

"THE MINES AT WHITE HORSE AND ATLIN"

P13 - Alaska-Yukon Mining Journal
 Vol 1, No 5
 Skagway, Alaska
 1901

W. M. Brewer, M.E., representative of the New York Mining and Engineering Journal, returned to Vancouver after a trip in the interests of that paper through the Atlin and White Horse districts. Although proverbially conservative in his views, Mr. Brewer speaks optimistically of the Atlin country, which under certain conditions, will develop into a capital camp.

Regarding his observation on the trip, Mr. Brewer said: "From Skagway to Pavey, a few miles beyond Bennett, on Bennett lake, the geological formation seems to be grey granite, interspersed with an occasional dyke of dark colored hornblende granite. At Pavey the formation changes to a close grained dark eruptive rock, highly impregnated with iron which causes the mountains on both sides of the lake for about 5 miles to bear a very rusty appearance and show every apparent indication that if this belt of country, which has its strike north-westerly, were thoroughly prospected it is quite probable that some good prospects would be discovered. After crossing this zone you again enter the grey granite with occasional zones of the same eruptive rock as already mentioned, alternating with the granite. From Cariboo Crossing to Atlin, the route of the steamer is so far distant from the shores that it is impossible to distinguish the geology.

"On a branch of Taku Arm, about 28 miles from Atlin, is located the Engineer and Gleaner groups of gold bearing quartz propositions. These I did not visit, as time would not allow.

"The formation around Atlin is a magnesian rock usually found very much altered, and would be classified as a serpentine. In the gullies near the town immense bed of white material, which at a casual glance, would be designated as kaolin, but which Mr. Brownley, M.E. for Lord Ernest Hamilton, has had analysed and finds to be magnesia exists. These are due to the decomposition or degradation of the serpentine and other magnesian rocks. At the first glance it appears that the creeks which have been proved to be gold bearing, all traverse the same formation, and it has been stated that the gold bearing area of Atlin is confined to these magnesian rocks, but a closer examination and especially a trip to the head of Spruce creek, demonstrates that a very large proportion of the formation on that creek is a graphitic slate, very probably belonging to the Pre-Cambrian period, and possibly derived from the metamorphism of Cambrian shales.

"Above the head of Spruce creek I was informed that a belt of limestone occurred, and was shown a specimen of crystalline limestone which was said to have been taken from that belt. It is my impression that the slates belonging to the zone which Spruce Creek crosscuts will possibly be found to contain extensive bodies of low grade auriferous material which with a cheap fuel, will offer an opportunity for the camp to become a permanent lode mining one, possible of very large dimensions.

"The other quartz propositions that I saw, including the Anaconda group, adjoining the townsite of Atlin, Munro Mountain and the Yellow Jacket, Pine creek, are not yet sufficiently developed or exploited to warrant the expression of any opinion as to their future possibilities.

"During the few days I was in camp I visited Boulder, Spruce, Pine and McKee creeks and Willow Gulch, besides the quartz propositions mentioned. With the exception of Spruce, I find the geological formation comprised the magnesian rocks which occur around Atlin as well as dykes of fine-grained eruptive rock, most probably diabase. Hydraulic plants are being operated on all of these creeks, and the results of these operations will not be known until the end of the season, when the bed rock flumes into which the material is washed are cleaned up; but a comparatively few individual owners were working their claims, the greatest number being on Stevendye Gulch and Spruce creek. I visited several of these, and saw some partial clean-ups, which, according to the rule of every other placer camp in the world showed good, bad and indifferent results. I noticed one feature in particular which was that comparatively very little typical gold dust is found either in the sluice boxes or by panning.

"When I use the expression "typical gold dust," I mean fine gold. The yield from all the creeks in the Atlin district that I saw is composed of quite coarse particles of gold and nuggets.

When the bed rock flumes are cleaned up there may be then found fine dust. During my visit a nugget weighing 64 oz. was taken from Willow Gulch, another of 36 oz. from McKee creek. I saw \$11.25 cleaned up on McKee creek as the result of one man's work for less than a day, and he was not shoveling on bed rock. I also saw 50 ounces, which it was claimed represented a partial clean-up for nine men's work for eight days on Boulder creek. I also saw a clean-up on Pine creek of 15 oz.

which represented the work of eight men for one day. The banks have already purchased this year \$150,000 work up to July 15th. My own impressions are that there are not more than 500 men in the entire camp. There is no doubt but that the camp will settle down in the near future to a hydraulic one, but there appears to be a disposition, especially on Pine creek to throw the whole country into litigation. If this does take place it will not only retard the growth and prosperity of the country at present but will have a strong tendency to injure the whole province, because capitalists will not buy into lawsuits. Already Lord Ernest Hamilton's syndicate has thrown up the Yellow Jacket property absolutely because of litigation.

