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# MINING RECORD

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BRITISH COLUMBIA

## MINING RECORD

E. JACOBS.....Manager and Editor

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## NOTES AND COMMENTS.

The average price of silver for June, in New York, was 53.663 cents. per oz.

The aerial tramway from the Silver King mine to the smelter at Nelson is again in working order.

For June lead averaged 4.466 cents per lb. in New York. This is the highest monthly average since last October.

The main shaft of the Centre Star mine at Rossland is down to what is known as the sixteenth level of the mine—a depth on the incline of 2,200 ft. from the collar of the shaft.

Early in July it was reported from Vancouver that the Dominion of Canada Assay Office in that city was very busy, with much gold coming in and the staff having to work at night as well as day.

A recent despatch from Sandon, Slooan, was to the effect that the mining properties in the district were looking well and there were more men at work on them than had been the case for some time previously.

The *Boundary Creek Times* states that the quantity of ore smelted at the British Columbia Copper Company's smelter during the month of July was 59,821 tons, as compared with 47,798 tons in the corresponding month of 1907.

The Lethbridge, Alberta, *Herald* states that the Canadian Mining Institute Summer Excursion party will be met at Medicine Hat by Premier Rutherford and Hon. W. H. Cushing, who will accompany them on their tour through Alberta.

Several cars of machinery for the Granby smelter arrived at the works, Grand Forks, during July. These comprised part of the new equipment for the blowers, also some additional converter plant. The installation of this machinery was to be commenced as soon as practicable.

The *Whitehorse Star* has been informed that the Livingstone Creek Syndicate, of which Jack Bliok is hustling foreman, is doing lots of work and all the tin cans in the vicinity are being filled with gold dust.

The greatest yearly production of placer gold in British Columbia was in 1863, with a total for that year of \$3,913,563. The smallest in 50 years was in 1893, for which year the total shown in official tables was \$356,131.

On July 21 the *Nelson Daily News* stated that the installation of the stamp mill at the Nugget mine, Sheep Creek camp, Nelson mining division, was then almost complete and crushing was to be commenced a few days later. Meanwhile excellent progress was being made with the work of developing the mine.

Late in July Mr. Reinecke, of the Dominion Geological Survey, completed the topographic work of Camp Hedley. The *Gazette* stated that he was to go thence to Otter Flat to begin topographic work there. Mr. Camsell had much to do in connection with working out the geology of Camp Hedley and plotting it on the map.

Concerning the railway spur from the White Pass & Yukon Railway to Whitehorse copper camp, the *Whitehorse Star* says: The part of the road already completed reaches the Valerie, Arctic Chief, Grafton and Best Chance mines, all of the best-developed class, while along the line are perhaps 50 or more undeveloped claims that may be as rich as those already proved of value.

A news despatch from Nelson states that the manager of the Ymir mine has received instructions from London to go ahead with a scheme of development which will cost some \$30,000. This system of development and improvement may be summarized thus: On development of the property, \$18,500; on repairs and general repairs, \$3,000; on repairs to the mill and water power, \$6,000, leaving \$2,500 for contingencies.

The *Hedley Gazette* states that drifting is being pushed both north and south from the lower tunnel on the main ledge of the Martin claim in the Pollock group in Hedley camp, Similkameen. The ledge has been widening in both directions, showing that the tunnel had cut it at the narrowest part. Each face now has 5 ft. or more of excellent ore. Several samples brought down show strong mineralization, with free gold in the sulphides.

Amongst the passengers on yesterday's stage to Barkerville, said the *Ashcroft Journal* recently, was Mr. John Carley who was one of the very first to locate a claim on Williams Creek in 1860. Mr. Carley who is nearly 80 years of age has resided in California for the past 40 years. He is in full pos-

session of all his faculties and does not appear more than 65, in fact he feels so young that once again he will take up mining work, not for a living this time but more as a hobby.

On one trip in July the SS. "Tees" brought four tons of ore from the Klaskino Mining Company's property at Lawn Point, Quatsino, each ton being from a different working. One ton is exceptionally rich and, says the *Victoria Times*, there is a large amount of interest being evoked by its arrival. The Klaskino Company has had three men working on the claim since April and the arrival of this first profitable shipment is verification of this late find of the precious metal on Vancouver Island.

The *Times*, London, England, says: Minerals form one of Canada's most important assets, being worth over \$86,000,000 in 1907; and, appropriately, a large area towards the northern end of the Franco-British exhibition hall has been assigned to that country. The centre of the mineral exhibit is occupied with a stand containing large samples of asbestos, corundum, mica and nickel ore, and surmounted with illuminated transparencies showing views of Canadian mines and mining operations, while round it are grouped cases and stands illustrating other mineral products. It is evident there is a very complete collection of specimens.

The progress of development on the Independence group of claims situated on Bear Creek, near the Tulameen, and about 40 miles from Princeton, Similkameen, has lately been again inspected by W. Yolen Williams, consulting engineer, of Spokane, Washington. The property is a copper-gold one, and has been under bond for two years to individuals prominently connected with the Granby Company. Mr. Williams, who is conservative in his views, has stated that the Independence promises to be a steady shipper as soon as the V., V. & E. railway, now graded to Hedley, *en route* to Vancouver, reaches Bear Creek. The railway tracks will cross the property. A large tonnage of shipping ore of good grade has been blocked out.

A local mine manager, of the conservative type, and "local" means Kootenay, told the *Nelson Daily News* recently that without much fuss, mining in south-eastern British Columbia was steadily on the up-grade at the present time and that the balance of the year would yield good results. He pointed out the good work quietly being done in Rossland, in the Boundary and in East Kootenay, as well as in some portions of the Slovan country, and added that while he expected no particular boom in the industry, the outlook was, in his opinion, a decidedly healthy and encouraging one. He drew special attention to the number of small properties that were being developed all through the Kootenay.

The following paragraph is from the *Daily News* of July 21: Prof. T. L. Walker, of the mineralogical department of Toronto University, arrived from the East last night and will spend a couple of weeks in and around Nelson. It was Prof. Walker who discovered tungsten in the free-milling gold ores of Sheep Creek valley. Tungsten is used in the manufacture of steel, its presence preserving the temper of the steel in spite of heating. So far the most extensive supply known to exist in Canada is in Sheep Creek valley. The mineral is worth \$1.25 per lb. Prof. Walker has visited Kootenay many times. The object of the present visit is to obtain material for inclusion in a report on the extent of Canada's supplies of tungsten.

The Government of Nova Scotia, as authorized by special statute, has appointed a commission of three members of the General Assembly of Nova Scotia to enquire into and report upon the economic effect of a limit to a working day for the workmen employed in the various industries of the province, with special reference to the effect of limitations on the following matters:

- a. Production,
- b. Wages,
- c. Employment,
- d. Export trade,
- e. Canadian industries,

regard being had to the different conditions obtaining in different districts of amount and cost of production.

The quantity of silver-lead ore shipped through Kaslo during the month of July, as shown by the *Kootenayan*, was 591 tons, and of zinc 1,072 tons. The mines that shipped the former were: Whitewater, 276 tons; Rambler, 87 tons; Ruth, 84 tons; Reco, 60 tons; Sunset, 41 tons; Whitewater Deep, 23 tons; Empress, 10 tons; Silver Glance, 10 tons. Of the zinc ore, 1,034 tons were from the Whitewater Deep, and 38 tons from the Goodenough. The silver-lead ore all went to the Trail smelter. The Whitewater zinc was shipped to Bartlesville, Oklahoma, and the Goodenough zinc to the Canada Zinc Company's works at Nelson. The total quantity shipped through Kaslo during the seven expired months of 1908 is 3,030 tons of silver-lead ore and 4,005 tons of zinc.

A press despatch from Ketchikan, southeast Alaska, states that Superintendent Bennett has arrived at Ketchikan, on his way to Hadley, Prince of Wales Island, to prepare the smelter there for a resumption of operations, and that it is expected smelting will be in progress by the first week in September. The smelting works referred to were built and equipped under the management of Mr. Paul Johnson, and

operated by him, and later by Mr. Thos. Kiddie, for the Alaska Smelting and Refining Company, which last year passed into the hands of a receiver. Another report is to the effect that the Mamie mine, near Hadley, formerly owned by the Brown-Alaska Company, which was associated with the Alaska Smelting and Refining Company, has been sold to Mr. Sam. I. Silverman and associates, who also own the neighbouring Stevenstown mine.

The London City Trade Branch representative of the Canadian Trade Commissioner Service in the course of his report of April 30, last, said: "An inquiry was received as to whether the Dominion is a producer of a variety of garnets which is being used to some extent for abrasive purposes and imported from various sources. In the sample which we were shown, the stones were, as a rule, smaller than a pea, and we understand they have to be washed previous to shipment. They are usually put up in bags, and realize from £5 (about \$25) up to £15 a ton, c.i.f. United Kingdom, depending upon the quality. Our inquirer stated he could handle large quantities if supplies were obtainable and price satisfactory. Preliminary enquiries show that garnets occur in Canada in considerable abundance in many localities, but up to the present time there is no record of deposits having been worked. It is, however, stated that garnets of a similar class are being produced in the Adirondaek region of New York state, to the extent of some 4,000 and 5,000 tons per annum. Under these circumstances, it is possible that some action regarding the development of some of the Canadian deposits which are favourably situated for shipping purposes might be practicable."

The *Omineca Herald*, of Hazelton, Skeena River, the first issue of which was published on July 11, on that date gave the following information relating to the new placer gold field at Ingenica (or Ingenika, as it is sometimes written): "The pack-train rate from Hazelton to Ingenica is 25 cents per lb. A. Marks, a mining man from Grant's Pass, Oregon, is out from Ingenica, where he was for three months. He says: 'The gold taken out of the Ingenica and tributaries is coarse wherever rim-rock is struck. The men in there have had no show to prospect the ground up to now. Those who came in last March and April found snow on the ground and could not pick the best places to prospect. High water came on and prevented sinking. By fall they will be able to tell what they have there. Platinum is found on every creek where gold is found. McConnell Creek, Ingenica and its tributaries have been prospected for 25 to 30 miles. As you leave the Ingenica coming out the formation is serpentine, changing into granite, porphyry and diorites, which I consider a good sign for mineral in lodes. It is, as a mineral belt, as good looking as any I have seen. I consider it well worth while for anyone to come and see for himself. I intend to go back as soon as I outfit.'"

The following statements are made in a petition to the Yukon council from residents at Whitehorse, southern Yukon, asking for the extension of the Whitehorse-Kluane wagon road to the head waters of White River by way of Burwash Creek: There have recently been many important discoveries of copper and other valuable mineral in the Aishiki and Burwash Creek districts; greatly renewed interest in the placers of that section of Yukon Territory, and increased interest in the copper and placer ground at the head waters of White River, while the population of these districts has largely increased during the past year. The existing government road from Whitehorse to Lake Kluane is a well-graded wagon road, which has been used for practical freighting summer and winter for several years past. The distance from Kluane to the centre of the White River district is only about 60 miles, through an open and level country, and a winter road could be constructed at a trifling expense, or a good wagon road for a moderate sum; which would give all these districts easy and direct access to the outside world, without being dependent upon an open navigable season. Therefore the people of the Whitehorse District believe it would be for the best interests of the territory at large and conducive to great advancement and progress to have the Whitehorse-Kluane wagon road extended to the head waters of White River by way of Burwash Creek and are firmly of the belief that this route would serve the purpose much better and at a lower cost than any other route.

From the London *Critic* of July 4 it is learned that: "There is said to be great excitement in Vancouver, British Columbia, over the discovery of a huge copper deposit about 220 miles north, on the shores of Lake Laronge. The lead is reported to be 400 yd. wide, and runs back three miles, between two granite walls, showing 40 lb. of copper to the ton. The deposit is on a southern fringe of the rocky northland just across Lake Laronge, and near a huge coal deposit owned by the Grand Trunk Pacific. Old miners say the indications are that a second Butte (Montana) has been discovered. If so, it is to be hoped that the new discovery will not lead to the promotion of a crop of rotten companies, as was the case with the Cobalt silver deposits, in another part of the Dominion." If the *Critic* only knew what vivid imaginations certain news correspondents in Vancouver are blessed (or cursed) with, it would not have given space to such a *canard*, which is like the fairy tale one Johann Wulfsolm told the *Victoria Times* lately about there being 90,000,000 tons of ore on a mining property he would like to sell at a big price—both are d—well, to put it politely, both stories are fabrications. The *Critic* further remarked: "No mention is made of Lake Laronge in the last Report of the Minister of Mines, nor is the locality of the find even given on the map accompanying the report." No, nor is there likely to be any official information of the Vancouver "taradiddle." The fact is, it is so

generally understood that the provincial mineralogist would prove such a hard man to "fix" that nobody even attempts to get false statements included in his reports.

When in Victoria about the middle of July, Mr. A. C. Garde, a mining engineer well known in the Kootenay, gave a representative of the *Colonist* the following information: The islands of the Queen Charlotte group have great and varied resources though at present these have not been developed to any considerable extent. So far mining work is chiefly confined to Moresby Island. Graham Island has great natural wealth of other kinds. On the latter, agriculture is sure to produce a great deal of wealth, for not only is the soil fertile and the climate equable (the rainfall, I should think, is about half what it is on the mainland) but its proximity to Prince Rupert, with the inexhaustible market which that city will offer when it attains growth, will make the island of great importance. On Graham Island there is an immense quantity of as fine timber as can be found anywhere on the Pacific coast. Coal, too, is known to exist and this is bound to mean much for the future of the islands. There are also good oil indications. Several companies are now preparing to bore for coal, so it will not be long before we know something more definite about the coal measures. One thing is in favour of commercial deposits, namely, the formation is cretaceous which, according to experience gained elsewhere, is the right geological period for coal deposits. The mining on Moresby Island is also looking well and Jedway is a promising camp, though I think that Gold Harbour and Tasoo Harbour will soon come into prominence. Various metals are found there, but it would seem most likely that the district will attain fame as a copper producer. There are, too, a number of prospects with encouraging showings, some of which have been taken hold of by financially strong people, who will demonstrate the value of their holdings. I have taken options on several pieces of property there in which I expect to interest some of my friends. The Queen Charlotte Islands are accessible by steamer from Prince Rupert, while the "Amur" calls at Graham Island once a fortnight. I think that under the circumstances the Canadian Pacific Railway Company has done all that could be expected in the way of providing a satisfactory service, though I look for business to grow in the immediate future to an extent which will justify other steamship lines running to the islands.

About the middle of July the *Hedley Gazette* said: "The Golden Zone whistle now awakens the echoes around the headwaters of Twenty-mile." Being interpreted for the information of outsiders, this means that the steam-driven stamp mill on the property mentioned was being operated.

### AT THE VANCOUVER MINE, NEAR SILVERTON.

An important discovery on the Vancouver property, near Silverton, has been reported in the *Nelson Daily News*, which gave the following particulars:

An important discovery has been made on the property of the Vancouver mine near Silverton, which will greatly enhance its value. The discovery was entirely the result of accident and of a most unusual kind.

The Vancouver is situated in an angle formed by 4-Mile Creek and a small tributary. From the latter a flume has just been constructed by W. C. E. Koch and a waste pipe from this was led down a deep gulch. The hills on both sides of the tributary creek are of loose soil.

Recently a wash-out occurred, caused partly by the force of water in the flume, partly by the high water in the creeks, and, more than either by a landslide which backed up the waters of 4-Mile Creek temporarily forming a small lake. The men in the cook house and bunk house on the right bank of the creek had a narrow escape, just getting clear of the buildings before they were filled with water, mud and gravel.

An important result was the uncovering on the denuded hill side of a lead 25 ft. wide, with a narrow paystreak running through it. The new lead is at least 800 yd. from the line of the nearest of the four tunnels on the property. It would probably have taken a long period of costly exploration to find it but for the accidental uncovering by the landslide and flood. Its discovery indicates a much greater body of ore than was believed to exist on the property. The ore is of similar character, very high grade silver-lead, found in the older parts of the mine.

The Vancouver mine is to be acquired by the Van-Roi Mining Company, Limited, lately organized and registered in England.

### SHOULD BE PROSECUTED FOR FRAUD.

**B**IG FRAUD MINES should be the name of the scheme by which one Lawlor has for years been endeavouring to obtain money from the public, not the "Big Four Consolidated Mines, Ltd." Our attention has recently been again directed to this "fake" scheme, which has lately been advertised in newspapers published in the provinces of Alberta and Saskatchewan. Our correspondent writes: "Don't you think in such flagrant cases as this the Department of Mines at Victoria should instruct the attorney-general to prosecute for fraud; or if in this case the fraud is committed in Saskatchewan, it should offer to furnish all the evidence to prove the advertisement a fraud. Also, it should notify the newspapers publishing the 'Big Four Mines' advertisement, and the postmaster-general. \* \* \* If Lawlor had been prosecuted when, years ago, you

exposed him in the *MINING RECORD*, he would not be still defrauding the public."

Yes, we certainly think the Provincial Government should endeavour to stop this persistent endeavour to obtain money by false pretences, which has so long been in operation as to have become notorious. We shall not take the mis-statements in the "Big Four Mines" advertisement in detail, but simply inform the public again that we think that whatever money has been subscribed has been used in other ways than in legitimate development of any mining property, for we are credibly informed that none has been done, therefore the assertion that "every dollar subscribed used in development of mine" is false. Further, we think that to the claim that the "Company has no debts or liabilities" should be added "nor mine, other assets of marketable value or reputable management." Those who wish to avoid losing their money will do well to leave the "Big Four Mines" severely alone.

Recently the *Victoria Colonist* re-printed the following from the *British Colonist* of July 18, 1868: "It is a source of congratulation to every true friend of the Colony that the Queen Charlotte Island coal gains reputation every day. It appears that the first assistant engineer of the 'Pensacola,' who has had long experience in the use of anthracite coal on the American man-o'-wars, saw a sample of ours and was so pleased with it that he immediately applied to the company for a large supply. This coal is deemed by Mr. Fraser, the engineer, of such excellent quality that he desires to enter into a contract with the company for a large and constant supply." So far as the *MINING RECORD* knows, there is no official information on record that "a large and constant supply" of Queen Charlotte Island coal has ever been obtainable. It is not unlikely, though, that quite another story will be told within the next few years, for the coal resources of the Queen Charlotte group should ere long be developed and their value demonstrated.

The following figures show the value of the gold bullion from the United States and Canada, respectively, received at the United States Assay Office, at Seattle, Washington, during the fiscal year ended June 30, 1908:

From.	Value.
Nome, Alaska. . . . .	\$ 3,805,145.33
Tanana, Alaska. . . . .	8,450,032.96
Other parts of Alaska. . . . .	550,908.15
Total from Alaska. . . . .	\$12,806,086.44
Washington, Oregon, other States, etc. . . . .	71,535.44
	<hr/> \$12,877,621.88
British Columbia. . . . .	\$ 1,515,838.03
Yukon Territory. . . . .	1,552,733.13
	<hr/> 3,068,571.16
Total value of gold bullion received. . . . .	\$15,946,193.04

## DEATH OF DWIGHT C. JOHNSON.

Untimely End of Life of Well-known Ore Buyer.

DWIGHT C. JOHNSON, one of the best known ore buyers in the Northwest, met with an untimely end in Spokane, Washington, on July 4. The *Nelson Daily News* published the following account of the sad fatality together with brief particulars of the deceased:—

Mr. Johnson was in the Spokane Club on Saturday afternoon while the Fourth of July celebration was proceeding on the streets of the city. It is surmised that he fell asleep after dinner on a settee in the club reading room which is on the third floor. A fire broke out in the building, which soon filled every room with dense smoke. Wakened by this, Mr. Johnson made his way to a window and hung from the sill for about two minutes. He endeavoured to hang on while a life saving net was being brought by the firemen, but his hold weakened and he fell to the roof of the adjoining building, sustaining internal injuries from which he died shortly after being taken to the Deaconess hospital. Had he held on to the window sill for 30 seconds longer he would have been saved in the life net that firemen were eagerly preparing while the marooned victim clung to the sill.

Hardly a minute after the deceased reached the window thick volumes of smoke swept toward him and poured out from the aperture. Apparently choking from smoke and terrified at the danger of his position, Mr. Johnson started to straddle the window and the large crowd that lined Riverside Avenue concluded that he was about to jump. Cries of "don't jump," "Hold on a little while longer and you will be saved," arose from the throng that stood breathlessly watching, expecting every second to see the clinging man release his hold.

Half a minute before the firemen had stretched the life net, Johnson released his hold and crashed to the roof below. Whether he became frightened or was weakened by the blinding smoke is problematical. He struck on his right shoulder, sustaining broken shoulder blades, a severely battered arm and internal injuries.

The deceased made his headquarters continuously in Nelson during several months of 1901 and 1902 while he was engaged as ore buyer for the Everett smelter. But his energies were never restricted to a single task. He has been an invaluable though never a conspicuous factor in the organization of many mining enterprises in British Columbia, Washington, Montana and Idaho. Before settling in the northwest Mr. Johnson had made a tour of the western shore of the Pacific from Siberia to Australia in the interests of an American mining syndicate, looking into mining conditions generally and especially markets for mineral products.

Mr. Johnson's chief contribution to the mining activity of the Nelson district was in connection with

the Reliance Gold Mining and Milling Company. It was through his instrumentality that the late T. A. Noble and the Bissell Bros. were interested and the construction and equipment of the mill made possible. Although since the death of Mr. Noble there has been little activity at the Reliance those familiar with the situation are certain that Mr. Johnson's judgment was sound and his work was not wasted.

The deceased gentleman was of an extremely quiet and retiring disposition but perfectly frank and direct in all business dealings. His circle of acquaintances in Nelson was comparatively small but every acquaintance became a friend.

R. S. Lennie, who was associated with him in several enterprises, on receipt of the news of his death said:

"I consider the death of D. C. Johnson a heavy loss, not only to all his personal friends, but to the mining industry in the West. He was not only an expert on the values of properties and products, and an authority on market conditions everywhere; he was also a man of the soundest judgment and of great power of initiative. At the time of his death he was engaged in several enterprises which, had they been carried to a successful issue, would have ranked him at once with the leading financiers of the country."

The deceased was about 45 years old. His wife was in Seattle at the time the accident occurred.

## LEGISLATION REGARDING CHILD AND FEMALE LABOUR.

Reviewed in Dominion of Canada *Labour Gazette*.\*

LEGISLATION IN CANADA with regard to child and female labour is the subject of a review published in the March number of the Dominion of Canada *Labour Gazette*. The article is a summary of existing legislation in the several provinces of the Dominion, and the subject is dealt with in accordance with a classification under four heads, viz.: (1) Child and female labour in factories; (2) in workshops; (3) in mines, and (4) miscellaneous and pending legislation with regard to such labour.

While the following excerpts have reference only to British Columbia, Alberta and Saskatchewan, it may be premised that the reviewer makes this comment in connection with his tabular statements of leading provisions of Coal and Metalliferous Mines acts relating to the labour under notice: "Female labour is not mentioned in the Nova Scotia acts. Of the different coal mining regulation acts, the most stringent is that of British Columbia. With regard to metalliferous mining, there is a pronounced similarity between the Nova Scotia and British Columbia acts on the one hand and the Ontario and Quebec

\*For March, 1908, Vol. VIII, No. 9, pp. 1100-1120.

statutes on the other, the latter being considerably more stringent."

