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THE CANADIAN MINER

Vol. I.

TORONTO, ONT., APRIL 10, 1897.

No. 13.

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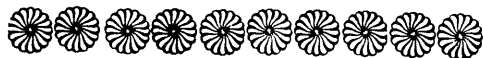
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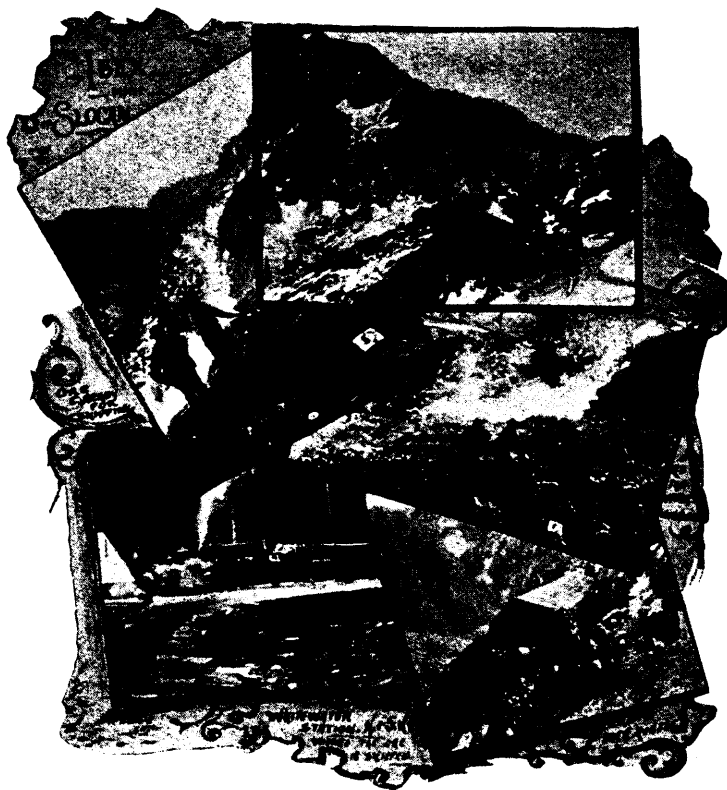
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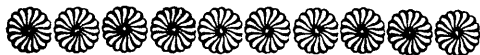


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IRON

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MICA

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Exploration has shown the Gold districts of the Province to be extensive and rich, and new finds are constantly being made. In the Western fields the ore is mainly free milling, and wood, water, and labor in abundance provide the requisites for economic working. The yield of gold for the year ending October 31, 1895, was \$50,281, and in the period from November 1, 1895, to September 20, 1896, it reached \$142,605.

Crown lands are sold at \$1.50 to \$3 per acre, or leased at 60 cents to \$1 per acre for the first year, and 15 to 25 cents for subsequent years.

The fifth report of the Bureau of Mines contains a geological description and map of the new gold fields of the Rainy Lake and Seine river districts—free on application.

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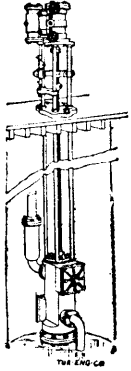
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WE have several good Gold Mining Properties and a number of Prospects for sale at reasonable prices. We are the largest holders of gold mining locations in Canada. For reports, prices and particulars apply to Mines Contract Co., Office 75, Canada Life Building, Toronto.

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GOOD Gold Mining Location for sale near the Scramble Mines. Good report. Only a few miles from Rat Portage. For price, etc., apply to Box 12, Canadian Miner Office.

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FIRST-CLASS White Mica Property, 200 acres, in the Township of Methuen, Co. of Peterboro', for sale. This is a rare opportunity. Price moderate. Apply Box 7, Canadian Miner Office.

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Mining Laws of Ontario.

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Mining lands may be taken up as surveyed locations or staked claims.

Locations range from 40 to 320 acres.

Claims range from 10 to 20 acres on vein or lode.

Locations may be acquired in fee or under leasehold.

Price of locations north of French River, \$2 to \$3 per acre, and south of it, \$2 to \$1.50, according to distance from railway.

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Rent of claims, \$1 per acre each year.

Claims must be worked continuously.

Royalty on ores specified in the Act, 2 per cent. of value at pit's mouth less cost of labor and explosives.

Royalty not charged until seven years from date of patent or lease, nor (as provided in s. 4 (3) of the Mines' Act, 1892), until fifteen years in the case of an original discovery of ore or mineral.

Original discoverer of ore or mineral on claim entitled to stake out a second claim.

Crown Lands sold under provisions of mining laws in force prior to 4th May, 1891, exempt from royalty.

Copies of the Mines Act, 1892, Amendment Act, 1894, may be had on application to

ARCHIBALD BLUE,

Director Bureau of Mines.

TORONTO, May, 25th, 1894.

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The Canadian Miner.

VOL. I.

TORONTO, APRIL 10, 1897.

No. 13.

REPORT OF ONTARIO MINES.

DIRECTOR BLUE'S LAST REPORT LAID BEFORE THE LEGISLATURE.

ON Wednesday evening of this week the sixth report of the Director of the Mining Bureau was submitted to the Legislature; it is not yet printed, but the following letter from Mr. Archibald Blue to the Hon. J. M. Gibson, Commissioner of Crown Lands, gives an exhaustive summary of its contents, which will be given at greater length later on.

I am submitting herewith for presentation to His Honor the Lieutenant-Governor, the sixth report of the Bureau of Mines:

The mining industry in Ontario has made a distinct advance during the past year, although it is too early yet for the progress to be measured by statistics of production.

Activity is evinced mostly in three ways—first by the applications made for mining lands; secondly, by the extent of development work undertaken, and, thirdly, by the number of companies organized to carry on mining operations.

Compared with the transactions in mineral lands in 1894, there was an increase last year in the number of locations sold and leased of 218, in the areas of lands sold and leased of 13,635 acres, and in the receipts from sales and rentals of \$22,644. The total collections on account of lands sold and leased last year was \$35,581 (not including \$5,006 of rent money paid on lands previously leased), and during the last few weeks of the year there was paid in a further sum on lands applied for of \$28,436.

The largest receipts were in the months of November and December, and as evidence of the continued briskness of operations it may be stated that the receipts on account of mining lands in the first three months of the present year, exclusive of a special deposit of \$20,000, have been \$70,387. The figures relate to transactions in Crown lands only. There have been large investments in patented lands, but no attempt has been made to procure a list of them.

The efforts of miners and capitalists have been directed largely to proving the worth of gold properties. There are only a few gold mines in the province where development work has been carried on long enough to keep mills running steadily, and although the same ill-advised course has been pursued here as in every other new gold country, of building mills before it was proved that there was ore of a quantity and value for raising and treating it, or before the workings were on a sufficient scale for economic mining, the direction in which enterprise has been moving during the past year indicates the adoption of a safer and more intelligent method. Along the Seine River, around Lake of the Woods, and upon Eagle, Wabigoon and Manitou Lakes, as well as in two or three other localities farther east, many properties have been explored, with trenches, cross-cuttings and shafts, and as a result of work so done several mills will be built this year. Upon one property on the Shoal Lake of Seine River prospecting and mining

had been carried on for more than a year before steps were taken to supply a mill, and when the machinery, driving 20 stamps, was set in motion a few weeks ago, it was estimated that the mine showed two years' supply of ore in sight. Large numbers of men were employed at work of this kind last year, and many thousands of dollars were paid out of capital for labor, supplies and prospecting machinery, and wherever gold-bearing veins are proven to be rich and strong, means will doubtless be found to mine and mill the ores. Expenditure for development will not only prove what properties are valuable, but will make possible the production of ores at low cost and in ample quantity when mills are built.

Until very recently few companies had been organized in the province to carry on mining operations. Some were working under foreign charters, but of these the number actually engaged in the industry did not exceed half a dozen. In 1894, the first year in which mining corporations were empowered to sell stock at any fixed price above or below par, only five charters were granted under the Ontario Joint Stock Companies Act, and the aggregate of their authorized capital was only \$2,170,000. Under the same act, in 1896, the number formed was 22, with an authorized capital of \$12,775,000, and the charters of 12 of these, representing an aggregate capital of \$9,475,000, were granted during the months of November and December. In the first quarter of the present year, however, the record of 1896 has been far surpassed, 33 mining companies having been organized and chartered, with a total authorized capital of \$22,655,000. These facts furnish clear evidence of the advance that has been made in the mining affairs of the province, and of preparation for greater activity in the near future. They are evidence, too, of the confidence that has been established in the mineral resources of our province, in the face of a slump of \$36,640,000 in the market price of the stocks of 23 South African companies during the past year.

The report gives statistics of the areas of and moneys received for lands sold and leased during the calendar year, as well as statistics of the quantity and value of the mineral products of the province, and of the labor each branch of the industry employs.

In building materials there is a noticeable decrease, as a result of the slackness in building operations throughout the country during recent years.

The production of gold bullion has been considerably increased, but encouragement lies rather in the extent and promise of development work going on than in the yield of the one or two mills steadily supplied with ore.

The nickel and copper mines and works gave employment last year to nearly the same number of men as in the previous year, and, although only two companies were carrying on business, the output was not much less than when they there were four. Experiments with new processes to treat the ores and refine the metals continue to be made, and confidence is expressed that by the use of improved methods separation of the metals will be simplified and cheapened. The value of nickel as an alloy is now so well established that the demand for it is

certain to increase with every step made in lowering the cost of production.

The petroleum statistics do not show marked change from those of former years, but prices for crude have been well maintained. The reopening of the Bothwell field during the year promises to add substantially to the output of wells, but, as far as exploration work has been carried on there, it does not appear that the productive area of this once famous region is large. The borings on Pelee Island only serve to show that oil-bearing rock exists there; its area and richness remain to be proven. The gas fields of Essex and Welland maintain their output, more especially the former, but the bulk of the natural gas is taken for consumption by the cities of Buffalo and Detroit.

