



1-10-1880

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Recommended Citation

Muir, John, "Alaska Gold Fields. A Country Moderately Rich in the Precious Metals. The Cassiar and Other Mines-Mining Prospects-Geological Changes. (Special Correspondence of the Bulletin.) Sitka, December 23, 1879." (1880). *John Muir: A Reading Bibliography by Kimes*. 144.

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ALASKA GOLD FIELDS.

A Country Moderately Rich in the Precious Metals.

The Cassiar and Other Mines—Mining Prospects—Geological Changes.

(SPECIAL CORRESPONDENCE OF THE BULLETIN.)

SITKA, December 23, 1879.

The gold of Alaska is still in the ground, all save a few thousand ounces gathered here and there from the more accessible veins and gravel-beds of the islands and mountains along the coast. But the cause of the seeming barrenness of the rocks of this northern region is not far to seek, for in the first place, even the coast mountains have not been explored to any appreciable extent. Probably not one vein or placer in a thousand has yet been touched by the prospector's pick, while the interior region is still a virgin wilderness. All its mineral wealth about as darkly hidden as when it was covered by the ice-mantle of the glacial period. But light sooner or later is sure to come. Thousands of sturdy miners, graduating from the ledges and gulches of California and Nevada, will push their way over the whole territory and make it tell its wealth. What the developments are likely to be we can only guess. For in our present state of knowledge of the ways of gold, the quantity contained in any formation, however laboriously explored by the geologist, can never be surely counted. We have reason, however, to warrant the opinion that Alaska will be found at least moderately rich in the precious metals, and that gold-mining, notwithstanding the disadvantages of climate, heavy vegetation and beds of glacial drift, will come to be regarded as one of the most important and reliable of her resources.

THE GOLD-BEARING BELT OF THE NORTH.

When we withdraw attention from particular mines and districts, and regard the gold-bearing belt as a whole, we see that it stretches continuously along the uplifted western margin of the continent between the Coast and Rocky Mountain ranges, from—Morris northwestward through the well-known mining States and Territories and British Columbia to Alaska, with an average breadth of about 400 or 500 miles, richer here and there, like an ill-sown field of grain, but without blank spots of considerable size where the productive formations are beneath lava flows and sediments. Now, so far as geological explorations in mind carried, they show a correspondence more or less close between the rocks of the northern ranges of the belt and those of the south, whose mineral wealth has already been abundantly proved. They are the representatives the one of the other, while the grassy plains between the northern ranges represent the sage plains of Utah and Nevada. The gold rocks of British Columbia and Alaska, from what little we know of them, seem to be the equivalents of those of California. But, leaving the geological relations of the rocks of the different sections out of the discussion, and limiting in mind the rocks of the same geological range vary greatly as to the quantity of gold they carry, it still remains that in its extension northward the topographical features of the belt are similar, and that gold, under similar conditions, has been found in every portion of it, as far as it has been explored. In British Columbia, it has already yielded gold to the value of about \$45,000,000. The Fraser river mines are still productive and profitable, notwithstanding the high price of provisions and all kind of supplies. The shallow placers have been worked out, but the deep deposits, in old channels similar to the dead river gravels of California, are found to be very rich and extensive. One claim on Lightning creek, which flows into a branch of the Fraser, has yielded over half a million dollars. Other claims in the Cariboo district have proved nearly as rich. Extensive deposits are also being worked on the headwaters of the Columbia, to the northward, and on Peace river.

THE CASSIAR MINES.

But the most interesting of the discoveries made hereabouts, as being nearest to the Alaska boundary, and showing the continuity of the