"BRITISH COLUMBIA.

"The Metalliferous Mines Act' of British Columbia prohibits the employment of boys under 12 years of age and of women and girls underground. Boys under 16 may not be employed underground for more than 10 hours a day or 54 hours a week. A person in charge of hoisting machinery must be a male of at least 18 years of age. A register must be kept of all boys of the age of 12 and under the age of 16, and of all such young persons under the age of 16 employed underground, and of all women and children employed above ground (R.S.B.C. Chap. 135, Secs. 12-14).

"The provisions of the 'Coal Mines Regulation Act' of British Columbia with regard to the employment of child or female labour are more stringent in a number of particulars than the above. The employment of boys under 12 years of age in any capacity in or about a mine is forbidden, and women and girls of any age may not be employed below ground (R.S.B.C. Chap. 138, Secs. 3 and 4).

"A boy of the age of 13 and under the age of 14 may be employed below ground, but only in mines in which the Minister of Mines, by reason of the thickness of the seams, considers such employment necessary. In any case the boy may not be so employed for more than five days in any one week, nor for more than six hours in any one day (R.S.B.C. Chap. 138, Sec. 5). A boy of 12 years of age and under the age of 14 is not allowed to be employed underground for more than 30 hours a week, or more than six hours a day. Moreover, there must be an interval in the employment of boys or young persons of not less than eight hours between the period of employment on Friday and the period of employment on the following Saturday, and in other cases of not less than 16 hours between each period of employment. Employment is deemed to begin at the time of leaving the surface and to end at the time of return to the surface, and a week is deemed to begin at midnight on Saturday night and to end at midnight on the succeeding Saturday night. No boy under 14 years of age is allowed to work below ground for more than six hours in any one day (R.S.B.C. Chap. 138, Sec. 7.) As to the employment of women, young persons and children above ground in connection with mines, it is explicitly provided that no child under the age of 12 years may be so employed; that the regulation of the Act with respect to boys under 14 years of age shall apply to every child so employed; that the regulations of the Act with respect to male young persons under 14 years of age shall apply to every woman and young person so employed; that no woman, young person or child be employed between the hours of nine at night and five on the following morning, or on Sunday, or after two o'clock on Saturday afternoon, and that intervals for meals be allowed to women and children amounting in the whole to not less than half an hour during each period of employment which

exceeds five hours and not less than one hour and a half during each period of employment which exceeds six hours. The provision forbidding employment after two o'clock on Saturday afternoon may be waived by the Minister of Mines in writing; (R.S.B.C. Chap. 138, Sec. 8). A register of boys and male young persons employed in mines must be kept, (R.S.B.C. Chap. 138, Sec. 9). The immediate employer of any boy or male young person under 14 years of age must, before employing such boy or person, report the fact to the manager of the mine or his agent (R.S.B.C. Chap. 138, Sec. 10). Young persons under 18 years of age are not to be employed about hoisting engines or machinery, but where such machinery is worked by an animal, the driver may be 12 years of age or over (R.S.B.C. Chap. 138, Sec. 11). Penalties for the contravention of the above provisions and for misrepresentation by parents or guardians are provided (R.S.B.C. Chap. 138, Secs. 12 and 13).

"SASKATCHEWAN AND ALBERTA.

"Prior to the creation of the Provinces of Saskatchewan and Alberta, the 'Coal Mines Regulations Ordinance' of the Northwest Territories forbade the employment of boys under 12 years of age and of girls and women of any age in the workings of a coal mine (O.N.W.T., 1899, Chap. 1, Sec. 1). A register showing the age and address of employees in such mines was required for production at any reasonable time when requested by a mine inspector. Persons in charge of any engine or machinery used about the shaft of a mine were required to be males of at least 18 years of age. Penalties for non-compliance with these provisions and for misrepresentation as to age by parents or guardians are added (C.O.N.W.T. Chap. 16, Secs. 3-7).

"These provisions still remain in effect without amendment in the Province of Saskatchewan. In Alberta, however, a 'Coal Mines Act' was passed in 1906 which, in addition to the provisions cited above, prescribed an educational test in the case of boys over the age of 12 and under the age of 16. In order to be employed in or about a coal mine in Alberta, boys under 16 must be able to read and write, and must have an elementary knowledge of arithmetic under certificate of a Provincial school teacher, provision being made for the holding of examinations by the latter without fee with a view to the granting of the certificate in question (Alberta Statutes, 1906, Chap. 25, Secs. 6 and 7)."

According to the *American Mining Review*, the Calumet and Hecla, Lake Superior district, crushed 8,250 tons of rock daily in June, and from this obtained but 34 lb., or 1.7 per cent., of copper to the ton. Of 16 other producing mines none yielded higher than 27 lb. of copper per ton of ore. In one case the yield was but 11.6 lb. of copper to the ton.



## DOMINION OF CANADA ASSAY OFFICE.

Gold Receipts at Vancouver in 1907-8.

**T**HREE-QUARTERS OF A MILLION dollars was the value of the gold bullion received at the Dominion of Canada Assay Office at Vancouver, B.C., during the fiscal year ended March 31, last. The official report of the chief assayer, Mr. J. B. Farquhar, was included in the "Summary Report of the Mines Branch" of the Canada Department of Mines, lately published, from which extracts have been made, as follows:

During the fiscal year ended March 31, 1908, 46,540.25 oz. of bullion, valued at \$751,693.97, were received and assayed. These deposits were derived from the following sources:—

Source.	Deposits.		Value.
	No.	Oz.	
Yukon .....	70	9,108.12	\$150,592 21
British Columbia ..	396	34,347.69	553,458 53
N. W. Territories..	2	67.14	1,054 37
Ontario .....	2	36.23	393 25
Alaska .....	12	2,981.07	45,835 61
	482	46,540.25	\$751,693 97
			Oz.
Weight before melting.....		46,540.25	
Weight after melting.....		45,405.85	

Loss by melting .....

Loss percentage by melting.....

The following table shows the business done by the Assay Office since its establishment:—

Fiscal Year.	Deposits.		Value.
	No.	Oz.	
1901-2 .....	671	69,925.67	\$1,153,014.50
1902-3 .....	509	36,295.69	568,888.19
1903-4 .....	381	24,516.36	385,152.00
1904-5 .....	443	29,573.73	462,939.75
1905-6 .....	345	21,050.83	337,820.59
1906-7 (9 mo.)..	269	20,695.84	336,675.65
1907-8 .....	482	46,540.25	751,693.97
Total .....	248,598.37		\$3,996,184.65

The following is a statement of appropriation, receipts and expenditure for the year ended March 31, 1908, and shows the unexpected balance to be \$5,236.66.

	Appropriation.	Expenditure.
Appropriation 1907-08.....	\$16,000.00	
Miscellaneous receipts .....	1,547.41	
Difference between amount paid and received for bullion .....		945.63
Rent account .....		\$2,100.00
Fuel account .....		322.51
Power and light .....		139.51
Postage and telegrams.....		86.76
Telephone .....		66.20
Express charges .....		629.92

Assayers' supplies .....	250.50
Printing and stationery.....	53.28
Premium on bonds .....	570.00
Contingencies .....	108.51
Salaries and wages .....	8,929.19
Balance .....	5,236.66
	<u>\$18,493.04</u> <u>\$18,493.04</u>

## Proposed New Assay Building.

The rent paid for the building occupied by the Dominion of Canada Assay Office in Vancouver, B.C.—since its establishment in 1901, is as follows:—

July, 1901, to July, 1906, at \$1,200 per annum.

July, 1906, to July, 1908, at \$2,100 per annum.

Present lease for 17 months from July 1, 1908, at \$2,700 per annum.

During the seven years of occupancy the rent has increased 125 per cent.

In view of this high rental, it was deemed advisable to take a lease for 17 months only, and I strongly recommend that, in the meantime, steps be taken to establish the Assay Office in permanent quarters, by the purchase of a suitable lot, and the erection of a properly designed fire-proof building.

## Proposed Transfer of Gold to the Royal Mint at Ottawa.

When the original plans for the Royal Mint of Canada were prepared, I recommended in a memorandum to the Hon. W. S. Fielding, minister of finance—under date November 5, 1901—that provision be made for a refinery in connection with same. This suggestion was based upon the following reasons: (1) That there are no refineries in Canada. (2) That the only available bullion coming to the Mint from Canadian sources, would be unparted bars from the assay offices of the Dominion: representing gold dust and nuggets from the gold bearing districts: averaging 725 fine, and containing silver, copper, and other base metals. (3) That this alloyed bullion would have to be sent to the refineries of either the United States or Great Britain for conversion into fine bars suitable for coinage. (4) That this plan would prove to be very inconvenient, if not impracticable; hence the proposed establishment of a refinery at Ottawa. This recommendation is now to be carried out, and instead of the unparted bars of gold from the Dominion Assay Office in Vancouver, B.C., being sold to the Seattle Refinery of the United States government, I recommend that this bullion be—in the near future—transferred to the proposed refinery in connection with the Royal Mint at Ottawa.

(Note—Since the date of the recommendation above mentioned a refinery has been established in connection with smelting works at Trail, now owned by the Consolidated Mining and Smelting Company of Canada, Limited, and refined gold and silver has been, and is obtainable therefrom.—Editor MINING RECORD.)

COAL MINING IN ALBERTA

Official Report for the Year 1907.

COAL MINING OPERATIONS in the Province of Alberta are steadily increasing in extent and importance. The following particulars have been taken from the "Annual Report of the Department of Public Works of the Province of Alberta for the year 1907":

The year 1907 has been a record one in point of coal production in the province, as may be seen from the following tables. Work has been very steady at all the mining camps, with the exception of a short general strike, affecting the majority of the mines. Happily, this strike, though of considerable magnitude, was of short duration and did not retard the mining industry in any way except in regard to the actual loss of coal production during the time the strike was in progress.

The following is the output in tons for Northwest Territories (Alberta and Saskatchewan):

Year	Alberta and Saskatchewan.	Alberta.
1901 .....	346,649	.....
1902 .....	510,674	.....
1903 .....	622,939	.....
1904 .....	782,931	.....
1905 .....	.....	811,228
1906 .....	.....	1,385,000
1907 .....	.....	1,834,745

The last figures show that there has been an increase of 32.47 per cent. over the 1906 output.

Classification of output of coal in Alberta during the year 1907:

	Tons.
Lignite coal .....	639,335
Bituminous coal .....	939,295
Anthracite coal .....	256,115
Coal used in coke production.....	112,887
Coke produced .....	73,782
Briquettes produced .....	49,585

MINES OPERATED IN ALBERTA DURING 1907.

No.	Location.	Operated by.
Anthracite—		
80	Bankhead—	Bankhead Mines, Ltd.
Bituminous—		
2	Canmore—	H. W. McNeill Co.
40	Hillcrest—	Hillcrest Coal & Coke Co.
48	Frank—	Canadian-American Coal & Coke Co.
64	Lille—	West Canadian Collieries, Ltd.
87	Bellevue—	West Canadian Collieries, Ltd.
88	Coleman—	International Coal & Coke Co.
126	Burnis—	Leitch Collieries, Ltd.
*133	Bellevue—	Maple Leaf Coal Co.
Lignite—		
3	Lethbridge—	Alberta Railway & Irrigation Co.
8	Clover Bar—	Daly & Lindsay.
9	Clover Bar—	Clover Bar Coal Co.
16	Namao—	C. G. Carnegie.

*21	Stratheona—	Wetaskiwin Coal Co.
28	Namao—	Frank Smith.
29	Stratheona—	White Star Coal Co.
30	Lineham—	Cooper & McPherson.
32	Cardiff—	Cardiff Coal Co.
37	Medicine Hat—	Crockford Bros.
39	Taber—	Reliance Coal Mining Co.
43	Edmonton—	Wm. Humberstone.
46	Edmonton—	Milner-Benner Coal Co.
47	Stratheona—	Stratheona Coal Co.
49	Edmonton—	Edmonton Standard Coal Co.
53	Carbon—	Knee Hill Coal Co.
54	Lethbridge—	Jas. Ashcroft.
55	Lethbridge—	Geo. F. Russell
57	Pincher Creek—	W. H. Wall.
59	Landbreck—	Galbraith Coal Co.
61	Medicine Hat—	Fred. Scott.
69	Clover Bar—	Keith & Fulton.
70	High River—	Wm. Ellis.
72	Gleichen—	Blackfoot Indians.
74	Edmonton—	Milner-Benner Coal Co.
*75	Namao—	Watson Bros.
76	Landbreck—	Alberta Coal & Coke Co.
77	Landbreck—	Alberta Fuel Co.
82	Taber—	Duggan, Huntrods & Co.
89	Edmonton—	Western Coal Co.
90	Clover Bar—	Byers Bros.
91	Clover Bar—	P. Ottewell.
92	Lethbridge—	Royal Collieries, Ltd.
98	Clover Bar—	Byers Bros.
99	Stratheona—	Fraser & Freeman.
101	Namao—	Lindsay Bros.
*103	Carstairs—	S. Downie & Sons.
104	Lethbridge—	Diamond Coal Co., Ltd.
105	Taber—	Canada West Coal Co.
106	Taber—	Domestic Coal Co.
109	Edmonton—	Parkdale Coal Co.
110	Namao—	Chas. Carnegie.
111	Taber—	Stevens Bros.
112	Three Hills—	Three Hills Coal & Development Co.
113	Three Hills—	Nichols & Bothamley.
114	Taber—	Jno. Howells.
115	Carbon—	Dodds, Currie & Hodging.
116	Three Hills—	Jarvis & Bowden.
*117	Three Hills—	C. F. Bothamley.
*118	Medicine Hat—	J. Evans.
*119	High River—	C. E. McIntosh.
120	Nanton—	B. Parton.
*121	Carbon—	Carbon Brick & Coal Co.
124	Woodpecker—	J. Marsh.
125	Edmonton—	Ketchum Coal Co.
*127	Stratheona—	Larry Garneau, Jr.
128	Edmonton—	Rosedale Coal Co.
*129	Morinville—	Alberta Coal Mining Co.
*130	Taber—	Central Coal Co.
131	Taber—	Fox & Simms.
132	Taber—	Canadian Pacific Railway.
*134	Brant—	S. Wadsworth.
135	Lethbridge—	W. Stafford.
136	Bowville—	Henry Therriault.

- 137 Reidhill—Jas. Ashmore.  
 \*138 Taber—International Land Development Co.  
 \*139 Woodpecker—Thos. Patterson.  
 140 Woodpecker—Jno. Marsh.  
 141 Namao—Namao Coal Co.  
 142 Three Hills—Geo. Watson.  
 143 Claresholm—W. J. Bell.  
 144 Pincher Creek—Scott & MacLane.  
 145 Pincher Creek—Pincher Creek Coal Mining Co.  
 147 Edmonton—United Collieries, Ltd.  
 148 Edmonton—Frank Coal Co.  
 149 Tofield—P. F. Ingram.  
 150 Tofield—Tofield Coal Co., Ltd.  
 151 Thigh Hill—S. J. Henry.  
 152 Grassy Lake—H. A. Driggs.  
 154 Grassy Lake—Grassy Lake Coal Co.  
 \*155 Edmonton—Dawson Coal Co.  
 156 Edmonton—Rupert's Land Coal Co.  
 157 Taber—Bucknam & Henderson.  
 158 Taber—Marsh Bros.  
 159 Taber—Imperial Coal Co.  
 160 High River—Jno. Thorne.  
 161 Lethbridge—Jas. Perry.  
 162 Magrath—Magrath Coal Co.

(\* ) indicates "No Coal produced."

#### MINES OPENED DURING 1907.

Numbers 127 to 162, both inclusive, are mines that were opened during the year 1907.

#### MINES REOPENED DURING 1907.

Mine No. 57—Formerly operated by Wm. McFarlane, Pincher Creek. Sold to Western Oil and Coal Consolidated and leased by them to W. H. Wall. Re-leased December 9, 1907, to Wm. R. Welsh, Pincher Creek.

Mine No. 70—Formerly operated by Riley & Thompson, High River. Reopened 1907 by Wm. Ellis, High River.

#### MINES ABANDONED DURING 1907.

Mine No. 76—Operated by Alberta Coal & Coke Co., Lundbreck. Shaft on N.E.  $\frac{1}{4}$  Sec. 25, Tp. 7, Rge. 2, west 5th Mer. Abandoned in December, 1907.

Mine No. 18—Operated by Ramsey & George, Edmonton.

Mine No. 134—Operated by Samuel Wadsworth, Brant, Alta.

Mine No. 138—Operated by International Land Development Co.

Mine No. 57—Operated by W. R. Welsh, Pincher Creek. No 2 tunnel abandoned December, 1907, by W. H. Wall.

Mine No. 139—Operated by Thos. Patterson, Woodpecker.

Mine No. 118—Operated by John Evans, Medicine Hat.

#### REPORT OF PROVINCIAL INSPECTOR OF MINES.

Sir,—I have the honour, as provincial inspector of mines, to submit herewith my annual report for the

year ending December 31, 1907. The output of coal as compiled from the annual returns shows that the province is rapidly coming to the front in the coal industry in Canada.

#### SUMMARY OF STATISTICS.

Number of new mines opened in 1907	35
Number of old mines re-opened in 1907	2
Number of mines abandoned in 1907	6
Number of tons of coal produced approximately	1,834,745
Number of tons of coke produced	73,782
Number of tons of briquettes produced	49,585
Average number of persons employed inside the mines	2,700
Average number of persons employed outside the mines	900
Number of fatal accidents inside the mines	17
Number of fatal accidents outside the mines	2
Number of non-fatal accidents inside the mines	75
Number of non-fatal accidents outside the mines	11

Coal is being mined in the south at many points along the Crow's Nest branch of the Canadian Pacific Railway, from Medicine Hat near the eastern boundary to Coleman near the western boundary of the province. On the main C.P.R. line extensive coal deposits are being worked at Cammore and Bankhead. In the Edmonton district numerous mines are now in operation, and at many outlying points remote from the railways small mines are being worked during the winter months to supply local requirements.

The following is a brief resume of the development work in the various districts during the past year:

#### BANKHEAD MINES, LIMITED, BANKHEAD.

Incorporated August 31, 1901.

Authorized capital, \$1,000,000.

Directors: R. B. Angus, E. B. Osler, W. D.

Matthews, C. R. Hosmer, W. H. Aldridge.

Head office: Montreal.

Mine office: Bankhead.

Secretary: A. R. G. Heward.

General manager: Lewis Stockett.

Mine manager: D. G. Wilson.

Master Mechanic: William Douglas Watson.

Mining engineers: R. Drummond and C. C. Richards.

Pit boss: Donald McKay.

Fire bosses: Thos. Bastian, Jos. Cooke, W. Cowan.

Area of coal lands leased, 7,360 acres.

Mine entered by tunnel.

Thickness of seam, 3 to 15 ft.

Dip and rise: 50 to 30 deg.

System of working: Breast and pillar.

Lights used: Wolf safety lamps.  
 Boilers: Seven 150-h.p. return tubular, two 80-h.p. economic.  
 Pumps: One duplex twin compound Cameron for water works.  
 Air compressor plant: Two duplex compound Rand, high and low pressure.  
 Electric plant: Two 250-kw. generators.  
 Screening plant: Breaker capacity 2,000 tons, briquette plant, 400 tons.  
 Mode of ventilation: One 10-ft. and two 12-ft. fans.  
 Machine shops: Blacksmith shop, carpenter shop and framing shed.

This company has an output of about 1,500 tons per day, drawn from Nos. 4, 5 and 6 veins. No. 6,

Engineer: W. G. Flint.  
 Pit boss: Wm. Musgrove.  
 Master mechanic: H. W. Evans.  
 Night boss and shot firer: Wm. Shaw.  
 Fire bosses: J. S. Wright, Geo. Devonshire, Hugh J. Smith, Wm. Willmott.  
 Fire boss at new mine: Joe Sedlock.  
 Outside foreman: H. J. Richards.

Large improvements have been carried out by this company in its mines at Canmore during the past year. The majority of the main roads have been enlarged to allow of the introduction of compressed air locomotives. These locomotives have been installed and are giving satisfaction. Difficulty is still being experienced owing to faults being met with in the mines.



West Canadian Collieries, Limited.—No. 1 Tippel at Lille Colliery.

which is the most recently developed of these three veins proves to be of excellent quality. The one-unit briquetting plant laid down by the Zwoyer Fuel Company, of New York, to produce 200 tons of briquettes per diem proved an unqualified success, so much so that the company duplicated the plant, which now has a capacity of 400 tons per day.

Extension of loaded tracks, erection of further ventilating machinery, further developments of rise and dip workings, and duplicating of anthracite breaker plant are the improvements contemplated at these mines to be made during the forthcoming year.

THE H. W. McNEILL COMPANY, LIMITED, CANMORE.

President: W. A. McNeill.  
 Vice-president and secretary: W. F. McNeill.  
 Treasurer and general manager: W. F. Little.  
 Mine manager: J. J. Morris.

The Sedlock vein, which was prospected many years ago, has been opened and development work is being pushed ahead. The opening of this vein has necessitated the building of the short branch line along the Bow River bank to the outcrop of the vein where the tunnels are being driven.

INTERNATIONAL COAL AND COKE COMPANY, LIMITED  
 COLEMAN.

President: A. C. Flumerfelt.  
 Vice-President: H. N. Galer.  
 Mine manager: J. W. Powell.  
 Superintendent: G. L. Fraser.  
 Pit bosses: D. E. Roberts, D. Davies, W. Wilson.

The International Coal and Coke Company is developing its No. 2 and No. 4 mines, having a daily output of 1,570 tons. A new double track

tunnel has been driven from the outside into No. 4 gangway, the tunnel being 900 ft. in length. At No. 40 chute in No. 4 gangway a double track tunnel is driven across the measures into No. 2 gangway, and from this point the main gangway in No. 2 mine is double tracked. The new tunnel driven into No. 4 is to provide for a better grade and will in future be the main haulage road.

Two additional locomotives have been added to the haulage plant and it is expected on the completion of the tunnels to average a daily output of over 2,000 tons.

In the main gangway in No. 2 and No. 4 seams electric incandescent lights have been installed. These lights are under the control of the fan-man who, in the event of any stoppage of the fan, can switch off the lights immediately.

The chief feature of the past year's improvements is the introduction of negro powder for blasting. This powder is fired by a special detonator with a low-tension battery.

Snow sheds have been erected outside the mines, covering the entire tracks and a wash-house containing 252 metallic lockers has also been built.

CANADIAN-AMERICAN COAL AND COKE COMPANY,  
LIMITED, FRANK.

President: H. L. Frank.  
Vice-President: J. F. Silverman.  
General manager: S. M. Moore.  
Mine manager: Jno. Robertson.  
Pit boss: Jos. Barber.