The gypsum mines and works and the salt works continue to be conducted upon a moderate scale to supply the home market; hardly an attempt is made to produce for export, as the United States is practically the only available market, and the duty on salt entering that country is prohibitory. One plant has been completed in connection with the Ontario People's Salt Works at Kincardine for the manufacture of bicarbonate of soda, which should prove to be an industry capable of large expansion.

The production of natural rock and Portland cements is well maintained, as compared with previous years; but, while the makers of Portland cement have been steadily increasing the output of their works, and improving the quality of the cement, they are far from being able to supply the requirements of the country. The raw materials for Portland cement are so plentiful in Ontario that we might be making largely for the export trade instead of importing for consumption.

Some smaller industries were started in the Province during 1896, which are well deserving of mention, for they promise to become important. The blast furnace at Hamilton, which started upon its first campaign early in the year, produced a total of 25,270 tons of pig iron. A graphite mill, erected at Ottawa for treating the ores from a large vein of the mineral discovered in Brougham Township, has commenced to run under very favorable auspices, and substantial orders for the refined graphite have been received from Germany. The works at Merritton for the manufacture of carbide of calcium have been successfully inaugurated, and their capacity has been gradually enlarged. A leading English journal, published in the interests of the chemical and metallurgical trades, which two years ago regarded the claims of calcium carbide for economic production of light and heat with grave suspicion, says in a recent issue, that very great attention is now being given to it, especially in Europe, that new variations in the process of manufacture are being suggested and patented almost daily, and "the signs are visible that within comparatively a short period we shall see an enormous extension of this insipid industry." The company formed to manufacture peat fuel in the County of Welland has been employed during a portion of the year in the production of moss litter for the American markets, under a contract for large quantities, extending over a period of years,

and the manager is sanguine that this year they will begin at the same place the production of peat fuel.

Among the papers which constitute this report are: Dr. A. P. Coleman's third report on the West Ontario's Regions; Notes on the Milling of Gold Ores, by John G. Hardman, of Montreal; the story of Silver Islet, by Mr. Archibald Blue, Director Bureau of Mines; Notes on Moss Litter, by Thos. W. Gibson, secretary of the Bureau; explorations on the boundary between Nipissing and Algoma, by E. M. Burwash, B.A., of Victoria College; the Summer Mining Schools, and a Descriptive Catalogue of Mineral Collections for the Schools, by Prof. Goodwin and his associates of the Kingston School of Mining; and the Seventh Annual Report of the Inspector of Mines, Mr. Aaron Slaght, of Waterford.

The maps accompanying the report have been prepared under the supervision of Mr. George M. Dawson, Director of the Geological Survey of Canada at Ottawa. The latest surveys of townships and mining locations have been laid down upon them from plans, field notes and maps supplied by Mr. G. B. Kirkpatrick, Director of Surveys of the Crown Lands Department here, the smaller of the two is known as the Shebandowan sheet, embracing the country from Port Arthur to the west line of Moss township; the larger embraces the north half of the Lake of the Woods.

It is learned from Director Blue that 4,000 extra copies of this report have been ordered to be printed in order to meet the great demand already made for them.

EXTRACTION OF IRON ORE.

EDISON'S SCHEME TO USE MAGNETISM.—DESCRIPTION OF THE PROCESS.

AFTER an expenditure of nearly \$3,000,000 and six years experimenting, Thomas A. Edison has demonstrated that his scheme for the separation of iron ore from sand by means of magnets is practical. By May 1st the wizzard's mill at Edison, New Jersey, will be shipping daily 1,200 tons of the finest Bessemer ore ever mined.

The date of May 1st for the starting of the works has been set by Edison himself, and nothing but a delay in the construction of a few machines for the bulking of iron dust is liable to prevent it.

Edison, New Jersey, is now known simply as a postoffice. When the machines are finished and the mill starts to work it will be known as the greatest ore-producing town in the world. The machinery is the largest ever built. The system is Edison's and the money invested is nearly all his own.

Six years ago the inventor announced that he had found a way to separate ore from rock by magnets. The scientific world took it up. The iron men investigated. When they both were through, the inventor was denounced as visionary by one set and an idiot by the other. The inventor proposed to crush ore and by passing it, powdered to a dust, over a series of magnets, to separate the particles of pure iron from the rock dust.

The iron miners and men with capital refused to take a hand in the scheme, and Edison formed a company with himself as president subscribed for nearly all of the stock, and went to work. The first thing he desired was a crusher that would take a rock weighing five tons, or about the size of a piano, and grind it to powder. He bought the kind in use in the great quartz mills of the Pacific slope and they burst when anything larger than a rock eighteen inches square was thrown into them.

Then he invented his own crusher—one that

would take a rock of the size wanted and mash it to pieces nine inches in thickness and pass them through rolls until they were as fine as moulding sand. Mill after mill, machine after machine, was invented and found to be of no value until the men in the iron trade were laughing at Edison. Edison is now laughing at the iron trade.

In the northern part of New Jersey, running from a point near Ogdensburg to Pennsylvania, is a stretch of low grade ore—about twenty per cent. ore and the rest sand. Good ore was taken out more than 100 years ago. Mines in the mountains about Sparta and Ogdensburg furnished the iron for cannon during the Revolutionary War. They were worked until after the Civil War, and then abandoned as of too low a grade to mine at a profit. Among these old mines on the top of the mountains Edison decided to locate. Feeling that his scheme was correct he partly bought the strip as far as possible and set to work. As the plant at Edison stands to-day it is a wonder of mechanical genius. Every known bit of skill, including the use of the X-ray, has been brought into play by the wizzard in his work, until the whole is a succession of wonders.

For the quarrying of stone dynamite is used, which breaks from the bottom and sides of the old mountain mine tons of rock at every blast. In a day a ton of dynamite is used. Hanging over the mine is a movable electric crane running on an overhead trolley wire. The crane is steel and is 200 feet long. After the blast the men at the bottom of the shaft attach cables to the rock. They are lifted up by the crane, and in less than a minute the big electrical monster has deposited them in an iron box half the size of a freight car. It raises these boxes to the top of the mine and the touch of a crank, like that on a trolley car, carries them to a waiting flatcar.

Two of the buckets are a carload. A motor hauls the car to the great crushing plant, a quarter of a mile away. Here the bucket is lifted by another crane and its contents dropped into the hopper to be ground. The hopper is like the lake of a grain elevator, simply a deep box. Two wheels of chilled steel, built solid and studded with knobs, revolve at the rate of a mile a minute. The wheels are about 40 feet in circumference and run as fast as the flywheel of an engine.

Their roar as they seize the hunks of rock can be heard for a mile. The knobs catch whatever comes in and a space of nine inches is between them. They "eat up a rock," as the inventor expresses it. They crush it, and below, as it falls, it is caught by two more wheels, and is crushed from pieces nine inches in diameter into pieces less than two inches in size. These are in turn caught by a third set and ground into bits, none larger than three-quarters of an inch.

From the last series of wheels the crushed stones are carried by a system of conveyors to a stock house. These conveyors are 2 feet by 8 inches, and 6 inches deep, being a chain of buckets running on rollers. They dump in the stock house in much the same manner as grain elevator buckets dump into grain bins.

From the stock house—a wooden building with a capacity of 20,000 tons—the three-quarter-inch stone is carried into the mill by conveyors, and passes through a series of rolls, where the whole is reduced to a dust as fine as the sand used by moulders. Conveyors take it as it leaves the final rolls, and carry it to the top of the mill, 96 feet high. From this point the separation of the iron ore begins.

From the top of the building to the ground are 400 magnets.

The magnets are made by binding bars of iron 4 feet long and 2 inches in diameter with cop-

per wire until they are 4 feet by 2 inches by 4 inches. The electric current is passed through the wire, and the iron becomes magnetized. The magnets are arranged so that the falling ore and sand from the top of the building to the ground passes about 2 inches from the face of the magnet. As the dust comes down the particles of iron are drawn to the magnets, while the sand continues like rain to the bottom of the mill. Below each magnet is a V-shaped board. The ore as it clings to the magnet becomes heavy and drops of its own weight. The board below, which acts as a shield, deflects the iron ore from the sand, acting as divider of the two.

The bricking of the iron ore was one of the problems for the inventor to solve. He now has it, and his work is complete. The iron ore is passed from the stock house to the breaking plant by conveyors, where it is dumped into troughs with screws, and thoroughly moistened and mixed with a composition of the wizzard's manufacture, and from there goes to the bricking machines. These machines fashion the material into brickettes about the size and shape of a Park row sinker, weighing about a pound.

The mill through which the sand and ore passes is perhaps the dirtiest place in the world. A grain elevator does not compare with it. The air is filled with sand until an electric light a few feet away cannot be seen.

The men who watch the machinery wear masks of the order of a fireman's smoke muzzle. The muzzle fits over the mouth and nose, with sponges in the openings. These are saturated with water and glycerine. Moving about in the dust the men look like a lot of animals. The capacity of the mill is 300 tons of ore an hour. Of this from 20 to 25 per cent. is iron and the remaining sand.—*Mining Industry and Review.*

ENGLEDUE LAND GRANT.

AFTER a prolonged debate on Tuesday, the Legislature, by a large majority, ratified the agreement made between the Ontario Government and Col. Engledue in Feb. last, granting him some 64,000 acres of land in the Rainy River district for a period of thirty years for the purposes of exploration and development. The matter was brought before the House by the Commissioner of Crown Lands, the Hon. J. M. Gibson, who in the course of a lengthy explanation said he proposed to show that the object the Government had in view was the encouragement of the introduction of English capital into our mining regions in the north-western part of the Province, that the action of the Government has already resulted in gratifying evidence of its success, that there has been an entire absence on the part of the Government of anything like want of good faith, and that so far as the imputation of jobbery was concerned or the charge that in making the arrangement they were conferring favors upon their friends in Ontario under the pretext of dealing with English capitalists, these accusations were entirely unfounded. The papers showed on the face of them that the sole motive of the Government was to assist and promote the mining industry in the north-western part of the Province by the introduction of foreign capital. It would be seen that in the letter of the Attorney-General, then Commissioner of Crown Lands, to Col. Engledue, dated 8th July last, the opinion was expressed that it was only with a view to the further introduction of British capital into the Rainy River district that the proposal could be even considered.

