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The Mining Record.

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Vol. I. OCTOBER, 1895. No. 1.

Introductory.

The **MINING RECORD** is published for the purpose of making known the mineral resources of the various mining districts in British Columbia. The greatest care will be taken to have the information as correct as possible, and for this reason steps are being taken to secure reliable correspondents at all the most important points in the province. It is the aim of the publishers to make the **RECORD** a reliable authority on all subjects connected with the mining interests of British Columbia, so that investors and others may be able to keep thoroughly posted on what is going on in regard to the rich resources west of the Rocky Mountains, which are now only in the infancy of their development. Full page maps of East and West Kootenay, Cariboo and Vancouver Island mining districts are being prepared and will, it is hoped, be ready for the November number of the **RECORD**. These maps will be of great service to the reader in locating any of the points referred to in the reading columns.

Editorial Notes.

At the close of 1894 British Columbia had produced in gold and silver over fifty millions of dollars.

Yet the "illimitable possibilities" of the province as a great mining country are only now beginning to attract attention.

Up to this time most of the gold has been taken out by hand, without the aid of machinery, so that the real deposits may be said to remain untouched.

The investment of capital for the purpose of placing extensive hydraulic works in the Cariboo mines and elsewhere is likely, therefore, to prove a profitable undertaking.

The works so far, we understand, have required the expenditure of a large amount of money, but the prospects of a rich reward to the investors are, from all accounts, most promising.

It is now certain that the clean up of the season will result in satisfactory returns, but these will be outstripped altogether in 1896, when all the arrangements for the water supply are completed.

Only the other day an English expert of great experience (whose name we are not at liberty to state) was sent out by a party of old country investors to inspect several of the mines of British Columbia, and visited the Cariboo district. On his return from there he declared it was one of the richest gold regions he had ever seen.

He expressed the opinion also that one or more immense deposits existed in that locality which some lucky individual would yet some day discover, and this view is shared by old miners who worked the Cariboo years ago.

The fact is that that part of the province has never been thoroughly prospected, partly on account of the natural obstacles which the country presents to prospectors but chiefly owing to the expense and difficulty of procuring the necessary supplies.

The cost to the hydraulic companies of transporting their machinery and supplies has been enormous, and considering the immense advantages of their operations to the country it is surprising that the residents of Cariboo should object to facilities being given them for opening up the shortest roads to the mines.

Hon. Mr. Martin, the Chief Commissioner of Lands and Works, took the correct view at the meeting held last month at 150 Mile House (which is noted elsewhere) when he said that the companies deserved every consideration at the hands of the Government, for if it were not for them the Cariboo district would be lying idle to-day and the settlers would be so much the poorer.

Chinamen have been working on the Fraser River banks for years washing gold, but the pay they earn, considering the cost and difficulty of getting supplies, would not satisfy a white miner, and so John Chinaman has had the whole field to himself for a number of years. That the Chinese take out an enormous quantity of gold each season is well known,

although the total value of their washings cannot be ascertained for they are cute and secretive about their profits in any undertaking. Most of the money earned finds its way to China, and a very large proportion of it is not included in the Government returns.

Several dredges are now on the Fraser for the purpose of lifting the gold from the bottom of the river, but their success so far is problematical, although, judging from the success which has attended this method of mining in New Zealand and elsewhere, there should be no reason why it will not succeed on the Fraser. Before the close of the season we hope to be able to give a good account of the dredging returns.

It is not so long ago that word first came from Alberni of the discovery of gold in the neighborhood of Barclay Sound. Most people paid little attention to the report, it being regarded as a mere attempt to create an interest in the district for the purpose of speculation in real estate. A few men, however, were sufficiently impressed with the importance of the find to investigate it further, and the result is to-day that Alberni is one of the most promising gold fields in British Columbia.

It is particularly well situated for getting in machinery and supplies at small cost and as the latest reports from there show the whole district to be rich, there is every prospect of great activity there this fall. Already companies have been formed and work commenced on extensive hydraulic works, and some of the specimens of quartz recently brought in, show a large quantity of free gold.

The discovery of gold at Alberni has caused attention to be directed to the probability that the whole island of Vancouver is rich in mineral resources. Immense deposits of coal are known to exist in several parts in addition to the mines now being worked, and Indians have brought in reports showing the presence of precious metals in numerous localities as yet unexplored by the white man. Indeed, the interior of the island may be regarded to some extent as a "terra incognita," because no prospecting of any importance has yet been attempted there. It may be expected, however, that prospectors will extend their operations beyond the district of Alberni to all parts of the island, and before the end of another season some idea will be formed of its value as a gold field.

In East Kootenay valuable discoveries have been made chiefly in low grade ores, and the district, as soon as transportation facilities are secured, will be one of the most active in mining operations and satisfactory in results of any in British Columbia. What is needed, and what is keeping East Kootenay back is the lack of capital to work the mines. There are low grade mines in Alaska—where the ore is not nearly so valuable as that of East Kootenay—which are paying the companies operating them immense dividends. The mining of low grade ore in large lodes is more permanent in character than that of high grades, which are generally found in small lodes, and in this respect East Kootenay has an advantage over other districts.

The Canadian Pacific Railway is the natural outlet for East Kootenay, and the immense business awaiting the company in

the shipment of ore from the mines will no doubt induce the able men at its head to penetrate the country with branch lines. If there ever was a case where the Government should aid a railway in building branch lines it is that of East Kootenay, where millions of dollars are lying dormant awaiting development to add to the wealth of the Dominion. In another part of this issue some particulars are given, showing what Alaska is doing in low grade ores, and the question naturally arises why Canada should remain idle with even better opportunities, while that northern country is turning out to Uncle Sam millions of dollars.

In West Kootenay the development of the mines is going on rapidly, and the high grade ores found there are, in many cases, showing extraordinary results. Our enterprising neighbors in the United States have not been slow in taking advantage of the opportunity offered them, and thousands of tons of ore are being shipped each month to American smelters. As Americans in many instances own the mines in West Kootenay, the proceeds go into the pockets of Uncle Sam instead of the Dominion.

Canada should use every effort to develop the remaining wealth of this district which is enormous, and turn it to account for the good of the Dominion. It is therefore to be hoped that the attention of Canadian and English investors will be aroused, and that the mineral wealth of British Columbia will not be allowed to slip out of their hands.

For half a century or more the knowledge of British Columbia's richness in minerals has been no secret to the trappers and hunters of the Hudson's Bay Company. They brought in reports continually concerning it from all parts of the country, and this induced placer miners to enter and work the various streams. These men took out over fifty millions of dollars from the gravel banks, and then the discovery of gold and silver in the Kootenay region attracted attention. It was the signal for prospectors to rush in, and for a few capitalists to seize the opportunity, and the result so far is, that, while a number of enterprising Canadians have gone into the Cariboo and other districts, Uncle Sam has been very wide-awake in purchasing and working mines in West Kootenay.

One smelter is now at work in the district at Pilot Bay. It ought to be followed by others as quickly as possible. Smelters should also be erected in Vancouver and other points on the Canadian Pacific Railway, which no doubt will be done as the company secure the necessary connections with the mines. The recent visit of Vice-President Shaughnessy into the Kootenay will, we feel sure, do more to open up that country to Canada than anything that has occurred for some time. He has seen for himself the wealth of resources awaiting development, and he must have recognized the fact that a large traffic awaits the Canadian Pacific from that quarter. Vice-President Shaughnessy since his return has spoken in glowing terms of the Kootenay region. He is evidently satisfied that the reports from there have not been exaggerated, and that the future prospects have not been over-estimated.

We may expect then that the Canadian Pacific Railway Company will take immediate steps toward opening up a way into

the Kootenay mines. It is to be hoped also that they will not stop then, but that other branches, especially one into the rich gold-fields of the Cariboo will be built. With the Americans on the one side and the Canadians on the other, each striving to get a share of the marvellous mineral wealth of the country; the prospects of British Columbia in the near future indicate great prosperity for the Province. Our great Dominion, with its comparatively sparse population, requires money to aid in the development of its varied resources and the increase of its people. Here, in British Columbia, are millions upon millions in gold and silver, only awaiting to be taken out in order to give an impetus to every industry throughout Canada. It is the duty then of the Dominion Government, not only to British Columbia, but to every province in Canada, that all possible assistance should be given towards opening up our mining regions. If it is not done soon Uncle Sam will not fail to take full advantage of the opportunity which will be afforded him.

At the present time there is a good deal of interest shown by English investors in the gold-fields of South Africa. Money is being contributed largely toward the opening up of those regions, and we understand the returns so far have in most cases been satisfactory. But if English investors understood that they could obtain nearer home and at less risk as good results by investing their money in British Columbia mines, they would not hesitate to furnish the necessary capital. British Columbia has never been noted for blowing its own trumpet. Indeed it has been a little too much the other way and the result is, that to-day very little is known about the province and its resources by people in England or even Canada. The time has come however, when the capabilities of British Columbia should be made widely known, especially in regard to its mines. That immense wealth lies hidden in the rocks and gravel beds of the Pacific Coast is an ascertained fact and not a matter of speculation. To turn these rich deposits of gold and silver into use requires capital and in order to obtain the means to develop them their value and extent must be clearly demonstrated to those who have the money to invest. Once the capabilities of the Province are thoroughly understood in Great Britain, there will be little difficulty in obtaining the necessary capital to develop our mines.

The Salvation of the Province.

Premier Turner of British Columbia when in England spoke to many people with a view to enlisting capital for the development of the mineral wealth of the Province. "What is wanted," he said, "in order to attract more attention to the province, is some actual returns in the form of dividends from some of our large new mines. When these are forthcoming, which will, I believe, be very soon, we shall have a proportionate boom in the precious metals of British Columbia, to that which is taking place in regard to South Africa. At the present time South Africa is, to a certain extent, attracting a great deal of capital which we should like to draw to British Columbia. I have been talking to several parties interested in South African mines, and, on my suggesting that probably a great deal might be lost, as there is so much gambling in mining stocks, and that it would be better for them to transfer their investments to British Columbia, the invariable reply is: "Large fortunes have been and are being made in South Africa, not only by members of the stock exchange, but large dividends have actually been paid to the shareholders at home. When capitalists," continued the premier, "see the published returns of these companies, they naturally think that South Africa is the best place for them to invest in. What we want in order to divert

attention to British Columbia, is to have a good output from our mines, and to have it made known, and thus to show that British Columbia mines can pay dividends, thereby giving an opportunity of our figures being compared with other mineral producing countries." Incidentally it may be mentioned that the new agent-general for British Columbia, Hon. F. G. Vernon, is doing good work in this respect, as he is constantly forwarding to English mining journals, particulars of the output of British Columbia mines. These journals gladly publish the information, and it must, accordingly, be very evident that the premier and the agent-general have hit upon the right plan wherewith to attract westward a portion of the capital which at the present time goes to Africa and to Australia.

Alberni.

Alberni is attracting some attention as a gold mining camp. It is said that two or three companies have been organized, and have secured the necessary capital to equip and carry on hydraulic works on China Creek, about 7 or 8 miles from the town of Alberni.

Fair prospects are found in many places along the Creek, and it is possible that a considerable area of workable pay gravel will be found when the old channels have been located. The county is heavily wooded, and there is a good deal of underbrush, making it difficult to trace out the different steps or benches which mark the channels of various periods, formed by the decreasing volumes of water which flowed from the Great Canon, between the two high mountains to the east, towards Alberni Canal in the west.

China Creek enters the Alberni Canal on Barclay Sound, west coast of Vancouver Island, about 7 miles south of Alberni, and is a fair sized stream, carrying 5,000 miner's inches of water or more in the spring, when the snows are melting on the mountains, but probably not one-fourth of that at low water, which will be for about half the working season. The present stream runs in a westerly direction through the pass in the mountains, about 8 miles from its mouth, takes a bend round to the northward and then flows in a south-westerly direction into the canal. The fall in the stream varies from 50 or 60 feet to the mile near the mouth, to 100 and even 150 feet to the mile in the canon above.

The gravel banks or benches vary from 10 to 150 feet in height above the stream, but the depth of gravel is not known, no shafts having yet been sunk to bed-rock at any distance back from the creek.

The gold quartz lodes on Mineral Creek, which comes into China Creek from the north about 8 miles up, give every promise of a good gold camp. The leads are of a good average size and are generally most favorably situated for development by means of tunnels.

Very high assays have been talked about and published, but as these have generally come from pieces of quartz in which free gold could be seen, they are not sufficient to establish the average grade of the workable ore. Work is now being carried on, and openings have been made in quite a number of places on the lodes, and there is not much doubt that, on the properly opening up of the claims, they will develop mines capable of giving very satisfactory results.

Gold Mining in British Columbia.

The following are extracts from the *Mineral Wealth of British Columbia* by George M. Dawson, D.S.F.G.S., Director of Geological Surveys of Canada, referring to mining in British Columbia on the Fraser river:

"The Fraser carries to the sea a great part of the entire drainage of the interior of British Columbia. At its mouth, the great quantity of detritus which it has brought down has formed an extensive delta. Followed up to the vicinity of Hope, its valley becomes defined by bordering mountain ridges, which gradually converge to the mouth of the canon at Yale. This lower part of the valley must be regarded as an ancient salt-water inlet, which has been filled up by the material transported by the river, the harder and older rock-bottom of the valley being generally covered to a great depth. Between Yale

and Boston Bar (nearly opposite North Bend on the Canadian Pacific Railway), it breaks through the axis of the Coast Ranges, flowing in a series of wild rapids through a ragged gash in the mountains. Along the sides of this canon, a scarcely passable goat track existed when the gold miners first arrived on the scene. Beyond Boston Bar the valley becomes a direct and deep north-and-south furrow all the way to Fort George in latitude 54°. The southern part of this portion of the valley cuts obliquely through the inner tiers or flanking ridges of the Coast Ranges, but its northern and upper part is excavated in the plateau of the interior to the east of these ranges. From the point of view of the gold miner, the Fraser may be regarded as a gigantic ground-slucice. Its valley, originally excavated in Tertiary times, in the rocky substratum of the country, was subsequently, during the glacial period, largely filled with drift material; through which, at a later date, the river has had to re-excavate its bed, leaving great series of terraces or 'benches' along its banks in many places, as this was gradually accomplished. A portion of the gold now found in its bed and banks has without doubt been worn out of its rocky matrix directly by the action of the river and its immediate tributaries, while another portion may have been derived from the glacially transported drift materials. The first mentioned moiety may be supposed to include the 'coarse' gold, the last must be in great part 'fine' gold."

"The mode of working these gold deposits was comparatively a simple one. The so-called 'bars' were nothing more than portions of the river-bed, which, being left bare at low water, could be reached by the miner. They varied in richness, not only in different parts of the length of the river, but also in correspondence with the local relation of the currents and sets of the stream. They were worked generally to but a very limited depth, being often merely skimmed over, in consequence of the trouble from water and the cost of removing any considerable thickness of non-remunerative material to reach deeper underlying pay-streaks. Most of the work was accomplished with the primitive rocker, and in 1858 no other means was employed on that portion of the river below Yale. At Yale and further up, even in that year, sluicing was resorted to in some places, and a number of short ditches were constructed for the purpose of bringing water to the places washed, etc.

"A great number of the high benches have been in part superficially worked, and have in some cases yielded excellent results. In the bed of the river itself, at each season of flood, a particular rearrangement of material occurs, and additional supplies of gold are brought in by the wearing away of the banks, a feature having important bearings on the probable successful applications of hydraulic mining to some of these deposits. Though no longer exceptionally rich, the bars and branches of the Fraser seem to afford a practically inexhaustible supply of gold. Had no further discoveries occurred in the north, the Fraser would not so soon have been deserted by the energetic white population, but with the gradual improvement in methods of mining would have been made to yield a vastly greater amount of gold than it has yet produced. Nothing illustrates the fact more forcibly than the table given below of the annual yield of the river during late years. Hill's Bar, near Yale, has probably afforded more gold than any other single locality on the Fraser. It was estimated to have produced in all (to 1875) not less than \$2,000,000 worth of gold from a total area of less than half a square mile."

