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UNIVERSITY OF ALBERTA
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(Department of History)

A THESIS

A HISTORY OF MINING
IN THE EAST KOOTENAY DISTRICT OF BRITISH COLUMBIA

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of the

requirements for the degree of

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--By--

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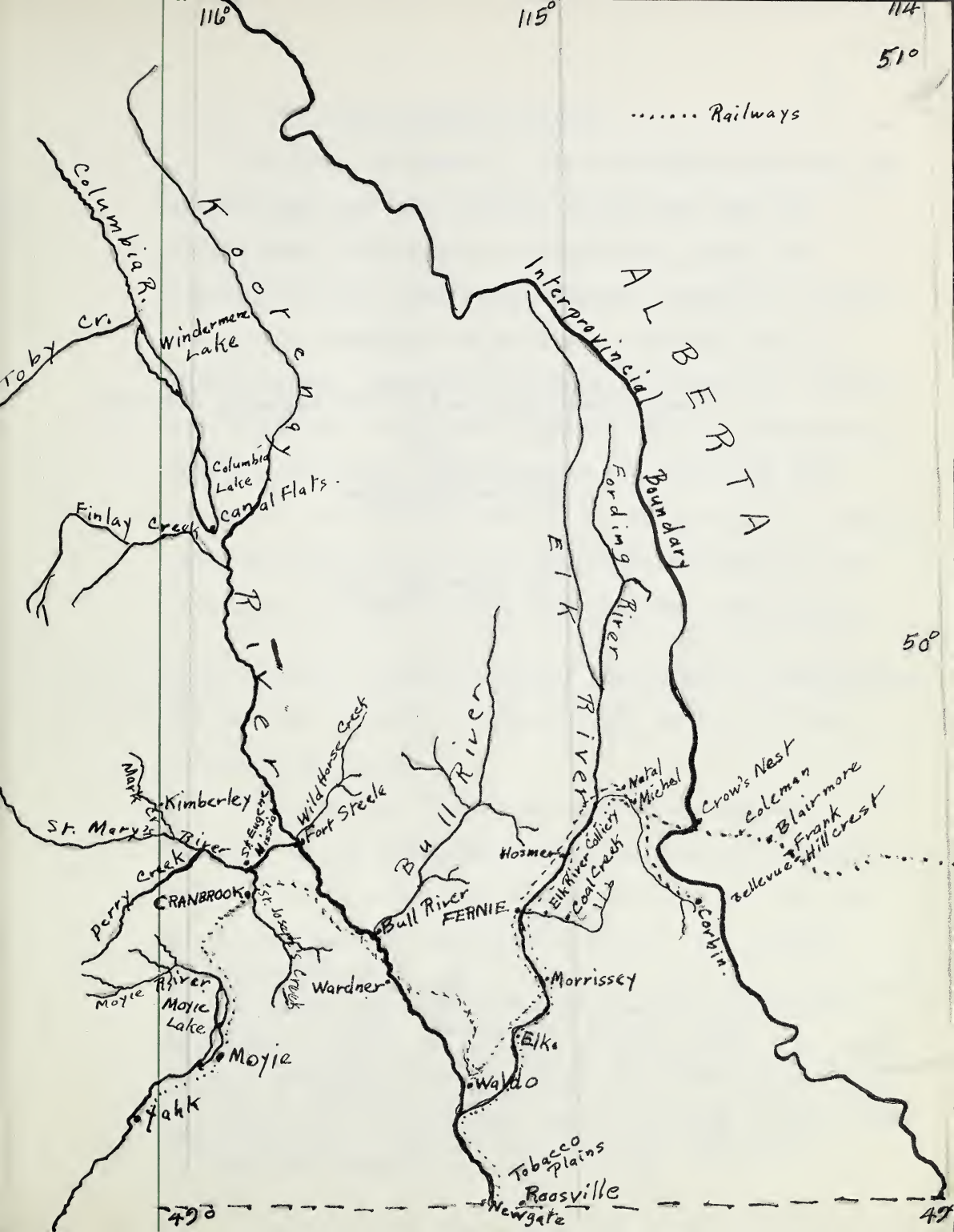
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The Southeastern Part of the Kootenay District
of
British Columbia.

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I. THE KOOTENAY COUNTRY.

The name "Kootenay" is one of obscure meanings and varied spelling. It probably originated from the Indian name "Kootenuga", although many prefer the derivation "Co", water, and "Tinneh", people.(1) Sixty-one ways of spelling the word are extant(2) ranging from Coutanie, Kootanie, Kootenay, Kootonay and Kootanie (3) to Kutunas, Kooenuha, Kutnehas, Kutonas, Goutanies, Cotonoi, Kitunhas, and Kootenuha.(4) Official maps issued by the Surveyor-General of the Dominion Government read "Kootenay" and the United States Government uses "Kootenai" in maps of Idaho and Montana. This would seem authority enough to employ the former in designating the British Columbia portion and the latter for the United States part.

The Kootenay district is roughly an isosceles triangle in the south-east corner of British Columbia with its base on the forty-ninth parallel and its apex at the Big Bend of the Columbia River. The eastern

(1) BAILLIE-GROHMAN, W. A., "Fifteen Years Sport and Life in the Hunting Grounds of Western America and British Columbia," p. 226. Horace Cox, London, 1900.

(2) THRUPP, SYLVIA, "A History of the Cranbrook District in East Kootenay," quoting WHITE, "Handbook of the Indians of Canada," p. 258. Univ. of B. C. thesis, 1929.

(3) These are the spellings used in PALLISER, CAPT. JOHN, "Explorations of British North America 1857-1860."

(4) BAILLIE-GROHMAN, op. cit., p. 226.

boundary, the Rocky Mountains, extends as far as the fifty-second parallel of north latitude and the boundary to the west is the Monashee Range of the Selkirk Mountains which forms the western watershed of the Columbia River. The southern boundary extends from the 114th. to the 118th. meridian of west longitude, along the 49th. parallel, a distance of approximately 180 miles, and the greatest distance north and south is roughly 205 miles. The area of the whole district is 17,290,420 acres.(5)

Lofty mountains, quiet valleys and noble rivers make up the surface features. The triangle is divided into two fairly equal parts by the Purcell Range of the Selkirk Mountains, thus forming the districts of East and West Kootenay. The East Kootenay District, which is the subject of this study, is thus an extensive area comprising the eastern slopes of the Purcell Mountains, the upper portion of the Columbia and Kootenay River Valleys and the western slopes of the Rocky Mountain Range. To the east of the Purcell Range is the Rocky Mountain Trench where the Columbia and

- (5) GOSNELL, R. E., "The Year Book of British Columbia," p. 405, 1914. This author on page 97 of the 1897 Year Book also cites the fact that the Hudson's Bay Trader, Mr. MacKay, preferred the derivation "Co", water, "Tinneh", people.

Kootenay Rivers ~~Valleys~~ find a convenient path for their respective northerly and southerly courses. The latter rises in the lofty peaks of the Rockies, entering the trench just one and a half miles from the Columbia Lake and flowing southward across the international boundary line. After forming a giant horseshoe in the United States it again crosses the 49th. parallel, widening out into the Kootenay Lake, before flowing westward and southward to become a tributary of the Columbia. It is held by some geologists that the Columbia River for its first hundred miles once flowed southward into the Kootenay.(6) Be that as it may, at the present time Columbia Lake, the source of the Columbia River, is eleven feet lower than the Kootenay and in high water it is quite probable that at one time part of the Kootenay flowed northward through the Rocky Mountain Trench making Windermere Lake deeper than it is at present and the rapids of the Columbia more awe-inspiring than they now are. At the Great Bend the river flows southward for many miles widening into the picturesque Upper and Lower Arrow Lakes, and having received the waters of the Kootenay, the Columbia crosses the boundary line to proceed on its way to the Pacific.

(6) ELLIOTT, T. C., "In the Land of the Kootenai," p. 280. Oregon Historical Quarterly, Vol. XXVII.

These mountains, rivers and lakes all have their influence on the climate. The westerly winds deposit much of their moisture on the higher peaks so that the rainfall varies greatly even in short distances, but drier regions get an abundance of water from the rivers and creeks in this superbly well-drained area and irrigation is easy. In the foothills of the Rockies the snowfall is uncommonly light and below zero weather lasts, as a rule, for only a few days at a time. Generally the weather changes sharply in severity with altitude.

In climate and physical character the East Kootenay is suitable for both grazing and tillage. Cattle can be grazed without undue suffering during the whole of the short winter, except in the upper reaches of the Rockies. Agriculture can be carried on profitably in the river bottoms and bench lands of the Purcells and the foothills of the Rockies. The land is not so fertile as the prairie soil but it is well adapted, with irrigation, to truck farming and fodder crops. The shallowness and stony nature of the soil require fert fertilization as well as careful tillage for these small crops. On the average the grass is abundant and nutritious making it a good ranching country in places where fodder and other small crops cannot be raised. The advent of agricultural

associations, especially in the East Kootenay District, has meant a great improvement in the breed of stock raised. Fernie and Elko have become centres for these associations in recent years and fairs are held periodically. These places have too great an altitude for fruit raising, but just twenty-four miles from Elko is a fertile valley bordering on the international boundary line, where all kinds of apples and small fruits can be grown profitably for sale in the neighboring more populated centres. In general this is true of the whole foothill area, especially in the north near Windermere and Columbia Lakes where the altitude varies from 2600 to 2800 feet above sea level. However, the small scale development heretofore has not sufficed to fill the needs of the local market.

Forests are abundant even after many years of lumbering. Much of the Spruce and White Pine of the higher altitudes near Fernie (3304 feet) has been cut out but the lower lands still have an abundance of Yellow Pine. Cedar posts are still sold to the farmers of the prairies. The halcyon days of the lumberjack with his picturesque vocabulary, his roaring ways, and large bankroll have passed never to return. The large mills, monument to his skill, have been taken

down long since to supply the Japanese with scrap metal. The portable mills saved the Kootenay after the most accessible timber had been cut out and today prosperity has come to the small owner who employs six to fifteen men moving his sphere of operations after two or three years and transporting his equipment to a point where larger timber is more abundant. Roads can be built easily in these bench lands; trucks and driving skill carry the lumber to the nearest railroad station.

Without minerals the agricultural and forest wealth of the area would have been valueless, since by themselves they can support but a meager population and the incentive to development would have been lacking. Though the coal of the Rocky Mountain area is of greatest value from the standpoint of permanent development, the placer gold of the Purcells and the lower reaches of the Rockies was first exploited and has been of greater historical importance. Silver, lead, copper, and zinc stand midway in the story of Kootenay's progress. Phosphate, in the Rockies, doubtless has a future value, but at this date the beds, situated near Fernie, are of such low quality that they cannot be transported as far as Trail to compete with that from Montana. Also of

slight economic value are the signs of oil in the extreme south-east corner at Sage Creek, although in 1936 these wells yielded as much as two barrels of crude oil per day, and according to reports twelve men were employed in the fall of that year. Talc, gypsum, clay, mercury, slate and magnesite are present in some quantity. There is little doubt that these will be developed in the future when more accessible deposits have been depleted.

The Kootenay country waited long for development mainly because of its inaccessibility. Its forest resources could be exploited only superficially without adequate transportation to the great potential markets of the prairies. Its gold, silver, lead, zinc and coal were valueless until the enterprising Americans pushed development into this extension of their own frontier and made it virtually a territory of their own. The government of British Columbia could hardly be blamed for its lack of initiative in the early days for geography conspired against all efforts to make it more truly a part of British Columbia. After all, the markets for these minerals were to the south of the international boundary line and it was logical that the easier north and south communication lines should develop first.

II. THE INDIANS.

In the East Kootenay the Indians inhabit chiefly three regions: the Upper Columbia River, the Upper Kootenay River, and the Elk and Flathead Rivers. The latest census returns give 123, 172 and 88 for the respective populations of these areas making a total of 383.(1) All the Kootenay Indians belong to the Salish Nation, the Upper Kootenay Indians being in general the chief inhabitants of East Kootenay. These live for the most part at Columbia Lake, St. Mary's and Tobacco Plains. They were the most manly of all the branches of the Kitunahan family, numbering some 300 in 1869.(2) The Lower Kootenays, often called the Flatbows, were looked down upon by the Upper Indians, as being the most inferior of all branches of the Kitunahan family. They numbered 397 in 1848; 157 in 1883; 162 in 1896.(3) They sometimes came up the Kootenay River as far as the

(1) CENSUS RETURNS, 1931, Vol. II, p. 103. These statistics are lacking in the available 1941 census pamphlets. The Department of Indian Affairs gives a population of 638 for the Kootenay agency in 1892. This includes all the five bands of the Kootenay. GOSNELL, op. cit., p. 178, gives a total of 562 for the Kootenay Indians, all Roman Catholics, taken from the 1891 Census:

UPPER KOOTENAY	FLAT BOW	SHUSWAPS
Columbia Lake 78	Flat Bow 162	Kinbaskets 51
St. Mary's 187		
Tobacco Plains 84		

(2) BALL, H. M., "Report of H. M. Ball to the Colonial Secretary," Dec. 28, 1869.

(3) BAILLIE-GROHMAN, op. cit., p. 300.

Kootenay Falls but seldom proceeded higher. The only direct evidence to support the contention that the Kootenay Indians once lived on the Plains is the assertion made by the trader, Alexander Henry, that he found remains of their lodges on the eastern slopes of the mountains.(4) If they had ever any kinship with the Blackfoot tribes it was at a period far removed from recent times for tradition chronicles nothing but dire enmity.

Their economy was necessarily simple. The Upper Indians lived chiefly by hunting while the Lower Indians found their chief sustenance from the abundant fish supply of the Kootenay River and the Kootenay Lake. When game became scarce it was customary to journey over the mountains to the buffalo herds of the Plains. Wild berries and roots of the more luscious herbs provided some variety to their diet.

The Indian tribes had frequent contacts with each other. The Shuswaps often journeyed as far as Lake Windermere and Tobacco Plains. When Father Coccola came into the area in 1887, he was guided by this tribe to Lake Windermere where the Upper Kootenays took over and conducted him to the St. Eugene Mission. The trading

(4) THRUPP, op. cit., p. 12.

post at Tobacco Plains was also a centre of trade for these Indians, as it was they who guided James Manning to their winter quarters not far from Finlay Creek in the fall of 1863.(5) The frequent incursions of the Blackfoot Indians from the Plains, after the gold rush of 1864, with the loss of cattle involved, so angered the Kootenay Indians that they joined the Spokane Indians and the Flathead Lake tribe in a great council of war at Tobacco Plains with the intention of taking the offensive against the Blackfeet. The possibility of waging a successful war with these powerful clans numbering in all about 2350 men(6) was slim indeed. In 1869 a two-day fight took place at Three Buttes, Elk River, when the Kootenays were driven back with twelve men killed and a large number wounded, besides the loss of all their buffalo meat, hides, baggage and most of their horses. The victors pursued them right to the Kootenay mines and captured some twenty more horses, including five belonging to the Hudson's Bay Company.(7) Their war parties, usually consisting of fifty or sixty men, disturbed the peace of the Kootenays

(5) THRUPP, op. cit., p. 19.

(6) ROBERTSON-ROSS, P, "Reconnaissance of the North West Provinces and Indian Territories of the Dominion of Canada," p. 116. Dom. Sess. Papers, Vol. 6, No. 5, 1873.

(7) COLONIST, Aug. 20, 1869.

until Indian reservations were established.

The first contacts of the Kootenays with white men took place at an early date. Even before 1800 they had appeared on the eastern slopes of the Rocky Mountains of Canada to barter with the traders of the Saskatchewan. (8) Often for fear of the Piegans and Blackfoot tribe of the prairies they went to Kootenay Plain in the Rockies just west of Rocky Mountain House and the traders gladly journeyed there to meet them. As early as 1800 freemen and trappers were sent by the traders of the Saskatchewan to spy out the land. For the next five years these penetrated both the Canadian Kootenay and the American Kootenai among the Saleesh, Kullyspell, Skeetshon and Spokane tribes.(9) No written record remains of these visitors but tradition and local nomenclature well attest their presence. The Catholic missionary, Father De Smet, visited the Kootenay Indians in 1841, 1845, and 1859 and had great success in converting them. Robertson-Ross noted the civilized attitude of the Kootenay Indians as contrasted with the animal-like habits of life of the Cree and Blackfoot.(10) Sir George Simpson, however, thought them a miserable set of dirty and decrepit beings.(11) In the early days

(8) ELLIOTT, op. cit., p. 280.

(9) Ibidem, p. 281.

prospectors found the use of the Indians as guides very much to their profit.

Contact with white men was on the whole advantageous to the Indians. The trader Berland helped to encourage them in their religious pursuits after the visit of Father De Smet in 1841 to such good purpose that the good Father was pleasantly surprised to find in 1845 that the results of his first visit still continued. A little log chapel had even been built on Tobacco Plains. Father Fouquet arrived with Brother John Burns in October, 1874, and founded the St. Eugene Mission, six miles from where the St. Mary's River enters the Kootenay River. Even in 1883 a writer of the time found them of all the Indian tribes of North America, except the Alaska Indians, still most unspoiled by the presence of the white men in close proximity. They were what De Smet had found them in 1845, still scrupulously honest, but gambling had increased to a dangerous degree.(12) The fur trade affected their ordinary life favourably inasmuch as it rendered it more comfortable and clothing more plentiful. Their food still remained largely what

(10) ROBERTSON-ROSS, op. cit., p. 119.

(11) SIMPSON, SIR GEORGE, "A Narrative of a Journey Round the World," quoted by THRUPP, op; cit., p. 15.

(12) BARNEBY, W. H., "Life and Labour in the Far, Far West," p. 419, Appendix C. Cassell & Company, 1884.

they secured by hunting and fishing, but Father De Smet had successfully introduced agricultural pursuits among the Flathead tribes, and the Indians of the Tobacco Plains had been induced to raise some cattle. The Lower Kootenay Indians, however, by 1883 had become so discouraged by the constant flooding of their lands that they gave up farming in disgust and gambled away all their once numerous stock of cattle and horses. Father Coccola replaced Father Fouquet in the fall of 1887 and for twenty years he was the guide of the Indians in agriculture as well as in religion. He taught them to plant fruit trees, the first in the Kootenay District. Shelter still remained largely the traditional tee-pee until reserves were established.

Governmental action to this end was finally made necessary by various grievances. The most serious was the arrest in 1887 of the two Upper Kootenay Indians, Kapla and Young Isadore, for the murder of two miners named Kemp and Hylton between Wild Horse and Golden in 1884. Aided by a numerous band Chief Isadore released the prisoners and insisted on their innocence. The smallness of the reserve allotment had also been causing dissension for some time as well as the question of St. Joseph's Prairie. Colonel Baker had bought this

piece of land where Cranbrook now stands from John Galbraith and had ordered the Indians to move away from the spot as he wanted to fence it. They were in the habit of camping here, as it was free from mosquitoes, and they refused to move. The braves decked themselves out in war paint and the murmurings became so ominous that Major Steele was sent with a detachment of one hundred men to found Fort Steele in 1887. During the following year the Indians accused of murder were acquitted and the reserve question was settled by increasing the area of the reserves and apportioning to the Indians better land in the south. When the detachment left in August, 1888, all danger of trouble had been removed by the diplomacy of Mr. Farwell, Judge O'Reilly, Dr. Powell, Colonel Baker and Major Steele and the Indians were so well satisfied with the arrangements that from that time on they have lived in peace.

The mark of the Indian on the development of the Kootenay has been often forgotten. None the less it was very real. Many of the trails of the early days followed the paths of Indians. They had frequently used the Crow's Nest Pass as a route to the prairies on their buffalo hunting expeditions, although they preferred another route immediately south of the 49th.

parallel. They proved excellent guides both to the prospector and the fur trader. It was information derived from Indians also that lured the prospectors northward into British Columbia.(13) Even as long ago as the beginning of the 19th. century the Indians used to melt the rock of what is now the Blue Bell Mine on Kootenay Lake to make their bullets. They communicated their knowledge to trappers and hunters of the Hudson's Bay Company. Chik Min Peter was the Kootenay Indian who brought in a sample of clear galena ore to Father Coccoia which resulted in the location of the St. Eugene Claims in 1893. It was the half-breed son of David Thompson's servant, Jaco Finlay, who first discovered the gold on Finlay Creek in 1863 which led to the rush to Wild Horse Creek in 1864. An Indian named Skookum Joe led Mr. George Cowan to an important gold quartz ledge on Wild Horse Creek in 1889. (14) It is probable, though not authenticated, that the Indians first discovered coal in the Crow's Nest Pass.

(13) RICKARD, T. A., "Indian Participation in the Gold Discoveries," B. C. Historical Quarterly, Vol. 2, 1938, p. 4.

(14) COLONIST, Dec. 25, 1889, p. 4.

III. THE FUR TRADERS.

The history of the fur trade in East Kootenay begins with David Thompson. He had left the Hudson's Bay Company and entered the Northwest Company in 1797 and three years later we find him at Rocky Mountain House. His first attempt to cross the Rockies in 1801 was a failure.(1) In the spring of 1807, however, he crossed Howse Pass, came down the Blaeberry River, and ascended the Columbia River about one hundred miles to Lake Windermere. Near the source of the Columbia, about one mile northwest of what is now Athalmer and a quarter of a mile north from the mouth of Toby Creek, he built his permanent Kootenay House, the first trading post established west of the Rockies. Here he spent the winters of 1807-08 and 1808-09. During the first winter the Piegans from the Plains came to attack the fort, but its strength discomfited them. When they returned with a big war party Thompson appeased their chief "Kootenay Apee" with presents. Up to the summer of 1811 his explorations, always accompanied by the erection of trading posts at advantageous points, covered all trading areas in Eastern British Columbia, Montana, Idaho, and Eastern Washington.

(1) THRUPP, op. cit., p. 2.

Jaco Finlay, Finnan McDonald, and James McMillan were able henchmen of the explorer. Finlay opened up trade for Thompson in western Montana. Jocko Creek, in Missoula County, still preserves his memory. At Spokane House, built by him in 1810, he was a resident until 1826 when it ceased to be the fur emporium for the Upper Columbia, Kootenay and Flathead trade, giving place to Colville. Finnan McDonald was the advance agent developing routes and depots, the "avant courier" among the Indians to the south. In all probability he was the first white man to descend the Kootenay River to Lake Kootenay, and the first to traverse the trail across the bend of the river from Bonner's Ferry to Cranbrook and Fort Steele. His great strength is still a legend among the Flathead tribes near whom some of his descendants, from a Kulluspell Indian wife, still live. James McMillan, a clerk of the Northwest Company, crossed the Rockies on snowshoes with dog sleds and some goods to trade, and joined McDonald above Kootenai Falls, Montana, in 1808. Closely associated with McDonald, he spent twenty-one years in the Spokane, Flathead and Kootenay districts.