gold belt in its northern extension, are the Cassiar mines, in latitude 59 degrees nearly, on Dease, Thibert, Defot, McDames, and other creeks, affluents of the great Mackenzie. The placers on these streams would be considered rich even by old California standards, and about from about twenty to a hundred dollars per day to the hand. I visited this region last summer and spent a few days about the mines and on the mountains in the neighborhood. The western margin of the district, as far as it is known, lies at a distance of about a hundred miles from the highest tributaries of the Yukon, and about three hundred from Fort Wrangel, by way of the Stikine river and Dease Lake. The whole region is heavily overlaid with glacial drift, and there are but few spots even in the beds of the swiftest streams where the bedrock is exposed, so that prospecting is carried on under a great disadvantage. Most of the rock samples shown me are quite coarse, and must have been derived from the adjacent rocks. I saw one nugget that weighs forty ounces, several others about half as large. Specimens like beach gravel are common. About from 500 to 1,000 men have been at work here during the last few years fighting their way against enormous disadvantages. In the first place it is a long way up here from California or Oregon, and if the miner waits the opening of the Stikine to take the steamer to the head of navigation he will not get to work before some time in June. Should he go up on the ice in February or March he will find it a lead on a hand-sleigh, perhaps assisted by dogs, but it is weary work at the best, making his way through the snow, often breaking through into the icy water, and enduring storm winds that sweep down the cañon from the polar region with a temperature of from 20 to 30 degrees below zero at his side. He will find that the spring floods have washed away or filled up ditches, wing-dams, excavations, etc., and he has to begin anew, while the water freezes in the boxes in September, and he has to make haste to get away, or go into winter quarters in a hut to hibernate with the marmosets. In the summer the ice wastes away and remains permanently frozen, and all kinds of bread material costs from five to ten times as much as in the California mines. Should he go off prospecting on the partial exhaustion of his claim, the small summer is done before he can go far or do much. Then his bones begin to ache, and the summer of his life wastes away ere he is aware of it. From what I saw of the mines here I think they are practically exhausted, though perhaps less than one ounce of gold in fifty has been drawn from the deposits worked. But the difficulty is, that under the circumstances the auriferous gravel along the streams mentioned above is in places too poor to be profitably worked, while no new discoveries of importance have been made lately. I noticed a good many of the miners standing about, smothered in weary, handog meditation, a sure sign of financial distress. The merchants, too, were evidently taking in sail that the Yukon might be getting ready to retreat collecting debts, and paying out as little as they can. Even the saloon-keepers seem discouraged, and ready for flight. These fields, however, will not be wholly abandoned for many years to come. The thrifty and skillful Chinese will work on and make money in deserted claims, while new discoveries will in all probability be made, although the prospects are not at all encouraging. Two experienced miners set out from Cassiar last spring with a train of pack Indians, and spent the summer in prospecting towards the Yukon without success. Placer mines were discovered on Folly river, a branch of the Yukon several years ago.

NEW DISCOVERIES.

On my return voyage in a canoe from the glaciers of Lynn Canal and Cross Sound last November, I met a party of twelve miners in Holkan bay, who had discovered gold on the outlet of one of the glaciers, and were building a cabin, intending to remain there during the winter. How bright their prospects were they were unwilling to tell. Small quantities have also been washed from the Nasee, Stikine, Takoo and Chilcat rivers, and the "color" of gold may be found in every stream of considerable size in the Territory, as far as they have been examined.

THE BARANOFF ISLAND LEDGE.

I have just returned from a visit to a quartz ledge on Baranoff Island, about nine miles from here, and only from one to two miles from deep tide water. It is being vigorously tested by the owners, the Alaska Gold and Silver Mining Company, and is attracting much attention. A ten-stamp mill has been running for a few weeks, and the returns thus far, though not very exciting, are decidedly good. The vein is from about three to four feet wide, exposed on a steep hillside, and will be easily worked all the way. The rock contains from three to five per cent levels on the ledge is said to yield on the average from \$10 to \$15 a ton. The supply of rock seems practically inexhaustible. The mine is particularly interesting as being the northernmost of its kind on the gold belt, and, for aught I know, on the continent. We hear also of promising quartz from other portions of Baranoff Island, and from near Tongas, Prince of Wales Island, and several points along the Coast Mountains.

MINING PROSPECTS.

The Chilcat Indians have hitherto been hostile to miners entering their country, but last summer one of their chiefs made a formal contract with parties in Wrangel to conduct them on a prospecting tour next spring to the reputed gold mines at the head of the Chilcat river. This outline sketch will, I think, give a fair idea of the present condition of mining prospects in the Territory. The outlook seems to me neither bright nor dark. Many good gold mines will undoubtedly be discovered here, but nothing in sight will be likely to lead to the conclusion that the richest portion of our gold belt lies in the territory that is nearest to the north pole. New Mexico, Arizona, Utah, Nevada, Idaho, Montana and Dakota, are more promising fields for the prospector. The climate is generally more favorable, the deposits of gold and other minerals, perhaps richer, and more of the rocks are bare and exposed to view like the leaves of a book. I am not seeking to discourage enterprise in this direction. I could not if even so disposed. For Nature, who puts wings on seeds and sends them abroad, also controls the right distribution of men. But there is in some minds a tendency toward a wrong love of the marvelous and mysterious, which leads to the belief that whatever is remote must be better than what is near.

GEOLOGICAL CHANGES.

The same notion that urges people into the most inaccessible wilderness as the best for fortune-making, causes them to look for the richest rocks far below the surface. But throughout the entire gold belt, what is now the surface of the ground, was a short geological time ago from half a mile to a mile below the surface. The mechanical action of the ice during the glacial period degraded the mountains and valleys to this extent at least, so that the exposed edge of a vein that portion of the vein which before the glacial period could be reached only by sinking a shaft thousands of feet deep. Let the prospector then bear in mind that every vein is already sunk on, prospected by Nature herself to a depth of thousands of feet, and therefore that sinking a few feet farther will not be likely to develop anything differing much from what is near the surface. A quartz vein that will not pay near the surface is not likely to pay far below it. JOHN MITCHELL.