"It scarcely, I believe, admits of doubt, that extensive and successful mining enterprises, based on the application of the hydraulic method of working, will yet be instituted along a great part of the length of the Fraser valley, while dredging or other methods by which the materials of the bottom may be obtained and treated, may also be profitably employed. *The great extent of the bench or terrace deposits of the valley, with the excellent opportunity of disposing of the waste, offer exceptionally favorable conditions for hydraulic work, and tributary streams with a sufficient quantity and head of water for mining purposes are not wanting.*

"It may further be observed, that gold has been found on the Anderson River, on Lillooet River, and on Bridge River, all nearly on the line of strike of the Anderson River series and the overlying Cretaceous rocks, in such a manner as to mark out pretty distinctly the course of an auriferous belt to the east of, and parallel with, the axis of the Coast Ranges.

"The future of placer mining deserves consideration, particularly from the following points of view:

"1. In each proved auriferous district, the poorer or less concentrated gold-bearing ground must necessarily greatly surpass in area that of the very rich deposits which alone pay for work with primitive appliances and with the cost of supplies and labor at high figures. Thus the cheapening of these essentials, produced by improved means of communication and by the settlement of the country, coupled with the attendant facilities for bringing heavier machinery and appliances into use, will

enable the profitable working of greatly extended areas. These considerations apply particularly at the present time to the region of country in the vicinity of the railway, or connected with it by easily travelled routes. By the construction of the railway, a large part of the Kootenay district, together with that bordering upon the lower part of the Fraser, has been opened up for work of this kind, and deserve particular attention. The hydraulic method of mining will doubtless rank first among the means to be brought into use for the utilization of the poorer deposits.

"Another point deserving consideration is the further exploration of the already known rich deposits of gold confined principally to the old buried channels of the streams."

British Columbia Creeks and Rivers.

Dr. Dawson speaks about a few British Columbia creeks and rivers successfully mined, as follows:

"CAYOOSH CREEK.—Diggings discovered in spring of 1886 by Chinese. Gold worth \$18 to \$18.50 per ounce. In 1886 yielded 725 ounces. Yield in 1888 estimated at about \$52,000. Remunerative work has been carried on here uninterrupted since the discovery. The gold obtained is on the lower ten miles of the creek, below the outcrops of certain gold-bearing quartz-vein, from which the placer gold is supposed to be derived. This creek affords a remarkable instance of rich placer deposits, which have remained long undiscovered in a country supposed to be well-known. Mr. Phair, Mining Recorder, writes: 'It seems almost incredible that this creek, within an hour's walk of the town of Lillooet, should have been passed by for a quarter of a century by hundreds, aye thousands of the best practical white miners and prospectors of the Pacific Coast, and now at this late date the prize falls into the hands of Chinese.'

"BRIDGE RIVER.—Discovered in 1858, and soon prospected nearly to its source and some mining done throughout. Coarse gold for ten miles up from mouth, further up generally scale gold. Some nuggets found in lower part of river of from one to seven ounces in weight, and one said to have been worth \$300. This stream was at first worked by whites, afterwards chiefly by Chinese and Indians. In 1866, Chinese said to have obtained gold to value of \$66,000 to twelve men, by wing-damming. A good deal of the mining has been done of late years on the South Fork, which is reached by a journey of three or four days from Lillooet via Seton Lake and across the mountains. Gold worth \$16.50 per ounce, coarse, nuggets worth \$10 to \$22 have been found.

"WILLIAMS CREEK (Cariboo District).—Discovered 1861, and has yielded more gold than any stream in British Columbia. As examples of the yield in early years, it may be stated that Steele's claim gave a maximum yield of 400 ounces, or \$6,524 a day. Over \$100,000 in all taken from this claim of eighty by twenty-five feet. In 1862, Cunningham's claim produced gold to the value of nearly \$2,000 a day for the season, while on several days as much as fifty-two pounds weight of gold was taken out. The Adams' claims yielded to each of its three partners \$40,000 clear. These claims were above 'the canon' in shallow ground. The deep ground below 'the canon' was first bottomed near the end of 1861 by the Barker Co. (whence Barkerville). The Diller Co. was the next successful in this, and it is credibly stated that here, on one occasion, 200 pounds of gold, worth \$38,400 was obtained in one day. In 1863, three claims below 'the canon' yielded \$300,000, and twenty claims were steadily producing from 70 to 400 ounces a day. Four hundred miners were at work on Williams Creek in this year—'the Golden year.' The aggregate of Williams Creek, for the first seven years of working, for which no returns are available, was very large. In 1888, about twelve hydraulic claims were being worked.

"LIGHTNING CREEK.—Discovered in 1861, and in that year \$200,000 worth of gold was taken from Campbell's Discovery claim, and the adjacent Whitehall claim. Attempts were made almost from the first to reach the deep channel of this creek, but after much work were abandoned in 1864. Sinking was, however, resumed in 1870, and, having proved successful, led to the subsequent great developments. The rich character of some of the ground on this creek may be illustrated by stating that at one time the Butcher claim yielded 350 ounces a day, the Aurora, 300 to 600 ounces, and the Caledonia 300 ounces.

"There are also quite a number of valleys in which, though the bed of the present stream has proved rich, the deep ground or old channel has not even yet been reached, or if reached, has not been satisfactorily tested. In all these cases it requires only more effective machinery and greater engineering skill to be brought to bear, to attain and work the deposits referred to, and it is likely that many of them will pay well when such means can be applied at a reasonable cost.

"Not the least important consideration, however, from the point of view of placer mining, is that of the probable existence of placer deposits differing in age and character from those which have so far been worked in the Province."

Referring to the foregoing opinions by Dr. Dawson, the following explanation will give those who have no knowledge of mining matters an idea what quantity of gravel was worked by the miners of former days. One to two cubic yards of dirt washed is considered a good day's work, mining with a rocker. It will be seen from this that gravel not averaging at least \$1 a yard and upwards could not be profitably mined on the rocker. The flumes and ditches used by the old-time miner on the Fraser were but very small affairs, and the water conveyed therein to the mine as a rule was barely sufficient to wash away the gravel shovelled in the boxes by the miners. Ten yards represented a good day's work per man. This would indicate that only the exceptionally rich pay-streaks exposed on the surface have been worked.

Gold Channels.

An interesting feature of the Cariboo country is the tracing of gold channels by the miners, who become expert at it, says the *B. C. Mining Journal*. Of course, sometimes they miss it, but usually, when a man decides to run a tunnel or shaft to tap an old channel he is pretty apt to know from certain surface indications that he is sure to strike it as he started out to do. In the Horsefly region is a circumstance that would upset his calculations, considerably, however. Beaver river, which flows into the Quesnelle river about 30 miles above Quesnelle mouth, heads away up the country towards Horsefly and not more than a quarter of a mile from Mussel creek, from which the water for the Horsefly mine is drawn. In a little creek adjacent to the Mussel is a beaver dam over 10 feet high, constructed in the highest style of the beaver's art, which turned the waters that should go into Horsefly river into Beaver river. Along comes a man named Hobson, cuts the beaver dam and builds another to turn the water of the Beaver into Mussel creek, or rather into his water ditch. From indications to be seen all over Cariboo, it is very easy to deduce that the beavers have taken a prominent part, and much more so than commonly believed, in cutting off and making out the new channels. They will dam away at a narrow place in a creek, till accumulations will gather that finally will make firm ground and the beavers will keep raising their dams to secure the water which it seems necessary for them to have, till an overflow will take place away back up the stream, and a new channel will be opened up remote from where the beavers had worked and lived for hundreds or thousands of years. It is a well known fact that beavers have dammed streams over which it would have taxed the ingenuity of man to throw an obstruction, and the cunning little animals use all the ingenuity to gain strength for their structure that the educated engineer could devise. The dam is always built concave up stream so that the pressure will come upon the middle and upon both banks. On the lower side of the dam are piled sticks and light things so that the water, instead of going over in a body, thereby causing damage, is broken up by falling upon the debris and the force is allayed and it falls harmlessly.

Amendment to Mineral Act of British Columbia.

The Mineral Act of British Columbia was amended so as to give the owner of a mineral claim title to all minerals within the boundary lines of his claim continued vertically downwards. It stopped a fruitful source of litigation. In the United States, the law allows the owner of a mineral claim to follow his vein or lode beyond his side lines. The side lines of a claim are supposed to run parallel with the vein or lode, but often claims are staked before the direction of the vein or lode is known. The direction is often not known until work on adjoining claims is done. Then comes the dispute, as to the ownership of the ore in the vein; one party contending that the side lines should be considered end lines, and *vice versa*. A case of this kind is now before the courts in California, and the judge, in hearing an application for an injunction, said: "The point raised is a new one and exceedingly fascinating." There is the whole question in a nutshell. In the United

States, the law is such that legal points causing serious disputes can be raised; in British Columbia, the law is so plain that all disputes can be settled by calling in the services of a surveyor.

Mining Bureau.

TO SUPPLY RELIABLE INFORMATION AS TO MINING DEVELOPMENT OF B. C.

Hon. Col. Baker, in his capacity of Minister of Mines, has caused to be sent out to the various mining recorders throughout the Province, circulars requesting them to gather every possible information as to mines and mining operations in their districts. This information will be forwarded through the Gold Commissioners of the districts to Victoria, with samples of ore from the mines, also samples of the rock from the hanging or foot walls. This is the first move towards establishing a Bureau of Mining for the province.

Extension of Nakusp and Slocan Railway.

The Canadian Pacific Railway Company have decided to extend the Nakusp and Slocan Railway from Three Forks to Sandon. Mr. Abbot, the general superintendent of the Pacific division was recently in West Kootenay and the contracts were let for the construction of this extension, which will be about 4½ miles in length. Work is already commenced, and it is hoped that the road will be completed before the winter sets in. By means of this extension, the railway will tap the district in which the Slocan Star and other important mines are situated, the ores from which can then be shipped without the expense of a haul of several miles by waggons.

Correspondence.

Editor MINING RECORD:—

East Kootenay does not appear to receive a fair share of attention, or notice, in any papers or publications that refer to the mining interests of British Columbia. And yet, it is altogether possible, that the time is not far distant when East Kootenay will employ more men, and carry on larger and more permanently profitable mining and reduction works, than any other district in the Province.

East Kootenay takes in the western slope of the Rocky Mountains, and the eastern slope of the Selkirk range, and extends north and south from the U. S. boundary, to the Big Bend of the Columbia River, or the mouth of Canoe River.

The main line of contact between the crystalline slates, schists and granitic rocks of the Selkirks, and the newer and unconformable limestones of the Rocky Mountains, may be pretty well traced on the map, by following the east side of the Kootenay Valley from Fort Steele to Canal Flat, at the head of Upper Columbia Lake, and then the east side of the Columbia Lakes, and the Columbia River to the Boat encampment, Canoe River.

Along and on either side of the contact are found extremely large mineralised lodes. On the east side, in the limestone formation, the vein matter of these lodes is limespar and other sparry matter, carrying copper, zinc, iron, silver, etc. And they appear on the summit and flanks of the range between the Columbia and Kootenay River in great, red outcrops, which can be seen from a great distance.

None of these have been even prospected, except one near Canal Flat, where a few hundred dollars worth of work has been done to keep up the owners title, not in any way sufficient to determine the prospective value of the claim; and some work near Windermere, where, I believe, a quantity of high grade carbonate of copper was taken out and shipped to England. The mine would probably have proved a success but for some disagreement amongst the owners, which stopped the work.

On the west side, in the slate, the lodes are chiefly quartz, and vary from 50 to 500 feet in width, carrying, more or less, iron pyrites and gold, and in some places argentiferous galena, lead carbonate and more rarely argentiferous grey copper.

The largest of these are simply immense low grade gold quartz lodes, with silver-bearing galena in places, here and there, the galena being "spotted" through the quartz.

They extend north and south for miles, cutting the stratification of the slates both in strike and dip, and forming great parallel ridges two or three miles west of the contact and from 600 to 3,000 feet above the valleys of the Columbia and Kootenay.

may. Unlimited water-power is available for the transmission of power for mining and milling machinery, light, haulage, etc.

Sufficient development work has been done in different places, for several miles along these lodes, to demonstrate the fact that pay ore can be furnished in sufficient quantities now to run a 500 ton mill, and that in a year or so the mines could be opened up and placed in a condition to supply several thousand tons a day.

These great lodes will not long remain idle, as it is well-known that the large low-grade gold mines are the safest, most permanent and regular in paying dividends, of any class of mining investments.

Take as an instance, the Treadmill Alaska Mine, which has been paying from \$300,000 to \$400,000 a year, for the last ten years or so. This mine is worked by open cut or quarrying, and the lodes above referred to can be worked in the same way.

For the year ending May 31, '03, 237,225 tons of quartz were worked, yielding an average of \$2.94 per ton, including sulphurets. The cost of mining, treatment, etc., including all expenses connected with the business, was as follows:

Mining - - - - -	\$ 0.60 per ton.
Milling - - - - -	0.44 "
Chlorination - - - - -	0.17 "
General Expenses at mine - - - - -	0.07 "
San Francisco Office - - - - -	0.02 "
Bullion charges, Freight, Insurance, etc.	0.05 "

Total - - - - - \$ 1.35 per ton.

Leaving a profit of \$1.59 per ton, or \$377,203.65 for the year.

For the year ending May 31, 1894, the average ore worked yielded \$3.20 per ton. The expenses were the same per ton as the previous year, and the net profits \$429,918.00.

These East Kootenay lodes are as large, and can be worked as cheaply and with as much profit to the ton as the Treadmill Alaska, and will not long escape the attention of live mining men, and then we shall hear something from East Kootenay.

Average sized lodes of high grade ore are also found and are being opened up in East Kootenay, and I will endeavor to give you some details of what they are doing in my next.

EAST KOOTENAY.

A Good Idea.

The proprietor of the Manor House, Vancouver, B. C., which, by the way, is a most comfortable hotel, has hit upon a very good plan to attract attention to his house and at the same time advertise the resources of the Kootenay district. He has arranged a display of mineral specimens for the inspection of the guests staying at the hotel, and this is the way in which he announces the fact: "This hotel (the Manor) which has recently been refitted is now one of the most favorite stopping places, not only for up country visitors, but for the many travellers who visit Vancouver from all parts of the world. It appeared therefore that this was a suitable place in which to place the specimens."

The exhibit is a good one, and the following assays of the samples shown will be interesting:

Mine.	Copper per cent.	Gold		Silver	
		oz.	dwt. gr.	oz.	dwt. gr.
Le Roi.....	6.75	2	3 0	4	0 0
Josie.....	3.94	1	6 0	7	0 0
War Eagle.....	2.90	1	15 0	2	0 0
Boundary.....	1.20	0	13 0	1	13 0
New Strike.....	4.50	0	4 2	2	0 0
Gold Dollar (Boundary).....		0	17 3	1	0 0
Cariboo Mine (Camp McKinney).....		14	0 0	22	0 0
Gold Camp (Boundary).....		0	15 6		
Snowshoe.....	7	1	6 0		
Stemwinder.....		15	0 0	1	16 0
St. Barnard.....	36.13	0	13 0	27	0 0
Copper Camp.....	37.19	0	1 20	10	9 1
	Lead.				
Morning Star (Fairview).....	6.31	3	5 0	4	0 0
	3.30	1	6 3	56	3 17
	5	2	0 0	65	2 1
From various claims in the Sky-lark and other camps near Boundary Falls.	47.09	1	0 1	119	10 1
	27.06	1	3 6	90	0 3
	25		14 6	40	0 0
	5.71	0	1 3	47	0 0

Roads into the Cariboo District.