The conduct of the fur trade involved great difficulties. In the years from 1807 to 1812 Fort William was

the commercial base. Goods for the Indian trade had to be transported thence in packages of ninety pounds in canoes upon the streams and on the backs of men over portages to the headwaters of the Saskatchewan. By pack horses over the Rockies to the Columbia, by canoes one hundred miles upstream to the Columbia Lake, by portage to the Kootenay, the goods finally reached the Flatheads, near Jennings, Montana, and the Kulluspell and Spokane tribes at Bonner's Ferry were supplied by Indian trails leading from the Kootenay River.

A more direct route to Kootenay House was soon discovered. This was by way of the Bow River and Simpson and Vermilion Passes, to the Columbia a few miles below Lake Windermere. This was a shorter route to Oregon in the fur-trading days as compared with the canoe route by the Athabasca and Columbia Rivers. Sir George Simpson used the route in 1841, as did the British army officers, Warre and Vav_asour, in 1844, and Pierre De Smet, Jesuit missionary, in 1845. The route was also of value to bands of miners and packers hurrying to the Kootenay gold fields in the sixties. Thompson and his lieutenants have been given scant credit for their discovery of the best routes. The route from Walla Walla by the Moyie River to Skirmish Creek was one

often used by Thompson himself, as well as by McDonald, after whom the Moyie River was first named. Skirmish Creek was the Wild Horse Creek of the placer discoveries and the same route was used by prospectors and miners in the gold "rushes".

Depicting
The American Mining Advance

(to face page twenty.)

IV. THE AMERICAN MINING ADVANCE.

The American mining advance into the East Kootenay was a product of many factors, not the least of which was the discovery of gold in California in 1849 and at Colville in 1855. The California "rushes" developed a nucleus of experienced miners and prospectors always ready to avail themselves of new opportunities. The finding of gold at Colville helped to start steamboat^{traffic} on the Columbia River and as the miners discovered that deposits were small and superficial they heeded the advice of Angus McDonald, chief clerk of the Hudson's Bay Company at Fort Colville, that better prospects would be found farther up the Columbia River. James Taylor and a small party struck across the Okanagan Country and penetrated as far as the Thompson River. By March 1, 1856 McDonald was able to write to Governor Douglas that gold had been found in considerable quantities on the Columbia River within British territory. In 1857 adventurers from Oregon and Washington Territories made their way into the country on the Upper Fraser and found several rich bars. It but remained now for Colonel Wright to bring his stern measures to bear on the Indian menace, to clear the way for a substantial advance of the mining frontier. By

March, 1858, miners on the Fraser and Thompson Rivers were making \$8 to \$50 per day and conditions in California were favourable for a great exodus of population to a promising field. Between 1853 and 1857 there had been a decrease of \$8,354,000 in the gold export and by this time capital was necessary to develop the deep diggings. The miners disliked working for wages and believed that the deposits would become richer towards the north. The Fraser River gold "rush" broke the way for an important overland trade in cattle between Oregon, Washington, and British Columbia, besides bringing in prospectors who pushed farther and farther into the interior towards Cariboo and Kootenay.

The Fraser River deposits yielded one and a half million dollars in 1859(1) but the fate of the Colony of British Columbia hung upon an extension of the gold discoveries. The Colony was saved by the Cariboo gold fields which proved one of the most remarkable in the whole history of mining. The flood tide of the movement thither took place in the years 1862 and 1863, 4000 men being at work in the latter year. Another important area of expansion lay west of the Cascade Mountains near the international boundary line along the Similkameen

(1) TRIMBLE, W. J., "The Mining Advance into the Inland Empire," p. 46. Univ. of Wisconsin, Bull. 638, 1914.

River and Rock Creek. There mines had been discovered by soldiers of the Boundary Commission in the fall of 1859, and in the spring of 1860 large numbers of men from the Dalles, Walla Walla, the Sound, the Willamette Valley, and from northern California came into the district.(2) The diggings were found to be rich but not extensive, so the energies of these men were soon available for other "finds".

The discovery of the Comstock lode of silver in Nevada and the stampede to Pike's Peak in Colorado in 1859 brought about a great advance of the eastward moving frontier of the United States. The Comstock Lode also centered attention on the Washoe mines in Nevada but these were outshone in the public eye by the Pike's Peak deposits. The antecedents of these discoveries go back to 1849 when, as a result of the California "strikes", large numbers of prospectors got the habit of a roving life and spent their lives prospecting the mountain valleys with a pick and pan, a burro, and a few camp tools. Some thousands of these "fifty-niners" stayed in Colorado to help set up a state, a smaller number remained in Nevada for the same purpose but many thousands of men ranged the mountains both north and

(2) TRIMBLE, op. cit., p. 42.

south always subject to the hypnotic influence of gold.

Thus discoveries in Arizona, Idaho, Eastern Oregon, and Montana were a logical outcome of the activities of these prospectors. The "finds" in Arizona were at first the product of the Civil War and the march of the California volunteers to the Colorado valley, but the prospectors soon widened the original discoveries and hundreds of miners were attracted to the southwestern fields. In Idaho "rushes" occurred to the Nez Perces mines, Salmon River, Warren's Diggings, Boise and Owyhee; in eastern Oregon, to John Day River and Powder River; and in Montana, to Grasshopper Creek, Alder Gulch, and Last Chance.

These movements to the southward were largely contemporaneous with movements in British Columbia from 1860 to 1866. Both drew multitudes from the West Coast and started large migrations from Pike's Peak and the East. There were constant migrations between the various camps which political boundaries did not seriously interrupt. In May, 1862, the San Francisco "Bulletin" estimated that some 30,000 people had departed from San Francisco, Utah, the "States", and the Canadian Provinces for these northern mines.(3)

(3) TRIMBLE, op. cit., p. 71. From San Francisco alone 3800 departed.

Most of them went to the Salmon River mines in Idaho. The fact that no mining camp flared up more suddenly or flickered out more quickly had some effect in pushing forward the development of mines in the East Kootenay when gold was discovered there in 1863.

Since access to the East Kootenay was much easier from the south it was logical that American prospectors should be the first to penetrate to the promising fields in this region. The gold "rush" to Wild Horse Creek took place in 1864 and in rapid succession "strikes" of some consequence were made on Finlay Creek and Toby Creek, near Wild Horse, and at the Big Bend of the Columbia River in 1865. The continued activity of these experienced prospectors^{brought} a "rush" to Perry Creek in 1867. The centre of this new mining district was Wild Horse Creek where Fisherville arose in sight of Mount Fisher as the chief camp. After it was pulled down for the highly remunerative operation of mining the ground on which it stood Kootenay Camp emerged as the chief centre of population on Wild Horse Creek. "Kootenay" was the centre from which the gold commissioners wrote their reports. On the Upper Columbia, French Creek became the camp possessing attraction for the largest number of the adventurers.

"Old Town" on Perry Creek resulted from the first inrush of miners.

To give a correct estimate of the "takings" from these mining camps when they were practically one hundred percent American is well-nigh impossible. The new export duty on gold caused the miners to falsify their yields, but it was the general opinion of miners and traders that about one million dollars of gold of the best grade, worth eighteen dollars an ounce, was taken out in 1865.(4) The Colonial Secretary of British Columbia, A. N. Birch, on his return from a visit to the Kootenay in October, 1864, took with him seventy-five pounds of government gold to New Westminster.(5) The gross revenue for 1865 from the Kootenay mines was estimated at \$75,000. The movement to the Upper Columbia was relatively insignificant except as a factor in attracting American prospectors from the south and thereby causing the adjacent country to be searched for gold and other valuable minerals. The total yield for Big Bend in 1865 was only \$40,000 from nearly 1000 diggings.(6)

(4) TRIMBLE, op. cit., p. 58.

(5) Report of the Colonial Secretary, A. N. Birch, to Governor Frederick Seymour, Oct. 31, 1864.

(6) RICKARD, T. A., "The Kootenay Region," Canadian Mining Journal, May, 1943, pp. 285-295.

The real importance of the Kootenay mines in the mining history of the "Inland Empire"(7) arose from their location. They were remote from the governmental centres of the British colonies and easily accessible from the territories to the south. As early as April, 1864, pack trains left from practically all of the northern American mining states for the new Eldorado at Wild Horse Creek. The Americans from Colville, Washington, even constructed a road into the British Columbia camp, with no assistance from the government, thus shortening the distance by some two hundred miles. (8) All the waggon roads and trails led south and this being the case the district could be little else but American. Physiographic conditions kept the region largely American until long after the peak of production had passed. Lewiston was only 342 miles distant, Walla Walla 408, and Umatilla Landing 453, whereas Hope, the nearest village in British Columbia, was over 500 miles away.

The Columbia and Missouri Rivers were important avenues in developing transportation into the Kootenay region and keeping the trade American. The Oregon

(7) This term is often used to include the southern interior of British Columbia, eastern Oregon, Washington, western Montana, and Idaho.

(8) COLONIST, June 20, 1864, quoting the "Columbian."

Navigation Company monopolized the heavy traffic on the Columbia. In the three years 1861-64 it transported to the Upper Country of the "Inland Empire" 60,320 tons and nearly 100,000 passengers. In the year 1864 alone it took into the area about 22,000 tons and 36,000 passengers.(9) Until the opening of the Northern Pacific Railway in 1882-83, the Missouri River also played some part in taking miners and supplies into the Bitter Root Valley in Montana. Many of the miners went later into the Kootenay.

In these early days both railway facilities and financial investments came largely from the United States and greatly stimulated development. The coming of the Northern Pacific Railway to Sandpoint, on Lake Pend d'Oreille, in Idaho in 1883 provided a more attractive route from Walla Walla to Sandpoint, thence 165 miles up Moyie Valley to either St. Joseph's Prairie or Wild Horse Creek. Before this the pack route from Missoula, Montana, through Tobacco Plains and thence by a trail on the eastern side of the Kootenay River to Wild Horse Creek was much used. The railroad progress followed closely the gold activities. These made possible the Oregon-California railroad project of Ben

(9) SCOTT, LESLIE M, "The Pioneer Stimulus of Gold," p. 156, Oregon Historical Quarterly, Vol. XVIII.

Holladay who began construction in the Willamette Valley in 1868, the first railroad project of the North Pacific Coast, except for the portage railroads at Cascades and Celilo. The construction of railways in the North-western United States during the early eighteen-eighties also gave a great impetus to prospecting. In 1896 the Americans owned and operated three railways in British Columbia, at the very time when Canada was hesitating about providing a line of the Canadian Pacific through the Crow's Nest Pass into the Kootenays.(10)

The erection of smelters on the American side of the boundary line at an early date was another reason why trade remained American. In 1887 a smelter was built in western Montana ready to take British Columbia ores as soon as they were discovered. Practically the entire output of mines in the West Kootenay went to Tacoma, Helena, or Butte. Because East Kootenay coal was lacking in the nineties the first smelter built at the mines imported United States coal as well as equipment.(11) The Pilot Bay Smelting Company incorporated in 1894 was largely owned in the United States, but in 1896 a large smelter was erected at

(10) BESCOBY, ISABEL, "Some Social Aspects of the American Mining Advance," p. 59. U. B. C. thesis, 1935.

(11) B. C. SESSIONAL PAPERS, 1892, p. 537.

Nelson by a London, England, company. The growth of coal mining in the Crow's Nest Pass encouraged the development of smelters at the mines. It is interesting to note that all of the 8561 tons of zinc ore shipped from British Columbia in 1905 went to the United States. (12) Even in 1929 Reece H. Hague in the Vancouver "Province" decried the fact that American smelters were still treating a considerable part of Canada's ores. (12a)

The Kootenay mines also helped to develop American agriculture. Even in 1865 settlers in the vicinity of Colville, Washington, found a profitable market for their produce in the East Kootenay and the Big Bend mines on the Upper Columbia River. The Portland "Oregonian" commented at this time on the fact that these mines would figure largely in the history of the Pacific Coast. The rapid settlement of Spokane Prairie, near Spokane, Washington, was certainly partly attributable to the Kootenay mines, more especially those on Perry Creek, since the large influx of settlers coincided with the peak of production there in 1869 and 1870. (13) Fertile areas in the interior grew in usefulness and productivity with mining development.

(12) Report of the Zinc Commission for Canada, p. 13, 1906.

(12a) PROVINCE, newspaper, July 10, 1929, p. 21.

(13) COLONIST, newspaper, Aug. 16, 1870, quoting the Walla Walla "Union" of Aug. 6, 1870.

Payette and Boise valleys in Idaho, the Bitter Root and Gallatin valleys in Montana, contributed farm products and livestock to the Kootenay as well as to the settlements south of the international boundary line.

Since the period of rapid development of many American centres coincided with the Kootenay mining advance it is a fair assumption that the Kootenay mines contributed in some degree at least to the growth of American towns and cities. Missoula, Montana Territory, shipped in supplies to the Kootenay mines in 1873 and living there was made very cheap thereby because it was much closer than Walla Walla, Wallula, or the Dalles. These American centres had experienced great growth at the height of the gold "rushes" into the Kootenay and the Upper Columbia. Portland grew from a population of 2917 in 1860 to 6000 in 1865 and 17,578 in 1880, but of course the major part of this growth was caused by the mining progress in Idaho, Montana, and eastern Oregon. Helena, Montana, was founded in the very year of the Wild Horse gold "rush". Umatilla Landing, laid out in 1863, where the "freighting" road to and from Boise and Owyhee mines joined the Columbia River, became a large town especially after the Kootenay "strikes".

Even in 1885 goods were still largely brought in from American centres. In 1883-4 John Galbraith transported supplies for the building of the Canadian Pacific Railway from Walla Walla via Lake Pend d'Oreille in Idaho, and thence to Wild Horse Creek and St. Joseph's Prairie.

Trade remained American until long after the peak of production had passed. Until 1900 not less than 85% of the Kootenay trade went south of the American boundary line instead of west or east to Canadian cities.

(14) When the main line of the Canadian Pacific Railway was completed in 1885 supplies from nearby states were fresher and cheaper than distant Canadian products; nor could Vancouver and Victoria merchants compete in such products as were brought in from eastern Canada. The merchants of Victoria and Vancouver made no effort to get business in the mining camps preferring to let it go to Winnipeg or to the "States".

When British or Canadians attempted to participate in the trade in the early days the lack of good trails discouraged them. The trail from Hope, the nearest village to the Kootenay mines in British Columbia, to Fort Sheppard was fairly passable but it was very bad

(14) BESCOBY, op. cit., p. 48.

from there to Wild Horse Creek. In 1864 one of the Hudson's Bay Company's trains was fourteen days in making the trip and lost six horses in doing so. If the British wished to compete with their more enterprising neighbors in Oregon and Washington they would have to push the Hope waggon road through and improve it down the Similkameen and Kettle Rivers to Fort Colville or Sheppard and thence to Kootenay.

Meetings of the merchants were held in New Westminster, Lytton, and Yale to discuss this improved way to the Kootenay mines. Finally Dewdney's Trail was completed in 1866 to satisfy the clamour, only to be pronounced a great blunder very shortly after its completion. Geography conspired against the British Columbia merchants. The turbulent rivers required many bridges whereas the grant made by the legislature only sufficed for a small number, so that the road was only passable at low water.

Some British Columbia packers, however, did attempt to trade with the Blackfoot mines in Montana. The Victoria "Colonist" reported in 1866 that two of these men started out with a cargo of 16,000 pounds from Wild Horse en route to the Blackfoot mines, for which the carriers were to get carrying charges of 19¢ per

pound. Near Flathead Lake United States officers seized all their goods and animals and demanded \$1700 and four horses as the price of their release. This was done before the packers had reached a customs station and consequently before they had had an opportunity of paying the duties.(15) The same newspaper bemoaned the fact that our goods paid about five times as much as our charges on American goods.

One of the most important reasons for governmental inaction in improving roads was the attitude of some of the newspapers in British Columbia. Reports in American journals were received with suspicion especially by the Victoria "Chronicle", as propaganda to draw population away from the Cariboo. These reports in such newspapers as the Walla Walla "Statesman", the Boise "News", and the "Golden Age" of Lewiston, were the main source of information about the Kootenay mines. The editorial advice in the Victoria "Colonist" to the effect that British Columbians should take early steps to develop the Kootenay so as to prevent the supply business from passing to the traders of Spokane, Colville, and other American centres passed unheeded for the most part.

(15) COLONIST, Jan. 15, 1866, quoting a letter from Fort Sheppard dated Nov. 27, 1865.

Thus conditions were not improved by 1869. No attempt was made to get the trade which resulted from the success of the Perry Creek mines, which in this year caused the withdrawal of seven trains from the Blackfoot route to be placed on the road from Walla Walla to Kootenay. It was estimated that already one million pounds of goods had been imported to Perry Creek from Portland, Oregon, and all this trade might have gone to Victoria were it not for the shockingly bad state of the roads and the necessity of a detour through American territory. The Victoria "Colonist" calculated that the amount of money which had found its way into the pockets of foreigners in a single season would have sufficed to open such easy means of communication as would have enabled our own people to command the entire trade.(16)

Not until the 1890's was any marked change discernible in the direction of trade. By 1897 or 1898 the initial large profits had been made and the Americans were content to sell to British or Canadian investors and retire to their own camps. The English investor would rather pay a half million for some property which would produce a good annual rate of

(16) COLONIST, newspaper, Aug. 22, 1869.

interest than embark a comparatively small sum in a promising venture.(17) It was not until 1896 that the Kootenay began to be preferred to the western United States by British investors, and since the boom was over by 1898, they did not reap the huge profits that the Americans had gathered earlier.

The rivalry of the Great Northern Railway and the Canadian Pacific Railway was keen, being most marked during the years from 1898 to 1906. James J. Hill, head of the Great Northern, had made his policy one of building feeders north from his main line towards the international boundary, all these lines in this section draining towards Spokane. In 1897 the Great Northern announced from its western headquarters at Spokane that two railroads would be built in British Columbia that year. In 1899 D. C. Corbin, who later started the Corbin mines in the East Kootenay, sold out his interests to the Great Northern. It was he who first grasped the importance of Spokane as the strategic centre for the immense resources of the Inland Empire, and his faith was amply justified in the expansion of the Great Northern. The American lines fought the Canadian Pacific successfully for the lion's share of

(17) MINING REPORT, Minister of Mines, B. C., 1893, extract from "The Western World."

the trade of the Kootenays and Southern British Columbia. The people of the Boundary country were patriotic Canadians only as far as they could afford to be and the bulk of the freight to this region was consigned to local storekeepers via Marcus over American railways. By 1906 agreements were made between the Canadian Pacific and the Great Northern fixing the amount of ore and bullion to go by each line. The major pull was still southward, however. Winnipeg was too far away and Calgary was unable to compete effectively with Spokane(18) Spokane was the most convenient large centre fully equipped to supply the needs of southern Alberta ranchers. The Great Northern built a line from Rexford to Fernie and thence to Michel and controlled the Crow's Nest Pass Coal Company which provided the Granby smelter with coke; hence all coke was hauled to Grand Forks by the Great Northern. By 1920 most of the less profitable lines were abandoned by the Great Northern and the Canadian Pacific was left in virtual possession of southern British Columbia. Today the excellent grade of the Great Northern Railway from Fernie to Elko is used as a government highway.

(18) HOWAY, F. W., SAGE, W. N., ANGUS, H. F., "British Columbia and the United States--the North Pacific Slope from Fur Trade to Aviation," page 257. Ryerson Press, Toronto, 1942.

The influence of the United States is still strong in the Kootenays. The interest taken in American politics and in Fourth of July celebrations would imply that its origins have not been forgotten. Although British and Canadian capital gradually displaced American and the leading economic institutions became Canadian-controlled many of the miners and prospectors remained to perpetuate an influence which still affects social as well as economic institutions.

V. SOME IMPORTANT NAMES IN PIONEERING TIMES.

Sufficient has been said already to give some idea of those brave spirits who dared to face the many difficulties of early trails in the Kootenay. The prospectors followed the paths blazed by the fur traders, but many of them ceased to be prospectors and settled in the district to play their part in the gradual development of the area. The placer miners initiated the first period of pioneering activity. The construction of the Canadian Pacific Railway brought the second period, and the third period began with the quartz miners, following closely on the heels of railway building. These miners were the real pioneers of all southwest Kootenay, although they were often considered "greenhorns" in southeast Kootenay.

An old miner named Robert C. Dore was among the first to start for Finlay Creek in the spring of 1864. He recorded the first claim, the "Dore", on Wild Horse Creek which produced \$521,700 in three years.(1) He was also the first white man to put in an hydraulic plant on Wild Horse Creek. It was a hose similar to that used in fire engines but six inches in diameter, and reinforced with heavy rope so that it could

(1) SMYTH, F. J., "Tales of the Kootenays," p. 56. Cranbrook Courier, Cranbrook, B. C., 1942.

withstand a pressure of 250 pounds to the square inch. Dore estimated the amount of gold taken out of Wild Horse Creek at \$15,000,000. Since he had water rights to sell he^{had} more knowledge than even the gold commissioners of the correct value of gold obtained. The number of inches of water purchased by miners would vary somewhat with the amount of their yield, and to him they would be more truthful than to the gold commissioners, to whom they often handed falsified reports to avoid payment of the gold export tax. He died on August 31, 1907, at the St. Eugene Hospital, Cranbrook, one of the very last of the Wild Horse pioneers.

Dave Griffiths was another old miner who arrived at Wild Horse Creek late in 1864. He tells of many who "cleaned up" \$40,000 to \$60,000 in 1865. He and his two partners that year had returns running from \$1000 to \$1500 per week. Year after year he carried on operations expecting to find the original and oldest channel of Wild Horse Creek, but at his death, just a few years ago, his hope was still unfulfilled.

Nor must we forget the band of early Chinese miners on Wild Horse and other creeks, some of whom spent almost their whole lifetime along the paystreaks. In

1902 nine of them went back to China, each of whom was said to have in his possession not less than \$15,000.(2) Lee Jack died on Wild Horse Creek in 1930, having spent more than sixty years in the quest for gold. Ban Quong, now a resident near Cranbrook, is probably the sole survivor of this group of Chinese miners.

The placer activity brought the gold commissioners, important as keepers of law and order as well as for informative reports. As early as November, 1863, Mr. J. C. Haynes told the Colonial Secretary of British Columbia that gold had been discovered in the Kootenay, and on receiving an order to proceed to Wild Horse as gold commissioner, he left Osoyoos, in the Similkameen, on July 20, 1864, with Constable William Young and an Indian. He went by way of American territory through Fort Colville and Spokane, reaching Wild Horse on August 10th., and was immediately called upon to quell an outbreak of lawlessness. His stern measures, and their strict enforcement also by Mr. P. O'Reilly, who followed him the next year, laid the foundation for the tradition of law and order in the rather turbulent camp. The work of Gilbert Malcolm Sproat,

(2) SMYTH, op. cit., p. 55.

who became gold commissioner in 1886, was chiefly centered in the West Kootenay, but his influence was so wide that he became known as the Father of the Kootenay. (3) His activity in the founding of Revelstoke, Sandon, New Denver, and Nelson had important repercussions on the East Kootenay as we shall see later.