Much, continued Mr. Gibson, has been said as to the character of the arrangement entered into. It was, of course, a novel one. It was

such a one as the Government would never dream of entering into as a precedent for other similar arrangements. The Government had a special object in view for the advancement of our mining interests, and they would be unworthy of their position if they failed to seize the opportunity presented to them. The "blanketing" system, so much criticized, was one which the Government had from the first set their face against, and one which in every way possible had been discouraged in the administration of the Department of Crown Lands. They had insisted upon other tests in deciding upon the merits of applications. Other things being equal, the first discoverer and the man who showed evidence of bona fide intention to develop was given the preference, so that, whatever might be said as to the transaction now before the House, the Government refused to be accused of having in any way favored the system of "blanket" applications. The syndicate would, under the arrangement, expend large sums of money in thoroughly exploring the lands allotted to them. So far the methods of exploration, adopted in the Rainy River district, were not all that could be desired. Most of the discoveries were, what might be called "canoe" discoveries, made by explorers while traversing the waterways so numerous in that section of the country. The plan proposed to be followed by the Engledeue syndicate was entirely different. They proposed to run lines north and south and east and west across their locations at frequent intervals, and to clear tracks along these lines eight or ten feet in width, removing the moss and other surface material from the rock, and so prepare for making a thorough search for mineral veins throughout the whole of the allotted areas. If discoveries are made the veins or deposits will be followed up and prospected, so as to ascertain whether they are worthy of being further developed or not. Large numbers of men will be engaged in this work under the direction of one or more mining engineers. That is the sort of work which will set at rest the question of whether or not these particular sections are rich in minerals.

An entirely erroneous impression had been formed in some quarters as to the size of these blocks. He believed many people entertained the idea that the expression "100 square miles" actually meant 100 miles square, instead of only 10 miles square, and the actual area was about 30 square miles less. The actual area of Block A, north of Rainy Lake, is 31,000 acres, and of Block B on Shoal Lake, 15,000 acres, in all 46,000 acres, exclusive of 15,000 acres of water; half the size of the township of King in this county.

It may be pointed out, the hon. gentleman went on to say, that the amount of development which will take place upon these areas of land under the arrangement that has been made is about twice as favorable to the Province as the amount of development that we insist upon in the case of mining lands patented or leased in the ordinary way. The department requires that there shall be a certain amount of development during seven years after issue of the patent. The rate has been fixed at \$4 per acre, in default of which expenditure the sales or leases are liable to forfeiture. That had been for years the policy of the Government and the law of the Province with regard to mining development. But what was required in the case of the Engledeue syndicate? Taking the acreage as stated, we shall have \$3 per acre expended in three years, instead of \$4 per acre in seven years, under the mining laws of the Province. So that, in view of the thoroughness of the development and the speediness with which it is to take place, we are actually doing better for the Province than if these

locations had been taken up under lease or patent in the ordinary way. Not only so, but after all this development has taken place the lands are still to be purchased or leased from the Government, subject to all the provisions of the mining law, as if nothing had been done upon them.

Mr. Gibson quoted a number of precedents for the action of the Government, though novel in Ontario, it was a practice that had been carried out to a large extent in other countries, instancing the British North Borneo Company, the Royal Niger Company, the British South Africa Company and others. The later's field of operations covers 750,000 square miles or nearly eight times as much as the whole of northern Ontario, with such extraordinary powers, that if the like had been given to the Engledeue syndicate, he thought objection could well have been taken.

Even up to the present time, he said, there is more or less of the experimental regarding the development of the gold-bearing areas of this province. It may be said that we have one property only, the Sultana mine, that can be called a mine in the full sense of the term. In the western part of the province therefore, mining is still in an experimental stage, and what is wanted in the interests of the country is that the experiment should be a thorough one, so that it may be established how far the public can depend upon surface indications holding out to good depths. This is the kind of work to be carried out by the Engledeue syndicate, when they come to the country next month to commence operations on a large scale.

Of 35,200,000 acres of mineral lands only a twelfth part has been prospected, leaving more than 30,000,000 on which the explorer can hardly be said to have set his foot. In the block set apart in Rainy Lake section, consisting of 31,000 acres, there is not a single location to the north of it within 23 miles. North-east of it for a distance of over 100 miles there is not a single application filed or a survey made. There are 4,500 square miles of territory in that region, or nearly 3,000,000 acres, much of it mineral territory, which is absolutely unexplored. Going to the north-west for 60 miles in the direction of Lake of the Woods and westerly a distance of 50 miles, there would be found 3,000 square miles of territory, or, say, 2,000,000 acres, upon which there are only six small mineral locations or claims that have been surveyed, and there is not a mine on one of them. It is true that 5 or 6 miles east of the Rainy Lake area there was what was known as the Little Turtle Lake or Little Turtle River mining section, and 12 or 15 miles away was the Foley mine on Seine River. Take next the Shoal Lake area. It was some 23 or 24 miles from the Sultana mine, and 37 miles from the Regina mine. Immediately to the west there was an area of 50 square miles, or 32,000 acres, on which only one application had been made, and even in connection with that application no survey had been filed. To the south-east and across the intervening portion of the Lake of the Woods lay what was known as the Grand Presqu' Isle, containing an area of 320 square miles, or over 200,000 acres, in which only twelve small claims had been surveyed, covering less than 1,000 acres.

Previous to the taking of an interest by Colonel Engledeue in the Lake of the Woods district, little had been done in the way of interesting English capital there, and what had been invested was lost. It is important to bear in mind that in July of last year no property in the Shoal Lake district of Lake of the Woods had any market value and all value has since been attached to this district by the Mikado (Col. Engledeue), Cornucopia (Sir Roderick Cameron), the Yum Yum (an Ottawa syndi-

cate), and Messrs. Thomas Walsh and J. S. Palmer. But the old country values have been almost entirely attached by the work of Col. Engledeue, the others having made the district known in the United States and Canada.

The opportunity came of entering into a special arrangement with these capitalists, and they seized it. They would have been unworthy of the confidence of the people if they had shown weakness enough to be afraid to seize it. He ventured to say that never in the course of many years had this Government taken advantage of an opportunity which promised to lead to more important results than this arrangement promised. He ventured to predict that before another year passed the introduction of English capital and the development of our mining resources in north-western Ontario would become a matter of such extent that hon. gentlemen on the other side would be ashamed of the opposition they were offering to this agreement. What we have for many years been wanting is capital. Talk about Canada for the Canadians, and giving the Canadians a chance! That is just what they were doing. Every thousand pounds of British capital invested enhanced by so much the value of properties owned by Canadians in that part of the country.

In conclusion, Mr. Gibson observed that they in the older parts of Ontario looked to the newer portions of the Province with a great deal of interest and hope. There was unexplored territory there capable of maintaining a population of millions, engaged not only in mining pursuits but in agriculture and manufactures as well. Capital was needed to develop it, and of that development the older parts of the Province would share in the benefit. There would be a market for our meats, our breadstuffs and our general products, for if capital goes into that country population certainly will. (Hear, hear.) He looked forward to a realization of this at no distant date; indeed, he hoped to see in his own time that part of Ontario thickly settled by an industrious population, devoting its energies to mining, lumbering and farming. Surely in that event they in the older parts of Ontario would benefit by the change. He was in favor of a thoroughly progressive policy as regards the new Ontario.

A lengthy discussion followed in which many hon. members took part, and it was not until one o'clock in the morning that the House divided, which resulted in the Government being sustained by a vote of 56 to 26.

During the last few weeks a great deal of objection has been taken to the carrying out of this arrangement. It is sincerely to be hoped that all Mr. Gibson's bright promises will be fulfilled and that this "novel" deal will be the means of opening up the country and giving an impetus to the mining industry of Canada.

THE MCKINLEY TARIFF.

The following is the tariff rate on mining products in the new McKinley bill: Lead bearing ores, 1 cent per pound on the lead contained. Lead duties are to be estimated at port of entry, bonds given in double the amount and the duties liquidated in the end after government assay. Lead dross and refuse lead, 2 cents per pound; sheet, pipe, shot, etc., 2½ cents; metallic minerals, crude, including monazite sand, 20 per cent; mica 3 cents per pound and 15 per cent.; nickel, 6 cents per pound; quicksilver, 10 cents per pound.

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OUR FOREIGN CAPITAL.

THE opening of mining brokers' offices in Buffalo, and other cities on the other side of the line for the conduct of Canadian business, is an indication of the trend of a quantity of United States capital for the development of our gold fields. It is probable that the Canadian money available for that purpose is being exhausted. Canadians have contributed freely in good faith in the richness of their country's mineral wealth, but the requirements are so large, the cost of development, transportation and machinery so much beyond the means of a country, though rich in itself, not yet overburdened with millionaires. For the opening up of these vast regions, outside capital is required. Our neighbors already have invested largely, England has been pouring in her millions, and other countries are joining in the procession. The uncertainty of investments in the United States, and the disturbed condition of affairs in South Africa have all tended to point to Canada as the safest and most profitable field for investment at the present time. The minerals are in our rocks, all that is required is money to take them out, and this will, without doubt, to a large extent, come from the United States, not only in large sums, but in small ones as well. The fame of Canada's mines has spread far and wide, and operations at a good mine need never remain at a standstill for want of foreign gold. It is said that an agent of the French Government is in the Kootenays, Paris and Berlin capitalists are buying Slocan and Trail Creek properties, and even Australians are being attracted hither by the glitter of our ore.

THROUGH CROW'S NEST PASS.