The Canadian-American Coal and Coke Company, Limited, is sinking a new slope at a point 500 ft. from the entrance to the mine. This slope will be sunk about 800 ft. to attain a greater depth of working. A little to the south of the main tunnel a new main tunnel is being driven in a 3-ft. seam of coal and is being vigorously pushed ahead. It is intended to start at two or three places and drive rock tunnels into this seam, working each way from these rock tunnels so that a new gangway can be completed in the shortest possible time. The rock tunnel which was started at 5,000 ft. from the entrance of the mine, has opened up a new seam of coal. Gangways are being driven at each side of this rock tunnel in the new seam.

HILLCREST COAL AND COKE COMPANY, LIMITED,  
HILLCREST.

President: M. P. Davis.  
Vice-President: G. W. Fowler, M.P.  
Managing director and treasurer: C. P. Hill.  
Mine manager: Cory Weatherby.  
Pit boss: Thomas France.

The Hillcrest Coal and Coke Company has installed a new fan to ventilate the whole of its mines. The fan is producing at present 30,000 cubic feet of air per minute. By a connection made between the slope gangway and the main gangway one split ventilates the slope workings and the other split ventilates the main gangway. Horses are used to

haul the coal but it is expected that an air compressor plant will be installed to provide power for air locomotives, one air locomotive being at present on the works ready for use. The coal from the mouth of the mine is hauled 3,000 feet by a small steam locomotive to the top of the tippie. The coal is conveyed down the incline by conveyors. These conveyors have been lately installed and are working satisfactorily.

WEST CANADIAN COLLIERIES, LIMITED.

Bellevue Mine, Bellevue.

Office: Blairmore.

General manager: C. L. Faneau.

Mine manager: Chas. Emmerson.

Pit boss: Jno. Anderson.

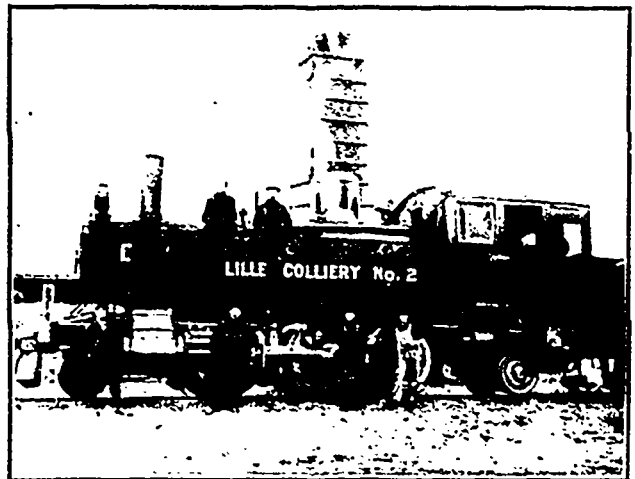
The West Canadian Collieries, Limited, has constructed a new sidetrack outside of the mine to provide better accommodation for the loaded cars.

Lille Mine, Lille.

Mine manager: Raoul Green.

Pit boss: W. E. Watkins.

This mine has not been producing as much coal as formerly, owing to the coal pinching out. A slope



West Canadian Collieries, Limited.—Side Tank Switching Locomotive.

has been driven in No. 2 seam and at the bottom of this slope a rock tunnel has been driven to open up the No. 1 seam, which attains a greater depth of working. A large new hoist has been erected on the top of the new incline and it is expected to develop and open up the No. 1 mine by this means. A new 13-ft. diameter Capell fan has been installed. The coal was formerly hauled by means of horses, but a large new air compressor plant and boilers have been installed, which supply power for air locomotives. One of these locomotives is already working and the use of horses has been discontinued.

MAPLE LEAF COAL COMPANY, BELLEVUE.

Manager: E. Dempsey.

Pit boss: Chas. Chestnut.

The Maple Leaf Coal Company is opening up and developing its new property and has driven a

rock tunnel 10x8 ft., 208 ft. in length, which opens up its first seam of coal. From the mouth of this rock tunnel a line is graded 1,900 ft. in length to the top of the tippie. A new coal chute has been installed capable of handling 500 tons of coal per day and the company is also constructing and grading new railway tracks and erecting boiler house, wash-houses, store-houses and blacksmith shops. It is expected that this new mine will be a large producer in the future.

LEITCH COLLIERIES, LIMITED, PASSBURG.

Mine manager: W. L. Hamilton.

Pit boss: J. J. Davies.

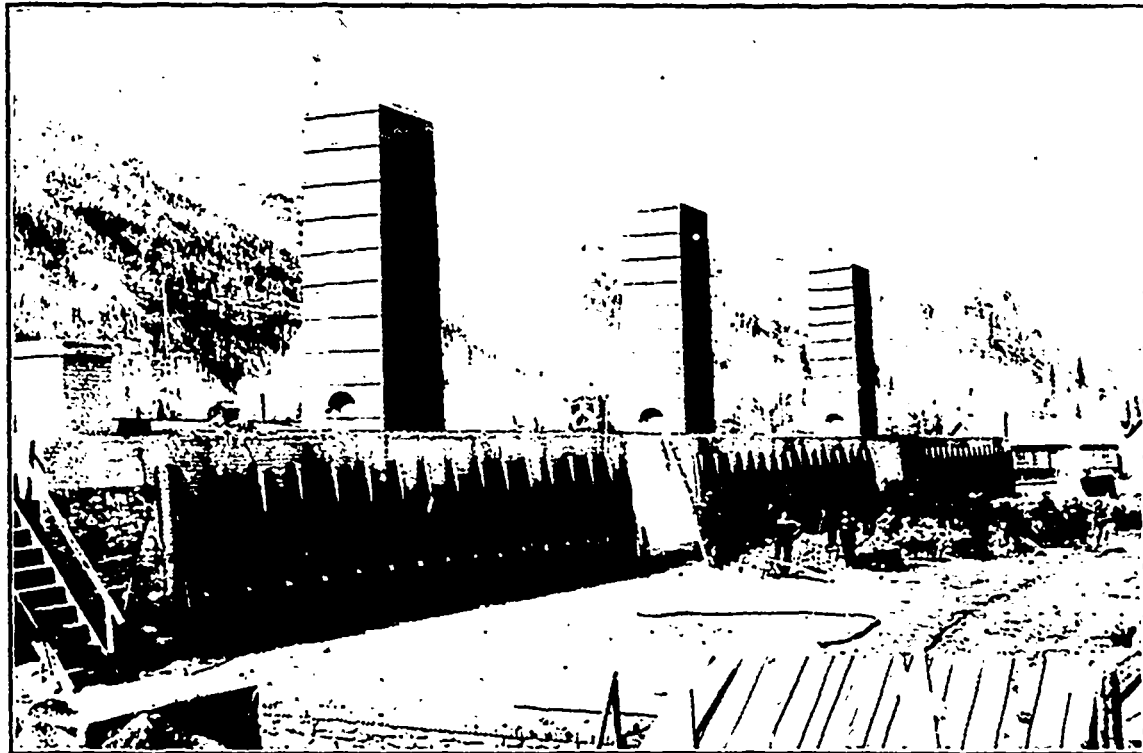
The Leitch Collieries, Limited, has opened up two seams of coal; one is 7 ft. thick, but the thickness of the other has not yet been proved. A spur track

were closed in April, 1907, and re-opened in October by the Alberta Fuel Company. They are being developed and it is expected that they will be large producers of coal in the future.

THE GALBRAITH COAL COMPANY, LUNDBRECK.

Mine manager: E. Proctor White.

The Galbraith Coal Company has taken over and reorganized the Galbraith mine, and has opened up two new seams of coal of good quality. A new tippie plant has been erected, capable of handling 1,000 tons of coal per day. New side tracks have been constructed and from the tippie an incline 1,500 ft. long connects the mines. A new 60-h.p. boiler and 40-h.p. hoist have been installed to haul the coal from the mouth of the mine to the top of the tippie.



West Canadian Collieries, Limited.—Front View of Battery of 50 Belgian Coke Ovens, Bernard Type, at Lille Colliery.

has been constructed and bridges built over the creeks. The erection of the tipples is being proceeded with. These mines will be large producers in the future.

EAST CROW'S NEST COAL COMPANY, BURMIS.

Pit boss: Robert Hamilton.

The East Crow's Nest Coal Company has opened up two 4-ft. seams of coal by driving a tunnel through the glacial deposits. These mines were developed to a small extent to prove the nature of the coal.

THE ALBERTA FUEL COMPANY, LUNDBRECK.

Mine manager: E. P. White.

Pit boss: Jno. Morris.

The Alberta Fuel Company is a new company which has taken over the property of the Breckenridge & Lund Coal Company. These mines

THE ALBERTA COAL AND COKE COMPANY, LIMITED,  
LUNDBRECK.

President: A. C. Flumerfelt.

Vice-president: H. N. Galer.

Secretary-treasurer: J. B. Wilkie.

Mine manager: G. L. Fraser.

Pit boss: J. Robertson.

The Alberta Coal and Coke Co. has been reorganized and a new company formed, which has taken over the holdings of the old company. An inclined shaft has been sunk in the coal at an angle of 75 deg. to a depth of 200 ft. At 200 ft. the coal pinched out. Prospecting work has been carried on by driving rock tunnels to open up the other seams.

ALBERTA RAILWAY AND IRRIGATION COMPANY,  
LETHBRIDGE.

General manager: P. L. Naismith.  
Mine manager: W. D. L. Hardie.  
Pit boss: John Livingstone.

The Alberta Railway and Irrigation Co. has installed a new box car loader which gives satisfactory results; also new picking belts.

CANADA WEST COAL COMPANY, LIMITED, TABER, ALTA.  
Mine manager: S. A. Jones.

The Canada West Coal Company, Limited, has driven a new slope and sunk a new shaft. A new 12-ft. diameter Capell fan has been erected on the top of the new shaft, driven direct from the steam engine. Six new boilers have also been installed and a new boiler house has been built. A new electric plant and air compressor have been installed. The electric plant is to provide power for the electric haulage in the mine. One electric motor is already in operation hauling coal in the main north entry to the foot of the slope. The electric plant also provides power to work the new electric coal cutters. The compressor plant is providing power to work compressed air coal cutters. At the top of the new incline a steel tippie has been erected capable of handling 1,000 tons per day and a new track has been constructed under the tippie. The slope is a double-track slope with creeper chain to bring loads up the incline and take the empties down. This mine will be a large producer of coal in the future.

DIAMOND COAL COMPANY, LIMITED, DIAMOND CITY.  
Mine manager: E. E. Reynolds.

Pit boss: Jno. Bamling.

This company is installing a new tippie plant capable of handling 1,000 tons of coal per day; also new electric plants, water tower, boilers, brick-making plant and electric motors for hauling the coal in the mine.

PINCHER CREEK DISTRICT.

A few mines are in operation in this district, one of which is supplying the town with coal. The other mines, which are from 12 to 15 miles south of the town, are supplying the settlers in the neighbourhood. Immense deposits of coal are waiting for the construction of the railways into this district.

HIGH RIVER DISTRICT.

A few small mines are being operated 22 miles west of High River. The output is limited to merely supplying the settlers in the immediate neighbourhood of the mines.

BOWVILLE DISTRICT.

In the Bowville district, which is 45 miles north of Lethbridge, a few mines are in operation. These supply the wants of the settlers in the immediate neighbourhood of Bowville.

WOODPECKER DISTRICT.

Many small mines are being operated in the Woodpecker District and are supplying the immediate neighbourhood. Coal is also hauled to the railway, a distance of from two to three miles, and shipped to points east.

MEDICINE HAT DISTRICT.

In the Medicine Hat District a fairly large quantity of coal has been produced, but on account of the mines producing this coal being situated a considerable distance from the town of Medicine Hat, the output is only sufficient to supply the wants of the immediate neighbourhood and in the winter time to ship coal to points east.

EDMONTON DISTRICT.

Numerous small mines have been opened in the Edmonton district during the year, but so far there are only two mines in operation having direct railway communication. The Cardiff Coal Company at Morinville, about 23 miles north of Edmonton, is mining on a fairly large scale. Most of the coal in the Morinville district is found in thick deposits near the surface and in some cases there are only 10 or 15 ft. of clay overlying the coal. The Parkdale Coal Company, Limited, is mining coal about two miles east of Edmonton. Its shafts are the deepest in the district, and as the coal has been found hard for pick work, compressed air coal-cutting machines have been introduced to mine the coal. These machines have been successful and it is proposed to still further extend their use.

THREE HILL AND KNEE HILL DISTRICTS.

Little progress has been made in developing the coal in the Three Hill and Knee Hill districts. A few new openings have been made, but owing to lack of transportation facilities the trade is only a local one.

ACCIDENTS.

All the serious accidents have been carefully investigated. We had one bad accident whereby six men lost their lives. This accident was due to the buildings on the surface around the mine shafts catching

Tabulated List of Accidents Above and Below Ground.

Cause.	Fatal		Serious		Slight		Total.
	Above	Below	Above	Below	Above	Below	
Fall of roof and sides.....	..	..	..	6	..	15	21
Gas—							
Explosions .....	..	3	..	1	..	9	13
Suffocations .....	..	1	..	..	..	..	1
Mine cars .....	..	1	..	5	5	11	22
Explosives .....	..	..	..	3	..	8	11
Falling down chutes.....	..	4	..	..	..	3	7
Cages and shafts .....	..	2	..	..	..	2	4
Hauling and hoisting appliances .....	2	..	..	2	1	..	5
Miscellaneous .....	..	..	1	..	4	10	15
Fires above ground .....	..	6	..	..	..	..	6
	2	17	1	17	10	58	105

fire. We have not had a single fatal accident due to fall of roof or sides, which is very satisfactory. The number of accidents due to explosions of gas has been greatly reduced since the introduction of safety lamps

into many of the mines. The accidents caused by mine cars were numerous but in most cases were not serious. During the forthcoming year I will give close attention to this class of accidents with the view of ascertaining what further precautions can be taken to lessen their number.

Our "Coal Mines Act" states that all accidents must be reported whether serious or slight. The majority of the coal mines acts, including the British and the British Columbia acts, require that only serious accidents shall be reported. Many of the accidents reported were so slight as not to incapacitate the injured person for work for more than a few hours or a day at most. Very few cases of non-reporting of accidents have come under my notice during the past year.

WORK OF INSPECTION.

During the year the district inspector and myself have made a continuous round of inspection of all the large mines and have endeavoured to visit the small outlying mines at such times as we thought they would be in operation. We find that the small mines give the most trouble by their non-compliance with the provisions of "The Coal Mines Act."

Mines are often opened at points remote from the railways and it is then just by chance we hear of their existence, as it is seldom the owners notify the department of their mining operations.

The policy adopted by the department requiring the exclusive use of locked safety lamps in mines where there is any danger of explosion from gas or dust has been enforced throughout the province. Considerable opposition to the use of safety lamps has been met with in some of the mines, but I think the diminution in the number of burning accidents following the introduction of safety lamps shows that their introduction was justified. In the year 1906 we had 26 accidents due to explosions of gas, and during 1907 13 accidents due to the same cause. Only four of these occurred in districts of mines where safety lamps were used, and all four were directly due to the use of explosives.

This brings me to another point, viz: that in our "Coal Mines Act" as it at present stands there are practically no provisions for regulating the use of explosives in dry and dusty mines. I have given the matter my attention for some time past and will submit to you at an early date several rules bearing on shot-firing which might be added to "The Coal Mines Act."

The fatal and non-fatal accidents have been investigated and all coroners' inquests attended. Steps have been taken to enforce the keeping of the necessary plans, records, registers and report books at the various mines and the provisions of "The Coal Mines Act" have been strictly enforced in all cases by the district inspector and myself.

Four prosecutions for breaches of "The Coal Mines Act" were undertaken by the department and in each case a conviction was obtained. These were the first

prosecutions ever undertaken in the province under this act.

EXAMINATIONS.

Two examinations for fire bosses and one for mine managers and pit bosses have been held at each of the centres in the province. A large number of candidates presented themselves for examination. In the fire boss and pit boss classes most of the candidates came up to standard, but in the managers' class the majority of the candidates did not come up to the required standard.

WAGES.

Fire bosses are still scarce although judging by the number of men coming up for examination for fire boss certificates the supply ought to soon meet the demand. In the early part of the year certain classes of mine workers obtained a slight increase in wages which increased scale is still maintained. The average coal-digger's wage, mining coal on contract, varies from \$75 to \$180 per month. The general wage schedule for day labour is as follows:

Inside Men (all working 8 hours).

Fire bosses .....	\$3 50
Shot lighters .....	3 00
Bratticemen .....	3 00
Bratticemen's helpers .....	2 50
Timbermen .....	3 00
Timbermen's helpers .....	2 75
Drivers .....	2 75
Drivers, wet places .....	3 00
Team drivers .....	3 00
Tracklayers .....	3 00
Tracklayers' helpers .....	2 75
Rock miners .....	3 50
Miners .....	3 00
Miners, wet places .....	3 50
Locomotive engineers .....	2 75
Switchmen .....	2 75
Chute loaders .....	2 75
Labourers .....	2 50
Timber handlers .....	2 75
Machine men .....	3 50
Machine men's helpers .....	3 00
Switch boys .....	1 50
Door boys .....	1 00
Hoistmen .....	2 75
Rope riders .....	2 75
Couplers, men .....	2 50
Couplers, boys .....	1 50
Pushers .....	2 50

Outside Men (working 10 hours, except where shown differently.)

Pitheadmen .....	\$2 50
Slate pickers, men .....	2 00
Slate pickers, boys .....	1 25
Car oilers, boys .....	1 25
Car oilers, men .....	2 00
Tally boys .....	1 25
Teamsters .....	2 50
Blacksmiths .....	3 50



Blacksmiths' helpers .....	2 50
Mine carpenters .....	3 50
Mine carpenters' helpers .....	2 50
Car repairers .....	3 00
Power house engineers (12 hours) .....	3 50
Tipple engineers .....	3 25
Locomotive engineers .....	3 25
Locomotive helpers .....	2 80
Firemen (8 hours) .....	2 50
Railway car handlers .....	2 25
Farmen (12 hours) .....	2 50
Outside labourers .....	2 00
Fan firemen (12 hours) .....	3 00
Lampmen (12 hours) .....	2 50
Machinists .....	3 20
Machinists' helpers .....	2 50
Couplers .....	2 00
Sawyer .....	3 00

#### PROSPECTS.

During the year many new mines have been opened in the province, but they have been mostly operated only on a small scale. Several large mining concerns which were organized to develop extensive coal properties have been unable to proceed with their development owing to the general financial stringency of the past few months. However, I expect that during the coming year, should the capital be forthcoming, we will have an addition of several large mining enterprises to the already existing collieries. The coal trade was very good all last summer but during the last few weeks of the year there has been a decided falling off in the demand for all classes of coal. This is largely due to the mild weather which has prevailed all winter, while large stocks of coal were laid in by dealers and others in anticipation of a severe winter and a coal famine such as was experienced during the latter part of 1906 and the early part of the past year.

Boring for natural gas and oil has been undertaken at several points throughout the province with various degrees of success.

NORMAN FRASER,

Provincial Inspector of Mines.

#### BOUNDARY DISTRICT SMELTERS.

**C**OPPER SMELTING in the Boundary District of British Columbia is being carried on at all the district smelting works. When in Victoria recently, Mr. W. C. Thomas, who recently retired from the position of manager of the Dominion Copper Company, was reported by the *Colonist* as under:

Mr. Thomas states that mining matters are, generally speaking, looking well in the Boundary district, and the three smelters are at work—the Granby at Grand Forks, the largest of the trio, having a daily treatment capacity of 4,000 tons of ore; the British Columbia Copper Company's smelter near Greenwood, with a capacity of from 1,800 to 2,000 tons; and the Dominion Copper Company's smelter, three

and a half miles below Greenwood, with a daily capacity of from 1,000 to 1,200 tons.

The principal mines of two of these companies are situated either at or near Phoenix. The British Columbia Copper Company holds important interests in the Mother Lode, at Deadwood camp, a short distance from Greenwood; the Oro Denoro, Emma and B.C. mines, in Summit camp; and the Napoleon and Lone Star mines in Washington State. The Granby smelter, which was closed down for a brief period, started up again in December last, and has since been handling from 3,000 to 4,000 tons every day.

Although the Dominion Copper Company is at the present time only utilizing a new furnace with a daily capacity of about 600 tons, the company has the material advantage of more economical methods than are possible in its older plant. The company, moreover, recently opened up a new ore body of very great promise in the Brooklyn mine at Phoenix. The ores in this district are placed directly in the blast furnaces, and it is this simplicity in handling which enables the ores of these mines with their comparatively low copper values, to be mined with a fair profit. All these ores carry gold and silver, and while these values are not sufficient to defray the mining and smelting charges, nevertheless they cut a very respectable figure upon the balance sheet. Against the 26 to 30 lb. of copper which the Boundary country mines yield per ton, the great mines in Butte, Montana, and near Salt Lake City, in Utah, yield from 60 to 80 lb. per ton, but ores of the latter must be roasted and concentrated, requiring the use of a flux, such as iron ore or lime, and consequently the difference in point of profit is not so great as would otherwise be the case.

Although it cannot be denied that Greenwood had a rather hard winter, it is satisfactory to learn that these three smelters are now busily engaged in operation, and that the prospects for the mining district generally are good. And while copper has sustained quite a drop, having fallen from the somewhat meteoric figure of 25 cents to something less than 13 cents per lb., on the other hand wages have also declined and with the adoption of more economical methods the future of the copper companies need not be painted in sombre colours.

Skilled miners now are receiving \$3.50 instead of \$4 per day, while labourers are paid \$2.50 instead of \$3 per day; moreover in consequence of the very general depression in the mining business, managers have the advantage of getting a much better class of men than was possible a year or something more ago when business was more active. Again, a change for the better in the way of activity is considered to be quite probable after the United States presidential election shall have been decided.

The Boston Richardson Mine at Goldboro, the largest gold mine in Nova Scotia, has gone into liquidation, and is now in the hands of a receiver.

SNOWSHOE GOLD AND COPPER MINES,  
LIMITED.

Annual Report and General Meeting of Shareholders.