Turning from law and order to transportation we find that A. B. Fenwick, Dan Drumheller, and Robert and John Galbraith were closely connected with the carrying trade of the placer fields. The first ran one of the largest pack trains in the early days, when that was the only means of bringing in mail and supplies from Sandpoint, Idaho, to Bonner's Ferry, Idaho. His chief interest centered on the development of Fort Steele, since it was just south of here that he built up a large stock ranch. Dan Drumheller, the drover for Freeman, the cattle king of the placer period, tells of running a pack train between Walla Walla and Wild Horse in 1864. He followed the Mullan Road to the neighborhood of Spokane, then by way of Sandpoint went by a trail to Bonner's Ferry where he crossed the Kootenay River. Keeping to the eastern bank of this river he came to Cranbrook and just before reaching Wild Horse he crossed

(3) B. C. HISTORICAL QUARTERLY, Vol. I, 1937, p. 29, article by T. A. Rickard.

the Kootenay River again at Galbraith's Ferry, now Fort Steele. The Galbraith Brothers had business and bank connections with several Walla Walla firms in the early days. At Galbraith's Ferry they owned a store as well as the ferry in the early years, reaping a rich harvest in the gold "rush" of 1864. At this place the toll for crossing the river in this year was five dollars, which works out at about six cents a yard. It was John Galbraith who was elected in 1866 to the provincial legislature by a majority of thirty-nine over his opponent, Mr. John Duncan.

Michael Phillipps was the last factor of the Hudson's Bay Company at Fort Steele. In 1865 he was at Fort Kootenay, Tobacco Plains, where Mr. Linklater carried on business for the Hudson's Bay Company. Linklater was the man who showed the gold from Finlay Creek to Mr. James Manning of Colville which led to the rush to Wild Horse in 1864 and incidentally to the opening up of southern British Columbia. Phillipps made his noteworthy trip through the Crow's Nest Pass in 1872, when he discovered some of the coal seams. From him we learn of President Van Horne's visit to the area a few years before the building of the Crow's Nest Pass Railway. Van Horne came from Bonner's Ferry to the

then mud flats at Kootenay Landing on one of the small steamboats plying the Kootenay Lake at that time. The dismal mud flats and gloomy mountains were of no interest to the President of the Canadian Pacific and the Kootenays seemed to him the last place for profitable railway construction. Phillipps died on his ranch on the south side of the Elk Canyon in 1916, after serving as Indian agent on the Tobacco Plains reservation for some years.

William Fernie has been given undue credit in connection with the discovery of the coal beds. Nevertheless his importance in subsequent development was great. He was foreman in charge of the workers on the part of the Dewdney Trail east of Fort Sheppard, an unsuccessful gold seeker in the Big Bend "rush", a Perry Creek stamper in 1868, constable of the Kootenay District after 1871, and successor to Cornelius Booth as gold commissioner in 1879. His acquisition of coal lands after 1887 led to the development of the seams in the Crow's Nest Pass. He died in Victoria on May 15, 1921.

There are many others who had something to do with the development of the country in these pioneering times. Some of them will be spoken of in subsequent chapters, others have already been mentioned. Men of the stamp of

the Reverend Henry Irwin, affectionately known as Father Pat, have their names written in the annals of the Anglican Church, and Catholic chronicles record the achievements of Fathers Fouquet, Coccola and Welch. The day of the old time prospector has long since passed but there is still a place for men possessing his essential stamina and willingness to live a hard life and do hard work. The opening of new mining areas will be speeded only by a new type of pioneer, trained in geology and to the use of maps, and with financial support sufficient for thorough testing.

VI. THE ERA OF PLACER MINING.

The situation and the geology of the placer fields of British Columbia have been well treated by many writers.(1) Physiographically they are situated in the Central Belt of the Cordillera of Canada, usually in topographical areas transitional between plateaus and typical mountain ranges. The great period of mineralization was in Jura-Cretaceous times following the melting of large irregular masses of igneous rock which forced its way into the strata. The quartz veins of the placer fields stretching from south-east Kootenay to the Yukon were formed in this way.(2) A period of erosion in the late Cretaceous and Tertiary periods resulted in the formation of a number of rich and continuous placer deposits in the stream-valleys,(3) with nuggets being formed as a result of the deposition of gold from solutions.(4) The arrival of the glacial age, however, meant the admixture of so much barren gravel and such widespread transportation of the placer gravels that most of the original placer fields became of no economic value. The rock formations of the

(1) See GALLOWAY, J. D., "Placer Mining in B. C.," 1931, AND MEMOIR 149, Geol. Survey of Canada, 1926.

(2) GALLOWAY, op. cit., p. 11.

(3) MEMOIR 149, op. cit.

(4) FORTURA, ROCCO R, "Placer Mining in Canada," p. 3. Dept. of Political Economy, Univ. of Toronto, 1929.

Central Belt were not actively eroded during this period and to this is due the fact that there are many placer fields in the region. A lack of knowledge of glaciation, the most important feature of placer geology, is the reason why so many ill-advised placer ventures have been attempted with consequent financial failure.

Gold was first discovered in the East Kootenay at Finlay Creek in 1863. It was found that most of it lay too deep for ordinary small-scale placer operations and the creek was soon abandoned to await the large machinery of the 1890's.

Many of the miners of Finlay Creek decamped to the more promising prospects of Wild Horse Creek. This creek was a small tributary of the Kootenay River coming from the main Rocky Mountain Range about fifty miles north of the international boundary line. Thompson had given it the name of Luissier on his map of the region, but the miners called it Stud Horse, then later Wild Horse. The mines had the advantage of being lower and more southerly than those of the Cariboo. Thus they were more conveniently situated for being worked the greater part of the year and they were more easy of access for those who were dissatisfied from time to

(5) MACFIE, M, "Vancouver Island and British Columbia," p. 253. Longman's Green, London, 1865.

time with the mines of Boise in Idaho.(5) All the ranges of Wild Horse showed the presence of gold and the blue slate formation encouraged high hopes. The "Colonist" newspaper speculated as to whether these mines were a continuation of the auriferous range of the Cariboo in which case it was hoped rich diggings would be found for a distance of from 300 to 400 miles which would be capable of supporting a population of a million or more!

There were other reasons for the development of Wild Horse. Plenty of good agricultural land, an abundant supply of water, and the fact that no quicksilver was needed to retrieve the coarse gold, were all forces drawing miners to the region. The miners of the Boise Basin, especially, were forced out largely because of the failure of a supply of water, and the new field appeared as a heaven-sent boon to these experienced miners.

The diggings were shallow but rich, paying as high as thirty dollars a day to the man. On July 11, 1864, the Victoria "Colonist" reported miners earning ten to thirty dollars a day with the crudest of implements.(6) It was officially estimated that claims on two miles of the creek yielded twenty to thirty dollars a day to

(5) MACFIE, M, "Vancouver Island and British Columbia," p. 253. Longman's Green, London, 1865.

(6) COLONIST, Jan. 6, 1865.

the hand in 1864.(7) The product of its first two summers was \$600,000.(8) Dr. Dawson estimated that the yield from 1874 to 1888 was \$582,878.(9)

The high cost of living in the early years was due chiefly to the great expense of bringing in supplies. During the first winter at Wild Horse in 1863 flour was \$2.50 a pound and tobacco \$15.00 a pound, while for "fancy" smokers, opium was worth \$190.00 a pound or its weight in gold.(10) At first everything was packed in from Colville, Washington, and Hell Gate, Montana. No supplies were brought from Tobacco Plains for less than 28¢ a pound. The beginning of the winter of 1864-65 found food plentiful with the following prices prevailing: butter \$1.50 a pound, flour 40¢, bacon \$1.00, beans 50¢, sugar 70¢, coffee \$1.00, tea \$2.25, beef 30¢, lard 80¢, and tobacco \$2.25 a pound. As the season of 1865 advanced labourers' wages were \$7.00 a day and the prices of provisions allowed them to live for \$1.50 a day since many of the miners had left for the Big Bend, thus leaving quite a surplus of supplies, with resultant lower prices. The rates for regular boarders averaged \$14.00 to \$18.00 a week. Charges for packing now ranged from

(7) GOSNELL, op. cit., p. 162, 1903.

(8) ATKINS, op. cit., Province, newspaper, Feb. 18, 1922.

(9) Ibidem.

(10) ATKINS, op. cit., Province, Feb. 11, 1922.

20¢ to 24¢ a pound.(11) Prices dropped considerably in succeeding years. Cattle were driven in from Utah and other points as the trails improved and the price for beef fell to as low as 5¢ a pound in the autumn of some years.

The population of Wild Horse in these early years fluctuated a great deal. In 1864 approximately 1500 men came into the district. From the gold commissioner's report of 1864 we find that there were 1000 men on Wild Horse Creek in September; miners, shopkeepers, and labourers.(12) On October 31, 1864, Mr. Birch, who had been sent to the mines by the government of British Columbia, reported to the Colonial Secretary of British Columbia that 700 were present at the mines with 300 more out prospecting. During the winter only 400 miners remained on the creek but considerable mining went on. By May 15, 1865, the population had declined to 800 or 900. By the end of October there were only 500 miners at work, largely because the Big Bend excitement had drawn the rest away. In August, 1866, when Mr. P. O'Reilly visited Wild Horse he noted a population of 700, about half Chinese. By January 17, 1873, gold commissioner A. W. Vowell reported that the population had dwindled

(11) MACFIE, op. cit., p. 258.

(12) Haynes to the Col. Sec'y. of B. C., Sept. 6, 1864.

to just a few Chinese. Robertson-Ross on October 4, 1873, found 25 to 30 white gold miners and 100 Chinese miners, not making more than five or six dollars a day. He stated that the population of the Kootenay District consisted of 85 white men, 200 Chinese, and 400 or 500 Indians.(13)

Small scale operations were the rule until the 1890's. Gold commissioner Haynes in September, 1864, gave an account of ten outstanding claims, employing a total of 114 men, which of late had been producing, on the average, no less than \$4,308 in gold per day. These claims were chiefly operated by small companies varying in size from four to seventeen men. Mr. Birch in his report to the Colonial Secretary of British Columbia dated October 31, 1864, noted that there were fifty sluice companies at work in all, with from five to twenty men employed in each. He mentioned the Gold Hill Company as taking out nearly as much as an ounce to the hand per day. Messrs. Dore, Reece, Pindale and a few other miners constructed the Victoria Ditch in 1865 at a cost of \$25,000. It was capable of carrying 2000 ins.(14)

(13) ROBERTSON-ROSS, op. cit., p. 120.

(14) Water was measured in Miners' Inches, which varied somewhat in different districts. A miner's inch is the volume of water flowing in one minute through a standard vertical orifice of one square inch under a head at its centre of 6 $\frac{1}{2}$ inches. The volume of water equals 1.53 cubic feet per minute.

of water, and of affording facilities for working more than 100 claims which hitherto had been idle. This was one of the larger undertakings, for the capital invested in most companies was small. In 1865 Commissioner O'Reilly reported on the companies operating on Wild Horse Creek. The Brady Company with eighteen men and the Lloyd Company with eight men averaged twenty ounces for the former and sixteen to twenty ounces for the latter per day. The Keenan Company produced three to five ounces a day on the average for all hands. The Fisher Company of thirty-one men took out 324 ounces during the week ending June 6th. The "Great Britain" had drilled a shaft almost ninety feet and expected to strike bedrock within a few days. This was a new method of mining in the area, but the disappointment at the comparatively small yield which rewarded the efforts of this enterprising company caused similar operations to be postponed until the '90's when improved roads and trails permitted the importation of large machinery. In 1872 a Mr. Woods sold his bedrock flume to a Chinese Company for \$3000, and its workings were so good that fourteen men could be kept at work all making fair wages. In the same year the five hands of the Montgomery Company were making \$1000 to \$1500 a week

since they commenced sluicing.

Large scale development began in the 1890's when large pump machinery was installed. For the first quarter of the present century there were spasmodic attempts to work the claims with varying success as can be seen by examining Table I of the Appendix. In 1919 the Gamble Mining Company started operations to sluice out an old channel parallel to Wild Horse Creek. The Wild Horse Dredging Company in the same year commenced to drain the creek with the object of getting at bedrock. From 1919 to 1925 there was a revival of interest in hydraulic mining, but since operations have been left once again largely to the Chinese.

The rush to the Big Bend depopulated Wild Horse in 1865. The new mines there were discovered by a government survey party seeking a route from the Coast into the Kootenay mines in 1864. The finds were greatly exaggerated and even while Wild Horse Creek was actually producing gold in large quantities men hurried into this region of the Columbia. Large crowds gathered at Colville in the spring of 1865, in haste to construct some craft whereby the two hundred miles to the new gold region might be navigated. Stories from the fur trading days of the dangers of Death Rapids were either

forgotten or disregarded and many lost their lives in a vain attempt to reach the hoped-for riches.

Transportation companies reaped a rich harvest for twelve months. The governments of Vancouver Island and British Columbia pushed forward vigorously the Canadian routes from the Coast while Portland advertised the overland routes by the Okanagan and Kettle Valleys.

Money, machinery, science, and system were lacking to unlock the secret of the Big Bend. None of the placer miners had these keys. Unless the diggings would yield ten dollars a day to the hand they were not white man's diggings. The high water in the narrow confined creeks during the summer prevented high wages without heavy pump machinery to combat the rise. Then it was discovered in 1867 that the workings were not shallow but deep and the 1000 men who had been in the mines in 1866 departed for more lucrative deposits. Many of them returned to Wild Horse, but the operations there and in the vicinity never recovered completely from the depopulation of 1865.

In 1867 Frank Perrieur, Dan Kennedy, and Little Sullivan discovered gold on Perry Creek, just twenty miles from Wild Horse Creek. These men had been sent by a group of miners at Wild Horse to do some prospecting

for them and to make locations on their behalf. At the end of the season of 1868 the deposits yielded generally an ounce per day to the man. In 1869 a silver-lead vein was found, but none of the 150 miners then present had the capital to develop the lead. However six companies had been formed to wash the gold from the gravel and were making eight to fourteen dollars per day to the hand. An attempt to pierce the bedrock of the creek in order to work the stratum of clay underneath ended in failure because of the lack of heavy machinery to pump out the water. Many of the diggings were abandoned to await better transportation facilities in the '90's. The yield varied from \$4,750 in 1878 to \$2000 in 1882, \$1500 in 1886, \$6500 in 1889 and \$3000 in 1892.(15)

Large scale operations were carried on intermittently at Perry Creek, following much the same pattern as at Wild Horse Creek. The Perry Creek Gold Mining Company hired Mr. Billsland as foreman in 1877. He was an old Cariboo miner of large experience who succeeded in putting down a shaft fifty feet where others had failed. Again the lack of a waggon road on which to haul the machinery for the large pump needed to combat

(15) MINING REPORTS, B. C., 1878, 1882, 1886, 1889, 1892.

the water menace forced temporary abandonment in 1888. Boyel's claim in 1877 yielded \$600 a week. In 1903 the East Kootenay Placer Company secured leases about four and a half miles above the falls of Perry Creek, and installed a steam shovel for lifting the gravel into sluice boxes. Thus the work went on, capital making a fair return on the investment when conditions were such that it could be persuaded to enter the field. Side by side with this development the patient Chinese continued to get a return from the washings of old diggings.

Other discoveries of lesser worth were numerous. In the winter of 1864 occurred the rush to Canyon Creek some 200 miles from Wild Horse. Deposits on Weaver Creek were discovered in 1869, giving employment to fifty men. Its yield varied from \$1000 in 1882 to \$500 in 1888, \$2000 in 1889, and \$200 in 1892.(16) Good prospects were also found by the packer McGraugh on the divide between the Kootenay and the Pend d'Oreille Rivers, and in 1869 a new camp was located on the Moyie River, a stream running parallel to Perry Creek and emptying into Peavine Prairie Lake.

The population of the East Kootenay fluctuated

(16) MINING REPORTS, B. C., 1882, 1888, 1889, 1892.

markedly with the production of gold, especially in the years before the 1890's. In 1875 the district yielded only \$41,000 from bench and creek diggings of which two-thirds was from Wild Horse Creek. The remainder came from twenty-eight claims at Perry, Weaver, and Mootsai Creeks, worked by a mining population of forty white men and fifty Chinese. The low yield in 1876 is accounted for by the fact that most of the white miners had left the district since by this time the mines were not paying enough to satisfy them. In 1877 there were twenty-five claims on Wild Horse, Perry and Palmer Creeks, chiefly Chinese, which gave \$37,000. In 1879 sixteen claims employed thirteen white men and thirty-two Chinese earning respectively about \$4.00 and \$3.50 each a day. The high prices of provisions prevented many small diggings from being worked until men could live more cheaply. By 1882 the population had dwindled to eleven white miners and a few Chinese in the whole of the East Kootenay. From 1884, however, the claims were being worked with renewed vigour, as Table I of the Appendix shows, and by 1886 there were 36 names on the voters' list. In 1889 there were 216 voters in the West Kootenay and 374 in the East Kootenay. By 1894 there were 445 on the voters' list in the North Riding

and 862 in the South Riding of East Kootenay.(17)

Of community life there was little in the early placer mining camps. The representative citizen of Fisherville was the American gambling "dandy" who had turned prospector, but even these citizens could build a five-mile road for themselves from Galbraith's Ferry to Wild Horse Creek. This no doubt hastened the erection of a brewery in the fall of 1864. A number of "hurdy-gurdy" girls earned their living by dancing in the saloons of the mining camps in their heyday and some of these provided wives for the miners as the settlement grew. However these women were much less numerous in the Kootenay than they were in the Cariboo, since the mines in the Cariboo were easier of access. On New Year's Day, 1877, a band was organized at the Kootenay mines on Wild Horse Creek but whether it survived long to enliven the drab lives of the miners is not known. As in all early mining camps the saloon was the community centre. Paddy Quirk, a miner of the early days, reported spending \$50,000 in one year for whiskey, maccaroni, lobsters and other delicacies. The numerous saloons proved one of the chief factors in making the maintenance

(17) SESSIONAL PAPERS, B. C., pp. 600, 724, for year 1890; pp. 1560, 1568 for year 1894. See Table XIII of the Appendix for East Kootenay population.

of law and order difficult.

Before law and order officially arrived in the persons of the gold commissioners the miners called a meeting and the claims were assigned to the original sixty miners under their own rules, American fashion. This was not to the liking of the Columbia-Spokane brigade from Walla Walla and on August 9, 1864, the day before Commissioner Haynes arrived, strife disturbed the camp and murder was committed. One man, Tommy Walker, was shot dead and four others were wounded. In all the mining camps of the day faction was often strong and each desperado had his following. Walker's friends raised a mob to hang Yeast Powder Bill and Overland Bob, who were believed to be guilty of the murder. Fifteen hundred men were under arms when Commissioner Haynes arrived with one constable. In the trial which was held immediately the murderers were acquitted because of contradictions of evidence. It says much for the character of Haynes that the miners accepted the verdict and that law and order were established among these pistol-flourishing cutthroats of California and Montana.

The administration of justice was practically the only element that was British in the society of the Kootenay. The majority of miners came to British

Columbia expecting to find law and order and they were not disappointed. While it was directly from American territories that miners went to Wild Horse Creek, they had had contact with other American miners and merchants who had experienced British mining camp life. The prospector wintering in the south had reported the firmness and impartiality of the British law. In the United States there no such officials as the gold commissioners, who centered in themselves the powers of the American mining camp and the British magistrate. The American camp had a greater degree of self-government and usually worked under rules drawn up in a miners' meeting. When they found themselves in an isolated district where no provision had been made for the regulation of public affairs, they arranged temporary measures themselves.(18) Gambling and drunkenness were almost absent from the placer camps of the Kootenay, and crime was remarkably small. This was largely due to precedents established by the first two gold commissioners, Mr. Haynes and Mr. O'Reilly.

It was left for all the early miners of the district . to contend against heavy difficulties by the power of cooperation. The "lone prospector" during the period of

(18) TRIMBLE, op. cit., p. 101.

discovery and extension of placer mining was largely a myth. The prospectors worked in groups as a rule. Some of them made fortunes by becoming miners, but the vast majority gathered little or nothing, frequently not even a bare living. Their implements were the pan, the rocker and the sluice, each for eliminating matter from the gold particles by washing. The miners often sent out prospecting parties to search for better diggings and at times the government aided with a grant.

The discovery of gold dispossessed the fur trader in the East Kootenay as elsewhere. The cosmopolitan immigration which it brought began the evolution of that varied economy which was necessary for the growth of the country. The fur trader led the way in discovering routes and his part should not be disparaged, but it was the mining camp that placed a distinctive mark on the life of the Kootenay.

The rapidity of new discoveries and the continual "rushes" from one stream to another is characteristic of early placer mining in all places. "Poor man's diggings" were sought by a heterogeneous population often lured by the very remoteness and inaccessibility of the country. This entrance of the prospector into the northern region brought about the extension of

placer mining into the Yukon, and this penetration commenced with the discovery of gold in the East Kootenay and the Upper Columbia.

Placer gold also brought the isolated little colony of British Columbia into prominence and created a clearer impression of the value of the region. It caused the Dominion Government to send Dr. Dawson to investigate the mineral wealth. Although his report came after the peak of placer gold production had been reached and all placer gold had been prospected, it was important because it brought to light the other mineral resources to which the placer miners next turned their attention along with the other settlers who came in.(19)

In our own day dragline gold dredges are giving new life to some of the old placer fields. Companies in both California and Oregon have used them for some years with considerable success. The placer gravel is brought to a hopper by means of a dragline bucket and washed in the usual manner, and in places where the gold is not too deep the method has proved successful. In the gold bars of the Fraser River the dragline has met with some success, and within a few years it will be used more widely in the richer fields of British

(19) FORTURA, op. cit., p. 12.

Columbia.(20) Some of the old camps in the East Kootenay are adapted to these dredge operations and no doubt dragline methods will retrieve some of the gold remaining especially in the Wild Horse Creek region if they are undertaken on a sufficiently large scale.

(20) VANCOUVER SUN, newspaper, November 13, 1941, p.3.

VII. LODE-MINING.

Scientific knowledge, capital, and transportation facilities were lacking in the sixties to enable the men of ordinary intelligence, who became the expert placer miners, to undertake regular operations on veins and lodes. Quartz deposits were a puzzle to these miners in all the placer mining camps and usually they were too busy to solve the problem or lacked the interest to seek advice when wealth in placer deposits was so readily available. Single placer claims could be developed by the private capital of the miners themselves but the heavier lode-mining of the nineties demanded large-scale development. Until adequate transportation facilities were also provided neither knowledge nor capital was sufficient for development. Two years after the completion of the main line of the Canadian Pacific Railway silver-lead to the value of \$26,547 was mined in British Columbia.(1) The high cost of transporting machinery had been a major cause of the failure of the boom in quartz mining in the Cariboo in 1876.

