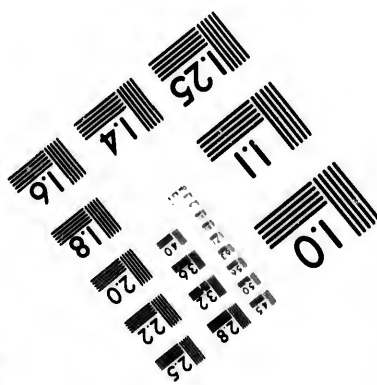
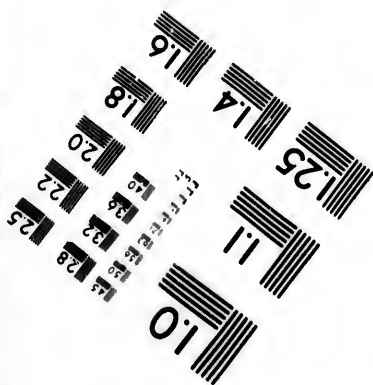
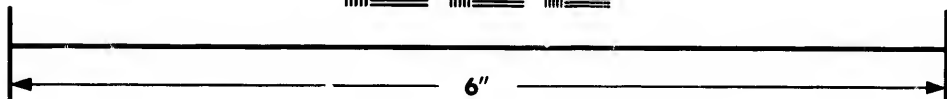
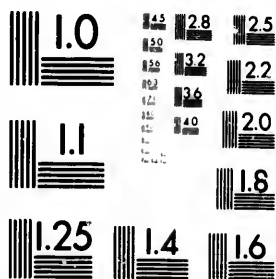


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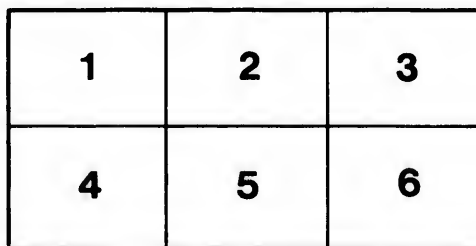
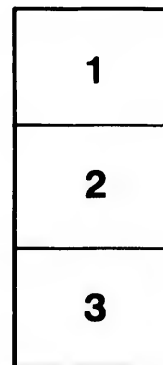
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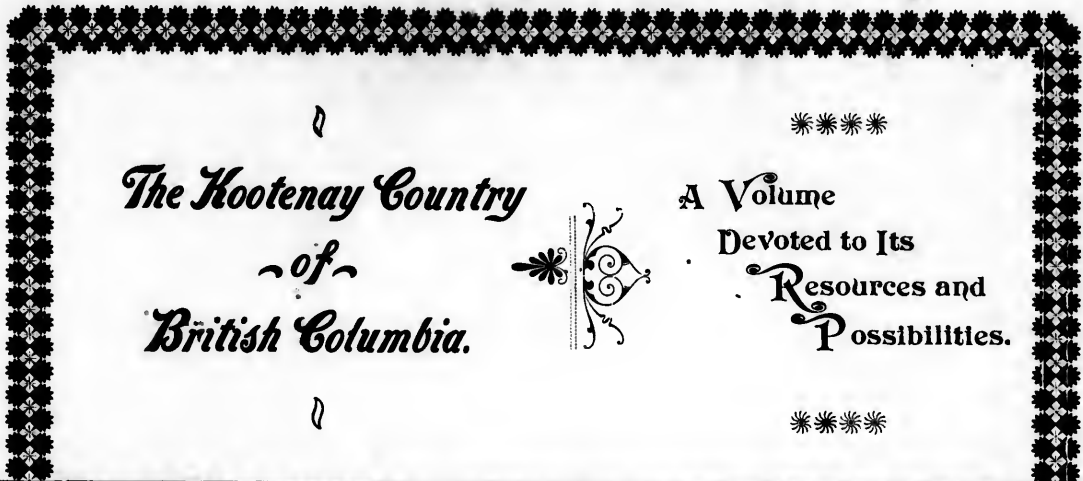
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The Kootenay Country
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British Columbia.



A Volume
Devoted to Its
Resources and
Possibilities.



JAMES E. STEEN, PUBLISHER.

SUBSCRIPTION, \$2 PER YEAR IN ADVANCE.

WINNIPEG, JULY 15TH, 1892.

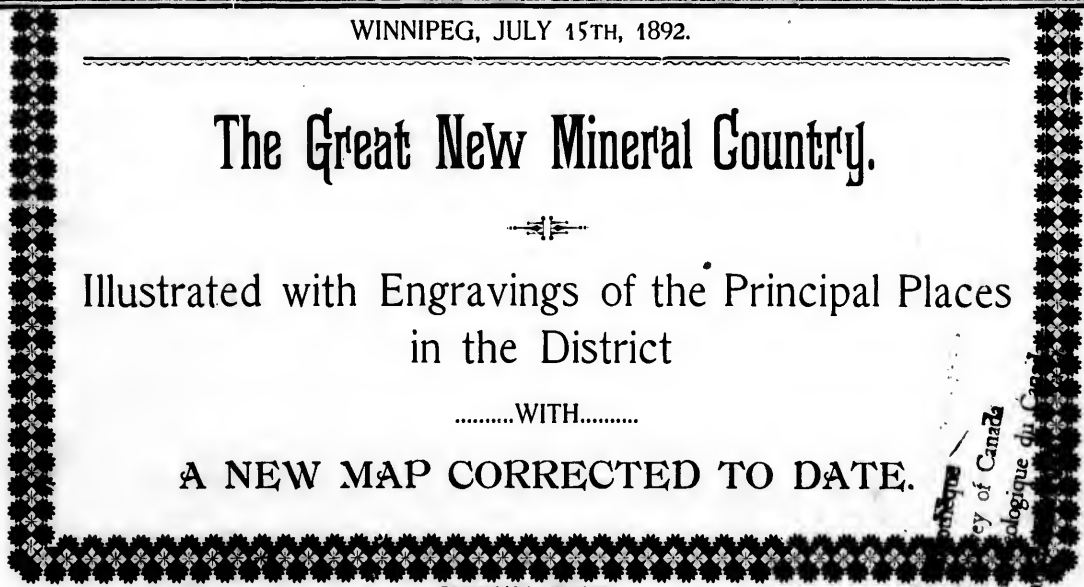
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Illustrated with Engravings of the Principal Places
in the District

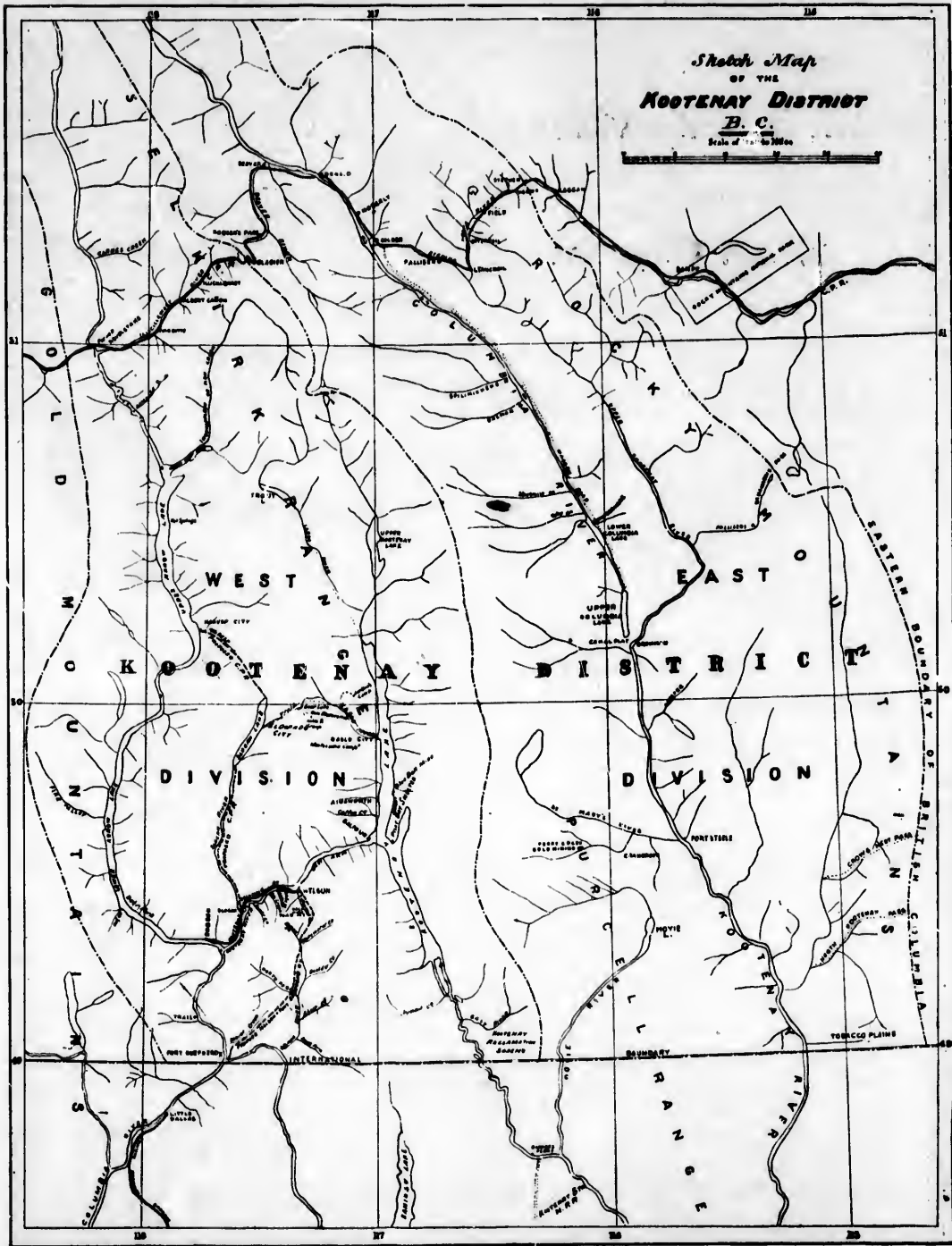
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Kootenay, British Columbia, Supplement.

WINNIPEG, JULY 15th, 1892.

THE KOOTENAY COUNTRY

Of British Columbia—A volume Devoted to its Resources and Possibilities.

Like most Indian names Kootenay has a choice of spelling. In the earliest general map of British Columbia it was Coo-too-nay. In official maps of a later date it was Kootenale, the spelling adopted on the American side. Dr. Dawson spells it Kootenale, but on the Canadian side the official and popular orthography is Kootenay. It is of little moment. In the classics of modern showdom, "you pays your money and you takes your choice." **THE COMMERCIAL** is patriotic and prefers it with an "ay"

THE KOOTENAY DISTRICT—EAST AND WEST.

Kootenay is divided into East and West, and embraces in all about 16,500,000 acres. It may be described as a bi-sectioned triangle, the apex of which is a little north of the 52nd parallel, including the Big Bend country, formed by the great bend of the Columbia, which, after a long sweep northwesterly from where it just touches the upper Kootenay, turns with a sharp curve at the junction of Canoe river and flows almost directly south (a little southeasterly), finding its way to the Pacific ocean through American territory. The base of this triangle is the boundary line, the hypothetical or long

side is the eastern boundary of the province so far as Kootenay extends, being the watershed of the Rockies, while the third and west side is a line running almost midway between the 118th and 119th degrees of longitude. The line dividing East and West Kootenay, runs from the apex to the base along the main water shed of the Purcell branch of the Selkirks in a southeasterly direction.

These districts, quoting an official guide book, include three important valleys, formed by the threefold division of the Selkirk Range. The first is a portion of the great western valley of the Rockies, and is watered by the upper reaches of the Columbia and Kootenay rivers. Agricultural land is limited to the immediate vicinity of these rivers and much of it is subject to overflow. Mining operations are being prosecuted in several localities with good prospects of success, and large timber limits are being worked in the neighborhood of the Canadian Pacific Railway. The second valley is that lying between the Purcell and Selkirk Ranges, and is occupied by the Upper and Lower Kootenay Lakes. It is in this region that the mineral developments now occupying so much attention are taking place. The third

valley, lying between the Selkirk and Gold Ranges, is occupied by the second bend of the Columbia River and the Arrow Lakes, and is at present the chief means of communication, by steambot, with the Canadian Pacific Railway. To the north of the railway lies the region known as the Big Bend, which once had a somewhat short-lived fame as a successful placer mining district. It is with the western division that we have principally to do in what follows. Revelstoke, on the Canadian Pacific Railway, is the northern gateway into this district.

THE JOURNEY IN.

One of the most Remarkable Routes on Continent.

In former days it required a circuitous, arduous and lengthened journey to reach West Kootenay, a journey which to-day is accomplished with comparative ease and comfort by rail and steambot. It was a trip which was made by a variety of routes, all laborious and hazardous, whether from north or south of the boundary line—by steambot, canoe, pack-horse, on foot, over trail, through mountain pass, on river and lake, packing provisions and camp outfit in their most con-

densed form, now alone, now piloted by Indians, associating with white men at long intervals and always depending for physical endurance and individual resource to carry you through. Many and many a pioneer of those early days, yet only a few years back, lives to tell, in a manner that pen can do but feeble justice to, the story and these reminiscences would form the most interesting feature of any history of this western country. Kootenay, though a southern and compact portion of British Columbia, was by reason of its physical characteristics one of the most remote and isolated up to within three or four years past. Bancroft says: "Remote from Victoria as was this portion of the country, its mining operations (referring to the early sixties) were better known in and were in fact tributary to Oregon; yet many Victorians went thither, and some trade was carried on in that direction in later times, notwithstanding the inconveniences of the route." Such men as Wm. Douglas, the wandering botanist, the early miners, Judge Sproat, and scores of well known men, have had experiences in penetrating this district which few men would care to repeat in the present day and generation.

EAST AND WEST TO REVELSTOKE.

To Revelstoke from the east or west is travelling over a now familiar path. It has been described so often, so well and with such wide spread effect that to add to the stock of literature descriptive of the C.P.R. through the Rockies to the coast would be undertaking a work of supererogation. The author of the *New West* has, after giving in detail the experiences of a monotonous but wonderful ride over a thousand miles of prairie, which is as if the bosom of a mighty heaving ocean had been suddenly congealed and rendered fruitful, very effectively sums up the Impressions of the journey: "Like a huge battalion of body guards of God, marshalled in serried ranks from north to south, as if to dispute the approach of man, the grim rocks rise in their awful stupendous grandeur and make the beholder feel his utter insignificance and puny littleness. As the traveler advances the glorious landscape ever changes. The forms which the mountains and the clouds assume become more beautiful

and strange and weird and fantastic. On either hand they so intermingle and blend that in the delicate haze—amber and golden and roseate and golden at times—the lines of demarcation are invisible. None but the Almighty could frame so wondrous a scene; no brush in human hands could paint it ever so clumsily; no words could describe its dazzling beauty. It is grand beyond description, overpowering the senses, and subdues one with mixed feelings of awe and wonderment, the sublime grandeur of the surroundings being accentuated by the sudden and wide contrast between the level prairies and the tumultuous masses of serrated and broken rock which reach upwards and upwards until they pierce the very clouds. * * * The scene is one of indescribable grandeur. The senses are overpowered by the ideas of immensity, titanic strength, adamantine hardness and endless existence which these huge collections of rock evoke. It is only in such a spot that the human mind can adequately comprehend the sublime imagery of the inspired writers who told of the "everlasting hills." * * * Here, too, is Mount Stephen—towering over eight thousand feet above the railway track, the highest peak in the range—and beyond, Cathedral mountain, grand past all conception, impresses one with its magnificent presence.

The scene changes. Through the region bearing the common-place name, Kicking Horse Pass, the narrow defile leads down a dark and gloomy canyon, through which flows the river, raging and boiling and leaping as if all the imps of the inferno were lashing it into a mad fury. Hemmed in on all sides by the towering mounts, you descend deeper and deeper, as if into the Valley of the Shadow of Death, guarded by adamantine Titans to resent intrusion into this other world. The waters of the Kicking Horse Pass roaring and hissing and lashing furiously—a devil's cauldron—break the dead silence.

"If the scenery of the regal Rockies is weird and impressive, that of the sister Selkirks is even more entrancing, because more weird and beautiful. * * * The beauty, the grandeur, the sublimity of the Selkirks are bewildering. The feast of picturesque loveliness satiates the senses, and, dreamily closing the eyes, one can imagine he is passing through an enchanted realm, whose gorgeous beauty outrivals the wonderful scenes of the Arabian Nights. * * * Crossing the Columbia River—the grandest stream in America west of the Rockies—the name reminds one of the province to which it gives its name. * * *

Up, the railway climbs and creeps—the size of the dark, densely foliaged monarch of the forest, the Douglas fir, increasing appreciably. Up the mountain side, and Sir Donald, with seven other great peaks, enrobed in perpetual snow, comes in view. The beauty of the scene is augmented by successions of foaming cascades which leap down the mountain side—one of which so impressed the railway builders with its charm that they named it the "Surprise." Beyond again, a rift in the cliffs affords a grand sight—the old Hermit keeping lonely vigil, as he has mutely watched since that solemn day, when He created the heavens and the earth. It is here that one of the loftiest bridges in the world spans a ravine, 275 feet above the torrent and 750 feet long. On past the mile Mount Carroll and the Hermit through a narrow portal, leading between enormous precipices, the summit of the Selkirks is reached. While, doubtless, previous to that time this fastness of the Selkirks had never been penetrated by white men, the Indians both in the east and the west had known the possibility of access by it, probably for centuries, but neither Shuswap or Kootenay would reveal it or traverse it, as traditionally they were bitter enemies. The pass lies between two lines of huge, snow-clad peaks—that on the north, as told in the guide book, forming a mammoth amphitheatre whose parapet, eight or nine thousand feet above the valley, encircles vast spaces of snow and shelters wide fields of perpetual ice, glaciers beside which those of Switzerland would be insignificant, and so near that the shining green fissures penetrating their masses can be seen. Here the traveller is 4,300 feet above the sea. At the very foot of the greatest of all the glaciers of the Selkirks stands a pretty Swiss chalet—a resting place for the tourist from which to view the entrancing beauty of the mountainous surroundings. Here is to be seen those magnificent atmospheric effects of light and shade, which are so frequent in the mountains. * * * Besides the varied scenery to entrance the eye of the tourist, the spot has an additional attraction to the sportsman, for the summit of these lofty peaks are the homes of the wild sheep and goat and grizzly. Here it is that the turbulent Illecillewaet takes its rise, and, following its course, the descent of the western slope of the Selkirks is made. At the base of Ross Peak, a sudden, sheer, precipitous cliff is reached, which could not be bridged. An engineering difficulty was encountered which seemed at one time to baffle the skill of man to overcome. But by a series of lofty trestles and

REVELSTOKE
 KOOTENAY
 ASSOCIATION
 ADAMAS TO

curves across the heads of gorges and around the brows of pronontories—known as "The Loop"—man achieved a triumph. * * * In this locality are promising silver mines penetrating the crest of one of the foot-hills and beyond is Albert Canyon, which seems to be a final effort of Nature to intensify all that is frightful. It is about 300 feet from the level of the road and the mountain shoots up at a very slight angle to the height of 2,000 feet. It is quite impossible to describe the feeling of wonder and awe inspired by this deep, dark cavern, at the bottom of which we see the river boiling and rushing with the speed of a race-horse. * * * At Revelstoke the second crossing of the Columbia is reached, the mighty Selkirk are crossed, and before the traveller rises up the third great rocky range—lower than its brethren, but richer in mineral wealth—the Gold mountains."

All this time you have been travelling in the Kootenay district after leaving Laggan.

The trip from the coast to Revelstoke is scarcely less interesting and much more historical. Passing through the valley of the Fraser, noted for its fertility, the traveller is soon introduced to the wonderful canons of the river, having the name of its Intrepid discoverer. Dr. Dawson describes the tract of the Fraser as a "ragged gash in the mountains," through which the water flows in a series of wild rapids. Along the sides for many miles can be seen the old wagon road from Yale which led to Cariboo, sometimes as at North Bend, hundreds of feet high niched in the walls of over hanging rock. Many regard the Fraser canon scenery as the most beautiful portion of the C. P. R. route. At Lytton the road leaves the Fraser and skirts the South Thompson, and here you enter on a section entirely different in character—low rolling hills, long extended lakes, a sparsely timbered and less coniferous country than any other portion of the trip, what would be called picturesque, distinctively so. Along Kamloops Lake, Shuswap river, Shuswap Lake, Salmon Arm, Eagle river and so on, we enter the West Kootenay and embark at Revelstoke. From whichever direction the tourist wishes to enter he has a glorious introduction.

