels of the Liard River and its tributaries, from their upper reaches down as far as the mouth of the Nehanni River, contain gold of appreciable quantity. The deposit may be the result of natural concentration of the gold in the glacial drift by stream action, and therefore may be of superficial depth and one with little continuity. However, the evidence is sufficient to warrant further investigation and possibly a small drilling program. The extent of the area is so great that no one company could undertake the whole of it, and at the present time there is nothing to indicate that one part is more desirable than another.

The ground that we are now contemplating has no better physical assets for dredging than many other places which are now open or probably will be shortly. From the standpoint of accessibility, the ground on Hyland River upstream from the highway appears to be the most suited for reconnaissance drilling and the possibility of favourable results are as great there as elsewhere.

In reviewing the terms suggested by Mr. Boyd and Mr. Braden, the optional period in which the drilling is to be done and the terms concerning the drilling are satisfactory. However, some of the terms concerning the final mining of the ground appear exorbitant and unfair. The payment of advance royalty in Clause 1. was not a part of the agreement when the matter was first discussed with Mr. Boyd, but it probably is one that could be undertaken by the Company without too much difficulty. Clause 2. is quite proper. Clause 3 is objectionable on the grounds that it permanently alienates the right of the Company to expand freely and gives the present lease holders extra lateral rights that they are not entitled to. The royalties of 5% on gold and 15% on other minerals is too high. They predicate their royalties on the assumption that the unit value of the ground will be at least 50¢ per yard and that the revenue from the other minerals will far exceed that for gold. They have no tangible basis for their presumption and if the ground value should be much below, we would be encumbered with a contract royalty load greater than the ground would warrant. On the other hand, we have no idea what the concentrating, transporting and processing costs of the other minerals might be and a royalty on gross output could not be justified. If it were at all possible to negotiate for an outright purchase of their rights, it would be most desirable. Of course, they have great expectations of the productivity of the ground and it will no doubt be most difficult to arrive at a mutually satisfactory figure. Mr. Boyd and associates have expended less than \$10,000. to date, of which they expect to have a substantial portion reimbursed them by us, in taking up the drilling option. Since so little is known of the worth of the ground and their financial outlay has been so small, a total figure of approximately \$250,000. payable in annual installments of \$50,000. per year should not be unreasonable. If no arrangement can be made for the outright purchase, a royalty of 2-1/2% on gold and 10 or 15% on the net returns from the other minerals would appear to be fair royalties. Clause 5 is the expected procedure.

I believe that both Mr. Boyd and Mr. Braden would be favourably disposed to discuss these matters and arrive at an agreement that would be satisfactory to both themselves and the Company. They fully realize that the actual worth of their holdings depends on the outcome of the Company's prospecting, and if the Company rejects the ground, they will lose everything they have invested in it, therefore, they are most anxious to arrange an agreement that would encourage the Company. I would suggest that discussions be held with them with the object of obtaining a more equitable royalty arrangement, and the

elimination of their Clause 3, and if this is accomplished, we should start a drilling program on the Hyland River at an early date.

Dawson, Y.T.
January 14th, 1955.



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