The transition from placer to lode-mining in British Columbia began in the Kootenays. This started the real revival of mining which was somewhat retarded

(1) ATKINS, op. cit., Province, newspaper, Mar. 20, 1922.

by slowness in amalgamating and incorporating the smaller claims. American capital soon began to develop the mines when it was found that the mineral belts of the Selkirk range in the Kootenays were direct extensions of those in the more prosperous districts of Idaho and Montana.

It was late in 1886 that the Hall brothers, along with two companions, Winslow and Oakes, all from Colville, stumbled on a promising mineral field on Toad Mountain near Nelson. By September, 1887, Montgomery, a storekeeper from Colville, reported that there were thirty men in camp. During 1888 the large-scale development around Nelson went on apace and a period of activity for inland British Columbia was initiated, the East Kootenay feeling its effects almost at once.

The discovery of the Blue Bell mine had a considerable effect on the progress of East Kootenay, and the romantic story of the mine, while not altogether typical, is worth recounting. It was located on the east side of Kootenay Lake on the Riondel Peninsula almost opposite Ainsworth. Whether or not David Douglas, the botanist, discovered it in 1825 is uncertain, but the Indians and fur traders were using its lead for bullets about this time. A veteran employee of the

Hudson's Bay Company testified that the trappers used to talk of lead that they obtained here and were wont to complain that it was so hard as to scour their gun barrels.(2) Some of their old hand drills were found lying on the deposits by prospectors in 1863.

The authentic story of this vein of silver-lead began in 1864 when a prospector by the name of Doan persuaded the noted American mining investor, Senator George Hearst, to bring a Scotch open hearth furnace and an assay plant to the mine. He was accompanied on this "wild goose chase" by Captain Pingston and an assayer by the name of Meyers, as well as the prospector. Hearst soon found that only adequate transportation facilities would make it possible to mine profitably this immense low grade deposit. He was so angry at being led to think that it was high grade that he threatened to leave Doan on the peninsula, but the intervention of Captain Pingston saved the prospector. His only punishment was the surrender of the \$1000, or rather what was left of it, which had been paid to him on a \$10,000 bond at the beginning of the journey.

In 1878 an American, R. E. Sproule, located all the

(2) RICKARD, T. A., "The Blue Bell Mine, Riodel, B. C.," Vol. 113, Mining and Scientific Press, San Francisco, 1916.

available ground about the mine to the amount of 130 acres. According to law it was necessary to work one day in three on each claim. This Sproule neglected, and an English engineer, Thomas Hammill, filed counter claims on some of Sproule's locations in 1882, on behalf of the Ainsworths of Portland. Sproule took the dispute to the courts and won the case, but he was assessed the costs amounting to \$3000. When this amount remained unpaid for some time, one third of the Blue Bell was sold and Hammill purchased it for the Ainsworths. In 1885 Sproule recorded the Blue Bell in his own name, taking advantage of the law which made a yearly recording necessary. Hammill did the same, but when he attempted to work the claim he was shot dead by Sproule. Intervention by the American Congress did not prevent him from being hanged at New Westminster for the murder.

The subsequent history of the Blue Bell is quite similar to that of the Sullivan in later years. The Ainsworths forfeited their interest from the neglect of their attorney to redeem a \$3000 tax-claim levied by the sheriff, and it passed into the hands of Dr. Wilbur A Hendryx and Company. When Hendryx's smelter at Pilot Bay failed there were no facilities close enough for the low grade ore of the mine and it passed into the hands

of the Bank of Montreal, one of Hendryx's creditors. The bank sold it to the Canadian Metal Company which became financially embarrassed because of the failure of its zinc retort at Frank, Alberta. The New Canadian Metal Company was formed with Mr. S. S. Fowler as manager in 1906 and in ten years this company was operating at a profit, the Blue Bell proving an important source of its income.

The North Star mine possesses none of the romance of the Blue Bell, but nevertheless it really began the quartz excitement in the Kootenay when it was discovered and developed in 1892-3. Messrs. Bourjouis and Langill located the claims on a gently sloping mountain one mile south of Mark Creek, and twenty-three miles by waggon road west of North Star Landing on the Kootenay River, six miles above Fort Steele. Bourjouis had already attained fame as the discoverer of the War Eagle, the Centre Star, and the Lily May of Rossland. It remained East Kootenay's largest mine until about 1900, when the St. Eugene began to block out its big ore quarry.

It early passed into strong hands and its favourable situation aided development. The property was bonded to Messrs. Woods Bros. of Montreal who transferred four-fifths of their interest to Mr. D. D. Mann of Montreal

in 1893. Subsequently a company under the name of the North Star Mining Company was organized. At first shipments of ore were made via the Kootenay River and Jennings, Montana, on the Great Northern Railway to smelters in the United States. In 1897 the North Star suspended shipments until the completion of the Crow's Nest Railway. In 1900 the eighteen-mile railway from Cranbrook to Kimberley was completed and an aerial tramway joined the mine and the railway. Improved transportation played a large part in the total of \$600,000 profits reported from the mine up to March, 1902.(3) By 1904 the mine was said to be worked out but the cleaning-up of deposits lasted until 1908 in which year it shipped 3000 tons. It was shut down in 1910 but was opened up later, shipping 7121 tons in 1919.(4) This material consisted mostly of lead carbonates, much of it being taken from the mine, the dump supplying only a small part.

The St. Eugene, which succeeded the North Star as the most important mine of the East Kootenay, was discovered in 1895. It was a large low grade galena

(3) PROVINCE, newspaper, March 9, 1902, p. 2.

(4) ATKINS, op. cit., PROVINCE, March 25, 1922, p. 32, quoting the Mining Report, B. C., for 1919.

deposit located on the summit of a hill near Moyie Lake. It brought the town of Moyie into existence on the eastern shore of the more southerly of the Moyie Lakes in 1898, and it began to ship ore in 1899. An aerial tramway conveyed ore to the concentrator which had a daily capacity of 400 tons.(5) By 1905 it was the greatest lead mine in British Columbia with a production of 150,000 tons of ore, yielding 900,000 ounces of silver and 36,500,000 pounds of lead. In 1910 the output fell off and the town of Moyie declined with the mine, until the construction of a 500-ton concentrator in 1926 to extract zinc from the tailings of the old mill caused a revival of prosperity for some years. In 1937 the St. Eugene Extension Company commenced to pump out the water from the old St. Eugene Mine, the programme including the driving of a tunnel under Moyie Lake. An adjoining mine, called the Society Girl, was also opened up to take out the ore known to remain in the old workings.(6)

The Sullivan Mine has had a more chequered career,

(5) MINING REPORT, B. C., 1901, p. 794.

(6) SCHOFIELD, S. J., "Geology of the Cranbrook Map Area," p. 119, Memoir 76, Geol. Survey of Canada, 1915, gives the total production of the St. Eugene since its discovery to September 30, 1913 as 1,017,106 tons of ore containing 5,365,232 ounces of silver and 229,305,721 pounds of lead having a value of \$10,626,608.

SEE TABLE II OF APPENDIX FOR ANNUAL PRODUCTION.

although it is now established by competent opinion as having a probable large scale production of close to half a century. Pat Sullivan, John Cleaver, E. C. Smith, and W. C. Burchett discovered it in 1892, and bonded it to Colonel Redpath and Judge Turner of Spokane in 1896. The mine was situated just two and a half miles by road north of Kimberley. In 1903 this company, known as the Sullivan Group Mining Company of Spokane, commenced building the Marysville Smelter some four miles from Kimberley, in an attempt to solve the problem of the low grade ore. The smelter was remodelled in 1904, and was finally closed down in 1907, partly as a result of the decline in the prices of lead and silver in the depression of that year. The Sullivan Mine was also closed as the company was unable to raise fresh capital and it was bought at a sheriff's sale in July, 1909, by the Guggenheim Corporation. When in 1910 Mr. Brownell of the Guggenheim Corporation offered the mine for sale to Mr. Aldridge of the Canadian Mining and Smelting Company he thought he was unloading a "metallurgical lemon." The next few years witnessed a struggle to evolve a suitable method to smelt the very "zincey" ore of the Sullivan. The high prices of metals during World War I made it an economic proposition to treat Sullivan ore running from 25% to 35% zinc. After the War cheap

power and a cheaper process would alone make it possible to work the mine profitably. The first was secured in 1916 when the West Kootenay Power and Light Company was acquired by the Consolidated Mining and Smelting Company and arrangements were made for its expansion. The second was much slower in being accomplished. In March, 1920, a flotation plant was established to parallel the 600-ton magnetic separation plant, and it was apparent that the flotation process would render obsolete the magnetic separation method, and the 600-ton magnetic plant was remodelled to enlarge the flotation operation. By August, 1920, the first lead concentrate by differential flotation was made. This made possible the building of the Kimberley concentrator with a capacity of 3000 tons a day in August, 1923. Today the concentrator has a capacity of 6500 tons daily. Thus was it made possible for the Sullivan to retain to the present day the distinction, won in 1914, of being the largest lead producer in Canada.(7)

Of the other mines, the Monarch Mine, near Field, was the most important. Discovered in 1884, it was purchased from the Coffman Brothers by the B. C. Smelting Company in 1887, and by 1888 more than 600 tons of the

(7) SEE TABLE II OF THE APPENDIX FOR PRODUCTION OF THE MINE.

best silver-lead ore had been shipped to smelting works in Vancouver. The residue was concentrated so as to make it possible to dispose of it profitably. In 1890 terms were arranged to supply the Revelstoke Smelter Company with 200 tons of ore per month. Although the supply was apparently inexhaustible only 2,420 tons of ore were mined from 1884 to 1910.(8) The long haul to the smelters and the necessity of shipping only the richest values because of costs of transportation had kept down production. However, the mine is still being worked with encouraging results.(9)

Another promising ledge was struck at a creek flowing into the Columbia River just a short distance north of Lake Windermere, called Toby Creek. About 1884 there had been a local rush to the creek when comparatively unskilled miners had taken out a considerable quantity of gold.(10) Had the Golden Smelter been a success Toby Creek would have become undoubtedly one of the leading centers in rich mineral ores in the East Kootenay since the creek emptied into

(8) MINING REPORT, B. C., 1935, p. E13.

(9) MINING REPORT, B. C., 1931, p. A138 gives following:

YEAR	TONS	SILVER(oz.)	LEAD(lb.)	ZINC(lb.)
1926	42,246	64,427	8,977,319	228,000
1929	1,730	1,419	396,231	
1930	75,054	61,217	12,084,062	11,180,379

(10) MINING REPORT, B. C., 1888, p. 308.

a section of the Columbia River where steamboats plied in the summer months, enabling the miners to get in supplies and forward ore to Golden at a cheap rate.

When Messrs. Cochrane and Brady, in 1888 conveyed their rights to a company formed in London, England, Finlay Creek once again came into the news.(10a) Both silver-bearing and gold-bearing quartz seemed to abound throughout the district. All that was needed was experts to prove the worth of the deposits and capitalists to develop them. For several years the Finlay Creek Hydraulic Company reaped a rich harvest in their large scale project and attracted additional capital to the ledges also as their work progressed.

To enumerate all of the minor developments of the time would take more space than they deserve. The Spillimacheen locations made in 1884 had a favourable position about forty miles from the railway at Golden, and four miles from the Columbia River. Here again the failure of the smelting works at Golden militated against the development of this huge low grade deposit.(10b)

Wild Horse Creek again received attention by the discovery in 1888 of five quartz claims showing a fine

(10a) This was the creek where gold had been discovered in 1863. See page 46.

(10b) The failure of these smelting works is discussed in Chapter VIII below.

grained galena assaying from twenty to eighty dollars to the ton in silver. The Albion Iron Works of Victoria supplied the East Kootenay Exploration Syndicate with additional equipment in 1893 and a fair profit was reported in the ensuing years. Other discoveries in mineral and quartz were made on the various forks of St. Mary's River and Wild Horse Creek in 1894. As in the case of discoveries of gold quartz veins on Perry Creek these were overshadowed by the silver-lead development. Prospectors in search of placer gold in 1896 made many locations of gold quartz claims on Perry Creek. With these low grade veins careful working would bring some success. The copper-gold deposits of the Cranbrook area are similar in being low grade, but their extent and character will no doubt give them value in the future when the improved methods now in use in other locations have been introduced.

All these indications have had social implications even in regions where government reports have shown the veins to be secondary deposits. The lust of discovery and exploitation has seized upon the population. Prospects have been pushed forward at great expense in the urge to strike the main lead and the earnings of many months as well as unending labour have been expended in

vain efforts to push forward a tunnel to strike the vein where the ore would be present in sufficient quantities to make it a commercial proposition. A winter's wages at a lumber camp would disappear in a few weeks for powder and food, and the optimistic prospector would keep on for years driving a narrow tunnel two or three miles into the heart of a mountain. In the Roosville Valley nine miles east of the Kootenay River, on the international boundary line, Commissioner J. F. Armstrong reported as early as 1901 that there was a rich sulphide of copper ore with black oxide lying between syenite and porphyry walls.(11) In 1923 the main lead had not been found and most of the inhabitants had some interest in one or more of the numerous prospects dotting the sides of the mountains, still hoping for the magic "find". In 1944 the discovery had not been made, and most of the original tunnels had long since caved in and the owners died or moved away.

The numerous labour strikes in the Crow's Nest field had also an important effect on lode-mining since the lack of coke meant the closing of smelters. This became so serious as time went on that the Consolidated

(11) MINING REPORT, B. C., 1901, p. 1005.

Mining and Smelting Company changed its source of coke supply from the Crow's Nest Pass Coal Company to the International Coal and Coke Company at Coleman, Alberta. A considerable share of the stock of this company was held by the smelting company and a steadier supply of coke kept its properties operating at fuller capacity.

Since all the output in the early days found its way to the United States smelters at Tacoma, Great Falls, Helena, Denver, or Omaha, the tariff was also important to British Columbia miners. In 1891 a tariff of \$30 per ton was placed on lead ores by the American Congress. This had the effect of establishing smelters on the Canadian side of the line and after the construction of the Crow's Nest Railway in 1898 with its transportation facilities making available the coal and coke of the Crow's Nest area a great development both in smelting and lode-mining took place.(12) The total production of placer gold, silver, copper, lead and zinc for the East Kootenay for the period from 1900 to 1938 was \$403,104,260.(13)

(12) HOWAY, op. cit., Vol. II, gives figures showing the development from Year Book, 1903, p. 137; 1911, pp. 178-180. TOTAL VALUE OF GOLD, SILVER, LEAD, COPPER.

1894-1898	\$20,964,000 (PROVINCE)	\$ 493,000 (EAST KOOTENAY)		
1901-1905	63,950,000	"	5,857,000	"
1906-1910	75,974,000	"	9,338,000	"

(13) MINING REPORT, B. C., 1938, p. A21, IX, E.

The development of lode-mining brought in the most stable and permanent type of mining community. Instead of the careless haphazard development of the early placer years we find a scientific progress of well-surveyed mining properties; not a group of needy adventurers, but an organization of wage-earning labourers; the beginning of permanent settlement based on several primary industries instead of a boom society sustained by gold fever. It is true that "ghost towns" abound in the south-eastern interior of British Columbia but most of these were not abandoned until after some years of production and new centres arose to take care of the shifting population. Lode-mining speeded the construction of the Crow's Nest Railway, aided in opening the coal fields, and brought in a numerous population to serve as a market for subsidiary industries.(14)

(14) See Chapter XI below.

VIII. SMELTING.

The lode mines of the area never could have developed to their fullest extent without the growth of smelting facilities near the scene of the lode deposits. When the ore was sent to smelters in the United States only the ore highest in silver and lead values could be freighted because of transportation charges. The zinc content of the ore, too, was looked upon as without value and often refractory ores with a high zinc content were rendered valueless because of the expense of getting them to the smelters. British Columbia lode miners lacked foresight with regard to zinc although as early as 1885 American mining men were preserving zinc dumps with the hope of using them in the future. It was long after this that the same idea occurred to British Columbia mining men. The higher price of zinc during World War I and its great usefulness as a war material spurred on the development of smelting methods designed to utilize this "zincey" ore and to make it possible to smelt it sufficiently cheaply to render it a profitable source of income.

The first smelter in the East Kootenay and the first in British Columbia was a small iron and stone affair built on the south side of the Spillimacheen River

near its junction with the Columbia River. Constructed in 1883 by John McRae it was intended to smelt the silver-lead ores of the neighboring Jubilee and Spillimacheen Mountains. It still remained in 1939 as a monument to this pioneer prospector, but it was then dismantled to supply stone for the piers of a new bridge across the Spillimacheen River.

The second smelter, often claimed to be the pioneer smelter in British Columbia, was built in Vancouver between the years 1885 and 1887 to smelt the ore from the Monarch Mine in East Kootenay. Its life followed the traditional chequered one of the early smelters--prosperity and continuous operation when prices were high and partial operation or non-operation when prices dropped. By 1891 the Monarch Mine was supplying some ore to a smelter built by an American concern at Revelstoke, B. C. But both smelters were too small to compete with those south of the boundary line. Smelting methods were crude and the output still had tariff and railway charges to pay before it reached a refinery. As in the case of the Golden smelters they were foredoomed to death by starvation.

The smelters at Golden were "children of ill-conceived

(1) S. S. FOWLER, "Early Smelters in B. C.," B. C. Historical Quarterly, Vol. 3, 1939, p. 200.

enterprise."(1) The first smelter was built by a Calgary Syndicate consisting of J. A. Lougheed, Mr. McCarthy, and H. B. and George Alexander in 1891. One lone carload of ore from the Monarch Mine was received but no other ore ever reached the smelter. In 1896 Golden's high hopes were doomed when an English Syndicate, toying with the idea of developing the Monarch Mine on an extensive scale, decided against it. Most of the other mines in the immediate vicinity of Golden were also low grade and would have had to be pushed forward very vigorously for the smelter to survive. Even the richer deposits had transportation difficulties to surmount and at this time most of the available capital was going into the Toad Mines at Nelson and others in its vicinity. Negotiations for the sale of the smelter in 1898 and 1900 were unsuccessful and it was left to be torn down mostly by transients who were in the habit of using its boards to make themselves a fire under the smelter roof. The second smelter was built in 1903, a mile northwest of Golden on Hospital Creek, by "The Labourers' Co-operative Gold, Silver and Copper Mining Company." It was purely a selling inducement in connection with a stock promoting scheme. In the fall of 1905 the company operated their

smelter for one evening, but did not even remove the slag. The machinery was sold for old iron in 1937 at a Provincial Government tax sale. The closing of the Marysville Smelter in 1907 brought to an end the attempts to develop smelting in the East Kootenay.

Thus the smelters of East Kootenay met with little success, and it remained for those of West Kootenay to bring in improved processes which would make it possible to smelt the low grade ores of many East Kootenay mines. These smelters had a history dating back to 1887. In

that year the Le Roi mine at Rossland completed its contract with Mr. Heinze's Trail smelter and the owners of this mine erected their own smelter at Northport, Washington, near the forty-ninth parallel, in an effort to secure cheaper smelting charges. When the Canadian Pacific Railway Company bought out Mr. Heinze's smelter and tram and added a lead stack to the smelter in 1898 Slocan and East Kootenay ores were brought to it. In 1900 ores from mines in the Boundary country were sent to the improved smelter and since its increased capacity gave lower smelting charges Northport was forced to give up. In 1897 the Hall Mines smelter blew in at Nelson giving a market which helped coke production in the East Kootenay when the Crow's Nest Railway was

completed in 1898. The Pilot Bay smelter, some eight miles down Kootenay Lake from the Riondel Peninsula, was opened in 1895 and operated for about two years. The property passed into the hands of the Canadian Metal Company of Frank, Alberta, who planned to recommence operations in 1906 but their financial difficulties prevented them from doing so.

The development of the Trail smelter had the greatest repercussions on the East Kootenay mines. In 1906 the Canadian Pacific Railway combined its smelter interests with a number of mining interests to form the Canadian Consolidated Mines, Limited, later changed to the Consolidated Mining and Smelting Company of Canada, Limited. The resources of this large company made possible the greatest development of East Kootenay mines. Research, foresight, and its confessed policy of having a new mine ready when the old one was worked out brought steady progress until in 1942 the company had a total of 1698 employees in East Kootenay and 5184 in its smelter at Trail. The smelter aided coal mining in the south-east Kootenay until strikes forced it to look for a steadier source of supply at Coleman, Alberta.

The operations of the smelter at Greenwood and the Granby smelter at Grand Forks in the Boundary Country

were both handicapped by uncertainty in the supply of coke. In 1911 strikes in the East Kootenay mining field forced the two smelters to import coke from Pennsylvania at a price of \$10.55 a ton. Further strikes, combined with reduction of copper recovery and increased mining costs, brought a great lowering in the amount of ore handled in 1917 and continued strikes in 1918 further limited operations. On June 18, 1919, the Granby Consolidated Mining and Smelting Company closed its Phoenix mines near Grand Forks in spite of the fact that mining operations could have been continued indefinitely and profitably and at the same time the company also closed its smelter. Copper prices had fallen at the end of the Great War and the lack of a sure and a cheap supply of coke caused the Granby Company to concentrate its capital on the development of the Anyox mine on the Portland Canal, northeast of Prince Rupert. A new smelter had been built at the mine in 1914 and this was now enlarged. A certain and cheap supply of coke was assured from the Vancouver Island mines. The British Columbia Copper Company at Greenwood closed their smelter for essentially the same reasons, although the main lead in the mine of the company near Greenwood had just been discovered.

The only smelter ever built in Alberta had a history just as discouraging as that of the smelters of East Kootenay. The Canadian Metal Company had two considerations in mind in constructing a smelter at the Frank mines. The best practice in the world required 1.75 tons of coke to each ton of ore, and the zinc smelting process required ore concentrated to a high grade. Therefore it was cheaper to take the ore to the coal, especially as the company had a nine-foot seam at Frank which could be mined at \$1.00 per ton whereas the Crow's Nest Pass Coal Company charged \$2.00 for mine-run coal at the mines. The Canadian Pacific Railway set the freight rate at \$2.50 per ton from Slocan to Frank so in November, 1905, when the smelter was still under construction, it would seem that conditions were good for success. It is interesting to note that clay for the zinc retort manufacture was obtained from St. Louis. However, unsuspected difficulties were encountered in smelting the zinc and soon the company was on the verge of financial collapse. The New Canadian Metal Company, formed with Samuel S. Fowler as manager, finally closed the Frank works in 1906.

The many experiments pointed to the impossibility

of smelting on a small scale. The large-scale Trail smelter, however, has been able to expand its operations and has long remained the only smelter in the whole of the Kootenays. The results which accrued to mining as the smelting facilities expanded have already been pointed out and the effects of smelting on the growth of population can be seen by examining the census returns.(2) Without the ore of the East Kootenay the smelting operations would have been enormously curtailed, and the population of both East and West Kootenay much reduced. Thus the progress of mining in the East Kootenay closely parallels the expansion of smelter facilities.