REVELSTOKE.

Revelstoke was formerly known as Farwell, named after a well known engineer who located a townsite there. Revelstoke station is a mile or so east. The Illecillewaet river joins the Columbia just south. Geographically Revelstoke is well situated to become a town of importance, and it was thought several years ago that it would become the distributing and supply centre for the Kootenay mining districts, and this hope was strengthened by the fact that a smelter was erected there. For some reason or other the smelter has never been operated, except for a brief space, and unless prompt action be taken by the Dominion Government it will soon be in the Columbia river, as the waters here are eroding the banks at the rate of several feet a day. One reason alleged for the failure of the smelter to smelt, and probably correct, is that there is a legal dispute as to the townsite title, which, if the smelter be not submerged in the meantime, will be settled in the course of a year or so in the Privy Council of England. At present the town of Revelstoke is quiet, but with the opening up of the Illecillewaet mines, which are tributary to it, the smelting of ores and the completion of a railway to Arrow Lake, there is no doubt it will stand in a favorable position in relation to the trade of a very considerable area.

INLAND NAVIGATION.

Down the Columbia—The Beautiful Arrow Lakes—The Turbulent Kootenay.

The next portion of the journey is a comparatively new one, about which little is known, but which is bound to be in the coming years one of the most popular and best known in North America.

THE COLUMBIA & KOOTENAY NAVIGATION CO.

Surveyors of the Columbia and Kootenay Navigation Company, with a view to the development of the mines in the Kootenay lake district and to meet the demand with that country for communication with the outside world, placed four steamers in these inland waters to connect with the C. P. R. Co's system, and at the same time that the

latter undertook the construction of the Columbia and Kootenay railway to run from Robson, at the junction of the Kootenay river to Nelson at the head of the west arm of Kootenay Lake, a distance of 26 miles. One of these steamers runs three times a week to Robson, another daily from Robson to Little Dalles on the Columbia south of the boundary; a third is used for freight only from Revelstoke south, and the fourth runs from Nelson to points on the Kootenay Lake twice a week, going as far as Bonner's Ferry. These steamers are fitted up with all modern conveniences, are well furnished and provided with first-class *cuisine*. Travelling on them is similar in all respects to that enjoyed on any of the inland lakes in America, so that, considering the newness of the country, which is associated in all eastern minds with "the wild and woolly" characteristics of the west, there is nothing to complain of and a great deal to cause special comment as to the completeness of arrangements. In fact, from the first to last, except where we leave the regular route for the trails into the mines, tourists, with palace cars, pleasant steamers, and good hotels, miss nothing of the comforts of civilized life, even to the luxuries of good wine and cigars. The travelling service is excellent and forms a matter of surprise all through this country that the traveller is so well provided for.

The steamer Kootenay is a freight boat carrying 125 tons. The steamer Lytton, a passenger boat, carries 125 tons freight. The Columbia, 350 tons, is a passenger and freight steamer. For convenience and accuracy the company's time card is inserted here.

C. and K. S. N. Co's steamer leaves Revelstoke every Monday and Thursday at 4 a. m., for Robson, Trail Creek and Little Dalles, returning to Revelstoke on Wednesdays and Saturdays making close connections with Canadian Pacific Railway at Revelstoke, the Col. and Kootenay Ry. at Robson for Nelson, and the Spokane Falls and Northern Ry. at Little Dalles for Spokane Falls, Washington.

"Steamer Nelson connects with Columbia & Kootenay railway at Nelson and calls at all points on Kootenay Lake."

F. G. Christie is secretary and J. W. Troupe manager of the company. The gentlemen interested as shareholders and promoters being prominent citizens of the province and associated with some of its largest business enterprises

REVELSTOKE TO ROBSON.

And now for a trip in the "Lytton" from Revelstoke to Robson, the first stage in the journey through this new Eldorado of the miner. The distance is about 145 miles, about 90 miles of which is lake and the remainder is on the Columbia river proper, although upper and lower Arrow lakes may be regarded as deep expansions of the river. In the early days of the Big Bend excitement there was a steamer used by the miners, and again during the construction of the C. P. R. In 1888 two little stern wheelers, the *Morion* and *Dispatch* were put on between Revelstoke and Sprout. It may be stated here that owing to low water it is only possible to navigate the Columbia for seven or eight months of the year and steamers with stern wheels and light draft are necessary for its navigation, and thus are able to poke their nose up to the bank any where and throw out a plank, as in the Fraser and many other rivers. The lakes are navigable at all seasons of the year and free of ice. According to railway levels the river at Revelstoke is 1437 feet above the sea, and Arrow Lake, Dr. Dawson determined barometrically, 1390 feet, the actual distance between the two is about 30 miles.

The sail is as beautiful as one could wish, where nature had perfect freedom and left a waterway not less picturesque than useful as a highway. The whole valley throughout is bordered by parallel and continuous ranges of mountains, of a uniform height of between 5000 and 7000 feet, rounding rather rugged with wooded slopes. Here and there are denuded slopes which in the distance are decidedly pastoral in appearance. The east side is more abrupt than the west, which is usually an easy slope from the water. These mountain ranges, or more properly foothills, shut out the mountain peaks back, which are only seen at rare intervals. Mount Begbie, eleven

miles on the way, looms up on the right at an elevation of about 9000 feet. Down the river there is considerable flat land on each side, liable to overflow in part at high water during the months of May and June, much of it suitable for agriculture the valley varying from one to two miles in width. A great deal of the timber has been destroyed by forest fires. Cedar is the most valuable and important element, the other most abundant being spruce and cottonwood, with some white pine, hemlock and birch and alder fringing the border of the rivers and sloughs.

UPPER ARROW LAKE

which we enter is considered the most beautiful of all the many water ways of the Kootenay. Right at the opening we pass the North East Arm extending inland to the left about ten miles, into which at the head empties Fish Creek, flowing almost parallel with the Illecillewaet. On this river have been located some promising mining claims, mainly argentiferous galena. A good deal of prospecting and exploration is going on in this section with gratifying results. Immediately south Thumb Bay is passed, where there is said to be good timber and some agricultural land.

Upper Arrow Lake presents no striking peculiarities as to scenery, apart from the general aspect of the whole. It is very straight, and hugged close to its shores by the same lines of mountains, charmingly regular, with many an artist's ideal sketch. There are occasionally at the months of indentations stretches of bottom lands large enough for townsites or farms. Mountain peaks rising up to an elevation of 8000 feet are sometimes seen over these openings. Towards the southern end the lake narrows up and small valleys lead off. The most important of these is that down which the Nakusp flows. It is along this valley that the new trail into the Slocan country runs, built by the Government, and at the head of which the C. P. R. has laid out a townsite. On the east side of the lake, near midway, is a somewhat remarkable hot spring some distance back from the shore.

The two Arrow lakes are connected by means of a river eighteen miles in

length, which flowing west and then south forms almost a right angle. It is bordered by considerable bottom lands and terraces, susceptible of agricultural occupation.

LOWER ARROW LAKE

is in the form of a bow 51 miles in length and generally of the same character as its twin sister, the mountains lower and more rounding at the head and gradually rising higher and more declivitous towards the southern end, rather heavily wooded, with here and there picturesque groups of cottonwood trees. One of the most remarkable landscape views is that afforded by "Deer Park," so called from its attractive and parklike appearance, and the fact that it is frequented by great number of deer, especially in winter, when the higher pastures are covered with snow. At the "Painted Rocks," a few miles below Deer Park on the same side, there are Indian pictographs, roughly done in red paint on precipitous or overhanging surfaces. Deer Park, it may be remarked, is on the east side of the lake, just before entering the Columbia river again, into which the lake gradually narrows again.

The Indians say that the Arrow Lakes were named in this way: The Shuswaps, from the west, made incursions to hunt in the lakes, and had many fights with other frequenters of that district. One party, having gained a decisive victory, were returning in triumph. Their chief said: "We have no further use for our arrows, let us shoot them into that big hole in the cliff." Thus the name was adopted and the Indians show the hole to-day.

There is a number of streams flowing into the lakes from both sides, several of which on the west side will ultimately form communication with points in the Okanagan district. The seasonal fluctuations of the lower lake are much greater than those of the upper, the latter being about 12 feet.

The Columbia river below the lakes extends about ten miles between narrow high walled banks.

ROBSON.

Disembarking at Robson we are fairly in the centre of the country we

have come to see, the land of rich mineral veins, fish, mountains and budding townsites. Robson, which is level, picturesquely and favorably situated, is the present starting point and terminus of the Columbia and Kootenay railway, and has been well cleared for action. The C. P. R. Co. have built a wharf, a storehouse and repair shops necessary for the work of the road, which runs one train a day, leaving Nelson at two p.m. and returning at nine p.m., and by way of digression it may be added that a very large amount of freight has been handled from Revelstoke since the opening of navigation. There is a good hotel, the Robson House, comfortable and reasonable in price.

ALONG THE KOOTENAY BY RAIL.

At seven o'clock the C. P. R. train, nominally the Columbia and Kootenay railway, is boarded and we follow the sinuosities of the Kootenay river valley to the west arm of the Kootenay Lake, the road making its terminus at Nelson, at present the principal town in the Kootenay country. This valley lies at about right angles with the Columbia and the ride on the railway is perhaps the most interesting and picturesque portion of the trip. As has already been said the valley is sinuous, with numerous sharp curves to turn and a surprising number of trestles to cross. As may be inferred by the map, the bed of the river is bordered by rock on both sides, much broken up and the river itself rough and rapid. The waters of the Kootenay evidently forced themselves through a rocky pass to join the Columbia. Prior to the railway being built a trail ran from Sprout's Landing, up which supplies were packed. For some time it was a problem to be solved how best to reach the Kootenay Lake country from the north to connect it with the C. P. R. system and it was finally solved by adopting the route over which we have travelled, the water stretches being utilized as much as possible, because railway building through a country like this, especially anteceding mining development, is no child's play. The Kootenay river not being navigable it was necessary to build the short piece of line paralleling the river and it is be-

traying no secret to add that it will in all probability become part of the new short line to the coast which the C. P. R. has decided to build through Crow's Nest pass direct to Hope, thus shortening the distance several hundred miles and avoiding the present circuitous and expensive route through the mountains, the snow sheds and all the rest of it. Interest, therefore, in several important respects, focuses in this bit of isolated railway, and it will always continue to be one of the most picturesque sections of the road. On this river occurs a series of rough, wild rapids and a number of falls of unprecedented beauty.

About nine miles from Robson the Slooan River, which empties into the Kootenay, is crossed. The station here is called Slooan Crossing, where pack trains are made up at present from Nelson to ascend the trail into the Slooan country, it being one of the alternate routes into the mineral properties discovered last fall which have created one of the most marked mining excitements of recent years in British Columbia. About a mile or so further on through a wide wooded flat Ward's Ferry is reached.

Dr. Dawson describing this says:—Below Ward's Ferry the river is every where swift and there are numerous rough wild rapids, but the lowest fall occurs at about a mile above Ward's. The river is here divided into channels, the water on one side falling vertically a distance of about thirty feet and the other coming down a steep chute with great velocity. They are known as St. Agnes Falls, and they limit the ascent of the salmon at the Kootenay. The falls were formerly a noted salmon fishing place for the Salish Indians and the limit of these people to the east, the country beyond belonging to the Kootenay tribes. The falls on the north side is a very picturesque and striking feature, its beauty being enhanced by the clear, blue color of the water. Fine trout may be taken in the basin below it, in almost unlimited quantities at certain seasons. Within a couple of miles above the falls, the two other notable falls occur, named the Pillar and Geyser Falls respectively, and between the highest of those and the end of the

West Arm the river forms several strong rapids.

Along here the C. P. R. Co. has established fishing stations, where tourists may be accommodated by the day or week with fishing tackle, camping outfits and everything (excepting a certain kind of bait) necessary for complete piscatorial enjoyment at a merely nominal rate. Last year this provision was greatly taken advantage of. At low water fishing requires too little skill in angling to make it sport. Fish are very large and plentiful.

Within a short distance of Nelson the railway crosses the river to the east side, and directly beneath the bridge is a magnificent sweep of water forming a long, swift rapid that is much admired. Tond Mountain, the mineral background of Nelson, is seen for some distance, heavily forested high, broad and rounding. From its side and that of other mountains of its series a number of streams flow into the Kootenay between Ward's Ferry and Nelson, Rover, Forty-nine, Eagle, Sandy and Cottonwood Creeks, Cottonwood, especially in spring, laden with mountain waters, is a bounding, rushing stream forming a short distance up a striking cataract and affording unlimited water power. In fact, the upper part of Kootenay as well is admirably adapted for milling purposes or supplying water for manufacturing uses transmitted by electric wires, and now we have reached Nelson.

NELSON.

A Rising Town in the centre of the Kootenay Mining Country.

The rise and progress of the city of Nelson—all new places in the west are cities, although Birmingham, England, has only recently been exalted to that rank—has been in some respects similar to that of Vancouver on Burrard Inlet. Unlike the latter however, it has been the direct outcome of prospective mining development, coupled of course with the advent of a railway. As yet the urban centre of the district has not yet been fixed, and which of the many townsites on the Lakes may yet have that distinction depends largely upon conditions that have not yet definitely developed themselves,

and you will meet with as many rival claims as there are diverse interests and townsites, and there are at least fifteen of the latter claiming attention. It is not for *THE COMMERCIAL* to act as arbiter. But if it were asked apart from all other considerations which enter into the future of a town, what is at the back of Nelson, the answer is ready at hand: "Toad Mountain." One rich mine in operation will sustain a good sized town. Nelson has half a dozen immediately tributary, one of which, the Silver King, has been bonded for \$2,000,000 by a British syndicate. That is what a speculator would call "a pretty straight tip on futures."

HISTORICAL SKETCH.

Historically the origin of Nelson was the discovery of mines in Toad Mountain. In the middle of August, 1886, the Messrs. Hall, White, Miller and Onkes left Colville in the United States to prospect up the Salmon river, British Columbia, for placer diggings. It took nearly a month to cut the way out. They found colors but no pay. Going on the high land now known as Toad Mountain, a name dating from then, two of the party started to shoot woodchucks, and while resting saw some bright rock on what is now the Kootenay Bonanza claim, one of the party who knew quartz recommended that 30 lbs be taken to Colville for assay. This was done and the assay proved to be rich in silver. Winter having come, the ground was not located until the next year. Two men started from Colville early in May, but it was a snowy year and it was not until July, 1887, that the two famous claims, Kootenay Bonanza and Silver King, were recorded, which started the now famous Toad Mountain camp, six miles from Nelson.

Needless to say that these discoveries attracted attention and together with what was already known of the mineral properties at the Hendryx and Hot Springs camp on the lake attracted the notice of the Government, of railway men, prospectors, traders and so on and that process by which new districts are opened up brought about the starting of a town in the spring of 1888. That harbinger of modern discovery, the newspaper, was on the ground early. Three enterprising journalists, Messrs. Houston, Ink and Allan, started *The Miner*, a small but neatly printed journal which recorded the doings of the district, and paid from the start. The government laid

out the townsite of Nelson and the first sale of lots took place in October, '88, bringing about \$50 apiece. The town really commenced in the following year. Among the pioneer traders were R. E. Lemon and J. Fred Hume, now doing large businesses. Marks & VanNess started the first hotel, the Nelson house.

The railway came in in the spring of 1891, the first regular train making its appearance about the 27th of May, the railway wharves being constructed the same time. With the railway came the steamer Nelson of the Columbia and Kootenay Navigation Co. Prior to that supplies came in over the trail from Sprout's Landing and by boat from south of the line. Already there had been strong agitation for railway communication with the American railway systems. Nelson at that time was created the recording centre of the Toad Mountain district. The same year the Provincial Government expended \$4,500 in making streets, of which the following are the principal: Parallel with the lake front are Vernon, Baker and Victoria. The principal cross streets are Josephine and Stanley.

Besides the above in 1891 water-works were put in, a telephone company started, school opened, a saw mill operated, a lock-up erected a brick yard opened, and several churches—Presbyterian, Episcopal and Methodist, and a large number of private residences and business blocks erected.

During the present year, Nelson has been erected into the judicial centre of the whole west Kootenay district, the Provincial Government has built wharves 800 feet long, the Hamilton Powder Works has started a branch office with a powder magazine opposite, and at the present time an electric light plant is being set up for the lighting of the city, with confident expectations of being operated by the first of July.

PUBLIC AND SEMI-PUBLIC INSTITUTIONS.

As has already been stated water-works were put in in 1891. The system is owned by a private company, known as the Consumers' Water Works Company. The source of supply is Ward Creek, at an elevation of 125 feet, with a sufficient capacity for all present requirements and facilities for increasing to meet any demand. The stockholders are J. F. Hume, Houston and Ink and T. S. Barnard, M.P. The mains are wrought iron, supplied with 13 fire hydrants.

As the result of a big fire, a fire company was organized in the winter of 1891, composed of 35 members, and supplied with hose, ladders, buckets and other fire appliances.

Not the least remarkable of the pro-

gressive indications in this new country is the system of telephone communication by which the whole lake country with the exception of Pilot Bay is brought into touch. It is controlled by the Kootenay Lake Telephone Company. There are 45 miles of main line altogether, connecting with the Silver King mine, Robson, Ainsworth and the mine back of it, and Balfour. Nelson has 40 instruments, Ainsworth 10 and Balfour 3.

The public school is a frame building, in charge of Miss Rath, with a growing attendance.

The government recording office is in charge of Mr. Fitz Stubbs, one of British Columbia's old-timers, who is also government agent for the district. His office is an unpretentious log building next to which is the lock-up, which, by the way, has only housed two individuals since the date of opening—one an Italian and another a Chinaman, something speaking louder for the morality of Nelson than words.

The Nelson Electric Light Company was organized last year and is now putting in its plant, with a capacity of 1,500 incandescent and 50 arc lights. The dynamos of which there are three—two 780 16 candle power and one fifty 2,000 candle power—are run by water power, having 160 feet head.

Of the three churches Rev. Mr. Turner is pastor of the Methodist; Rev. Mr. Rogers, Presbyterian, and Rev. Mr. Reid, Episcopalian. These churches, which are merely in their infancy, have fairly well attended services and are showing a great deal of zeal and activity.

There are several engineers, 4 lawyers, 3 doctors, an assay office, branches of two chartered banks, one private bank, a number of real estate offices, the C. P. R. land office, a brick yard, producing a good quality of brick, a lager beer brewery is under way, a saw mill and the usual complement of hotels and business houses.

HOTELS.

The Phair House is the leading hotel, its rates ranging from \$2.50 to \$3.50 per day. It is a large three-story hotel, frame, with 35 bed-rooms and parlors, finished in British Columbia woods throughout and well furnished. It is run as a first-class eastern house, under the management of Mr. E. Phair, with hot and cold water bath-rooms, flush closets, electric bells, bar, billiard tables, dining-rooms, and furnished sample rooms. The Phair has a central and commanding situation, five minutes walk from the C. P. R. depot and wharves.

The pioneer hotel is the Nelson, owned and run by Marks and VanNess, and situated at the corner of Baker and

Ward streets. It was opened three years ago, and claims to be "the oldest, the most central and best appointed hotel in Nelson." It is certainly well furnished with new furniture, fine bar and billiard rooms and office, and has 30 rooms in all. The restaurant in connection is conducted on the European plan by Messrs. Boehlofaky and Denkerdt, the former being a well known chef, with a reputation for his bill of fare, which includes all seasonal delicacies at very reasonable rates.

The Tecumseh is another well known house. It was opened in April last by Mr. J. Brown, and has accommodation for 25 guests. It is a new house, newly and completely furnished and is very centrally located. Ever since opening the Tecumseh has been doing a large and satisfactory business.

HANKS.