At a meeting held at 150 Mile House in the early part of last month to discuss, amongst other things, the best route which to construct a wagon road into the Horsefly Mines now being rapidly developed, Hon. G. B. Martin, the Chief Commissioner of Lands and Works gave the following reasons why the Government of British Columbia assisted two roads into the district instead of giving all the Government appropriation to one.

Mr. Martin, after explaining what the policy of the Government was in reference to assisting in the development of the different resources of the province, said:—

The question which, it appeared to him, was exciting and troubling the minds of the residents of this part of the country was whether there should be any other road than the one via the 150 into the Horsefly country. The Government had granted \$500 to each road to assist in construction this year, and they had also expended \$3,000 on the road via the 108 Mile House, and he was informed on very good authority that the company represented by Mr. Hobson had constructed a considerable number of miles themselves on that same road. He explained that supplies coming from below would save at least thirty miles of travel by using the 108 Mile Road, but as agricultural produce from the neighborhood of the 150 Mile could be taken in more expeditiously by the 150 road the Government had also granted assistance towards the construction of that road. It would be manifestly unfair to compel teams to travel thirty miles out of their way to get into the Horsefly, when a good route could be found at the 108. It appeared to him that the settlement at the 150 seemed to be in a fairly prosperous condition, and he was very pleased to notice that fact.

Some remarks had been made at the opening of the meeting in reference to assisting private individuals and corporations, and he considered that a company which had expended in the neighborhood of \$300,000 to develop a mine which required a large amount of capital to open up, and a company that still was expending large amounts, was entitled to a good deal of consideration and the Government was justified in giving the trifling assistance they had done.

Referring to the remarks made by Mr. Borland, that it was assisting a private company when others had discovered the wealth in Horsefly and would have worked it, he thought the statement somewhat exaggerated. It took a large amount of capital to work these claims, and most unfortunately for the discoverers they did not have the necessary means at their command to develop the mines, and the mines would still be lying dormant if such companies as those represented by Mr. Hobson and Mr. Whittier did not see fit to invest large sums of money for their development.

The Slocan Mines.

The best known and most largely developed of all the mines of this district is the Slocan Star, situated on Sand n Creek. High up above the creek the ledge outcrops and then dips into the mountain at an anticlinal to the surface. Four tunnels at different elevations tap and cut the vein. The upper tunnel is 70 feet in length and cuts the vein 70 feet from the outcrop. It thus forms the base of an isosceles triangle, of which the vein itself and the surface are the two sides. No. 2 tunnel is 45 feet vertically below No. 1, and No. 3 is 135 feet below No. 2, while No. 4 is 425 feet below No. 1. These tunnels are all connected by winzes and upraises, and many feet of drifting along the vein has been cut. The vein at No. 3 is over 50 feet thick, of which the first 10 or 12 feet are first-class ore, requiring only to be bagged and shipped straight to the smelters. The assay value of this ore is 125 ounces of silver and 74 per cent. of lead to the ton. The amount of ore in sight is enormous. For the 12 months ending May 31st, last, 2,800 tons from this mine were shipped, of which 2,500 tons went to the Omaha and Grant smelters, and 300 tons to Tacoma. This ore had to be hauled down on sleighs to the terminus of the railway at Three Forks, a distance of some 5 or 6 miles. This year the completion of the Kaslo Railway will bring the cars close under the mine itself, and with such increased facilities the shipments will be much larger.

Other Slocan mines which actually ship ore are the Alamo, the Idaho and Cumberland, owned by a Duluth syndicate, who have erected a concentrator near Three Forks, connected with their mines by a gravity tramway; the Rueccau, Noble Five, Wonderful, Mountain Chief, Goodenough, Alpha and several others. The amount they sent out in the period mentioned above was close on 7,000 tons. The value, as declared to H. M. Customs, was \$100 a ton, making a total of over \$700,000.

The agent for the Omaha & Grant Smelter, to which nearly 5,000 tons were sent, has favored us with the actual returns from 2,114 tons of ore contributed from various mines. This amount gave a net return, after deducting 5 per cent. silver and 10 per cent. lead, of 241,336 ounces of silver and 1,224 tons of lead. The average product per ton is thus 114 ounces of silver and (nearly) 60 per cent. of lead. Taking the price of silver to day [August] at 66, and of lead 320 per cwt., the net value of that ore after paying all expenses of freight and smelting, is \$113.64 per ton.

Most of these great galena properties lie on the mountains round the South Fork of Carpenter Creek, which runs westward into the Slocan Lake. On the North Fork are several claims with ledges of dry ore (silver and iron without the lead). From one of these claims in the same belt, the owner informs us that a small shipment of picked ore, sent to the Pilot Bay smelter, went as high as 900 ounces of silver. The vein, which is from 18 inches to 2 feet in width, averages 200 ounces. This dry ore belt extends from Rosebery, a little hamlet at the mouth of Wilson Creek on Slocan Lake, eastward through the country drained by the North Fork of Carpenter Creek, nearly to the Kootenay Lake, a distance of some 12 or 15 miles. Quite recently some phenomenal discoveries of dry ore with large masses of native silver have been made on the creeks flowing westward into the south end of Slocan Lake. The discovery of the Fisher Maiden last year in the same direction has lately attracted attention to this part. This claim shipped 50 tons of ore to the smelter last year, which yielded 265 ounces of silver to the ton, one carload yielding as high as 347 ounces per ton. At present this part of the country is still in the hands of the prospector, and many strikes are being made, of which some at least will make mines, and public attention will no doubt shortly be turned to them.

The following is a list of a few of the chief mines of the Slocan with their characteristics:

BLUE BIRD—Development, 1,800 feet tunnelling and 200 feet shafts; 240 tons have been shipped. Average assay, 137 ounces silver and 75 per cent. lead.

MOUNTAIN CHIEF has shipped 800 tons. The average of 100 tons of this was 214 ounces of silver and 71½ per cent. of lead.

IDAHO and St. JOHN, two parallel claims; 750 tons clean ore shipped averaging 140 ounces of silver and 65 per cent. lead. The owners had about 7 tons of ore on the bank, consisting principally of grey copper and antimonial silver, which carried over 3,000 ounces of silver to the ton.

The **ALAMO** belongs to the same parties as the last; 675 feet tunnels and 160 feet shafts. Ore averages 200 ounces in silver and 60 per cent. lead.

DEADMAN, adjoining Noble Five. One carload only as a sample, shipped to Omaha. Ore averages 150 ounces in silver and 50 per cent. lead.

WASHINGTON. Over 1,000 feet of tunnelling and shafting; 1,500 tons of ore shipped; averaged 140 ounces in silver and 60 per cent. lead.

RUECCAU shipped 350 tons; 80 tons gave a return of 176 ounces of silver and 76 per cent. lead.

NOBLE FIVE GROUP. 1,700 feet of development work. Shipments amount to 550 tons. Value of ore, 150 ounces of silver and 70 per cent. lead.

ALPHA. Development work, 500 feet tunnelling. Ore value, 105 ounces silver and 64 per cent. lead. Total shipments, 1,000 tons to Omaha and Grant smelter.

GOOD ENOUGH. A fractional claim adjoining the Rueccau. From a shipment of 21 tons the galena returned 768 ounces of silver per ton and 66 per cent. lead, and the carbonates yielded 375 ounces of silver per ton and 17 per cent. lead.

RUTH. A claim close to the Slocan Star. Shipped 66½ tons. Ore runs from 115 to 130 ounces in silver and 73 to 79 per cent. lead.

LAST CHANCE has shipped 110 tons. After paying freight, duty and treatment, they returned \$8,000. Cost of mining, \$1,200, net value, \$6,800. Average per ton, \$61.90.

FISHER MAIDEN. Fifty tons of ore shipped, averaging 230 ounces in silver and 10 per cent. lead.

Most of this information has been taken from the figures contained in the Report of the Minister of Mines.

Speaking of the new discoveries at the south end of Slocan Lake, the same document says: "On Eight Mile and Ten Mile Creeks numerous discoveries were made this summer (1894). The Kalispell, on Ten Mile Creek, is the most promising. The locators are at work and have 7 tons of ore averaging between 400 and 500 ounces of silver to the ton."

The capital of the Slocan is New Denver, a little town most picturesquely situated on the east side of Slocan Lake at the mouth of Carpenter Creek. Five miles up the creek where its three branches join is Three Forks, and still further up the South Fork is Sandon, for the present the terminus of the Kaslo Railway. North of New Denver on the lake is Rosebery, a new village of inconsiderable proportions. At the south end of the lake (on the maps) is Slocan City. In consequence of the remarkable finds in this vicinity the town is apparently materializing and lots therein have actually been sold for hard cash. From the Slocan Lake an excellent trail leads down the left bank of the river to its junction with the Kootenay. It is expected that before long the C.P.R. will build up this river from its Nelson and Robson line.—*Nelson Miner*.

The Hall Mines.

The *Nelson Miner* is publishing a series of sketches descriptive of West Kootenay and its many valuable mines, from which we clip the following:—

The Hall Mines were discovered in 1886 by a prospecting party from Colville, composed chiefly of members of the Hall and Oakes families. The property, which consists of four claims, the Silver King, the Kootenay Bonanza, the American Flag and the Koohinoor, and covers about 56 acres, was sold in 1893 to the Hall Mines Company of London, England, for something over one million dollars. The works consist chiefly of a tunnel 920 feet long, running S. 65 deg. E., connected by winzes and inclines with two upper tunnels and with an upper drift about 200 feet long. There are numerous cross-cuts and also a lower drift approached by a winze from the main tunnel. The ore is not in the form of a fissure vein but lies chiefly in two large bodies, which have now been very extensively proved by the workings. In the drift cut above the main tunnel the same ore bodies were struck, but were found to be not so rich as in the original workings. A winze was accordingly sunk and a drift excavated at a lower level. Here again the ore was struck, but this time it was richer instead of poorer.

The ore varies very much in quality. Assays of specimens have run the ounces into four figures. The rock in the lower tunnel will average from 30 to 40 per cent. of shipping ore going 130 to 150 ounces of silver, 12 to 15 per cent. of copper and a few dollars in gold to the ton.

The minerals found in the mine are Bornite or Peacock copper ore, Tetrahedrite or grey copper ore or Chalcocopyrites or yellow copper ore with occasional iron pyrites and traces of galena.

Up to the present time it has been the policy of the company rather to develop their property than to ship ore. But of late a change has been made.

A new manager has been appointed, who in a few months has "proved" the mine further than ever it was before. The power drill has been freely used, with the result that the existence of ore at considerable depths and of increasing richness has been discovered. English companies move somewhat slower than similar institutions in the States, but at last the Hall Mines Company, L'd, has made a move. Their mine is situated nearly 5,000 feet above Nelson, at a distance of 4½ miles in a straight line. The only means of communication until the present time having been a waggon road, necessarily steep and circuitous and long. Recognizing that large bodies of ore could not be conveniently handled in drays, a contract has been let to the California Wire Works Company of San Francisco, and a wire tramway capable of delivering 100 tons of ore a day is now in course of erection. It has to be in working order by the end of August and from then on for three months the contractors have to deliver 100 tons a day at its lowest terminus in Nelson. Here huge bins are being constructed close to the line of the C.P.R., and the company has ordered the machinery for a 100 ton smelter from Messrs. Frazer & Chalmers, of London and Chicago. It is to be delivered by the end of the summer.

In the immediate neighborhood of the Silver King are many other claims, some with a good deal of development work done on them. Most of them contain galena, but those which are attracting attention at present are the gold bearing properties. Of these the Starlight and Athabasca have recently been bonded at \$30,000 and \$50,000 respectively, and genuine work is

being pushed ahead on both of them. Mr. A. E. Humphreys, the representative of a Duluth syndicate, who holds many large properties in this district, has bonded the Starlight. This claim has a ledge which contains a quantity of free milling gold quartz. Its owners had done sufficient work upon it to prove the ledge for over 500 feet, and since Mr. Humphreys has taken it, the further work he has done has had such good results that he is about to put in a stamp mill to treat the ore on the spot. The Princess, a claim on the waggon road containing a copper ore with gold, has also been recently bonded to Mr. McVicar, of the No. 1 mine at Ainsworth. The creeks flowing down from the mountains are all more or less auriferous. On the north west a local hydraulic company has established works on Forty-Nine Creek, which are now in full swing. After the first 120 hours' work, which consisted largely of removing boulders and other "dead" work, \$5,000 was picked up off the bed rock in front of the sluice boxes, and out of the first two or three boxes themselves. The company has a practically unlimited head of water at a height of 300 feet in length.

Dredging.

The big dredger now lying near the mouth of the Thompson is being fitted up for use at an early day. The mammoth plant is as perfect a piece of workmanship as can be turned out in America, all the work being done at the B. C. Iron works at Vancouver. The owners of this plant are a stock company, M. H. Alsworth, President; J. B. Hemrock, Secretary. There has been a long course of litigation about the property but it is now settled and the plant will be taken across the river and set to work on a bar at that point. We hope in this way the dredging of the Fraser river will be carried on, and the question of successful work on the bottom of British Columbia rivers forever set at rest. If one-fourth of the gravel can be raised that is claimed for this plant, and the claim seems more than reasonable, the results are sure.

The Clearwater Country.

The next country to receive the attention of mining men and prospectors is the Clearwater region, which lies easterly from the Horsefly. So far we know of only one party having gone that way this year, and it is a question if that party was outfitted for anything like an extended trip. From all the courses and trends of the gold-bearing gravel it is more than likely that the Clearwater region, especially to the south eastward of the headwaters of Horsefly river and also eastward there are to be found the alluvial gravels so dear to the heart of the prospector. Indeed, a hunter who has spent some months in what is commonly called the Clearwater country, stated that the creek beds showed quartz gravel in great quantity; also, that the exposed places and all slides on the mountain showed vast quantities of wash gravel, while in plain view, wherever the rock was found uncovered, was to be seen quartz veins, while all over the mountains was to be found great quantities of float quartz.

It is more than probable that the Clearwater country has not been prospected. As a matter of fact, the limits of prospecting in that direction have usually ended with the Horsefly, for the very reason that the country spoken of is through an unbroken and intricate forest that gets more dense as one proceeds easterly from the Horsefly. The original trip from the Fraser to the Horsefly was an exceedingly difficult undertaking, and enough "grub" had to be carried to insure the prospectors a supply till they got back to the Fraser, which at that time was the base of supplies. Then, too, it was not deemed expedient or worth while to go on into the Clearwater region, as there was plenty of ground to be prospected and worked nearer the base of supplies in the Horsefly, Quesnelle, Stanley and Barkerville districts. In fact, even at this day, more than twenty-five years gone by has not sufficed to work out the regions named, and the new capital going in and the developments going on are still absorbing most of the surplus money and energy that goes into Cariboo, without hunting for new finds.

But the restless prospector cannot content himself with the old "stamping ground" and must find new regions on which

to expend his energy, so that now the Clearwater is coming in for his attention.

The gold bearing zone appears to trend northwesterly from the Quesnelle, Stanley and Barkerville. As far as prospected it appears to travel southeasterly from the same points. Gold bearing gravels, or rather alluvial gravels bearing gold have been found on the trend northwesterly to an indefinite distance; also, after getting into the Kootenay country, a long distance and even through Montana and Wyoming in the United States.—*B. C. Mining Journal.*

General Notes.

