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REPORT

on the

GOLDEN CROWN GROUP~~s~~,

VALHALLA GROUP and

KLEANZA GROUP of

Mineral Claims,

OMINECA MINING DISTRICT,

BRITISH COLUMBIA.

PROPERTY. The Golden Crown Group of mineral claims consist of the RUBY, GOLDEN CROWN, GRANITE, LUCKY JIM and NOBLE FIVE, five in all. They are none of them full claims and cover an acreage of about 175 acres. the claims are held by option to purchase by the Skeena lumber company.

LOCATION. The property is located on a spur of Kleanza Mountain, about 3 miles from Usk station on the line of the Canadian National Railway. Usk is about 100 miles from Prince Rupert and the railway could be reached, at a point across the river from the old town of Kitselas, by a road not more than 1 1/2 miles in length. The road to Usk is about 3 miles long.

The claims extend from an altitude of 250 feet above sea level on the Ruby to 1500 on the upper end of the Noble Five. The accessibility of the mine is a strong recommendation.

GEOLOGY. The area of Costal Granite and grano-diorite has been greatly disturbed and somewhat altered by the intrusion of numerous dike rocks. Some of these dikes have been clasified as lamprophyre but, as is usual in the locality, a variety of dike rocks is to be seen.

VEINS. There are three distinct veins as shown by the workings and it is possible that there are others in the area. The veins are fissures in the country rick with quartz gangue carrying pyrite. Free gold is to be seen in many specimens, and in one or two places, considerable has been mined. It is probable that the free gold is all from surface enrichment and that any permanent value that the ore carries will be in the sulphides. The strike of the veins is north-west and the dip to the north-east. They are all rather flat, dipping at angles varying from 20 degrees to 40 degrees. there are three tunnels on the property and a winze has been sunk in the upper one, known as the No. 1 adit.

DEVELOPMENT. No. 1 tunnel is about 775 feet above sea level and is 130 feet long. It is started on what is probably the intersection of two veins known as No. 1 vein and No. 2 vein. Near the Portal the veins diverge and the tunnel from there on follows the right hand or most southerly of the two veins which is called No. 1. This vein is followed along a dike, where the Quartz narrows down to 6 inches in with and beyond it for 35 feet to the breast where the quartz is 2 feet in with and apparently widening. Many good assays are reported from this tunnel and there are several places where free gold shows in the ore.

Near the portal of No. 1 adit a winze has been sunk 18 feet deep and on an angle of 21 degrees. This is supposed to follow the foot wall of the No. 1 vein. As the vein dips about 40 degrees at the portal of the tunnel, it is somewhat doubtful if this is the case. Some good ore was taken out of this Winze.

A sample taken by me from this tunnel at several points from 60 feet to 75 feet in from the portal assayed:- Gold 0.14 ozs. Silver 1.71 ozs. per ton. Value $ 4.00 per ton. This sample was taken- in part- not far from where Brewer got

better than 3 ozs. gold per ton from a sample taken by him in 1914. This is mentioned in the Annual Report of the Minister Mines for British Columbia for the year 1914 which contains an excellent description of this property.

About 150 feet north from the No. 1 tunnel, the No. 2 tunnel has been driven in 50 feet. In this working, again, both the No. 1 and No. 2 veins are exposed. The veins here appear to follow an igneous dike. The quartz in the face is 4 feet in with and looks good. A sample was taken by me from this face and is an average of of the 4 feet of quartz exposed. It assayed:- Gold 0.16 ozs. Silver 1.09 ozs, per ton. Value $ 3.96.

About 250 feet north from tunnel No. 2, and at an altitude of about 575 feet, tunnel No. 3 has been driven at a lenght of 120 feet. It follows No. 2 vein and it is said that the object in driving it was to reach the intersection of veins No. 1 & 2. The vein shows 4 feet wide in the face of this tunnel and an average sample of the quartz was taken from this point.

Average sample from face of No. 3 tunnel assayed:- Gold 0.12 ozs. Silver 0.78 ozs. per ton. Value $ 2.95 per ton.