**T**HE ANNUAL MEETING of the Snowshoe Gold and Copper Mines, Limited, was held in London, England, on 7th inst. The directors' report for the last fiscal year submitted to the meeting stated that the liabilities, after deducting amounts

amount. In the early months of the period under review considerable difficulties were encountered in consequence of the serious shortage of coal and coke experienced throughout the whole of southern British Columbia as the result of the strikes of coal miners. The unusually severe winter of 1906-7, scarcity of railway cars and the unsettled labour conditions that prevailed throughout the Province aggravated these difficulties, as a result of which the mine had to be shut down entirely for 111 days, and, even when



Mr. George S. Waterlow, Deputy Chairman of Snowshoe Gold and Copper Mines, Limited.

receivable have been reduced by £8,224. During the year 92,017.713 dry tons of 2,000 lb. were shipped, the average contents being approximately 0.06 oz. gold, 0.3 oz. silver and 1.3 per cent. copper. The royalties on this ore amounted to £11,049, equal to about 2s. 5d. per ton. The profit for the year, after writing off all expenditure and 10 per cent. depreciation from the valuation of mine machinery and plant, buildings, furniture, etc., amounted to £7,096, reducing the debit balance on profit and loss by that

working, shipments had to be considerably curtailed. In consequence it was impossible to obtain full advantage of the high price ruling for copper during the early months of 1907. It was not until June that these unsatisfactory conditions were sufficiently alleviated to enable the lessees to ship on a large scale, and shortly afterwards the price of copper, which had attained its zenith in March, declined rapidly, and seriously affected the royalties, the more so as they are based upon the prices of metals cur-

rent 75 days after shipment. Since the close of the financial year the Snowshoe mine, in common with all the other mines in the Boundary District of British Columbia, was closed down, this course being rendered necessary owing to the unsatisfactory condition of the copper market, coupled with the high cost of labour and supplies, which prevented the mine being worked at a fair profit. It is hoped that it may be possible for the Consolidated Mining and Smelting Company of Canada to resume work on the Snowshoe mine at an early date. The lessees

report that diamond drilling has so far failed to locate ore below the main fault. Notwithstanding this, however, and despite the large tonnage extracted, the ore reserves have been materially increased, development on the whole having been satisfactory. Further buildings have been erected on the property, and the equipment of the mine has been much improved, facilitating the economical handling of a large tonnage of ore.

The Profit and Loss Account and Balance Sheet, respectively, are as follows:

## PROFIT AND LOSS ACCOUNT.

Dr.	£	s.	d.	£	s.	d.
To Balance from last account.....				39,309	5	10
" Depreciation at 10 per cent.—						
On buildings, furniture, etc. ....	543	0	9			
" Mine machinery and plant .....	592	11	3			
				1,135	12	0
" General expenses at London and Phoenix, including directors' fees, office rent and staff, auditor's fee, interest, etc. ....				2,802	19	7
" Loss on exchange .....				15	10	6
				£ 43,263	7	11
Cr.	£	s.	d.	£	s.	d.
By Royalties on ore shipped .....				11,049	4	0
" Miscellaneous receipts .....				1	8	4
" Balance—carried to Balance Sheet .....				32,212	15	7
				£ 43,263	7	11

## BALANCE SHEET.

Liabilities.	£	s.	d.	£	s.	d.
Share Capital authorized—250,000 shares of £1 each.....	250,000	0	0			
Share Capital Issued—198,855 shares of £1 each, fully paid .....				198,855	0	0
Sundry creditors, including loans from bank.....	14,389	16	5			
Less cash at bank and in hand .....	596	4	10			
				13,793	11	7
				£212,648	11	7
Assets.	£	s.	d.	£	s.	d.
Property at cost price .....				150,076	8	6
Exploration and development .....				19,694	11	5
Buildings, furniture, fixtures and fittings at mine, including railway spur .....	5,430	7	7			
Less depreciation at 10 per cent.....	543	0	9			
				4,887	6	10
Mine machinery and plant .....	5,925	12	6			
Less depreciation at 10 per cent. ....	592	11	3			
				5,333	1	3
Stores on hand at the mine .....				444	8	0
Profit and Loss—						
Balance from that account .....				32,212	15	7
				£212,648	11	7

## PROCEEDINGS AT GENERAL MEETING.

The secretary (Mr. H. W. Batty) having read the notice convening the meeting and the auditors' report, the chairman said:—

"In rising to propose the adoption of the report and accounts, I may say at the outset that we had hoped to have held this meeting earlier in the year, but, as Mr. Geo. S. Waterlow, your deputy-chairman, has been travelling abroad for some time, we thought you might prefer that the meeting be delayed until his return. I regret, however, that, although he recently returned to England, he is prevented from being present today owing to his being laid up with influenza.

"No doubt you will be prepared to take the report and accounts, which have been in your hands for some days, as read.

have the item of £11,049 4s., being the royalty on the ore shipped during the year, and there is an item of £1 8s. 4d. for miscellaneous receipts. The net result, as stated in the Directors' Report, is a profit of £7,096 10s. 3d., and this amount has gone to reduce the debit balance brought forward from the previous year.

'In the Balance Sheet, the only item that I need refer to is that of sundry creditors, which, although still standing at a somewhat high figure, has been reduced during the year by more than £8,000.

"At one time it looked as though our profit for the year would have been considerably greater than eventually proved to be the case. As we have explained in our report, the lessees had many difficulties to contend against, and they were quite unable to ship such a large tonnage as we and they could have



Ore Dump and "Glory Hole" at Snowshoe Mine, Phoenix Camp.

"Dealing first with the accounts—on the debit side of the Profit and Loss Account you will see an item of £1,135 12s., being 10 per cent. depreciation on the valuation of buildings, furniture, etc., and mine machinery and plant, which we have as in past years, written off, although the buildings and the plant have been much improved at considerable expense by the lessees. General expenses in London and British Columbia amount to £2,802 19s. 7d. and are made up of the whole of the expenditure in London and British Columbia, including interest, which, although less than in some previous years, is still a considerable item. The directors' fees, I may add, although charged in the accounts, have not been drawn and are included in the item of sundry creditors, appearing in the Balance Sheet. The item of £15 10s. 6d. for loss on exchange requires no explanation. On the credit side of the Profit and Loss Account you

wished when copper was at such an exceedingly good price in the early months of 1907. Indeed so much was this the case that more than half the 92,000 tons shipped during the year was shipped during the last three months.

"The average price of electrolytic copper for the nine months, January to September, 1907, as given by the *New York Engineering and Mining Journal*, was 22¼ cents, but owing to the greater part of the Snowshoe tonnage having been shipped on a falling copper market, our royalties during the same period were based upon copper of an average price of only 17¼ cents. When I tell you that this difference of 5 cents per lb. of copper made a difference in the royalty per ton of ore of about 30 cents, or \$2,800 altogether, you will appreciate the fact stated in the report that we did not get the full advantage of the high price of copper. Indeed those of you who have

shares in other British Columbian companies will have been prepared for this statement, as I believe that not one company operating in British Columbia was able to enjoy the full advantage of the exceptionally high average price of copper in 1907.

"While copper was ruling at a high price, there was an agitation amongst the miners in the Boundary and Rosland districts for an increase in wages, and, in order to obviate a strike, the employers of labour were obliged to concede this demand. When the heavy fall in the price of copper set in, the high cost of labour and supplies made the margin for profit a very small one. The copper market, moreover, was in such a demoralized condition that there was danger of a possible further heavy break in price. These factors induced all the companies operating the principal mines in the Boundary District to close down in November last, and, after looking carefully into the matter, and not without some heart-searching, the directors of this company felt that they could not reasonably do otherwise than concur in the desire of the lessees to suspend operations temporarily. Since that time, the miners in the district have voluntarily agreed to revert to the old rate of wages, and the cost of supplies has become more normal. Copper is still at a price which leaves the margin for working the property somewhat small, but it is generally agreed that the copper market is in a more healthy condition, and that there is less chance of a further fall in the price of the metal. Indeed, it seems to be thought that the course of the price now is more likely to be steadily upward, and I trust that may be the case.

"All of the big mines in the Boundary District, with the exception of the Snowshoe, have now resumed operations, and we hope that it will not be very long before the Snowshoe mine is also again numbered amongst the active properties.

"The ore reserves and the equipment of the property now render it practicable to deal economically with a considerable ore tonnage. I told you at the last meeting that if nothing arose to interfere with operations, you might expect a monthly output of more than 10,000 tons. It now appears that we may look forward to a much larger monthly output than that, as soon as the mine is opened up again. During October, the last full month that shipments were made, the ore extracted aggregated more than 23,000 tons.

"We are informed by the lessees that they have spent upon construction, improvements, and installations more than \$84,000, and I think we may assume that they would not have spent all that money if they had not felt assured of the value of the mine.

"In short, the financial position of the company has been improved, as, too, has the condition of the mine, and, if we are somewhat disappointed that it should have become necessary to suspend operations at the mine, yet we feel we can look forward with greater confidence to the future. With copper at a somewhat higher figure—I do not mean an inflated

figure such as it touch in the spring of last year, but a price fair to both producer and consumer—and with a large output, we may rapidly retrieve our position. A beginning has been made, and I think we may look upon it as a happy augury of brighter days in store.

"I formally move that the report and accounts be adopted."

The following remarks, prepared by Mr. George S. Waterlow, were reported to the meeting:

"The year to September 30, last, is interesting, as it shows the results of the first full financial year's working under the lease to the Consolidated Mining and Smelting Company of Canada. As the chairman has told you, owing to the heavy fall in copper and other causes, the results are not quite as good as we at one time thought would have been the case, but they are a fair improvement on the results of previous years.

"In addition to the fall in the price of copper, another factor that reduced our profits was that the grade of ore shipped was lower than has hitherto been shipped from the property. This is not altogether an unsatisfactory feature, as, in big low-grade mines like the Boundary mines of British Columbia, success depends more on the ability to turn out a big tonnage than upon the values per ton. At the same time, I might perhaps mention that we are informed that the falling-off in grade is to some extent the result of new 'glory-holes' or quarries having been opened by the lessees and the unavoidable mixture of some of the barren surface material with the ore in opening them.

"As you will have gathered from the report, some diamond drilling was undertaken by the lessees in order to endeavour to locate ore below the main fault, but so far success has not crowned their efforts. Although this is of course disappointing, too much importance should not be attached to the result, because, as you are probably aware, bore-holes really prove very little. They may strike a rich pocket or they may just miss an orebody by an inch or so. My belief is strong that the orebody is there, and the lessees do not consider their failure to find it as conclusive, and they intend to put down more holes.

"The development of the other parts of the mine has been satisfactory, and the managing director of the leasing company, writing in March last, stated that he believed they now had on hand at the Snowshoe mine two or three times as much developed tonnage as was in the property at the time they took it over. This result, I think you will agree, is all the more satisfactory, as extensive development of the property was delayed until the new plant and equipment had been installed.

"According to the report of the Consolidated Mining and Smelting Company of Canada on the production of the different properties controlled and operated by that company for the year ending June 30, 1907, they shipped from the Snowshoe 49,002 tons of ore, containing 2,989 oz. of gold, 16,171 oz.

of silver and 1,372,056 lb. of copper; total value, \$397,141.

"Reference was made in the last report to some additional buildings being erected by the lessees and the further equipment of the property. That work has all been completed, as well as some further work, and the mine is in good shape. The superintendent's house has been much enlarged, and a new dwelling for the accountant has been erected. The air compressor building has been enlarged.

"There is now an excellent water system for domestic use, and adequate fire protection is afforded at all points.

"The electric installation for all the machinery and haulage has been completed, power being taken



Dump of Ore at Snowshoe Mine, Phoenix Camp.

from Bonnington Falls, and it has, we understand, been very satisfactory, and has made practicable an output which could not have been maintained under the old system.

"Many of the improvements carried out on our property at the cost of the lessees, although made by them in their own interests for the more economical working of the property, are of a permanent and immovable nature, and must therefore revert to our benefit.

"Mr. G. H. Barnhart, the company's mining representative in British Columbia (whose services, to our regret, we have recently lost, owing to his having taken over the management of a mine in Colorado), speaks most highly of the manner in which the work of the lessees has been executed. I have, during past months, been in communication with various persons

at San Francisco and elsewhere, with a view of finding a competent engineer to take his position as soon as the mine is opened up again. Whilst at San Francisco I visited Messrs. Bradley and Mackenzie, the eminent engineers. During all the time that I have been absent from England, some nine months, I have been in constant communication with Mr. Aldridge concerning the Snowshoe, and have been making an appointment to meet him, with a view of discussing the future of your mine, and propose to do so in New York, possibly at the end of this month or at the beginning of next month. I believe it is his intention as soon as we are able to start again, to ship much more ore per day than formerly.

"I have every confidence in Mr. Aldridge, in his capability and his integrity to carry out the working of the mine in the most satisfactory manner, both for our benefit and that of his own company, the Consolidated Mining and Smelting Company of Canada. In the hands of this company we are in good hands, it being one of the strongest and most highly thought of corporations of its kind in Canada. Its board of directors consists of gentlemen of high business reputation, upon whom we can rely faithfully to carry out their obligations. The president, Mr. W. D. Matthews, of Toronto, is one of the well-known directors of the Canadian Pacific Railway Company. The directors, Mr. Charles R. Hosmer, of Montreal, and Mr. E. B. Osler, of Toronto, are also directors of the Canadian Pacific Railway Company, and are men to be thoroughly relied on. I think, gentlemen, therefore, that we may consider ourselves lucky in being in the hands of so strong a corporation, and I have every faith that they will carry out the lease that they hold with us to the best possible advantage of both parties.

"As the Snowshoe ore contains so considerable a percentage of lime, it would be profitable, even at the present low price of copper, for the leasing company to extract ore from the Snowshoe mine to mix with their other ores, while it would leave but a very small margin of profit for our company.

"An interesting point to shareholders in this and other Boundary mining companies is the announcement in the report of the Consolidated Mining and Smelting Company of Canada that in view of the recent favourable developments on the Snowshoe, Gold Drop and Rawhide properties, all in Phoenix camp, it was considered advisable to purchase, partly for cash and partly for shares of the Consolidated Company, the Phoenix Amalgamated Company's properties, and negotiations for the acquisition of these interests were completed June 30, since which time the actual purchase has been made. The Phoenix Amalgamated Company's properties comprise the following claims: War Eagle, Missing Link No. 2, Dandy, Bald Eagle, Pin Hook, Red Rock, Lulu and some fractions, the total acreage being about 210.3 acres. These properties join the Granby Consolidated Company's properties upon the south. Negotiations were also completed by June 30 for the pur-

chase of the Four-Acre and Keystone properties, adjoining the Phoenix Amalgamated group on the south. Several options have been taken on other properties near Phoenix.'

"The Consolidated Company now controls a very large area contiguous to and near the claims owned by this company. I mention this fact because it seems to me that the Consolidated Company would not have bought all these properties—presumably at considerable expense—had they not been convinced of the permanence and profitableness of mining in the district, and doubtless their convictions were based to some extent upon what they had seen at the Snowshoe.

"Another interesting point, as throwing light upon the value of our property is that I am informed the ores of the Rossland district are becoming more silicious as depth is attained. Now, our ores are useful in helping to flux the Rossland ores, and if Rossland ores are becoming more silicious, it means that our ores are becoming more and more useful as a flux for them. Indeed, some time after the Snowshoe mine was closed down last November, the lessees sent men up specially to the property to take out nearly 400 tons of ore for the purpose of bedding a new furnace at Trail they were about to 'blow in.'

"On the whole, then, the outlook for the future of the company seems bright. We regret exceedingly that the mine has been idle since last November, but we believe that it was really absolutely necessary for operations to be suspended.

"Labour conditions have improved, the cost of supplies is lower, and doubtless the lessees are merely waiting now for a moderate improvement in the price of copper before resuming operations on our property. When work is re-started, it is probable that shipments will be on a much larger scale than heretofore, and, although we cannot expect to receive a high royalty per ton, we hope that the aggregate sum will enable us to further improve our position materially before our meeting next year.

"I have invested heavily in this company, and I have given a great deal of thought and attention to its affairs, and spent some of the best years of my life in your service. We have had many obstacles to surmount, but I believe we are now upon the high road, and that we shall ultimately attain the goal for which we have never ceased to strive, when you will be able to look back upon the career of this company without disappointment, and without regret at having invested your money therein."

The report and accounts were adopted, Mr. George S. Waterlow was re-elected a director, and the auditors were re-elected. The proceedings were then terminated.

Official records of lode gold production in British Columbia show a total value of \$45,070,717 for 15 years, 1893-1907. The minimum yearly total was in 1893, when it was \$23,404; the maximum was in 1905 with a total of \$4,933,102. The average for 10 years, 1898-1907, is \$4,077,002.

## IMPORTANT DISCOVERY OF ORE AT TASOO HARBOUR, MORESBY ISLAND.

**T**ASOO HARBOUR, Queen Charlotte Islands, is a locality from which an important discovery of ore has lately been reported. The *Rossland Miner* has published some particulars of the find, as under:

Arthur Gowing, who was a resident of the Rossland camp in 1895, and is a pioneer prospector of the Kootenays, has arrived here from Moresby Island, Queen Charlotte group, where he has made a strike that promises to make large fortunes for himself and associates. Although he has been a prospector for the past 15 years, he never made a luckier find than this one. Mr. Gowing went to the Queen Charlotte group some three months since. At Skidegate he became interested in some float in the possession of Chief Henry Moody, who consented to take him to the place where he had picked it up. Shortly after reaching Tasoo Harbour on Moresby Island, Mr. Gowing located the ledge from which the specimens came, and took up 20 mineral claims for himself and associates, Thomas Taylor and F. C. Elliott, of Revelstoke.

The lead on which he staked the claims begins on Tasoo Harbour and extends west from it for a distance of two and a half miles. The ledge dips to the northeast at an angle of 45 deg. It carries large bodies of pyrites, with small values in gold. The width of the main ledge varies from 15 to 150 ft. The first assay from a number of samples from the surface croppings of ore made at Jedway, showed that it ran 17.5 per cent. copper, \$8 in gold, and \$1 in silver. The foot wall is of lime and the hanging wall diorite.

The copper ore body can be traced on the surface for miles. Its average width is about 70 ft., a phenomenal size considering the high-grade character of the metallic contents. A few shots disclosed the high-grade chalcopyrite beneath.

A number of experts, including Capt. Davis, a former Kootenay mining man, and Mr. Bellamy, of Seattle, are now at the new camp, where Mr. Gowing has located a townsite and a water-power, and secured foreshore rights.

Mr. Gowing brought a number of samples of ore with him, which were seen by a *Miner* representative. There was one particularly rich specimen of chalcopyrite that carried free gold. There were others of chalcopyrite running about 18 per cent. copper to the ton. Other specimens were of malachite, which carried considerable gold and copper. From all that could be learned it is evident that the find is one of the most important ever made at the coast.

Mr. Gowing has left Rossland for Trout Lake and Revelstoke, where he will consult with his associates as to plans for the future development of the very valuable mining property which they have secured. A substantial interest is reserved for Chief Moody, through whose instrumentality the property was found.

## CANADIAN MINING INSTITUTE SUMMER EXCURSION.

(From Quarterly Bulletin of Canadian Mining Institute.)

**P**ARTICULARS of the Summer Excursion of the Canadian Mining Institute have been published by the secretary of the Institute, as follows:

As announced in Circular No. 2 recently issued to members, this excursion will start from the City of Quebec on Monday, August 24, next. After spending a day in the ancient and picturesque capital of older Canada, a special train will convey the party to Sydney, Nova Scotia, and it is hoped to arrange for a train service to enable members of the party to enjoy *en route* the charming scenery of the Valley of the Metapedia. Upon arrival at Sydney, the party will be received by the Mining Society of Nova Scotia, whose council has undertaken all the arrangements in connection with the Institute's visit to that Province. At the time of writing, details have not been definitely determined, but it is understood that during the two days' stay at Sydney, the principal iron and steel works in the vicinity will be visited; while, too, a visit will be paid to the Dominion Coal Company's extensive collieries and shipping wharves at Glace Bay. The society also proposes banqueting the visitors at Sydney before the departure for Stellarton on the night of Friday, August 28. It is proposed to spend Saturday, August 29, at Stellarton, in Pietou County, visiting the Acadia Coal Company's collieries, at present the largest producing mines in this county. It may, perhaps, be worth noting in passing, that coal was discovered in Pietou County so long ago as 1798, and the mines have been worked more or less continuously ever since. With a view to showing the visitors as much of the country as possible, the return journey will be by a different route from that first travelled, and the Thetford and Black Lake districts, the centres of the asbestos industry in the Province of Quebec, will be reached, *via* St. John and Sherbrooke, over the line of the Canadian Pacific Railway. The arrangements at Thetford are in the hands of Mr. George R. Smith, past president of the Institute, and general manager of Bell's Asbestos Co. It is proposed to spend the morning of Monday, August 31, at Thetford Mines, and after luncheon, visit the principal asbestos mines and also the Canadian Chrome Company's works at Black Lake.

Upon returning to Montreal the visitors will be entertained by the Montreal branch of the Institute. On the evening of Sept. 1 a banquet will be given in their honour at the St. James Club. On Sept. 3 the party will be entertained by the Montreal Board of Trade, who will provide a luncheon at the Hunt Club. The train will leave at 10 p.m. for Toronto, arriving early the following morning, when steamer will be taken across Lake Ontario to Lewiston,—a

delightful journey occupying about two hours—and thence proceed by the Gorge Railway to the Niagara Falls. Returning the following morning, to Toronto, the party will be the guests of the directors of the Toronto National Exhibition, who will tender a luncheon and other entertainment to the visitors. The train will probably leave Toronto at 9.30 on the evening of September 4, in order to reach Cobalt early the following morning, and thus afford two full days for visiting the mines of this interesting region. The arrangements here will be in the hands of a committee from the Cobalt branch of the Institute, and an excellent programme is, therefore, assured. Before leaving Cobalt, a visit will probably be paid to Haileybury, where entertainment is promised; and the train will also remain at Temagami for a sufficient length of time to enable the party to see the iron deposits there. Monday, September 7, will be devoted to visiting the Moose Mountain iron mines, near Sudbury. The geological formation here is one of the characteristic formations of the Lake Superior region, and will be specially interesting to many on this account. On Tuesday, September 8, a visit will be paid to the Canadian Copper Company's smelter—one of the most modern and best equipped plants of the kind in the world—at Copper Cliff; and to the Creighton mine, where a camp luncheon will be provided by the company. This will complete the second stage of the excursion.

The train will leave Sudbury about midnight on Tuesday, September 8, arriving at Winnipeg on the following Thursday morning. Arrangements are being made with the Winnipeg Development and Industrial Bureau to entertain the visitors at Winnipeg, either on the outward or return journey. It is expected that Medicine Hat will be reached early on Friday morning, September 11, where, after visiting the natural gas wells in the vicinity, owned by the Canadian Pacific Railway Company, a special train will be chartered to take the party as far as Lethbridge. Here it is proposed to visit the colliery of the Alberta Railway and Irrigation Company, while persons interested in irrigation will also have an opportunity of seeing the irrigation system of the Southern Alberta Company. At Frank, which will be reached early on Saturday morning, September 12, a stay of an hour or two will be made to enable the party to visit the landslide and coal mine, which latter has some unique features; while later in the day, the colliery and plant of the International Coal and Coke Company at Coleman will be visited. The plant here includes a dry-washer and a very fine bank of coal ovens. Opportunity will also, it is hoped, be afforded members of the party to visit the Hillcrest, Bellevue and Lille coal mines near Frank. The Lille collieries are about six miles distant from Frank on a branch railway, and are equipped with a new power and coal-washing plant and the only set of Belgium ovens in the West.