(2) SEE TABLE XIII OF THE APPENDIX.

IX. COAL MINING.

The coal measures of the Crow's Nest Pass were known at an early date. In the fall of 1845 Father De Smet passed through the district and noted the existence of coal in his journal. In the seventies Michael Phillipps and a Mr. Woods made a journey through the Crow's Nest Pass, solely for the purpose of exploration and discovery, and gave some publicity to the presence of the coal seams. Largely through their representations and the activities of R. L. T. Galbraith, M. P. P. for Fort Steele, the Dewdney Trail was built through the Pass and opened in 1879. Even in 1873 the Legislature at Victoria voted a sum of money for prospecting on the Elk River, an important tributary of the Kootenay River flowing from the north-east, but no doubt this was mainly with the idea of discovering gold.(1) In 1875 that great empire builder James J. Hill made a survey of all available sources of coal supply and formed the Northwestern Fuel Company destined to have great importance in opening up these coal measures and supplying markets. In 1887 William Fernie formed a company composed of Colonel Baker, Ned Bray, Peter Fernie, and himself to exploit the coal. In June, (1) COLONIST, newspaper, June 15, 1873.

1887, the company staked 10,000 acres and for the next ten years William Fernie spent his time in opening and tracing these coal seams destined to be one of the largest coal deposits under one management in America.(2)

When the coal beds were examined in the summer of 1891 by the geologist, Dr. Selwyn, and his conservative estimate gave an extent of 144 square miles with an available tonnage of 24,976,000 long tons per square mile, William Fernie's faith was justified. Mr. McEvoy, another mining engineer, said the coal measures extended over 230 square miles with 100 feet of coal capable of being mined giving a total tonnage of 22,595,200,000 long tons as against Dr. Selwyn's estimate of 3,596,544,000 long tons.(3)

In 1909 Dr. Dowling of the Geological Survey divided the area into the southern and northern sections. In the former, 230 square miles in area, of which Fernie was the largest shipping point, the length north and south was about thirty miles and the maximum width twelve or thirteen miles. Twenty-two seams were present with a depth of coal equal to 216 feet, 100 feet of which was available, giving 22,600,000,000 long tons.

(2) ATKINS, B. R., "Some B. C. Biographies--Robert Galbraith of Galbraith's Ferry," PROVINCE, newspaper, July 22, 1922, p. 13.

(3) Coal is usually measured in long tons of 2,240 pounds.

In the latter 140 square miles were coal beds, with a maximum width of seven miles and a length of forty miles, extending from a point twenty-four miles north of Michel Creek to the height of land at Kananaskis River.

100,000,000 tons of coal were available per square mile, giving a total of 14,000,000,000 long tons for the section. Thus the total tonnage available in the whole area was 36,600,000,000 long tons.(4)

For the most part the coal was found in Cretaceous rocks which had assumed the form of a flat-bottomed basin except in places where faults had destroyed the regularity of this arrangement. The fact that the coal beds were at the base of elevated plateaus made it impossible to reach the coal except through the outcrop. The Coal Creek seams were located advantageously for cheap and economical working since they were situated just five miles east of Fernie at an elevation of approximately 500 feet above this centre.

These were the original seams opened in 1897 when twenty men were employed bringing out a supply of coal in readiness for the completion of the Crow's Nest Railway to Fernie. Pending the arrival of the railway machinery

(4) DOWLING, "The Coal Fields of Manitoba, Saskatchewan, Alberta and Eastern British Columbia," cited in Gosnell, Year Book, 1911, pp. 188-9.

was first brought in by waggon road largely through the efforts of Mr. W. Blakemore, general manager, and Mr. Frank Smith, the mine manager. Later a short line was built connecting the mines with the railway and under these conditions a production of 9,334 long tons was achieved in 1898 with a working force of 123 men.

Improved facilities in 1901 made possible a tonnage of 322,245 long tons from 820 employees. The coal found an outlet largely at centres on the lines of the Great Northern and Northern Pacific, in Montana, Idaho, and Washington, and the coke was used at the smelting centres of West Kootenay. The peak production of these mines was 825,185 long tons of coal and 157,905 short tons of coke in 1913, from which the coal production declined with spasmodic recoveries, to a low of 53,874 long tons in 1933.(5) By this time the depth of workings and the greater expense of mining the coal, combined with low prices and sparse markets, had been keenly felt and energies were bent to develop the seams where more economical working was possible.

This was now possible at the Michel Mines just nineteen miles from Fernie on the Crow's Nest Railway. Michel was opened up to prospecting workings in 1898

(5) Coke is usually measured in short tons of 2000 pounds.

and by 1900 it had produced 9,966 long tons of coal. Its peak year was in 1942 with a production of 868,080 long tons of coal and 85,855 tons of coke, of which latter product 36.4% was sold in the United States.

Other mines in the district had an unfortunate record. The Carbonado Mines were opened by the Crow's Nest Pass Coal Company, the owners also of the Michel and Coal Creek mines, in 1902. They were situated about four miles from the Morrissey Station on the Crow's Nest Railway and some twelve miles from Fernie. Up to 1909 the output of coal varied from 41,332 long tons in 1902, to a peak of 138,750 long tons in 1903, a low of 220 long tons in 1907, and a final production of 32,287 long tons in 1909.(6) Dangerous workings, gas outbursts, and "bumps" led the company to close the mines in 1909 and a population of more than 1,000 was forced to seek employment elsewhere.(7) Today most of the buildings

(6) SEE TABLE VIII FOR COAL AND COKE PRODUCTION(1898-1942)

(7) "Bumps" are believed to be caused by the subsidence of the roof in certain areas under rigid rocks leaving a great unsupported span of rock stratum. When one of these has given way, it means the hammerlike blow of thousands of tons striking on the immense roof or flexible stratum overlying the mine, which imparts the blow downwards, breaking timber, causing extensive falls in the mine, and sending rock tremors through the strata. "Bumps" are not related to gas outbursts, but ~~they may~~ they may occur, as in the State of Washington and Great Britain, where overlying rocks are rigid and there is great weight of cover, and when mining has either extracted too much coal in advance mining or it has not been taken out completely starting from the outcrop.

have been removed or torn down for rough lumber by contractors who purchased them for small sums.

The Canadian Pacific Railway was chiefly instrumental in opening the Hosmer Mines, some seven miles from Fernie on the Crow's Nest Railway, under the name of the Pacific Coal Company. The history of these mines was almost identical with that of the Morrissey Mines, except that the mine was much superior and the equipment more elaborate. Starting in 1908 with an output of 2,627 long tons of coal and 771 tons of coke it reached a peak production of 217,528 long tons of coal and 59,671 tons of coke in 1913 and discontinued operations about the middle of 1914. The coal was found to be of poor coking quality and inferior to other coals in the neighborhood for steam purposes.

The Corbin Mines had a more satisfactory record. D. C. Corbin formed the company to run the mines which became noted for the largest per capita production of any field in the East Kootenay.(8) In 1918 the output for each man underground was at the rate of 2066 tons for a year of 291 days. The highest output per man underground in the Coal Creek Mines was 1355 tons in 1941 and for Michel 1544 long tons in 1942.(8) In the

(8) See Table IX of the Appendix.

years from 1918 to 1939 the highest tonnage per man underground was 919 in 1939 in Coal Creek and 1140 in 1934 for Michel.(9) In Corbin the coal was close to the surface and large steam shovels could be used together with coal-cutting machinery, whereas in the other two fields coal-cutting machines were not being used to any considerable extent until about 1939. The Corbin Mines produced mainly a steam coal, its production reaching 280,691 long tons in 1932. Repeated strikes and expensive transportation finally impelled the company to abandon operations in 1935. At the present time most of the steel equipment has been sold for scrap metal and another camp has joined the legion of "ghost towns" in the south-eastern part of British Columbia.

Today coal mining is exceptionally prosperous. After some trying years increased output in adjoining mines meant a large increment in the number of miners required and the population of Corbin was absorbed. A new coal area has been opened about two and a half miles from Fernie which is to have at the end of 1944 a production of 4000 tons a day. This Elk River Colliery, as it is called, is only two miles from the Coal Creek Mines and the coal will be brought from these mines by

(9) Table IX gives figures for all years for which they are available in the annual reports of the Dept. of Mines.

a system of electric hoists to the new Colliery. The improved transportation facilities added to the very efficient tippling and washing arrangements which will be available by the fall of 1944 at the Elk River Colliery will greatly cheapen the costs of production and will give a new lease of life to the Coal Creek Mines.

One of the most important economic effects of coal mining was the lowering of the costs of smelting in the Kootenays. This made possible the reduction of low grade ore which required as much as twenty-five tons of coke to each hundred tons of metalliferous rock and thus the way was paved to a great development in other industries and an increase in population, not only in the Kootenays but also in Idaho and Washington. The importance of coke making was shown by the fact that by 1906 about half the output of the Crow's Nest Mines was converted into coke and by 1907 the Crow's Nest Pass Coal Company owned 1,128 beehive ovens with a daily capacity of 4000 tons.(10) Morrissey Mines produced 13,072 tons of coke in its short life and Hosmer 215,989 short tons. The International Coal and Coke Company at Coleman produced in 1908 about 2000 tons of

(10) INNIS, H. A., "Settlement and the Mining Frontier," p. 306, MacMillan, 1936.

coal per day of which one-half was sold to the Canadian Pacific Railway for locomotive use and the remainder converted into coke for sale to the British Columbia Copper Company at Greenwood.

In 1944 coke ovens are in operation only at Michel and Coleman in the whole of the Crow's Nest Pass region and the long lines of ovens at Fernie stand in silent testimony of man's inhumanity to man, for labour troubles were chiefly responsible for most of the ills of the Kootenays. The strikes in the coal mines in 1902 prostrated business from Michel to Grand Forks. "Following strike troubles in the Crow's Nest Pass, production is resuming normal proportions--marked improvement in metalliferous mining." (11) These remarks made by the Honourable William Sloan in 1919 in his capacity as Provincial Minister of Mines may be applied with slight reservations after all the labour troubles in the East Kootenay. Between the years from 1902 to 1924 only the years 1904, 1905, 1908, 1910, 1912-15, 1918, 1920, 1921, and 1923 were free from strikes and even in some of these years lay-offs were frequent. The entrance of the United Mine Workers of America into the district in 1902 brought on the strike of 1906,

(11) COLONIST, newspaper, Oct. 17, 1919, p. 14.

which resulted in the passage by the Dominion Government of the Industrial Disputes Act. Even while the board of arbitration, provided by the act, was being constituted in 1907 another strike was called and this disregard of legality was typical of succeeding strikes. The instability and irregularity of employment explained the lack of peaceful relations between the company and its employees especially in the later years when the over-development of the mines and insufficient safeguards made the mines a dangerous place in which to work. This added danger seemed to imply that higher wages than were paid in other mines were necessary. In the early years the United Mine Workers' Union called strikes in order to secure recognition and in those years the lack of competition from oil, as well as from other coal mines on the Alberta side of the Crow's Nest Pass, made conditions more favourable for a satisfactory settlement. When markets became more distant because of the increased production of the mines of the Crow's Nest Pass Coal Company, and the opening of mines at Corbin, Coleman, Hillcrest, Blairmore, and Frank, and the profits were correspondingly reduced, the various mining companies resisted the demands of the miners with greater vigor.

There were other important social and economic effects of the coal mining industry. All occupations were marked to a greater or less extent by the instability of the basic industry, and a fluctuating population was the result. The outbreak of World War I meant prosperity and new development but this well-being was only secured at some danger to the future since it meant exploiting mines which could hardly stand greater production than heretofore without sacrifice of lives. The explosion of 1902 in No. 2 Mine at Coal Creek was caused at least in part by over-development in the effort to secure great production at the earliest possible date. Improper mining in this same mine was the cause of "bumps" in 1907-08 and in turn the subsidence over this area affected the strata higher up which caused the occurrence of the phenomenon in other mines.

(12) Safety measures applied since the first World War, and increased knowledge, will no doubt lessen the danger of over-development caused by the present War but old mines are still being worked and "bumps" are still common, the reason for them not being fully known even at this date. As long as there is uncertainty as to markets just so long will these harmful social and

(12) COLONIST, newspaper, Sept. 8, 1917, p. 7.

economic effects remain in the industry. The development of new mines and the continued abandonment of old workings is one answer to the dangers involved. In times of prosperity the various companies can afford this but in times of depression it is expensive to close lucrative mines especially as new development seems an unwise expenditure to the shareholders.

Many and varied have been the solutions to the recurrent depressions which have affected coal mining in the past, and no doubt some of these will be brought into practice in the course of the next quarter of a century. The question was asked in the Victoria Colonist of November 26, 1927 whether the next five years would see the production of liquid fuel on a large scale by low temperature carbonization of various grades of coal. The depletion of oil reserves will doubtless bring an answer in thirty or forty years. Government aid for prospectors will help in the discovery of new mines and research will find ways of using coal hitherto undreamed. All producing areas in the East Kootenay were discovered without exception more than forty years ago and the enormous beds known to exist await only greater uses for coal to spur on development.

Professor Griffith Taylor in a recent article pointed out the importance of coal in the coming industrial age.(13) He envisaged Lethbridge and Drumheller as the Pittsburghs and the Buffalos of the west within a century when Albertans would emulate what the Russians have done in carrying iron from their deposits in the Ural Mountains to their coal fields in Kuznetsk, 1,200 miles to the east.. Or, lest the transportation problems involved in this scheme be too great, the coal could be gassified right in the mines and piped out to generate steam which would in turn be used to supply electrical power. With the huge coal reserves of the East Kootenay and a vast lake of iron pyrites only eighty miles away at Kimberley, the next century should see great development in this area.

(13) CALGARY HERALD, newspaper, January 8, 1944.

X. TRANSPORTATION.

Prior to 1865 roads and trails to the East Kootenay led wholly from American territory. The route from Victoria was by steamer to White Bluffs on the Columbia River via Portland; then by land to Colville, Washington, and on by waggon road, opened in 1864, to Lake Pend d'Oreille in Idaho. A safe and well-defined trail then led to Bonner's Ferry where travellers crossed to the east bank of the Kootenay River proceeding to Galbraith's Ferry through fairly open country by a narrow trail. From Galbraith's Ferry the trail led west of the Kootenay River to Wild Horse Creek. Constable William C. Young used the latter part of this trail through Washington Territory on his journey to Wild Horse Creek in 1864 because very unfavourable reports had reached him about the condition of the trail from Hope to Fort Sheppard.(1)

Dewdney's Trail was built in 1865 in an attempt by the British Columbia merchants to get a share of the trade then monopolized by the United States. The trail began at Fort Hope on the Fraser River. Passing down the Columbia River to Fort Sheppard it came into the East Kootenay by way of the Moyie River and Cranbrook

(1) W. C. YOUNG to A. Birch, Col. Sec'y, Aug. 30, 1864, Victoria Archives.

to Wild Horse Creek. The trail was built largely by Chinese labour at a cost of \$74,000 which included such prices for provisions per pound as tea \$1.90, flour 42¢, bacon 70¢, sugar 65¢, coffee 65¢, and rice 60¢. Shovels were \$36.00, picks \$45.00, and axes \$42.00 a dozen, and the wages for graders and choppers were \$75.00 per month.(2) By the middle of September pack trains were able to make the trip from Fort Hope to the Kootenay diggings across British territory, but the season was too far advanced to allow the British merchants to get very much of the trade.

It was only by the application of more money and greater intelligence that the Government of British Columbia could hope to triumph over the geographical obstacles which impeded access to the Kootenay. If a roadhouse relay system had been built along the Dewdney Trail as in the Cariboo, Victoria and New Westminster would have been able to compete with Fort Colville, Walla Walla and Fort Benton. This alone, however, would not have sufficed, for the total absence of bridges would have remained a fatal handicap, because in the summer months many streams were flooded and difficult to cross and the Salmon and Kettle Rivers became quite unfordable. Deep snow in the winter and the flooding of

low-lying stretches along the Kootenay River in the summer were still further impediments. As a result travellers were often obliged to make a detour of 160 miles to the south of the border through Colville and Spokane Prairie, effecting a junction with the Fort Sheppard Trail about sixty miles from the mines. Under these circumstances the customs duties which the American traders had to pay were more than balanced by the higher costs of transportation by the Canadian route and Victoria and New Westminster remained unable to compete effectually with their American rivals.

Communication was still by southern American trails right up to the 1880's. In the days of the gold rushes Bonner established a ferry on the Kootenay River and made a large fortune in one season. A narrow Indian trail was the only access to the Kootenay mines in these years. The trail northward from Bonner's Ferry to Lake Windermere became the artery between Upper and Lower Kootenay. An enterprising Walla Walla firm used camels in the year 1866 or 1867 but was forced to abandon them because they stampeded the horses and mules. In 1869 when the Perry Creek mines were showing increased activity there were only three trails by

(2) E. DEWDNEY to the Col. Sec'y of B. C., June 29, 1865, original MS. in Victoria Archives.

which goods could be imported into the Kootenay country: by the Tobacco Plains on the Kootenay River, by the junction on the Moyie River, and from Colville and Fort Sheppard. All these trails converged about twenty miles from the mines. The Galbraith Brothers constructed a forty-two foot ferry on Tobacco Plains for the accommodation of travellers from Montana to Perry Creek. In 1875 it was estimated that the Americans carried on trade valued at \$15,000 to \$20,000 over this route. The portion of the trail from Fort Sheppard to the head of Kootenay Lake was unusable for eight months in the year because of the swampy nature of the land in the spring and summer and the snow in the winter. After the building of the Northern Pacific Railway to Sandpoint in 1883 the forty mile trail to Bonner's Ferry was greatly improved and this road into the Kootenay country became the best one for travellers. Before this there had been no railway within 500 or 600 miles of the Kootenay District.

One of the most important waggon roads was built in 1887. This started at a point known as Steamboat Landing on the Columbia River, about fifty miles south of Golden, and thence ran south to the heart of the East Kootenay, a distance of 140 miles. The Canadian

Pacific Railway passed through Golden and a regular steamer service went from Golden to the starting point of the road so that a moderately cheap means of transportation was furnished from the railway to within a short distance of the American boundary. The ^{road} assisted to an incalculable degree the future development of mineral and other resources in the East Kootenay district and particularly aided the Finlay Creek Mining Company when the company built nine miles of road for the purpose of connecting its mines with the main road at the Upper Columbia Lake.

As the 1890's approached and the revival of placer mining and the beginning of lode-mining went on communication by roads and trails was much improved. By 1896 a good waggon road extended from Golden to Fort Steele, whence roads radiated to Wild Horse Creek, Perry Creek, and St. Mary's River, North Star Mine, Cranbrook, Tobacco Plains and across the border to the south. The Toby Creek Trail started a few miles north of Windermere, crossed the Columbia, then went up Toby Creek to the divide, thence down Hammill Creek to Argenta on the north end of Kootenay Lake. The Moyie Trail ran from Cranbrook southwest past the St. Eugene Mines on Moyie Lake, to the landing on the Kootenay River, where steamers

in the Kootenay Service stopped once or twice a week. Mark Creek was reached by a waggon road from North Star Landing on the Kootenay River. This road also served later as an outlet for many small silver-lead-zinc claims. When navigation stopped in the autumn a weekly stage ran between Golden and Fort Steele carrying the mails.

This was in marked contrast to the mail service in the early days. In 1845 Father De Smet's letter to the Father Superior of his Order took from fifteen to eighteen months to reach him; today less than fifteen days is required for mail from London, England to the Kootenay River. In 1865 one William Read received \$300 a trip for a monthly mail service between New Westminster and Kootenay. In 1866 responsible persons were offered a sum of \$150 for carrying mail to the Kootenay, but despatches were so infrequent that residents of the Kootenay engaged a private express and sent their mail through Walla Walla.(3) During the summer there were but four expresses to bring them news while in the winter the mines were quite isolated. In 1876 mail came regularly every two months.

Packing charges were lowered as transportation improved. In 1864 it took twenty-five days for pack

trains to make the trip from Walla Walla to Wild Horse but large profits were made since goods were carried at the rate of 75¢ a pound. The time taken for the distance of about 535 miles from Hope to Wild Horse Creek was one month including five days delay for resting the horses, and in 1869 the freight charges from Hope were 16¢ a pound and from Walla Walla 10¢ to 12¢ a pound. One merchant in June of that year had 200,000 pounds of freight on the way from Portland, the charge from Wallula to the Kootenay mines being 11¢ a pound. The supplies came chiefly from Walla Walla in the summer months although the Hudson's Bay Company supplied their posts partially from British Columbia according to the time of the year. In 1870 the average packing rates from Walla Walla were 12¹/₂¢ a pound, although Robert Galbraith contracted with Walter Moberly to bring in supplies for his survey party from Spokane Bridge at 10¢ per pound.

Cheaper carrying charges and more abundant supplies lowered the prices of provisions as time went on. On April 3, 1865, twenty pounds of Hudson's Bay rope tobacco sold in ten minutes at \$12.00 a pound. On May 4, 1865, when the roads were still not open properly for packers,

(3) DEAVILLE, "Colonial Postage System," p. 132, quoted by THRUPP, op. cit., p. 40.

beef and mutton were selling at 50¢ a pound, rabbits at \$1.50 and martens at \$3.00 each for food. A woman offered \$100.00 for ten pounds of flour and could not get it at that price.(4) By September, 1865, the market at Wild Horse was well supplied with flour at 23¢ to 24¢ a pound, bacon 75¢, beef 25¢ to 30¢, sugar 75¢ and other staples in proportion, but liquors and other luxuries were enormously dear.(5) In June, 1869, at Perry Creek flour was \$15.00 per hundred weight, beef 20¢ per pound, ham 50¢, bacon 40¢, sugar 50¢, tea \$2.00, coffee 75¢, and \$1.00, butter \$1.00, fruits 62¹/₂¢, beans 30¢, leather boots \$9.00 a pair, and gum boots \$12.00 per pair. In 1873 flour was brought in from Walla Walla and sold at 6¹/₂¢ a pound; bacon was a drug on the market at from 18¢ to 20¢ a pound; fresh meat sold from 8¢ to 10¢ per pound, and other prices were proportionately low.

One of the most important reasons for cheaper goods, especially in the later years, was the development of steam navigation. The competition of routes became especially active during the Big Bend excitement in 1865 and 1866. Astoria and Portland vied with Victoria and New Westminster for the trade of the mines. Navigation

(4) COLONIST, newspaper, June 19, 1865, p. 3.