WHATEVER may be said as to who should build the Crow's Nest Pass Railway, the agitation will have been beneficial whatever the result may be. The C.P.R. is apparently going on with the construction of the railway, trusting to come out all right when the time comes, meanwhile occupying the pass and making con-

siderable progress with the work of construction. If the Government contemplated giving a large cash bonus or making other extraordinary concessions, such will not now happen; it is certain that the C.P.R. will build the road, but that they will ask or receive anything like what was contemplated previous to the agitation is extremely unlikely. The country will pay less and receive more for its money than would have been the case had the matter not been brought so prominently to public notice.

CANADA'S ALIEN LABOR LAW.

IT is asked, what effect will the passing of a Canadian Alien Labor Law have upon the mining industry? Thousands of American miners, if they wish to continue to work in Canada, will have to take up their permanent residence in this country by removing their families from over the border, or make room for British subjects who are seeking work but unable to obtain it. From the Western States, miners are flocking in crowds into British Columbia; Rossland, Slocan, and every other camp is full of them. Western Algoma counts hundreds of its laborers from Minnesota. Unless there is reciprocity in the matter of labor, Canadians have a right to claim that they shall have the first chance to obtain work in their own country. It is not likely that any question would have arisen between the two countries with regard to alien labor but for the introduction of the Corliss Bill into the United States Senate, but it having unfortunately arisen, Canadians are justified in such action and have every reason to defend themselves against the vexation and tyranny of her high-handed and powerful neighbor.

THE NEW MINING BILL.

THERE has been a good deal of criticism on the bill introduced by the Hon. J. M. Gibson to "further improve the Mining Laws," which received its first reading on the 31st ult. It is likely in many respects to be much modified on its second reading which has been looked for every day this week. The bill gives the definition of "mining rights" as meaning the ores or minerals on or under the land where they are dealt with separately from the surface of the land. It is provided that certain lands may be withdrawn from sale, location or exploration as being valuable for their pine timber, or for any other purpose. Then follows the conditions of applications for mining locations which shall not exceed for any one person in any one calendar year, 320 acres, or for any firm, syndicate or company more than 640 acres. In territory known to be rich in mines or minerals applications may be limited to one or more locations of forty acres, or may be withdrawn pending exploration, with power to increase the price or rent rate. The working conditions under purchase or lease are that not less than two dollars per acre shall be expended during the first two years, and not less than one dollar per acre during each remaining year of the seven. Surface and mining rights are defined; also rights of a licensee; what shall be considered as marking or staking out a

mining claim; and not more than one claim to be staked out on the same vein. One provision is that a valuable waterpower lying within the limits of a claim shall not be deemed as part of it for the uses of the licensee. A mining claim shall be a square of fifteen chains, or 990 feet, containing twenty-two and one-half acres. Each mining claim shall be laid out with boundary lines running north and south and east and west astronomically, and the measurements of each claim shall be horizontal, and the ground included in each claim shall be deemed to be bounded under the surface by lines vertical to the horizon. A proviso as to the working conditions in northern districts is a monthly report of all extensions, actual mining operations to be carried on during at least eight months of the year. An abandoned mine has to be securely fenced. The discussion that is sure to take place on this bill is awaited with interest.

COMPETENT MINE MANAGEMENT.

PEOPLE who cite the large proportion of failures of twenty or more years ago in gold mining in the western portion of this continent, overlook very pertinent facts. Every new country unacquainted with mining is apt to lose its head—at least a considerable proportion of the people lose their heads—over the remarkable riches obtained from the successful ventures made. Then, too, such countries become the victims of sharpers who float schemes for which the foundation is almost baseless. This was the case with many of the mining regions of the far western states and territories, and there is danger of it being the case, though in lesser measure, in Canada. Then, too, America's western ventures in gold mining were made when metallurgy was not understood, and many were the failures of good mines through lack of the managers understanding how to mine and treat their ores. Since then, however, the progress of mechanical devices and of chemistry as applied to ores has been so great, the ores can now be treated that a few years ago were worthless and added vastly to expense of extracting the then paying ores. We have now very many trained and experienced mining engineers and metallurgists. Perhaps in Canada we have not enough of them to look after the interests of half the solid mining companies launched—the other companies pass away and little is noticed of their departure, for they die before ever beginning to live. Every mining company or syndicate should engage a really competent mining engineer to determine and measure the ore which may be considered to be developed and to determine the best method of treating the ore. This work requires skill and experience and the man possessing these should be well paid. It is not always that a mining engineer is at the same time a good metallurgist; in fact it is better to employ an engineer and metallurgist, for one that thoroughly understands the one business is almost sure to be defective in the other. Reduction works should not be erected until the ore of a mine is tested and its exact nature determined, so that when the plant is erected

it will be adapted most economically to ore to be treated. To go to a machinery man and order a plant on general principles is not the wisest course. It may turn out right in many instances, as in ores that are free-milling, but it is best to employ a competent metallurgist to select and erect the plant: he will, in the cost of construction, save far more than his salary. There should be as little as possible of haphazard work in the fitting out of a mine.

MINING REGISTRATIONS.

This week a bill, introduced by Mr. Hardy, has passed its third reading in the Legislature, regarding the registration of instruments in respect of unpatented lands. Instruments affecting unpatented land in Muskoka, Parry Sound, Nipissing, Thunder Bay and Rainy River are not hereafter to be registered in a registry office, but a caution shall be lodged with the Local Master under the Land Titles Act. After the passing of the Act, the registration of any instrument affecting unpatented lands in any of the said districts shall cease to have any effect after two years from the passing of this Act. The Act also provides for the valuation of mining lands, where compensation is claimed out of the Assurance Fund. Additional payments into the fund by transferee are to make up one-fourth of one per cent.; entry to be made at additional payment, and in such entry to show the total amount which has been paid in respect of such land. Patents devising mining lands for a term of years to be registered in the Land Title Office.

NOTES AND COMMENTS.

MINE managers are sometimes men who know a little—or very little—and who employ men at the lowest wages they can induce men to work for—an easy matter when men have no choice. Such bosses do not know a good workman or what makes a good day's work. It is such bosses that induce the belief that the Miners' Unions appear to hold, *i. e.*, that a rate for miners should be fixed, which if it allowed the poorest workman to get more than he earned would, at any rate, prevent the best workman from being paid the minimum which an incompetent miner would accept. The union and the know-nothing bosses are both wrong. A sliding scale could be made by which poor workmen could get a fixed minimum and good workmen much higher wages. Good mine managers generally find out the relative value of their men, and the fact with graduated wages would be a stimulus to many who, smarting under a sense of injustice, prefer to not do more or better work than the poorest workman does where a uniform rate prevails.

THE capacity of each furnace used in iron production has increased four fold in twenty-five years without any increase in the cost of operating the furnace, says a contemporary, the *Mining Industry and Review*, of Denver. What is true of iron production is to some extent true about smelting other minerals. The old methods and the old furnaces in use twenty years ago would be ruinous now in competition with the improved appliances now used on this continent. It took years to learn that a clay bottom to a furnace is better and cheaper than brick. Gas produced from a ton of coal will do twice the work in roasting that a ton of coal

itself can do. Large diameter rolls with narrow faces run at high speed are better for pulverizing than the old fashioned rolls with broad faces. Edison uses in his New Jersey iron ore concentrating mills, rolls sixty feet in diameter with a capacity of five thousand tons daily. These recent improvements which have taken long to learn are the outcome of long practical experience of men actually engaged in mill and metallurgical work, and they have been accomplished little by little.

TORONTO BROKERS ORGANIZE.

ON Thursday afternoon an informal meeting of a number of Toronto mining brokers was held in the offices of Messrs. E. L. Sawyer & Co. to talk matters over with the idea of more concerted action with regard to mining stocks. Some twenty or thirty mining men were present, including some of the most prominent brokers, who after a good deal of discussion decided to appoint a committee to formulate a scheme to carry out the objects of the meeting. The gentlemen named for that purpose were Messrs. Sawyer, Sharpe, Bleasdel, Wallace and Thompson.

While there was suggestion of establishing an Exchange it was pointed out that the mining industry was not sufficiently firmly established to warrant such action at present and would probably prejudice sale of mining stock on the Toronto Stock Exchange. A good deal of dissatisfaction was expressed at the action of some of the brokers who advertised and sold stock at a less price than it could be bought for from the various companies, also of advertising stock they did not possess to draw investors and then try to sell them something else, as well as other practices which they considered should be strongly condemned. The brokers regret that certain papers "bear" stock to the great disadvantage of mining brokers and mining properties in general.

A meeting was held in the office of THE CANADIAN MINER, some months ago, for a similar purpose, without bringing about any of the reforms called for, and results will show whether any practical suggestions can be made that will produce a better state of affairs and a closer union of brokers than, it is claimed, exists at the present time.

THE MADOC GOLD BELT.

ACROSS the counties of Hastings, Addington and Frontenac and eastward and westward over a considerable distance on each side extends a remarkable mineral belt several miles in width. The country is a beautiful one and is generally well settled, abounding in towns and villages and with numerous farms that indicate the richness of the soil. Here and there the rock crops out with indications of gold, silver, lead and iron. Many and wonderful have been the "finds" made in this country—sufficiently rich, in fact, to be designated as one of the richest gold belts known. Free gold, gold with sulphurets, mispickel are all included in the veins thus far discovered or operated. The refractory nature of some of the ores for a long time hindered development, but the advances now made and the fine results shown by the modified bromo-cyanogen process being perfected at the Deloro mines in this region, owned by a very wealthy English company, which has already spent hundreds of thousands of dollars in plant and reduction works, promise a great future for this picturesque and immensely wealthy section. That immense rift, the lovely Bay of Quinte on the south is but an indication of the fissured veins that parallel to it lie one after another to the northward, the mechanical cracks that with tufa or tuff show the enormous activity of the

archaic forces at work on this southern verge of the old Laurentian continent that lay with no great elevation the only land above water in the entire western world. Subsequently glacier swept, the rock, except for the scanty covering of recent centuries, show on the surface rich specimens of free gold, and ore containing free gold is the prevailing character of some of the veins as far as they have been developed. But it is to the mispickel veins that this region will probably owe the great celebrity that it is likely to attain in the immediate future. Men with small capital cannot alone develop this source of wealth. Capital in very considerable quantity is required and the best mechanical and metallurgical skill.