It marked an entirely new era in the history of Nelson and district when it was announced that the Bank of Montreal would open a branch in Nelson. It was an earnest of the faith which one of the largest and oldest monetary concerns, on this continent had in the Kootenay district. Mr. A. H. Buchanan, accountant in the Vancouver branch, was appointed to take charge, and as the winter was well advanced and navigation closed he went around by way of Spokane and snow-soed it in taking four days for the trip up. He arrived in the dying days of 1891 and opened an office on the second day of January 1892, with exactly \$11.50 cash, a somewhat humorous situation for the largest bank in America to be placed in and somewhat awkward if someone had proffered a check to be cashed, but the first day a gentleman bought a draft on some point in the east and placed the manager in funds and for two months until the money arrived by express the deposits of traders and others were sufficient for the business of the bank, which, by the way was not inconsiderable. Recently new and more commodious offices were occupied on Baker street. Mr. L. Craig is accountant of this branch.

Immediately following the Bank of Montreal came the Bank of British Columbia, which opened in March 1892 in the block facing the Bank of Montreal, A. Forester Daly is agent and Wm. Wilson, accountant. Both banks are popular with the business community of the Lake country and transact a large volume of business. Their coming was a great boon.

Applewhite and Allan do a small banking business in connection with their real estate. Allan, formerly of the *Miner*, has retired.

LEADING MERCHANTS AND OTHERS.

Higelow and Co. is one of the leading mercantile houses of the Kootenay district, and its operations are not confined to the town of Nelson, but extend to different points over the surrounding country. The firm handle groceries, dry goods, clothing, boots and shoes, wines and liquors, and almost every kind of merchandise outside of hardware, and carrying a stock costing from \$10,000 to \$50,000. The members of the firm are G. A. Higelow and J. C. Steen, both of whom have been many years connected with mercantile interests in the mountain country. The house has been established in Nelson for three years, and they occupy a store 25 by 70 feet in area, and have underground frost proof and fire proof storage covering an area of 25 by 20 feet.

R. E. Lemon was one of the men to get in the interior country early and was well known as a rustler. For years he has been identified with the commercial progress of the up country and had his eye on Nelson from the outset. He took part in the agitation for railway communication and did much towards bringing the Kootenay country forward and making its claims for greater consideration known. He was in Nelson from the start. For some time he carried on a business at Revelstoke as well, but last spring sold out there and devoted himself to his Nelson business solely. He carries one of the largest stocks of goods in the Lake country including every thing called for from the proverbial needle to an anchor and does a big business. A cut of his buildings on Vernon street adorns these pages. Mr. Lemon is public spirited and interested in several enterprises outside of his own business, which is a large and rushing one.

J. Fred Hume is another of the pioneer traders who classes with the above two. He came to Nelson four years ago, having formerly done business in Golden, Donald and Revelstoke. He has a general stock of groceries, dry goods, clothing, hardware, boots and shoes, etc., in two stores on Vernon street and estimates the value of his stock at between \$10,000 and \$50,000. Mr. Hume has large outside interests as well and thinks of selling out owing to poor health.

Properly the firm of Huston and Ink, real estate and general brokers, should figure very prominently in a review of this kind. They in connection with Mr. Grisner Allan were the founders of the *Miner*, having only sold out a short time ago, and have been closely identified with every

movement of a public character since Nelson started to be a town and were promoters and are large stockholders in the water works company, electric light company, telephone company, Sioean Trading and Navigation Company and other concerns of public moment. The Houston and Ink block on the corner of Baker and Josephine streets just completed is the finest building in Nelson.

Gilker and Wells, who also keep the post office, started here in the spring of 1890 and have done a good business ever since. They carry a \$10,000 stock of dry goods, clothing, boots and shoes, hats and caps, stationery, and so on. They are centrally located on the south side of Baker street.

Carney & Barrett came from Calgary in June 1891. They are wholesale and retail butcher and cattle dealers and do an immense trade in Nelson and the district. The senior member of the firm owns a ranche in Alberta, N. W. T., from which he draws his supply of cattle and dressed meats. This firm also carry on in connection a general store and are dealers in flour, feed, groceries and, in fact, everything except dry goods.

W. F. Teetzel, druggist and pharmacist, dropped down in Revelstoke in May, 1891, from Revelstoke, where he did business in the same line for five years and only recently sold out there. It is one of the surprising features of western progress to find in a store here a full stock of drugs, and other goods usually associated, such as are found in large cities displayed with corresponding taste. Mr. Teetzel also carries a line of fancy and sporting goods and novels and is not complaining for lack of business.

One of the latest but by no means the last to enter the mercantile field is the Hudson's Bay Company, thus adding another branch to the wonderful ramifications of a great commercial corporation, whose traders were among the first white men to do business on the Pacific coast. The interior of British Columbia is peculiarly its camping ground and though a veteran, is still in the foreground keenly alive and on the march for business. The branch in Nelson, under the management of Mr. Norton, formerly factor at Kamloops, is doing a general wholesale and retail business, including liquors and cigars. The store is located just west of the bank of Montreal on Baker street.

THE MINERAL PROPERTIES IMMEDIATELY TRIHUTARY TO THE CITY OF NELSON.

To describe Nelson without taking into consideration the mineral properties without which it would not have a

raison d'être, would be like playing "Hamlet" with Hamlet omitted.

With a view to properly presenting the physical environments to readers some remarks will be made on the general aspects of the surrounding country, borrowed from Dr. Dawson, Judge Sproat and other competent authorities.

The steep and generally uniform slopes of the lower mountains which border on the deep valley of the Kootenay river, prevent any general view of the higher and more distant summits from being obtained, but from one of the eastern points of Toad Mountain a somewhat extensive outlook is gained. From this point, with an altitude of 6,990 feet, it was estimated that the general height of the summits of mountains in view on all bearings except to the south-westward was about 6,000 feet above sea level. Above this general level, however, higher and rougher peaks rise, usually about the central parts of the blocks of mountainous country which lie between the several larger valleys occupied by rivers and lakes. One of the most important of these culminating ranges, with wild ragged outlines and carrying much snow, is seen at a north-west bearing at a distance of about 35 miles. This was evidently, says Dr. Dawson, the southern aspect of the Valhalla mountains previously noted as lying to the east of the head of Lower Arrow Lake, between that lake and Slovan valley. It is probable that several peaks in these mountains reach a height of 8,500 feet. The mountains between the Slovan valley and that of Kootenay Lake culminate in a second central alpine region of about 8,000 feet in height, in addition to which there is another partially isolated group of mountains near the head waters of Coffee Creek, some points in which may attain a height of 9,000 feet. The mountains to the south of the west arm of Kootenay Lake, after their first abrupt rise from the lake shore, continue rising gradually in wooded slopes, till, in a bearing about due east from Toad Mountain, they attain heights of about 8,000 feet and form together a considerable area of rough, rocky ridges and summits, some of them snow-bound. Southward from Toad Mountain several mountains in different bearings reach heights of about 8,000 feet, but there is no conspicuous range of high mountains. Through this mountainous region the deep valley of Salmon River may be seen running nearly due south for many miles. The head waters of this river and Cottonwood-Smith Creek nearly come to the east of Toad Mountain. This watershed is about 3,000 feet above

the sea. It is drained to the south by Salmon River tributary and on the north by Cottonwood and other streams. The trail from Nelson to the Silver King and other properties follows Cottonwood-Smith creek and a branch of it known as Give-out creek. Another trail westward leads to the Kootenay near Forty-Nine creek. The mountain slopes are densely wooded with some good timber in the valleys.

The area of stratified rocks in which nearly all the metalliferous deposits of Toad Mountain have been found, says Dr. Dawson, appears to be surrounded on all sides by granite. The rocks represented are believed to be those of the Adams Lake series—grey and greenish schists. The most of the discoveries on Toad Mountain and vicinity have occurred within a limited area of stratified rocks, running about east and west and extending from the head of Cottonwood-Smith creek westward to near Ward's Ferry, about eleven miles. Dr. Dawson thinks that the occurrence of this isolated metalliferous area renders it probable that other similar deposits in the great granite region may be discovered.

THE SILVER KING GROUP.

Speaking of the Silver King group of mines, the lode is of peculiar character, in as much as it has no distinct walls but as described in one respect to occur as a zone of variable and sometimes apparently of indefinite width, of shattered and mineralized rock, throughout which veins of pure and richly argentiferous ore occur in a somewhat irregular character. Where gangue appears it is principally quartz, but there is on the whole a rather notable absence of gangue or crystallized vein matter, the ore apparently filling irregular crevices and running in shoots and spurs into the rock, so as to form here and there considerable masses. Only traces of galena are found in it. The ore is bluish gray and greenish, mainly what is known as peacock copper, but consisting also of copper pyrites, copper-stained iron ore and tetrahedrite, some specimens of which are very beautiful and very rich. With the development work already done immense quantities of mineral has been exposed, and about half a million dollars worth of ore is said to be in the dump at the Silver King. Mines are usually sold on the strength of the mineral in sight, and the bond for \$2,000,000 referred to elsewhere would seem to indicate extraordinary richness. At the time the COMMERCIAL representative visited Nelson, Mr. Roepel, a distinguished English mining expert, was making an examination upon which to report to the syndicate bonding it. Upon his own

statement, if the mines proved one quarter as rich as represented, the sale would be consummated.

As already stated, the Silver King was located in 1887 by Jas. Hall and party, and work was commenced the same year. A trail was built from Nelson to these mines. About \$150,000 has been expended in development, which consists of a main tunnel 900 ft. long, six crosscuts averaging 60 feet each and two drifts, with a shaft 300 feet to the lowest level. Shipments of nearly 200 tons of ore were made to the smelter at Butte, Montana, at a cost of \$33 a ton, and yielded an average of 300 ounces in silver, and 28 per cent. in copper.

An ounce of silver, it may be remarked, is worth about one dollar, and is so reckoned roughly. One to 16 was the old standard ratio of silver and gold, although at present value, the ratio is about 1 to 23. In giving the result of assays, gold is in dollars, silver in ounces and lead and copper in percentages.

The Hall mines, which comprise the Kootenay, Bonanza, Silver King and American Flag are situated one at the summit of Toad mountain, elevation 64 feet. Mr. Macdonald is secretary and manager of the company, of which there are a number of members. It is six miles from Nelson.

OTHER TOAD MOUNTAIN MINES.

The Dandy on the give-out slope has a ledge of from 3 to 5 feet averaging 30 ounces in silver, 10 per cent. copper; a shaft of 45 feet has been sunk, with drifts and tunnels 500 feet. Elevation 4800 feet. This is a galena property.

The Grizzly, owned in Victoria, is the south-eastern extension of the Kootenay Bonanza. It has 350 ft of tunnels and a 70 ft shaft. It is a higher grade ore than the Dandy, 60 to 70 ozs. in silver and 12 per cent. copper; elevation 5000 feet.

The Silver Queen is the south-western extension of the Kootenay Bonanza and is of similar character. The proprietors are sinking a shaft.

The Iroquois, elevation 4190 feet above lake, is a concentrating property to the south of the run of the Silver King lode and is somewhat similar in character, but contains more galena. The lode is vertical with a mineral exposure of 12 feet. It is owned in Spokane.

The Union Jack and Newmarket belonging to the above group are promising claims.

"On the Sandy Creek slope of the Mountain," says the government report of 1890, "are some important locations, among which are the Toughnut and Evening. On the former a shaft has been sunk 80 feet and a tunnel run

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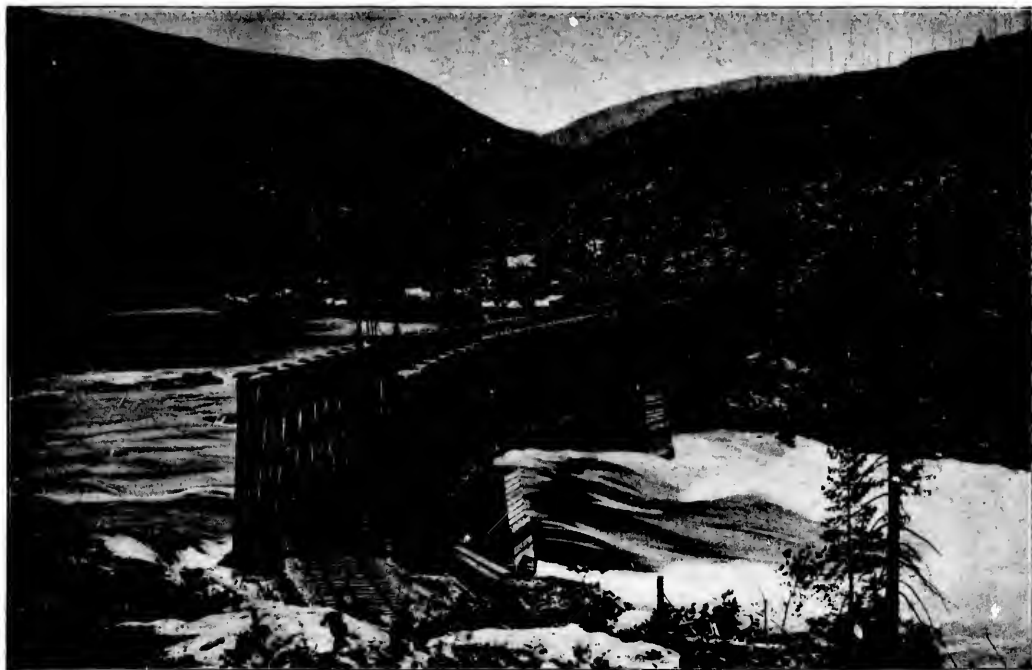
VIEW OF PILOT BAY.

From a Photograph by NEELAND Bros., Nelson, B.C.



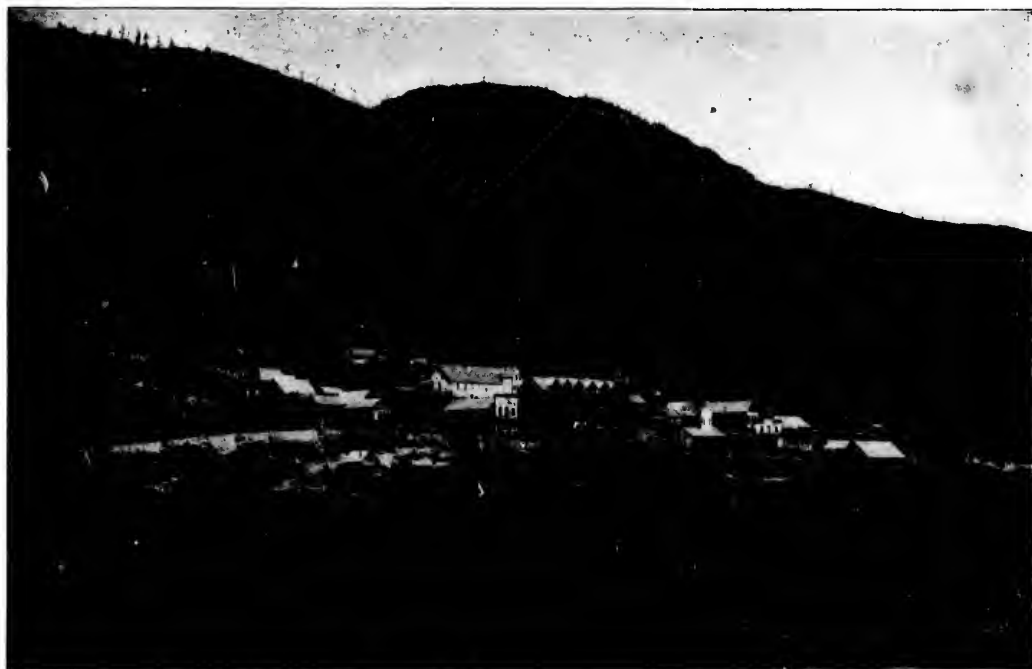
PACK TRAIN OF PROSPECTORS EN ROUTE FOR TOAD MOUNTAIN.

From a Photograph by NEELAND Bros., Nelson, B.C.



RAILWAY CROSSING OF THE KOOTENAY NEAR NELSON.

From a Photograph by NEELANDS BROS., Nelson, B.C.



AINSWORTH.

From a Photograph by NEELANDS BROS., Nelson, B.C.

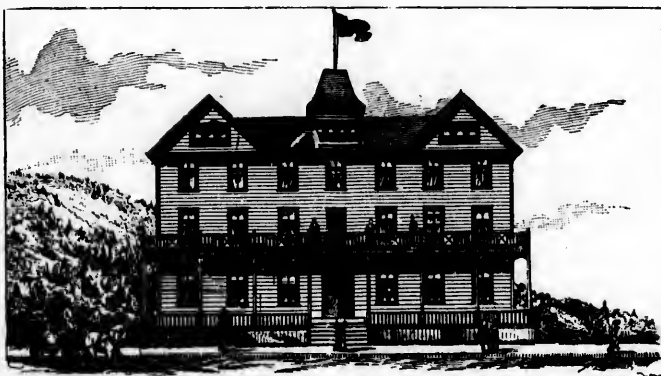
127 feet. The vein is from four to eight feet wide, and continues of a high grade character. This mine will be an ore producer next summer. A tunnel has been run in the Evening, which is an extension of the Toughnut, a distance of 137 feet, in addition to an incline 65 feet."



STORE OF R. E. LEMON, NELSON.—Photo by Neelands Bros.

THE LABEAU MINES.

Four claims known as the Lizzie C group are situated on the west side of Cottonwood Creek three miles above Nelson. The ore is galena bearing silver all the way from 10 to 3800 oz. and the ledge from 5 to 12 feet in thickness. This important group of



THE PHAIR HOUSE, NELSON.—Photo by Neelands Bros., Nelson.

mines are owned by Dr. Labeau, of Nelson. Tom Collins and his associates, who have done about \$3000 worth of development work. The government report says these locations "will prove profitable to their owners when in a position to make shipments. These mines are well situated for transportation facilities." Cottonwood Smith Creek supplies unexcelled water power for a first class mill site. Dr. Dawson in his report on West Kootenay makes a detailed and favorable reference to these claims.

THE GOLD BELT.

The silver belt which has just been described is paralleled by a gold-bearing belt, both running easterly and westerly, but the latter a mile and a half lower down the northern slope between the former and the Kootenay, the two belts tending to converge as they go westward. The gold discoveries were made in 1888; Judge Sproat, gold commissioner, describes the formation in his report of that year as follows: "The county rock of the gold belt is said to be composed of a subcrystalline, shaly rock, perhaps chloritic, except at the west end, where the veins lie between greenstone on the one side, and grey compact fine grained granite on the other. * * * The gold rock in general lies almost in contact with the lime rocks in which the silver is found. The gangue in the gold veins is composed chiefly of clear quartz. The west to south wall, generally, is impregnated with copper pyrites, in some cases these are in the vein."

Principal of the claims in this belt is the Poorman on Eagle Creek on which a large amount of work in shafts, tunnelling and drifting has been done. A winze has been sunk. Following a streak 80 feet from the tunnel the richest ore yet has been struck which assays \$300 and is free milling. At present the owners are stopping from the

croppings to the tunnel, working in a decomposed quartz which runs high in gold. A stamp mill has been erected. Several good runs were made during the last two summers. Elevation, 800 feet; width of ledge 4 feet.

There are several properties 1 1/2 miles south of the Poorman, assaying \$15 to \$30 in free milling gold. One, the Wild Cat, has a ledge 10 feet. Several promising locations have been made one mile below where the trail crosses Eagle Creek, showing veins from 2 1/2 to 6 feet in width. A good

deal of development has been done on the Royal Canadian which is said to assay \$20 to \$30 a ton.

"On Rover Creek some locations have been made which promise to become of great value. They are known as the Whitewater, Midas, Snow-water, and Columbia. The tunnel in the first-mentioned showing a ledge 6 feet wide, of a free milling nature. The average of fifteen assays made amounted to \$80 in gold. The return from 1 1/2 tons tested at the sampling works was \$110 in gold and \$9 in silver.

"The output of ore from the gold belt, extending from Eagle to Rover, is estimated at about 1800 tons.—Extracts from Government report 1890.

A DISCOVERY OF NICKEL.

Dr. Dawson in his "Mineral Resources of British Columbia," published in 1888, classes nickel as among the minerals not found in any appreciable quantity. However, the report of the Minister of Mines for 1890 has the following with reference to Toad Mountain: About one year ago what will eventually prove to be a valuable property was recorded by Messrs. Atherton and Geraghty. It is a nickel mine, situated on the west bank of the Kootenay, about 2 1/2 miles below the present railway crossing and over a mile from the river. The mine was discovered in the bed of a creek, which had intersected the vein and exposed it to view. A cross cut eight feet long failed to reach the opposite wall and assays have returned 30 per cent nickel but the average quality of the ore will probably yield from 10 to 15 per cent. In view of the enhanced value of this metal this may be considered an important discovery.