(5) BALL, H. M., letter to Col. Sec'y., Oct. 21, 1869.

was possible on the Columbia River from Revelstoke on the north to Northport in Washington, a distance of 250 miles. On the Kootenay River navigation was feasible for light stern wheelers for nearly 100 miles at certain seasons between Tobacco Plains and the junction of the river with Finlay Creek which comes in from the west, near the mother lakes of the Columbia River. However, this navigation was impeded by drifts and shallows and was never important economically, although just before the building of the Crow's Nest Railway there were steamer connections between Fort Steele and Jennings, Montana. From Bonner's Ferry sixty miles down the Kootenay River to the British boundary and thence farther down the river to Kootenay Lake, navigation was good for vessels of any size, the low soft banks being favourable for steamboat landings almost anywhere.

The first steamer to ply the Columbia River or any inland waters of British Columbia was Captain White's steamer the "Forty-nine". It was built in August, 1865, at Little Dalles, Washington, to ply from there to Death Rapids. A company was at once formed in Oregon to run stages from Priest's Rapids or White Bluffs to Little Dalles, a distance of 150 miles, to connect with Captain White's steamer. Commissioner O'Reilly in 1866

arranged with Captain White to carry mail to the Big Bend Mines for \$75.00 per month. It is interesting to record the fact that the Hudson's Bay Company put the steamer "Marten" on Shuswap Lake when the "Forty-nine" was making her fifth run. Captain White cut his rates of \$50.00 per passenger and freight rates of \$200.00 per ton in half to retain the trade. In 1869 the steamer made two trips per season and in 1871 Walter Moberly commissioned her to take supplies to his Canadian Pacific Railway survey camp at Big Eddy.

The Kootenay River and Lake were rather late in assuming any importance in steam navigation. In 1884 the steamer "Midge" became a historic craft by being the first to navigate the Kootenay River or Lake. By 1894 the Kootenay Lake was as great an inland shipping artery as the Columbia River. The Columbia and Kootenay Steamboat Navigation Company purchased the "Kootenai" from Messrs. Sanborn and Logan of Little Dalles, Washington, to carry freight and men for Canadian Pacific Railway construction in the Selkirk Mountains. In 1886 Captain F. P. Armstrong built the steamer "Duchess" and when it sank in 1887 he had Mr. Watson of Victoria build two new boats, the "New Duchess" and the "Marion". At the close of the season of 1888, these two boats had

carried to southeast Kootenay, 870 tons of freight and 685 passengers. For ore \$1.00 a ton was charged from any river point on the Upper Columbia to Golden Landing. In 1888 either the "New Duchess" or the "Marion" ran twice a week between Golden and Columbia Lake, about 113 miles, making stage connections with Fort Steele, Wild Horse and Cranbrook.(6) The "Galena", the "Lytton" and the "Columbia" were three other of the many steamboats which helped the development of southeast Kootenay. The last two, besides bringing in running material for the Columbia and Kootenay and Nakusp and Slocan railways, carried to Canada large numbers of American settlers from the Colville and Palouse portions of Washington State attracted by the Columbia route as a means of reaching quickly the Canadian Prairies. To Mr. Hanson of Wasa, twelve miles above Fort Steele, is due the credit of bringing the first steamboat up the Kootenay River to Columbia Head in 1890. Captain Flowers of the vessel the "Lily", made his first trip in April, 1895, from North Star Landing, and in May of the same year another boat the "Gwendoline", came into service. Thus when the North Star mine was ready to ship ore there were two steamers the "Lily" and the

(6) ATKINS, "Columbia River Chronicles," op. cit., PROVINCE, newspaper, April 1, 1922.

"Annerly" waiting to take its ore south to Libby or Jennings, Montana, while the "Gwendoline" was prepared to convey it to Golden.(7)

The building of the Crow's Nest Railway meant the decline of steam navigation. In 1896 a steamer of the Upper Columbia Navigation and Transportation Company left Golden every Tuesday morning when navigation was open to run south up the Columbia River to Mud Lake Landing, a distance of 113 miles. Here passengers and freight were transferred by horse tram a distance of four and three-quarters miles to the Upper Columbia Lake where another steamer ran to Canal Flats, about fifteen miles. Baillie-Grohman's Canal was designed to give a connection from Canal Flats to the Kootenay River by steamer, but its failure meant that travellers had to go by stage to points of destination in the south, except in times of high water when steamers ascended as far as Fort Steele on the Kootenay River and sometimes to within about four miles of the steamer landing on the Columbia River. In this same year the Columbia and Kootenay Steam Navigation Company was absorbed by the Canadian Pacific Railway. The formation

(7) ATKINS, op. cit., collection of clippings in the Provincial Archives at Victoria.

of the International Transportation Company by Jim Wardner and Captain Armstrong in 1898 at the time when Wardner, about thirty miles south of Fort Steele, was booming because of the construction of the Canadian Pacific Railway, ended in failure when both of its boats were sunk.(8) The organization of another company and the building of another boat came too late. The water in the Kootenay River had fallen, the boom in building lots was over, and Jim Wardner sacrificed his stock and went to the Klondyke. At the present time no boats ply either the Kootenay River or the Columbia River.

The Canal Flats Reclamation Project was another scheme ending in failure. Baillie-Grohman, an Englishman, formed a company in 1882-3 to turn the Kootenay River into the Columbia Lake at a point where the river was only one and a half miles away from the lake, with the purpose of reclaiming the rich swampy land where the Kootenay recrossed the boundary just before it widened to form the Kootenay Lake. A. S. Farwell was sent by the British Columbia Government to report on the project and in 1884 a reserve of 48,000 acres was made, comprising all the land in the Lower Kootenay between the boundary

(8) WARDNER, J, "Jim Wardner of Wardner, Idaho, by Himself," Chapter XXXV. Anglo-American Publishing Company, New York, 1900.

and the Lake. By this time, however, the railway right of way was running just above high water mark and it was feared that all the melting snow turned into the Columbia River would wash out the railway grade. Then again the Provincial Government had no jurisdiction over canals and therefore had no right to make an allocation of land. 30,000 acres were finally set aside in the Upper Kootenay on condition that a canal with a lock be constructed on plans of the Dominion Government.

The Canal, 45 feet wide and 6700 feet long, took two years to build and such details were insisted on by the Dominion Government that the future use of the canal as a navigable connection between the Kootenay and Columbia Rivers was rendered very problematical. It would not help in the reclamation of land in the Lower Kootenay because the gates could not be kept open in high water, and the cost was twenty times as much as the former scheme. Only three boats ever navigated the canal and finally the Department of Public Works of the Provincial Government voted \$2500 to close it.(9)

The Kootenay region owed a great deal to the shortest practicable route of the Canadian Pacific Railway through the Kicking Horse Pass. In 1885 there

(9) BAILLIE-GROHMAN, op. cit., p. 264.

were 7000 men employed in railway work and many men came into the area because of the improved facilities for prospecting. Heavy machinery could now be brought in more easily for the diggings where the water menace had required large pumping machinery. Then, too, settlers found the route from Golden less arduous and much shorter than the southern routes, although at this time the dispute with the Indians in regard to the allocation of lands, tended to deter incoming settlers, as well as capital. So the East Kootenay did not benefit as much as one might suppose since the adjustment of the Indian land question was only accomplished after railway expenditure had ended.

Americans contributed greatly to the construction of railways to serve the Kootenays. James J. Hill had an important part as a member of the original syndicate of the Canadian Pacific Railway. He was one of the first to recognize that coal would eventually displace wood entirely for locomotive use and with this in mind he got control of important coal areas, some 10,000 acres, at a point about twenty miles north of Blairmore, Alberta. From 1893 onward he made every endeavour to tap southern British Columbia by branch lines and all the facts of geography aided his efforts. D. C. Corbin

was another American railway man whose name was chiefly connected with the opening of the Corbin Mines in the East Kootenay. In 1905 he began construction of the Spokane International Railway from Spokane through the Panhandle of Idaho to Eastport, Idaho, and thence to connect with the Canadian Pacific Railway at Yahk, B. C., about ten miles by the railway line from the international boundary.

The projected Crow's Nest Pass Railway centered attention on the passes through the Rockies. Captain Blakiston, connected with the Palliser Expedition, had gone through North Kootenay Pass just eighteen miles south of Crow's Nest Pass in 1858 and had pronounced it a good one for a railway. It was Michael Phillipps, however, who made a trip through the Crow's Nest Pass and proved it a feasible route for a railway in 1872. Colonel Steele in 1888 went through the pass on his 195-mile trip from Fort Steele to Macleod with his "D" division of Mounted Police and mentioned it in his report as a first class one for railway purposes.(10)

Negotiations over a seven year period finally brought about the construction of the railway through the Crow's Nest Pass. The original name of the B. C.

(10) STEELE, COLONEL, report in Appendix G, p. 89 of Dominion Sessional Papers, Vol. XXII, No. 13, 1889.

Southern, promoted by residents of Wolf Creek in the Kootenay District, was the Crow's Nest and Kootenay Lake Railroad Company, and as such it was first incorporated by the Legislature of British Columbia in 1888. In 1891 it was reincorporated as the British Columbia Southern. In the ensuing six years the mineral discoveries in both East and West Kootenay aided the efforts of Colonel Baker and Mr. Howland of Toronto in getting the project started. In 1897 the Canadian Pacific bought the line from Dunmore Junction to Lethbridge from the Alberta Railway and Irrigation Company and work was commenced from Lethbridge to the Crow's Nest Pass. In 1898 the British Columbia Southern was leased and the whole line to Kootenay Landing was opened to traffic in the same year. The water gap between Nelson and Kootenay Landing was closed in 1932.

The building of the Crow's Nest Pass Railway Line had marked results. The silver-lead production of the Fort Steele Mining Division in 1900 eclipsed that of the Slocan.(11) By bringing cheap fuel it meant a great development of the smelting and reduction industries and a corresponding increase in mine production.(12) It cut

(11) GOSNELL, op. cit., p. 163, 1903.

(12) ATKINS, op. cit., PROVINCE, March 20, 1922.

the freight and smelter costs for Rossland mines from \$10.00 and \$14.00 to \$7.00 and less per ton.(13) Not all the effects were salutary, however. Golden had been the point of access in the early days for Canadians planning on making homes in the East Kootenay, and Fort Steele, since it was on the direct route, had become by 1897 a thriving centre of about 2000 people. When Cranbrook, some twelve miles away, became the divisional point of the railway Fort Steele lost its strategic importance and today it is a straggling village of fewer than one hundred inhabitants.

Extensions to the railway were made as time went on. In 1900 a branch line was built from Cranbrook to Kimberley on Mark Creek. In 1899 Dr. Hugh Watt had proposed a line to be known as the Fort Steele Central Railway but it was not until 1903 that the Dominion Government voted a subsidy for 186 miles of railway from Golden to Colvalli Junction where it joined the Crow's Nest Line.

Thus the whole district was placed in a very favourable position for marked development. The Great War of 1914-18 prevented a large inrush of new capital immediately but the foundation had been well laid for

(13) INNIS, op. cit., p. 314.

the widespread working of rich prospects hitherto too isolated for profitable mining. By 1939 conditions were such that a great impetus could be given by the demand for base metals because of the War, and a great era of prosperity opened for the whole of the Kootenay District.

XI. THE DEVELOPMENT OF SUBSIDIARY INDUSTRIES.

The livestock industry was established before farming in the interior of British Columbia. Rare natural advantages were present in the East Kootenay District to make the industry profitable. The nutritious bunch grass on the Upper Kootenay River made that section of the district particularly favourable, and even in early times the Indians of this part of the country had large herds of horses which they sold to the miners. Cattle and horses wintered well towards the headwaters of the Columbia River, and in all valleys in the East Kootenay the Indians regularly made no provision for wintering their livestock, although this was desirable, especially in the Tobacco Plains region. In 1865 upwards of 200 cattle perished on Tobacco Plains because of the particularly severe winter.(1) In 1883 a Canadian Pacific Railway survey party wintered their pack-horses to the east of the lower mother lake of the Columbia River and their animals were "hog-fat" in the spring. During the exceptionally severe winter of 1880-81 when 200,000 cattle died in Wyoming, Utah, and Colorado, the lowest temperature recorded in the East Kootenay was fourteen degrees below zero. The regular

(1) YOUNG to John Haynes, April 3, 1865, MS. in the Victoria Archives.

winter snowfall began about Christmas, and by February there was a snowfall of two feet which disappeared about April 1st. From 1859 to 1870 approximately 22,000 cattle were driven into the country but most of these were used as food by the population.(2) In 1872 there were about 1300 beef cattle in the Kootenay and 2000 Indian and 300 other horses.(3)

Progress in the livestock industry was slow largely because of the uncertain future of the mines. In 1874 a Mr. Ellis sold his sixty-six cattle to a Victoria dealer,(4) but by 1884 the industry was more backward than ever, there being only about 500 cattle in the whole Kootenay country and most of them owned by Indians. (5) However the late 1880's saw renewed interest in ranching brought about by the improved position of the mines, and the increased prospects of capital investments. As the population increased the East Kootenay District came into its own, although it was not until the 1920's that Breeders' Associations were formed to any considerable extent. The Waldo Stock Breeders' Association was one of the many concerned with bringing

(2) LAING, F. W., "Some Pioneers of the Cattle Industry," B. C. Historical Quarterly, Vol. VI, 1942.

(3) COLONIST, newspaper, Oct. 13, 1872, p. 3.

(4) COLONIST, Aug. 9, 1874.

(5) SPROAT, G. M., "Report on the Kootenay Country," page 315, B. C. Sessional Papers, 1884.

in purebred stock to the area. In 1942 Fernie shipped 527 head of cattle and was the centre of a district where a total of 614 head were sold for home consumption.(6)

Agriculture on a small scale was carried on from the first years of placer mining. Good agricultural land abounded on Wild Horse Creek and in 1866 enough wheat was grown to satisfy the needs for flour of that season. On the low flats of the numerous large creeks and rivers there were many acres of arable land, but the great differences of climate caused by variations from prairie to alpine altitude created problems for the agriculturist.

Farms were taken up very slowly. A number of land claims were recorded on Wild Horse Creek in 1865, but in 1866 on the Upper Columbia River only the Hudson's Bay Company of all the purchasers of land paid the second instalment when due. In the same year there were three rural land pre-emptions taken out in the district. In 1867 the Hudson's Bay Company gave up business in the East Kootenay and their agent, Michael Phillipps, applied for a pre-emption of 100 acres between Galbraith's Ferry and Wild Horse Creek. Mr. Galbraith bought some land at

(6) PROVINCE, newspaper, July 1, 1943, p. 20.

\$2.50 per acre about the same time. The next year seven pre-emption claims were recorded in the Kootenay District, but in 1869 only two were taken up, these two farms supplying the miners with vegetables at 15¢ to 20¢ a pound, and grain, probably wheat, at 14¢ a pound.

Messrs. Shaw, Marzan, and Taylor were making preparations to farm on an extensive scale during the spring of 1870.

(7) In 1876 the "Colonist" asserted that a few farm hands could find employment in the Kootenay country.(8) The demand for labour in the development of mining prevented the rapid growth of agriculture in the East Kootenay. At a later date the competition of the prairies to the east of the Rockies had the same effect for settlers often worked for small stakes in the mines and then moved on to take up homesteads on the prairies. There were only fifteen or sixteen settlers at the Columbia Lakes in 1885 but after the completion of the Canadian Pacific Railway new settlers were constantly coming in and taking up land on the Columbia and Kootenay Rivers. Delegates of the East Kootenay Colony were sent to Vancouver in 1901 in search of desirable settlers.(9) At this stage settlement was in advance of mining in the

(7) COLONIST, newspaper, April 20, 1870, quoting the Walla Walla "Union."

(8) COLONIST, Nov. 29, 1876.

(9) PROVINCE, newspaper, Feb. 9, 1901, p. 6.

districts close to the transcontinental line with the result that the lack of a home market militated against prosperity.

Today agriculture is a thriving industry. The large land reclamation scheme at Creston meant shipments in 1942 of sixty-two carloads of wheat, fifty-one carloads of peas, and sixty-six carloads of hay. A total of 91,994 boxes of apples were grown and 35,000 tons of creamery butter were shipped from Creston in the same year.(10) Truck farming near the larger centres is carried on in all parts of the East Kootenay but the products are almost entirely for local consumption. On the whole there are relatively small areas suitable for the production of crops and this division of the Kootenay district is far from self-sufficient.

Lumbering found a large home market in the mines and was successful from the beginning. A small sawmill was established as early as May, 1866, by a Mr. Romano at the Big Bend of the Columbia River and lumber was sold at \$12.50 per hundred feet.(11) In 1874 the Galbraith Brothers built a sawmill at St. Joseph's Prairie. Mr. Baillie-Grohman brought in his big 5000 pound sawmill boiler on the steamer "Cline" for his Canal Flats project

(10) PROVINCE, newspaper, June 1, 1943, p. 20.

(11) ATKINS, op. cit., "Columbia River Chronicles."

taking twenty-three days to make the 100-mile trip from Golden. In 1887 three sawmills were erected in the Crow's Nest Pass. The first permanent mill was built by Mr. A. Leitch on St. Joseph's Creek, Cranbrook, in the summer of 1897. In 1903 there were twenty-four sawmills employing 1800 men in operation in the East Kootenay.(12) In 1904 lumber to the amount of 11,101 tons was shipped from twenty-one stations.(13) The huge increase in the industry was due largely to the enormous demands of the coal mines which probably used the product of 66,000 acres in 1915. With the closing of the large mill at Lumberton, which had the distinction of having the largest flume in North America to carry logs to the mill, the old era passed away. Portable mills have now revolutionized the logging industry in the East Kootenay cutting as much as two million feet of lumber in 1937.

(14)

(12) INNIS, op. cit., p. 307.

(13) Ibidem, p. 307.

(14) CRANBROOK COURIER, Sept. 1, 1938.

XII. THE PRAIRIES AND THE KOOTENAYS.

Before the 1880's a trail had been cut by the British Columbia Government to connect Kootenay with Fort Macleod and to open a path through regions where gold had previously been found. Sir James Douglas had had a plan for the construction of a waggon road to connect British Columbia with the Red River Settlement but the Colonial Office did not approve. Robertson-Ross in 1873 advised the building of a military post and Customs House at Porcupine Hills to the east of the Rockies some six or seven days journey on horseback from Fort Edmonton and fifty or sixty miles from the Kootenay Valley. He thought that frequent intercourse and an active trade would result between the Kootenay District and the Saskatchewan country by the establishment of this post and that the Indian trade, then tapped by smugglers from the United States, would remain with our own countrymen.(1)

The Canadian Pacific Railway attempted to develop agriculture in Southern Alberta and concentrated on the development of the mining industry in British Columbia, in hopes that these industries would assist in bringing about a larger transcontinental traffic in machinery and

(1) ROBERTSON-ROSS, op. cit., p. 123.

supplies. However, transportation costs restricted shipments from Alberta before 1898, especially from Edmonton. Trade in hay would have meant a loss of \$1.50 a ton at the current prices. In dressed meats the freight charges were \$2.25 per hundred pounds to New Denver in the West Kootenay District, so at this rate it paid better to sell hams for the same price as long clear bacon and ship them north.(2)

Manitoba was also interested in the Kootenay market. Railway transportation costs were kept down by the competition of the Great Northern and the Northern Pacific with the Canadian Pacific Railway and oats, butter, beef and pork could be sold in the same market with Southern Alberta products. Even in 1898 Manitoba was selling oats in the Kootenay in rivalry with Edmonton oats although the distance was about twice as great. Evidently the Great Northern had cut rates greatly to get the Manitoba trade.(3)

Nevertheless in 1896 both Ontario and Alberta supplied many products to the Kootenay market. Ontario supplied poultry and eggs because there were no nearer

(2) ENGLISH, R. E., "The Influence of Some Economic and Social Factors in the Development of Northern Alberta," Univ. of Toronto, M. A. thesis, 1933, quoting the Edmonton Bulletin newspaper, Nov. 9, 1896.

(3) EDMONTON BULLETIN, newspaper, Dec. 15, 1898.

supplies available in sufficient quantities. Grain, flour, livestock, meat and dairy products were sent from Alberta. Even vegetables were in lively demand.(4)

The farmers on the Calgary to Edmonton line no longer complained that they had to sell their butter at five or six cents a pound, eggs at eight cents a dozen, or oats at twelve cents a bushel.(5) The Okanagan Valley and other British Columbia points also competed with hay, potatoes, and other vegetables.

It is interesting to note that some investors from the Prairies were interested in the development of mining in the East Kootenay at an early date. A private bill was brought into the British Columbia Legislature in 1886 asking that certain privileges be granted to Messrs. Cochrane of Calgary, N. W. T., and James Brady, a mining engineer of long experience in California, Central America, and other mining centres. The Bill asked for a lease of twenty years on eight miles of Finlay Creek, about 130 miles south from the Kicking Horse Pass. Some Calgary investors were also interested in the ill-fated Golden Smelter.(6)

The total trade east of the Rockies prior to 1897

(4) INNIS, op. cit., page 308.

(5) Ibidem, p. 308, quoting Dom. Sess. Papers, 1897, No.11.

(6) See above, page 80.

was rather limited, consisting largely of cattle and farm products. The imports into British Columbia from Eastern Canada in 1896 were about \$7,000,000 in value.

(7) In 1890 a market was opened for Alberta livestock, one firm shipping 400 head per month in 1896. In 1897 Pat Burns was killing 600 head per month for the market in southern British Columbia. The revision and reduction of rate structures on February 1, 1897, helped the trade greatly, especially with Edmonton. Rates on grain, flour, hay and similar products were reduced in amounts ranging from 10¢ on some products to as much as 30¢ on other items per hundred pounds to twenty-one Kootenay points. Rates on butter, cheese and eggs were reduced by amounts from 15¢ to 65¢ per hundred pounds. Reduced blanket rates were also given to all Kootenay points on dressed poultry, meats, hogs, packed and frozen fish, and packing house products.(8)

The building of the Crow's Nest Railway was of the greatest importance to the Alberta and Kootenay trade. Directly and indirectly it aided agricultural production, especially in Southern Alberta.(9) It gave employment to men and horses that would otherwise have been idle,

(7) GOSNELL, op. cit., 1897.

(8) INNIS, op. cit., p. 308.

(9) Ibidem, p. 309.

and a large amount of money was put into circulation. A report from Pincher Creek in 1899 pointed out the incalculable benefit of the railway to that area. Five thousand men and five thousand teams began construction on July 13, 1897, the contractors bringing in many horses from the East. Heavy horses between thirteen hundred and sixteen hundred pounds sold for seventy-five and one hundred dollars each.(10) A sure indication of the pulse of the horse market was the fact that large numbers of horses were stolen, thieves keeping as delicate a finger upon the strengthening throb of business as the legitimate dealers.(11) It was largely because of the Kootenay trade that P. Burns and Company were able to make a fortune in their meat business. Soon shops were established from Alberta to the coast and on up to the Yukon. Only prime "tops" were shipped east off the cattle ranches as all the "rough" cattle went into British Columbia points. Old, fat and inferior steers easily drew twenty-five to thirty-five dollars and the ranchers cleaned out their herds.(12) The period of depression which had begun with the British embargo

(10) KELLY, L. V., "The Range Men," p. 311. Wm. Briggs, Toronto, 1913.