The Deloro company, the Sovereign, each possesses hundreds of acres in various localities in this rich mineral belt, and include what prospectors would judge to be some of the richest properties in the entire region. The veins are of various kinds, some bearing free gold and others not; some rich narrow fissures and others wide bodies—so wide and rich as to astonish those acquainted only with the veins from which so much of the gold wealth of the world has hitherto been obtained. Another advantage the region has is its neighborhood to the centres of commerce, wealth and population in Eastern America. A prospective investor has not to go or send some one for him, thousands of miles away, but can readily without loss of time investigate the properties.

The varied and picturesque gold belt embraces reaches of slightly undulating land, grandly sloping hills and abrupt precipitous elevations that reach sometimes several hundred feet above the surrounding country. Tunnelling in many cases is admissible and advisable in point of economy, but no doubt the sinking of shafts will generally be found the most advisable way of reaching the stores of wealth contained in this gold threaded region.

THE GREAT IBEX OF SLOCAN.

OWING to the enormous quantities of ore blocked out, claimed to be nearly \$2,000,000 worth, the directors feel justified in advancing the price to 40 cents after May 10th next. This mine is now in a position to ship largely and continuously, and judging from the result of both assay and mill tests the success of the mine is beyond question, and in the opinion of those who know bids fair to become one of the best dividend-payers in the Slocan.

GERMANIA GOLD MINING COMPANY.

THE Germania Gold Mining Co. is placing 50,000 shares of its Treasury stock (marked "special") on the market at 20 cents per share, upon which the company is guaranteeing a yearly dividend of 10 per cent. on the allotted price of stock. The authorized capital of the company is \$1,000,000 and its directors are Messrs. William Roos of Berlin, president; Hon. S. Mercier, New Hamburg; Hartman King, Berlin; Fred C. Stone, Preston; Aug. Long, Dr. H. G. Lockner, Dr. C. L. Pearson, John R. Eden and H. M. Andrews of Berlin; J. B. Hughes, Waterloo; J. A. Smith and Robert Scott, Rossland. The company has two claims, the "Chief Seattle" and the "Electric" on Green Mountain four miles north of Rossland. In the later under the superintendence of Mr. Johnson, the company's expert, development work has been going on day and night since October last and he guarantees one of the best mines in British Columbia.

From telegrams received in Toronto this week it is reported that the Golden Cache mine has been sold for \$3,000,000, the first payment to be made next week

LOCAL NOTES.

It is reported that oil has been struck at Cameron Corners, Parkhill district.

Campbell, Currie & Co., have just received a telegram that another rich strike has been made on the "Pug."

Included in the supplementary estimates submitted to the Legislature on Friday morning were \$2,000 for furnace and assayer at Belleville; \$2,500 for the Kingston School of Mines; fire rangers, \$3,000, and pulpwood survey, \$1,000.

Mr. Blue, Director of the Mining Bureau, has been requested by Johann Froescheis of the Lyra Lead Pencil Co., of Nuremberg, Germany, to be put in communication with the Ontario Graphite Co., from whom he desires to have samples and prices of graphite.

The Toronto Tudor Gold Mining Company has sold the Craig mine, near Bannockburn, to the company represented by J. D. Edgar, Oronyatekha, and other capitalists for the sum of \$47,000. This is a mine that was purchased a few weeks ago from Peter Vankleek, James Maitland, and others for \$12,000.

The members' invitation circular, giving the details of the meetings in August next in Toronto of the British Association for the Advancement of Science, have just been issued. Among the ten sections is one devoted to "Geology," of which Dr. G. M. Dawson, C.M.G., F.R.S., is president, and will hold its special meeting on August 21st.

Mr. Wm. Murdoch, the well-known civil engineer and surveyor, returned to the city on Saturday from Jackfish Bay, where he has been laying out a town plot and examining some mining propositions in the interest of a Toronto syndicate. It is situated on a sloping piece of land adjoining the great horseshoe bend on the Canadian Pacific Railway.

Messrs. W. H. Bleasdel & Co., of Toronto, have received the following letter from the superintendent of the Spokane-Kaslo Mining and Milling Co. He says: I have just come down from the Spokane-Kaslo last evening. We have not done much in the tunnel the last few days as we have been changing our system from wheelbarrows to steel cars and steel tracks (T rails); will now push along rapidly. The tunnel looks fine on its face, so does the last drift for 85 feet to the left, all in well mineralized substance. As soon as we get about 40 ft farther, will cut the lead again, then with great hopes of getting shipping ore in quantity. Will write you again in a few days. Yours respectfully, W. A. DAVIES, Kaslo.

RICH PLACERS ON THE YUKON.

MR. WM. OGILVIE, F.R.C.S., connected with the Alaskan-Canadian survey, and who has been shut up about Fort Cudahy all winter, being unable to get out owing to the heavy snowfall, has sent a number of reports to the department during the past few months, pointing out the mineral wealth of the Yukon Territory. Last fall he suggested that additional protection should be given to the speculators and those entering the country. The result of this is that an additional company of Mounted Police is now being sent out there from Regina. Mr. Sifton has just received from Mr. Ogilvie a remarkable report as to the vast discoveries of gold which are made there. Mr. Ogilvie says that at Clondyke, which is some 60 miles south-east of Fort Cudahy, and further into British territory, some men are making from \$1,000 to \$2,000 per day. This is done by placer mining in the most primitive methods. The report is altogether a most remarkable one showing gold to be found in abundance.

ONTARIO NEWS.

Rat Portage.

A contract has been let to clear out the Rat Portage mine.

Mr. Paul Proulx, one of the original owners of the Regina mine, and a well known local hotel keeper, is dead.

The Sweden mine has made a rich strike at the depth of 96 feet; improved development machinery has been ordered.

The machinery for the Mikado mine has not yet arrived, and is not likely to reach here until opening of navigation.

T. C. Gilmour, Q.C., of Winnipeg, will open an office in Rat Portage and represent the London-Canadian Mines Syndicate.

Operations at the Monarch mine will recommence as soon as the weather permits. The shaft is 31 feet deep and the vein about 8 feet wide.

Mr. F. Stewart, of the Ontario Gold Fields Mining and Development Co., of Toronto, is securing locations and submitting propositions to his company.

Messrs. McMicken and McBean, of Winnipeg, who have been out trying to locate some properties, report great quantities of snow between the hills. In many cases the hollows are so full of snow that they are hardly distinguishable.

Ontario's mining centre has decided to celebrate the Queen's Diamond Jubilee in Rat Portage in right royal fashion. Ex-Mayor Barnes and Mr. P. Hobbs, with an influential committee, have taken the matter in hand, and a public meeting has been called to discuss ways and means.

The Bath Island Mining Co. has taken over Bath Island and are actively at work. Messrs. John Galt and John Gray, of Toronto, have been here acting for the company and have let contracts for drilling a 150 ft. shaft, with cross cuts and drifting. Mr. John Ferguson, who is also interested, has arrived from the west.

Rat Portage is full, say the local papers. Although there is \$750,000 worth of building under contract and more in prospect this spring, there are twenty laborers, carpenters and other artisans to every one required, and every train is bringing in numbers of men looking for work, having injudiciously crowded in before the season opened, it is much later than further west.

The Colcleugh Gold Mining Company have on exhibition in their office, says the *Rat Portage News*, some very rich ore which assays on the surface from \$90 to \$750, and from \$405 to \$2,172, at a depth of 35 feet. Indeed so rich is the ore that great nuggets of the precious metal can be seen plainly through it so thickly that not a single piece is wasted, the ore being tied up in sacks as it is taken out and securely kept. Some 31 tons are now ready for the mill and on the opening of navigation will be brought to the reduction works here for treatment.

About half of the first issue of \$60,000 of Scramble stock has already been taken up, though the prospectus is not yet in the hands of the public. It must be a busy place at the mine just now. The veins are being stripped; and this has already been accomplished from the shaft—which is in the centre of the property—to the north-east boundary, where some fine ore, rich in visible gold, was struck. Another shaft has also been started just east of the present one, and five new buildings are going up. The machinery for the mine is now on its way here, and in addition to the mill, air compressors will shortly be in operation there.

Messrs. R. H. Ahn & Co., have removed into commodious new offices in the Oddfellows'

Block, Fort Street, to meet the requirements of their ever increasing business. The local paper describes them as follows: "The offices are laid out on the plan now generally adopted by chartered banks and the large loan companies with a separating glazed glass partition and high counter running between the staff of clerks and the customers, while the private office of the members of the firm is at the farther end of the suite, which extends the whole depth of the block, about forty feet. The offices are finished in oiled native wood of a light color, which, with the glazed and stained glass of the different offices and the prettily colored metal frescoing of the ceiling, gives a peculiarly handsome and bright effect. The offices are distinctly modern in their style and finish, are metropolitan in appearance and altogether are such as can seldom be seen outside the larger cities. Messrs. A. G. Plunkett and Campbell, of the clerical staff, have arranged the general office in such a way as to greatly facilitate the work of their department, and even in the window are arranged a tier of shelves for the omnipresent specimen. Mr. Ahn and Mr. Alan Sullivan are indeed to be congratulated on the quarters they have established for their business."

The second mill test of the Le Roi ore has turned out a complete success. The following is from *The Miner* of this place:—

Captain William Hall, superintendent of the Le Roi mine, was asked yesterday by a representative of *The Miner* if he had yet completed his report on the recent test of Le Roi ore at the O. K. mill.