The B. C. Iron Works Co. are contemplating sending the plant of the late Westminster foundry, which they bought out, up to the Kootenay, where they intend to erect workshops. The machinery is at present lying on their wharf.

*

ELECTRICITY IN MINES.—An invention designed to provide motive power for the gold fields of Western Australia has been patented by two gentlemen of Glasgow, Scotland. The invention contemplates a substitution of electricity and compressed air for the water now in use. The Rothschilds and the Government of Western Australia have become interested in the patent, and a company will be formed with a capital larger than that of any stock company organised within the century.

*

The Provincial Minister of Mines, Hon. Col. Baker, has decided to hold examinations qualifying those who pass them to act as assayers in British Columbia. The first of these examinations will shortly take place, when candidates will be required to satisfy the examiners in assaying for gold, silver, copper, lead and iron, and in answering several theoretical questions. This is a move in the right direction, as in the future assayers and chemists will be required to show their competency before circulating certificates as to the value of samples sent them, which in some cases, at present, are apt to be misleading.

*

THREE CARIBOO GRAVES.—In the little cemetery at Quesnelle Forks, lie side by side the remains of two Jews and a Frenchman, who were murdered on Bald mountain in 1862, says the *Mining Journal* of Ashcroft. This party had in their possession gold to the amount of over \$40,000, which, of course, was the cause of their destruction. Many of the old timers remember the excitement occasioned by this affair, but no one can be found who knew the names of these men, who lost their lives in the wild rush for the yellow metal. The murderers were never apprehended in this country, but, years after, an individual, just before being hanged for horse theft in Washington or Idaho, confessed that he and another man committed the crime above referred to. To-day, cottonwood trees, six inches in diameter, grow in the little plot between and around the graves, and mingle their roots with the dust of those unknown men who so tragically passed away 33 years ago.

The Rich Kootenay.

BY HON. COL. BAKER.

Hon. Col. Baker, Minister of Mines in British Columbia, recently paid a visit to the Kootenay District, and the following is an account given by him of his trip:

"I diverted my route by way of East and West Kootenay, in order to inspect those interesting portions of the Province. The general indications of healthy progress I witnessed is very cheering, and the quartz-mining industry in many portions of the district of Southwest Kootenay is now so far developed as to leave no doubt whatever of the enormous mineral wealth of British Columbia.

"I left the Canadian Pacific Railway at Golden, in East Kootenay, a town which is kept busy by supplying the railway with 'ties,' two train loads of which leave daily, while the

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 Fitzstubbis, 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

after the formation of the quartz vein, as the latter is continuous on each side of the fissure.

"I went over the whole mine and it is unquestionably a valuable property. Quite recently some small quartz veins containing gold have been discovered running nearly parallel to the worked vein, and it is possible that at greater depth they may unite and form a large vein.

"I returned to Pilot Bay that evening by the steamer *Alberta*, spent part of the night in watching the smelting operations, and the next morning Messrs. Herrick & Gordon kindly placed their steamer at my disposal and accompanied me to the Blue Bell mine. This is the principal source of supply of ore to the smelter, and is owned principally by Mr. Henryx. It is probably one of the largest bodies of ore in the world. It is composed of carbonate of lead, galena and copper, the total width of the vein being 193 feet—namely, carbonate 100 feet, galena 87 feet, and copper 6 feet, the copper being between the carbonate and galena. Five thousand tons of ore were taken out in one month by forty men, and the average daily output is now 180 tons with thirty-eight men all told. The mine has not been proved much more than a hundred feet below the surface, and although it is of low grade, averaging only about ten ounces of silver to the ton, it is impossible to say what discoveries may be made with greater depth. A diamond drill is about to be put in operation in order to lay out the mine in depth and width.

"The steamer *Alberta* called at 10 a.m., and took me over to Kaslo, where I spent the Queen's Birthday. There were over a thousand people gathered there, and horse races, regatta and athletic sports were the order of the day, and through the well organized arrangements of the Mayor, Mr. Keen, and his council, all passed off to everybody's satisfaction. The next morning I left by stage at 7 a.m. for Three Forks, distant 30 miles. I much regretted that I was unable to visit Ainsworth, but my time was limited.

"The following day I started early for the Slocan Star mine, which is about five miles from Three Forks and two miles from Sandon, which is to be the terminus of the Kaslo and Slocan Railway. A large amount of development has been done upon this mine in a systematic and business-like manner. The vein is capped with a specular iron and iron sulphuret for about 100 feet, with spots of galena here and there. It is about eight feet in width on the surface and widens to twenty feet. The body of solid galena after the iron capping is passed is a sight to see, and reminds one of the Arabian nights, as it sparkles and glitters like a million jewels. Two thousand five hundred tons of ore has already been shipped and it assays very high in silver—up to 170 ounces.

"Four tunnels have been run to strike the vein. The last struck the seam at 600 feet, where it was even richer than in the higher tunnels. The vein runs through blue slate diagonally to the strata. Across the valley high up the mountain and at the point where the Slocan Star seam should touch if it were prolonged, we find the Eureka mine, of the same character as the Slocan Star and probably a continuation of it. A tramway is about to be built to connect the mine with the terminus of the Kaslo and Slocan Railway, and there is little doubt that the Slocan Star will prove a noted mine in the mining history of the world. There are tens of thousands of tons of ore already in sight.

"I returned to Three Forks that afternoon and walked down to the concentrator which has been built to treat the ores from the Idaho and Alamo mines, which are also extremely rich. The arrangement of the concentrator is very complete and it has a capacity for treating 100 tons of crude ore per day with a total of eight men. Six thousand tons of ore have already been taken out of the Idaho group, and 4,500 tons have been passed through the concentrator. A tramway between the mines and the concentrator will be completed in July, when it will recommence work. The mines are tributary to the Nakusp Railway.

"The next day I made my way by the Nakusp Railway and the Columbia River to Trail Creek. The scene at the Trail Creek landing was most inspiring—piles of copper ore were

lying on the wharf, and about thirty four-horse waggons were employed in bringing the ore down from the mines at Rossland, seven miles distant. I took the stage, which was crammed with passengers, and the road is so cut up with the heavy traffic and bad weather, that it took four hours to accomplish the seven miles. Rossland is the picture of a busy mining-camp. There are already over a hundred houses and about a thousand people in the camp. The provincial revenue amounts to over \$2,000 per month, and it will soon be doubled and trebled.

"There is a group of mines in this neighborhood all producing a similar kind of ore out of similar rock, namely, a hard hornblendic diorite. The ore is iron pyrites and copper pyrites containing silver and gold. The veins run in all directions, and the War Eagle and the Jose unite at almost right angles. The whole place is full of veins and many of them are being worked in force.

"The War Eagle mine has six parallel veins on the surface. It has run two tunnels, 600 and 350 feet respectively, and a third is now being driven to tap the vein 500 feet below, which it is expected to do in 1,600 feet. The vein of almost solid ore averages about eight feet. The walls in many places are smooth and show slicken-sides, and from many indications it looks as though the whole body of rock had been subjected to some enormous pressure, which had broken up the structure, and in some places faulted the veins. The ore is rich in gold, silver and copper, and averages throughout about \$50 to the ton—in some places it goes up to \$280.

"The Le Roi mine almost adjoins the War Eagle and is equally rich. The copper pyrites in this mine averages from 1½ to 5 ounces of gold to the ton, and the decomposed vein on the surface goes 3 ounces of gold to the ton. There must be quite 150,000 tons of ore already in sight in this group of mines and 3,500 tons per month are now being shipped. The capabilities of this portion of the district are undoubtedly very great, and with proper regulations and management can be made a source of great wealth to the province. I went through three of these mines from end to end and can vouch for the importance of them to the province, but I regret to say that at present all the ore is going out of the country into the States. This should not be, as a smelter at Nelson and an extension of the Columbia and Kootenay Railway to opposite Trail Creek, and a tramway from the mines to the mouth of Trail Creek would give the mine owners advantages equal to any they could get elsewhere.

"I have merely mentioned briefly a few of the principal mines which I visited *en route*, but there are a number of others of great importance and which are being developed, and there cannot be any doubt that the two Kootenays will become renowned as one of the great mining centres of the world."

Happenings at the Mines.

ALBERNI.

It is understood that a five stamp mill is on the way from the East, and will be placed on Mineral Creek, for the purpose of aiding in the development of the ledges there.

The Warspite, Victoria, Alberni, Chicago and Missing Link claims on Mineral Creek have been surveyed by Mr. Ralph, and applications for crown grants to them have been made.

Every day brings news of further discoveries of gold-bearing ledges in Alberni district. The mountains are swarming with prospectors, and before the season ends, many other finds will undoubtedly be made.

A number of samples of ore from a large deposit just discovered on Granite Creek, were lately brought in from there. These show rich in copper and carry silver. Mr. Sutton, on behalf of the Government, has secured several boxes of samples from the various claims in the China Creek basin, including the marvellously rich rock found in the Missing Link, on Mineral Creek, and placed them on exhibition in Victoria.

Development work has recently been done on the Eureka gold quartz claim, near Alberni, owned by Messrs. Brethour

and McKinley. The property is situated on the Nitinat side of the divide between China Creek and Nitinat River. An open cut eighteen feet deep has been run on the ledge, which lies between porphyry and slate. With the small amount of work already accomplished, the showing is remarkably promising. As it is only about a quarter of a mile from the Alberni waggon road, the shipping of ore will not be expensive. The ore on the Eureka is very similar in character to that of the famous Golden Eagle mine. Mr. McKinley, speaking of the Alberni mining country, said, that the strike made by McAllister on Coleman Creek, is wonderfully rich, the assays showing as high as \$500 in gold to the ton. This wonderfully rich strike is within half a mile of salt water, Coleman Creek, flowing into the Alberni canal, so that the cost of shipping will be very light, and the owners will get the full benefit of the find. This is one find in a large district that as yet has been hardly touched by the prospector. Another find has recently been made close to the salt water, within a few miles of Alberni. On the surface the ledge goes \$15 to the ton, and development work will, it is thought, show a splendid vein of ore increasing in richness as depth is reached. On Mineral Creek the mines are looking well. Until five weeks ago no work had been done on the Missing Link and the very first shot showed up free gold. As work progresses the showing gets better. A good deal of development has been done on McQuillan's hydraulic claims on China Creek; several shafts and tunnels having been run to fully prospect the property, with the result that gold has been found from the grass roots down, and the average is fully 40 cents a yard, with plenty of water for hydraulicing. On Mineral and China Creeks the ground is all pretty well staked off, but plenty of good outside ground remains to be prospected. What is needed is a small quartz mill somewhere in the district, to which the miners can take their ore to be treated, and thus be able to make enough money to carry on their development work. There are plenty of good trails, and the ore can be easily packed out from the various mines to a mill. A considerable number of prospectors are being attracted to the district, and the outlook for a prosperous and healthy mining development is well assured.

CARIBOO.

Judging from the teams leaving Ashcroft each week loaded with freight for Cariboo, times must be good in the upper country. Over 270,000 lbs. of freight was forwarded in one week.

Four monitors are at work on the Horsefly night and day.

About 50 miles from Clinton is Big Bar, famous in the early '60's for its out-put of gold. It is still producing, if not like it formerly did, at least enough to support a number of men. In the neighborhood are a number of good ranches and cattle and grain.

Mr. R. T. Ward, the well-known manager of the Horsefly Gold Mining Co., is visiting San Francisco, from which city he will return shortly. He is much gratified that the protracted litigation, which, during the past three years has so much hampered the working of the company's valuable claim, is at length settled, so that at last the company is free to push on with its mining operations, and proceed to develop its extensive and valuable property. As is well known, the company have had to meet troubles in regard to water rights and in connection with jumpers who collectively staked off over 100 acres of the company's ground and proceeded to work it with rockers to their own gain but the company's serious loss. At last all these difficulties have been overcome, and an energetic policy of development will be actively pursued. The company's ground, which was formerly the Harper leasehold, covers an area of 360 acres. It has, during the past ten years, been thoroughly prospected, fully \$100,000 having been expended on the ground in that time. The result is that to-day the company is satisfied that it possesses an enormous body of auriferous gravel, the prospects being that it may reasonably be expected to return at least \$1 per cubic yard. It is stated that already \$500,000 worth of gold have been taken from this property since a commencement was made to work it. It is confidently anticipated that when the plant now being provided is in full working order—say early in the spring of 1896—it will be practicable to handle 2,000 cubic yards of gravel per day, the minimum value of which can easily be estimated upon the basis already named. At the present time there are over 30 shafts down to bed rock, varying in depth from 30 to 136 feet, and from the bottom of these several thousand feet of tunnel have been thrown out for prospecting purposes. The exploratory workings extend over fully three quarters of a mile of the ground, and all through these disclose the presence of pay gravel, similar to the formation of the blue gravel lead, so extensively known on the Pacific Coast. The company is now excavating a ditch and constructing a pipe line to



Map of Cariboo.

carry 3,000 inches of water from Mussel Creek, a distance of about six miles, on to the property, for the purpose of hydraulicing. The survey to the mine has just been completed, but whilst this has been in progress the work of excavating from the intake end has been proceeding. A pressure of 364 feet will be available from the water supply named. About 240,000 lbs. of steel pipe of 22, 26 and 30 inch diameter is on the way to the mine. All other necessary hydraulic appliances have also been obtained. The mine is already supplied with a 40 horse-power horizontal steam engine and boiler, steam pumps for deep diggings, large centrifugal pump for drainage uses, saw mill and numerous buildings covering all the requirements of a well ordered mining-camp.

Good mill sites are found along Cayoose creek, and an excellent supply of water can be had from that creek.

Pine Creek, near Barkerville, still continues to yield gold at a satisfactory rate, and shows no signs of playing out, as was predicted in the spring. About 25 men are at work in the creek, and there is now promise that some exceedingly rich ground will be encountered yet this year.

The Cayoose creek placer mines have yielded a large amount of gold, mostly extracted by Chinese, and no reliable information as to the exact amount can be had, as these people are very reticent about their affairs. The gold occurred from the Fraser river up to the Bonanza ledge, and so far no placer gold has ever been found above that ledge.

Five Vancouverites, J. R. Hamilton, B. F. Heney, R. Herd, R. Pritchard, J. Cunningham and S. Ferguson, have struck it rich in Cariboo on Peter's River, four miles from the town of Stanley. The quintette claim that theirs are the richest modern Cariboo claims in existence. One rough clean up has been made with very satisfactory results.

Mr. J. M. Browning received word lately from the superintendent of the Cariboo Hydraulic Mining Company, stating that work on the supply ditch had been completed. This gives an ample and continuous supply from Polley and Boot-jack lakes. Water has been turned on and the ditch appears to be satisfactory in every particular. Unless some unforeseen accident should occur, the company may anticipate a steady run from now until the close of the season, a period of at least six weeks, and possibly, should the weather be favorable, two months.

A private letter from Barkerville states that all the men available at Barkerville are working for the Cariboo Gold Fields Co., and probably will be till winter sets in. There is a report that the Island Mountain quartz mill will be repaired this winter and start up next summer, and also the Black Jack quartz mine. The Sheppards expect to clean up 300 to 400 ounces of gold this season on Sheep Creek at the head of Downie's pass. Mr. Newton, on Stout's gulch, half a mile from Barkerville, cleaned up 400 ounces some time ago, and it is reported that he will have 200 or 300 ounces more this season.