Between Coleman and Fernie the scenery is very fine, and to view it by daylight, the train will leave



Coleman early on Sunday morning, September 13, stopping first at Hosmer, where the Canadian Pacific Railway Company has established an extensive and thoroughly modern colliery, and then proceeding to Fernie, visiting from there the important Coal Creek mines of the Crow's Nest Pass Coal Company. A special train will take the party the same night as far as Moyie, when it will be thus practicable to spend some hours in visiting the St. Eugene mine and concentrator. *The St. Eugene is the largest silver-lead producing mine in Canada.* Connection will then be made at Kootenay Landing with the steamer on which passage will be taken over Kootenay Lake to Nelson. Here the party will remain over-night to allow time for the cars to be ferried across the lake—a special concession granted the Institute by the Canadian Pacific Railway Company.

An early start will be made from Nelson on Tuesday, September 15, with a view to arriving at Rossland that evening, and of visiting *en route* Bonnington Falls, where the South Kootenay Power Company has installed a large power plant for the development of power which is transmitted to the mines and works in the Rossland, Boundary and other districts. Between Nelson and Bonnington the scenery is very attractive, while the Bonnington Falls themselves are exceptionally fine. It may be noted that Mr. Lorne A. Campbell, the Power Company's general manager, has kindly offered to provide a luncheon at Bonnington before the train shall leave for Trail, where the next stop will be made. At Trail the *modern copper and lead-smelting works* and electrolytic refining plant of the Consolidated Mining and Smelting Company of Canada will be inspected, and the train will then leave for Rossland, which will be reached at about 10 p.m. At Rossland the members of the Institute and the citizens of the town will entertain the visitors by providing a dinner which will be given on the night of September 16, while the morning and afternoon of that day will be devoted to visiting the important and well-known Le Roi, Le Roi No. 2, War Eagle and Centre Star mines. The train will leave Rossland at midnight and the party will arrive at Greenwood at 1.00 p.m. on Thursday, September 17. During the afternoon the British Columbia Copper Company's Mother Lode mine and smelter will be inspected, while possibly a visit will be made to the Dominion Copper Company's smelter at Boundary Falls. On the following day the important copper mines at Phoenix will be visited, and the visitors will be entertained at luncheon by the Granby Consolidated Mining, Smelting and Power Company. In the afternoon the Granby Company's smelter at Grand Forks will be inspected. The train will leave the same evening for Nelson, where Saturday, September 19, will be spent in visiting the electro-zinc-smelting plant, while in the afternoon an excursion will probably be made to the Blue Bell mine on Kootenay Lake. In the evening a banquet will be tendered to the visitors by the City of Nelson, resident members and the

Nelson Board of Trade. Leaving Nelson at midnight, it is expected to arrive at Victoria on the evening of Monday, September 21.

It is hoped to so adjust the time table that the members of the party may enjoy by daylight the beautiful lake and mountain scenery of the Arrow Lakes, and the grand and noble scenery of the Fraser River Canyon between North Bend and Hope. The steamer journey between Vancouver and Victoria will also be undertaken by daylight and is equally enjoyable. The party will remain three days at Victoria, one day of which will be occupied with a session of the Western Branch of the Institute, at which papers will be read and discussed. Visits to the Tyece Copper Company's smelter at Ladysmith, and the Western Fuel Company's collieries at Nanaimo, may also be arranged. After the long journey, however, many members of the party will, no doubt, be glad of an opportunity to enjoy a rest for a day or so; and to these Victoria will appear especially attractive. Its beauty and charm is thus described by Kipling in one of his recently published "Letters to the Family," "To realize Victoria, you must take all that the eye admires most in Bournemouth, Torquay, the Isle of Wight, the Happy Valley at Hong-kong, the Dom Sirente, and Camps Bay; add reminiscences of the Thousand Islands and arrange the whole around the Bay of Naples with some Himalayas for the background. Real estate agents recommend it as a little piece of England—the island on which it stands is about the size of Great Britain—but no England is set in any such seas, or so fully charged with the mystery of the larger ocean beyond. The high still twilights along the beaches are out of the old East just under the curve of the world, and even in October the sun rises warm from the first. Earth, sky and water wait outside every man's door to drag him out to play if he looks up from his work, and though some other cities in the Dominion do not quite understand this immoral mood of nature, men who have made their money in them go off to Victoria, and with the zeal of converts preach and preserve its beauties. . . . I tried honestly to render something of the colour, the gaiety, and the graciousness of the town and the islands, but only found myself piling up unbelievable adjectives and so let it go with a hundred other wonders."

Leaving Victoria on the night of September 24, there will be a few hours to spare the next morning before the departure of the east-bound train, and these may be agreeably spent in seeing Vancouver, the commercial metropolis of British Columbia, or in driving round the city's magnificent natural park. On the homeward journey, the chief attractions will be the day's travel through the Rocky Mountains; the visit to Banff, where the party is to be entertained at luncheon or dinner by the Government of Alberta; and the visit to the Bankhead collieries, near Banff.

This, briefly, is an outline of the itinerary as proposed. So far as the arrangements in British Columbia are concerned, some slight changes may be in-

troduced if the western committee in charge so decide; but in general the foregoing programme will be followed out.

A considerable attendance from Great Britain is anticipated, and the following gentlemen will be the official guests of the Institute:—

Mr. Walter Johnson of Messrs. Bell Bros., Middlesbrough, representing the Iron & Steel Institute. Mr. Hugh F. Marriott (head of the Mining Department in London of Messrs. Wernher, Beit & Co., and member of council of the Institution of Mining and Metallurgy), and Mr. Wm. Frechville (past-president of the Institution of Mining and Metallurgy), representing the Institution of Mining and Metallurgy. Mr. John Ashworth, of Manchester, England (president of the Manchester Geological Society); and Mr. James Barrowman (secretary of the Mining Institute of Scotland), representing the Institution of Mining Engineers. Mr. W. D. Wight (president of the South Wales Institute of Engineers), representing the South Wales Institute of Engineers. Mr. W. Head, sub-editor of the Mining Journal, London, Eng. Prof. Dr. H. Potonie, Koniglich Geologische Landesanstalt, Berlin, Germany. Mr. Louis Detrez (president "l'Association des Éléves des Ecoles Spéciales"), Belgium.

In addition the following gentlemen have signified their intention of taking part in the excursion:—

Dr. Frank D. Adams, McGill University, Montreal, Que., (Stage I); Rodger Beek, Esq., The Laurels, Swansea, Wales; C. E. Bloomer, Esq., Shenstoneville, Hales Owen, Eng. (Stages I, II, III); Geo. H. Campbell, Esq., Toronto, Ont. (Stages I, II, III); Dr. Wm. Campbell, Dept. of Metallurgy, Columbia University, New York, N.Y., U.S.A. (Stages I, II, III); Thos. Carlisle, Esq., Workington, Cumberland, Eng. (Stages I, II, III); R. E. Conmans, Esq., London, Eng. (Stage I); Eugene Coste, Esq., Toronto, Ont. (Stage III); Sherard Cowper-Coles, Esq., Westminster, S.W., Eng. (Stages I, II, III); Albert N. Entwistle, Esq., Royal Mint, Ottawa, Ont. (Stage II); Chas. Fergie, Esq., Dominion Coal Co., Glace Bay, N.S. (Stages I, II, III); Stanley G. Flagg, Jr., Esq., Philadelphia, Pa., U.S.A. (Stage I); Mr. Gerrard, H.M. Inspector of Mines, Sheffield, Eng. (Stages I, II, III); Dr. Eugene Haanel, Director of Mines, Ottawa, Ont. (Stages I, II, III); John E. Hardmar, Esq., Montreal, Que. (Stage I or Stage III); Henry D. Hibbard, Esq., Plainfield, N.J., U.S.A. (Stage II); John Hogg, Esq., Silverbank, Cambuslang, Scotland (Stages I, II, III); Mark Hurll, Esq., Glasgow, Scotland (Stages I, II, III); D. B. Langford, Esq., London, S.W., England (Stages I, II, III); Sam Mavor, Esq., Bridgeton, Scotland (Stages I, II, III); C. McDermid, Esq., Sec'y Institution of M. & M., Salisbury House, London, E.C., Eng. (Stages I, II); J. C. Murray, Esq., Editor *Canadian Mining Journal*, Toronto, Ont. (Stages I, II, III); J. Obalski, Esq., Supt. of Mines, Quebec, Que. (Stages I, II, III); E. W.

Porritt, Esq., Hartford, Conn., U.S.A. (Stages I, II, III); Gordon Mel. Pyke, Esq., Montreal, Que. (Stage II); W. J. Rees, Esq., Swansea, Wales (Stage III); Nicholas Richardson, Esq., Gen. Mgr., North Atlantic Collieries, Ltd., Port Morien, Cape Breton, N.S. (Stage III); Dr. Heinrich Ries, Dept. of Geology, Cornell University, Ithaca, N.Y., U.S.A. (Stages II, III); Walter Rowley, Esq., Leeds, Eng. (Stages I, II, III); A. Sinn, Esq., Biemme, Switzerland (Stages I, II, III); Aleutt Smith, Esq., London, S.W., Eng. (Stages II, III); Andrew Watson, Esq., Glasgow, Scotland (Stages I, II, III); Walter Wood, Esq., Philadelphia, Pa., U.S.A. (Stages I, II, III).

#### GOVERNMENT AID TO MINING.

**G**OVERNMENT ASSISTANCE to the mining industry is freely rendered in some of the Australian states. In a recent number of the *London Mining Journal* instances of applications for monetary aid are mentioned. The Chamber of Commerce at Charters Towers, Queensland, is stated to have decided to ask the State Government for £10,000 (about \$50,000) to assist in the deep sinking of one of the gold mines in the district, and for several other sums, totalling nearly \$100,000, chiefly for shaft sinking, at half a dozen other mines. Then, in correspondence relating to Tasmania it is stated that: "A number of hands have been discharged at the Hercules mine, owing to the closing down of the Tasmanian smelters at Zeehan, and many others will receive notice unless the smelters resume shortly. In connection with this, it may be mentioned that the State Government has had under consideration the request of the Tasmanian Smelting Company for a grant of £10,000, and has forwarded a reply stating that it is prepared to agree to the suggestion made in reference to a reduction of freight on certain lines. It is also willing to submit to the State Parliament a proposal to make a rebate of £5,000 per annum on the general freight paid by the company, provided it deals with a similar quantity of ore and fluxes to the smelters, and bullion from the smelters, as in the year 1907, the amount of the rebates to be payable in the future out of any net profits that may be secured by the company, after provision is made for proper depreciation. In the event of the company dealing with a smaller quantity of ore, flux, and bullion than was dealt with last year, there will be a proportionate reduction in the rebate."

A *Reuter's* despatch from Ottawa to London, England, says: The Supreme Court of Canada has rendered judgment declaring that the Minister of the Interior exceeded his authority in cancelling the Bonanza Creek hydraulic and Klondike Government concessions for alleged non-compliance with the regulations. The judgment of the court confirms the titles of the two largest gold-washing concessions in the Yukon.

## SILICA BRICK &amp; LIME COMPANY, LTD.

## Particulars of Company's Plant and Brick-making Process.

**A** LOCAL INDUSTRY worthy of notice is that of the Silica Brick and Lime Company, Limited, of Victoria, which was successfully established last year and now appears to be a progressive enterprise. The following information relative to this industry has been taken from the last "Annual Report of the Minister of Mines" for British Columbia:

"An industry new to the Province, viz.: the manufacture of so-called 'Silica brick,' has been started at Parson's Bridge, about six miles from Victoria, on the line of the Esquimalt & Nanaimo Railway, by the Silica Brick and Lime Company, Limited, a company composed of Victoria business men. As a new plant it would be deserving of mention, but as a new industry, which has a wide application, and might well be established at other points in the Province, a more extended notice of the process seems desirable.

"Silica bricks, so called, are made from sand and lime (a description of the process is given later), and the product is a brick of absolutely standard dimensions, with sharp angles and corners and plane surfaces, filling the requirements of what is known in the East as a pressed 'face brick,' serving for the construction of ornamental fronts or faces of buildings, the uniform size and shape of the bricks permitting of their being laid with almost imperceptible joints, and giving a smooth and uniform coloured front or face. The colour of the brick can be varied somewhat by the colour of the sand used in its manufacture, but those so far produced in Victoria are of a light gray colour. The brick, therefore, finds a market as a 'face brick,' competing successfully with imported brick of this class, and is, in British Columbia, sold at a much lower price, as the freight rate on imported brick is almost prohibitive. For all work where appearance is a factor in deciding the brick to be used, silica brick competes successfully with repressed clay brick, but for rough walls, where ordinary clay brick serves the purpose, it is not expected that, in the matter of cost per thousand, silica brick will compete with the common clay red brick, although it is claimed that the silica brick, being more regularly shaped, can be laid more quickly and cheaply than the irregularly-shaped red brick. Whether silica brick will become a substitute for red brick is a question of cost rather than of the quality, or durability, of the finished work.

"The manufacture of silica-lime brick, while new in British Columbia, has been carried on extensively in Germany, the United States and Eastern Canada for 20 years, and the experience there obtained is that properly made silica-lime brick is quite as lasting as well-burned clay brick, with which we are familiar.

"The Silica Brick and Lime Company's plant,

near Victoria, consists of:—One Berg patent brick press (pressure 1,700 tons, capacity 18,000 to 20,000 bricks a day), one rotary sand dryer, one 75-h.p. engine, one 150-h.p. boiler, two 60-ft. cylindrical retorts, two 14-ft. mixers, three belt elevators, one pulverizer, two worm conveyors, 40 flat cars, 12 hydrating cars, 200 lime boxes, with necessary tram tracks, turn-tables, etc. This plant is housed in suitable buildings, between which and the spur from the E. & N. Railway is a large 'dock' or platform for the storage of brick awaiting shipment.

"The size of the manufactured brick is  $8\frac{1}{4}$  by 4 in. and  $2\frac{3}{8}$  in. thick. The raw materials for the brick-making are found immediately adjoining the plant and can be obtained at a minimum expense. The output of the plant up to December 31, 1907, was about 1,100,000 bricks.

"The process in detail is as follows:—The sand is wheeled from the sand-bed to a shaft leading to the basement, where a current of hot air is turned upon it until it is thoroughly dry; it is then raised by an elevator, passed through a screen, where all particles of gravel are separated out and 'conveyed' to a storage bin. In the meanwhile a somewhat similar process is going on with the lime. The limestone is carried from the quarries upon the company's ground to kilns, where it is burned; it is then 'hydrated,' or slaked, by steam in an immense retort, in separate tins capable of holding about 50 lb. each; thence it is 'conveyed' to a storage bin on the same level with the storage bin for sand. The sand and lime from the storage bins are automatically dropped into a 'dry mixing machine'—a covered trough in which revolves a shaft furnished with many arms—in the proportion of from 8 to 6 per cent. of lime to 92 or 94 per cent. of sand. After being thoroughly shaken together, the mixture is conveyed to the upper story, where the 'wet mixing machine' is located. This machine is similar to the dry mixer, save that, as the shaft with the arms attached revolves through the mixture, water is dropped upon it from taps above. When the mixture reaches the proper consistency, which is determined by the foreman in charge of the work, it is ready for forming; it is then fed automatically down a shaft into the 4-mould 'press'—a huge iron machine, furnished with a number of moulds into which the mixture of lime, sand and water is automatically forced by great pressure. The mixture going in at one end of the machine and appearing to be but a mass of sand, comes out at the other in the shape of a dark grey brick. The bricks, as they are turned out by the machine at the rate of about 2,500 per hour, are placed by hand on iron cars; the latter are pushed by hand along a track to the 'retorts,' huge cylinders of steel, capable of holding 20 cars bearing 20,000 bricks; the retorts are then closed and 130 lb. pressure of steam is turned on from valves in the shell of the retort, the bricks being left under this pressure for from eight to ten hours, when they are ready for use and are conveyed to the shipping platform.

"The strength and lasting qualities of silica brick—properly made—has been amply demonstrated in the East, where this brick has been in use for years, and it is found that the bricks increase in strength

by the test of years, but the company evidently intends to apply every other test to its product, and has caused these tests to be made by competent and independent persons. The Government Laboratory



The Silica Brick and Lime Company's Works at Parson's Bridge, near Victoria.

and hardness with time, which is essential to the proper 'setting' of the lime. That the Victoria company's brick are 'properly made' and up to the Eastern standard, it is of course impossible to prove

tested the absorption of water by the brick, and found it to absorb less than 10 per cent. moisture. Sample bricks were completely, or partially, submerged in water, and, while wet, were subjected to

20 deg. frost for three days, after which they were thawed quickly and raised to temperatures of from 200 to 250 deg. F., and at the end did not appear any the worse for the test, not having scaled or cracked, but were apparently unaltered. It would appear, therefore, that the brick is unaffected by climatic changes.

"The crushing strength of silica brick has been demonstrated by Mr. James K. Rebbeck, consulting engineer, of Victoria, who reported as follows, after making 23 distinct tests:—

"Mean breaking strain of ordinary red building brick, as given by accepted standard authorities—lb. square inch=1,845.

"Mean breaking strain of tests of the 'original product' of Silica Brick and Lime Company—lb. per square inch=2,492.

"Mean of tests of 'standard product' of Silica Brick and Lime Company—lb. per square inch=3,326."

"By 'original product' Mr. Rebbeck means the first product of the plant when unscreened sand was used, and by 'standard product' the present output, made with screened sand and other improvements in the manufacture.

"The following are among the important structures already built with silica brick:—Victoria Transfer Co., Victoria, three stories; St. Joseph's Hospital, new extension, five stories; Brackman & Ker's warehouse, Victoria; Bakeries, Limited, Victoria West; David Spencer's new building, Vancouver, eight stories."

#### SOME U.S.A. COPPER MINES IN 1907.

**M**ESSRS. D. HOUSTON & CO.'S circular, dated New York, June 1, gives the following abstracts of the working results during the year 1907, of the several companies mentioned respectively:—

##### COPPER RANGE CONSOLIDATED COMPANY.

The production of copper was 41,385,015 lb., as compared with 40,860,476 lb. in 1906. The entire product last year was sold at an average of 17.28 cents per lb. Gross receipts were \$7,185,813.73. Mining expenses, smelting, freight, etc., were \$3,805,376.07. After deducting \$154,539.48 for taxes, the total income from mining operations amounted to \$3,225,898.18. Dividends paid last year totalled \$2,304,810. There was expended for new construction at the mines, \$555,053.67. The three mines operated by the company produced in the last three years a total of 122,814,063 lb. of copper, for which it realized \$21,227,791.77. During the same period dividends amounting to \$6,145,706 were paid to stockholders. These gratifying results testify to the energy and ability of the management of this successful company, and the physical condition of the mines is such as to give assurance of increasing success.

##### ANACONDA COPPER MINING COMPANY.

The production yielded by the property of this

company during the year 1907 was 63,055,661 lb. of copper; 2,001,350.80 oz. of silver, and 8,290.391 oz. of gold. These results compare with 94,963,835 lb. of copper; 2,979,908.376 oz. of silver, and 15,984.900 oz. of gold in 1906. The mines and reduction works of the company were operated fully from the beginning of the year until September 1, except for occasional interferences during the first quarter of the year. From September the production was sharply curtailed, and in December the mines and works of the company were closed entirely owing to depressed business conditions. They remained closed in January and February of this year, but early in March work was again started. There was realized from sales of copper, silver, and gold last year \$12,038,714.69. Gross receipts, including metals on hand, were \$18,751,133.76; total disbursements, \$15,603,360.49; interest, \$230,447.15. Total net gain was \$3,378,220.42. Dividends paid amounted to \$6,300,000. Recent conditions show a considerably higher grade of ore and a lower cost per lb. of copper than have been realized at any previous time during the last few years.

##### UNITED STATES SMELTING, REFINING, AND MINING COMPANY.

Production in 1907, including metals from custom ores, was as follows: 38,518,378 lb. of copper, 53,617,324 lb. of lead, 6,739,269.19 oz. of silver, and 235,822.08 oz. of gold. The average price received for copper was 18.83 cents per lb. Profit for the year 1907 amounted to \$2,070,213.74. Dividends were \$2,770,528.40. Undistributed surplus is \$557,003.15.

##### TAMARACK MINING COMPANY.

The annual report of this company shows a production of 11,078,604 lb. of copper for the year 1907, against 9,832,644 lb. for 1906. The financial statement gives gross receipts of \$1,835,970.23. Expenses for mining, smelting, transportation, etc., were \$1,751,835.42, leaving a gross profit from operations for the year of \$84,134.81. There was expended for new construction \$93,412.16, and paid out in a dividend \$240,000. The net decrease, therefore, in amount of assets for the year was \$249,277.35. Balance of assets December 31, 1906, was \$962,219.85, and that on December 31, 1907, \$712,942.50. Total cost per lb. of refined copper in 1907 was 16.66 cents against 15.29 cents in 1906. The average price realized last year on 6,931,397 lb. was 18.38 cents per lb., and the remaining 4,147,207 lb. was estimated at 13 cents per lb.

A new discovery of coal on the north shore of Cow Bay, C.B., has been reported.

A Jury of Awards of the Jamestown Ter-Centennial Exposition has conferred a gold medal, the highest distinction within its power, on the American Institute of Mining Engineers for the excellence of its publications during the past decade.

## SOME NOTES ON THE COPPER RIVER DISTRICT, ALASKA.

By Wm. M. Brewer, Victoria, B. C.

**COPPER RIVER DISTRICT** of Alaska is as yet so little known, comparatively, that the information contained in the following paper, which was prepared by Mr. Brewer for the annual meeting of the Canadian Mining Institute held at Ottawa, Ontario, last March, will doubtless be read with much interest, especially since the writer personally visited the district and made enquiries and observations in the field, of which he wrote as follows:

Until after the discovery of the occurrences of native copper and copper-bearing ores in the British Yukon and Alaska, there had always been considerable speculation as to the source from which the British Columbian and Alaskan Indians had procured the native copper which they were found to be using. Usually, this native copper was applied to the manufacturing of large plates engraved with Indian symbols, and these were handed down from generation to generation as heirlooms. The dimensions of many of these copper plates are from 18 to 36 in. square, and about one-fourth of an inch in thickness.

Early explorers of Northern British Columbia, especially of the Queen Charlotte Islands, and portions of Alaska, have called attention in their writings to the possession of these copper plates by Indian families, and many of the best specimens of this character of Indian craft are preserved in the Provincial Museum at Victoria.

Since systematic prospecting for copper ore has been carried on, it has been discovered that in the Rainy Hollow district, about 40 miles in the interior from Haines' Mission on the Lynn Canal, also in the Copper River district, Alaska, native copper occurs, and is very often found in nuggets and masses of quite considerable weight. The former of these districts is in British territory, and the latter in the United States.

So far as our present knowledge goes, the first prospecting for copper-bearing ores in this portion of the American Continent was contemporaneous with the discovery of placer gold in the Klondike. Nuggets of native copper were found by pioneers in the streams flowing from the glaciers which are of great extent, and very numerous in the district referred to. Naturally, the finding of these nuggets led prospectors to endeavour to locate their source or origin. The result of this was the discovery of deposits of copper-bearing ores over a very large area of the British Yukon and Alaska. In this territory are the districts of Rainy Hollow, Whitehorse and Kluahne, all in the Yukon, the last-named being situated about 200 miles westward from Whitehorse. In Alaska, the districts in which copper-bearing ores were discovered included many of the islands in the Pacific, notably: Prince of Wales, Latouche, and Knight's Island; again in portions of the Coast Range of mountains,

and in what is known as the Copper River district, with which it is proposed this paper shall deal in particular.