The No.4 tunnel is at about the same altitude as the No.3 and about 150 feet north-east from it. It is about 130 feet in length and follows the No.3 vein. This is from 18 inches to 2 feet wide and shows some chalcopyrite as well as pyrite. A sample was taken from the face of this tunnel for a width of 18 inches. This assayed:-

Gold 0.04 ozs. Silver 0.56 ozs. Value $ $1.19 all per ton.

There are numerous open cuts on the property from which ore of good grade has been taken and assayed. At an open cut between tunnels No. 2 and No. 1 a vein shows with a north strike and dipping 30 degrees to the east. Here, as at many other points, free gold may be seen and obtained in small quantities by panning the crushed rock. Some leasers installed a small Ross grinding and amalgamating mill and a small crusher at this point in hopes that sufficient high grade ore could be milled by these devices to be profitable. In this they were disappointed and the machines are still on the ground.

If further work is to be done on this group, it should be in the No. 3 tunnel as it is essential to open the No. 1 and No. 2 veins at a depth that will be safely below surface enrichment.

OPINION. The Golden Crown group is held by the Company under option to purchase. I am not of the opinion that the present condition of the property justifies any considerable payment as a part of the purchase price. If proper terms can be had, and taking into consideration the amount of work that has already been done on the property by the Company, I think a little more development work is warranted in the No. 3 and, possibly, in the No. 4 tunnels.

While the values of the ore are very irregularly distributed and its character suggests secondary enrichment, there are places where the gold is of sufficient amount to suggest good ore bodies somewhere. The veins are fairly persistent and regular and it is quite possible that a low grade but commercial ore ore body might be found. If, however, say 300 feet of drifting ~~xxxxxxxxx~~ on the vein in the No. 3 tunnel does not open such an ore body I would recommend that the property be returned to the owners.

W.J Elmendorf,
Mining Engineer.

Seattle, Washington,
October 29th, 1924.

V A L H A L L A
and
K L E A N Z A G R O U P S.

CLAIMS. The Skeena Lumber Company is the owners of the Valhalla and Kleanza Groups of mineral claims which consist of the following:-

Valhalla group:
- Valhalla
- Valhalla No. 1
- Valhalla No. 2
- Valhalla No. 3
- Valhalla No. 4
- Valhalla No. 5
- Valhalla No. 6
- Valhalla No. 7

Kleanza group:
- Tomboy
- Vindicator
- Tenderfoot
- Dakota
- Vimy
- L. C. & Norman Fractions
- Ballarat
- Kleanza (not grouped)

The VALHALLA GROUP cover an area of something over ~~xxxxxxxxxxxxxxxxxxxx~~ 360 acres, and the Kleanza group about the same acreage.

The ~~K~~LEANZA is a full claim 1500 feet square with an acreage of 50 acres.

All the claims are on, or at the base of, Kleanza Mountain.

LOCATION. The properties are near the town of Usk, in British Columbia, Canada. This is a station on the line of the Canadian National Railway and distant about 100 miles east from Prince Rupert. They are in the ~~xxxxxx~~ Omineca Mining District.

ACCESSIBILITY. A good wagon road extends from Usk to within a short distance of the lower end of the Valhalla Group. This road is about 2 1/2 miles in length. A shorter and more ~~xxxxxxxxxxxxxx~~ direct route to the railway would be from the property to a point across the Skeena River near the site of the old town of Kitselas. This is little more than 1 1/2 miles.

The Valhalla and Kleanza groups extend from an altitude of 500 feet at the lower end of the Valhalla No.4 to 5000 feet above sea level at the upper end of Valhalla 6.

The Kleanza Claim lies at an altitude of from 4500 to 5000 feet above sea level. This is distant about one mile from the nearest claim of the Valhalla group in a south-easterly direction therefrom.

The Valhalla and Kleanza Groups are well located. If the transportation question. If the transportation question becomes an important one in the future, there are few problems to solve. The topography of the mountain on which the claims are located is not unduly steep or rough. All development can be done for many years without the necessity of sinking as a principal means of working the veins. It is hard to imagine a more ideal condition for economical underground work. A tunnel from Valhalla No. 4 would be 4500 feet deep by the time it reached the southern boundary of the group.