OTHER METALS.

The Toad Mountain ores, though more valuable for silver or gold, contain all the way from 10 to 50 per cent. of copper. In Kootenay the only other ores significant for copper are those from Jubilee Mountain and the Upper Columbia. Great masses of copper pyrites are also found near the mouth of Forty-nine creek.

Loose masses of magnetic iron ore weighing several tons have been found on the north bank of the Kootenay river near the lower fall. A prospector interviewed by the representative of THE COMMERCIAL claimed to know of the existence of an extensive deposit of hematite ore on Kootenay Lake, the location of which, however, the writer cannot "call to mind." Judge Sproat also informed him that the existence of fire brick clay had been reported somewhere in the vicinity of Pilot Bay, but nothing definite was known concerning it.

THE KOOTENAY LAKE.

Wonderful Mineral Wealth of the country surrounding it.

A notice posted up in the Hotel Phair informs the traveller that the

STEAMER NELSON,

FOR AINSWORTH, PILOT BAY AND BALFOUR,
Leaves 4 a.m. Tuesdays and Fridays,
and at 8 a.m. Mondays and Thursdays.

FOR BONNER'S FERRY
At 4 a.m. Tuesdays and Fridays.

The steamer Galena also makes daily trips up and down the lake, leaving Pilot Bay early in the morning for Ainsworth and returning to Pilot Bay at 8 a.m., arrives at Nelson at 10.30 a.m., leaves again for lake points at one o'clock p.m. The steamer Spokane from Bonner's Ferry carries freight to lake points; several little boats, such as the Midge, Surprise and Idaho, are used for towing and other purposes.

THE WEST ARM

of the Kootenay Lake is about 18 miles long varying from half a mile to a mile in width and is supplied on both sides by a number of small streams. On the right passing Nelson is some low lying land. About a mile eastward is the site of what is known as "Bogus Town," a name given to it by Nelson people, a townsite having been laid out and sold under the name of Nelson. The promoters, however, say they have a good property, they claiming it as the terminus of the Nelson and Fort Sheppard railway, a charter and land bonus for which was passed at the last session of the Provincial Parliament. An unsuccessful attempt was made to secure a charter and money grant from the Dominion, but the application will in all probability be received at next session of Federal Parliament. It is said that it will be proceeded with anyway, and connect with Spokane and Northern at Fort Sheppard. Bogus town is marked by a rather striking clump of cottonwood trees. A pass nearly opposite this point is said to be a prospective route into the Slocan country.

The valley of the Arm Eastward widens somewhat and is identical in character to that of the Kootenay river valley, but is flooded. Considerable of the low lying flats towards the lake might be made arable by dyking. Much of the timber, which is of poor quality, has been destroyed by fire. The mountains though abrupt at the shore afford a good view of the peaks beyond, and numerous picturesque scenes come to view. Navigation is impeded in winter by ice, but the water during the season though not deep is ample for any steamer plying these lakes. Before reaching the main body of water on the south side

G. O. BUCHANAN'S SAW MILL

is passed fifteen miles from Nelson. Mr. Buchanan is the pioneer lumberman of the Kootenay Lake country and an influential man in the district. He established himself at this point four years ago, the greater part of his machinery being packed in on horses. The engine and boiler was brought to Kootenay station on the Northern Pacific, thence to Bonner's Ferry over the wagon road.

The mill is now being moved by the proprietor to Kaslo City. Sixty horse power is being added to the former 40 hp., and by the addition of new machinery the sawing capacity per diem is being increased to 25,000. Forty hands are employed. New machinery is also being placed for the manufacture of mouldings, lath, planing, etc., to meet the requirements of the district fully in that line. Prior to engaging in business for himself Mr. Buchanan was in the employ of the C. P. R., and followed construction through to Donald.

On the north side at the point of turning up the lake, Balfour, another townsite is passed. So far it has not

KOOTENAY LAKE,

and usually there is a heavy swell on and a stiff breeze. In a little lake boat you realize the full significance of being "rocked in the cradle of the deep." Weak stomachs sometimes rebel. The lake extends 56 miles north and south, 32 north and 24 south, and though a much more important body of water than either of the Arrow lakes is comparable with them, occupying as it does one of the longitudinal valleys characteristic of the southern interior of British Columbia, with the exception of a jog where the West Arm leaves it is a straight sheet of water, of a uniform width of two miles, very deep and clear, and extremely picturesque during its whole length. The elevation of the lake above the sea is 1730 feet, bordered by mountains a little more rugged and crowded on the shore, but generally closely resembling the Upper Arrow Lake. The scenery is of a most interesting character.

Opposite Balfour, or rather directly east crossing the main lake is the head of a long neck of land or peninsula, eight miles long and several miles



LEAVING THE DOCK AT AINSWORTH.—Photo by Neelands Bros., Nelson.

had an opportunity of demonstrating its possibilities to any degree, but time and chances are on its side. The steamers stop there where several buildings have been erected and a store. It is also a telephone station.

Along here, too, is another possible route into Slocan, which has been traversed by a few prospectors.

Passing Balfour, which is situated on a point, the shore bends gracefully around to the north. Steering a straight course ahead through Queen's Bay, Pilot Bay, the new smelter townsite is reached, distant three miles. Opposite Balfour, where the transverse waters meet is a great salmon fishing point, where the Indians catch beautiful land-locked salmon, for all the world like the tyhee salmon of the Fraser river. You are here very near the centre of the great

wide, between the north extension of the lake and Crawford Bay, pendant almost due south, slightly south-westerly. At the southern end is an indentation known as

PILOT BAY.

Here the most important industrial undertaking in the West Kootenay district has been set on foot and operations the most energetic and permanent in character are under way—operations which betoken a lively faith in the future of the district as a mining centre. Several large interests are involved in the aggregation of industry and trade here represented. The smelter and smelter site containing fifty acres is the property of the Kootenay Lake Reduction Co., at the head of which is Dr. Hendryx, who may

justly be termed the pioneer of Kootenay Lake mining enterprise; the large store opened this spring, managed by Mr. Byers, is the business of the Galena Trading Co., principally Victoria parties; the townsite, represented on the ground by Mr. Newson, is owned by Victoria capitalists, chief of whom is Mr. Joshua Davies; and the sawmill on Pilot Bay is owned by Messrs. Davies and Sayward, Victorin.

THE SMELTER.

When THE COMMERCIAL correspondent visited Pilot Bay 870 feet of substantial wharves had been built, the excavations started for the roasting and concentrating plants, several carloads of machinery from the Chicago Iron Works were lying on the wharf, and a large staff of men at work framing timbers. Somewhere between fifty and a hundred men have been regularly employed in one way and another since spring opened.

The smelter will have a daily capacity of 100 tons, and will be fitted up with all the latest and most improved machinery for the reduction and treatment of dry and galena ores.

The company is erecting a hundred ton concentrator for custom work. It is the intention also to build a refinery, put in an electric light plant and machine, and generally to make the smelter and works complete in every respect. Dr. Hendryx expects to have the smelter in operation in September, although if he succeeds in opening next spring he will do well.

A deposit of good rich clay exists adjacent to the townsite on Pilot Bay and the Smelter Company has been experimenting with a view to the manufacture of brick, with satisfactory results and a plant is now in operation.

Associated with Dr. Hendryx in this enterprise is Mr. Franklin Farrel, head of the Parrett Mine and Smelting Co., Butte, Montana, and said to be one of the great copper syndicate and his brother Mr. A. P. Hendryx, who is an extensive manufacturer of brass wire goods, with a factory at Newhaven, Connecticut. These gentlemen intend carrying on their business on sound business principles, working within their own capital, paying cash and discouraging wildcat schemes. They are men properly opposed to booming and have gone about their work without any flourish of trumpets, which in itself, is indicative of success.

GALENA TRADING COMPANY.

This institution is one of the very latest and one of the largest commercial corporations on the Lake, opening for business only a few months ago. Mr. Byers, a gentleman who has had extensive experience of the coast, is

manager, and is confident of doing a large and remunerative business, extending up and down the lakes. So far, the difficulties and delays in transportation have rendered it impossible to keep the stock up to demand. The store building is frame, about 100 by 45 feet, two-storeys high. The lower or ground floor, with the exception of offices at the rear, is filled with a general stock of goods, embracing everything required in the country. When fully stocked, Mr. Byers' says the goods will run from \$50,000 to \$75,000 in value, a wholesale as well as retail business being carried on. Upstairs are living rooms in suits, which are occupied by the manager and his staff of assistants. The building is substantially built and well finished throughout.

The other buildings are the offices of the Kootenay Lake Reduction Co., and a large boarding house, owned by the company, besides Dr. Hendryx' house and several minor buildings. A restaurant, under canvas, is doing a good trade.

DAVIES-SAYWARD SAW MILL.

Just back of the townsite, on the other side of the bay, is situated the Davies-Sayward saw mill. It has a capacity of 25,000 feet a day and last year cut about 350,000 feet of timber. The mill is fitted up for the general manufacture of wood, planing, etc., and employs in all about 45 men. Recently the mill was obliged to close down on account of high water, and the proprietors have under consideration the advisability of removing the plant to a more convenient and more elevated site. There is a large stock of logs and sawn stuff on hand. The mill is run by steam power, but it is thought that excellent water power could be secured from the mountains, back of the mill.

Pilot Bay is one of the best points on the lake for fishing, beautiful large trout and salmon being caught by trolling early in the season, or later on with a fly.

A trail from the smelter follows the contour of the Bay around past the brickyard, up to which point there is a good wagon road, after which to the saw mill it is somewhat rough and precipitous.

The townsite is not large, and therefore there is but little chance for the inevitable "addition;" it is elevated and commanding, affording a view of both waters. It has been nearly all cleared and will be on the market shortly. In clearing the land of trees the wood has been sawed for fuel in connection with the smelter, hundreds of cords of it being ready for use.

In the vicinity of the brickyard a valley extends northward, the soil of

which is rich and clayey, and excellently adapted for agriculture, though limited in extent.

MINES TRIBUTARY TO PILOT BAY.

This point on the lake, for the location of a smelter, was chosen on account of being central in location to the greatest body of ore. Directly west are the rich Toad Mountain mines, already described. Eight miles further up on one side is the famous Hot Spring Camp, and directly opposite the Hendryx Camp, both characterized by extensive mineral deposits of wonderful richness and a number of well developed claims.

Then farther up again, about an hour's sail from Ainsworth, is Kaslo, the trail from which to the Slocan mineral properties is the shortest and most direct and naturally when developed a good deal of the ore will take this route out, so that the smelter is, as has been said, well and centrally located to tap all the principal deposits of the Kootenay Lake country. A smelting industry is most conducive to population, and while it is isolated to a certain extent from the communication possible on the west side of the lake, it has certain elements of support in itself, in that it will supply labor to a considerable population, which is after all the surest basis of success.

THE HENDRYX CAMP.

The celebrated Blue Bell mine, situated on a low lying peninsula opposite Hot Springs, has one of the most interesting histories of any mine in British Columbia, and may rightly be said to have been the first discovered in the province, whether placer or vein mines. It is owned, with other mineral properties, by the Pilot Bay Smelting Co.

To revert for a moment to a historical reminiscence, David Douglas, previously referred to, was a young botanist sent out by a Scottish Scientific Society to explore the North-west. He describes in 1825 his finding a large deposit of silver bearing ore on the east shore of Kootenay Lake, probably the Blue Bell mine. It was from this Douglas, and not from Governor James Douglas, as many suppose, that the Douglas Five gets its name. Poor Douglas had many an adventure, and one of the most pitiable was the loss of his botanical specimens, through an Indian upsetting his canoe. His grief was uncontrollable. At Kamloops, this same Douglas was challenged to fight a duel by his host Samuel Black, because he remarked, while drinking rum together in good hospitable Scotch fashion, that the fur traders had not a soul above a beaver skin. Fighting, however, was not in his line, and he took his departure next morning. Shortly after that he fell into a pit on

the Sandwich Island, in which a wild bull had been entrapped and was gored to death.

Kootenay Lake was formerly known to voyageurs as Flat Bow Lake. The lake called "Kootenay" was just outside the south-east angle of the province (probably the present Waterton Lake, through which the international boundary runs). The presence of coal and lead deposits in that angle of the province was known to trappers, voyageurs, missionaries and travellers over half a century ago, but was unimportant owing to the remoteness of the district.

Blue Bell mine has a more recent history. It was in dispute as to ownership for a long time, a dispute which ended somewhat disastrously to the parties involved. THE COMMERCIAL was informed that the small stone cottage there, with walls like a castle, is the only stone house in the district. It was built by Sproule, who, in 1885, it is alleged, killed a young Cornishman named Hamill, who had jumped the claim and for which he was executed in Victoria after zealous efforts were made to save him, and a number of respites.

The Blue Bell, which contains an enormous deposit of low grade silver bearing galena, was purchased by Dr. Hendryx in 1884, and has been steadily developed ever since. There is 2000 feet of tunneling, 300 ft of shaft, and 2000 tons of ore on the dump. A wharf 350 feet in length has been built and it is the intention to erect a concentrator at the mine.

About 70 claims in this section have been recorded. Adjoining the Blue Bell are the Silver King, Kootenay Chief, Galeonda, Conefoot, No. 1 and No. 2, and Henry, all similar in character.

The Tam O' Shanter, a dry ore property, is a little north, assays high in silver, and is altogether a very promising mine. There are 200 feet of tunnel and between 200 and 300 feet of shaft. This is easily accessible from the water's edge.

The ore deposit in the Hendryx camp, though low grade, is very large and striking. It is described as running a general north and south direction through the entire length of the peninsula, about 4,000 feet. The ore consists of a mixture of iron and copper pyrites, galena and blende, in quartz gangue. Portions of pure galena occur throughout. The width of the lode varies, but is everywhere of unusual body and thickness. The rocks of the peninsula consist of coarse mica-schists, marble and quartzite, with westward dips at angles of 20° to 60°. The bordering rocks and the general formation are granite, including in great quantity, large and small masses

of stratified rocks of the Shuswap series.

MORE RECENT HISTORY.

Up to '83 and '84 very little was known of the Kootenay Lake country except in scraps. In 1884 G. M. Sproat, Esq., was commissioned by the Provincial Government to make a report on the country. In 1883 Mr. Farwell made a report on the Kootenay Indians. In a paragraph in Judge Sproat's report on the Kootenay mining country, he says: Very little is known of the mineral resources of Kootenay Lake. It looks a mining region, but prospecting for gold has not been very successful hitherto. The old galena ledge on the east side (the Blue Bell) which contains moderate quantities of silver, has again attracted attention owing to the approach of railways to the district, and perhaps more largely owing to improvements in the process of separating the silver from the lead, which creates hopes that such low grade ore may now be handled profitably. Galena ledges, supposed to be silver bearing, have been discovered last year on the west side of the lake. Practical men who have been sent to examine the region generally, and have spent several months in exploring, have been satisfied with its promising character. Almost everybody who was employed at Kootenay Lake in 1883 has what he considers to be a silver bearing galena claim. Half a dozen men regard themselves already as Comstock millionaires. There is nothing in the facts as yet to justify any such belief.

When we compare the above with the reports as gold commissioner made by Mr Sproat in 1883 and 1889, and consider it in view of actual developments, we can well understand that little indeed was known about its mineral resources in 1884, or indeed about any phase of the country.

Not only was Kootenay remote and not easily accessible in the sense of being unknown and unfrequented, but it was a difficult country to prospect, owing to the inability to obtain supplies at any price. In the early days of the Big Bend excitement hundreds of men were driven out by starvation or fear of it. A potato was worth a dollar if you could get it. Nothing green or fresh to eat, no source of supply, no trails; salt bacon, stale flour and molasses brought on scurvy. It was only the proximity of the Northern Pacific railway on one side and the Canadian Pacific railway on the other that brought traffic within a hopeful distance, and her recent history, therefore, begins practically along about 1883.

OLD TRADE AND OTHER ROUTES.

In his most interesting report, made

up principally, as it must have been, of original observations and data, Mr. Sproat in 1884 has a chapter devoted to trade, a few excerpts from which will be instructive:

"The trail to Kootenay through our own territory, known familiarly as the Fort Sheppard Trail (by Rock Creek, Kettle, and Pend d'Oreille river and Summit Creek), has not been used for many years, and is not in a passable condition. The district has been supplied of late years entirely from the United States. There not having been any duly constituted United States bonded route along our southern frontier, the Portland Custom House would not bond Victoria goods for Kootenay. Some years ago, however, a few invoices from Victoria were taken in by the Osoyoos and Colville route through United States territory at heavy cost, as the goods had to be accompanied from Osoyoos by a Custom House officer at the expense of the bonder. Cattle and horses from British Columbia for Kootenay (or through Kootenay to the North-west Territory) are permitted now to be sent by the same route on the same condition, which entails a charge of \$5 a day for the officer. A few weeks ago the Northern Pacific railway was made a bonded route by the United States Government, and Victoria or New Westminster goods destined for Kootenay probably could now be sent by that route from Portland to Sand Point station, but the unbonded route thence through United States territory into Kootenay will be an obstacle still, unless the United States Secretary of the Treasury agrees to regulations on the subject to facilitate through trade in bond.

"The goods from the United States have been brought into Kootenay by pack routes. Kootenay has not yet reached the humble level of a bull team country. One pack route is from Missoula, Montana, through Tobacco Plains, and northerly along the east side of the Kootenay river to Wild Horse Creek, a distance of about 200 miles. The imports have consisted principally of flour, bacon, beans and a few dry goods.

"The other route and the one hitherto most used is that by which goods were brought from Walla Walla and other places by teams or trains to Sand Point (on Lake Pend d'Oreille, in Idaho), and thence 165 miles farther, by pack train to Joseph's Prairie, or Wild Horse Creek, as centres of distribution.

"The long pack train transport has made goods high priced in Kootenay. * * * Flour is now \$22 a barrel at the Upper Columbia Lakes."

Judge Sproat then goes on at some length to discuss the trade policy affecting the Kootenay Lake Valley,

which he describes as a "pocket" naturally accessible by one aperture and that the United States. However, the developments in railway construction and routes and the recent trend of political events has rendered less and less the argument of "mountains" against the trade with the Coast and Eastern Canada. Five-sixths of the trade of the whole Kootenay Lake district comes through Canadian channels, and the country is as well and as cheaply supplied with goods as the older settled mining districts to the south of the line, except perhaps in a few special commodities or lines that as yet Canada cannot supply quite as advantageously. In a few years it will be second to no part of this continent in point of facilities for communication.

RECENT DEVELOPMENT.

As has been already remarked, railway communication on either side gave a stimulus to discovery, which early in the eighties began to be active, and men like Dr. Hendryx, Wheeler, Anderson, Wright, McCune, McGovern, and Hall took an interest and soon made known to the outside world the nature of the country. One of the principal promoters of development was Dr. Hendryx, who came in 1884 as a young medical practitioner, on pleasure and health intent. He purchased the Blue Bell mine and has since stayed with the country full of faith in the outcome. The first steamer on the lake was the Mud Hen, owned and run by Mr. Baillie Grohman, the well known promoter of the Kootenay reclamation scheme, which had for its object the reclaiming of a tract of 40,000 acres near the boundary in Southern Kootenay, by means of a canal, whereby the overflow of the Kootenay river was to have been diverted into the Columbia.

Dr. Hendryx built a wagon road from Kootenay station on the Northern Pacific railway, 35 miles to Bonner's Ferry in '84 and '85, and started a line of boats to connect with the Kootenay Lake mining properties. This wagon road was kept in repair and subsequently sold to the country through which it ran. The steamer Surprise was put in in 1885 and thus communication was established with the south and has been maintained to the present time. Dick Fry started the Idaho in 1887. In 1888 Dr. Hendryx built the steamer Galena, the largest boat on the lake up to that time and which is still being employed running from Pilot Bay to all lake points. Subsequently the steamer Nelson was put on by the Columbia and Kootenay Navigation Co., and an American boat the Spokane. From 1884 development

work at the Hot Springs and Hendryx Camps went slowly on, culminating in the undertaking to erect smelting works at Pilot Bay during the present year.

AINSWORTH AND KASLO.