The Copper River proper is a stream of some magnitude, being navigable for stern-wheel steamers of light draft, for a distance of some 200 miles above its mouth, except through the rapids known as the Abercrombie Rapids. The principal tributary of this river is the Chitina, which is also navigable but only for several miles above the confluence of the two rivers. The Copper River flows from the north in a nearly due southerly direction, emptying into the Pacific Ocean near Katalla, about 75 miles easterly from Cape Hinchinbrook, and about 35 miles from Cape St. Elias. Its main tributary, the Chitina, flows in the southwesterly direction, and heads among the glaciers in an unexplored territory, and not a very great distance from the source of the White River, which flows toward the east and north, and empties into the Yukon River near the mouth of the Stewart River.

As a matter of fact, the occurrences of copper-bearing ore and native copper so far discovered, are more closely connected with the Chitina River than the Copper River itself, and it is believed the Indians always recognized the Chitina as the source from which they procured the native copper they hammered into plates; as in the Indian language, the meaning of the word Chitina is copper water—*Chit*—copper; *Ina*—water.

To the present time, the only discoveries of copper-bearing ore in the immediate neighbourhood of the Copper River are near Taral, not a great distance from the Abercrombie Rapids. These discoveries have not provoked as much discussion, nor been as thoroughly advertised as those made near the Chitina River and its tributaries. In fact, till last year, only one or two prospectors were engaged in exploring the section around Taral, while in the Chitina country there were probably all told, 200 men, many of whom were engaged in prospecting, and the balance employed by the companies owning prospects and engaged in performing representation work on their mineral claims.

The Copper River district extends from a point about 60 miles from Elliott Creek, a branch of the Kotsina River—where the Hubbard and Elliott group of claims is located—to the Kennicott River near the head of which is located the Bonanza group of mineral claims. From this latter point, it is about 80 miles in an air line to the boundary line between Alaska and the British Yukon territory. In this section scattering occurrences of copper-bearing ore have been discovered towards the east and northeast from the Bonanza mine, especially in the vicinity of the head-waters of the White River. Some of the latest discoveries of copper-bearing ore have been made in the British Yukon, near the White River; also in the Kluahne Lake district. From this it would appear as though a mineralized zone extended from what is known as the Copper River district in

Alaska, across the boundary easterly to the Whitehorse district, and that the territory, especially near the head-waters of the various rivers throughout this entire section of country, would well repay careful prospecting.

Until now, travel into the Chitina country has been by way of Valdez, at the head of Prince of Wales Sound, thence by trail, following the Valdez-Fairbanks trail for a distance of about 80 miles to the telegraph station on the Tonsina River, a tributary of the Copper River. At that point a trail branches off towards the east from the main Valdez-Fairbanks trail. This trail follows down the Tonsina River, and crosses Copper River at about two miles above the mouth of the Tonsina, where a crossing is made by ford or boat-ferry. From this point the trail takes a general easterly course, and crosses the Kotsina, Strelna, Kuskulana, Chokosna, Lakina and Kennicott Rivers, all of which are tributaries of the Chitina River, and head in the mountain range where glaciers are so extensive and numerous that although each one of these rivers is comparatively short, and under ordinary circumstances and elsewhere would be regarded as an insignificant stream, yet under the peculiar local conditions any of these streams are likely at any time to present a formidable obstacle to travel, since heading as they do, in glaciers, the volume of water between their banks is so variable, and is subject to such extremes of rise and fall that crossings are dangerous to the unwary or inexperienced. A few hours, for example, of hot sunshine will change any of these streams from a harmless creek into a mighty torrent.

The distance from the crossing of the Copper River to the Kennicott River by the route of the present trail, is about 55 miles.

I understand that during the coming summer, it is proposed by the J. Pierpont Morgan interests, who are building a line of railroad into this region, to place stern-wheel steamers on the Copper River; one to ply from the mouth to the Abererombie Rapids, and the other from above the Abererombie Rapids to the head of navigation on the Chitina River. In fact, during the summer of 1907, a steamer was taken into this district, packed in sections, from Valdez to the Copper River, over the winter trail, put together, and made one trip on the Copper River from Abererombie Rapids up to Copper Centre, and also one trip from the mouth of the Chitina River to the neighbourhood of the mouth of the Kennicott. This entire trip was made without any accident, under the pilotage of Indians who have a most perfect knowledge of the navigable channels of these rivers.

If this proposed steamer route is adopted then travel into this new copper-bearing district, at least during the summer months, will be very much easier than it has been in the past; for, although the use of horses for riding is possible on the trails, yet so many marshes and swamps are found on the divides between the streams crossing the route, as to make travel especially disagreeable for the "Chi-cha-co," or tender-

foot. Another advantage that will accrue from navigation on the rivers, will be the reduction in cost of freighting supplies and machinery into the country. At the present time, all supplies must be taken in over the snow and ice during the winter months, when, owing to the climatic conditions, freighting is a most arduous and hazardous undertaking, and the cost is naturally proportionate. During the summer months freighting over the trails must be done by pack-horse, and the cost for this service is so great that only absolutely necessary supplies can be thus taken in.

So far as my information goes the earliest exploration of this section of Alaska, known as the Copper River district, was undertaken by the Hubbard-Elliott party, the members of which ascended the Copper River during 1898, and wintered near the mouth of the Tonsina River. The sufferings and hardships experienced by the members of this party were so great that most of the men died from scurvy and other diseases during the winter, but the remnant pushed on during the following summer, and while some of them made discoveries of high-grade copper-bearing ore on Elliot Creek, a branch of the Kotsina River, other explorers located mineral claims near the Kennicott River. Among these was the property known as the Bonanza, of which the press has from time to time published very glowing reports, taken from descriptions furnished by mining engineers and prospectors who have visited this property.

One of the most detailed descriptions of this property, and undoubtedly the most reliable, having regard to the conditions existing at the time the examination took place, was that made by the United States' geologists, Messrs. Schraeder and Mendenhall. This report applied however, to conditions in 1903, at a time when very little development had been attempted, and since then a considerable deal of work has been done in opening up the property.

All the occurrences of copper ore so far discovered, have been found in the neighbourhood of the foothills adjacent to Mt. Blackburn, the altitude of which is given in the U. S. Government reports as 16,140 ft.; Mt. Regal, altitude 13,400 ft., and Castle Peak, altitude about 10,000 ft.

The area that can be described as copper ore-bearing, occupies a semi-circle partially surrounding the bases of both Mt. Blackburn and Mt. Regal.

There are several rather unique features in respect to this zone of copper-bearing ore, some of which are: (1) As yet no occurrences of ore have been discovered except in close vicinity to the head-waters of the various streams. (2) Nearly all of the occurrences of copper-bearing ores are above timber line, which in this section appears to reach to an altitude of about 2,700 ft. above sea level. (3) The district is comparatively easy for prospecting, because of the generally low elevation at which all growth of timber ceases, the ground being bare during the summer, except from rock slides. (4) The head-waters of all the streams are in glaciers, and as these

glaciers have receded to a very great extent, the erosion on the ridges and bluffs in the vicinity of the head-waters of the streams has been quite extensive.

Generally speaking, the geology of this zone appears quite simple, and the series of rocks occur as follows: Most of the peaks and summits of the ridges and bluffs are limestone. This has very generally suffered from erosion, and consequently occurs in patches and apparently is the oldest rock formation in the district. This limestone is underlain by greenstone in which, especially near the head waters of the Lakina River, occur intrusions of amygdaloidal diabase. These intrusions occur as dykes, masses and blankets in the greenstone, and so far as the Lakina River camps are concerned, it is usual to find that the intrusive rock carries values of native copper. This native copper occurs not only in the amygdaloidal diabase itself, but sometimes is found in the greenstone and near its contact with the intrusive rock.

So far as my own observations have gone, I found that this native copper was not only disseminated through the rock fairly regularly in small grains, but that it also occurred as nuggets, varying in weight from a few grains up to several pounds. In fact, in running one small open-cut about 15 ft. long, 5 ft. wide and 5 ft. high in the face, the miners took out about 200 lb. of nuggets of variable size, while the rock itself, as mined, carried about one per cent. in native copper in small grains, disseminated through it.

Judging from present mining developments in this district, it would appear that the predominating copper ores are bornite and chalcocite; the latter being found in a remarkably pure state, often carrying upwards of 70 per cent. in copper.

It is reported that the showings of chalcocite and bornite on Elliot Creek, and on the Bonanza property are quite remarkable with regard to both extent and grade.

The writer is, of course, not prepared to state whether the copper-bearing ores in these localities just referred to occur under the same geological conditions, as is the case with those found near the head-waters of the Lakina River, but from available information he is inclined to the opinion that the geology throughout the entire zone is very similar, and that a general description of one is applicable to the other sections, except that discoveries of native copper in amygdaloidal diabase, are not reported as having been made either on Elliot Creek or on the Bonanza property.

Generally speaking, near the head of the Lakina River, the occurrences of bornite and chalcocite copper ores are usually found as contact deposits between the limestone and greenstone, but this is not a universal rule. In fact some of the best outcroppings occur in fissures in the greenstone, but not very far removed from the contact between the greenstone and limestone.

It is difficult to make an examination of the actual

contact, because the limestone has suffered so severely from erosion that in the vicinity of the Lakina River most of the contacts are close to the summits of the ridges and at quite high altitudes and precipitously situated. It is also worthy of note that as yet no occurrence of bornite or chalcocite ores at low altitudes in greenstone is reported.

It is meanwhile observed that these different copper ores all occur on the same mountain on the west side of the head-waters of the Lakina River; the bornite and chalcocite occurring in veins in the greenstone at an altitude of about 5,000 ft. above sea level, and the native copper in amygdaloidal diabase and also in the greenstone at the contact between these rocks at some 2,000 ft. lower altitude.

On the opposite side of the river so far as explorations have been carried, no discoveries have yet been made of native copper, but the bornite and chalcocite ores occur there near the contact of the greenstone and limestone.

During the summer of 1907 a number of prospectors were engaged in exploring the territory between the head-waters of the Lakina River and the Bonanza mine, a distance as the crow flies of about 10 miles, and it is learned that many locations were then staked. Whether the mineral-bearing zone is continuous from the head of the Lakina River easterly to the Bonanza mine is a question that is yet to be answered. For my own part, while I am willing to concede that there is apparently a mineral-bearing zone extending from Elliot Creek, a branch of the Kotsina River, easterly to a distance in an air line of about 60 miles to the Bonanza mine, yet I believe it will be found after thorough exploration that there are large areas of absolutely barren ground in this territory.

In the mountains surrounding the head-waters of the Lakina River there are extensive areas of so-called iron capping, many of which have been located as mineral claims in the expectation that the capping or outcropping indicated the occurrence of copper-bearing ore, but a closer examination of some of these proved that this capping was not true gossan, but merely weathered diorite, very similar to occurrences of that character in the Appalachian Mountains in Georgia and Alabama, where it is locally known as brick-bat formation, because of the great similarity this weathered rock bears in colour and structure to ordinary bricks.

It is this feature which gave the writer the impression that quite extensive areas in the mineralized zone will be found to be barren, and another feature was observed that helps to confirm this conclusion. It is that the lines of strike of the orebodies so far as observed, are usually north-westerly and south-easterly, while the zone itself in which discoveries of mineral have been made, extends from west to east. In fact, according to the latest published map, a line drawn from the Hubbard-Elliot group towards the east to the Bonanza mine would intersect nearly every prominent group of mineral claims in the zone.



In respect to the width of the zone in the Copper River district it may be said that, at the present time, this is undetermined, but from the locations already made, I estimate it from north to south to be about 10 miles. The most southerly locations of mineral claims carrying copper-bearing ore that came under my observation, occur on the Gilahena River, about 10 miles south-westerly from the head of the Lakina River.

Whether future exploration will develop the fact that there is any connection between the copper-bearing ores found near Taral, on the Copper River, and those occurrences near the Chitina River and its tributaries, can only be demonstrated by exploration. The Taral district occupies territory south of, and about 10 miles from, the confluence of the Chitina and Copper Rivers. At the present day there are such large areas of unexplored territory in this portion of Alaska, and in the immediate vicinity of the Chitina River and its tributaries, that it is fruitless to speculate as to possible relationship between the various known occurrences of copper-bearing ore.

#### COAL TESTS AT MCGILL UNIVERSITY.

Investigation by Canada Department of Mines.

**E**CONOMIC TESTS of the coals of Canada have been, and continue to be, made under the auspices of the Canada Department of Mines. The recently published "Summary Report of the Mines Branch" for the fiscal year 1907-8, contains information of these tests, as follows:

A systematic investigation of the coals of the Dominion was undertaken a little over a year ago by the Geological Survey, and is now being continued by the Mines Branch—with the assistance of certain specialists. Sufficient progress has already been made to justify the expectation that the main work on the coals of the Dominion will be completed by the end of next year.

The intention is to obtain a representative sample lot of coal from each important seam in each district, and to subject each of the samples so obtained to an exhaustive series of economic and chemical tests. The economic tests include coal washing, and, when necessary, dry cleaning; followed by boiler tests on the washed, and also on the original unwashed coal. Other portions are to be treated in gas producers, and the gas used in suitable gas engines provided with devices for measuring the power developed. It is proposed also to carry out coking tests on washed and unwashed portions of such coals as are suitable for the manufacture of coke.

In connection with the economic tests, a complete series of chemical analyses, and calorimetric determinations, will be made of all coals. Analyses will also be made of the products of each washing and coking operation, and of the gases from the boiler and producer tests.

The director has been able to secure the co-opera-

tion of the mining and mechanical engineering departments of McGill University, and thus to obtain not only competent technical assistance and a trained staff of experts and mechanics, but also to get the free use of admirably equipped laboratories.

A gas producer and gas engine plant of the most recent type have been purchased, and installed in a temporary fire-proof structure, which has been built close to the mining laboratories at McGill. To supplement the McGill equipment, other necessary and special apparatus have also been purchased.

The investigation is under the general direction of Dr. J. B. Porter, professor of mining engineering, McGill University, who is individually responsible for the sampling, coaling, washing, and chemical work. The conduct of the boiler tests and producer gas engine experiments has been put in the hands of Mr. R. J. Durley, professor of mechanical engineering, McGill University. The several portions of the work are conducted as follows:—

#### LABORATORY TESTS.

The economic tests indicated above are being carried out on a scale of approximately 40-50-h.p., and the periods of not less than one day. This scale has been adopted as being at once large enough to ensure practical service conditions, and yet small enough to be of value to a community which, in general, makes much more use of small than of large power plants.

Samples are taken by Mr. Theophile Denis of the permanent staff of the Mines Branch. Mr. Denis visits and examines each mine to be sampled, and has a 10-ton lot of coal selected, sacked, and shipped under his own personal supervision. In taking this lot, he uses every precaution to secure average coal, and, as a check on the main lot, he personally secures a smaller sample, which he seals and sends direct to the chemist.

The main sample on arrival at the testing plant is unsacked, crushed to go through a 2-in. screen, mixed thoroughly on a large cement sampling floor, sampled for the chemist, and then re-sacked and set out for treatment. This sampling is in charge of Mr. C. Landry, chief mechanic of the mining department of McGill University.

The coal washing is done in the McGill ore dressing laboratory; the apparatus used being a standard two-compartment slide-motion jig, built for the department by the Fraser & Chalmers Company. This jig has been specially remodelled for coal washing work, and is provided with automatic feed and side discharge devices for automatically removing the slate and other impurities. The purified coal overflows into a drainage box in which it is collected and dried. The fine material passing down through the sieves is collected, and is either re-treated or wasted, depending upon its composition. Each of the tests is made on a lot of between three or four tons, which is first crushed, then sized, and then jigged in three separate portions—coarse, intermediate and fine—in order to secure the most accurate possible work. The products both of coal and waste are all recovered,

weighed and sampled; but the coarse and fine products are mixed before sending them to the boilers. The coal-washing work is checked by a series of tests with heavy solutions, followed by ash determinations. It would, of course, be possible in a laboratory to do extremely thorough washing at an expense disproportionate to the value of the coal; but this is not attempted, the aim being to reproduce commercial conditions. From a series of comparative tests made between laboratory work, and coal-washing in standard plants, it is evident that this end has been attained, and the tests as carried on may be taken to represent average commercial work. The coal testing, under the direct supervision of Dr. Porter, has been carried out by Mr. H. F. Strangways and Mr. C. Landry.

#### BOILER TESTS.

During June, July, and August, 1907, a series of 30 boiler trials were conducted in the boiler room of the department of mechanical engineering, McGill University, on coal samples Nos. 1 to 16 (most of which were tested a second time after having been washed) the same boiler being used throughout. The equipment employed in these tests included a Babcock & Wilcox boiler, having 639 sq. ft. of heating surface, and 16.79 sq. ft. of grate area; an independent feed pump, weighing tanks, and standard scales for water and coal; together with the necessary apparatus for determining moisture in steam, analyzing flue gases, and observing pressures and temperatures. Provision was made for supplying steam under the grate, and also for working under forced draft if required. The same pattern of fixed grate bars was used throughout the tests, and had air spaces, the area of which was 30 per cent, of the total grate area. If different grate bars had been used for different grades of fuel, better economy in some instances would probably have been obtained; but it was felt that by using the same grate throughout, the tests would be more completely comparable with one another.

Before commencing the tests, the boiler was thoroughly sealed, cleaned and tested, and all brick-work around the furnace was rebuilt. Preliminary trials were then made with a standard coal (George Creek), which showed that the whole equipment was in good order. The series of regular tests was then begun, the same fireman being employed throughout. It was not found possible to make more than one boiler trial with each sample of coal, and it was decided that in every case the same evaporation of 2,000 lb. of water per hour should be aimed at; this being a rate at which the boiler was known to give nearly its best efficiency. The results of the tests show, therefore, the rate at which each sample of coal had to be burnt in order to furnish a certain supply of steam. As a check, the heat losses in every case were determined as far as possible. All the tests were at least of 10 hours' duration, and the boiler tubes were, of course, cleaned before each run.

Since the practical working of a coal in the fire

has a great bearing on its industrial value as a fuel, continuous notes were made of such points as the condition and thickness of the fire, the nature and amount of ash and clinker formed, the frequency of sluicing and cleaning the fire, and the method of firing found most suitable for each particular fuel.

It is proposed this year to carry out a further series of tests with the same boiler, and by the same methods.

The testing staff, under the general supervision of Mr. R. J. Durley, comprised:—

Mr. J. W. Hayward—in charge of the tests.

Mr. J. Blizzard and Mr. D. W. Munn—observers and computers.

Mr. E. Stansfield and Mr. H. F. Strangways also gave considerable assistance.

The actual working of the boiler and auxiliaries was in the hands of:—

F. Balmfirth—in charge of the boiler plant, and J. Hoult—fireman.

#### GAS ENGINE AND PRODUCER WORK.

The greater part of the summer of 1907 was spent in constructing the engine and producer house, and in installing and erecting the gas engine and producer equipment. Owing to the non-delivery of several important apparatus until September, it was not possible to carry out any producer tests. The plant is now nearly complete; the main engine and auxiliary machinery have been tried out, and standardizing tests are now being made as opportunity occurs. It is expected that the whole will be ready to commence regular tests by June 1.

In deciding on the gas engine and producers to be installed, it was felt that a large producer and engine should not be used; since it is well known that the practical difficulties of working gas producers for power purposes are less in large than in small plants. Hence, it was desired to test, among other points, the suitability of the various Canadian coals for employment in a gas engine and producer plant of a size not beyond the means or needs of the small power consumer. An engine capable of giving 40 b.h.p. was, therefore, chosen. The equipment now in working order includes:—

One 40-b.h.p. horizontal gas engine, 200 r.p.m., single cylinder 12 in. diameter, by 20-in. stroke. (National Gas Engine Co., Manchester, England.)

One friction brake capable of taking 50 b.h.p.

One standard suction producer (for anthracite coals), with wet and dry scrubbers. (National Gas Engine Co.)

One special Sturtevant gas exhauster.

One tar extracting machine.

One standard gas meter (Pittsburg Meter Co.)

One steel gasometer, capacity 400 cu. ft.,

together with the necessary apparatus for gas analysis—indicators, counters, gas calorimeters, electric and other thermometers, and accessories. Preliminary standardizing tests have shown that, on a 24-hour run at full load, the plant has a consumption of

under 1.3 lb. of coke per b.h.p., per hour; the calorific value of the coke being 12,800 B.t.u., per lb.

There is also on order, and nearly ready for test, a second producer, of the down draft type, which will be used for such fuels as cannot be burnt in the suction type producer.

This plant was designed, and its installation carried out, under the supervision of Prof. R. J. Durlley, and the preliminary tests made by Mr. J. W. Hayward. The machinery and its operation have been placed in charge of Mr. J. S. Gardiner, who will superintend the working during the forthcoming tests.

In connection with this plant it is to be observed that, when, in the early part of 1907, the coal tests were decided upon, no maker could be found who would guarantee the operation of a small gas producer on bituminous coals of the kind met with in many parts of Canada, containing as they do, a large percentage of volatile matter. A producer capable of working only with lignite could have been ordered at that time, but would have been useless for much of the work to be done. It was, therefore, necessary to spend much time in further investigation, and this has led to unavoidable delay in the commencement of the tests. It is possible that unforeseen difficulties may still stand in the way of the utilization of certain of the coals to be tested, but it is believed that the two producers, with the aid of the tar-extracting and gas-cleaning apparatus now installed, will be capable of giving power gas from any kind of coal likely to be submitted for test.

The coking tests will be deferred until a later date, as it is desirable to first complete the general investigation; analyzing and testing the coals as above outlined. It is proposed to have the coking experiments done under separate supervision at one of the large modern coking plants; as laboratory tests on coking have not proved reliable, even when carried out on a very large scale.

The chemical work is done in Dr. Porter's private laboratory, which has been set apart for this exclusive service. In addition to the regular equipment of the laboratory, calorimeters by Ostwald and Boys have been procured, and such other special apparatus as has been found necessary to make the equipment as complete as possible for the investigation of fuels. The chief chemist is Mr. Edgar Stansfield, M.Sc.

Owing to the very tardy deliveries of some of the machinery and apparatus ordered from abroad, and delays due to the disastrous fires which occurred at McGill last April, it was impossible to get work started as promptly as had been hoped; but, nevertheless, the results for the year are very encouraging. Mr. Denis has visited Nova Scotia and New Brunswick, and has taken altogether 19 samples, aggregating about 175 tons. These samples have all been tested in the boiler plant. Of the coals thus far received 12 have been sufficiently impure to require washing. These 12 have been washed and the washed material tested in the boiler plant.

This work completes the examination of coals from the eastern section; with the exception of the properties controlled by the Dominion Coal Company—which company will furnish material during the present year. It is expected to be able to examine the coals from the western fields next season.