Timber, for mining purposes, is everywhere abundant on the claims. Water power can be - in fact laready has been - improved for all future requirements, at a minimum expense. The rock is not unusually hard and drifting should be done cheaply. These are important considerations in the contemplated working of a mine and must not be minimised.

This report is accompanied by a Sketch Plan showing the location of mineral claims on Kleanza Mountain made by Mr. Willman. This plan has been used by me in my work for your Company and in all details which I have been able to check - and these include all the important points - has been found correct. Frequent reference will be made to it and it is part of this report. I am indebted to Mr. Willman for this courtesy which is a saving of considerable time and expense.

HISTORY OF THE DISTRICT. While there has been more or less prospecting in the Usk district for many years, it is only within the last five that any considerable amount of interest has been taken in the district by outsiders. The advent of the - then - Pacific Grand Trunk Railway, which is now the Canadian National, in 1910 provided transportation along the line of the Skeena River. Before that time, stern-wheel river syeamers ran between Port Essington and Hazelton and the trip was a difficult and sometimes a dangerous one. In 1996 it took the writer eight days to go from Port Essington to Hazelton. We tied up at night and spent most of the days trying to get off gravel bars. The return trip was made in two days in a canoe.

In 1914 Mr. Wm. Brewer in the employ of the Department of Mines of the Province, made a trip along the Skeena River and examined a number of the claims in the locality of Usk and Kitselas. The report of his investigations is embodied in the 1914 Annual Report of the Minister of Mines of British Columbia. This report is an excellent one and is accompanied with a sketch plan of the locality that is useful. Refere ences and in many cases excellent descriptions of the several properties in the Usk district are contained in the Annual Reports for 1917, 1919, 1920, 1921, 1922 and 1923.

All the mines of the district are still in the prospect stage. The Cordillera Group, a copper mine owned by the Kitselas Mountain Copper Co. is farther along in the course of development than perhaps any other. On this a small mill has been installed and is claimed to have operated in a satisfacotry mannar. The present low price of copper is given as the reason for its idle condition.

No considerable amount ofmoney has been spent on any of the properties for their development and their value, as a whole, is, therefore, prospective. Several of them have advance to the condition where it is certain that they well deserve the chance to make pay mines with careful development.

The district includes gold, silver, lead, copper and Zinc properties. Here, as elsewhere, the gold always has the strongest appeal from the standpoint of the investor and the operator. We know what we are to be paid for our product when it is gold. All other metals are subject to market fluctuations and what may be a pay mine today may become a liability in the future.

GEOLOGY. The Valhalla and Kleanza Groups cover an area in the typical coastal greenstone - granodiorite formation of British Columbia. The boundary of the coastal granite batholith is but a short distance to the west and the grano-diorite itself is cut in many directions by intrusive dyke rocks varying from the most acidic to ultra - basic in composition. These are of many ages - both before and after the formation of the veins and their mineralization, and their composition has been determined in may cases, by the Provincial and Dominion chemists. Whether a dyke be mica-lamphrophyre or augite-porphyrite is not important ordinarily unless a careful study of these intrusions indicates their relations to the origin of the ore bearing veins or their mineralization.

In such an area it is inevitable that regional metamorphism should be apparent. Fissuring and faulting is seen in every direction and combine to make the region one of peculiar adaptability to the formation of ore-bearing veins.

VEINS. There are at least four well defined, quartz, fissure veins on the Valhalla Group. These have approximately the same strike, north-west and south-east and dip to the east at from 55 to 65 degrees from the horizontal. They have been numbered 1, 2, 3 and 4 from west to east and will be described by these numbers later. Here, reference to the plan will greatly assist in understanding their relative positions and extent as developed.