Two Rising Towns on the West of Kootenay Lake.

Ainsworth is the modern name of this little town of 300 odd inhabitants, called after Ainsworth, the promoter of a railway charter which carried with it considerable tracts of land. It was known, or rather the mining locations on the mountains back of it, as Hot Springs Camp, "camp" being the American name for a group of claims. Hot Springs was the name of the little town at the foot, an appellation arising from the fact that a hot spring exists there, which from a townsite point of view adds so much additional importance to it.

The first mining claims were taken up at Hot Springs in 1883 by Thomas Hammil, who afterwards lost his life at the Blue Bell mine. These were situated near the shore of the lake and named the "Lulu" and "Spring." Several claims farther back were located the same year. The ore was low grade. It was not, however, until the discoveries at Toad Mountain were published that prospecting took an impetus and prospects of an unusually promising character made, which attracted the attention of mining capitalists from the other side of the line. Since then a great number of claims have been recorded and every foot of land for six miles square or more has been staked.

THE TOWN OF AINSWORTH.

The townsite is about ten miles from the mouth of the West Arm and almost directly opposite the Hendryx Camp. It is pleasantly situated, but its area is limited, a fact which considerably enhances the value of lots; suburban additions can only be made ascending the terraces to the benches above, which occur at pretty regular intervals as you go up. From the edge of the lake the mountains rise up in long, irregular slopes, characterized, as already remarked, by a series of steps or benches, geologically said to be the result of the "irregular denudation of a series of beds of unequal hardness," a theory with which the writer is not particular to quarrel. This whole country side has evidently been densely wooded, but the ruthless forest fire, which has all but denuded the whole of British Columbia of its best timber, has here wrought havoc as well. There are, however, in the hollows some excellent cedar and white pine.

The situation of the town in one particular respect is most favorable inasmuch as water for domestic use, fire protection, or water power for any use, the production of electric light, running machinery, etc., can be procured in unlimited quantity and at any pressure, both cheaply and easily.

The population has been placed at 300, but if we take those employed in the mines tributary, that number would be doubled. The pay list is one of the largest on the lake so that the cash in circulation is the basis of a good business.

The townsite is owned by a joint stock company, the headquarters of which is in Victoria. P. C. Dunlevy is President, E. Crowe Baker Secretary-Treasurer and G. B. Wright resident manager and agent, gentlemen all thoroughly well known. The company is gradually making improvements in grading streets, making drains, building wharves, and it is understood will shortly begin the construction of an efficient system of waterworks. The representative of THE COMMERCIAL was informed that a company was in contemplation for the purpose of introducing an electric plant to light the town and furnish power for working the mines in the vicinity.

THE HOT SPRINGS.

A group of mineral springs are situated in the northern portion of the townsite. They contain sulphur and soda and have a temperature of about 120° F. In cases of rheumatism they have been found beneficial, and also efficacious for dyspepsia and debility. Their existence has suggested the establishment of a sanitarium and combined with the balmy lake air and the excellent fishing, trout weighing all the way to 20 lbs being caught, should give Ainsworth a reputation as a tourist and health resort, and in this respect it has many advantages. Two steamers touch the port daily, giving close connection with the lake points and with Bonner's Ferry in Idaho.

MERCHANTS.

The business men of Ainsworth seem to be on a very solid footing indeed, and are doing a large business; reference here is made to two leading firms.

Green Bros., whose headquarters are at Ainsworth, have also a branch store at Kaslo and are doing a big trade at both places. Their Ainsworth store is 125 x 50, with extensive additional storage underneath, fire and frost proof. They deal in groceries, clothing, boots and shoes, hardware and miners' supplies, etc., carrying a stock of \$10,000. The Messrs. Green Bros., who have gained popularity with the

public, established themselves at Ainsworth two years ago, and have identified themselves with every public movement of importance affecting the district.

A year ago Mr. H. Giegerich bought out Mr. G. B. Wright and has extended the trade largely. He, like all the traders in the Lake country, carries a general stock of goods and does business all up and down the Lake. Mr. Giegerich's store is 25 x 85 feet, besides which he has three warehouses, one being fire and frost proof. The value of his stock of goods is estimated at \$25,000. Mr. Giegerich is largely interested in mining claims, owning shares in nineteen in all, several of which they are preparing to develop on an extensive scale this season.

HOTELS.

Ainsworth is well supplied with hotels, they being the inevitable precursor of business in all new towns. The Vancouver, Windsor and Columbia are the principal hostleries.

The last named was built two years ago by the present proprietor, Mr. John McNeill. The Columbia is located so as to command a beautiful view of the Lake, and is central. There is accommodation for 25 guests and the bar stocked with best brands of liquors and cigars. Mr. McNeill is interested besides in several promising mining claims.

The Windsor Hotel is a large three-storey frame building 35x96, in process of completion, Mr. R. McLeod is the proprietor. There are three floors and basement. The office, dining room, bar and sample rooms are on the ground floor. Up stairs are parlor and sleeping rooms, of which latter there are thirty in all. This hotel, which is expected to be ready for complete occupancy about the first of August, will be fitted up with all modern conveniences, and as will be seen from its dimensions is one of the largest if not the largest hotel building on the lakes.

THE MINES.

Ainsworth's chief importance, however, is due to the fact that it is the *entrepot* for a large number of very promising mines. Hot Springs is emphatically a lead and silver camp. The ores of most of the claims are composed of galena, carrying from 20 to 70% of lead. The greater portion of these are extremely rich in silver, assays often running from 25 to 100 oz. per ton. There are also several mines which furnish dry ores, that is to say without lead. Some of these carry a large proportion of iron oxides, thus affording an excellent flux for smelting and in connection with the native wire silver and rich

steaks of silver sulphurets, making them a desirable ore for treatment.

Speaking of dry ores and low grade ores, without attempting to speak either scientifically or mining-wise (the scientific editor of THE COMMERCIAL having taken a holiday) as a matter of observation in the Kootenay district, and it is believed to be a general fact, the grade of the ore corresponds in some degree with the elevation of the mine. All the low lying claims as a rule are low grade, and the high grade, of which the Silver King and Sky Line are striking illustrations, at high elevations. It seems as though nature had specially designed that the richer the prize the more difficult to achieve. It does not follow, however, that a low grade lode is not as valuable as the high grade. It may be a much more valuable property. Accessibility is always a compensating advantage. A low grade ore in sufficiently large body, easy to reach with smelting facilities at hand, may pay better than a very rich ore requiring a large expenditure of capital to develop and work. The value of a mine is not altogether in the character of the ore itself but depends largely on the conditions surrounding it, and there are many conditions to take into consideration. This statement is not necessary for the information of mining men who fully appreciate such conditions, but inexperienced capitalists are too often led into mining investments simply on the results of assays, which may be honest enough, and the width of ledges and so on.

There is another important factor which enters into mining enterprises as a condition to be kept in mind, and that is the general character of ores in a camp or contiguous camps tributary to a smelter. Judge Sproat—"Judge" as applied here is a title attached to the position of gold commissioner, a government officer, where duties are largely of a judicial character, often combining several important functions. A gold commissioner was not necessarily a legal gentleman, usually not, but one necessarily versed in law, *ex-officio*, a magistrate—in his report on the Kootenay country in 1884, which considering the facilities for travelling through the country at that time, and the limited information to be procured regarding it, is wonderfully exhaustive and accurate, succinctly explains the condition above referred to. He says, "Smelting operations can be most successfully carried on where a variety of ore is obtainable, not only of different chemical combinations, but also from different mines. They can only be profitable when conducted on an extensive scale. A single mine is not always in a condition to furnish a

regular supply of ore, but if other mines were found, the smelting works could be fed."

The conditions which Judge Sproat stipulated as necessary to the successful operation of mines on the Kootenay Lake, stated at a time when it was impossible to form an estimate of its resources, have fortunately proved to exist. As a mining district it is naturally most favorably situated in almost every respect necessary to success. The ore has been discovered in extensive deposits, which development work so far has confirmed its permanency and richness. The mineral lodes are everywhere easily accessible by trail from the water's edge; they exist contiguously on the shores of a deep and navigable body of water, in other words, facilities for transport to a local smelter are excellent; there is a variety of ores suitable for treatment; a smelter is being erected with an easy reach of all of them; the average assay value of all the ores will render them profitable to work. So far as a practical knowledge of conditions go at the present time they are as favorable as they well could be. There alone remains the question of a market for silver, lead and copper, which time only can solve, and which may safely be trusted.

THE MINERAL FORMATION.

From a geological point of view, the formation is favorable for large and lasting deposits of ore, and for geological and mineralogical opinions we, of course, must depend upon the authorities who have examined the district and reported on it. These, together, with the opinions of practical mining men, who perhaps after all are the safest guides, lead us to but one conclusion. Scientists systematise facts and formulate theories based on facts; the practical men supply the facts. Prospectors and miners are invariably the percussors of mining knowledge. They opened the eyes of the scientists to the mineral riches of British Columbia, although it is true that the great Murchinson long ago theorized the existence of the northern lode of the western metalliferous belt in New Caledonia, a proposition which is proving true.

The mineralised area back of Ainsworth is mainly between Coffee Creek and Woodberry Creek, a distance of about six miles and from the lake shore to the "Sky Line," over 5000 feet above the sea level. The country rock is mica schist, intersected by various dykes of limestone which form a continuous contact for miles. The country rises abruptly from the lake to a height of nearly 6000 feet, but with a series of terraces, varying from a few hundred feet up to a thousand in elevation. On these terraces the veins

of galena run northerly, almost parallel with the lake, and one can often walk along the continuous croppings of a vein two or three miles without a break. A good wagon road has been built by the Provincial Government, which leads from the town to the most prominent of the mines, and branch roads are yearly being extended from those to newly opened veins, which are in almost regular tiers. The dip of the rocks, to which the vein matter usually corresponds, is to the westward at an average angle of 45°. The inclination is less near the shore. Near the summit the beds are much disturbed and often nearly vertical. Speaking of the dip of the veins, Dr. Dawson says: "Some of these appear to dip at the same angle with the enclosing beds, but in other cases, to the west of this, the metalliferous veins cut across the bedding of the rocks to a greater or less extent and may be expected to change in character when followed in depth into country rock of another kind." The same writer goes on to say the ore, principally argentiferous galena, which, in the lower veins contained in the harder rocks, has usually become decomposed to a very limited depth only from the surface; but on the limestones the decomposition has often extended to a considerable depth, and has resulted in the production of soft rusty "carbonate ores." Silflorm native silver or "wire silver," together with tetrahedrite are also found in some of the richer deposits. The veins which like the "Spokane" follow the bedding of the mica schists, are the most regular, while as might be anticipated, those contained in the limestones are not nearly so uniform in size and tend apparently to assume the character of impregnated rock in which occasional large masses or "chimneys" occur.

NOTES OF THE HOT SPRINGS MINES.

The principal mines in this camp so far as is yet known are the Sky Line, Krao, Tenderfoot, United, Neoslia, Libby, No. 1, Spokane, Trinkot, Little Donald, Fourth, Ayasha, Dellie, with several others. A good deal of ore has been sent to the smelters across the line, and, notwithstanding the American duty of \$30 per ton on the lead contained in the ore and the cost of shipment, paid a good profit. Now that a smelter is being erected within a few miles on the lake, it is expected that twenty or thirty mines will soon be extracting ores for its consumption.

THE SKYLINE—A dry ore, property of A. W. McCune, Salt Lake City, vein perpendicular; shaft 200 ft; drifting 200 feet; width of ledge 12 feet; assays as high as \$1000 to the ton; ele-

vation 4000 feet above the lake; plant consists of pumping and hoisting apparatus, with milling machinery about to be added. Shipments of ore to the Montana smelter yielded from \$70 to 300 oz. of silver to the ton.

No. 1—Property of Revelstoke Mining Co.; six feet body of rich ore; 150 feet of tunnel and drifts; 200 tons shipped to the Montana smelter yielded an average of 100 oz. in silver.

KRAO—Twelve feet body of ore, concentrating one in four, concentrates going 200 oz. in silver; 25 h.p. pumping and hoisting plant; sinking to 200 feet level. Company intends erecting concentrating works mouth Copper creek; elevation 2,000 feet above lake; 200 feet of drifts made last winter and spring.

TENDERFOOT—Shaft 100 feet; 80 feet drifts. The machinery in use is from Doty and Co., Toronto, first used here.

FOURTH—Was stocked by a St. Paul Co.; ore high grade, large quantity on the dump; 300 feet tunnels and drifts; average assay 100 oz. in silver; elevation 1,000 feet.

NEOSHE—Owned by Dr. Coe, Seattle; carbonates; six feet body of ore; 80 feet shaft, with some cross cutting; very high grade, small shipment of 10 tons to the Tacoma smelter ran \$600 to the ton. Some beautiful specimens of wire silver were taken from it.

THE UNITED—Property of Revelstoke Mining Co.; concentrating ore; had a very rich belt of native silver, running up into thousands of ounces of silver; small pumping and hoisting plant; 160 feet shaft; 12 men are at work and now drifting with a good body of ore; 1,000 tons of ore ready for shipment.

The Little Donald assayed at Helena 115 oz. silver and 65% of lead.

The following particulars are given of the other mines:—

Crescent,	100 feet shaft.
Dictator,	200 " " and tunneling
Libby,	100 " "
Glengary,	50 " "
Dellie,	70 " "
Norman,	50 " "
Lady of the Lake,	50 feet tunneling.
Blackbird,	50 feet shaft.
Snowbank,	75 " "
Ellen,	45 " tunneling.
Ajax,	40 " "
On Deck,	50 " shaft.
Early Bird,	60 " tunnell.

The first claim was recorded in Ainsworth, in October, 1889.

There were 156 claims recorded at the Recording office here in 1891. The Government recorder at Ainsworth is Mr. Lendon, from whose report the above particulars are taken. He is a gentleman, who besides understanding the duties of his office, evidently appreciates the fact that courtesy and

politeness are essential qualities in the character of a public servant.

The Hot Springs, so far, have not been utilized, but recently a small building and bath has been erected and it is the intention later on to establish a sanitarium at this point.

Anderson and Retalaack are a reliable firm of real estate and mining brokers, doing business here.

KASLO.

The town of Kaslo is situated at the mouth of Kaslo Creek, which flows into the Kootenay Lake at a point about 12 miles north of Ainsworth, on the same side. It is the direct outcome of the excitement following the discoveries of last fall.

The representative of THE COMMERCIAL visited it on the 24th of May and helped to celebrate the first Queen's birthday that had ever been celebrated on grounds which but a few months before was covered with forest. There were about 600 people present, principally prospectors and miners, and while our idea of mining life is apt to partake a good deal of the "six-shooter" and "howle-knife" complexion, nothing could be farther from that conception of it. The men were orderly, well-behaved, sober, and enjoyed themselves thoroughly. Only one man was overpowered with intoxicants during the day; no fighting occurred; no loud or blasphemous language. You could not mistake that you were in a mining camp; the men were distinctively of that class—wore belts, a species of sombrero; many of them "Maek-inaw's," free and easy air, and all that, but the kind of man, who, if you mind your own business, will mind his. They are a very decent lot of men, who, considering the admixture from all parts of the world and all grades of society, surprise you by their intelligence, good behavior and good sense. Of course there are rough characters among them, gamblers and heaven knows what some of them may not have been, but there is no place where the criminal and vagabond class disguise their former selves so completely as in a mining camp. Here all men are alike, nobody asks questions, nobody cares what you were, so long as you mind your own business and behave yourself; expose your hand and there is no place will be made so hot for you in so short a space of time.

The evening before the 24th a committee meeting was held in Green's store, Mr. G. O. Buchanan was made chairman, and for formality and parliamentary style no meeting was ever conducted more decorously. All were comparative strangers to each other, all took part and the business, which was to arrange the programme for the following day, was expeditiously,

harmoniously and systematically transacted. The question of enforcing order was brought up, and some one pointed out, that as there were two justices of the peace present, special constables could be sworn in to keep the peace. For some reason or other the suggestion did not meet with favor, and one man, a sort of leader in the proceedings, spoke up, and the applause with which his remarks were received showed that he voiced the unexpressed sentiment of the meeting. He said: "Mr. Chairman and gentlemen, I am opposed to the appointment of special constables. It is a reflection on the moral standing of this camp (laughter and applause). We do not require officers of the law to keep us in order (hear, hear!). I don't think there will be any need of any one to keep order. We all know enough to behave ourselves. In case, however, some outsider should come in and raise a row or disturb the peace, I think it would be just as well to have a vigilance committee. There is no need of any swear-in' business. Tom Norquay, Bill Jones, Ed. McQueen, Sam Edwards and me will act in that capacity if agreeable to the meeting. We'll be around handy all day and if any person starts any funny work or kinks up a row, which is not likely, we'll simply collar him, march him down and throw him in the bay (tremendous applause). I don't see any use 'politing police?'" The speaker sat down and the chairman, mounted on a barrel of bacon, asked if somebody would "move that," and instantly it was moved and seconded in two or three places, and carried unanimously. The speaker's predictions proved to be true. Nobody was spoiling for a fight the next day, and although there was lots of enthusiasm and keenly contested events, and considerable betting, there seemed to be a general understanding that order was essential. The duties of the self-appointed vigilance committee were light, and with the exception of carrying a man off the dancing stand, overcome by drink, to a shady place on a plank behind a big log, their services were not called into requisition.

Kaslo is a beautifully situated townsite. It is bisected by a rapid, rushing stream that will furnish unlimited water power and supply. On the right is a snug little bay of deep water, affording excellent anchorage and plenty of shipping facilities. The townsite itself is level with an easy gradient to the mountains back of it. It was formed like any number of stretches of bottom lands on the lake by a deposit of sediment and drift at the mouth of creeks upon which vegetation and forest grew, furnishing a foot hold for man. Looking up the lake is

a beautiful view, one of the finest on the lakes, with abrupt, declivitous mountains on one side, meeting at the angle of the lake, the low sloping hills on the other side, which with a rapid ascent lead up to snow peaks. In fact, there are beautiful views everywhere along here.

At the time referred to, there were two hotels in operation, several stores and a number of smaller residences. It is to this point that Mr. G. O. Buchanan is removing his saw mill from the West Arm of the Kootenay. The Kaslo Land company has offices here in charge of Mr. Thos. Norquay, local agent, and a lively business in property has been done ever since the land has been put on the market, lots in good locality appreciating from \$50 to \$300 and \$400.

Green Bros., whose business has already been referred to at Ainsworth, have established a branch here and have done an extensive trade with the prospectors. They carry a general stock of goods, the same as at Ainsworth, valued at between \$5,000 and \$6,000. The Kaslo store is 24 x 65 feet, with ample storage and warehouse accommodation. Mr. Green, the senior partner, is a justice of the peace and very popular with the miners.

Mr. Wilson, formerly of Kingston, and recently from the other side, had just opened out his stock on the visit of our representative, and was busy putting away large consignments of goods, of which he carries the usual general and varied stock found in the interior new towns. On the 24th of May a large number of prospectors being in town were buying supplies and both merchants were up to their eyes in business filling orders.

A CHARACTERISTIC INCIDENT.

An incident worthy of note as characteristic of western mining life was observed at Kaslo.

Kaslo is scarce six months old as yet, but the inevitable missionary has reached it and services are being held regularly. There is now a proposition on foot to build a church. On the occasion in question, a young lady came into Green Bros.' store soliciting subscriptions for the church organ. She went straight up to a prospector who was buying an outfit at the counter, explained to him the object of her mission and asked him to subscribe, at the same time handing him the book with the 'names' in it and the amounts subscribed. As he glanced over the names his chum stepped up and asked: "What've you got there, pard?" Anticipating the reply the young lady stepped up and explained and wanted to know if he would subscribe. Without noticing the solicitous look and the pleading smile on the young lady's

face the second said carelessly: "I'll tell you what I'll do, Bob; I'll flip the dice with you to see who pays the girl five dollars." "I'll go you," was the nonchalant reply, and turning to the clerk he said: "Hand me down the arbitrators" (meaning the leather dice box.) They shook,—poker dice, ace high,—one lost handed over the five dollars and the young lady proceeded in a business-like way to the next. No one seemed to look on the event as in any way humorous or unusual, although it could not but strike stranger as extremely so.

A TALK ABOUT MINERS AND MINING.