(11) Ibidem, p. 316.

(12) Ibidem, p. 311.

of 1892 was ended.(13) From cattle shipments of practically nothing in 1897 the number grew to 6,627 in 1901 and 8,093 in 1904.(14)

The Crow's Nest Pass Rates Agreement further aided the rapid expansion of Western Canada. The subsidies paid by the Dominion Government were definitely linked to lower freight rates. Edmonton now had an advantage over Winnipeg of 40¢ in less than car lots and 25¢ in car lots for the following products: butter, eggs, cheese, dressed poultry, dressed meats, dressed hogs, pickled and frozen fish, bacon, hams, beef, pork and lard. The result was the building up of a thriving trade in farm products between Edmonton and the East Kootenay as well as the West Kootenay. By 1904 the Kootenay had become the chief Edmonton market.

The building of the Crow's Nest Railway placed Edmonton under at least one disadvantage. The coal business was hit heavily by the development of mines in the East Kootenay. Edmonton coal was frozen out of

(13) DILLER, DOROTHY, "The Early Economic Development of Alberta--Previous to 1905," p. 106. U of A thesis, 1923. The 1901 Census gave for N. W. Territory 591,739 cattle; 176,462 horses; 237% increase in sheep over last recorded figures, those for 1892.

(14) Ibidem, p. 103. The Report of the Dept. of Agriculture, North West Terr., 1904, page 47 gives Livestock, Cattle Shipments, South Alberta to B. C. as: 1901-----6,627; 1902-----7,505; 1903-----6,447; 1904-----8,093.

Calgary, the only outside market it had, and this in spite of the fact that Edmonton was closer to Calgary by twenty-four miles than Crow's Nest.(15)

The demands of mining stimulated many industries. The success of the flour-milling and the pork-packing industries of Calgary and Edmonton was in large part the result of the Kootenay demands.(16) The dairy industry and more especially creameries and cheese factories grew up largely in relation to mining. In 1900 a creamery at Yorkton, Saskatchewan, shipped most of its production of 25,000 pounds of butter to markets in British Columbia.(17) Eastern firms established plants for the manufacture of explosives and chemicals nearer the region where they would be used. The assured success of the mines was now a great inducement to immigration since the by-products of the farm were certain of a market. The demands of the local market were responsible also for the gradual development of agriculture in the Kootenay itself and the limitations which its geography placed upon it hastened specialization in such products

(15) EDMONTON BULLETIN, newspaper, Dec. 29, 1898.

RATES:	Crow's Nest,	210	miles to Calgary	\$2.10
	Edmonton,	186	" " "	2.25
	Galt,	145	" " "	1.90
	Anthracite,	77	" " "	1.65

(16) INNIS, op. cit., p. 309.

(17) Ibidem, p. 309.

as fruits and vegetables which soon found a ready market in the Prairie Provinces. A large fruit farm existed near Grand Forks as early as 1902. From 1911 to 1916 shipments of fruit and vegetables from Kootenay points increased from 400,000 to 1,500,000 pounds.(18) The magnificent crops of the Canadian West in 1915 and the high prices of grain during the war years helped to bring about a revival of the timber industry in the early years of the Great War.(19)

The fertilizer industry marked yet another stage in the contribution of mining. The first plant of the Consolidated Mining and Smelting Company for the manufacture of fertilizers was erected in 1930 some two miles from Trail on the road to Rossland and by 1931 "Elephant Brand" fertilizer was being sold on the Prairies. The wheel has now come full circle, new wealth is being returned to the soil through this important industry, and as the expansion of the production of wheat goes on the fertilizer business will assume important dimensions.

(18) INNIS, op. cit., p. 312.

(19) COLONIST, newspaper, December 15, 1915, page 13.

TABLES

(All figures are from the Annual Reports of the Minister of Mines, British Columbia, unless otherwise stated.)

- I. Placer Gold: Comparison of Yield for East Kootenay and Province (1874-1939).
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- XIII. Area and Population of East Kootenay.

PLACER GOLD: COMPARISON OF YIELD FOR EAST KOOTENAY
AND PROVINCE (1874-1939)

YEAR	PROVINCE	EAST KOOTENAY
	\$	\$
1874	1,844,618	50,000
1875	2,474,004	41,890
1876	1,786,648	25,000
1877	1,608,182	37,000
1878	1,275,204	25,400
1879	1,290,058	19,000
1880	1,013,827	19,500
1881	1,046,737	25,000
1882	854,085	29,500
1883	794,252	29,100
1884	736,165	60,826
1885	713,738	76,650
1886	903,651	58,500
1887	693,709	37,900
1888	616,731	37,612
1889	588,923	36,300
1890	490,435	37,400
1891	429,811	28,550
1892	399,526	29,700
1893	356,131	19,700
1894	405,516	24,900
1895	481,683	17,575
1896	544,026	21,076
1897	513,520	12,000 (Estimated)
1898	643,346	17,000 (Estimated)
1899	1,344,900	10,000 (Estimated)
1900	1,278,724	10,300
1901	970,100	13,400
1902	1,073,140	33,000
1903	1,060,420	20,000
1904	1,115,300	21,000
1905	969,300	15,160
1906	948,400	10,400
1907	828,000	10,000
1908	647,000	3,800
1909	477,000	3,000
1910	540,000	3,000
1911	426,000	3,000
1912	555,000	2,000
1913	510,000	2,000
1914	565,000	1,000

TABLE I (CONTINUED)

YEAR	PROVINCE	EAST KOOTENAY
	\$	\$
1915	770,000	15,000
1916	580,500	4,000
1917	496,000	2,000
1918	320,000	1,000
1919	286,500	1,000
1920	221,600	3,500
1921	233,200	3,600
1922	364,800	3,000
1923	420,000	2,000
1924	420,750	5,200
1925	280,092	4,489
1926	355,503	721
1927	156,247	2,499
1928	143,208	391
1929	118,711	510
1930	152,235	119
1931	291,992	3,079
1932	395,542	9,333
1933	562,787	11,866
1934	714,431	14,841
1935	895,058	19,144
1936	1,249,940	19,474
1937	1,558,245	24,804
1938	1,671,015	28,208
1939	1,478,492	19,824
1940	1,236,928 ^W	
1941	1,385,962 ^W	

^W Only figures for the Province are available after 1939.

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TABLE II.
MINE PRODUCTION: ST. EUGENE AND SULLIVAN MINES
(1894-1937) W

YEAR	ST. EUGENE MINE (Short tons Ore)	SULLIVAN MINE (Short tons Ore)
1894-		
1905	313,416	.....
1906	84,066	.....
1907	127,645	85,406 (1900-07)
1908	155,419	.....
1909	155,668	.....
1910	114,136	6,704
1911	47,705	34,065
1912	13,460	21,189
1913	1,826	41,284
1914	1,217	30,919
1915	169	44,841
1916	746	91,129
1917	1,698	135,254
1918	1,191	104,758
1919	3,178	176,970
1920	938	259,814
1921	80	298,384
1922	.....	360,844
1923	.....	452,252
1924	.....	996,260
1925	.....	1,119,885
1926	.....	1,115,387
1927	.....	1,272,217
1928	.....	1,571,931
1929	.....	1,865,247
1930	.....	1,924,017
1931	.....	1,621,143
1932	.....	1,447,448
1933	.....	1,413,418
1934	.....	1,748,331
1935	.....	1,861,245
1936	.....	1,898,099
1937	.....	2,218,364

W Figures taken from "The Story of the Consolidated Mining and Smelting Company of Canada, Limited," page 5.

TABLE III.
MINES SHIPPING ORE: TONNAGE AND MEN EMPLOYED
EAST KOOTENAY (1901-1925) (1)

YEAR	Tons ore shipped	Mines Shipping	Mines Shipping over 100 tons	MEN EMPLOYED		
				Below	Above	Total
1901	.....	8	5	192	70	262
1902	.....	5	2	53	25	78
1903	1,744	6	3	72	41	113
1904	77,260	7	3	218	84	302
1905	170,299	9	3	281	80	361
1906	180,279	9	3	314	101	415
1907	155,027	8	3	312	118	430
1908	166,027	7	5	364	139	503
1909	149,700	4	2	232	150	382
1910	115,815	6	3	235	88	323
1911 ^W	30,543	4	3	134	67	201
1912	50,310	4	4	117	43	160
1913	42,626	4	3	69	113	182
1914 ^W	36,384	2	2	32	76	108
1915	49,928	4	3	69	96	165
1916	101,029	14	8	125	186	311
1917	116,745	6	7	148	243	391
1918	141,570	9	5	154	196	350
1919	147,736	10	5	199	251	450
1920	269,358	9	6	144	244	388
1921	298,956	6	4	161	183	344
1922	361,707	3	3	205	226	431
1923	491,212	8	3	250	273	523
1924	1,035,127	7	3	477	446	923
1925	1,118,891	5	2	612	489	1,101

(1) Figures for other years are not available in the Annual Reports of the Minister of Mines.

^W These figures are for the Fort Steele Mining Division only. The figures for the Windermere-Golden Mining Division are not available for these years.

PRODUCTION OF GOLD SILVER COPPER LEAD ZINC
EAST KOOTENAY (1895-1939)

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TABLE IV

YEAR	Placer Gold (ozs.)	Lode- Gold (ozs.)	Silver (000's ozs.)	Copper (lbs.)	Lead (000's lbs.)	Zinc (000's lbs.)
1895	878					
1896	1,054					
1897	600(1)					
1898	850(1)...		70	.....	2,287	
1899	500(1)...		35	397	904	
1900	515	...	963	2,147	38,575	
1901	670	...	753	3,272	29,964	
1902	1,650	...	142	8,048	3,223	
1903	1,000	...	88	2,730	1,669	
1904	1,050	...	611	5,472	21,472	
1905	758	...	1,155	10,606	48,399	
1906	520	...	1,072	6,910	44,655	
1907	500	...	825	.....	37,600	
1908	190	...	644	.....	30,563	
1909	150	...	580	.....	27,024	
1910	150	...	501	.....	23,941	
1911	150	...	330	.....	17,158	
1912	100	...	384	.....	20,487	143
1913	100	...	367	.....	21,020	.....
1914	50	...	492	.....	24,863	.....
1915	750	...	482	.....	26,798	492
1916	200	...	539	9,054	24,727	15,050
1917	100	...	260	22,319	15,772	20,733
1918	50	...	353	1,768	20,955	26,705
1919	50	2	275	.....	12,388	46,461
1920	175	...	416	1,953	28,021	42,881
1921	180	1	566	.....	38,452	49,319
1922	150	...	983	.....	58,560	51,673
1923	100	...	1,222	.....	86,800	51,945
1924	260	...	2,856	68	161,500	73,384
1925	264	...	3,133	1,696	228,060	92,165
1926	42	321	4,962	9,516	252,441	127,767
1927	147	941	5,126	128	270,758	132,306
1928	23	734	5,614	283	293,127	168,400
1929	30	229	5,059	.....	290,998	162,904

(1) Estimated.

TABLE IV (CONTINUED)

	Placer Gold (ozs.)	Lode- Gold (ozs.)	Silver (000's ozs.)	Copper (lbs.)	Lead (000's lbs.)	Zinc (000's lbs.)
1930	7	4	5,219	.....	313,959	230,171
1931	181	...	4,206	.....	246,228	204,252
1932	549	...	4,419	.....	251,308	190,427
1933	698	12	4,976	.....	261,177	186,388
1934	873	...	6,546	.....	341,898	237,817
1935	662	...	6,719	.....	336,267	222,835
1936	676	...	7,068	.....	360,362	232,818
1937	862	65	8,267	.....	405,374	266,176
1938	975	79	8,012	.....	406,222	267,766
1939	667	83	7,976	.....	372,991	228,104

W Owing to the War figures for districts are not given after 1939.

TABLE V.

VALUE OF PRODUCTION OF GOLD SILVER COPPER LEAD ZINC
EAST KOOTENAY (1895-1939)

	Placer Gold (\$)	Lode- Gold (\$)	Silver (000's \$)	Copper (\$)	Lead (000's \$)	Zinc (000's \$)
1895	17,575	.....	.....	.....	.....	.....
1896	21,076	.....	49	.....	84	.....
1897	12,000(1)	.....	70	.....	82	.....
1898	17,000(1)	.....	39	.....	78	.....
1899	10,000(1)	.....	20	69	36	.....
1900	10,300	.....	562	348	1,643	.....
1901	13,400	.....	421	527	1,157	.....
1902	33,000	.....	71	936	118	.....
1903	20,000	.....	44	361	64	.....
1904	21,000	.....	326	701	833	.....
1905	15,160	.....	662	1,654	2,052	.....
1906	10,400	.....	680	1,332	2,273	.....
1907	10,000	.....	512	.....	1,805	.....

(1) Estimated.

TABLE V (CONTINUED)

	Placer Gold (\$)	Lode- Gold (\$)	Silver (000's \$)	Copper (\$)	Lead (000's \$)	Zinc (000's \$)
1908	3,800	.....	324	.....	1,155	.....
1909	3,000	.....	284	.....	1,040	.....
1910	3,000	.....	255	.....	958	.....
1911	3,000	.....	167	.....	683	.....
1912	2,000	.....	222	.....	824	.....
1913	2,000	.....	208	.....	826	.....
1914	1,000	.....	256	.....	870	.....
1915	15,000	.....	228	.....	1,117	.....
1916	4,000	.....	336	2,463	1,526	1,637
1917	2,000	.....	401	6,067	1,248	1,569
1918	1,000	.....	325	435	1,424	1,853
1919	1,000	41	289	.....	642	2,899
1920	3,500	.....	398	341	2,006	2,796
1921	3,600	20	336	.....	1,583	1,948
1922	3,000	.....	631	.....	3,022	2,511
1923	2,000	.....	754	.....	5,677	2,919
1924	5,200	.....	1,812	9	11,769	3,957
1925	4,489	.....	2,173	238	17,898	7,274
1926	721	6,636	3,082	1,313	17,043	9,467
1927	2,499	19,452	2,290	17	14,231	8,196
1928	391	15,173	3,266	41	13,412	9,251
1929	510	4,733	2,682	.....	14,697	8,774
1930	119	83	1,991	.....	12,330	8,286
1931	3,079	.....	1,256	.....	6,673	5,217
1932	9,333	.....	1,400	.....	5,312	4,581
1933	11,866	248	1,882	.....	6,421	5,984
1934	14,841	379	3,107	.....	8,329	7,239
1935	19,144	.....	4,353	.....	10,535	6,906
1936	19,474	.....	3,190	.....	14,101	7,718
1937	24,804	2,274	3,711	.....	20,715	13,048
1938	28,208	2,779	3,484	.....	13,584	8,228
1939	19,824	2,999	3,230	.....	11,820	7,001

TOTAL VALUE OF PRODUCTION GOLD SILVER COPPER LEAD
ZINC: EAST KOOTENAY AND PROVINCE (1887-1939)

YEAR	PROVINCE (000's \$)	EAST KOOTENAY (000's \$)
1887	27	.....
1888	105	.....
1889	54	.....
1890	74	.....
1891	4	.....
1892	100	.....
1893	297	.....
1894	781	25
1895	2,343	17
1896	4,257	154
1897	7,052	164
1898	6,529	133
1899	6,752	66
1900	10,070	2,215
1901	13,268	1,593
1902	11,101	223
1903	11,571	127
1904	12,309	1,181
1905	15,180	2,731
1906	17,484	2,965
1907	16,217	2,327
1908	14,477	1,483
1909	14,191	1,342
1910	13,229	1,221
1911	11,454	853
1912	17,663	1,057
1913	17,191	1,037
1914	15,225	1,128
1915	19,992	1,416
1916	31,483	3,506
1917	26,788	3,025
1918	27,590	3,604
1919	19,750	3,831
1920	19,444	5,204
1921	12,920	3,861
1922	19,232	6,166
1923	25,347	9,352
1924	35,538	17,543
1925	46,200	27,349
1926	51,508	29,601
1927	44,977	25,339
1928	48,282	25,944

YEAR	PROVINCE (000's \$)	EAST KOOTENAY (000's \$)
1929	51,175	26,157
1930	40,915	22,608
1931	22,536	13,149
1932	19,700	11,301
1933	25,007	14,299
1934	33,896	18,690
1935	40,598	21,813
1936	43,666	25,028
1937	62,913	37,500
1938	53,877	25,327
1939	53,522	22,074

TABLE VII
TOTAL VALUE OF MINERAL PRODUCTS EAST KOOTENAY AND
PROVINCE (1895-1938)

YEAR	PROVINCE (000's \$)	EAST KOOTENAY (000's \$)
1895	.....	18
1896	7,508	154
1897	10,455	164
1898	10,907	161
1899	12,393	524
1900	16,345	2,856
1901	20,087	2,747
1902	17,487	1,477
1903	17,496	1,951
1904	18,977	3,211
1905	22,461	5,339
1906	24,981	5,171
1907	25,883	5,549
1908	23,851	4,803
1909	24,443	4,766
1910	26,377	6,122
1911	23,499	2,475
1912	32,441	5,723
1913	30,296	5,948
1914	26,389	4,704
1915	29,448	4,654
1916	42,290	6,811
1917	37,010	5,057
1918	41,782	7,260
1919	33,296	6,613
1920	35,543	9,429
1921	28,067	7,653

YEAR	PROVINCE (000's \$)	EAST KOOTENAY (000's \$)
1922	35,163	8,931
1923	41,304	13,018
1924	48,705	18,885
1925	61,492	31,597
1926	67,189	33,886
1927	60,729	29,915
1928	65,373	31,333
1929	68,245	31,624
1930	55,392	29,487
1931	34,883	16,654
1932	W 28,798	13,853
1933	W 32,603	16,381
1934	W 42,305	21,403
1935	W 48,821	23,599
1936	W 54,082	27,102
1937	W 74,476	39,524
1938	W 64,486	27,294

W Canadian Funds.

TABLE VIII.
COAL AND COKE PRODUCTION OF THE EAST KOOTENAY MINES
(1898-1942)(1)

YEAR	COAL CREEK		MICHEL		CORBIN
	Coal	Coke	Coal	Coke	Coal
1898	9,334	361	.....	.....	.....
1899	102,610	29,658	.....	.....	.....
1900	196,837	65,915	9,966	.....	.....
1901	322,245	111,683	.....	.....	.....
1902	238,776	78,490	113,853	29,347	.....
1903	215,776	84,321	235,347	64,818	.....
1904	345,901	118,551	235,256	95,685	.....
1905	425,493	123,593	309,505	124,705	.....
1906	426,793	93,171	273,497	96,214	.....
1907	522,783	88,775	353,728	117,766	.....
1908	441,003	102,322	412,185	131,776	4,111
1909	379,968	117,268	390,462	106,174	60,824
1910	622,564	78,420	457,581	95,239	126,851
1911	206,556	28,519	114,384	25,641	81,718
1912	696,844	148,924	253,862	70,030	122,263

SEE END OF TABLE FOR PRODUCTION OF CARBONADO AND HOSMER.

(1) Long tons of 2,240 pounds--Coal; Short tons--Coke.

TABLE VIII (CONTINUED)

YEAR	COAL CREEK		MICHEL		CORBIN
	Coal	COKE	Coal	Coke	Coal
1913	825,185	157,905	216,224	68,469	72,788
1914	577,299	143,460	201,104	56,406	74,312
1915	511,904	147,129	278,124	93,292	62,544
1916	569,131	128,020	244,119	112,101	69,020
1917	323,561	75,187	127,125	54,312	101,065
1918	402,463	85,730	206,412	78,350	123,989
1919	306,191	13,494	172,868	43,573	79,747
1920	431,783		264,592	67,792	151,014
1921	413,523		278,301	59,434	67,931
1922	291,671		216,668	41,400	46,022
1923	433,836		258,429	58,919	48,266
1924	98,025		147,805	30,615	27,688
1925	464,133	28,850	321,535	46,335	68,812
1926	366,054	35,011	363,795	58,435	118,599
1927	420,706	32,346	356,696	52,726	130,117
1928	462,733	21,985	359,547	39,385	179,243
1929	376,304		342,143		168,259
1930	210,262	28,042	265,262	37,768	213,412
1931	156,708	28,263	247,515	37,137	257,203
1932	92,879	11,840	214,305	17,705	280,691
1933	53,874		206,591	5,444	217,212
1934	91,604		292,027	22,178	243,988
1935	86,879		310,258	24,168	9,973
1936	91,645		378,961	30,366	
1937	111,265		347,871	43,209	
1938	105,736		328,332	48,751	
1939	103,375		458,583	51,205	
1940	123,963		652,555	59,788	
1941	174,813		851,240	83,954	
1942	179,633		868,080	85,855	

	CARBONADO		HOSMER	
	Coal	Coke	Coal	Coke
1902	41,332			
1903	138,750	625		
1904	81,528	4,621		
1905	96,934	7,826		
1906	20,159			
1907	220			
1908	23,279		2,627	771
1909	32,287		60,324	21,575
1910			158,123	42,037
1911			39,399	11,845
1912			188,243	45,379
1913			217,528	59,671
1914			102,468	34,711

TABLE IX.

NUMBER OF DAYS WORKED AND OUTPUT PER MAN OF
EAST KOOTENAY MINES (1918-1942)

YEAR	COAL CREEK			MICHEL			CORBIN		
	Per Man Below Ground	Per Man	Days Worked	Per Man Below Ground	Per Man	Days	Per Man Below	Per Man	Days
1918	816		274	791		299	2066		
1919	497		200	542		205	1225		
1920	408		279	782		281	1987		291
1921			207			222 $\frac{1}{2}$			
1922			150			158			
1923	776		209	795		252	1027		141
1924	271		58	417		118	266		90
1925	X								
1926	741	536	205	891	592	248	1976	878	244
1927	810	594	250 $\frac{1}{2}$	899	585	248 $\frac{1}{2}$	1131	735	289
1928	820	606	282	757	540	247	1572	928	278 $\frac{1}{2}$
1929	666	518	217	812	585	214 $\frac{1}{2}$	1295	881	261
1930	590	444	155	700	503	178	1088	847	238
1931	436	330	118	738	539	167	1196	928	225
1932	362	269	76	760	565	159	1131	1013	250
1933	485	376	90	930	684	202	1149	858	189
1934	789	614	150	1140	818	232	1363	983	267
1935	724	564	147	1007	799	211	53	36	15
1936	790	603	165	1104	834	240			
1937	919	713	174	1020	737	226			
1938	826	622	171	968	627	230			
1939	915	680	158	1079	793	244			
1940	1059	789	181	1507	1136	276			
1941	1355	987	258	1364	1144	293			
1942	1342	1014	274	1544	1263	299			

X No figures available in Mining Reports.

TABLE X.