VEIN No. 1. This vein has been traced through the Valhalla No. 2 claim, through Valhalla No. 1 into Valhalla and probably shows again in Valhalla No. 6, as distance of nearly 1 1/2 miles. The vein is from two to five feet wide and mineralized with pyrite and chalcopyrite. It carries small amounts of gold everywhere and many places free gold may be seen.

The principal development on the No. 1 vein is by

a tunnel on No. 2 and close to the Valhalla cabin. There is about 70 feet of work in the tunnel which is in the form of a fork, seemingly following two seams or splits in the veins. It appears to me that the left branch is the one to be continued if any more work is done here. No samples were taken here as there were many more important points from which to take them. I am informed that samples taken from this work averaged about $ 4 per ton in gold and silver values.

In the bank of Valhalla Creek, [illegible] on the upper end of Valhalla No. 1 claim, the vein shows well in a cut. It is 4 feet wide at this point.

In the bank of Gossan Creek, about midway up Valhalla claim, the vein is again opened by a cut. Here the mineralization is very strong and the surface much oxidized giving the appearance of a gossan. A sample was taken of this ore and assayed :-
Gold 0.03 ozs. Silver 0.4 ozs. Value $ 0.88 per ton.

This sample was taken more as a matter of curiousity than with the expectation that it would show values.

There are several other cuts on No. 1 vein showing similar conditions to those in the tunnel and the cut on Valhalla Creek.

Vein No. 2. This had been traced from the middle of Valhalla 3 to the middle of Valhalla 2 and probably appears again in Valhalla Creek on the upper end of Valhalla 1, a total length of over 3000 feet.

There are three principal open cuts on this vein and in all of them it shows strong and from 3 feet to 4 1/2 feet in width of good looking though sparsely mineralzed quartz.

[illegible]

A sample was taken from the upper cut of a width of 4 1/2 feet and assayed:-
Gold 0.03 ozs. Silver 0.65 ozs. Value $ 1.05 per ton.

Better values might be obtained by selecting the ore, but in a case of this sort it is necessary for the entire ore body to show at least a value that invites development. The other cuts show about the same conditions.

Vein No. 3. This is the most important work on the Valhalla Group and the one on which the most work has been done. It has been traced and opened from the south corner of the Tenderfoot claim through Valhalla 3 and into Valhalla 2. It may show in Valhalla Creek also, a distance of nearly 4000 feet.

There are two tunnels and two principal open cuts on this vein. The upper tunnel, known as the [illegible] Dakota tunnel is on the upper end of Valhalla 3 and is 50 feet in length. It

follows the vein all the way which is here associated with acidic - aplite - dyke. The vein is from 4 feet to 5 feet in width and, in addition the dyke rock is also mineralized for a further width of, perhaps, two feet.

Two samples were taken from here as follows:- Face of tunnel, 2 feet of quartz and 1 foot of gouge assayed:-
Gold 0.01 ozs. Silver 0.45 ozs. Values $ 0.51 per ton.
Average across 3 feet of mineralized dyke in face of Dakota tunnel assayed:-
Gold 0.03 ozs. Silver 0.85 ozs. Value $ 1.19 per ton.

A sample was also taken from the vein just above the portal of the Dakota tunnel across 3 feet of quartz. The vein at this point showed specks of free gold. It assayed:-
Gold 1.66 ozs. Silver 8.0 ozs. Value $ 38.80 per ton.
This sample also ran Copper 2.67 % and its value is figured on the Certiicate of Assay that accompanies this report. This is customary but in this case is misleading as there is no evidence that the mines will ever show enough copper content to make it a valuable constituent of the ore.

The lower tunnel on the No. 3 vein is known as the Tenderfoot tunnel as its portal is on that claim. This is 60 feet in length and the vein shows from 2 feet to 4 feet in width for its entire length. The best showing is in the face.

No samples were taken by me from this tunnel but some little free gold shows in the quartz at many points. Three sampples from this tunnel, taken taken this year averaged:-
Gold 0.85 ozs. Silver 2.76 ozs. Value $ 18.93 per ton.

While this is probably a nigh average of the ore this result shows conclusively that there are substantial values in this vein and, better yet, that the good values are in the lower workins. Such a condition is most encouraging.