That these miners, rough in their way, have good hearts is shown by numerous incidents. At Ainsworth a man and his wife arrived destitute, the latter being in a delicate condition. The man's story enlisted their sympathies and they supplied them with shelter in a vacant shack and provided them with the necessities of life. Shortly afterwards a baby was born and the father came home in an intoxicated condition a few nights afterwards, beating his wife and jeopardizing the life of his child. As soon as the miners heard of it they drummed the man out of town and taking his poor wife and child placed them in comfortable quarters and maintained them until some means of earning a livelihood opened up.

As is well known they are not religious in the ordinary acceptance of the word, but are quite willing to support churches and contribute to the "means of grace" so long as they are not asked to be restricted in any particular or interfered with. They will not swear in the presence of a clergyman if they know it and if they do will ask pardon for the mistake. No class of men will venture more, endure more and work harder than the prospector in the hope of making a strike. The prospector is the real pioneer of civilization and progress in a mining country. No man will do less when a strike is made. As a rule, a prospector will not work as a miner. He is a discoverer, and a gambler on big stakes, when strapped he will "grubstake" for the man who has money.

It will be of interest to the uninitiated to know the meaning of "grubstake." One person may supply another with provisions and an outfit and maintain him during a trip or season on the understanding that the prospector shall give to the one that grubstakes him an interest, usually a half, in all his finds. That is "grubstaking." A large number of prospectors in all mining districts are working in "grubstakes," of which there are a variety of kinds according to individual bargaining.

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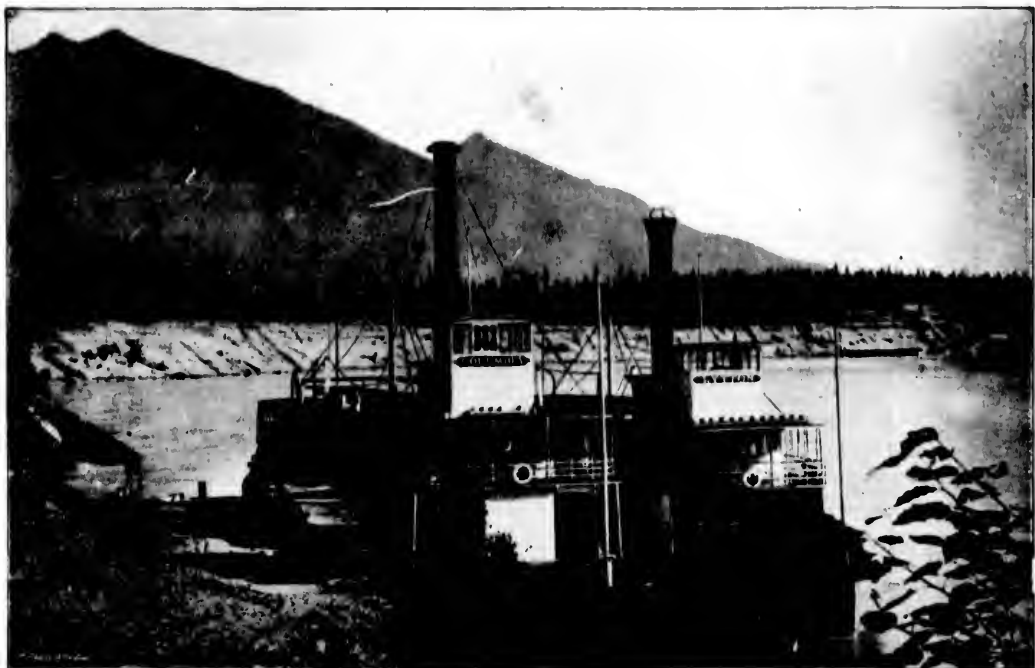
NELSON—LOOKING ACROSS THE LAKE.

From a Photograph by NEELANDS BROS., Nelson, B.C.



LOOKING UP KOOTENAY LAKE FROM NELSON.

From a Photograph by NEELANDS BROS., Nelson, B.C.



STEAMERS "COLUMBIA" AND "LYTTON" AT REVELSTOKE.

From a Photograph by NRELANDS Bros., Nelson, B.C.



KASLO.

From a Photograph by NRELANDS Bros., Nelson, B.C.

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A prospector's outfit usually consists of a prospector's pick and a small axe, a pair of blankets, a tent, a frying pan and kettle, and provisions in a condensed form, such as bacon and beans, flour, molasses, tea, and canned goods, etc. Conditions of time, distance, character of country, accessibility of supplies and so on determine the size of the outfit. A prospector usually "packs" from 50 to 75 pounds on his back. Such a life does not prevent any royal road to riches, but like many other arduous callings when once entered upon is hard to relinquish and an old prospector looks to a couple of months in the mountains each year, in the same way as an actor does to an annual touring. It has its fascinations, and every man, no matter what his experience has been or discouragements, expects to "strike it rich" some day.

Few men in a mining district but has a claim to which he fondly looks to make a fortune for him as soon as a railway comes in, or something else happens which is sure to come about. Every man Jack of him will tell you he has the best claim in the district. Some figuratively speaking sit down by it and wait for a capitalist to come along and pay him his price. He will stay there until he gets it, which is usually a long time, very often never. Others either barter them away at a nominal price for present necessities and go on searching or let them drop as a plaything which has served its term of pleasurable prospects. A few comparatively speaking do the sensible thing and develop their claims as far as their means will permit and then selling or giving an interest to some person with means enough to prove the value and permanency of the lead. A rich "strike" is the discovery of a vein or deposit of rich surface showing, which usually finds a ready buyer if not a purchaser.

Essentially the business is a lottery—one full of anticipations and big chances, intermingled with numerous disappointments. To go into it to succeed a man requires shrewdness, nerve, good judgment and some capital. Experience is a great factor. While as a class the American mining fraternity is characterized by a commendable *morale*, there are many who are thoroughly unscrupulous and conscienceless. No other calling has been productive of more trickery. It is against that class of men that investors must be on their guard, because the pursuit is one above all others wherein appearances may be deceiving. Such men, like the professional horse-trader, may be in other respects quite honorable but who deliberately let you in on a mining deal. It is like an instinct.

Prospecting for places is determined by "colors of gold" obtained in a prospecting pan. Vein matter is indicated by the character of "float," or surface rock, different minerals being variously determined in this way. A prospector, though he may be in no sense a mineralogist or metallurgist becomes very expert and for practical purposes may often be relied upon to a greater extent than the scientific expert, though of course the man with the scientific acquirements added to local experience is by far the better off.

Some curious finds, other than minerals, are often made by prospectors. Some strange relics of man found where human beings were never supposed to have been. A peculiar find was made on the summit of the Slocan mountains this summer, being a handsomely bound copy of the Bible, with the words "presented by G. W. Rasure, cowboy evangelist," no other name appeared. It had lain under the snow all winter and had evidently been lost by one of the early discoverers last fall.

THE SLOCAN COUNTRY.

Finds which created great excitement and a mining boom.

Prior to September of last year the existence of minerals in the Slocan district was merely a conjecture. It is said now that this, that and the other one knew of the galena ledges which have excited so much attention, but there is no written record of any such knowledge. Gold commissioner Fitz-Stubbs says in his report that the existence of minerals in this region had been known for years. The mines, he says, appears to be in the limestone belt which Dr. Dawson noticed as running south-easterly from about the foot of Upper Arrow Lake. However, that may be, Dr. Dawson in none of his reports makes any mention of minerals in the vicinity of Slocan Lake, or even hints at any knowledge of such, although as the map attached to his report of 1889 shows, the general character of the district was not unknown to him. And it was not until J. L. Seaton and Ell Carpenter made the discovery in September last that any attention was directed to it, although the country all up and down the lakes and the Lardeau north of it had been prospected for years.

They located a claim near Carpenter Creek and came out to get supplies and assistance. It was understood that these discoverers had agreed to share equally in all finds, but this was disclaimed by Ell Carpenter, who was the pioneer of the district and a guide. It

was ascertained, so it was said, that he had shaken his partner and was working with other parties. At all events there was a misunderstanding between the two, and Seaton organized a party known as the "Noble Five," consisting of J. L. Seaton, W. F. Hennessy, J. G. McGingan, F. W. Flint and J. J. Hennessy, who started in and made the discovery of the Noble Five group on the summit of the divide between Kootenay Lake and Slocan Lake, which are named as follows: Maude E, World's Fair, Bonanza King, Knoxville and Noble Five.

These veins are very rich and if surface indications are any criterion of the wealth of the ledges as they go down it undoubtedly is one of the richest lead and silver camps on the continent. Twenty assays made ran all the way from 20 to 2,000 ounces per ton in silver, the average being \$175. The width of the ledge is from 6 to 8 feet. A mineralized ledge has been uncovered varying from 12 to 25 feet in width. Of course this must not be mistaken for solid ore, which would be phenomenal, but measuring between the walls of the ledge, and in which, in what is known as ledge matter, are one or more rich veins of solid galena.

The argentiferous galena is of three kinds—coarse cube, steel and wavy galena. Coarse cube is the predominating ore in these finds and a peculiarity of the mineral belt to which these claims belong is that while in the Cour d'Alene and other mining districts south of the line coarse cube galena is invariably low grade, immediately north of the line in the Kootenay Lake district it almost is invariably a high grade ore.

THE EFFECT OF THE SLOCAN DISCOVERY.

The news of these finds spread like wild fire and soon prospectors came pouring in, though late in the season, and the result was an excitement which had not been equalled in British Columbia since the early mining days. Not only that, but the discoveries led to most important results both as to government and to railway policy and brought to the notice of the outside world the resources of the Kootenay country in a more emphatic manner than anything that had as yet occurred.

Slocan has been the prevailing talk ever since among mining men. Prospectors went in and remained all winter and a number of what is called snow claims were recorded, that is, the stakes were put into the snow on "spec" to hold until spring opened. The attention of storekeepers, packers, steambot and railway men and speculators, as well as miners and prospec-

tors, was attracted, and all got ready to take advantage of the developments of the spring, because there were only a few weeks left from the time the discoveries were made until winter set in. But while the snow lay on the mountain side and prevented further discoveries, the brains of all these planned. The Nelson people built a trail in from Sloean crossing on the Columbia and Kootenay Railway 25 miles to Sloean Lake; the Government reserved a tract of land one mile square at the mouth of Carpenter Creek on Sloean Lake; and the C.P.R. decided on a townsite at the mouth of Nakusp Creek, near the mouth of Upper Arrow Lake, from which an easy gradient occurs into the head of Sloean Lake, and the Government on a trail from the same point; the Sloean Trading and Navigation Co. was formed to do business on the Sloean Lake, a steamboat for which was contracted for and now built, 60 feet long; the Sloean Trading Co. was organized and is now doing business at Eldorado; Hunter McKinley went in there last fall and opened a store. Kaslo Creek presenting the shortest route from the south into the mines, a company was formed including such men as Alex. Ewen and John Hendry, New Westminster, and Irving and Haywood, Victoria, and purchased and laid out the town site of Kaslo at the mouth of Kaslo Creek; and at the same time a company was organized for the construction of a railway following up this route, to be known as the Kaslo and Sloean railway. Arrangements were made and a trail has been constructed from Kaslo to Bear Lake and into the "Noble Five" group. The Kootenay Lake Reduction Co. decided on building a smelter at Pilot Bay; the C.P.R. has decided to build a line of railway from Revelstoke to the head of Arrow Lake, from Nakusp to the head of Sloean Lake and into the mines, and from the south end of Sloean Lake down the Sloean River to Columbia crossing, connecting with the Columbia and Kootenay railway, thereby amply supplying the whole region affected with means of communication. These and many other enterprises were either directly inspired by the Sloean excitement or greatly quickened, the effect on the whole Kootenay country being wonderful.

Early this spring thousands of men were said to have been waiting at Spokane Falls to get in as soon as the mines could be reached, but the lateness of the spring and the fact of new strikes being made south of the line greatly reduced the number who were at first expected, it being estimated at 10,000. Those added to the numbers who came in from the north via the C. P. R. are estimated at about 5,000 persons, between two and three thousand

and of whom have stayed in the country. On the 24th of May from the most reliable accounts it was thought that there were between 600 and 1000 prospectors in the Sloean district, scattered everywhere over the mountains. It is but recently that the snow has left the summit and prospecting could be freely prosecuted. What ever the future of this new mining district, the Sloean excitement will remain a memorable chapter in the history of British Columbia.

THE PRINCIPAL CAMPS.

Prior to the big discoveries on Carpenter Creek and in and around the Noble Five group, valuable discoveries of copper and lead on Kaslo and Schroeder Creeks, on which about 80 claims have been located. "Some of the prospectors," the government report puts it, "on Kaslo River, who proceeded westerly across the divide made some very important discoveries of mineral claims on the Sloean slope towards the close of the season. These lie for the most part from 10 to 15 miles easterly from the Sloean Lake." The principal locations are at Jardine's Camp on Schroeder Creek about 9 miles in a straight line north-west of Kaslo; Montezuma Camp, south of Kaslo Creek, three miles west; Brennan's Camp four miles north of Bear Lake; in the vicinity of Bear Lake on the summit of the divide; and a belt of claims extending about eight miles in a south easterly direction from Carpenter Creek along the summit of the divide, the last named including about 150 claims in which are included the Noble Five group and other important discoveries. The latter two contain the principal and most extensive deposits. The latest discoveries are near Bear Lake on the summit. "Lucky Jim," the Shill discovery and the Rudling claim, which is an extension, are the most noted. These show about 3 feet of solid galena ore assaying from 100 to 175 oz. to the ton in silver with a percentage of between 50 and 75 in lead.

A number of practical mining men have gone in there and several of the more promising claims have been bonded for considerable amounts, and a number have been purchased. So far, of course, there is nothing but surface indications, there not having been sufficient time to develop the claims, but as a purely surface showing of ore and character of assay, perhaps no other mining camp in America, unless it be the one at Ainsworth, can show its equal. The testimony of the practical mining men who have gone in is unanimous as to the richness and extent of the showings.

It is a district, too, which is peculiarly favorable in point of ingress and

egress. There are half a dozen or more possible passes leading into it, and at present three travelled trails, which have been previously referred to—from Nakusp coming in from the north *via* Nakusp Creek; from Nelson on the Columbia and Kootenay railway at Sloean Crossing *via* Sloean river; from Kaslo *via* Kaslo creek. A statement of distances and elevations by the various routes are as follows:

A COMPARISON.

Nakusp to Sloean Lake	20 miles.
Highest elevation above lake	1,880 feet.
Sloean Lake in length	22 miles.
Outlet Sloean Lake to mouth Carpenter Creek, about	15 miles.
From mouth Carpenter Creek to summit	10 "
Kaslo to mouth Carpenter Creek	26 "
Elevation summit above lake level	1,780 feet.
From Sloean Crossing to Sloean Lake	30 miles.
Almost dead level, trifling elevation.	

The above distances and elevations will enable readers with the aid of a map to decide for themselves.

It is claimed on behalf of the Nakusp route that it is tributary to British Columbia trade, leading north instead of south, that the elevation is much less, the route much more direct from the north, and that depth of snow on the summit and the time it lasts into the summer precludes the possibility of success by the Kaslo route. It is claimed on behalf of the Kaslo route that a railway is practicable, that it is a much shorter distance into the mines from Kaslo than from Nakusp, that it is the natural route of travel from the north, and that ore will come out that way.

It is not definitely decided yet as to the route of the C.P.R. in from Nakusp. It will probably touch the head of the lake and follow down either one side or the other to Sloean River Valley and follow that to the Columbia & Kootenay Railway, with a spur from the mouth of Carpenter Creek into the mines.

A trail has been cut in from Nakusp to the head of Sloean Lake, and a wagon road for the conveyance of passengers and mails in six hours can be undertaken at once. A large number of lots in Nakusp have been sold and a number of buildings are under way. A smelter is under consideration.

A good trail from Kaslo has been cut through to the summit and into the Noble Five claims and connects with another from Eldorado, the Government to unite at the mouth of Carpenter Creek, where several traders have established themselves. Two other town sites have been laid out, one at either end of the lake.

Nakusp, the new townsite on Upper Arrow Lake and Kaslo, may fairly be regarded as rivals, in relation to the trade of the Sloean district; but it is not within the province of THE COMMERCIAL to play the part of advocate, simply to state facts.

Nakusp stands advantageously in relation to ingress from the C. P. R. at Revelstoke both for supplies and passengers, that is undoubted. It is obviously a much shorter cut to the mines, and if a smelter is erected at Nakusp, which is talked of, and a railway built in to Sloean Lake, which is decided, a fair share of the ore for smelting will be carried that way.

Kaslo, on the other hand, from the south is also most advantageously situated, both in regard to its nearness to the mines and its proximity to the smelter at Pilot Bay, an advantage which would be increased if the projected railway be carried out.

Nelson, too, is favorably situated. The C.P.R. railway through Crow's Nest Pass, which in all probability will make the Columbia and Kootenay railway from Nelson to Robson, a line in its system, in passing through to the coast, and the proposed Nelson and Fort Sheppard, if built, will give it an evident "grip" on the Sloean trade by

means of the Slocan river route, down which, as already stated, the C. P. R. proposes to build from Slocan Lake. At present those interested in all three places are enthusiastic about their prospects.

THE WEST KOOTENAY TOWNS.

Just now it is difficult to decide between the rival townships, which are plentiful enough for choice, as to their various prospects. The country is in a budding condition, dependent largely upon ultimate settled railway routes and other factors which it is impossible to determine accurately. To the intending investor or those seeking for advice, the best thing to do, if possible, is to go and see for themselves. The trip in itself will amply repay anyone for the time and expense incurred, provided always he can afford it—the fishing, the scenery, the sports, the climate, are all most enticing, and apart from all material considerations, are very sure to make the Kootenay country a most popular resort.

POPULATION AND POLITICS.

There is a population of four or five thousand persons scattered up and down the districts described in the foregoing which is daily increasing.

A large proportion of the miners, prospectors and mining capitalists who have gone in are Americans, and a good sprinkling of the business men. The contiguity with the United States, that portion south of it as far as Mexico possessing extensive mining interests and a population of some millions more or less dependent on the mining industry, accounts for the inflow of American population, attracted as it has been by the rich mineral deposits disclosed. It is, therefore, only natural to find in Southern Kootenay an American sentiment and a desire for closer reciprocal relations with the United States, a feeling which to some extent is imparted to the British element. However, a majority of the business men and property owners are either Canadian or old country people and are gradually obtaining the ascendancy with a corresponding change in sentiment. The advent of the C.P.R. and the establishing of regular communication with the Canadian side has materially altered the commercial aspect, and at least four-fifths of the trade is with British Columbia and eastern Canada, and with the still more direct railway communication in the near future trade will be almost entirely carried on through Canadian channels. As the country is becoming known in the east and in Great Britain, Canadian and British capitalists are coming in more and more and daily records in the newspapers are being made of their

investments in mines and otherwise. While, however, THE COMMERCIAL is a Canadian paper, devoted to Canadian interests and upholding Canadian sentiment, there is not a word derogatory to be said of the Americans who have come in here. They have proved themselves to be an intelligent, moral and enterprising class of citizens, and to them is deserving a large share of credit for the progress in and development of West Kootenay, nor are they to be abused for their natural political and national leanings. There existed largely and still exists a feeling that Canadians were slow, unprogressive and altogether not the "men for Galway." They seemed to know little and care less for the district or the interests involved. This of course is a misapprehension of the true character of the people of the Dominion as a whole. Kootenay, besides, has been isolated up until the last year or two from the rest of the province and Canada. Canadians are not instinctively a mining people, as the Americans immediately south are, and hence did not so quickly recognize the value of the mining resources or appreciate the same, largely from a lack of knowledge and information respecting them. Americans, on the other hand, already interested in silver, lead and copper mines in a country of similar mineral formation and in proximity very naturally came through the Kootenay valley from the Cour d'Alene and other contiguous mines and became the pioneers; but it only requires a few years to demonstrate that the people of Canada and Great Britain are quite equal to the opportunities which the Kootenay country afford. Already they are taking a strong hold vigorously. In fact, when it comes to that, many of those who came in from the American side are Canadian born, and a very large element of the enterprising population of the whole U.S. Pacific coast is Canadian, and their progress has been remarkable.

LAST YEAR'S MINING RECORD.