For years the neighborhood of Peters Creek has seen mining on a small scale, and the returns have in most cases paid, but the big mining schemes have usually been pushed in other directions. Two parties named in the previous paragraph, J. R. Hamilton and Robert Herd, made a trip to Swift river last spring, but the expedition counted for nothing, and they returned much discouraged. Robert Pritchard told them of another spot, and there an old ditch was cleaned out and repaired, and a few feet of sluices set up. The first work done showed a prospect of fair appearing gold. Working toward the creek, on a bench, the gold became finer, and they turned and worked to the northward. Getting over the run, coarser gold was found, and the party, elated with their success, put up about a hundred feet of sluice-boxes and repaired the ditch permanently, and turned about 200 inches of water into the boxes, and proceeded to work in a methodical manner. The gold is coarse, and pieces weighing over a dollar were exhibited in Ashcroft by Mr Hamilton.

Report comes from Barkerville that after 16 years of piping bed-rock has finally been struck in the old Waverly hydraulic mine, and that it is likely to pay running expenses and a dividend besides this year. It has been a long, tedious task, and if anyone deserves success a dozen-fold it is Pomeroy, the superintendent and manager, who, during all the years has never lost faith in the Waverly. The mine is situated on Grouse Creek, 5 or 6 miles from Barkerville. Above the works were some extremely rich "diggings," but like many other ventures in the Cariboo, the water proved a hindrance to profitable production of gold, and the hydraulic scheme was substituted for drifting. It was decided to commence hydraulic work about half a mile below the old works, and going on down Grouse Creek a tunnel was run nearly a half a mile up stream. A shaft was then sunk to tap the tunnel. Sluice boxes were then set up in the tunnel, and the monitor turned into the gravel at the top of the shaft, driving the debris down the shaft and out through the sluice-boxes in the tunnel. It took about three years work to get an opening down to the tunnel, and much difficulty was encountered on account of caving and sliding in of gravel. Several times the connection filled entirely up, and it had to be opened up from the tunnel, and was an extremely dangerous undertaking. But at last the opening was made, and the monitor set up at the bottom of the pit, and the work then proceeded up the old channel to where the old drifting was done. For 16 years the pit slowly elongated up the stream, till in June the bed-rock was struck, and it was found to carry the deposits of gold that were expected. If the clean-up this fall comes up to the expectations of Mr. Pomeroy and the owners who reside at Barkerville it will indeed be a rich property.

The Bonanza mine, which is now attracting some attention, is on Cayoose creek, which empties into the Fraser river, on the western side, about two miles below the town of Lillooet. The Bonanza group comprises four claims, which are a part of a group of nine claims, on all of which rich croppings of gold have been found. In fact the croppings have proved to be extraordinarily rich, in one case 100 pounds of rock being found to be worth several thousand dollars. The claims are situated about nine miles from Lillooet, and a good waggon road built to the mines from that town. The stream is swift and rapid, and the mountains are rough and rugged. The mountains along Cayoose creek are high and precipitous, and their appearance would tend to give one the impression that a mineral vein found in that locality would be in place and permanent.

The claims start on the north side of Cayoose creek, cross the stream in a southerly direction, and run up a hog's back to the summit of the mountain, forming the divide between Cayoose and Cottonwood creeks. The hog's back is quite a sharp ridge about at right angles to the general trend of the valley, and the ground falls very rapidly on both sides, and in many places is quite precipitous.

The auriferous rock matter consists of one principal vein and a parallel group of stringers. The country rock is very much contorted and disturbed, but the veins run the whole length of claims, covered, for the most part, but showing in various places toward the bottom of the mountain, and cropping baldly out for a long distance toward the summit. The average width is about three feet, and the vein is nearly vertical. The stringers run in a parallel direction to, and are not more than 200 feet from the main vein. Intermixed with the stringers and on either side, forming the hanging and foot walls is found a considerable amount of black slating rich in gold.

Considerable work has been done in years past on the Bonanza, but a lot of it has been thrown away. The lower working is about 400 feet above the bed of the creek, and at that place two tunnels have been run in on the stringer. One is 60 feet long and the other is 25 feet. These tunnels expose the stringers of quartz and a considerable amount of schistose matter, extending beyond the width of the tunnel, and for its full length, in the aggregate being about 5½

feet. All this vein matter will pay well to work, as shown by assays.

Just near the boundary line of the claims numbered 33 and 34, on the principal vein, are found two well defined branch veins cropping out for a distance of 350 or 400 feet. One of the veins is nearly flat, and the other nearly vertical, and they unite about 12 feet below the surface. At that point is found a shaft nearly 50 feet deep on the flat vein. After uniting they form a vein about five feet thick, which pinches down to one foot, and again comes in, showing at the bottom of the shaft a width of 40 inches, and still increasing. From that working a large amount of rich ore has been extracted, especially at the junction of the veins. Along the junction of the veins rich stringers and seams of gold were found, and from much of the ore pieces can be found that are specked with free gold and are very rich.

EAST KOOTENAY.

Messrs. Mann & Holt, the well-known firm of railway contractors, are interested, along with other Montreal capitalists, in the "North Star" silver mine, which is situated on the St. Mary's River, East Kootenay, about 45 miles west of Fort Steele. This year the Company have started to operate the mine, and have also built a road to Jennings on the Great Northern Railway, for the purpose of providing a means of getting the ore to a smelter. This road cost the company \$10,000. The first two car loads of ore were shipped to the smelter at Everett, and the gross return per ton amounted to \$68.70. The Company will now proceed to work the mine, and are arranging to put in a winter supply of provisions and a sufficient number of men to deliver on the Kootenay River 3,000 tons of ore. Tenders will also be called shortly for delivering this ore either at Jennings on the Great Northern, or Golden on the Canadian Pacific Railway. Mr. Mann has great faith in the future of the "North Star." The work so far done has exposed over 100,000 tons of ore.

WEST KOOTENAY.

The Columbia Mining Co. are putting an air compressor drill plant on their property.

Solid ore was struck recently on the Maid of Erin shaft. near Rossland. It assays \$12 and \$13.

It is understood that negotiations for turning over the Nickel Plate mine to a joint stock company have been completed, and preparations are being made to work the property.

The shipments from the Trail Creek Districts for 1895 are most encouraging. The amount

of gold, silver and copper shipped from there during the fiscal year ending June 30th was as follows. The period of time covered is a year, all the production but a very small fraction having taken place during the past five months :

Gold	- - -	20,510 ounces	- - -	\$400,200 00
Silver	- - -	29,804 ounces	- - -	21,802 30
Copper	- - -	925,693 pounds	- - -	46,372 65
Total value				\$468,375 25

Some astonishingly high assays have recently been obtained from specimens taken from the west drift of the 350 foot level in the Le Roi mine. One sample gave a return of 24½ oz. of gold per ton.

About half a ton of very strange ore has been taken out of the L. H., a property on Eight-Mile Creek. When put in a frying pan and heated, it will go up in smoke, leaving a small button of silver in the pan. Analysis shows that it contains arsenic, antimony, gold and silver. Mining men who have seen this ore say that it is a mineralogical curiosity, and well worthy of inspection.

Thompson - Whittier - Good-enough syndicate of mine-owners have men at work on the Grey Copper and Goodenough claims in Slocan district, from both of which shipments of ore will be made on the completion of the Kaslo and Slocan Railway. The ore from the Good-enough is the highest grade in Slocan district, averaging, after all expenses are paid, \$500 to the ton.

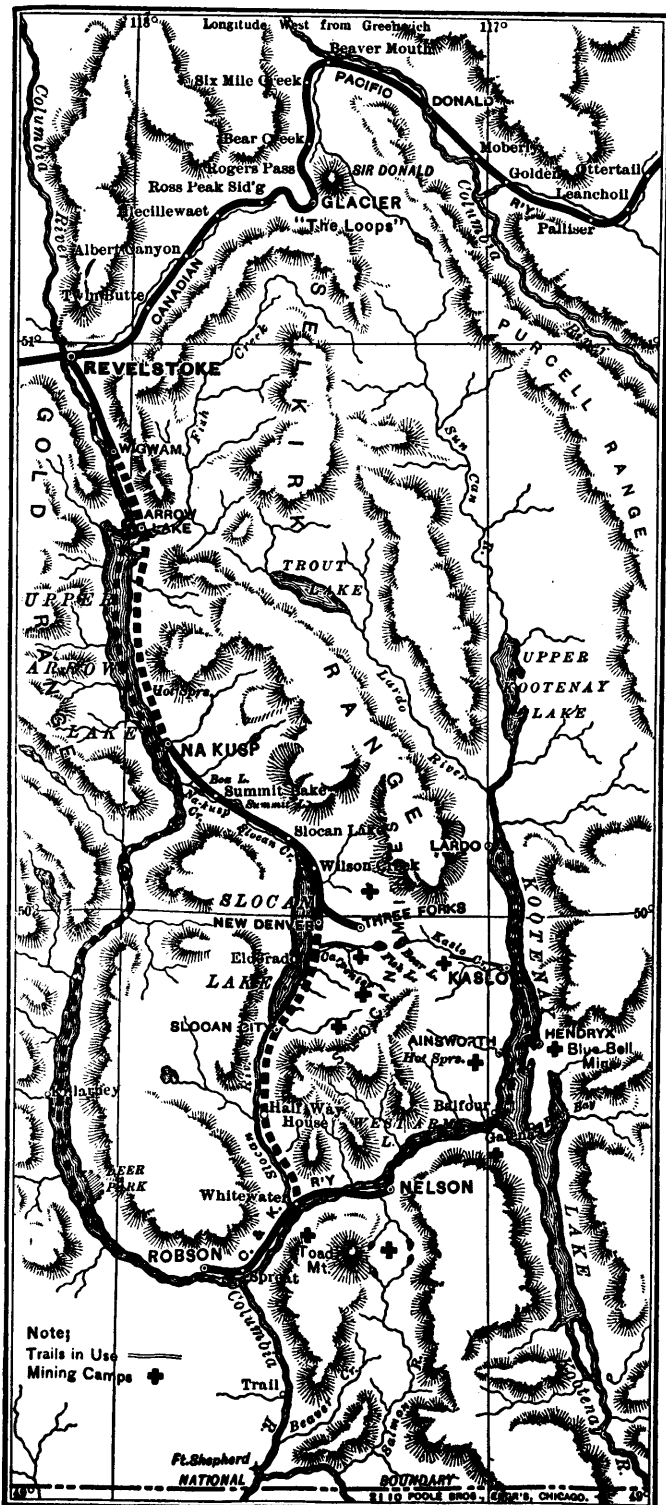
About 75 per cent. of the claims recorded in the New Denver district are staked on Lemon and Springer creeks, and some exceptionally high assays have been obtained from rock coming from these creeks. Undoubtedly many of these claims are staked on the merest suspicion of mineral, but several are liable to turn out valuable properties.

The receipts at the New Denver recording office in one month amounted to over \$2,000. This is positive evidence of the value of the Slocan as a mining district.

One assay on Spring creek rock, from the neighborhood of New Denver, went over 1,000 ounces in silver. Two other assays from the same section showed nearly \$100 each in gold.

The company that own the War Eagle Mine, at Rossland, has declared a dividend of ten cents a share on its 50,000 shares of capital stock.

The owners of the Fern, on Hall creek, twelve miles south of Nelson, lately packed 10 tons of ore from the mine to Hall



Map of West Kootenay.

Creek siding on the Nelson and Fort Sheppard railway as a trial shipment to test its value.

During July, 3,000 tons of ore, valued at \$140,000, were shipped from the Trail Creek district.

The Canadian Pacific Mining Co., intend building a concentrator at their property on Woodbury Creek.

Some of the ore brought to Nelson by George Long from the Lily B., a recent discovery on Springer creek, at the foot of Slocan lake, was assayed by A. L. McKillop. It went \$11.35 gold and \$2,698.40 silver to the ton.

Not only is all the country adjacent to Rossland covered with claims, but rich finds have been made to the northward. The country in that direction is exceedingly difficult and the new finds remain, at present, mere prospects.

The Kootenay Gold Mining Co. are pushing work on the Sable Creek claims, and more men have been taken on. These claims go high in gold, silver and copper, and there is every chance of this property turning out very profitable.

It is stated that \$2,500 will be spent prospecting the ground leased for hydraulic purposes on Tranquille Creek, above the Thompson River Hydraulic Mining Company's property. Chicago parties are interested, and if a plant is put in it will be of ample power.

* The last clean-up at the Van Winkle mine amounted to \$1,400. This is a long way over and above expenses. The company have leased their mine to their superintendent, Mr. Brophy. They are in a bank of fine gravel, and are not bothered with boulders.

A concentrator is soon to be built for the ores of the great Slocan Star mine. The civil engineer has been engaged in locating and measuring grounds in the vicinity of Sandon. The exact site selected is not known yet, nor the date on which construction will commence.

Reports from Boundary Creek country say that for extent of country and showings of mineral, the country rivals Trail Creek division. But very little development work has been done except on two claims in the Greenwood camp. Want of transportation is checking its development.

Manager Whittier, of the Goodenough, says: The mine is being worked in a very satisfactory manner, and though already rich, is constantly growing better. A shipment of ore made last winter, which went 1,000 ounces to the ton, established forever the fame of the Goodenough.

The Western Mining World of Butte, Mont., says that a company has been organized in that city to build a smelter at Trail Landing, in the Trail Creek country. The paper states that the company has entered into a contract with the Le Roi people, to treat 100,000 tons of the product of that mine at the stipulated price of \$11 per ton.

The contents of the War Eagle ore as declared for customs purposes is: Gold, 2.23 ounces; silver, 4 ounces; copper, 5 per cent. This mine has paid \$132,500 in dividends since it was bought by its present owners, in December last. Of this amount, \$32,500 was sufficient to pay off the purchase money of the mine and all preliminary expenses, the remaining \$100,000 being pure profit.

The Gold Star, situated three miles north of the White Elephant, is a claim that has been overlooked in the general stampede to the south belt during the past month. An open cut runs in on the ledge for about 15 feet, and shows a face of nearly solid ore, a little quartz gangue being mixed through it. Assays from a trace to \$17.50 in gold have been found. Pretty good from top rock. A shaft will be started.

The War Eagle Gold Mining Company has declared another dividend of 10 cents per share, or \$50,000, making the third since the first of the year. The first was paid on March 1st, and was \$32,500; the second on June 15th, \$50,000; and now

she comes forward with another \$50,000, making a total of \$132,500, the profit of seven months' production. Twelve months ago the War Eagle shares stood at 6 cents.

About twenty-five men are at work on the ore bins for the Hall mines. The towers for the tramway at this end are all erected as far as the Horning Mountain, where the Silver King trail crosses the right of way. The canyon of Giveout Creek, where the right of way crosses, is not so deep as might be expected, and only two eighty feet towers will be required to carry the rope across it. The iron work for the job has been shipped from San Francisco.

The owners of the Surprise, Best, Ruby Silver, Dardanelles, and other mining properties, have sent a petition to the government asking for assistance to build a waggon road from McGuigan Creek to the Kaslo & Slocan Railway, to tap the mines on the Dardanelles, Great Western and other basins. The road would be about four miles long and cost \$1,200 a mile. The mine owners are willing to bear half the expense of this trunk road, and want the government to pay the other half.

The tunnel on the Wellington mine, Kaslo-Slocan district, has reached the vein at a depth of 250 feet from the surface. The vein was found to be within well-defined walls and made up of good ore. The tunnel is nearly 700 feet long. The Wellington is operated by a Canadian company. The company operating it is called the Kootenay & Columbia Prospecting & Mining Company, Limited, of Ottawa, and is capitalized at \$40,000. Edward Watts is superintendent of the mine.