"No," said he, "I have not yet completed the tabulation of the figures. I have all the figures, but have not yet put them in the form of a report. However, I am glad to give you the wording of a telegram I have sent to Colonel Peyton, managing director of the company. Here it is:

"The test was a complete success. We saved two hundred dollars and one cent on the plates."

"This really tells the whole story. We put 51 tons of ore from our waste heap through the O. K. mill. I threw out all the good looking pieces of ore and took only the worst looking rock. Its average value, as determined by battery samples, was \$8 a ton in gold. We saved a fraction over \$4 a ton on the plates; the tailings ran from \$1.60 to \$3.20 per ton, but I have not figured out the exact average. I had 100 assays made from first to last, and I believe the test was exhaustive.

"You may say the concentrates went high enough to pay the cost of both milling and smelting, leaving the gold saved on the plates a clear profit.

"I consider the test settles the question of the milling and concentration of the silicious ores of this camp. Certainly so far as Le Roi ores are concerned I no longer have a shadow of doubt on the question."

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Rainy River.

The Lake of the Woods Powder Company, Toronto, is being incorporated with a capital stock of \$20,000, to manufacture dynamite and other explosives.

Newspaper reports during the past few days accredit John D. Rockefeller with the intention of extending the D.M. & N. Railroad west to the Red River valley and north to the Rainy Lake country during the coming season.

American capitalists, including General Alger, ex-Governor of Michigan and Secretary of War in McKinley's Cabinet, have purchased a two-thirds interest in the Pine Portage mine a couple of miles east of the Sultana. A 10-stamp mill is on the property, but it is out of

repair, and it will take some time to get it in running order again.

The Seine River and Rainy Lake Exploration Company is a new corporation recently organized in Duluth. It is a development company and will operate in this region. The well known Ed. L. Ward is general manager of the company.

The property known as HP 301, on Upper Manitou Lake, discovered by Crawford, of Koochiching, and others, and sold for \$15,000 cash, is now under development, and is showing up wonderfully well. At 60 feet free or visible gold has been struck in great quantities.

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Seine River.

Ferguson's mining camp on Shoal Lake has been shut down by orders from England.

Development on the Foley mines in the Seine River district country steadily continues. Ten shafts have been started on the several veins on the property, and four of them are down a considerable depth. Two more gold bricks valued at nearly \$2,000, were taken out last week and Mr. C.G. Foley claims that the Foley mines will turn out a gold brick every day worth \$1,000. They are putting in a new saw mill of 25,000 capacity, which will be running by 1st June.

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Sudbury.

Men are at work day and night at the Hub gold mine.

The Canadian Copper Co. has its shaft down to the twelfth level, timbered and ready to hoist.

We understand an expert is now at the Crystal mine superintending the fitting up of the stamp mill.

The Moose Mountain Mining Company will shortly commence operations on their property on Lake Wahnapiatae.

Mining men say that the new Mining Bill is a death blow to this district as far as gold mining is concerned.

Messrs. Price and Kilpatrick are building more camps, and will put on a stronger force as soon as the snow has disappeared.

Mr. John Lee, of Sault Ste. Marie, Ont., who has been mining in the Western States, has decided to locate in the Lake Wahnapiatae district.

John T. Cryderman has completed the freighting of the Wahnapiatae Navigation and Transportation Co.'s steamer, and she is now being fitted up.

The Crystal Gold Mining Company's steam saw mill started cutting this week, and there is plenty of work in sight to keep it buzzing along for months.

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Wabigoon and the Manitou.

(Special Correspondence.)

Prospects are brightening considerably amongst the mines, every day showing better results, and every shot deepening the faith that so many have in the ultimate richness of this remarkable mineral belt. The Jubilee mine, H.P. 301, on the Manitou, Messrs. Kirby, Howard and Caldwell's property, (not the Jubilee mine shown on the plan of the Wabigoon town site, three miles away), is forging ahead, and promises to be one of the richest in the whole region, the rock being exceptionally good looking and studded with nuggets and veins of free gold. The pay streak was struck after the treatment of the company's first carload of ore shipped in January, the proceeds of which determined the owners to put down the necessary plant for extended working, and this is decidedly encouraging. Mr. William Cald-

well, the manager, has drawn out plans and specifications for the erection of a commodious shaft house and the laying down of double-acting horizontal engine, air compressor, and hoisting plant. The material and plant are expected daily, and Mr. Kirby has secured the services of 16 teams to get the outfit out to the property, some 20 miles south of this place.

The Neepawa mine is another of our good things. Work is proceeding merrily on that property, and Mr. J. A. Davidson, one of the proprietors, informs us that every blast brings out free gold. He furthermore exhibited some splendid samples of rock, surprisingly rich in every appearance. Mr. Roche Oleson, the discoverer of the above property, is now at work developing three other of his locations. From every appearance of the samples brought in these will rank in the first row of our Manitou prizes. Mr. Oleson is more than satisfied with the showings, but declines to say much until further developments prove the definite richness of the veins. In addition to his mining properties, this gentleman runs a general freighting business, and to him is due the credit of opening out the Manitou route from this place, having at considerable expense and trouble made this road practicable. Lately he has consolidated with Mr. Astley, our other team owner, and between them the general freighting and passenger carriage is well attended to. Carload after carload of lumber, machinery and supplies are being unloaded, almost every train that passes leaving and taking away cars. Twenty-eight teams will be employed to cope with the rush, and even with this number it is not at all certain that the huge amount of goods awaiting shipment will get across the lake, owing to the early break up of the ice.

A first class find was made by Mr. D. L. Larson, the Wabigoon pioneer, last week; nothing seems to daunt our veteran townsman, even five feet of snow deters him not when quartz is in the air.—WM. D. AARON.

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Port Arthur.

Ten loaded teams have gone up with the machinery for the Preston mine at Turtle Lake.

Judging from all indications there is to be a revival of silver mining in the district west of Port Arthur.

The machinery and supplies have all been taken safely into the Sawbill Lake group of mines and in the course of a few days now communication will be cut off for a time, owing to the spring break up.

Reports from White River, some 300 miles east of Port Arthur, say that gold has been discovered in more than one instance, and it is also said that splendid samples of iron ore, going 62 per cent. metallic iron, have been brought in.

At the Empress mine the adit level is being pushed forward still. Drifting on a couple of the veins already tapped has been prosecuted for some time and they are in 28 or 30 feet. Sufficient ore has been put on the stock pile to warrant the starting of the mill, and it is expected that the stamps will be in operation next week.

The Algoma Herald makes the announcement that the east-end Silver Mountain mine is to be worked. The old Liverpool company worked the property extensively for several years and met with a great measure of success shipping large quantities of rich silver ore. They closed the mine down some four or five years ago in the face of a good showing of the white metal and never since resumed work. Now it is the intention of the new company, the Argentine Mining and Reduction Co., to open the mine again and work it vigorously. They also propose erecting a reduction works on the location to treat the ore, thus saving the

heavy transportation charges that were paid in former days. The Argentine company is also endeavoring to arrange with the West-End Company whereby the ore from the latter company's mine will be treated in the proposed reduction works.

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Nipissing.

Dan O'Connor, the lumberman of Sudbury, is preparing for the boom by erecting a substantial hotel on Lake Wahnapiatae and the purchase of a steamer for passengers and freight.

Some twenty-five gold mining claims have been taken up around Lake Wahnapiatae, some have been partly developed and the ore assays well.

Work on the Crystal mine is being pushed forward with great vigor. The main shaft is now down 100 feet, a side drift 100 feet in length tapping rich rock has just been completed, and the machinery for a 10-stamp ore mill and a portable saw mill is now on the way to the mine.

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Jackfish.

A Toronto syndicate is laying out a town site near Jackfish, about a mile and a half northwest of the C.P.R. main line. Messrs. Murdoch and McDougall, of Rat Portage, are doing the work.

At the Empress mine the vein has been cut into on the drift and the ore is turning out of good quality and quantity.

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Madoc.

John Eagleson has sold the mineral right to his place—lot 13 in the 10th concession of Madoc—for \$5,500.

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North Hastings.

The Toronto Tudor Gold Mining Co. now owns the Craig mine and is offering 10,000 shares at 25 cents.

It is rumored that a company, with a capital of \$30,000,000 will buy up mineral land here, and will erect their mill in Marmora.

Col. S. S. Lazier claims to have an offer of £50,000 from an English syndicate for his silver mine in Barry township, Frontenac county.

Mr. A. M. Chisholm is mining actinolite in Kaladar and has shipped two carloads to New York to ascertain what machinery is required for its proper treatment.

No definite step can be taken for a week or two with regard to the section of railway between Madoc and Eldorado until the cost of the work is estimated, when the probable business for the road will be gone into and the matter decided.

It is expected that a great deal of prospecting will be done this year in the North Hastings district, in Elzevir and Tudor townships many test pits are to be put down during the coming summer. All around the districts in which gold has been discovered, prospectors are thick as grasshoppers. At L'Amable, a vein of copper pyrites bearing gold, is said to have been discovered. A very fine sample of magnetic ore has also been found on the same property. In conversation with the Sun correspondent, Mr. D. E. K. Stewart, of Madoc, an experienced miner, said he attributed past failures in the mines to mismanagement. The mine, now worked at Deloro, was at first ruined by the extravagant and lavish expenditure in experimenting done by the then managing director and board of the company. Mr. Stewart was working the mine at Malone in 1880 and 1881, and treated ore from Deloro, saving 80 per cent. of the assay value, and enough arsenic to pay for the milling. The process

used was simple enough. The ore was crushed by stamp in batteries, and concentrated with Frew belts. The concentrates were then placed on a drying floor over a furnace, and from there went to a revolving cylinder furnace. The ore was discharged at the lower end of the furnace, and placed in amalgamators, and amalgamated with mercury, and the gold extracted from the mercury by the ordinary retorting process. While the ore was in the cylinder the fumes passed in three arsenic chambers, and thence through a 90-foot brick flue to a stack 20 feet high. The arsenic was deposited in the chambers, and zinc and sulphur and other fumes passed out. The process now in use for the treatment of arsenical ores, said Mr. Stewart, will extract more gold from ore, but leaves the arsenic in the crushed ore or tailings for future treatment which will involve a separate process. Ore from both the Craig and Bannockburn mines had been treated successfully at Malone, and proved to be good ore. Mr. Stewart said that one great trouble with assays was the fact that owners sent "specimens" to be assayed, and based their calculations as to the value of the mine on these specimens and the assay. A vein assaying \$6 to \$12 per ton he considers to be a good one if the ore is uniformly the same, and the vein from 3 to 4 feet wide. Mr. Stewart thinks that the outlook for both arsenical and free-milling ore is generally good, and they will pay well if properly worked. As an instance he cited the case of a mine in North Carolina, which has been worked for 20 years, and averaged \$9 per ton from a vein 4 to 6 feet wide. From his own practical experience the mines would pay by proper treatment, as the ore is of a uniform richness in both gold and arsenic, and in the largeness of the veins, and there is enough ore in sight to warrant expenditure.