There have been completed to date—counting duplicate runs—14 washing tests, 30 boiler tests, and a very large number of chemical analyses. In addition to this regular work, there have been numerous experimental operations for the purpose of adjusting and testing apparatus, and for arriving at standard methods of high accuracy. At least three-fifths of all the work done thus far has been of this character.

It may be noted that all colliery managers have offered the department every facility in taking samples, and have given the coal free of charge.

The railway companies have hauled the coal free in all cases, and have thus relieved the department from what would otherwise have been a very serious item of expense.

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During 50 years, 1858-1907, British Columbia has produced placer gold of a total value of \$69,549,103.

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The average price of electrolytic copper for the month of June (*Engineering and Mining Journal* quotations), was 12.675 cents per lb.

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A change in the criminal law has been rendered necessary to prevent the stealing of high grade ores from the mines in the Cobalt district, says the *Toronto Globe*. In South Africa the Chartered Company made the possession of an uncut diamond a criminal offence. Canada would never go to such a length, but the development of a new crime must lead to modifications in the law.

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A poll has been taken of members of the Geological Society of London, England, on the question of the admission of women to the society. Out of 870 papers sent out, 475 were returned, of which 342 were favourable to the admission of women, a majority of 209. The vote was merely opinionative, the final decision in the matter resting with the council, who will now deal with it.

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A contributor to an exchange says: In the early days of the *Financial News* in London an American of the most pronounced type called upon me to tell me about the extraordinary richness of property in Colorado which he had for sale. It was in the afternoon, and my visitor quite evidently lunched not wisely but far too well. When he had talked me into a state of nerves and himself only a trifle less than half sober, I asked him what the quartz yielded in gold. He replied: "I can't quite remember; but it's either five ounces to the ton or five tons to the ounce; I'm not sure which."

## Company Meetings and Reports.

### POLLOCK MINES, LIMITED.

The following report has been taken from the *Hedley Gazette* of July 4:

The adjourned annual meeting of the Pollock Mines, Limited, was held on Monday last at the registered office of the company in Hedley.

H. C. Pollock, president of the company, occupied the chair, and C. E. Oliver, secretary, officiated in that capacity.

The auditor's report was presented showing the finances of the company to be in a healthy condition, inasmuch as 78 per cent. of the treasury stock which originally was 50 per cent. of the entire capitalization, remained intact, and for the 22 per cent. of the treasury that had been disposed of, valuable property had been purchased in the acquirement of the Copper Cliff mineral claim in the vicinity of the Nickel Plate, and in a large amount of development work on the Pollock group itself.

The president made a full statement of the development work done during the past six months as well as former work and the satisfactory results accomplished thereby.

The election of directors resulted in the unanimous reelection of the old board, as follows: H. C. Pollock, C. E. Oliver, H. W. Yates, J. Gladden and E. A. C. Studd. These afterwards met and re-appointed H. C. Pollock, president; J. Gladden, vice-president, and C. E. Oliver, secretary.

The last few weeks has witnessed a splendid improvement in the property. From the cross-cut in the lower tunnel drifting has been carried on both ways on the vein, revealing the fact that the point where the tunnel intersected the vein was the narrowest portion of it, and not only has it widened materially but has also improved in character and value.

The work done can therefore be said to have proved conclusively a strong continuous vein on the Martin claim, and a good visible tonnage of payable ore which will warrant the company not only installing a mill and tramway to begin producing, but also in asking an increased price for its treasury stock to provide the funds.

The directors are to be congratulated on what they have accomplished during the past six months.

### NORTH STAR MINING COMPANY, LIMITED.

N. McLeod Curran, manager of the North Star Mining Company, Limited, submitted the following report of the company's mines at the last annual meeting of the shareholders:

"During the year the work has been mostly confined to the mining of ore in and adjoining the old workings. By carefully prospecting the ground adjacent to the old works by means of cross-cuts and drifts, we have been successful in discovering small bunches of good shipping ore. In addition to mining and sorting the ore we have driven 671 ft. of cross-cuts and drifts and raises, adding materially to the development of the mine.

During the year the diamond drill was worked for a short time, three holes, 534 ft. having been bored. One of these holes was encouraging. It is intended to prospect further with the drill this summer.

The company has mined and shipped at a profit 4,000 tons of ore during the year, notwithstanding the fall in the price of lead and silver. Of this quantity, some came from the old workings, but the greater part was found by following the small stringers of ore which opened out into small deposits.

On the 50-ft. level, close to the east wall I am in ore. On the 60-ft. level, 125 ft. from the mouth of the 60-ft. main tunnel, a cross-cut was driven south in a seam of good ore for a distance of 40 ft., afterwards a raise to connect with the 50-ft. level was made. This raise is in ore. In the bottom of the same cross-cut there is about a foot of oxidized iron, pitching down, which carries good values both in silver and lead. As soon as the ground dries I purpose prospecting this iron by means of a winze.

North of the old timber chute work which was stopped

owing to the spring freshet, will soon be resumed. Nearly all our shipping ore for the past year came from this point.

This work takes in all the ground lying between No. 1 shaft and the south end of the old west ore body, and it will extend down to the top of the lagging. The ground has been opened in several places and well sampled. My intention is to work at this point this summer and try and clean it up thoroughly; also the old dumps lying to the north of No. 1 shaft, before the next snow flies.

I intend doing some more work close to No. 3 hole, the last hole put down last fall; but I wish to use the drill more particularly as an aid in prospecting the old works below the 60-ft. level.

The buildings are in good repair, the steam plant in good condition, and the tramway is also in fairly good condition.

In conclusion I beg to state that we have several hundreds of tons of ore in sight, and I think the coming year will show as good results as the past, if not better.

### COMPANY CABLES AND NOTES.

#### British Columbia—

*Le Roi*—June: Shipped from the mine to Northport during the month 5,100 tons of ore, containing 2,429 oz. gold, 2,450 oz. silver, and 101,000 lb. copper. Expenditure on development work, \$9,000.

*Le Roi No. 2*—May: Josie mine report: Shipped 2,410 tons. The net smelter receipts are \$43,126, being payment for 1,892 tons of ore, and \$1,417 for 86 tons of concentrates shipped; in all, \$44,543.

*Le Roi No. 2*—June: Josie mine report: Shipped 2,390 tons. The net receipts are \$48,626, being payment for 2,352 tons of ore, and \$1,067 for 76 tons of concentrates shipped, in all, \$49,693.

#### United States—

*Alaska Consolidated*—Messrs. Pearse Kingston and Browne report: "The mill is running on full time. Stope quite full of broken down ore. Four machine drills put in to develop works this week; six stopping. Good body of ore opening. The assays from the ore taken from stope No. 1 above the west drift No. 4, running west from the Alexander tunnel, average \$5.00 per ton; from the ore taken from stope No. 1 above the east drift No. 3, running east from Alexander tunnel, average \$2.45 per ton, from the ore taken from stope No. 1 above west drift No. 3 running west from the Alexander tunnel, average \$3.15 per ton."

*Alaska Mexican*—May: 120-stamp mill ran 29½ days, crushed 20,909 tons of ore; estimated realizable value of bullion, \$21,403. Saved 325 tons sulphurets; estimated realizable value, \$16,479. Working expenses, \$20,956.

*Alaska Treadwell*—May: 240-stamp mill ran 29½ days, 300-stamp mill ran 19 days; crushed 60,620 tons of ore; estimated realizable value of bullion, \$68,938. Saved 1,090 tons of sulphurets; estimated realizable value, \$54,562. Working expenses, \$78,270.

*Alaska United*—May: Ready Bullion claim. 120 stamp mill ran 29½ days; crushed 18,030 tons of ore; estimated realizable value of bullion, \$23,285. Saved 370 tons of sulphurets; estimated realizable value, \$10,940. Working expenses, \$25,892.

#### DIVIDENDS.

A dividend (No. 51) of 40 cents per share, declared by the Alaska Mexican Gold Mining Company, was paid on July 28, amount, \$72,000. This makes the total of dividends paid by this company to date, \$1,968,381.

A dividend (No. 81) of 75 cents per share, declared by the Alaska Treadwell Gold Mining Company, was paid on July 28, amount, \$150,000. This makes the total of dividends paid by this company to date, \$10,085,000.

A dividend (No. 6) of 25 cents per share, declared by the Alaska United Gold Mining Company, was paid on July 28; amount, \$45,050. This makes the total of dividends paid by this company to date, \$378,420.

A dividend (No. 7) of one and one-quarter per cent. has been declared by the International Coal and Coke Company,

Limited; amount, \$35,000. This will make the total of dividends paid by this company to that date \$301,000.

## NOTES.

The Byron N. White Company will drive a 500-ft. tunnel on the Hidden Treasure, in the Slocan, with the object of cutting the extension of the Richmond lead.

J. L. Retallack, of Kaslo, has formed a company to take over the Whitewater Deep, near Whitewater, Slocan. The long tunnel on that property will be extended.

The appointment has been gazetted of Robert S. Lennie, of Nelson, barrister, as the new attorney in British Columbia of the Hall Mining and Smelting Company, Limited, in the place of John Joseph Campbell.

A special resolution has been passed voluntarily winding up the Monita Gold Mining Company of British Columbia, Limited, and A. B. Mackenzie has been appointed liquidator. Similar action has been taken in connection with the Muggump Gold Mining Company, Limited, also of Rossland, and the same liquidator has been appointed.

A company has been organized in Vancouver called the Valley Coal Company, for the purpose of exclusively handling the product of the Nicola Valley Coal and Coke Company. The officers of the company are: F. H. Lantz, president; H. A. Stewart, vice-president and general manager; A. F. Salisbury, director and secretary-treasurer.

The application for an order for the winding up of the La Mines, Limited, mentioned in last month's *MINING RECORD* as having been made on behalf of the Hudson's Bay Company has been granted. It is stated, however, that the directors of the company hope to be able to satisfy in full the claims of the creditors, which are said to total about \$27,000.

In the matter of the Elwood Tin Workers Gold Mining Company of Lardeau, British Columbia, Limited (in liquidation), the official liquidator has given notice, by advertisement, of intention to apply to the Supreme Court for an order confirming the conditional agreement for sale of the property and assets of the said company for the sum of \$20,000 made by him to Dillion Marsh.

Several miners at Sandon, Slocan, have taken legal proceedings against J. G. Duck, of Cody, near Sandon, mine manager, and the Duck Mining Company, an unregistered foreign corporation, having its head office in Milwaukee, Wisconsin, U.S.A., to recover sums amounting to \$1,819.30 for work and labour done, and are seeking a declaration of the court that the Maggie mineral claim, situated near Sandon, is subject to mechanics' liens for the said amounts in favour of the plaintiffs.

The Kootenay Development Syndicate, Limited, lately organized in England by M. S. Davys, has leased the Silver King mine, near Nelson. The local management of the company consists of Messrs Leslie Hill, Louis Pratt, and Robt. S. Lennie, with H. B. Rudd as secretary. It is stated that the power plant at the mine is to be operated by electricity and that a pole line is to be erected from Nelson to the mine for the transmission of the electric current.

A company named the Diamond Vale Collieries, Limited, has been incorporated with a capital of \$750,000, divided into 7,500 shares of the value of \$100 each. The object for which this new company is incorporated is to adopt and carry into effect an agreement which has been made with the Diamond Vale Coal and Iron Mines, Limited, under which the new company will acquire and operate certain coal mining property heretofore owned and worked by the old company.

The Last Chance mining interests, in the Slocan District, have been taken over by the Silver Cord Mining Company, recently organized. A plan of operation has been decided upon and will be carried into effect as soon as the mine shall be put in shape for working. The officers of the new company are: President, W. T. Stinson of Los Angeles, California; vice-president, Biggerstaff Wilson of Victoria; secretary, Louis Pratt, of Sandon; treasurer, W. J. Blake Wilson of Nelson; directors, M. S. Davys, T. L. Greenough and R. S. Lennie.

## COMPANIES INCORPORATED IN BRITISH COLUMBIA.

- Boston Premier Gold Mining Company, Limited*, with a capital of \$500,000, divided into 500,000 shares of \$1 each.
- Auba Mining Company, Limited*, with a capital of \$50,000, divided into 50,000 shares of \$1 each.
- Rossland White Bear Mining Company, Limited*, with a capital of \$700,000, divided into 7,000,000 shares of 10 cents each.
- Denman Island Stone Co., Limited*, with a capital of \$50,000, divided into 5,000 shares of \$10 each.
- Finlay River Prospecting, Timber, Land and Development Company, Limited*, with a capital of \$20,000, divided into 2,000 shares of \$10 each.
- Nanoose Coal Company, Limited*, with a capital of \$300,000, divided into 3,000 shares of \$100 each.
- South Nicola Coal Company, Limited*, with a capital of \$750,000, divided into 750,000 shares of \$1 each.
- Graham Island Coal and Oil Company, Limited*, with a capital of \$250,000, divided into 250,000 shares of \$1 each.
- Aurora Mining and Milling Company, Limited*, with a capital of \$1,000,000, divided into 1,000,000 shares of \$1 each.
- Society Girl Mining Company, Limited*, with a capital of \$1,000,000, divided into 1,000,000 shares of \$1 each.
- Phoenix Mining, Smelting and Development Company, Limited*, with a capital of \$1,000,000, divided into 1,000,000 shares of \$1 each.
- Selkirk Mining Company, Limited*, with a capital of \$360,000, divided into 18,000 shares of \$20 each.
- Nugget Gold Mines, Limited*, with a capital of \$500,000, divided into 500,000 shares of \$1 each.
- New Erie Mountain Mining Co.*—Head office at Spokane, Washington, U.S.A. Capital, \$10,000, divided into 1,000,000 shares of one cent each. Head office in British Columbia at Erie. Attorney, James R. Hunnex, merchant, Erie.

## EXTRA-PROVINCIAL COMPANIES REGISTERED IN BRITISH COLUMBIA.

- Eric Consolidated Gold Mining Company.*—Head office at Spokane, Washington, U.S.A. Capital, \$10,000, divided into 1,000,000 shares of one cent each. Head office in British Columbia at Erie. Attorney, Jas. R. Hunnex, pharmacist, Erie.
- Sharples Separator Company.*—Head office in the Borough of West Chester, Chester County, Pennsylvania, U.S.A. Capital, \$1,200,000, divided into 12,000 shares of \$100 each. Objects, the manufacturing and selling centrifugal separators and other articles connected therewith. Head office in British Columbia, at Royal Bank Chambers, Vancouver. Attorney (not empowered to issue and transfer stock), William Martin Griffin, solicitor, Vancouver.
- Bellingham Copper Company.*—Head office at Bellingham, Whatcom County, Washington, U.S.A. Capital, \$15,000, divided into 30 shares of \$500 each. Head office in British Columbia at Vancouver. Attorney, D. Donaghy, barrister, Vancouver.
- Canadian Westinghouse Company, Limited.*—Head office at Hamilton, Ontario. Capital, \$5,000,000, divided into 50,000 shares of \$100 each. Head office in British Columbia at No. 439 Pender Street, Vancouver. Attorney, John R. Read, electrical engineer, Vancouver.
- Hewitt Mining Company.*—Head office at Wilmington, Delaware, U.S.A. Capital, \$800,000, divided into 80,000 shares of \$10 each. Head office in British Columbia at Nelson. Attorney, Robert Whetmore Hamington, barrister, Nelson.
- Kootenay Development Syndicate.*—Head office at 79½ Gracechurch Street, London, W., England. Capital, £15,000, divided into 15,000 shares of £1 each. Head office in British Columbia at Nelson. Attorney, Robert S. Lennie, barrister, Nelson.

*Alaska Iron Company.*—Head office at Portland, Maine, U.S.A. Capital, \$200,000, divided into 8,000 shares of \$25 each. Head office in British Columbia at Victoria. Attorney, Edward E. Wootton, barrister, Victoria.

*Swayne Copper Mining Company, Limited.*—Head office at Spokane, Washington, U.S.A. Capital, \$60,000, divided into 600 shares of \$100 each. Head office in British Columbia at Vancouver. Attorney, Howard R. Swayne, mine manager, Vancouver.

#### COMPANIES REGISTERED IN ENGLAND.

*Kootenay Development Syndicate, Limited.*—Registered May 1, by Herbert Smith, Goss, King, & Gregory, 62 London Wall, E.C. Capital £15,000, in £1 shares. Objects: To explore, prospect, develop, and work lands, farms, and other properties in Canada or elsewhere, and to carry on the business of general miners, prospectors, explorers, smelters, refiners, and dressers of ores and mineral substances, etc. Minimum cash subscription, 25 per cent. of the shares offered to the public. The first directors (to number not less than two nor more than five) are M. S. Davys, G. Freeman, and E. W. Monkhouse, M.I.C.E., M.I.M.E. Qualification, £100. Remuneration, 10 per cent. of the net profits, divisible. Registered office: 79½ Gracechurch Street, London, E.C.

*Dominion Mica Corporation, Limited.*—Registered July 8, by Cooper & Co., 54 Gresham Street, E.C. Capital £100,000, in £1 shares. Objects: To acquire all or the greater part of the issued share capital of the British Columbia Mining Company, Limited, (incorporated in Canada and owning certain mica mines or mining properties in British Columbia; to carry on the business of mica miners, etc., and to adopt an agreement with the English & Foreign Syndicate, Limited. Minimum cash subscription, seven shares. All the shares, except the seven subscribed for in the memorandum of association, are to be issued credited as fully-paid, pursuant to the above-mentioned agreement. In event of any future offer of new capital to the public, minimum cash subscription to be 10 per cent. of the shares so offered. Registered office: Winchester House, Old Broad Street, London, E.C.

*Nicola Valley Syndicate, Limited.*—Registered July 1, by Tomlinson & Wardle, Winchester House, E.C. Capital £10,000, in £1 shares. Objects: To acquire certain options over freehold and leasehold land in the Nicola and Kamloops divisions of the Yale District of British Columbia, and to carry on the business of miners, etc. Minimum cash subscription, 100 shares. The first directors (to number not less than three nor more than seven) are: Colonel H. S. Fitzgerald, F. H. Bridgman, and A. Boiston. Registered office: Seymour House, Waterloo Place, London, S.W.

*Van-Roi Mining Company, Limited.*—Registered July 9, by Burn & Berridge, 11 Old Broad Street, E.C. Capital £34,500, in 30,000 preference shares of £1 each and 90,000 ordinary shares of 1s each. Objects: To acquire the Vancouver group of silver-lead mines in the Slocan District of British Columbia, comprising the Vancouver, Zilor, Silver Star, Pelley, Napier, Ricardo, Vancouver Fraction, and Mountain Boomer, together with half the interest in the lot known as the Prior mineral claim, with the aerial tramway and certain surface, timber, and water rights; to adopt an agreement with Le Roi No. 2, Limited, and to carry on the business of miners, prospectors, explorers, metallurgists, etc. Minimum cash subscription, £31,500. The first directors (to number not less than two nor more than seven) are: E. Hamilton, F. C. D. Haggard, A. B. Deablo, and H. W. Morrison, all directors of the Le Roi No. 2, Limited. Qualification, 100 preference. Remuneration (except managing director), £200 per annum (chairman £250). Registered office: Salisbury House, London Wall, London, E.C.

#### TRADE NOTES AND CA LOGUES.

Mussens Limited, machinery merchants, of Montreal, Quebec, have issued a circular inviting those who care to receive from them the catalogues and pamphlets they distribute at frequent intervals dealing with every description of mining and metallurgical machinery and supplies, to send in their names and addresses so that they may be placed on the firm's mining department mailing list.

Fried. Krupp Aktiengesellschaft Grusonwerk, of Magdeburg-Buckau, Germany, have sent out the following circular letter:

"We beg to bring under your notice that we have added to our departments, occupying themselves with the construction of ore-treatment plant, and of machinery for the mechanical treatment of metals (presses and rolling mills), a **SEPARATE METALLURGICAL DEPARTMENT** which will occupy itself chiefly with the manufacture of furnaces, machines and apparatus, as well as complete installations for the recovery of metals from ores, either by metallurgical or by electro-metallurgical processes (partly according to special systems), and which will also undertake the working out of plants for metallurgical treatment of lead and zinc dust, waste products, and for the concentration of refractory ores.

"We have the experience of eminent experts at our disposal for properly designing, erecting, and operating such plants. In particular cases, we are also in a position to ascertain by reliable tests, in what manner it is possible to attain the most economical results on a large working scale.

"You will see from the enclosed list of our numerous specialities that our various machines comprise all installations for these industries which may come into consideration, either for the recovery of metals from their ores, or for their further treatment, to the producing of a finished marketable article.

"We shall be extremely glad, if you will allow us to compete, whenever you are requiring any installations of this kind, and hope to be favoured with your enquiries."

#### MACHINERY AND CONSTRUCTION NOTES.

The White Pass & Yukon Railway Company has built at Skagway, Alaska, ore bunkers with a capacity of about 2,500 tons.

An air compressing plant, to be driven by water power, is being installed at the Goose Bay mines, Observatory Inlet, Portland Canal District.

A severe electrical storm recently temporarily disabled the Granby Company's two 700-h.p. motors at its mines at Phoenix, Boundary District.

Alterations have been effected at the Wakefield mill, Four-Mile Creek, Slocan Lake, to make it suitable for the treatment of ore from the Hewitt mine.

The secondary aerial tramway at the Hewitt mine, in Silverton camp, Slocan, has been completed and both this and the main ropeway are now available for use.

Awaya, Ikeda & Co. are erecting ore bunkers at their mine at Ikeda Bay, Moresby Island, of the Queen Charlotte group. Construction work is well forward; the bunkers will have a capacity of about 2,500 tons.

It is stated that "the installation of the electric feeds for the copper furnaces has been completed at the Consolidated Mining and Smelting Company's smelter at Trail, and similar feeds will be installed for the lead furnaces."

The big air compressor at the British Columbia Copper Company's Mother Lode mine, near Greenwood, Boundary District, is now in operation. The additional power now available at this mine admits of a substantial increase being made in the output of ore.

The big Farrel ore crusher recently installed at the British Columbia Copper Company's Mother Lode mine, near Green-

wood, Boundary District, was started last month and has since been doing its heavy work satisfactorily. Its capacity is greater than that of either of the two other large crushers for some time past in use at this mine.

The Japanese Mining Company operating on Queen Charlotte Islands, has constructed a telephone line from its mine at Ikeda Bay to Jedway, Moresby Island, a distance of four miles.

#### BOOKS REVIEWED.

*The Copper Handbook, Vol. VII, 1907*, a Manual of the Copper Industry of the World. Compiled and published by Horace J. Stevens, of Houghton, Michigan, U.S.A. Pages, 1228, octavo, brevier type. Price, \$5 in buckram with gilt top, or \$7.50 in full morocco.