The bottom of the main drift on the Columbia is all solid ore, and has been so for several feet, indicating that the top of the long sought ore chute has been struck. The breast and back of the tunnel show about three feet of dark arsenical iron, for which assays ranging all the way from \$39 to \$103 in gold have been obtained. A waggon road, which will connect with the Kootenay road, will be built, and it is the intention of the company to market the product as it is mined.

A report comes from a reliable source that some rich ledges have been struck in the vicinity of Slate Creek, Tulameen River, in the Similkameen district. Assays from the quartz taken from the Mineral King ledge, some 125 feet wide, have yielded \$90 in gold per ton, and from the Big Ledge \$16.50 in free gold per ton. Assays from the adjacent claims are expected shortly, when it is thought higher returns will be given. This section of the country is well known to be rich in minerals.

A new mineral discovery is reported from Kruger's Mountain, near Osoyoos, and prospectors are flocking into that district during the past month. The ore resembles the product of the Rossland mines so closely that experts have difficulty in distinguishing between them. Among those who have staked claims is the manager of the celebrated Le Roi mine at Rossland, and he states that everything points to the new discovery being of equal value to that of the now famous Southern Kootenay camp.

Another rich strike has been made on the Smuggler, Fairview. For some time past a tunnel had been run on the vein from which ore was being taken for shipment. Not long ago, however, it was decided to sink the shaft somewhat deeper, and as a result of a few days work the vein widened out to four feet, the quartz changed somewhat in character, and what was formerly a good shipping ore assaying \$100 to the ton when sorted, is now so much richer that free gold is often visible in the rock, and if it continues as good as it is at present Mr. T. Elliot, the owner, will be lucky indeed.

On the completion of the Kaslo and Slocan Railway, which will be in operation by the last of October, and the extension of the Nakusp and Slocan, Southern Kootenay will have a railway mileage surpassing that of either Vancouver Island or the district of which Vancouver and New Westminster are the trade centres, and on the completion of the steamboat now building at Nelson, there will be more steamboats on Kootenay

Lake and the Columbia River, than belong to any one of the four ports on the coast. This indicates that there is freight tonnage in the mining districts of Southern Kootenay, and within five years the tonnage of Slocan, Kaslo, Ainsworth, Nelson and the Trail Creek mines and camps will be, in the aggregate, greater than that of the remainder of the Province.

The largest deal in the history of the Trail Creek district was successfully carried through a few days ago, and articles of the incorporation of the Spokane Ore Company with a capital of \$5,000,000, were filed on the 15th inst. An expert of the name of Weimer, who has been closely studying the Trail Creek camp for some time, suddenly arrived at the conclusion that the Crown Point Ledge did not run east and west as had been supposed, but due north and south. He communicated this information to three others, and together they staked no less than 23 claims on the ledge. It was opened in several places, and the assay returns were so good, showing from \$24 to \$60 per ton, that the discoverers had no difficulty in organizing the company with the large working capital to which we have referred.

Recent discoveries in the Revelstoke division of West Kootenay seem to confirm the impression that the whole country is thoroughly impregnated with mineral. Not long ago a find on North Fork of the Illecillewaet was chronicled. An assay of this ore gives \$8 to \$10 in gold, and from eighty to several hundred ounces in silver. The bed of the creek is reported to be full of float of high grade ore. Those interested are now agitating for a trail to the head of the North Fork, which would also serve a number of old locations, such as the Jumbo, Whale, Bob O'Link, North Star, etc. A more recent discovery is one which has just been made on a tributary of the Jordan river which flows out of the Gold Range just above Revelstoke. This is a territory which has been little frequented by the prospector heretofore. Ore has also been discovered below Hall's Landing, across the lake from Halcyon Hot Springs in the vicinity of Cape Horne, Upper Arrow lake, where it is said they have found a "whole mountain of it."

Patrick Clark, an experienced gold miner of Nevada, Utah, California and Montana, was in Seattle a short time ago and to a *Post-Intelligencer* reporter stated that Trail Creek, where he is located at present, has a future that will equal the best of them and that it is the nucleus of a very large camp. It is yielding 150 tons of quartz a day, and the ore is of a class that is very satisfactory, giving \$45 to \$50 of gold to the ton. There are some solid pyrites of iron and copper with a little silver. The tariff on lead ore is to our (U.S.) advantage at the present location in British Columbia. There is sure to be a smelter in the locality of Rossland within a year, as the conditions at present would justify such an enterprise. The ore is now shipped to Helena and Tacoma, which makes it quite expensive. It is seven miles from Rossland to the Trail Creek landing. Rossland has 3,000 people. They have all come there within a year and the place has every indication of permanency. The miners get the best wages and times are good; the people are very peaceable, and are there for business. Mr. Clark ranks next to Marcus Daly as a successful mining manager. He was for eleven years prominent in Butte mining circles, and for the past eight years has been manager of the Poorman mine in Coeur d'Alene. He is a large shareholder and the manager of the War Eagle Gold Mining Company, which owns the War Eagle mine at Trail Creek.

Ore Shipments from West Kootenay.

We have been unable to get any reliable figures of the ore shipments from West Kootenay during the past two weeks. As, however, new names are being added to the list of shipping mines, the shipments are not diminishing. The forecast we made some months ago that the output for 1895 would approximate at least \$2,500,000 in value, is likely to be reached, with the possibility of there being a substantial advance on that sum.—*Statistic News Advertiser.*

New Coal Mines.

Mr. James Dunsmuir and Mr. John Bryden, M.P.P., were again out at Cedar district with Mr. Alex. Dick, Inspector of Mines, and Mr. John Dick, on Friday afternoon. A very fine seam of coal is reported to have been discovered in the vicinity of Stark's farm, being from seven to nine feet thick at the outcrop.

The New Vancouver Coal Co. and the Dunsmuir Coal Co. have for years been the principal coal producers in the vicinity of Wellington and Nanaimo, in British Columbia, but Mr. Dennis Jordan, of San Francisco, has with characteristic American enterprise been developing his property, and is now in a position to supply the best quality of Wellington coal. Mr. Jordan's property is situated upon the south-western extremity of the Wellington coal basin, and is adjacent to the noted Wellington coal mines belonging to Messrs. Dunsmuir & Sons, forming part of the same basin of coal as that which they have worked and are still working, and which has produced some of the finest quality of coal that has been mined on the Pacific coast. The seam is an excellent one, and shows seven feet of coal on top, below which, after passing through two feet of shale, there is an additional two feet of coal. From surveys made by the engineer in charge, Mr. E. Priest, C.E., it is estimated that there is coal under the greater portion of Mr. Jordan's property. The track is already laid into the mine, and the bunkers are built to receive the coal, which will be sent by rail from Wellington. A large gang of men are employed in building a railway from the mines to Nanoose Bay, a distance of about five miles, where by building wharves to deep water splendid shipping facilities are obtained. The level nature of the country through which the road will pass will make the building of it an easy matter. Mr. Jordan expects to have it completed in the course of a few months, and he will then be in a position to send his coal to all parts by water.

Coal Mining.

The following table shows the output of coal in British Columbia each year from 1874 to 1894, inclusive:—

Year:	No. of Tons.
1874.....	81,000
1875.....	110,000
1876.....	139,000
1877.....	154,000
1878.....	171,000
1879.....	241,000
1880.....	268,000
1881.....	228,000
1882.....	282,000
1883.....	213,000
1884.....	239,070
1885.....	365,000
1886.....	326,636
1887.....	413,360
1888.....	489,300
1889.....	579,830
1890.....	678,140
1891.....	1,029,097
1892.....	826,335
1893.....	978,294
1894.....	1,012,953

The collieries in operation in British Columbia are:—Nanaimo Colliery, of the New Vancouver Coal Mining and Land Company, Limited; Wellington Colliery, owned by Messrs. Dunsmuir & Sons; Union Colliery, of the Union Colliery Company.

The output of coal during the year 1894 amounted to 1,012,953 $\frac{1}{2}$ tons, produced by the several collieries, as follows:—

Nanaimo Colliery.....	294,624 $\frac{17}{20}$	tons.
Wellington ".....	376,956 $\frac{3}{20}$	"
Union ".....	241,372	"

Total output in the year 1894... 1,012,953 $\frac{14}{20}$ "
 Add coal on hand 1st January, 1894 19,044 $\frac{5}{20}$ "

Total coal for disposal in 1894... 1,031,998 $\frac{9}{20}$ "

The exports of coal by the Collieries in 1894 were 817,642 $\frac{10}{20}$ tons, as follows:—

Nanaimo Colliery, export.....	289,130	tons.
Wellington ".....	304,852 $\frac{10}{20}$	"
Union ".....	233,660	"

Total coal exported in 1894..... 827,642 $\frac{10}{20}$ "
 Add home consumption in 1894... 165,776 $\frac{3}{20}$ "
 Coal on hand January 1st, 1895... 38,579 $\frac{1}{20}$ "

Total..... 1,031,998 $\frac{9}{20}$ "

The coal was shipped at the Port of Nanaimo, Departure Bay and Union, near Comox, on Vancouver Island, British Columbia. The exports were principally made to San Francisco, San Pedro, and San Diego, in California, U.S. Shipments were also made to Washington State, U. S., Alaska, Petropavloski, and to the Hawaiian Islands.

In order to show the standing of British Columbia coal in the California market, the following returns are set forth:—

British Columbia.....	649,110	tons.
Australia.....	211,733	"
English and Welsh.....	157,562	"
Scotch.....	18,636	"
Eastern, Cumberland, and Anthracite....	16,640	"
Seattle, Franklin, and Green River.....	153,199	"
Carbon Hill and South Prairie.....	241,974	"
Mount Diablo and Coos Bay.....	65,263	"
Japan, &c.....	15,637	"

Total for the year 1894..... 1,527,754 "
 " " 1893..... 1,479,785 "

In connection with the coal mines there are some thick beds of superior fire-clay, of which a considerable quantity is sent to Victoria to be used in the potteries there.

Nor should we lose sight of the rising manufacture of a very superior and well tested coke now going on at the Union Colliery. The demand for this article at the iron works, where it is used both in this Province and California, is increasing. It is also growing in favor for heating stoves, where it is now much used.

As this coke is now made from the fine particles of coal that go away in the water from the coal washing machine, and would otherwise be lost, it is quite a profit to the Company, and we may expect to see at no distant day all the fine coal manufactured into coke.

Transactions in Mining Properties.

The following are a few of the transactions in mining property that have taken place lately in West Kootenay:—

Poorman, Novelty and California—Purchased for \$20,000, and since converted into a stock company.

Pilgrim, Monita and Surprise—Bonded for \$60,000.

Mountain View—Bonded for \$25,000.

St. Patrick, Mount Hood and Only One—Bonded for \$30,000.

Monte Cristo, Enterprise and Iron Horse—Bonded for \$65,000.

Maid of Erin and Robert E. Lee—Bonded for \$40,000.

Georgia—Bonded for \$20,000.

Lily May—Bonded for \$25,000.

Kootenay and Columbia—Bonded for \$75,000.

Paris Belle—Bonded amount not stated.

Good Hope—Sold for \$1,100.

Nickel Plate—Bonded for \$20,000 cash and 20 per cent capital stock in a company to be formed.

Mabel—Bonded for \$5,000.

Cliff and Consolidated St. Elmo—Bonded amount reported to be \$105,000.

White Elephant Group—Bonded for \$30,000.

Ottawa—Sold for \$4,500.

St. Mary and St. Juan—Bonded for \$20,000.

Crown Point, White Swan and Hidden Treasure—Bonded for \$75,000.

Abe Lincoln No. 1—Bonded for \$25,000.

Homestake (recorded June 6, 1890)—Bonded for \$35,000

Gem, Uncle Sam and Tiger—Reported to be bonded for \$200,000.

Spotted Tail and Ida—Sold for \$3,000 cash.

British Columbia Mining Companies.

NAME	Capital authorized	Capital subscribed	Capital paid up	Shares par val	Shares paid up
	\$	\$	\$	\$	\$
Black Creek Hydraulic Mining Company of Cariboo...	300,000			5	5
Cariboo Hydraulic Mining Co.	300,000	300,000	300,000	5	5
Cariboo and Kootenay Prospecting and Mining Co.	100,000	16,000	16,000	2	2
Horse Fly Hydraulic Mining Co.	200,000	150,000	150,000	10	10
Maud Hydraulic Mining Co.	25,000	25,000	10,000	5	2
Montreal and British Columbia Prospecting and Promoting Co.	20,000	20,000	20,000	5	5
Montreal Hydraulic Gold Mining Co. of Cariboo.	250,000	150,000	100,000	1	1
Similkameen Gold Gravels Exploration Co.	100,000	35,375	35,375	25	25
Van Winkle Consolidated Hydraulic Mining Co.	500,000	500,000	500,000	10	10

COMPANIES INCORPORATED.

Bonanza Mining Co., Lillooet.
 Lillooet Hyd. Mining Co., Lillooet.
 Mina Placer Mining Co., Lillooet.
 Scum Scum Mining Co., Lillooet.
 Vancouver Enterprise Mining Co., Lillooet.
 Victor Hydraulic Mining Co., Lillooet.
 Dandy Mining Co., Nelson.
 Kootenay Bonanza Mining Co., Nelson.
 Poorman Mining Co., Nelson.
 Silver King Mining Co., Nelson.
 Rattler Mining Co., Osoyoos.
 Cariboo and Horsefly Mining Co., Osoyoos.
 Spokane and Great Northern Mining Co., Boundary Creek.
 The Great Hopes Mining Co., Boundary Creek.
 The Confidence Mining Co., Boundary Creek.
 Bootanic Creek Gold Mining Co., Vancouver.
 Maud Hydraulic Mining Co., Vancouver.
 Cariboo Hydraulic Mining Co., Vancouver.
 Van Winkle Consolidated Hydraulic Mining Co., (Ltd.), Vancouver.
 Prince Albert Flat Hydraulic Mining Co., Yale.
 Laura Hydraulic Co., Kettle River.
 Tulameen Improvement and Hydraulic Co., (Ltd.), New Westminster.
 Victoria Hydraulic Mining Co., (Ltd.), New Westminster.
 Cariboo and Kootenay Prospecting and Mining Co., (Ltd.), Vancouver.
 Similkameen Gold and Platinum Hydraulic Mining Co., (Ltd.), Vancouver.
 Steyne Creek Gold Mining Co., (Ltd.), Vancouver.
 North Star Mining Co., (Ltd.), Vancouver.
 Fraser River Mining and Dredging Co., Vancouver.
 Golden Era Mining Co., (Ltd.), Vancouver.
 Anglo-American Gold and Platinum Hydraulic Mining Co., (Ltd.), Vancouver.
 B. C. Gold Dredging Co., (Ltd.), Vancouver.
 Provincial Mining and Dredging Co., (Ltd.), Vancouver.
 Montreal and B. C. Prospecting and Promoting Co., (Ltd.), Vancouver.

- Bear Lake Consolidated Mining Co., (Ltd.), Victoria.
- Quesnelle River Hydraulic Gold Mining Co., (Ltd.), Victoria.
- Minnesota Silver Mining Co., (Ltd.), New Denver.
- Alamo Mining Co., (Ltd.), New Denver.
- Kootenay and Columbia Prospecting and Mining Co., Ottawa.
- Canadian Pacific Mining and Milling Co., Minneapolis.
- Kootenay Mining and Smelting Co., Jersey City, N.J.
- Columbia Mining Co., Seattle, Wash.
- Horsefly Gold Mining Co., San Francisco.
- Scott Mining Co., Seattle, Wash.
- Black Creek Hydraulic Mining Co., Vancouver.

(Additions will be made to above list in November and from time to time as new companies are formed.)

Assays.

The following assays furnished by Mr. Herbert Carmichael, Public Analyst and Assayer, in his report to the Minister of Mines, may prove interesting.