BRITISH COLUMBIA.

A company is being incorporated to supply electric light to Rossland and Trail.

In the provincial estimates just brought down the revenue from mines is placed at \$90,000; last year it was \$75,000.

The proposed new mining bill before the Legislature has been withdrawn and a committee appointed to draft a new bill.

An arrangement has been entered into between Mr. Harry Symons, of Toronto, representing an English syndicate, of which Mr. J. H. Rothschild is one of the chief promoters, and the City Council of Vancouver, to erect a smelting and refining plant at that point on condition that free water and exemption from taxation were granted. The work of construction is to be commenced within three months, and the smelter is to be capable of treating at least 500 tons of ore per day, while the refinery is to be equal to treating the output of the smelter. The plant is to cost \$600,000.

WOULD CONTROL KOOTENAY.

There is a rumor on the streets that the Canadian Pacific Railway Company has obtained an option on the Nelson & Fort Sheppard and Spokane Falls & Northern railway systems. The purchase price is said to be seven and a half million dollars.

The purchase of Mr. Corbin's railway would give the C.P.R. the entire control of all transportation lines in Kootenay until the Nelson and Bedlington road is built to connect with the Great Northern railway at Bonner's Ferry.

VANCOUVER COKE.

The Hall Mines Company has contracted for a few carloads of Vancouver Island coke which will be used as a sample and if found satisfac-

tory may be extensively used, providing satisfactory arrangements can be made with the colliery owners.

There is a probability that the Dunsmuir's colliery will establish coke ovens at Alexandria, about five miles south of Nanaimo.

COAL MINES.

The report of Mr. S. Dick, inspector of coal mines, gives the output as:

	Tons.
The Nanaimo Colliery..	320,575
The Wellington Colliery.....	339,896
The Union Colliery.....	233,610
The West Wellington Colliery..	800

Total output for the year 1896 894,882
The export in 1896 was 634,237 tons.

SOME REMARKABLE FINDS.

The Gold Commissioner at Barkerville, in his report on mining in the Cariboo district just published, says: Some 250 leases have been applied for during the season and some very promising finds have been made. At Pleasant Valley creek from ground 25 feet square and 15 to 20 feet deep \$1,000 was obtained. At Big Valley, dirt running \$2 to the pan was obtained, and on Bear River is reported a find of \$4 to the shovel. The Cariboo Hydraulic Company's lease has turned out \$127,000 for the season.

ROSSLAND STOCK EXCHANGE.

The main features of the proposed by-laws for the stock exchange are:

That the stocks called in the exchange shall be selected by the listing committee.

That the exchange shall be open with a call at 11 o'clock and that there shall be another call at 2.

Commissions shall be charged and paid in all transactions, and the minimum rates shall be: Stocks selling under 50 cents, $\frac{1}{2}$ cent per share; selling at 50 cents and under \$1, 1 cent per share; at \$1 and over, 2 cents. No commission on any sale is to be less than \$2.

All purchases and sales shall be settled for on delivery, and all deliveries, unless otherwise provided, shall be made before 11 a.m. on the first business day following.

Any member who shall neglect to pay his dues or fines for five days after they became payable, shall, after due notice, be suspended until they are paid, and if not paid at the end of three months he shall no longer be considered a member, and his membership shall be forfeited to the association.

* *

Rossland.

In three weeks Rossland and Spokane will be connected by telephone.

Strikes are reported on the Iron Horse, Fairview, Great Western, Flossie L., and Evening Star.

An option on the Jumbo gives the mine a valuation of \$500,000. In 1893 it was bought for \$500.

Fears are entertained of a shortage in Rossland's water supply, and there is a penalty for wasting it.

A twenty days' extension of the option on Commander for a quarter million, granted to the Gunnis-Neame syndicate, has been given.

The extension of the Jumbo option at a half million has been asked, but it has not yet been decided whether it will be granted. It is expected that the Commander deal will go through.

"It has been stated that the reason the War Eagle mine was sold was because it was played out," said a well known mining man recently. "This is not true; the War Eagle is a great property. I visited the mine a few days ago, and know, Mr. Hastings, the new manager,

has blocked out a large amount of ore since he took charge. At the Josie the company has now two power drills sinking in the main shaft, and it is the intention to go on with this work. The shaft is now down 130 feet."

Justice McColl has decided that the Grand Prize Company is entitled to the Grand Prize ground, although the stakes were on adjoining claims, as the company was in possession of the claim when Buffalo was located. The action brought by the latter has been dismissed.

A strike of rich ore has been made in the Aaron group at Waterloo camp, a few miles above Trail, on the east bank of the Columbia. The property is under bond to the Lillooet, Fraser River and Cariboo Gold Fields—sometimes called the Horne-Payne syndicate—and development work has been going on steadily since early last summer. A tunnel has been run several hundred feet and the present strike was made at a depth of 150 feet. The ore body found is said to be four feet wide, and the value \$72 per ton.

The gallows frame of the gigantic Le Roi hoist is now up and the foundations for the big drum and cylinders will soon be completed. The plant will probably be in operation within 30 days.

"The Le Roi mine is one-third bigger now than it was three months ago," said W. J. Harris to the Spokane *Spokesman*. "Five new drifts have been opened up within the past 60 days, all of which show a solid face of sulphide ore from five to 15 feet in width. Never in its history has the mine looked so well or its future so flattering. The most important work which has been done is the Peyton tunnel, on the west end of the Le Roi ground, and about 800 feet west of the old workings. The tunnel driven 45 feet shows a continuous chute of ore, and at this point there are four feet of solid sulphide ore and 10 feet of mixed ore. It is at this place that the company will sink a double compartment shaft, and it is believed by the management that the chute of ore is fully as large as that in the old workings. This being true, with the new plant now in successful operation, and hoisting from 150 to 175 tons of ore daily, and the recent exploration of the mine showing up large bodies of ore, why is not the Le Roi mine worth \$10,000,000 to-day, instead of \$5,000,000?"

* *

Trail Creek.

Mr. Heinze's representatives have purchased the Columbia and Kootenay group at Rossland for the sum of \$500,000. This is the second largest sale made in the district and the property has been secured by Mr. Heinze that its ores may be used to supply his smelter at this point.

Quoting from the *Rossland Miner*:—The Trail smelter is a tremendous institution. It and its associated enterprises now represent an investment of over \$1,000,000. In August, 1895, the hill upon which the smelter now stands was a bare, untouched piece of ground. To-day it is the busiest spot in the whole Dominion of Canada, and is destined to be one of the greatest smelting and refining centres in the world."

The contract has been awarded for the erection of a Prospector's Exchange, for the purpose of advancing the interests of prospectors having bona fide prospects. It is the intention to investigate all properties submitted to the exchange for sale, before placing them before the public for investment and the exchange thus resolves itself into an institution for the protection of the general public as well as that of the prospectors. Only claims and mines of merit will be handled, and there will be no opportunity for "wild cat transactions."

Slocan.

The Noble Five is only running half its capacity owing to low water.

The Maxwell group of seven full claims in Cariboo Creek camp (on Snow Creek) have been sold to Edward C. French of Rossland.

A cave-in has occurred in No. 3 tunnel of the Slocan Star mine. Five sets of timbers were broken down but no one was injured. A dividend of 5 cents a share is payable on the 25th inst. In 1896 it paid \$250,000.

Fairview camp in the Kettle River district of Southern British Columbia has about 40 mines under development, some 200 men being employed on the various properties. As an indication of the wealth of the camp it is said that one mine, the "Joe Dandy," has been sold to Lord Sudleigh for \$60,000, a similar figure having been recently paid for the Stemwinder

East Kootenay.

It is rumored that the C.P.R. has obtained the control of all steamers now plying on the rivers of East Kootenay.

Navigation opens on the upper Kootenay about April 10th. The boats on the line are North Star, Ruth and Gwendoline.

The increased interest in mining in East Kootenay is shown by the following figures: Free miners' certificates for 1896, 537, an increase of 33 per cent. during the year. Value of mineral output, \$154,427, an increase of 779 per cent. over the year before.

The total exports of 1896, as reported at the Nelson Custom House, amounted to \$2,762,892, made up as follows: Gold, \$903,079; silver, \$1,420,435; copper, \$267,582, and lead, \$171,726. The total output of mineral from the whole Province during the same period was \$5,460,981.

The Earl of Norbury, Captain T. P. Armstrong and James Wardner have, secured 160 acres on the west fork of the Kootenay river, at the point where the Crow's Nest Pass railway is to cross the river. They intend to lay out a town site there, and will name it Wardner. The proposition is to make it the chief town of East Kootenay. Its situation will make it the central point for almost every mine in the East Kootenay district.

Nelson.

The Copper King mineral claim, on the line of the Canadian Pacific railway, twenty miles west of Nelson, is being developed by the British American Gold Mining company. There is said to be a fine surface showing of ore on a ten foot ledge that assays as high as \$56 in copper, gold and silver. The lead, as far as known, is continuous and without fault. A wagon road is being built from the mine to the railway track. The company is composed of Montreal and Rossland men, which, besides this claim, owns the Diamond King and Blue

Kaslo.