This new edition of the "Copper Handbook" contains 25 chapters, an increase of nine. It treats of copper under the following headings, respectively: History, Geology, Chemistry, Mineralogy, Mining, Milling, Concentrating, Hydrometallurgy, Pyrometallurgy, Electrometallurgy, Alloys, Brands, Grades, Uses, Substitutes, Terminology, Geography, Copper Deposits, Copper Mines and Statistics. The treatment given the subject in 1,228 pages is encyclopaedic in scope but the logical and orderly arrangement of the great mass of facts presented, coupled with a table of contents, full index and alphabetical arrangement of districts, countries, mines, minerals and glossary, render it possible to ascertain any given fact with almost as much ease as a word is found in a dictionary. This is a point of much value to readers that has been overlooked in many otherwise excellent works of reference.

While the "Copper Handbook" is not intended to replace other works for the use of technical men, it is claimed that it does supplement all other technical books on copper, while for the average reader its hundreds of pages devoted to the scientific and technical features of the subject will be found to cover practically every point of interest. The language is plain throughout, and the layman, whether miner or investor, will find the clear and easily understandable exposition of scientific facts a great aid, as the highly technical language used in many of the best scientific works is a serious stumbling-block in the path of the man not technically trained, who usually requires to have a dictionary at his elbow when he reads such books.

In his preface the author apologizes for his inability to revise the book throughout, explaining that fire, sickness and loss of five months time prevented his doing so. However, the volume contains about 180,000 words of new matter, in addition to that remaining unchanged from the preceding issue. This lack of revision is greatly to be regretted, since it detracts materially from the value of the book. To illustrate this point, mention may be made of the position in regard to the Granby and British Columbia Copper companies. The Granby Company's mines are the largest copper mines in Canada, and its smelter occupies a like position among copper ore reduction works, yet the information relative to the development, equipment, production, etc., of mines and smelters was at least two years old by the time this edition of the "Copper Handbook" was ready for distribution. Similarly the information concerning the British Columbia Copper Company's mines and smelting works is out of date, important additions to mining property made in 1906, and the substitution during the same year of a much larger and more modern smelting plant at the company's smelting works, not being mentioned. It is true the author explains why the revision, which should have been regarded as indispensable, was not accomplished, but, this notwithstanding, its omission is much to be deplored, since it involves positive injustice to very many progressive mining and smelting companies throughout the world.

With the foregoing qualification, the *MINING RECORD* agrees in large measure with the claim advanced that in whatever light the "Copper Handbook" is viewed, whether in describing

the thousands of different copper mines in all parts of the world; in the plain descriptions of intricate processes of mining, milling, smelting and refining; or in the 40 pages of statistics covering the copper industry of the globe in its various commercial and financial aspects, the book must stand as a monument of patience and labour to its author.

*Mines and Minerals of the British Empire*, being a description of the historical, physical, and industrial features of the principal centres of mineral production in the British Dominions beyond the Seas. By Ralph S. G. Stokes, late mining editor, *Rand Daily Mail*, Johannesburg, South Africa. Pages, 389, 5½x8½ in., with 68 half-tone illustrations; cloth, 15s. net. Published by Edward Arnold, 41 and 43 Maddox Street, London, W., England.

This book contains 36 chapters, with several appendices and a full index. The author explains that he has endeavoured to present a brief, though comprehensive, review of those mines and minerals of the British Empire oversea, the industrial influence of which extends beyond their domestic sphere, and therefore entitles them to rank as factors of considerable moment in the mining world.

The bulk of this volume is based upon observations made and data collected during a tour of the Empire extending from January, 1906, to the beginning of 1908, the course pursued having been from South Africa through Ceylon, India, Burma, Malay Peninsula, Australia, New Zealand, and Canada. In practical illustration of the magnitude and importance of the British Empire from the mining standpoint, the peculiar personal experience of the author, during his tour of more than 35,000 miles is incidentally recorded. Only twice—and then but by way of stepping stones—did he set foot upon foreign soil (to wit, in Java and Honolulu), and but once did his course carry him within 100 miles of any noteworthy mining field unqualified for inclusion under the title of the volume under notice.

In concluding his introductory notes the author expresses the hope that his book may be of service to those concerned in the practice and science of mining, and at the same time strengthen the public appreciation and knowledge of the great "Foundation Industry," which adds each year £200,000,000 to the wealth of the Empire, supports several millions of British subjects, and the advent of which marked the dawn of national life in ten of our foremost colonial territories.

No attempt will here be made to review the varied contents of this very interesting book, but it may be said that if the 21 pages devoted to British Columbia are fairly representative of the general character of the information given relative to mining in other parts of the Empire, then the book is indeed of practical value. These pages deal chiefly with the mining and smelting industries of Roseland and the Boundary District, and they show care and good judgment in the selection of information upon those subjects. The five local illustrations, too, are representative of the districts mentioned. There may be added to the somewhat unusual experience in connection with the publication of visitors' impressions of mining in this Province, viz., the fact that Mr Stokes has written with an intelligent knowledge of local conditions and results, an indorsement by the *MINING RECORD* of the concluding paragraph of a review of this book by the *London Mining Journal*, as follows: "In conclusion, the book is an enjoyable one from beginning to end, and the author is to be congratulated in presenting such a comprehensive review, replete with masses of facts and figures, in such a guise as to make it interesting to all readers. One leaves its pages with regret, and its simple style must render it attractive to those unacquainted with the technicalities of mining. Apart from this, it is a volume which should be found in the library of all those who are interested in mines and mining, as it possesses, in addition, the merit of being a valuable book of reference."

## COAL MINING NEWS.

The *Frank Paper* stated, on July 30: The Hillcrest mine established another output record on Monday when the shipments of coal amounted to 897 tons. Manager C. P. Hill is much pleased at so nearly touching the 1,000-ton mark.

It is stated that a syndicate of Chicago and Seattle capitalists has been organized to develop 10 sq. miles of coal lands on Graham Island in the Queen Charlotte group. A portion of this area abuts on Skidegate Inlet, insuring good shipping facilities.

The False Creek Coal Syndicate was reported towards the end of June to have met with a 14-in. seam of bituminous coal in a borehole it is putting down on False Creek, near the City of Vancouver. This seam was encountered at a depth of 560 ft. It was expected that a thicker seam would be found at a depth of between 600 and 700 ft.

A Washington, D.C., press despatch gives the information that "the United States Navy Department has awarded a contract to Barber & Co., of New York, for 15,000 tons of coal, to be delivered at Magdalena Bay, and the Bremerton navy yard, Puget Sound, for the use of the United States Pacific fleet, at \$7.30 per ton. There were 12 tenders received.

D. C. Corbin, of Spokane, Washington, and associates are proceeding with the construction of a railway from McGillivray, a station about five miles east of Michel, on the C.P.R. Company's Crow's Nest railway, and some coal properties to the southward, some 14 miles by rail route. The coal area to be made accessible by this new railway is said to give promise of producing a large tonnage of bituminous coal of excellent quality.

A press despatch states that the German Development Company has discovered a 27-ft. seam of anthracite coal of good quality on a property it is opening up near Kakanaskis, Alberta, which is on the main line of the Canadian Pacific Railway, about 27 miles east of Banff. It will be remembered that early in the current year Mr. Jas. McEvoy, the well known geologist and engineer, resigned from the employ of the Crow's Nest Pass Coal Company to enter that of the German Development Company.

The coal operators of the State of Washington and the arbitration committee of the United Mine Workers of America, District No. 10, met in joint session on July 23. The most important matter under consideration is the wage scale. The coal miners ask that the wage scale of last year be again adopted; the operators ask that a general reduction of from 3 to 8 per cent. be accepted by the men. No decision had been reached by the end of July. The number of men directly interested in the matter under consideration is about 5,000.

From Washington, D.C., has come the news that on May 28 President Roosevelt signed a bill which, in the opinion of many persons, is the most radical measure of legislation enacted during his administration. Its title is "To Encourage the Development of Coal Deposits in the Territory of Alaska," and its principal provision includes an attempt to prevent monopoly by restricting holdings to 2,560 acres of coal lands and providing a penalty of forfeiture of all holdings by persons individually or in combination who get possession of more than this number of acres. It also gives the United States Government the claim on coal that may be mined, thus guaranteeing a fuel supply for the navy.

The *Nanaimo Herald* says: The Vancouver-Nanaimo Coal Company is making preparations to materially increase the output of its local mine in the near future. Considerable machinery has arrived of late, and yesterday six large wagons arrived from the mainland to be used in conveying coal from the mine to Nanaimo for shipment to outside points. These wagons were formerly used for hauling copper ore from the Iron Mask mine, near Kamloops, and have a capacity of 10 tons each, which will make a total of 60 tons of coal each trip. The wagons are built almost entirely of steel, are strongly braced and have wheels 20 in. wide. They will be hauled by a traction engine capable of travelling along with its train of wagons at the rate of 8 miles an hour.

F. H. Sherman, president of District No. 18, United Mine Workers of America, is reported in the press to have said recently, concerning the coal supply in the West: "According to the way mines are running now and the attitude of the people, I believe we will have a worse famine throughout the prairie provinces next winter than we ever had before. There is plenty of coal in the country, but it is not being mined fast enough. People are now only purchasing enough domestic coal to satisfy their immediate wants, and are not providing for the winter months. As a result the demand for domestic coal is light, and the mines, which are not storing it in preparation for rush orders, are running half time and barely keeping ahead of the demand."

A recent press despatch from Spokane, Washington, gives the following information: The Washington Water Power Company, of Spokane, has closed a contract with E. F. Waggoner, president of the Union Fuel and Ice Company, for 10,000 tons of Hillcrest coal from the mines of that name at Frank in the Crow's Nest Pass. The coal is to be delivered by the fuel company at the water company's auxiliary plant, in Ross Park, Spokane. It was given out at the office of the Washington Water Power Company that the consignment of coal, the largest single order ever placed in Spokane, was secured to insure for its patrons all the power contracted for and that while it may not be necessary to run the big steam plant it is possible it may be operated a month or more during extreme low water. It requires 300 tons of coal a day to operate the plant at its full capacity.

## NICOLA VALLEY NOTES.

Archibald Dick, inspector of coal mines, was in Nicola Valley early in July.

An additional air shaft has been completed at No. 2 mine of the Middlesboro' collieries.

The South Nicola Coal Company has commenced development work on its property near Hamilton Creek.

Work is in progress at the new shaft and tunnel of the Diamond Vale Collieries on the Garcia property, and preparations are being made to mine coal on a large scale. The seam is about three feet in thickness.

The *Nicola Herald* reported on July 23 that: Work is going steadily along at Middlesboro' collieries and more men have been put to work. Coal shipments have been resumed. This week 16 cars were shipped, and from now on shipments will be considerably increased.

Three new coal seams, capable of being worked by tunnels from the surface, instead of the sinking of shafts, have been located on the Diamond Vale Iron and Coal Company's property. These contain 12 ft. of good coal and are located close to the main line of the Nicola branch of the C.P.R.

Recently the Nelson Iron Works received an order for about 20 tons of castings for the smelter at Trail.

Many men are prospecting on the Queen Charlotte Islands this season and several finds of good ore are reported.

Experiments are being made in concentrating ore from the Hewitt mine, near Silverton, by the Elmore Vacuum Process.

The *Whitehorse Star* states that "the work of erecting the concentrator which Manager H. W. Vance is putting up for the Yukon District Mining Company, is progressing as rapidly as possible under the circumstances. The small wharf at the landing place near the Venus mine on Windy Arm has not been of sufficient size to accommodate much of the material at one time, but when the timbers to be used in the frame of the building shall have been removed, the machinery for the concentrator will be at once delivered on the wharf, all the needed supplies having been already delivered at Carcross. It is the intention of Manager Vance to have the plant completed and ready for operating before the cold weather shall come again."



## MEN AND AFFAIRS.

A. B. Palmer, of Whitehorse, Yukon, was in Victoria during the month.

E. A. Bradley, of Revelstoke, was in Portland, Oregon, towards the end of July.

C. F. Caldwell has returned to Kaslo from Whitehorse copper camp, in southern Yukon.

Capt. John Hampson is at the Indian Chief mine, Sidney Inlet, west coast of Vancouver Island.

J. A. Coryell is back in the Boundary District, after an absence in South Africa of several years.

A. H. Gracey, of Nelson, was at the Nugget mine, Sheep Creek camp, about the middle of the month.

L. A. Bonner has installed a Keystone drill at Little Valley, Cariboo, and S. Keast is directing its operation.

W. J. Elmendorf, of Spokane, Washington, paid a visit to East Kootenay towards the close of the month.

August Raht, of New York, has been visiting mines and smelters in the Boundary and Kootenay districts.

W. H. Jeffrey, formerly with the La Rose, is now superintendent of the Chambers-Ferland mine, Cobalt, northern Ontario.

Prof. J. C. Gwillim, of the School of Mines, Kingston, Ontario, has been visiting Whitehorse copper camp in southern Yukon.

Andrew Colville, formerly superintendent of the Crow's Nest Pass Coal Company's Coal Creek colliery, is now at Nanaimo.

A. C. Garde was in Victoria for several days during July, going thence to Vancouver and afterwards returning to Prince Rupert.

J. L. Parker is superintending some development work the Tye Copper Company is doing at Sidney Inlet, west coast of Vancouver Island.

E. Dempie, manager of the Maple Leaf Coal Company, of Bellevue, near Frank, Alberta, has been on a business visit to the Boundary District.

John Long, of Spokane, Washington, who in 1900-1 was superintendent of the Le Roi mine at Rosslund, has recently been visiting the latter city.

F. A. Ross, of Hedley, Similkameen District, general manager of the Daly Reduction Company, paid a short visit to Victoria early in the month.

Seymour Baker is expected to shortly return to Barkerville, Cariboo, to resume the development of a gold-quartz property in that neighbourhood.

John B. Hobson came down from Bullion, Quesnel Forks, during the month and spent a few days at his home in Victoria, returning to Cariboo later.

Jules Labarthe, manager of the Consolidated Mining and Smelting Company's smelting works at Trail, has returned from a visit to Salt Lake City, Utah.

F. C. Laird, of the Willow River Mining Company, has left Cariboo on a trip to the East. He is not expected to return to Bankerville until some time in September.

Walter S. Keith, formerly of the Boundary District, and later in charge of smelting operations in California and Oregon, respectively, is now in Seattle, Washington.

J. W. Bryant, mine superintendent for the Tye Copper Company, has returned to Victoria from an examination of copper properties in Whitehorse camp, southern Yukon.

W. J. Barker, of the Arlington (Eric) mine, Nelson mining division, has returned from a hasty visit to Butte, Montana, whence he was called to see his father, who was seriously ill.

Prof. T. L. Walker, of the mineralogical department of Toronto University, has been at Nelson, making enquiries relative to the occurrence of tungsten in that mining division.

J. L. Retallick, of Kaslo, who a short time ago returned to British Columbia after having spent several months in Ottawa advocating the renewal of the bounty on lead, lately paid Victoria a visit.

J. D. Sword, after visiting the Coast, recently went to Beaverdell, on the west fork of Kettle River, to do some development work on a mining property in that district in which he is interested.

Herbert Carmichael, provincial assayer, has been to Lynn Creek, in New Westminster mining division, to see the Swayne Copper Mining Company's claims and other mining properties in that camp.

Wm. Dick, son of Arch. Dick, of Nanaimo, inspector of coal mines, is stated to have received an appointment as mining engineer for a company operating in Brazil, South America, whence he has gone.

R. P. Williams, of Rosslund, western representative of the Canadian Rand Company, Limited, of Montreal and Sherbrooke, Quebec, spent the first week of the month in the coast cities, Victoria and Vancouver.

G. A. Lauzier, of Butte, Montana, a director of the company owning the Krao mine in Ainsworth camp, has been on a visit to the mine. He was accompanied by W. E. Zwicky, of Kaslo, manager of the mine.

J. P. Hutchins, consulting mining engineer, of New York, is in British Columbia on professional business which, the *Engineering and Mining Journal* states, is likely to occupy him for a considerable portion of the summer.

H. H. Claudet, of Rosslund, lately proceeded to Silverton, Slocan Lake, taking with him an experimental Elmore vacuum oil process plant, with which to make some concentration experiments on ore from the Hewitt mine.

W. Yolen Williams, now of Spokane, Washington, during July paid one of his periodical visits of inspection to the Independence group of mineral claims, on Bear Creek, in the Tulameen section of Similkameen District.

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Anthony J. McMillan, managing director of the Le Roi Mining Company, went from Rosslund to Chicago, Illinois, lately, to there meet the chairman of the company who has been paying a business visit to the United States.

James A. Johnson recently arrived at Frank, southwest Alberta, to undertake the duties of general superintendent for the Canadian-American Coal and Coke Company, which is operating a coal mine situated in Turtle Mountain.

G. G. S. Lindsey, president of the Crow's Nest Pass Coal Company, and Hon. Robert Jaffray, another of the directors of the company, arrived in Fernie from Toronto, Ontario, on July 31, on a visit to the company's collieries in the Pass.

W. H. Stinson, of Los Angeles, California, who is president of the Last Chance Mining Company, has been on a visit to Sandon, to confer with Louis Pratt, manager of the Last Chance, relative to a resumption of operations at that mine.

J. Dalton, one of the best-known pioneers of Yukon and Alaska, has again gone in to the White River country, where he has a number of mineral claims, for the season's prospecting work. As usual he outfitted at Whitehorse, southern Yukon.

Prof. E. J. Babcock, dean of the School of Mines of the State University at Grand Forks, North Dakota, U.S.A., with a party of 15 students, has been visiting mines and smelting works in the Kootenay and Boundary Districts of British Columbia.

W. C. Thomas, late manager of the Dominion Copper Company, Boundary District, was a recent visitor to the Tyece Copper Company's smelter at Ladysmith, Vancouver Island, where he was shown over the works by the smelter manager, W. J. Watson.

H. K. Smith, son of Hon. Abraham Smith, United States consul at Victoria, has been visiting mining camps in the Kootenay and Boundary districts. Mr. Smith is a graduate

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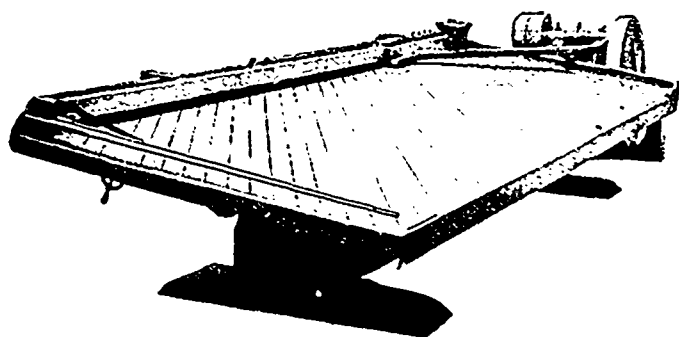
in mining engineering from the Michigan School of Mines, Houghton, Michigan.

George Alexander, of Kaslo, manager of the Kootenay Ore Company, and the Ferguson Mines, Limited, has returned from a visit to Europe. He recently visited the latter company's Silver Cup mine, in the Lardeau, whence he was accompanied by his assistant, James Anderson, also of Kaslo.

Dwight C. Johnson, well known in the Kootenay and neighbouring State of Washington, met his death in Spokane early in July, by falling from a burning building. Several years ago he was ore buyer for the Northport smelter, and in that capacity came into frequent contact with Kootenay mining men.

S. W. Gebo, well known in connection with coal mining operations at Frank, Alberta, is stated to have placed \$50,000 on deposit as a building fund for the Panhandle smelter at Ponderay, Idaho, and to have given assurance that enough money has been guaranteed by others to bring the total amount available for a year for a similar purpose up to \$200,000.

Mr. H. W. Young, of North Vancouver, managing director of the Maple Leaf Mines, Limited, who recently returned from a visit to New York, has been quoted in newspapers as having announced that American capital has been obtained for the purpose of developing the company's mining property, consisting of six mineral claims situated in Franklin camp, 45 miles north of Grand Forks, Boundary District.



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## OFFICIAL NOTICES.

From the *British Columbia Gazette*

Charles William Grain, of 150-Mile House, to be mining recorder for the Quesnel mining division.

William Manson, of Port Simpson, to be gold commissioner for the Queen Charlotte mining division from May 15, 1908.

W. N. Rolfe of Ashcroft, to be acting mining recorder for the Ashcroft mining division, during the absence from Ashcroft of Harold P. Christie.

William Stephenson, of Quesnel Forks, to be acting deputy mining recorder for the Quesnel mining division, during the absence of G. E. Stephenson.

Evelyn Montague Sandilands, of Jedway, Moresby Island, to be mining recorder for the Queen Charlotte mining division from May 15, in the place of William Manson.

## NEW MEMBERS OF CANADIAN MINING INSTITUTE.

Recent elections to membership of the Canadian Mining Institute are as follows:

## Members—

Lyndon K. Armstrong, M.E., Spokane, Wash., U.S.A.

C. V. Brennan, B.Sc., Summerside, P.E.I.

G. H. Corbet, M.E., Phoenix, B.C.

Geo. H. Dickson, M.E., Coleman, Alta.

A. G. Larson, Supt. Le Roi Mining Co., Ltd., Rossland, B.C.

Fred. S. Peters, Le Roi Mine, Rossland, B.C.

W. H. Armstrong, Vancouver, B.C.

Harold P. Davis, Cobalt, Ont.

W. C. McGinnis, M.E., Belleville, Ont.

Wm. H. Trewartha-James, M.E., Victoria, B.C.

## Associate Members—

L. C. Butler, president Slipp-Butler Co., New York, N.Y., U.S.A.

Dr. B. E. Fernow, Dean of Forestry, University of Toronto, Toronto, Ont.

W. J. Hamilton, Deloro, Ont.

Arthur P. Naismith, Cobalt, Ont.

Samuel Price, St. Thomas, Ont.

Gordon McL. Pyke, Montreal, Que.

W. S. Rugh, Le Roi Mining Co., Ltd., Rossland, B.C.

R. P. Williams, Rossland, B.C.

Homer N. Galer, Spokane, Wash., U.S.A.

Wm. J. Blake Wilson, Nelson, B.C.

In December, 1906, there were in the Transvaal, South Africa, 74 gold producers, with 8,410 stamps at work; in December, 1907, there were 76, with 8,741 stamps.

At Kalgoorlie, Western Australia, a new lode has been struck in the Golden Horseshoe mine at a depth of about 2,000 ft. The ore body is 5 ft. wide and assays gold 13 dwt. to the ton.

Aron Hirsch & Sohn, of Germany, have estimated the world's production of copper in 1907 at 706,460 long tons; Henry R. Merton & Co., of London, England, have placed it at 716,435 tons.

California's yield of petroleum in 1907 was 40,000,000 bbl., against 36,000,000 for the previous year, and the price has been so much higher that some of the large users of power are going back to coal.

To what extent electric mining machinery has been introduced from America into Mexico and has aided in a practical revolution of the mining industry of that country may be estimated from the fact that in one of the mining camps at Guanajuata, the Pinguico mines, no less than 250 Westinghouse electric motors are being operated ranging in capacity from 5 to 200 h.p.

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One PORTER, four-wheel, saddle-tank, STEAM LOCOMOTIVE, standard gauge 4 ft. 8 $\frac{1}{2}$  inch.; cylinders 7x12 inch. Purchased 1901. Immediate delivery.

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