The following is a statement of transactions for the year 1891 in West Kootenay government recording office:—

Revelstoke:	
Locations	73
Assessment certificates	25
Nelson:	
Locations	416
Assessment certificates	75
Transfers	251
Trail Creek:	
Locations	57
Assessment certificates	33
Transfers	46
Ainsworth:	
Locations	304
Assessment certificates	113
Transfers	170
Goat River: (no returns)	
Summary:	
Locations	933
Assessment certificates	246
Transfers	470

Remarking on the above the Gold Commissioner says: "Development work, in the sense of work to prove and not merely to hold the mine has not been lacking, though no mine in the district is, as yet, fully worked with adequate capital and labour invested in the hope of realizing dividends, but the offers made and high prices paid, or agreed to be paid, for promising prospects, together with the steady work undertaken by claim owners, on their own well known claims, in the Toad Mountain, Ainsworth, Trail, Goat River and Illecillewaet camps, indicate that there soon will be in the district mines worked systematically on a large scale, some of which, no doubt, will become dividend paying properties."

GOAT RIVER.

Considerable attention has been directed to the twenty or thirty mineral claims which have been located in the vicinity of Great River and Duck Creek, tributaries to Kootenay River, in the Goat River district. The ore, so far, does not appear to be high grade, but is in sufficient quality to be regarded as promising. An American company promises to undertake development work on some of their claims in this locality during the ensuing season.—Government Report, 1891.)

ILLECILLEWAET.

"At Illecillewaet, the only continuous work is upon the Lanark claim, which is the property of the Lanark Consolidated Mining and Smelting Company. Their work, it is confidently expected, will be successful, and have the effect of aiding the progress of this valuable, well-placed camp, toward which attention is again directed. Several claims have been located along the upper waters of Fish Creek, above the Falls. Some of the prospectors who have been across the divide in the neighborhood of Trout Lake, express themselves in favorable terms as to the mineral appearance of parts of the country. It is a part of the Revelstoke division, which may repay further prospecting."—Government Report, 1891.

The Illecillewaet division is one of the most important of the whole Kootenay district, and geographically it has advantages in being easily tributary to the main line of the C. P. R. This group of mines, chiefly contained in the angle between the north and south branches of the Illecillewaet River, is in a very mountainous country. A large number of claims have been located.

Dr. Selwyn describes the mode of occurrence of the ores here as follows: "The argentiferous galena of Illecillewaet occurs chiefly in quartz veins,

cutting a series of black carbonaceous or graphite slaty shales, and thin bedded limestones, often much folded, but showing an average dip of from 35° to 40° to E. N. E. and apparently flattening towards the summits of the mountains. Most of the veins are parallel with the shafefication, though not infrequently passing from one bed plane to another."

"The formation, locally at Illecillewaet, so far as examined, presents commonly a heavy limestone caprock and foot wall of slates—black or dark pyritous slates.

"Iron sulphurets, brightly colored on the surface, form part of the veins and hanging walls.

"The ore usually consists of galena, carbonates of lead and gray copper.

"The gangue of the veins is generally a reddish quartz, which lies in regular veins varying from four to twelve feet in thickness, and is sometimes closely mixed with streaks of pure limestone. The carbonates run through this quartz in streaks from the size of a few inches up to two feet, and generally carry from twenty to forty ounces of silver to the ton, and from 10 to 25 per cent. of lead. Some streaks, however, are found which assay from 100 to 100 ounces to the ton.

"Mixed with these carbonates is the pure galena ore, in pieces varying from an ounces up to a ton in weight, and lying in veins from three to eighteen inches in thickness. This ore, when free from gangue, gives from sixty-five to seventy ounces of silver per ton, and 55 to 60 per cent. of lead.

"The gray copper ore lies in solid veins from four to eighteen inches in thickness, sometimes mixed with galena, and assays from 200 to 800 ounces silver per ton, and from 6 to 30 per cent. of copper. Some of the decayed copper ore of a greenish hue has run as high as 1,800 to 1,900 ounces, and one specimen gave 2,825 ounces per ton.—G. M. Sproat's Report, 1887.

The principal claims are the Lauark, upon which the greatest amount of work has been done. The lode is from 2½ to 5 feet in width of high grade ore; the Maple Leaf, 4½ foot vein, showing silver, gold and lead; the Gladstone, vein 18 to 30 inches, high grade; the Gold Cane, the Corbin and Kennedy; No. 1 and 2, and Dunvegan on Fish Creek. There is a number of others, the indications in all of which have been of the most promising character.

Of course, in a description of this kind it is impossible to convey a good general impression of the mining claims, without going into details which would be wearisome and too lengthy. The information presented, however, has been drawn from the most authen-

tic sources, and generally may be relied upon.

TRAIL CREEK.

Trail Creek, on the Columbia river near the boundary, has been attracting attention and shows some remarkably good claims, about 170 in all of which have been recorded, considerable work has been done. The principal claims are Le Roi, Josie, Centre Star, Idaho, No. 1 and St. Eldmo. A shipment of ten tons from Le Roi claim averaged \$86 in silver. Concerning this camp, last year's mining report says: "The camp at Trail Creek has advanced in public favor. The principal leads are of silver-bearing copper ore, yielding also gold. There is also silver-bearing galena ore. The leads are very extensive, and the quality proves to be higher than was at first supposed. About 30 men have been at work in the camp. The Le Roi Mining Co., an active Spokane concern, has an 82 feet shaft, and a tunnel 130 feet. Assessment, and also some development work, has been done on other claims. The size of the leads and the presence of quantities of ore that will pay to 'matte' are encouraging facts. Assays and returns have been satisfactory."

ECONOMIC CONDITIONS.

A General Talk of the Character of the Country.

After we have found the ore and reduced it to bullion, the next great consideration is to sell it, and the state of the market affects the demand for and the value of mines. As is well known, silver, lead and copper are low in price, and likely to be for some time. Smelters are combining to limit the output in the United States, and wealthy mine owners have closed down some of their mines. Mine owners with limited capital are, of course, forced to keep producing to live, but have to content themselves with smaller profits on the output. In the case of lead, there is a duty, not only on lead in bars but on the lead contained in the ores, when classified as lead ores, going into the United States, which is the most profitable market. If the market for lead and silver was rising there would be a decided boom in the sale and development of Kootenay mineral properties. On the other hand if they were low grade they would attract little or no attention at the present time from mining men on the other side. As it is, while the ores so far are unusually rich in silver, that is speaking of argentiferous properties, the value of mines is affected, and capitalists invest with the condition of the market in mind. The lead for the time being, which is usually looked to pay for the cost of treatment, must

remain largely an inoperative factor. This constitutes one of the problems of mining in the Kootenay country.

However, the fortunate fact remains that the ores are rich enough to pay a good profit under present conditions, and upon the future must depend the possible utilization of the lead. It is just possible that a profitable market may be found in England and in the United States as well. The market in silver will of course appreciate again, and if the present agitation for a universal bi-metallic standard of coinage, owing to the high premium on gold, succeeds, although many regard that as highly improbable, it means great things for Kootenay, British Columbia, and the Pacific coast generally. Kootenay would at once jump to the foremost position in the world as a silver producing district.

The scarcity of gold and the present depressed condition of the silver market is leading to and will still further inspire renewed activity in prospecting for gold. The gold belt in Kootenay is limited, though well defined, but not sufficiently developed to determine its importance. A number of prospectors this season are out in quest of placer diggings in the Big Bend country, up the Lardeau and other sections which formerly produced placer gold or where "colors" are known to exist; and with this is included the quest for vein gold or quartz properties. It is premised by many that a rich gold belt exists north of the present Sloean properties and it is confidentially expected that the next big finds will be in that direction. That is, however, speculative. A good deal of confidence is expressed in the future of the gold belt on Toad Mountain and the reserve of the owners regarding the Poorman Mine, which is the best representative of its class there, is reported as significant of important developments in the near future. Gold, at present, is the acme of the miners' hopes, notwithstanding that West Kootenay is, speaking widely, distinctly an argentiferous property.

ADVERTISING THE RESOURCES.

So far, beyond the articles that appear from time to time in the press at home and the individual efforts made by mine owners, government reports and the excellent treatises of Dr. Dawson, little has been done in the way of systematic advertisement of the country's mineral resources. The first step in this direction was the sending of mineral exhibits to the eastern fairs two successive years, one of which was sent to London, England, and the other placed in the Canadian Institute, Toronto. So far as Eastern Canada is concerned, this was practically the first that was known of Kootenay's mineral riches, and was instrumental

in attracting a great deal of attention, not only through the press, but individually. There is now a widespread interest manifested among capitalists, a number of whom during the past and present year have made visits to the mining districts, or taken stock in mining companies. Exhibits are now being prepared for the World's Fair and the Imperial Institute, London, England.

This issue of THE COMMERCIAL will be the first succinct as well as comprehensive review of the West Kootenay district, in popular form, yet published, and will reach thousands of readers of the mercantile and financial class on this and the European continent.

WHAT THE COUNTRY WANTS.

Primarily, of course, railways, roads and navigation are the sinews of a mining country, or to use a simile that would be more appropriate, they are what arteries and veins are to the human body. These, of course, are coming as fast as the country justifies it. People in a new country are always impatient in these matters. But when we consider that the West Kootenay is practically only five or six years old the development already made is really wonderful. Governments and large corporations proverbially move slowly, but in truth after all, what they have done here cannot be quoted as a fair illustration of the correctness of the saying, and the indications are that in a year or two the district will be as well off for means of communication as any known mining region.

The "sinews of war" are of course capital to develop the mines. That is coming in fairly well, but practical, level-headed experienced men with money are required, not to buy real estate or speculate but to carry on the business of the country—to mine. The field is a grand one. Come anyway and see, is good advice. The chances of investment in all lines are excellent for the right man.

Prospectors and miners are not specially invited because they naturally gravitate to the mining fields and will get there anyway.

One requires to be careful in giving advice, to laborers and mechanics. A country may be good for a certain number, who can be steadily and profitably employed, but if everyone rushes in seeking employment the market is glutted and depression follows. The supply is usually equal to the demand and a laborer or mechanic must always take chances. At the present time no honest, willing man seems to be suffering, but there are plenty for jobs.

For clerks, book-keepers, and that class of settlers who are looking for

gilt-edge occupations or money to turn up in some mysterious way the country has hung out a card labelled "Not Wanted." Not that the polite occupations are absent, but where one position is vacant there are many applicants. If a clerk or book-keeper or even a gentleman of no occupation with education and adaptability about him is willing to turn his hand to anything and be prepared to rough it if necessary by working on street contracts, or doing anything else that may offer, he may prove himself a useful man and make a success of it finally, as many others have done; but if he be afraid to soil his hands, and regards labor as dishonorable and degrading, he had better remain where he is and exist on dignity and good manners.

There is, too, a danger of overstocking the country with traders and business men. Just now there are plenty of merchants and traders for the business done. It is true that wherever one goes we find the merchants doing a good trade and handling a wonderful lot of goods. It is surprising how substantial the business men are for a new country, and the amount of the "turn-over." It would be difficult, as a class, to find better or more well-to-do business men anywhere; but at this season they are in the hey-day of their success, and by-and-by the winter comes when the district is shut off from the world and business, figuratively speaking, hibernates. It requires large transactions and good profits while it lasts to even up on the whole year. The trader in the Kootenay country wants considerable capital, because it is necessary to carry a large stock of goods to carry him over the long period between shipments and to cover the demand for the goods necessary in a general store, which are nameless in variety. It is a country, too, where plenty of cash is required. Everybody being comparative strangers to each other, nobody trusts his neighbor too far, which is wise in any country. There is, therefore, little room at the present for new business or more business men. As the country develops the population will naturally create not only new business, but a complexity of business. How fast the country will grow, or to what extent it will develop, is just what the new arrival must take chances on.

THE TIMBER IN KOOTENAY.

The trees of West Kootenay comprise the following, which, it will be observed, include varieties not found in any quantity in the arid region, or zone, that lies between the highlands of Kootenay and the coast region:—

Douglas Fir, or more correctly Spruce; White Fir; Bull or Jack, or Black Pine; White, or Mountain, Pine; White Spruce; Cedar; Cottonwood; Balsam of Oleander; Tamarac;

White Birch; a few Black Birch; Alder; Vine Maple; some Vew; Hemlock; Balsam Fir; Yellow Pine. (P. Ponderosa).

The varieties of commercial value are the Douglas and white fir, white pine, white spruce, cedar, tamarac, hemlock, balsam and yellow pine. The whole district of West Kootenay may be said to be wooded, but the surface is so broken and so much of the timber has been destroyed by fires that it is doubtful if there will be any great continuous lumber trade from this district to points beyond the province, unless the market price should rule high. Old journals of the Hudson's Bay Co.'s officers describe large forests along the beautiful and extensive Arrow Lakes where, now, unless perhaps, on back benches or uplands difficult of access, there is comparatively little saw-milling timber to be got. An abundant supply of timber, chiefly balsam, is found at an elevation of 4,000 or 5,000 feet, where some of the best mines are. It has been noticed that there are many more kinds of trees on the Selkirk range and its spurs than on the Rocky Mountains. As on the coast, the red cedar is one of the most useful of woods.

AGRICULTURALLY.

It is hardly necessary to inform readers that West Kootenay is not an agricultural country. From Revelstoke to the boundary, embracing the Arrow and Kootenay Lakes, and the Columbia and Kootenay rivers, with the exception of about 50,000 acres comprised in the Kootenay reclamation scheme, there are only scattered stretches of bottom lands along the rivers and patches at the mouths of creeks, which in time no doubt will become a producing area. In the aggregate it will be considerable, probably fifty thousand acres altogether. A good deal of it is covered with water at certain seasons, but could be easily dyked. The demand for vegetables, fruit and garden stuff generally, by the increase in population will ultimately cause it all to be reclaimed and brought into cultivation. Nothing is known of the fruit-growing capabilities of the several valleys hereinbefore described, because no experiments have been made to prove them, but general meteorological conditions are favorable and the area of bench lands that might be made available are very considerable.

One thing thing that might be done, which would at least add to the desirability and some to the agricultural importance of the district, would be the sowing of grass seeds on the low lying lands and on the benches (or low sloping hill sides) many of which are suitable, with little expense, to become grazing ranges of unlimited extent for the purpose of pasturing stock during

the summer season. Grass grows readily wherever sown, and as there is considerable precipitation all along the lakes and rivers of the southern valleys, which are not within the dry belt, grass as pasture would do well. If nothing more, it would greatly improve the appearance of the country.

THE KOOTENAY RECLAMATION SCHEME.

By far the most important tract of agricultural land in the whole country is that embraced in what is known as the Kootenay reclamation scheme.

The lower Kootenay bottom lands begin near Bonner's Ferry in the United States territory, about 93 miles from Kootenay Lake, 33 miles of which are in Canadian territory, so that the greater part of them are in the United States. Judge Sprout says the valley was formerly an extension of Kootenay Lake made into land by the material brought down by the Kootenay River, and which is still forming. The bottoms are hardening. The Indians formerly used side hill trails to get to the lake. They now use trails that run along the bottoms. The valley is from three to five miles on an average between the side hills, which are from 1000 to 2000 feet above the surface; those on the west side inferior for pasture and scantily timbered; those on the east side lower and less regular and not retiring to high mountains, with grassy slopes. The east hill side affords a considerable but not connected area of fertile land, being heavy clay and sandy loam suitable for the growth of the ordinary cereals. Experiments in farming have been successful. Cattle graze alternately on the side hills and bottoms. Judge Sprout in his 1884 report says: "I would class these wooded fine grass east-side hills within our territory as a third class stock range for limited bands."

Speaking of the bottom lands, Mr. Sprout speaks of them as follows: "Every acre of these fertile lands, if completely reclaimed, would at once be applied for by the best class of settlers, as there is little doubt that all the cereals and the ordinary root crops and vegetables would grow well and ripen if early sown or planted." The same gentleman speaks hopefully of the prospects of dairying.

This tract of land is what is included in the Kootenay reclamation scheme. Its importance as an agricultural feeder for the Kootenay Lake district can hardly be over estimated, and will be to that country what the Fraser Valley is to the coast.

It is described in the *Victoria Colonist* of March 30th, 1892, as follows:

"Between Heddlington, on the international boundary line, and the mouth of Kootenay Lake, the Kootenay River flows through a valley, ranging from three to five miles in width, manured in richness and fertility by any lands in the province. Unfortunately, the banks of

the river are insufficiently high to retain the volume of the flood waters during the spring freshets. Annually, during the months of April and May, flood waters from the adjacent mountains fill up the river channel, overflowing its banks, and converting the valley into a temporary lake. As this is the period for tillage and sowing, agriculture has up to the present been practically at a standstill. Recently an effort was made to reclaim this valuable tract of land by enlarging the outlet of the lake some few miles below Nelson, the assumption being that a wider outlet would give a greater discharge to the flood waters of the lake, and as a consequence allow the flood waters of the river to discharge freely into the lake without overflowing its banks. Considerable money has been spent in carrying out this idea, but the object aimed at has not been obtained, even in the slightest degree. To anyone versed in hydraulics this result would have been a foregone conclusion, as it is self-evident that to obtain an increased discharge from a body of still water, like a lake discharging through a long river, the gradient, or fall of the river's bed must be increased. With an increase of fall the velocity of flow will be increased, and with increased velocity must be increased discharge. Widening the mouth of the river, without increasing its fall, will merely increase the lake's area.

The Alberta and R.C. Exploration Company, of London, England, (whose resident manager is Mr. G. Alexander, of Calgary, one of the promoters of the project) some few months ago secured the services of Mr. G. A. Keefe, M. Inst. C.E., of this city, to report on the works, so far as carried out, and to outline a scheme by which the object desired might be obtained.

Mr. Keefe's opinion was that the reclamation of the valley could more readily and economically be accomplished by dyking the banks of the river, and, acting on his report, the company are about to energetically carry out his recommendations.

The machinery for a powerful drag dredge, capable of excavating 1,200 cubic yards per day, has been constructed by Messrs. Beatty & Co., of Welland, Ont., and is now on the way to the works. The hull of the dredge, as also a house large for the officers and men, has been under way at the mills of Messrs. Soutter & Co. for some time past. Work will be commenced at the international boundary about the 15th of April, and will be prosecuted day and night. The magnitude of this undertaking can be understood, from the fact that 7 miles of dyke, six feet wide on top and averaging eight feet high, will be required. It is estimated that the work cannot be completed before the middle of 1897, a period of five years.

The superintendent is Mr. F. U. Little, late superintendent of the Matagorda Works, and Messrs. Keefe and Smith, of this city. In the hands of these gentlemen, a successful result can be confidently looked for."

[This refers to the Baillie-Grohman scheme of reclamation.—Ed.]

Two objections have been urged towards this scheme, first that seepage will occur and render the dyking futile; second, that if reclaimed, irrigation will be necessary and that the facilities for that are too limited. Local opinion is opposed to the second objection, and the fact that the irrigation is not necessary on the side hills, would seem to be conclusive. As to the first the engineers in charge should be the best authority and both are gentlemen of high standing in their profession. Regarding that point Mr. H. B. Smith, C.E., in an interview with the *Victoria Times* of a recent date says:

"The erection of that dyke will reclaim 47,000 acres of the finest land in the world. It is a perfect Garden of Eden. It is the most perfect stretch of loam ever seen anywhere and is practically bottomless, inexhaustible. A rich, fat soil, the very cream of farming land. Now, to show you that it is not a quagmire or peat masses or anything else but splendid farming land, the excavation in which the dredge was built is ten feet deep, surrounded with water within a few feet of the edge. Yet the bottom of the excavation is only damp and the water has been standing around the excavation for weeks. That should surely settle the statement that has been made about the land being only a 'swamp or quicksand.'"

THE INDIANS OF THE KOOTENAY.

Mr. A. S. Farwell in his report to the Provincial Government in 1883, says:

"From the most reliable resources, I gather the Kootenay tribe of Indians number about 4000 men, women and children, and are divided approximately as follows:—450 British Indians, domiciled north of the international boundary line, and 200 American Indians residing in Idaho and Montana territories; the remaining 1500 Indians are migratory, receiving their share of the annuities paid by the United States Government, at its agency on the Jocko River, in the Flathead reservation, Montana territory and claiming to be British Indians when they wander north of the boundary."