"I consider that the prospect of the Atlin district, provided a cheap fuel is furnished, and the particular formation I have mentioned is thoroughly exploited and demonstrated to carry bodies of gold bearing ore, either free milling or refractory, are the peer of those of several of the prominent camps in the United States".

About four miles and a half in a southwesterly direction from the city of White Horse is situated the Copper King group of mineral claims as well as the group of concessions which are controlled by the White Horse Copper Company, of Vancouver. This group of mining claims is apparently on the northeast border of a mineral bearing zone at present undetermined in longitudinal extent, and having a width of possibly nearly two miles. My examination was as thorough as possible under the circumstance, for during the time I visited, beside the Copper King group, the Carlyle, Rabbit's Foot, Anaconda, Pueblo, Grafton, Verone, Arctic Chief, Best Chance, Brown Glub and Black Cub mineral claims.

"My opinion differs entirely from one expressed last year by another mining engineer, in which he made the statement that this mineral bearing zone occupied a basin which was underlaid by granite, and that at comparatively shallow depths the granite would be encountered, cutting off the ore bodies, I found on the contrary, that there is absolutely no reason, in my judgment, for any such opinion. The geological formation is identical with that on Texada Island around the Van Anda, Marble Bay and other properties, and all the ore, with the exception of that on the Pueblo, is very similar to the copper ores of Texada Island. Apparently this mineral bearing zone occupies a territory, the oldest formation in which is limestone, but as no fossils have

been found to the limestone wherever I saw it is fully crystalized, it is practically impossible to designate the geological period to which it belongs. At some later period this limestone had been disturbed and metamorphosed by the intrusion of felcite, diabase and hornblendic granite dykes. The ore comprises carbonates, azurite and malacite at and near the surface, bornite to as great as depth as has yet been attained in the workings and comparatively very little chalcopyrite.

"The Pueblo is the only claim that I saw on which the ore differs from the others to any marked extent, and on this the ore body is an extensive deposit of red hematite iron carrying low copper values on the surface, which, judging from the dump, disappeared entirely with depth. I was unable to visit the workings in the claim where a depth, I was told, of 150 feet had been reached, because the shaft was full of water, and no pumping facilities were at hand. It is impossible to form any very good opinion as to the extent of the bodies of copper-bearing ore on any of the claims, because sufficient systematic work has not yet been performed. From the surface indications on many of them it would appear that the bodies possess greater extent than those on Texada Island, but this estimate is purely problematical.

"The zone has been prospected along its line of strike for a distance of eight or ten miles in northwesterly and southeasterly directions and apparently what may be termed the main zone is separated into two by a granite dyke, these two taking the form of the letter V with the narrow portion toward the northwest in the neighborhood of the Rabbit's Foot and Anaconda claims, and the wider portion represented on the northeast side by the Copper King and Carlyle mineral claims, and on the southwest side by the Pueblo, Grafton, Arctic Chief, and at its southeast extremity, so far as at present known, by the Black and Brown Cub mineral claims.

"I also visited the new coal discovery which is situated on an air line from White Horse about twelve miles in a south westerly direction, but about twenty miles by the present trail. This follows the railway nine miles above White Horse, thence eleven miles and a half into the mountains. A creek named Johnson creek is followed up from the railway and this cross-cuts the felcite and diabase dykes of the copper zone flanked by granite, and this followed by conglomerate, sandstones and shale probably belonging to the Cretaceous period. The full extent of this formation is as yet undetermined but I saw apparently

three seams of coal, the wider of which may possibly be duplications of one seam. The narrowest of these shows a thickness of six feet were opened on a small branch of Johnson creek. The other two lying above the narrow one, show a thickness of eighteen feet of clear coal without any slate partings. At one point on the same branch as that on which the narrow seam has opened, a drift about fifty feet long has been run in and from this coal was mined last winter and hauled to the railway on sleighs, and, I was informed by the superintendent of the railway company, had been tested on two engines between White Horse and Skagway with very gratifying results. The third, or apparently the third seam, outcrops on the top of a mountain 4,700 feet in elevation, and has been opened by the shallow open cut showing a thickness of eighteen feet of coal. The general line of strike of this formation and the coal seams is northwest, and can be traced for upwards of two miles. The widths of the coal measures is apparently about two thousand feet. No tests have yet been made of this coal for coking purposes. Should it prove a good coking coal then undoubtedly, as there is ample limestone and iron for fluxing purposes, White Horse should in not the far distant future become a good permanent mining camp. It is reported that other deposits of coal have been discovered near Five Fingers, but these I did not visit."

(From Alaska-Yukon Mining Journal,
August, 1901)