From King Solomon claim, Alberni District; examined for Mr. W. H. Ellis. Quartzose rock-matter, with fine pyrites; weight of sample, 5 oz.

Gold	\$135.90
Silver	2½ oz.

From China Creek District; examined for Mr. H. Saunders. Weight of sample, 3 oz.; quartz and fine pyrites.

Gold	\$9.00
Silver	Trace.

From face of lowest tunnel, Golden Eagle claim, Alberni District; examined for Mr. Hy. Saunders.

White and blue quartz rock-matter, with very fine pyrites; weight of sample, 25 oz.

Gold	\$103.25
Silver	Trace.

From Comox District; examined for Mr. Wm. H. Grieve. Quartz and pyrites: weight of sample, 8 oz.

Gold	\$5.00
Silver	½ oz.

From Cariboo District; examined for Mr. J. McKinnon. White quartz and pyrites, with a little galena; free gold showing weight of sample, 6 oz.

Gold	\$665.00
Silver	1½ oz.

From Wild Horse claim, East Kootenay; examined for Hon. Col. Baker.

Quartz rock-matter and pyrites: weight of sample, 12 oz.

Gold	\$30.00
Silver	¼ oz.

From Copper King claim, Ainsworth District, Kootenay; examined for Hon. Theo. Davie.

Mixed copper ores in quartzose gangue; weight of sample, 6 oz.

Gold	None.
Silver	75 oz. 16 dwt. 16 gr.
Copper	30.92%

From Robber King claim, Ainsworth District, Kootenay; examined for Hon. Theo. Davie.

Mixed copper ores in quartzose gangue; weight of sample, 6 oz.

Gold	None.
Silver	42 oz. 11 dwt. 16 gr.
Copper	14.42%

From Walker Group of Islands, B.C.; examined for Hon. D. M. Eberts.

Magnetite; weight, 2½ lbs.

Iron	64.812%
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Examined for Mr. H. G. Hall.

Galena; weight of sample, 2 oz.

Gold	None.
Silver	1.666½ oz.

For Mr. Hall.

Pyrites and galena; weight of sample, 1½ oz.

Gold	None.
Silver	31½ oz.

From Queen Charlotte Islands; examined for Mr. H. Saunders. Magnetite; weight of sample, 2½ lbs.

Iron	63.5%
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From Fairview, Osoyoos District; examined for Messrs. J. Piercy & Co.

Quartz with copper pyrites; weight of sample, 10 oz.

Gold	\$120.00
Silver	2½ oz.
Copper	2.6%

From Cassiar District; examined for Capt. John Irving, M.P.P. Antimony sulphide, with a little galena; weight of sample, 3 oz.

Gold	None.
Silver	159¼ oz.

From Camp McKinney; examined for Mr. R. J. Sidley. Quartzose rock-matter, with pyrites and galena; weight of sample, 2 oz.

Gold	\$24.00
Silver	18.00

Assayers.

- Public Assayer—H. Carmichael, Victoria, B.C.
- Ed. A. Martin, Barkerville.
- W. W. Gibbs, Boundary Creek,
- Bucke & Hultain, Kaslo.
- Wm. McCulloch, New Denver.
- Albert Strolsberg, Pilot Bay.
- A. H. Holdich, Revelstoke.
- R. C. Campbell-Johnston, Vancouver.
- W. Pellev Harvey, Vancouver.
- Mahon & Twigg, Vancouver.

Synopsis of British Columbia Mining Laws.

HOW TO LOCATE MINERAL CLAIMS.

Every person over eighteen years of age, and every joint stock company shall be entitled to all the privileges of a free miner, on taking out a free miner's certificate, the cost of which is \$5.00 a year.

Any Gold Commissioner or any Mining Recorder can issue free miner's certificates.

A free miner can locate and hold mineral and placer claims, under the mining laws in force at the time, during the continuance of his certificate, but no longer.

A mineral claim must not exceed 1,500 feet long by 1,500 feet wide, and must be marked by two legal posts, numbered 1 and 2, placed as nearly as possible on the line of the lode or vein, and not more than 1,500 feet apart.

The line from 1 to 2 is the location line, and the claim may extend any number of feet to the right and to the left of said location line, provided the total distance on both sides does not exceed 1,500 feet.

A legal post marked "Discovery Post" must also be placed on the lode where it was discovered.

On No. 1 post must be written:

1. "Initial Post."
2. The name of the claim.
3. The name of locator.
4. Date of location.
5. Approximate bearing of No. 2 post.
6. Length and breadth of claim.
7. Number of feet to the right and number of feet to the left of location line.

On No. 2 post:

1. Name of claim.
2. Name of locator.
3. Date of location.

The line from 1 to 2 must be distinctly marked by blazing trees, cutting underbrush, or planting posts.

RECORDING MINING CLAIMS.

All records must be made at the Mining Recorder's office of the mining division in which the claim is situated.

An affidavit that mineral has been found in place on the claim must be made by the applicant, or someone in his behalf cognizant of the facts, and filed with the Recorder.

A mineral claim must be recorded within fifteen days after location, if within ten miles of the office of the Mining Recorder. One additional day is allowed for every additional ten miles.

The locator must furnish the Mining Recorder with the following particulars, in addition to the affidavit above mentioned, at the time the claim is recorded, paying a fee of \$2.50 for recording claim and 25 cents for filing affidavit:

RECORDING MINING CLAIM.

1. Name of claim.
2. Name of locator.
3. Number of location, Free Miners Act.
4. Where the mine is situated.
5. Direction or bearing of location line.
6. Length and breadth of claim.
7. Number of feet to the right and number of feet to the left of location line.
8. Date of location.

ANNUAL WORK.

To hold a mineral claim work to the value of one hundred dollars must be done on the claim each year from date of record.

An affidavit made by the holder, or his agent, giving a detailed statement of the work done must be filed with the Gold Commissioner or Mining Recorder, and a certificate of work obtained from the Gold Commissioner or Mining Recorder, and recorded (fee \$2.50) before the expiration of each year from the date of record.

The holder of adjoining mineral claims may, subject to filing a notice of his intention with the Gold Commissioner or Mining Recorder, perform on any one or more of such claims all the work required to entitle him to a certificate of work for each claim.

Any money or labor expended in constructing a tunnel to develop a vein or lode will be deemed to have been expended on such vein or lode.

In lieu of the above annual work, the holder of a mineral claim may pay to the Mining Recorder the sum of one hundred dollars, get a receipt and record the same, each year from date of record.

(Placer mining laws and laws in reference to hydraulic gold claims in next issue.)

CERTIFICATE OF IMPROVEMENTS FOR CROWN GRANT.

To obtain a certificate of improvements to a mineral claim the holder must have done work on his claim to the value of \$500; had the claim surveyed and marked out by a provincial land surveyor, whose field notes and plan must be immediately forwarded to the Lands and Works Department; posted notice on claim and in Mining Recorder's office for sixty days; filed copy of surveyor's field notes and plan with Mining Recorder; inserted copy of notice in British Columbia Gazette and in some newspaper published in the province and circulating in the district, for sixty days after posting notice on claim; and filed with Mining Recorder affidavit of himself, or his agent, in the required form and to the effect that the above conditions have been complied with.

CROWN GRANTS.

Applications for Crown grants must be made to Gold Commissioner within three months from date of certificate of improvements.

The holder of a certificate of improvements, on making application for Crown grant, must enclose certificate of improvements and the Crown grant fee of \$5.00.

The holder of a certificate of improvements, which has been duly recorded, in respect of a mineral claim outside the railway

belt, is entitled to a Crown grant of such claim on payment of Crown grant fee, \$5.00, and making application as above; but in respect of a claim within the railway belt, a further payment of \$5.00 an acre is required. Or: Any lawful holder of a mineral claim can obtain a Crown grant by paying to the Government of British Columbia the sum of \$500 in lieu of expenditure on claim, after having complied with all the provisions relating to certificates of improvements except such as have respect solely to work required to be done on the claim.

TABLE OF FEES FOR REFERENCE.

For every free miner's certificate (for each year).....	\$5 00
Every substituted certificate.....	1 00
Recording any claim.....	2 50
Recording every certificate of work.....	2 50
Recording any "lay over," or every other record required to be in the "Record Book".....	2 50
Recording every abandonment, including the memorandum to be written on the record.....	2 50
For any other record made in the "Record of Abandonments".....	2 50
For recording every affidavit, where the same does not exceed three folios of one hundred words.....	2 50
For every folio over three, 30 cents per folio.	
The above rate shall be charged for all records made in the "Records of Affidavits."	
For all records made in the "Record of Conveyances," where the same does not exceed three folios.....	2 50
For every folio over three, a further charge of 30 cents per folio.	
For all copies or extracts from any record in any of the above-named books, where such copy or extract shall not exceed three folios, per copy.....	2 50
Where such copies or extracts exceed three folios, 30 cents per folio for every folio over three.	
For filing any document.....	25
For a Crown grant.....	5 00

Provincial Government Agencies.

- Alberni—Thos. Fletcher, Alberni.
- Cariboo—J. Bowron, Richfield.
- Cowichan—H. O. Wellburn, Duncan's.
- Comox—S. Creech, Comox.
- Cassiar—James Porter, P. O. Laketon.
- East Kootenay—J. F. Armstrong, Donald.
- Fort Simpson—J. Flewin.
- Kamloops—G. C. Tunstall, Kamloops.
- Kootenay West—Capt. Fitzstubbbs, Nelson.
- Lillooet—F. Soues, Clinton.
- Nanaimo—M. Bray, Nanaimo.
- New Westminster—C. Warwick, New Westminster.
- Nicola—John Clapperton, Nicola Lake.
- Okanagan—L. Norris, Vernon.
- Quesnelle—Wm. Stephenson, Forks, Quesnelle.
- Revelstoke—J. D. Graham, Revelstoke.
- Yale—W. Dodd, Yale.

Gold Commissioners.

- For the Province—The Hon. G. S. Martin.
- Alberni—Thos. Fletcher, Alberni.
- Cassiar District—James Porter, Laketon, Cassiar.
- Lillooet District—Frederick Soues, Clinton.
- East Kootenay District—J. F. Armstrong, Donald.
- West Kootenay District—N. Fitzstubbbs, Nelson.
- West Kootenay District—J. D. Graham, Revelstoke.
- Yale District—Chas. Lambly, Osoyoos; G. C. Tunstall, Kamloops; John Bowron, Cariboo.

Table of Stage Distances.

	Miles.
Alberni from Nanaimo.....	57
Aldergrove from New Westminster.....	22
Alexandria from Ashcroft.....	185
Barkerville from Ashcroft.....	290
Beaver Creek from Nanaimo.....	16
Bonaparte Valley from Ashcroft.....	20
Bridge Creek from Ashcroft.....	85
Cache Creek from Ashcroft.....	6
Clayton from New Westminster.....	9
Clinton from Ashcroft.....	32
Clover Valley from New Westminster.....	134
Coultlee from Spences, Bridge.....	40

MINING CENTRES IN BRITISH COLUMBIA

—AND—

HOW TO REACH THEM.

ALBERNI.

Alberni.—Steamboat communication with Victoria and by stage with Nanaimo.
Barclay Sound.—40 miles from Alberni; communication by steamer with Victoria.

CARIBOO.

Barkerville.—285 miles from Ashcroft; stage from Ashcroft. See stage lines.
Bonaparte.—20 miles from Ashcroft; stage from Ashcroft.
Big Bar.—Stage from Ashcroft.
Clinton.—32 miles from Ashcroft station; stage from Ashcroft.
Fort George.—Nearest post office, Quesnelle, where stage to and from Ashcroft changes.
Horsefly.—Nearest post office, 150-Mile House; stage from Ashcroft; change at 150-Mile House.
Lac La Hache.—100 miles from Ashcroft; stage from Ashcroft and Barkerville.
Lillooet.—Weekly stage from Clinton, where connection is made with stage for Ashcroft.
One Hundred Mile House.—Stage from Ashcroft.
One Hundred and Fifty Mile House.—Stage from Ashcroft.
Quesnelle.—225 miles from Ashcroft; stage from Ashcroft.
Quesnelle Forks.—Stage and pack trail from Ashcroft.
Soda Creek.—Stage from Ashcroft.
Tatla Lake.—Stage from Ashcroft, changing at Soda Creek.

EAST KOOTENAY.

Cranbrook.—Nearest railway station, Golden. Communication by steamer from Golden to Windermere, thence by stage.
Fairmont Springs.—Nearest railway station, Golden. Steamer to Windermere, thence by stage.
Fort Steele.—Steamer and train from Golden. Stage in winter from Golden.
Galbraith Ferry.—Steamer from Golden. Stage in winter.
Galena.—Nearest railway station, Golden; thence by steamer. Stage in winter.
Golden.—On the main line C. P. R., 475 miles from Vancouver.
Perry Creek.—Steamer from Golden to Fort Steele, thence by road.
Thunder Hill.—115 miles from Golden. Steamer in summer, stage in winter.
Windermere.—Steamer from Golden; stage in winter.

WEST KOOTENAY.

Ainsworth.—Twenty-eight miles from Nelson and twelve from Kaslo. Steamer communication.
Albert Canyon.—A station on the C. P. R., 400 miles from Vancouver.
Fort Shepherd.—Nearest post office, Trail Creek; communication by rail and steamer from Revelstoke.
Illecillewaet.—On the main line C. P. R., 407 miles from Vancouver.
Kaslo City.—35 miles from Nelson; communication by steamer.
Lardean City.—Forty miles from Revelstoke; communication by steamer.
Nakusp.—North-west terminus of Nakusp & Slocan Railway. Fifty miles from Revelstoke. Steamer communication from Revelstoke tri-weekly.
Nelson.—Thirty miles from Robson; is the eastern terminus of Columbia & Kootenay Railway, and also on the Spokane & Northern Railroad; steamer from Revelstoke.
New Denver.—Steamer and rail from Revelstoke.
Pilot Bay.—Eighteen miles from Kaslo, thence by steamer.
Revelstoke.—On main line C.P.R.; 379 miles from Vancouver.
Sproat's Landing.—160 miles from Revelstoke, and one and a-half miles from Robson.
Trout Lake City.—Steamer and stage from Revelstoke.

YALE.

Boundary Creek.—Nearest railway station, Vernon.
Fairview Camp.—Communication by boat from Penticton, and by stage.
Granite Creek.—Stage from Spence's Bridge.
Kettle River.—Communication by stage with Kamloops and Vernon.
Lytton.—156 miles from Vancouver on main line C.P.R.
Midway.—140 miles from Okanagan Landing waggon road, weekly mail.
Nicola Lake.—Stage from Spence's Bridge and Kamloops.
North Bend.—On main line C.P.R., 120 miles from Vancouver.
Okanagan.—Rail from Sicamous Station, on C.P.R.

Stage Lines.

FROM ASHCROFT ON THE C.P.R., INTO CARIBOO AND THE NORTHERN INTERIOR OF BRITISH COLUMBIA.