There are two cuts on the No. 3 vein between these two tunnels and in them the vein is exposed of about the same width and with about the same mineralization as in the tunnels.

Vein No. 4. This vein is opened by 4 cuts and extends from the Tenderfoot claim through the Norman Fraction to the line of the Valhalla 2, a distance of about 2000 feet. In places this vein shows some galena and the quartz is of a very good character for gold mineralization. It is from 2 feet to 4 feet in width and could, without doubt, be traced for a much longer distance with a little work. In fact, this is the case with the other veins on the property as well. They might, and probably could, be traced for long distances beyond their known lengths.

A sample was taken from this vein from the middle cut on the Norman Fraction across 3 feet of quartz showing pyrite and galena. This sample assayed :-
Gold 0.10oz. Silver 5.9 ozs. Value $ 6.13 per ton. It also contained 5.7 % lead.

Recommendation for Development. With the showing on the Valhalla Group there can be no doubt that further development is justified. The best showing on the property, in my opinion, is in the lower tunnel on the No.3 vein - the Tenderfoot tunnel, as it is called. This is also the most convenient point from which to carry on further work. The altitude at this tunnel is only 1700 feet and a camp could easily be established there. Later a cabin and shop can be put up if the developments justify it.

The vein - No. 3 - in this tunnel should be drifted upon and later cross-cuts, both east and west, driven to intersect the No. 4 and No. 2 veins. These veins are about 100 feet each distant from the No. 3 and parallel to it. Continuing the Tenderfoot tunnel gains depth rapidly and opens up a large amount of ground. If a pay shoot is encountered a large tonnage is quickly available for shipment or milling as the character and grade of the ore may indicate.

If it should be necessary to mill the ore from this property in the future its character and composition makes the process a comparatively simple one. All the gold that can be saved by amalgamation is that much gained from the millman's standpoint. The free gold in the ore, and I expect there will be a considerable amount of the values in that form to any depths that will be reached for many years, will yield to that treatment. The sulphides, pyrite, chalcopyrite and galena will have to be concentrated either by gravity or by oil ~~in~~ flotation and the grade of the concentrates will indicate whether they had best be shipped or cyanided on the ground. An alternative to this method of treatment is to extract the values direct from the ore by cyanidation. Which of these is the method best adapted to this ore can be accurately determined by experiment. I wish at this time to caution the owners of this property not to consider the installation of any milling or other plant for the treatment of the ore until such time as the amount of ore actually exposed makes the provision of such a plant necessary. The most usual mistakes among all the mistakes that are made in the operation of mines is the building of a reduction plant before the ore in sight warrants its construction.

OPINION. The VALHALLA GROUP is a promising mining property and I can conscientiously recomment further work on it. What has so far been done in the way of tracing and exposing the veins has been thorough. I do not think more need be done now. By it has been demonstrated that there are at least four parallel veins - a definite vein system - on the property. These all carry a quartz gangue and a combined free gold and sulphide mineralization. The veins carry some gold values everywhere and very good gold values in places.

So far, sufficient work has not been done to demonstrate the presence, or absence, of a commercial ore body - one which may be mined at a profit. The important question is how such an ore body can be found and put into condition for mining most economically and expeditiously. It is my opinion that the drifting on

the No. 3 vein in the Tenderfoot tunnel and later the cross - cutting from it to the No. 2 and No. 4 veins is the best method to be persued and I believe that this work will accomplish the desired result. It is impossible to place definite limits on just how much work will ne necessary, ore may be encountered in ten feet or it may be necessary to go hundreds of feet for it. If I were asked how much work provision should be made to ensure economy and efficiency, I would say five hundred feet of drifting. If an ore body of any considerable size and carrying $ 10 or more in gold and silver values, I would consider that this should be made to pay under the existing conditions.

I wish to commend the excellent work done by Mr. John Willman on this and your other properties. He has a thorough grasp of the situation and is in every way efficient and competent.

W.J. Elmendorf.
Mining Engineer.

Seattle, Washington,
October 30th, 1924.