"Of the 450 British Indians, 100 claim the lower Kootenay as their country, from the boundary line, down

Kootenay River and through Kootenay Lake and its tributaries. The remaining 350 Indians consider the land along the Upper Kootenay River, from the boundary line at Tobacco Plains northward to the Lower Columbia Lake as theirs. The majority of these Upper Kootenays winter at St. Mary's Mission."

The Lower Kootenay Indians are the only Indians in West Kootenay district. They formerly lived about Sprout and the Kootenay mouth, a little band who hunted up the Columbia and Slocan. These were of the same "nation" as the Colville Indians (now in the United States) and they assembled about the Hudson's Bay Co. post at Fort Shephard; on the abandonment of that post they went to Colville and are not now counted as British Columbia Indians by the Canadian Government. The Lower Kootenay Indians are not nearly so highly civilized as the Upper Kootenays. "They are," Mr. Farwell goes on to say, "indolent, poor, badly clothed and badly armed. They have no houses, and live summer and winter, in 'lodges' constructed of poles covered with mats or hides. In former years they were supplied with seeds of different kinds, and they made efforts to raise potatoes, wheat, etc., but the uncertainty of securing their crops through the flooding of the country so thoroughly disheartened them that they gave up in disgust. They also possessed quite a number of houses and cattle, but have become greatly reduced, the result of gambling. Concerning this tendency which is more or less characteristic of all Indians in British Columbia." Mr. Sprout tells the following:

"On one occasion, when encamped on the Kootenay bottoms, between Kootenay Lake and Bonner's Ferry, an Indian rode up, naked, but for a breech clout, and with a lid of rope for a bridle. He sprang from his horse and offered his hand with a grand air. He had passed up the valley four days previously on a fine horse, with an expensive saddle and equipment, silver spurs, a \$50 suit of store clothes and \$200 in his pocket. Having staked and lost everything, he borrowed a pony and a breech clout, and was on his way home. Had an artist seen him he would have a good subject for 'before' and 'after.'"

A great many of these Indians formerly wintered on Goat River, about nine miles north of the boundary. They run their stock in the winter on Goat River and between McLaughlin's and Jerome Creek. As the summer advances and the water recedes, the Indians move down the river and fish and take their stock with them.

Bancroft describes these Indians as the "Gulle Kootenays." In appearance they resemble the plain Indians of the Northwest rather than the typical Siwash of British Columbia.

FISHING.

Kootenay is, par excellence, the country for fishing. Fish abound in all the waters of the valleys described, the Arrow Lakes, Kootenay River and the Kootenay lakes. These are caught by trolling, with the rod and line and any other way that fish are caught. Fly fishing in the season of low water during July and August is said to be a

delight. Perhaps the best locality is along the Kootenay from Robson to Nelson just below the several falls. The C. P. R. has established a number of fishing stations along here, where accommodation, fishing tackle, etc., are supplied to tourists at a merely nominal rental, and where fish to no end may be caught. As has been remarked elsewhere fish are so plentiful at times as to almost cease to be sport.

The most common fish taken are lake and mountain trout, and land locked salmon. The trout range all the way from one to ten and fifteen pounds, and of delicious flavor. Salmon, said to be overgrown trout, weigh from fifteen to twenty pounds, and are caught in large numbers by the Indians.

There is also a species of sturgeon found in the Kootenay Lake and, it is said, species of white fish and fresh water cod, but of the latter two the writer has nothing authoritative to offer. There is another species known as "squaw fish," rather coarse and eaten by the Indians only. One of these caught in Pilot Bay weighed about ten pounds. It is also stated, apparently on good authority, that a little red fish appears in a heavy run during the summer months for a few days, ascending the mountain streams in great numbers and disappears again, without being seen at any time until the next run the following year. Nothing appears to be known of them, except the peculiarity noted.

Added to the delightfully picturesque scenery, the beautiful water stretches and the exhilarating atmospheric conditions, the fiscal wealth of the Kootenay waters constitute the district an enchanting tourist resort, already being frequented, but destined to be very popular in a year or two. Of British Columbia's many attractions in this respect, this lake and mountain region holds a full hand.

GAME.

If sport, which partakes a little of the adventurous and toilsome, be the only sport worth the while as Englishmen claim, then here again West Kootenay supplies its quota.

This part of the Province not having been hunted as freely as others better known and more frequented, there is no available data for an exact list of animals and birds, but generally speaking, deer are abundant, especially along the Columbia and its lake expansions; grizzly and black bear are plentiful, the former being more remote, mountain sheep and goats on the mountains further back and a few wolves.

Of the feathered tribe, geese, duck, grouse and loons are well represented.

CLIMATE.

West Kootenay, as has already been stated, is not in the "dry" belt, which

is at once evident from the appearance of the vegetation all along the valleys. The rain fall at Revelstoke and the Upper Arrow Lake is considerable, but decreases as you go south and the atmosphere becomes less humid until it becomes as Dr. Dawson puts it "rather dry". Local conditions, however, vary with a corresponding effect on the climate. The extensive bodies of water in valleys enclosed and sheltered by steep high mountains on either side, opening to the south, draw in the warm air and hence have an effect not observable on the wide plateaus. On the whole the climate is healthful and less severe than is generally supposed. In fact, salubrity is a distinguishing feature. In summer, the heat is not excessive, though as a rule it is warm with cool evenings. The exception is the month of June, which is usually cool with more or less rainfall. In winter it is cold, with a snowfall varying from one to two feet. The deep waters of the main lakes never freeze so as to impede navigation, while the shallower waters in the rivers and smaller lakes either take on a fairly thick coating of ice or crust in places, with occasionally jams. Therefore, any system of railway communication connecting with the larger lakes would give uninterrupted service during the entire year.

There is no exact meteorological data to go by, but the residents of one or more year's standing describe the climate as at no season of the year severe and generally pleasant and agreeable, that is, the cold in winter is exceedingly bearable, inviting no hardships or discomforts, while the summers are not excessively hot—a district, in other words, the climate of which is not against it.

Judge Sproat supplies the following in his report of 1884 in regard to the Kootenay bottoms: "Cold in winter—sometimes for a day or two 25 to 30 below zero, but frequent thaws, snow not dry, rather wetfish. February, the coldest month, Mornings always frosty until May 1st; occasional light night frosts until 10th or 20th May, which, however, do not hurt crops; very little rain, rain clouds lift up, seem to pass over; very heavy dews, particularly latter part June and July and continuing up to the occurrence of frost; first frost, first week in September; weather in most years tends to become unsettled and raining about middle of October, but some 'falls' are dry and the beginning of winter late." On the Arrow Lakes and Columbia south of them the climate resembles that of the Kootenay bottoms.

Seasons vary, and therefore it is impossible to give exact dates for the opening and closing of navigation. The ice disappears from about the first to the

middle of April, and forms again from about the middle of November to the middle of December.

NAVIGABLENESS OF LAKES AND RIVERS.

In the following will be found an approximate statement of distances of navigable lakes and rivers.

The Columbia River in British Columbia territory is navigable for light draft side-wheel steamers 230 miles, as follows:

Boundary to Rebec 3 miles, Nelson to Lower Arrow Lake 11, through Lower Arrow Lake 60, to Upper Arrow Lake 17, through Upper Arrow Lake 40, to Leath Rapids 20, a total of 230 miles.

It is found that estimates of distances on all these water ways differ, but are given approximately.

The trip to Little Dalles from Robson, on the steamer Columbia, is a delightful one. Going down the current is very swift, and the steamer makes very quick time.

Peyond Death Rapids to Boat Encampment 20 miles is navigable.

The Kootenay River from Nelson to Robson is not navigable on account of the falls.

The Kootenay River from Bonner's Ferry to Kootenay Lake is navigable for any sized steamers for 93 miles; the Kootenay Lake 65 and the West Arm 20 miles, a total of 158 miles.

The Kootenay River from the United States boundary to Tobacco Plains is navigable at seasons for suitable steamers 100 miles; the Upper Kootenay Lake 20, Sloean Lake about 25, making a total of navigable waters in the foregoing of about 550 miles.

At the present time these waterways are of great economic importance, as will be readily seen and understood.

EAST KOOTENAY.

A Brief Description of this promising District.

Though strictly speaking not within the limits of the territory intended to be described, some mention of East Kootenay, which is the "companion piece" of West Kootenay, can scarcely be omitted. West Kootenay, on account of the richness of the mineral find and its greater accessibility has come more rapidly to the front recently, although East Kootenay has been longer and better known. However, the writer is willing to risk a prediction that the next mining excitement and movement will be in East Kootenay. The selection of the Crow's Nest Pass route for a short line of the C. P. R. and the undoubted undertaking of the branch roads and other lines within a few years, will effect a marvellous change in its condition.

East Kootenay is, speaking generally, more of a pastoral country and less of a mining country than West Kootenay, though exceptionally promising in the latter respect as well.

It contains a valley 300 miles long, from the boundary to the apex of the Kootenay triangle, with an average width of 8 to 10 miles, in the centre of which is enclosed the mother lakes of the Columbia 2850 feet above sea level. The Columbia flows north from these and the Kootenay south through the valley. "It is," says Judge Sprout's report, "one of the prettiest and most favored valleys in the province, having good grass and soil, a fine climate, established mines and promising mines, excellent waterways and an easy surface for road making. Its chief navigable waterway leads to a station of the Canadian Pacific Railway.

Nearly the whole of the area of the valley described is a bunch grass country, affording excellent grazing. The grass country is 250 miles long of an average width of five miles, besides a number of lateral valleys of more limited extent.

It might be safe to say that the whole of the valley is fertile, though except in a few places its agricultural abilities have not been tested. It lies within the dry belt and irrigation will doubtless be necessary over the greatest portion of it. The atmosphere is clear and dry and the snowfall in winter light, but in a district so extended climatic conditions vary considerably from local causes.

The country is more thinly wooded than the West Kootenay district, and affords admirable opportunities for fishing and hunting, being a sportsman's Eldorado.

MINERAL RESOURCES.

Mr. Cummins, gold commissioner for East Kootenay, in his report for 1890, admirably summarises the record of mining development up to that time, extracts from which are appended.

"Although systematic prospecting can hardly be said to have commenced, experienced and successful mining men, who saw the development of the Cœur d'Alene and other rich mineral districts to the south, and who visited this district during the past summer, unhesitatingly state that the prospects they have seen in East Kootenay, and the extent of the mineral discoveries, promised better for the future than had been the case in any district to the south, at a similar stage in their development.

The opinion of the best authorities who have reported on the minerals of British Columbia agree that the mineral zones and belts, which have been clearly defined in the various ranges in the United States to the south, extend regularly into British Columbia.

"The mineral belts of the Selkirk Range in Kootenay are direct extensions of those of the most prosperous districts of Idaho and Western Montana immediately south on the same range. The only difference between these districts are found to be identical with the West Kootenay and their occurrence similar.

"The portion of the district in which prospecting has been so far most active lies south of the Canadian Pacific Railway, extending up the Columbia valley to the Columbia lakes, in the ranges lying on both sides of the river, the Selkirk Range to the west, and the Brisco, Stamford and Hughes Ranges of the Rockies proper to the east, the latter exposing (according to Dawson) the limestone formations of the Devonian and carboniferous periods. The eastern slope of the Selkirk have not been examined by a competent geologist, but it may be safe to state that the formation is composed chiefly of the metamorphic slate and other rocks of an older period, with beds and intrusions of igneous rocks. The contact between the more recent limestones of the Rockies and the older formation of the Selkirk lying in a northwesterly and southeasterly direction along the Columbia valley, crosses into the Hughes Range on reaching the Kootenay river.

"The mineral of the district, as far as at present ascertained, lies in two main belts. The mineral at Ottetwall and Field, in the Rockies, appears to be local, no continuation of large extent having been traced. The first of these belts commences in the Selkirk range, at the head of the North Fork of the Spillenechen River, near Mount

Sir Donald, and runs thence in a southeasterly direction on the easterly slope of the Selkirk, passing through the McMurdo District, including Cariboo Basin, Carbonate Basin, and cutting McMurdo Creek, Copper Creek, Vermont Creek, Horse Thief Creek, Toly Creek, etc., gradually approaching the Columbia valley and passing into the Rockies to the south of the Columbia lakes.

"The minerals discovered up to the present in this belt are gold in sulphurets (free in milling, in the surface), silver-bearing galena and grey copper, antimony, bismuth and other minerals occurring casually. The formation in the immediate neighborhood is generally slate, with frequent dikes of syenites, mica schists and various granitic rocks, also true porphyry in certain localities.

"The minerals of this belt are high grade, especially the grey copper and antimonial copper ores, assays as high as 102½ oz. to the ton having been obtained. Test lots of ore, amounting to about 50 tons, shipped last season from the neighborhood of Vermont Creek, gave excellent results.

"The second important belt, mentioned above, runs about parallel to the Selkirk mineral belt, generally in the limestones and quartzites or close to their contact with the slates (Cambrian) of the Selkirk formation, along the valley of the Columbia southwards, crossing the valley and passing into the Rockies near the Columbia lakes. The discoveries in this belt are probably some of the most important in the district, though less continuous than those of the Selkirk belt, viz.: Jubilee Mountain, Spillenechen Mountain, Steamboat Butte, Windermere Mountain, and various promising discoveries of copper ore in the Hughes Range, east of the Kootenay River. The bulk of the ore so far extracted is of copper and lead, carrying silver. Some high assays in silver and gold have been obtained, principally from Jubilee Mountain.

"The third discovery, of which the 'Monarch' mine is the most important, also those in the neighborhood of Ottetwall, both quite close to the Canadian Pacific Railway in the Rockies, would appear to be more local in their character, no continuous belts having been traced for any considerable distance.

"The region down the Columbia to Canoe River, north of the railroad, has not yet been prospected for quartz.

COMMUNICATIONS OF THIS DISTRICT.

"The Columbia and Kootenay valleys are exceptionally favored by their topography for transportation purposes. The present communication of the district is effected with the Kootenay main line of steamers plying from Golden Station, on the Canadian Pacific Railway, southwards for 120 miles to the Columbia lakes; thence the Government wagon road carries the traffic to Fort Steele and Cranbrook in the southern portion of the district. This road has likewise been extended northward from the lakes down the Columbia valley to within twenty-five miles of Golden, and it is expected to complete the wagon communication with the railroad at that place next summer.

"The mines are at present reached by pack trails up the various creeks branching from the main line of transportation. As the mines develop, a trunk line of railway will be constructed, the terminus of which is the Kootenay River, to join the projected Crow's Nest road in the southern portion of the district; the mines being reached by branch mineral lines and wagon roads up the creeks.

CLAIMS IN THIS DISTRICT.

"The 'Monarch' mine, situated on Mount Stephen, near the summit of the divide, is a quarter of a mile in length and at an elevation of 850 feet above the Canadian Pacific track, is at present the only fully equipped working mine in the district.

"The shipping ore averages 60 per cent. lead with 87½ oz. of silver to the ton. The ore occurs in somewhat irregular chambers, pockets and other deposits in the limestone, with but little gangue, and seems abundant. It is expected that the mineral will be in more regular form and even greater bulk than has been developed in the mountain has been reached. The mine was discovered in 1884.

"In the north side of the Middle Fork of the Spillenechen, or McMurdo Creek, a number of claims show good croppings have been located.

"On the south side of McMurdo Creek, has many important claims. Messrs. Hand Bros., of Vancouver, on behalf of English capitalists purchased a property of ten claims in the fall of 1889, to which they have added other locations. The most important of these prospects, showing on the surface, occur on the 'Monitor,' 'Southern Cross' and 'Polly Brown' claims. The previous development done on these claims was unimportant. The vein can be traced continuously along the whole length of the property, extending from McMurdo Creek along the summit of Carbonate Mountain into Copper Creek. This main lead, like most of the mineral in the belt, runs in a south-easterly and north-westerly direction, lying almost vertically between the slate, mica schist and granitic rock. The width of the vein on the surface is estimated as varying in width from 2 to 6 feet, fairly well mineralized. The ore of the croppings is comprised of sulphides of lead, iron, and antimony, averaging about 50 oz. to the ton of silver.

"About three miles further up McMurdo Creek from the above line of claims, near the summit of the range, a number of claims have been located. The 'Hobby Burns' contains a large vein of gold quartz, free milling on the surface. Gold is also visible in some of the surface rocks, and assays of 35 oz. of gold have been obtained. The 'Chief of the Selkirk' and adjoining claims at the summit contain galena and grey copper ore.

"Continuing eastward from the Carbonate Mountain claims, between Copper Creek and the South Fork of the Spillenechen, several claims have been located. These are favorably reported on. Also on the southern slope of this divide, running up to Vermont Creek.

"On the south side of Vermont Creek, near its junction with the South Fork, a block of claims, discovered in the summer of 1889, contain a number of veins of galena and grey copper, about ten in number, varying in width from 2 to 12 inches to the surface. It is considered that these veins will in some cases run together

The ore was pronounced to be of excellent quality at Revelstoke, and paid a handsome profit.

"Good prospects have been located, further south, on Crystal Creek and Hugaboo Creek in the same belt near Horse Thief Creek, Toly Creek, very promising new discoveries were made last season and a number of claims recorded. Assays from 20 to 50 per cent. of copper and 20 to 100 oz. of silver have been made. Several other good copper prospects have been located on this creek.

"New discoveries, stated to be large veins, containing high grade galena, are also reported from about 20 miles up Toly Creek.

"Jubilee Mountain, situated about 42 miles up the Columbia River from Golden, the Canadian Pacific Railway, has mineral claims located along its ridge and western slope for a distance of over four miles. A large amount of work has been done on this mountain for several years back. Copper glance and carbonates of very fine quality, averaging 50 per cent. copper, were shipped from the 'Lancaster' claim. A good body of silver-bearing galena ore has been opened up on the 'Constance.'

"A considerable amount of work has been done on various claims on Spillenechen Mountain during the past few years. The result of other prospecting work recently done on the mountain have been very favourable; a large quantity of ore has been taken out.

"Windermere Mountain, situated about four miles north of Windermere, on the Lower Columbia Lake, has been drawing much attention during last summer. Mr. O. A. Brown, of Spokane, became interested in claims on this mountain in July last, and has been actively developing with excellent results, having exposed a large body of copper glance and carbonates. The ore consists of copper glance, carbonates and red oxides. A large number of assays have been obtained, ranging from 10 to 30 per cent. in copper, and from 83 to 8130 in silver, to the ton. Two principal ore bodies have been cut through, one 18 feet in width, the other 7 feet. There are 14 claims taken up in this locality. Some of these promise to prove valuable.

"In the neighbourhood of Wild Horse Creek some development has been done on a galena ledge about three miles above the old camp. It would appear that a large quantity of concentrating ore, carrying silver, has been met with. Prospectors have brought in samples of ore from about 25 miles up Wild Horse Creek, which are stated to have assayed 8225 in gold, silver and copper. The discovery of a new mineral district is reported about 12 miles in a south-easterly direction from Fort Steele. A sample from this locality assayed: gold, 896; silver, 8100; and copper, 12 per cent. One hundred and forty-three new claims have been recorded in the district during 1890."

1891 REPORT.

"Thunder Hill is a large butte situated in the foot hills of the Selkirk Range, near Fawley Creek, and within about one and a half miles of the Upper Columbia Lake, on which a number of claims have been located. This discovery was made by Mr. James Brady, M. E., in 1884. During the latter part of last summer Mr. Brady formed a company, registered as the Thunder Hill Mining Company, Limited, of Victoria, to test and operate his claims. The lead is of exceedingly large dimensions, running in a northerly and southerly direction. The country rock of the locality appears to be generally Cambrian slate."

Vast deposits of coal exist in Crow's Nest Pass. Petroleum fields have been discovered in the eastern corner of the district.

One hundred and thirty-eight new claims were recorded in 1891, and 253 free miners' certificates issued.

A smelter has been erected at Golden with a capacity of 50 tons a day, with a roaster of 12 to 15 tons capacity. It is proposed to add a copper furnace and desilvering process.

CONCLUSION.

In the foregoing there is contained a review of the resources of Kootenay District, penned impartially and for the purpose of giving the public a reliable and, it is hoped, readable account of the district as a whole, the facts of which are gleaned from only authentic sources and which will be found invaluable to send to those who want to learn more of this wonderful country now being opened up. So much and so complete information about this district has never been published in one volume before, and in this respect this supplementary edition of THE COMMERCIAL concerning Kootenay is unique and is issued with the hope that it will both be useful and appreciated.

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