MEN EMPLOYED IN EAST KOOTENAY COAL MINES (1897-1942)

YEAR	COAL CREEK		MICHEL		CARBONADO	
	Under	Above	Under	Above	Under	Above
1897		20				
1898	74	49				
1899	274	97				
1900	330	65	52	30		
1901	670	150	117	52		
1902	451	110	158	62	156	47
1903	353	88	363	161	231	75

YEAR	COAL CREEK		MICHEL		CARBONADO		HOSMER		CORBIN	
	Under	Above	Under	Above	Under	Above	Under	Above	Under	Above
1904	610	137	372	103	167	48				
1905	530	210	319	211	166	54				
1906	799	318	400	228						
1907	814	378	672	383	41	2				
1908	669	268	729	348	66	29	239	122	43	11
1909	658	262	657	323	47	21	256	145		
1910	1027	307	776	244	...	...	394	145	177	41
1911	991	311	265	115	...	...	239	143	90	43
1912	881	312	341	124	...	...	329	150	129	44
1913	1131	347	301	130	...	...	460	173	73	51
1914	907	293	329	129	...	...	452	185	63	41
1915	740	311	418	199	...	...	...	...	25	55
1916	733	285	363	203	...	...	...	...	29	61
1917	598	267	289	172	...	...	...	...	57	98
1918	493	218	261	171	...	...	...	...	60	124
1919	616	156	319	164	...	...	...	...	65	49
1920	648	201	338	243	...	...	...	...	76	76
1921	702	207	415	305	...	...	...	...	90	55
1922	641	171	360	253	...	...	...	...	62	51
1923	575	184	336	257	...	...	...	...	47	35
1924	430	143	301	169	...	...	...	...	66	38
1925	549	211	362	220	...	...	...	...	78	46
1926	494	188	408	206	...	...	...	...	60	75
1927	519	189	399	210	...	...	...	...	115	62
1928	564	199	475	190	...	...	...	...	114	79
1929	565	163	421	163	...	...	...	...	130	61
1930	356	118	379	147	...	...	...	...	196	56
1931	359	116	335	124	...	...	...	...	215	62
1932	256	89	282	97	...	...	...	...	214	63
1933	111	32	222	80	...	...	...	...	189	64
1934	116	33	256	101	...	...	...	...	179	69
1935	120	34	308	80	...	...	...	...	186	91
1936	116	36	343	111						
1937	121	35	341	131						
1938	128	42	339	184						
1939	113	39	425	154						
1940	117	40	433	141						
1941	129	48	624	120						
W 1942	134	43	562	125						

W All figures are taken from Mining Reports.

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TABLE XI.
OUTPUT AND PER CAPITA PRODUCTION: EAST KOOTENAY
COAL MINES AND PROVINCE (1907-1942)

YEAR	Gross tons of coal mined during year	Total number employees at producing mines	TONS of coal mined per employee	No. of men employed underground	Tons of coal mined per underground employee
X 1907	876,731	2,290	383	1,527	574
XX 1908	2,219,608	6,059	366	4,389	506
	883,205	2,524	350	1,746	506
	2,109,387	6,073	347	4,432	476
1909	923,865	2,427	380	1,737	532
	2,400,600	6,418	374	4,713	509
1910	1,365,119	3,111	439	2,374	575
	3,139,235	7,758	404	5,903	532
1912	1,261,212	2,410	523	1,780	708
	3,025,709	7,130	424	5,275	574
1911	442,057	2,197	201	1,585	272
	2,297,718	6,873	334	5,212	440
1913	1,331,725	2,666	500	1,965	678
	2,570,760	6,443	399	4,830	532
1914	955,183	2,397	399	1,749	547
	2,166,428	5,732	379	4,267	508
1915	852,572	1,748	488	1,183	721
	1,972,580	4,978	396	3,695	534
1916	882,270	1,674	527	1,125	784
	2,485,580	5,060	491	3,694	673
1917	551,751	1,481	372	944	584
	2,485,580	5,170	463	3,760	638
1918	732,864	1,327	552	814	900
	2,578,724	5,427	475	3,658	705
1919	558,806	1,369	409	1,000	559
	2,408,948	5,966	404	4,145	581
1920	847,389	1,582	536	1,062	798
	2,696,774	6,349	425	4,191	643
1921	759,755	1,774	428	1,207	629
	2,569,639	6,883	373	4,722	544
1922	554,361	1,538	360	1,063	521
	2,580,915	6,644	388	4,712	547
1923	740,531	1,434	516	965	767
	2,542,987	6,149	413	4,342	585
1924	273,518	1,147	238	797	343
	1,987,533	5,418	366	3,894	510
1925	854,480	1,466	582	989	864
	2,444,292	5,443	449	3,828	639

X Figure for East Kootenay given first.

XX Figure for Province given second.

YEAR	Gross tons of coal mined during year	Total number employees at producing mines	Tons of coal mined per employee	No. of men employed underground	Tons of coal mined per underground employee
1926	848,448	1,431	592	962	881
	2,330,036	5,322	437	3,757	620
1927	907,519	1,494	607	1,033	876
	2,453,827	5,225	469	3,646	673
1928	1,001,523	1,621	617	1,153	886
	2,526,702	5,334	473	3,814	662
1929	886,706	1,503	589	1,116	794
	2,251,252	5,028	447	3,675	612
1930	689,230	1,252	550	931	740
	1,887,130	4,645	406	3,389	556
1931	661,426	1,211	546	909	727
	1,707,590	4,082	419	2,957	577
1932	587,875	1,001	587	752	781
	1,534,975	3,608	425	2,628	584
1933	477,677	698	684	522	915
	1,264,746	3,094	408	2,241	564
1934	627,619	754	832	551	1,139
	2,347,090	2,893	465	2,050	657
1935	407,110	819	497	614	663
	1,187,968	2,971	399	2,145	554
1936	470,606	606	776	459	1,025
	1,346,741	2,814	478	2,015	668
1937	459,136	628	731	462	972
	1,444,687	3,153	458	2,286	632
1938	434,068	693	626	467	972
	1,309,428	2,962	442	2,088	675
1939	561,958	731	768	538	1,044
	1,477,872	2,976	496	2,167	682
1940	776,518	731	1,062	550	1,412
	1,667,827	2,874	580	2,175	766
1941	1,026,053	921	1,114	753	1,632
	1,802,353	2,723	662	2,229	808
1942	1,047,713	864	1,201	696	1,505
	1,938,158	2,360	821	1,892	1,024

TABLE XII.

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COAL AND COKE PRODUCTION, SALES IN THE UNITED STATES
AND CANADA--EAST KOOTENAY COAL MINES (1898-1942)W

YEAR	Coal Production	Coal Sold United States	To..... Canada	Coke Production	Coke Sold in United States
1898	9,954	37	9,297	361	39
1899	102,610		62,338	29,658	5,750
1900	206,803	7,968	92,926	65,915	38,958
1901	369,355	72,862	121,645	111,683	32,121
1902	393,961	101,776	111,701	107,837	26,764
1903	589,888	146,010	173,949	149,764	27,758
1904	662,685	118,188	168,980	218,857	97,690
1905	831,933	246,002	148,939	256,125	113,337
1906	720,449	230,863	150,793	189,385	53,400
1907	876,731	291,410	218,221	206,541	59,890
1908	883,205	266,829	200,908	234,869	34,196
1909	923,865	353,389	136,406	245,017	40,478
1910	1,365,119	751,087	182,578	215,696	8,730
1911	442,057	209,894	95,139	66,005	1,267
1912	1,261,212	551,742	231,076	264,333	50,257
1913	1,331,725	527,620	287,410	286,045	50,626
1914	955,183	389,383	140,094	234,577	54,313
1915	852,572	370,020	82,594	240,421	24,597
1916	882,270	386,953	75,319	240,121	34,377
1917	551,751	225,847	73,797	129,499	12,711
1918	732,864	342,218	77,642	164,080	17,404
1919	558,806	373,348	65,927	57,067	8,134
1920	847,389	479,342	205,076	67,792	31,718
1921	759,755	495,331	104,261	59,434	18,092
1922	554,361	333,451	138,735	41,400	15,524
1923	740,531	353,725	236,796	58,919	23,564
1924	273,518	70,674	128,861	30,615	8,232
1925	854,480	249,436	431,206	75,185	21,936
1926	848,448	197,233	418,724		
1927	907,519	271,955	445,478		
1928	1,001,523	240,023	587,548	61,370	13,902
1929	886,706	231,655	474,607		
1930	689,236	76,752	456,933	65,810	22,672
1 931	661,426	43,023	481,051	65,400	16,672
1932	587,875	27,665	466,126	29,545	12,855
1933	477,677	18,588	409,237	5,444	4,455
193 4	627,619	23,532	505,079	22,178	6,609
1935	407,110	23,091	338,200	24,166	15,563
1936	470,606	38,565	362,210	30,366	14,686
1937	459,136	43,018	319,318	43,209	24,079
1938	434,068	47,400	293,364	48,751	23,531

W Coal: tons 2,240 lbs. Coke: tons 2,000 lbs.

YEAR	Coal Production	Coal Sold To..... United States	Canada	Coke Production	Coke Sold in United States
1939	561,958	57,820	384,706	51,205	21,970
1940	776,518	74,690	548,412	59,788	21,575
1941	1,026,053	84,632	731,015	83,954	29,737
1942	1,047,713	126,580	719,333	85,855	31,224

TABLE XIII.

AREA AND POPULATION OF EAST KOOTENAY

YEAR	EAST KOOTENAY	FERNIE	CRANBROOK	AREA OF EAST KOOTENAY
1875	144 (estimated)			
1891	3,405	1,640	1,196	
1901	8,446	3,146	3,090	
1911	22,446	4,343	2,735	
1921	19,137	2,732	3,067	
1931 W	22,536			13,367.11 sq. miles(1)
1941 W	21,345			

W Taken from Dominion Census returns. The other figures are taken from the Manual of Provincial Information, 1929, and the Year Book of B. C. by R. E. Gosnell (1914).

(1) Manual of Provincial Information, Province of B. C., 1929, page 55. The area of the Kootenays in 1911 was given by GOSNELL, R. E. : "Yearbook of B. C.", 1914, page 405, as 17,290,420 Acres or 27,016.28 square miles and the population as 50,772 in 1911.

The Census returns of the Dominion Government give the following figures for West Kootenay's population:

1890	2000 (estimated)
1901	23,516
1911	28,373
1921	30,502
1931	39,943

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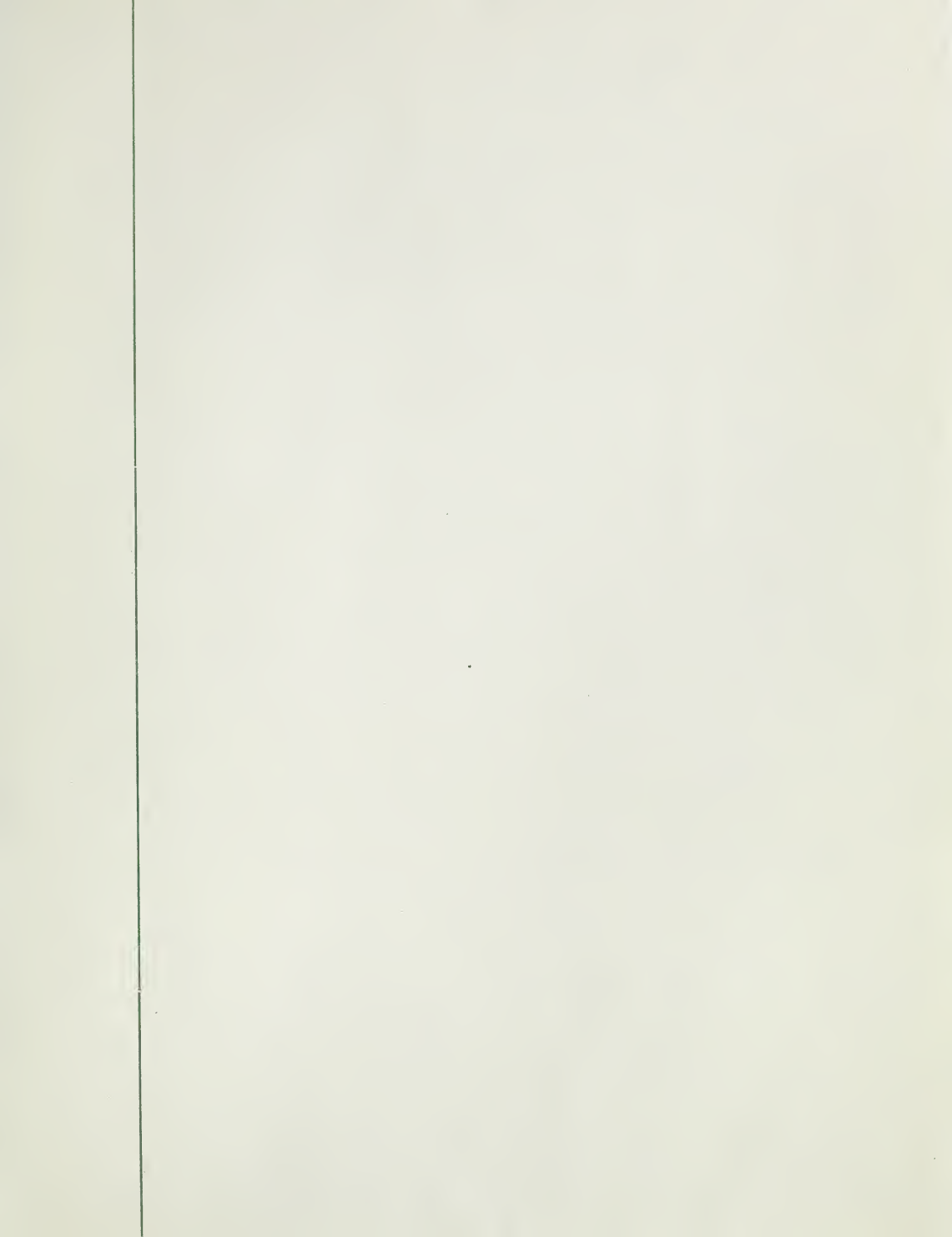
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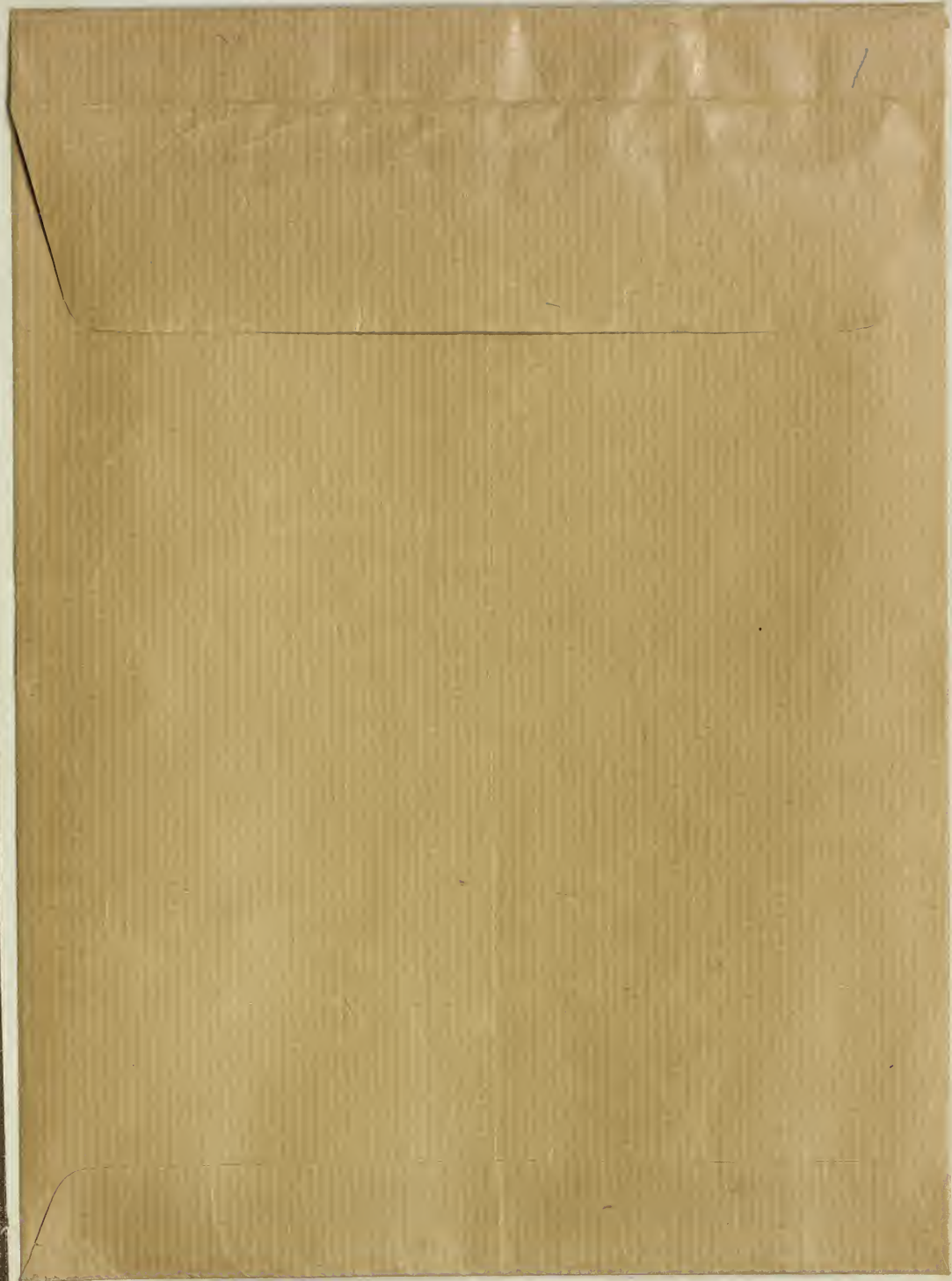
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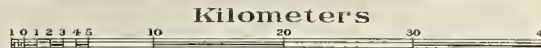
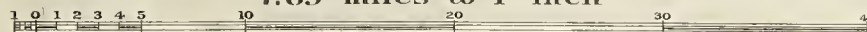
DEPARTMENT OF LANDS

HONOURABLE N. S. LOUGHEED, MINISTER

F. C. GREEN, SURVEYOR GENERAL

KOOTENAY OSOYOOOS & SIMILKAMEIEN

Scale, 500,000
7.89 miles to 1 inch



TEMPORARY REPRINT ISSUE

Shewing Post Offices and Railways corrected to June 1, 1930

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VER

Cities

Land Recording Offices

Mining Recording Offices

Sub-Mining Recording Offices

Post Offices

Railway Stations, etc.

Customs Posts

High Schools

Hospitals

GOI

WII

YMI

Elko

Cory

Customs

+

IL E G I E N I D

Railways

Railways (under construction)

Trunk Highways { completed
uncompleted

Main Highways { completed
uncompleted

Local Roads

Trails { well defined
indefinite

Elevation of Lakes in feet
above sea-level

2652

International Boundaries

Inter-Provincial Boundaries

Land District Boundaries

Park Boundaries

Municipality Boundaries

Ferries

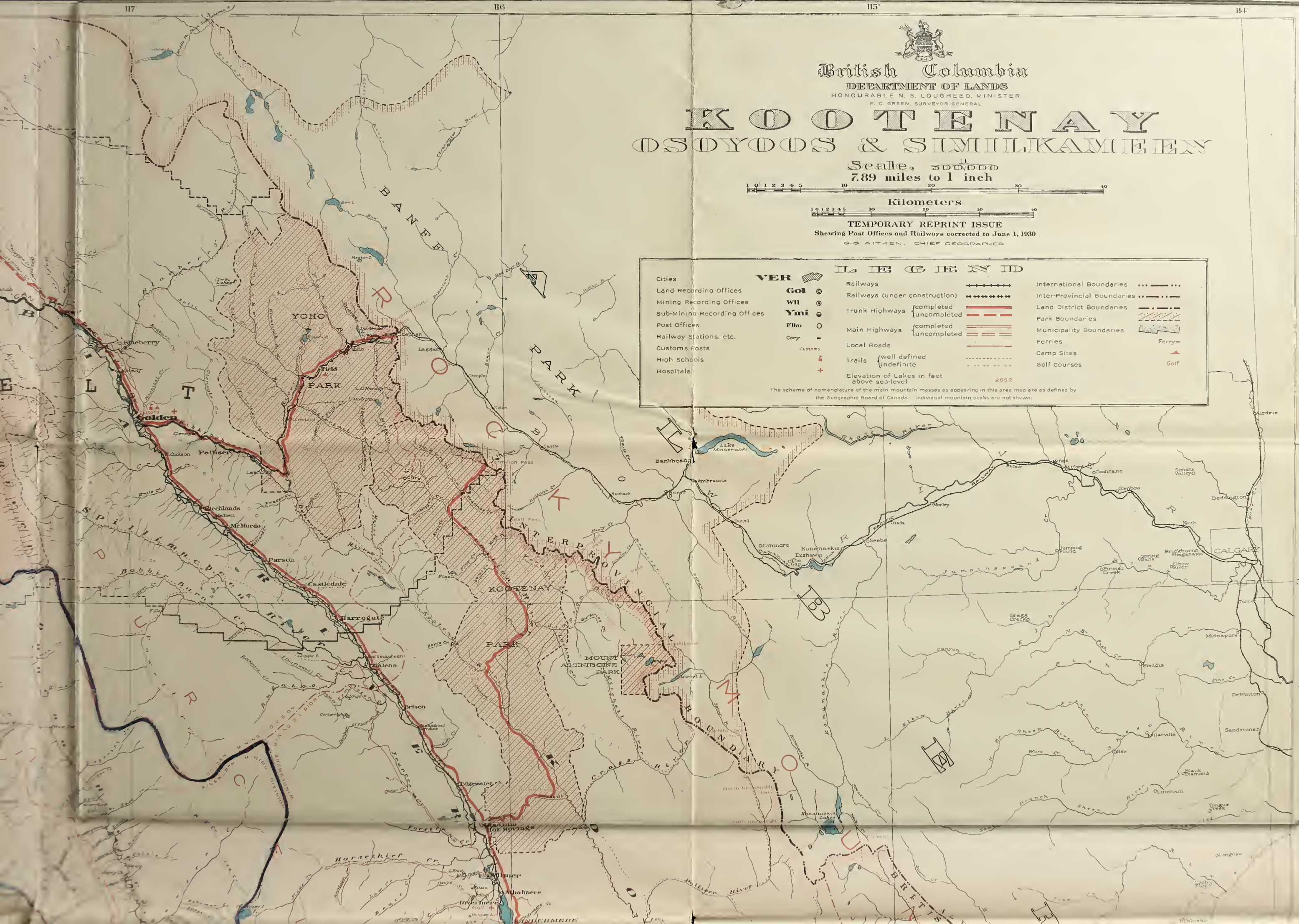
Camp Sites

Golf Courses

Ferry

Golf

The scheme of nomenclature of the main mountain masses as appearing in this area map are as defined by the Geographic Board of Canada. Individual mountain peaks are not shown.







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