

neighboring saw mills of Beaver and Palliser ply a good trade by supplying the Northwest with lumber. In proceeding up the Columbia River, I noticed that the rich lands on its banks are being settled up by numerous farms. This is due to the completion of the wagon road between Golden and Bull River, a distance of 200 miles, and it is a significant indication of how surely settlement follows upon the opening up of communication in districts possessing natural wealth.

"Mr. Hanson, at Wasa, near Fort Steele, has a small orchard on his farm, and the trees were covered with blossoms on May 10. At Fort Steele mining enterprise is in a very healthy condition. The wagon road to the North Star Mine was being pushed on to have it completed in five weeks, when Mr. Mann intends to open up the mine for the company which has lately been formed for its operation. There is an enormous body of galena giving 40 ounces of silver to the ton in this claim, and richer veins have been discovered in the Sutherland group in the same neighborhood. So little work has been done in these mines that it is impossible to predict their future, but the indications are very encouraging.

"American capital is now being directed to this portion of the Kootenay District, as well as to the southwest portion, and we may soon look to equally important results. The large bodies of argentiferous galena on the Mouyea Lake have been purchased and are about to be developed. Rich gold quartz leads are reported from Weaver Creek, near Cranbrook, and up Wild Horse Creek, near Fort Steele. The mines known as the 'Dibble group,' near Fort Steele, have been purchased, and show bodies of peacock copper and grey copper, assaying very high in silver. Numbers of prospectors are coming in from the American side, and the prospect of the building of the British Columbia Southern Railway in the near future, and the introduction of cheap fuel has given a great impetus to the mining industry in both East and Southwest Kootenay.

"I left Fort Steele by the steamer *Anerley*, on the Kootenay River, for Jennings, on the Great Northern Railway, and from thence took train to Bonner's Ferry, where I caught the steamer *Nelson*, which took me by the Kootenay River and lake to the Pilot Bay smelter. On the way I was able to see the extensive works of the Kootenay Valley Company, which is dyking and reclaiming the rich bottom lands of this portion of the Kootenay River. When the entire works are completed between twenty and thirty thousand acres of flat bottom lands will be reclaimed, and we may expect to see the whole of this fertile portion of the valley dotted with small farms.

"The scene at Pilot Bay is one that should warm the patriotism of any true British Columbian. The extensive smelting and concentrating works are in full blast, working day and night. The bullion from the smelting furnace is literally pouring out during the twenty four hours, and under the able management of Mr. Gordon, all the machinery and adaptations work without a hitch. The main supply of ore is from the Bluebell Mine, ten miles further up the lake, and a temporary drawback is experienced in obtaining the necessary dry ores as fluxes in the smelting operations; but this will soon be remedied when the mines in the neighborhood are developed, as there are plenty of dry ores in the district, notably in the Ainsworth and Slocan Lake locations. The most serious drawback is the cost and difficulty in getting good coke and coal; but the introduction of the B. C. Southern Railway, which will bring in rich coal and coke from the Crow's Nest Pass at half the price now paid for inferior coke by the smelting company will soon give the Pilot Bay and other smelters all that they can desire.

"The amount of coke in weight to smelt a ton of ore is about ten per cent. of the weight of the ore, and the smelter already uses 30 tons of coke per day. When cheap fuel and dry ores can be obtained, the works will be greatly enlarged. The amount of bullion turned out in the Pilot Bay smelter at present averages 20 tons in the 24 hours, and the lead averages 60 ounces of silver to the ton. The bullion is shipped to Illinois by steamer to Nelson, thence by train to Robson, thence by steamer on the Columbia River to Revelstoke and on by the Canadian Pacific Railway. It is in contemplation to erect a refinery in connection with the smelter. Through

the kindness and attention of Mr. Herricks and Mr. Gordon I was able to inspect the working in detail of this interesting enterprise. I afterwards proceeded to Nelson, which is only four miles from the renowned Silver King mine.

"Although this mine is only $4\frac{1}{2}$ miles from Nelson by a rough trail impassable at present, it is nine miles by a tolerable wagon road, the last two miles of which is still covered by a hard crust of snow. I took horses at 7 a.m., and in company with Mr. Davys, the very competent manager of the mine, and arrived there about 10 o'clock in a heavy snow-storm. The Silver King is probably destined to be one of the great wealth producers of British Columbia. It may be described as a great dyke of diorite protruding through shale which contains within its matrix chimneys of copper and silver ores, with iron pyrites. The copper is found as pyrites or chalcopyrite, and also as peacock copper, the latter being richest in silver. There is also grey copper in places and silver glance, which gives great richness to certain bodies of the ore. From 10 to 15 per cent. of the general body of the ore averages when picked 100 ounces of silver and 15 per cent. of copper to the ton. There are about 100,000 tons of ore in sight, which, taking it as a whole, would average 55 ounces of silver and 10 per cent. of copper to the ton. Some 3,240 feet of tunnels and drifts have been made. One tunnel has been driven straight for 918 feet; it struck the body of ore about 400 feet and has been running in ore ever since. Four winzes have been sunk, respectively, 90, 70, 70 and 125 feet exposing the ore. Borings are now being made with an inch diamond drill, so as to feel the way ahead and below and thus lay out the direction and volume of the ore. The width of the diorite varies from 70 to 10 feet, and in the 70 feet width 40 feet contains ore.

"It is, of course, impossible to predict with certainty what future workings in depth and length may show, but considering that all diorite dykes are eruptive rocks, which are thrown up in the molten state from below, and that the silver and copper found in this case are part of the ingredients in the molten matter, it is reasonable to expect that the riches of this mine will be continuous. The company has called for tenders for a tramway from the mine to Nelson, and I believe it is their intention to erect a smelter immediately. This is a wise resolve as the ore is essentially a smelting ore; it does not require concentrating, but can be sent direct to the smelting furnace. Moreover, Nelson is, by its position, admirably adapted as a great smelting centre, unlimited electric power can be obtained from the Kootenay Falls in the immediate neighbourhood. It is in the midst of the great variety of ores, both wet and dry, produced by the various mines north, south, east and west of it, and can be reached by water and railway from all quarters. It will be on the route of the British Columbia Southern Railway in the near future, and will thus be put in contact with the best of fuel at a very cheap rate. In fact there could be no better location for a smelter.

"On returning to Nelson that afternoon I had considerable provincial business to transact with Captain Fitzstubbbs, so I deferred until the following morning my visit to the Poor Man's mine. This is one of the paying mines of British Columbia. It is situated about six miles from Nelson above the Kootenay river, and only a mile from the Columbia and Kootenay Railway. The property belongs to the Messrs. Davenport, who have stuck manfully to their mine for years past, and are now reaping the reward of their courage and persistency. A ten stamp mill and concentrator has been erected, worked by water power and it was in active operation during my visit. The vein consists of quartz, varying from 10 inches to two feet in thickness and carrying free gold and sulphurets, which hold gold mechanically.

"Considerable work has been done in the mines. Drifts have been run along the vein and winzes sunk, tunnels have been run to strike the vein at lower depths, and everything has tended to prove the permanency of the mine and also its richness in gold. The quartz vein runs through a porphyritic syenite, and it is curiously cut here and there by breaks of a soft shaly rock varying from twelve feet to a few inches. It is evident that these filled up fissures must have been made