When to leave Ashcroft.	MAIN LINE. About 70 miles per day.	Mls. from Ashcroft.	Branches.	Remarks.
C. P. R. daily.	Ashcroft			All wky stgs ar Tu
Mo. Wed. & Fr.	Cache Creek	6		Ret. following days
" " "	Bonaparte Vally.			" " "
" " "	Hat Creek	13		" " "
Mondays	"		Marble Canyon.	" " "
Mon. and Wed.	"	38	The Grange	" " "
" " "	"	42	Pavilion	Wed. via Clinton.
Mo. Wed. & Fr.	Mundorfs	63	Lillooet	" " "
Mon. and Wed.	Clinton	20		Ret. following days
" " "	"	32		" " "
" " "	"	58	Pavilion.	Mon. via Hat Cr'k.
" " "	"		Lillooet	" " "
" " "	"		Big Bar Creek	Weekly Mail Stage
" " "	"		Dog Creek	" " "
" " "	"		Alkali Lake	" " "
" " "	"		Churn Creek	" " "
" " "	"		Empire Valley	" " "
" " "	83-Mile House.	68		Bi-weekly
" " "	Bridge Creek	85		" " "
" " "	108-Mile House.	93		" " "
" " "	Lac La Hache.	100		" " "
" " "	134-Mile House.	119		" " "
" " "	150-Mile House.	135		" " "
" " "	"	140	Williams Lake.	Spl from 150-Ml. H
" " "	"		Chimney Creek.	" " "
" " "	"		Horse Fly	" " "
" " "	"		Beaver Lake	Wky stg fr 150 M.H
" " "	"		Forks Quesnelle.	" " "
" " "	"		Keithly Creek	" " "
" " "	Carpenters Mt			Bi-wky fm Ashcroft
" " "	Deep Creek			" " "
" " "	Soda Creek	165		" " "
" " "	"		Chilcoten	Frtrgtly fr Soda Ck
" " "	"		Riske	" " "
" " "	"		Hanceville	" " "
" " "	"		Tatla Lake.	Spl from Chilcoten
" " "	Alexandria	190		Bi-wkyfm Ashcroft
" " "	8-Mile Creek.	198		" " "
" " "	Quesnelle	230		" " "
" " "	"		Fort George	Spl from Quesnelle
" " "	"		Stuarts Lake.	" " "
" " "	"		Hazleton	" " "
" " "	"		Omineca	" " "
" " "	"		Peace River	" " "
" " "	21-Mile House	251		Bi-wky fm Ashcroft
" " "	Cottonwood			" " "
" " "	Beaver Pass			" " "
" " "	Stanley			" " "
" " "	Slough Creek			" " "
" " "	Burns Mount			" " "
" " "	Barkerville			Ret. lv. Saturdays.

Okanagan Mission.—Rail from Sicamous to Vernon, thence by stage.

Osoyoos.—Rail and stage to Okanagan Mission, thence by livery.

Rock Creek.—Rail from Sicamous to Vernon, stage to Mission, and thence by livery.

Spallmucheen.—Sicamous to Enderby, and thence 6 miles.

Spence's Bridge.—On main line C.P.R., 178 miles from Vancouver.

Vernon.—Rail from Sicamous.

Yale.—On main line C.P.R., 102 miles from Vancouver.

Record of Mineral Claim and its Duration.

A recent decision, delivered by His Honor Judge Spinks at Nelson, in the case of Strobac v. Rettallack, will, in all probability have the effect of settling a point, which, for some time past, has been one for discussion among miners. Two or three like cases have cropped out recently, which the decision just rendered may prevent from coming into court.

The first of section 24 of the Mineral Act reads thus :

"Any free miner having duly located and recorded a mineral claim shall be entitled to hold the same from the period of one year for the recording of the same, and thence from year to year without the necessity of recording."

In the case before the Court, the contention of Strobac was that Rettallack had not recorded his assessment work within a year from the date of recording the claim. To give an instance, in this case the claim was recorded the 8th day of May, 1894, and the assessment work on the 8th day of May, 1895, thereby giving rise to the question, when did the yearly lease, which commenced the 8th day of May, expire.

The Judge, by his decision, has left no room for further litigation upon this point, for he says that a mining lease does not expire until the anniversary of the day it was taken out also expires. Therefore the lease taken out on the 8th day of May, 1894, did not expire until the end of the 8th day of May following.

This is important information for miners having locations.

News Nuggets.

Ore has been struck in the lowest tunnel of the Alpha, near Nelson, about 18 inches solid.

A large number of claims are being located up the North Fork of Kettle river in and around Brown's camp.

Having got their new machinery into order, the Le Roi mine owners at Rossland expect to put out about 100 tons a day.

The concentrator is now running on Cumberland ore and this mine will return by the end of the year the purchase price, \$25,000.

Lardeau Jack says that the Glengarry, a Lardeau claim in which he is interested, assays 1,050 ounces in silver, \$10 in gold, and 20 per cent. copper.

About 250 tons of ore are on the dump at the Deadman. There is enough to pay for the property, some of the ore running 500 ounces in the white metal.

T. Elliott, of the Smuggler, and Guess & White, of the Susie, shipped a carload of ore this week to Tacoma for a test; the assay average of both lots is over \$100 per ton.

J. Keith Reid, Montreal, has issued a map, said to be excellent, of the Slocan mines. It has been compiled from special surveys and is beautifully lithographed in colors.

Not long ago a large lead of free gold was struck in the bottom of the 80 foot shaft on the Smuggler. Since the recent strike the rock has become richer and richer and yesterday the quartz taken out was thoroughly impregnated with free gold.

It is not unlikely that the Canadian Pacific will have all the preliminary work done this fall on the extension of the

Columbia and Kootenay, so that construction work can be commenced early next spring. The Arrow Lake extension of the Revelstoke branch is to be completed this fall.

Mining Journals of British Columbia.

THE MINING RECORD is under obligations to the local journals published in the mining districts for much valuable information. The object of the RECORD is to present to its readers mining news from all parts of British Columbia, but those interested in any particular locality will find it to their advantage to subscribe also to the paper published in the district as it invariably contains particulars of a local character of value to anyone interested in the mines.

We have much pleasure therefore, in placing before our readers the following list of mining journals published in British Columbia:—

The Miner, Nelson; *The Tribune*, Nelson; *Golden Era*, Golden; *Inland Sentinel*, Kamloops; *News*, Vernon; *Kootenay*, Revelstoke; *Ledge*, Nakusp Ledge; *Slocan Times*, New Denver; *Slocan Prospector*, Three Forks; *Advance*, Midway; *Mining Journal*, Ashcroft; *Kaslo Claim*, Kaslo.

The Columbia and Kootenay Steam Navigation Co. Ltd.

TIME TABLE No. 7.

In effect Monday, April 29th, 1895.

REVELSTOKE ROUTE.—Steamer "NAKUSP."

LEAVES Revelstoke southbound, Mondays and Thursdays at 7 p.m., at 1 a.m. for all points in West Kootenay and the south.

LEAVES Robson, northbound Wednesdays and Saturdays at 8 p.m. for all points east and west via the C.P.R.

NORTHPORT ROUTE.—Steamer "NAKUSP."

LEAVES Robson, southbound, for Trail Creek and Northport Tuesdays and Fridays at 6 p.m.

LEAVES Northport, northbound Wednesdays and Saturdays at 1 p.m.

Stages run in connection with steamer from Trail Creek Landing to Rossland.

KASLO ROUTE.—Steamer "NELSON."

LEAVES Nelson for Kaslo : Tuesdays at 5.40 p.m. Wednesdays at 4 p.m. Thursdays at 5.40 p.m. Saturdays at 5.40 p.m.

Connecting on Tuesdays, Thursdays and Saturdays with N. & F. S. Ry., for Kaslo and Lake points.

LEAVES Kaslo for Nelson : Mondays at 4 a.m. Wednesdays at 4 a.m. Thursdays at 8 a.m. Fridays at 4 a.m.

Connecting on Mondays, Wednesdays and Fridays with N. & F. S. Ry., for Spokane.

Close connections with Columbia and Kootenay Railway at Nelson for points north and south.

BONNER'S FERRY ROUTE.—Steamer "NELSON."

LEAVES Nelson for Bonner's Ferry, Mondays and Fridays at 8 a.m.

LEAVES Kaslo for Bonner's Ferry, Mondays and Fridays at 4 a.m.

LEAVES Bonner's Ferry for Pilot Bay, Nelson, Ainsworth and Kaslo, on Tuesdays and Saturdays at 2 a.m.

Connections with east and westbound trains on the Great Northern Railway.

The right is reserved to change this schedule at any time without notice.

For tickets, rates, etc. apply at Company's Office, Nelson.

T. ALLAN,
Secretary.

J. W. TROUP,
Manager.

VANCOUVER, B. C.

Vancouver is the Pacific terminus of the Canadian Pacific Railway, and although its existence only dates back a few years, it is already the next city in size and population to Victoria. Its population is estimated at between 17,000 and 20,000. There are many handsome and substantially built blocks along the business streets of Vancouver, and its streets are regularly laid out. It has gas, electric light, water-works and an excellent tramway service. There are quite a number of industries established in the city, amongst which may be mentioned a sugar refinery, foundries and machine shops, tanneries, canneries, soap works, breweries, saw mills, planing and shingle mills, etc., etc. The Canadian Pacific Railway workshops are also stationed here, so that the local trade of Vancouver is large. It enjoys an extensive wholesale trade, and is a strong rival to Victoria in this respect. Daily steamers connect Vancouver with Victoria, Nanaimo and New Westminster, and a large fleet ply between it and the smaller ports of British Columbia. The Canadian Pacific Railway line of steamers to China and Japan has its headquarters here, and this is the port of departure of the Canadian-Australian Line for Australia, calling at Honolulu and Suva. Owing to its superior position, Vancouver will undoubtedly become one of the most important commercial and shipping ports on the North Pacific coast.

J. W. CAMPION, Sec.-Treas. J. E. P. MACFARLANE, Manager.

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 (Limited).

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 &c., &c., &c.

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Granville St., Vancouver, B.C.**The Cassel Gold Extracting Co.
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**Stages for -
CARIBOO.**The regular Weekly Stage for all points in
Cariboo and Lillooet,Leaves Ashcroft every Monday morning at
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ing about 70 miles a day, each way, lying over
a day at Barkerville**Ashcroft to Clinton,**Mondays, Wednesdays and Fridays. Return-
ing Tuesdays, Thursdays and Saturdays. Ash-
croft for Lillooet, Mondays and Wednesdays.**Special Stages**Furnished on proper notice and at reasonable
rates. For a party of five or more persons
regular stage fares only will be charged. These
specials make regular stage time, changing
horses along the route. General express mak-
ter carried by regular stages. Fast freight by
specials. For further information, apply to**B. C. EXPRESS CO. Ltd.,
Ashcroft, B.C.****NEW WESTMINSTER, B.C.**Called the Royal City, is situated on the north bank of the Fraser River, fifteen miles from its mouth, and has a popula-
tion of nearly 9,000. It is the distributing point for all the commerce along the Fraser River and adjoining country, and is
the fresh water terminus of the Canadian Pacific Railway, and the western terminus of the Great Northern, which reaches it
over the New Westminster Southern. It is also connected with Vancouver by electric tramway. Several Provincial public
buildings, the penitentiary, lunatic asylum and central prison are located here. The city is well laid out, and contains a num-
ber of handsome buildings, business blocks and numerous beautiful private residences. It is provided with good systems of
water-works, gas, electric light, telephone and tram car service. In addition to the large trade done by New Westminster
with the canneries along the Fraser, it has also a fine agricultural country tributary to it, so that commercially it has a very
substantial footing.**B. C. MILLS, TIMBER AND TRADING CO.****Royal City Planing Mills Branch, - New Westminster****MANUFACTURERS AND DEALERS
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VICTORIA, B.C.

Situated at the southern extremity of Vancouver Island, is a city of nearly 23,000. It is remarkable for its delightful situation and the beauty of its surroundings. In addition to its inner land-locked harbor, extensive docks have been constructed at its entrance, capable of accommodating a large fleet of ocean steamers and sailing vessels. Victoria enjoys a very large wholesale trade with all parts of the province, and being a favorite resort for tourists who visit the Pacific coast, considerable retail business is transacted with these visitors, making the general trade of the city very large. Victoria is well laid out, and in the business portion of the city there are numerous handsome business blocks and public buildings. It is the seat of government in British Columbia, and the new government buildings being erected to take the place of the present structures will be very handsome. Victoria is celebrated for its beautiful parks and drives and the splendid scenery surrounding it. It has water-works, gas and electric light, the streets being lighted by the latter—electric tram-cars run on the principal streets. Victoria is connected by daily steamers with Vancouver, New Westminster and the Puget Sound cities, Seattle and Tacoma. By this means the city is in direct connection with the Canadian Pacific and other roads. The Pacific coast steamers to San Francisco have their northern headquarters here. It is also the terminus of the Esquimalt and Nanaimo Railway, and there is a regular tramway service to Esquimalt. A large fleet of steamers run between Victoria and all the mainland and island ports. It is the headquarters of the sealing fleet and the cannery interest, most of the trade of the latter being held by Victoria merchants. It is, therefore, an important commercial centre, as well as a favorite tourist resort.

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Canadian Pacific Navigation Co'y.
(LIMITED.)
TIME TABLE No. 27.
Taking Effect June 21st, 1895.
VANCOUVER ROUTE.
VICTORIA TO VANCOUVER daily except Monday, at 2 o'clock.
VANCOUVER TO VICTORIA daily, except Monday at 12 o'clock, or on arrival of C. P. Railway, No. 1 Train.
NEW WESTMINSTER ROUTE.
Leave Victoria—For New Westminster, Ladner's Land-
ing and Lulu Island, Sunday at 23 o'clock; Wednesday
and Friday at 7 o'clock. Sunday's steamer to New
Westminster connects with C.P.R. Train No. 2 going
East, Monday.
For PLUMPER PASS—Wednesdays and Fridays at 7
o'clock.
For MORESBY and PENDER ISLANDS—Fridays at 7
o'clock.
Leave NEW WESTMINSTER—For VICTORIA—Monday,
at 11.15 o'clock. Thursday and Saturday at 7 o'clock.
For PLUMPER PASS—Saturday at 7 o'clock.
For Pender and Moresby Islands—Thursday at 7 o'clock.

FRASER RIVER ROUTE.
Steamer leaves NEW WESTMINSTER for CHILLI-
WACK and way landings every Tuesday, Thursday
and Saturday at 7 o'clock during river navigation.
NORTHERN ROUTE.
Steamships of this Company leave Victoria for Fort
Simpson via Vancouver and intermediate ports on the
First (1st) and Fifteenth (15th) of each month. If suffi-
cient inducements offers will call at points on the West
Coast and Queen Charlotte Islands.
BARCLAY SOUND ROUTE.
Steamer MAUDE leaves Victoria for Alberni and Sound
ports, the 10th, 20th and 30th of each month. The Com-
pany reserves the right of changing this time table at
any time without notification.
G. A. CABLETON, JOHN IRVING,
Gen. Agent, Manager.

NANAIMO, B.C.

Incorporated in 1874, has now a population of nearly 7,000. It is delightfully situated on rising ground, overlooking one of the finest harbors in British Columbia. Its trade is chiefly with the miners employed by the New Vancouver Coal Company, and with the numerous vessels calling there for coal. It has also large lumbering mills, owned by Mr. Andrew Haslam, who is M.P. for the district, which do an immense local and foreign trade, machine shops, foundries and other industries which serve to swell the trade of the city. The New Vancouver Coal Company have mines at Nanaimo, Southfield, Chase and on the Nanaimo River, as well as at Northfield and have about 150,000 tons of shipping chartered to carry their coal, in addition to the numerous vessels chartered by the buyers. The company employs about 1,500 hands, so that their trade is of great importance to Nanaimo. The city has excellent systems of water-works, gas, electric light and telephone. The streets are well laid out and kept in good order, and the class of buildings erected, especially some of the business blocks and public buildings, are of a high class order. Nanaimo is the most important station on the Esquimalt and Nanaimo Railway north of Victoria, and has connection by steamer with Victoria, Vancouver, New Westminster and nearly all ports on the main land.

COAL! The New Vancouver Coal Mining and Land Co.'y Ltd.

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