A custom concentrator with a capacity of 500 tons daily, is talked of in Kaslo. "There are material reasons," says the Kaslo correspondent to the *Rossland Miner*, "why the citizens of Kaslo should favor the construction of this concentrating plant, and render it every assistance which their circumstances will allow. It would soon lead to the construction of an extensive smelting plant. There is almost at our door nearly all the necessary material in the way of fluxes. The lime is easily within reach and can readily be obtained. The necessary dry ore can be supplied with as much facility as the galena, and from the Dundas and Lardo it may be had in any desired

quantity. The iron also can be had without any undue expenditure. There remains only the fuel, and with the construction of the Crow's Nest Pass railway, this may be laid down at a comparatively moderate cost.

Rover and Bird Creeks.

O. G. Labarre has bonded the Imperial claim, between Rover and Bird creeks, from Frank L. Osler, of Nelson, for \$10,000. The only development done on the claim is assessment work, and surface assays gave \$7 in gold. The ledge is iron-capped, 50 feet wide, and crops out for a distance of 150 feet.

Mr. Labaree has bonded the Myth and Capital, on Hall creek, for \$3,500, from H. Perks. He has also bonded the Kid, Little Duke, Kokanee, Creston, Florence Fraction, Pearl, Gem, Mina, Robin Hood and Hecla. It is supposed the bonds are taken in behalf of the syndicate recently organized by Sir Charles Tupper and Rufus H. Pope, M.P.

Vancouver.

The Channe deal is closed, by which the British Columbia Gold Field's Company, of England, takes over 14 claims from the Channe Company, at Phillip's Arm, near Vancouver, for \$125,000.

The Consolidated Sable Creek Mining Co., Ltd., has been formed in Vancouver for accruing and operating the mineral claims Agnes and Lucky Jack, Stephanie, Kootenay Star and other properties. The authorized capital is \$1,500,000, in 1,500,000 shares of \$1 each. On the Agnes claim a tunnel to cross-cut the lode at a depth of about 60 feet has been run exposing over 25 ft. in width of mineralized ore, carrying gold, silver and copper.

Quartz Creek.

Quartz Creek seems to be rapidly coming into prominence as a mining camp. It is situated 18 miles south-west of Nelson and 7 miles north of Salmon Siding (Salmo), B.C., on the main line of the Nelson & Fort Sheppard Railway. It is on Salmon River, about 10 miles from its headwaters and about midway between the mouths of Wild Horse and Porcupine creeks. It has between 300 and 400 inhabitants, there is a daily mail and already there are a number of business houses. Six weeks ago there were only three buildings now there are 80. The name of the post-office will probably be known as White Horse.

Ainsworth.

Another shipment of ore was made from the Black Diamond this week.

The British Columbia Gold Fields Company has purchased the Mile Point claim, and has started a number of men to work on it.

The Mile Point, one of the oldest locations at Ainsworth, having been crown granted in 1892, has passed into the hands of the British Canadian Gold Fields, and will be added to the list of shippers in a few days.

Vernon.

Magnificent specimens of gold bearing quartz are being shown in Vernon from a claim on the shore of Lake Okanagan $4\frac{1}{2}$ miles south-west of the town.

Deer Park.

J. E. Bate has sold the Wild Horse claim at Deer Park to a New York syndicate for \$180,000, practically cash.

For advertising machinery and camp supplies no better medium exists in Canada than *The Canadian Miner*. It reaches the managers and directors of our mines.

NOVA SCOTIA.

At the recent annual meeting of the Mining Society of Nova Scotia, held in Halifax, Mr. Leckie, the retiring president, in the course of his address dwelt at length upon the present condition and future prospects of the gold mining industry. The yield for 1896, he said, amounted to 25,596 oz. 14 dwts, 6 grs., and this at a valuation of \$19.50 per oz., was equal, (including nuggets, specimens, etc.) to over half a million of dollars, or more than the gold reserve of all the banks of the province. The quantity of gypsum mined and sold was 130,489 tons with a value of \$122,614; iron ore mined 68,351 tons; coke manufactured 58,741 tons. At the close of the meeting about a dozen of the members waited upon the Hon. Premier Murray for the purpose of inducing the government to provide a more adequate inspection of the gold mines. The Hon. Mr. Murray in reply stated, that he was perfectly ready to acknowledge that such an appointment would be of benefit to the gold mining industry and showed a very evident desire to do anything which lay in his power to further the interest of this important industry.

WIDTH OF CROW'S NEST PASS.**INTERVIEW WITH MR. JENNINGS.**

AN interesting interview with Mr. W. T. Jennings, C.E., of Toronto, appears in a recent issue of the *Vancouver World*, which says: Numerous contradictory statements have appeared regarding the width of the Crow's Nest Pass, some asserting that the pass is so contracted that there is no room for more than one railway bed, while others state that there is room for half a dozen. As good an authority on the subject as can be obtained is W. T. Jennings, C.E., of Toronto, who has gone over the route from Fort McLeod to the East Kootenay four times in all, and has walked over the pass and ridden and driven through it. His last visit was in the autumn of 1893, when he was there in the interests of the British Columbia Southern railway. To a *Globe* reporter recently, Mr. Jennings showed a plaster cast of the pass and the adjacent mountain district, which he is making, and traced the course of the pass across the mountains. Up the Crow's Nest Creek the pass, though contracted, is not unduly narrow, and the gradients are easy, much easier, in fact, than those of the C. P. R. track at present used. All that would be necessary would be for the government to exercise supervision to see that the line is so located as not to block the way of any future lines. At the Crow's Nest Lake the main difficulty occurs. The C. P. R. had at the time of Mr. Jennings' visit graded the pass up to this point, and had made a commencement at a rock cutting in the steep bank of the lake. The line laid out by the C. P. R. is located along the north side of the lake, at the foot of minor mountains forming the spurs of Crow's Nest Mountains; these are very steep on the lake side. Another line to run along that side of the lake would have either to widen the cutting thus started by the C. P. R. or to get running powers over the rails. The southern side of the lake is of much the same nature as the northern and a similar cutting might be made along it. A bay of the lake at the western end trends south, and the southern banks of this bay are more precipitous than the banks elsewhere. If this bay should not prove too steep it could be bridged; in this case the southern bank would be just as practicable as the northern. From Crow's Nest Lake to Summit Lake is a rise of about 20 feet. Either shore of Summit Lake affords an equally good location for a line. Summit Lake marks the apex of the pass. The descent of the

Michel Creek and Elk River valleys is easy, and the same remarks applies to them; that with proper care there is room for several lines. On leaving Summit Lake the line descends into Michel Creek valley, and finds in front of it the immense horn-shaped mountain—or rather a timber-clad hill—the tip of the curving horn lying to the north and Michel Creek running along its southern side to empty at the apex of the ridge into the Elk river, which passes along its north-west base. This timbered, hilly ridge contains the great coal beds, and the line of the C. P. R. is accordingly laid on the left bank of the Elk river, next to this hill. Down the Elk river both sides are practicable for railway construction, the side selected being perhaps the easier; it is certainly the most suitable, as it skirts the mountain side containing the principal body of coal. Well down the Elk at Elk River bridge the line diverges from the river to the northward and descends along the gentle slope of the East Kootenay, which it is likely will be crossed a few miles south of Fort Steele. From the foregoing it is apparent that no engineering difficulties occur on the route to the point described, and that the cost will not be excessive.

ROSSLAND'S PRICES.

ONE of the things that most strongly impresses the visitor to Rossland is the reasonably low price of all kinds of goods, and the abnormally high figures commanded for rent and real estate. Contractor McCallum is building a hotel which is already rented for \$400 a month. Another wood structure, originally intended for a big hotel, has been transformed into offices and stores. It was leased for two years for \$500 a month by a speculator who turned round and sub-let it to various tenants for a total rental of \$850 a month. A town lot, which was offered a year ago for \$3,000, cannot be bought to-day for less than \$9,000. A barber shop rents for \$75 a month, and a broker's office, 15x40, for \$125 a month. On the other hand groceries, clothing, meat and other merchandise are not as dear as might be expected. Keen competition accounts for this. Some goods, such as hay, which now command high figures, are coming down as a result of lower freight rates and competition between merchants. Hay has been selling in Rossland at \$22 and \$24 per ton. The freight from Calgary to Trail, about 450 miles, is \$6 a ton. From Trail to Rossland, 12 miles, the freight is \$4 a ton, an outrageous figure. R. A. Wallace, of High River, is shipping irrigated hay to Rossland, and is likely to work up a good business, as he can lay it down for \$17 or \$18, as compared with \$24 from the south. Most of the hay used in the camps comes from Washington. It is nearly all timothy, for none but the best will be used. Irrigated Brome grass from Alberta would likely find a ready sale over here once it became known, but at present the dealers fight shy of anything but timothy. In fodder, as in everything else, people here want the best that's going. They make money easily and spend it freely, particularly the miners. There is a big market for Alberta oats. Dealers tell me that our oats take the lead. American oats, though imported in large quantities, are inferior, but the reason they have such a run is that American dealers are displaying more enterprise than Canadians. A very large proportion of merchants throughout Kootenay are Americans. There are good openings for Alberta dealers to put in farm produce here. The boats coming up daily from Northport stop at little landings every few miles along the river, and throw off huge piles of baled hay, quarters of beef, potatoes, oats, groceries, pork and other goods—all from the States. Ameri-

can creamery butter is imported in immense quantities through Spokane. It costs about 28 cents a pound laid down in Nelson, after paying 3 cents a pound duty. Eggs are 35 cents a dozen in Rossland. There is undoubtedly a good market throughout Kootenay for Alberta produce, but it is worse than useless to send any but the best.

THE TOWNS OF BRITISH COLUMBIA.

A CORRESPONDENT of the *Calgary Herald* recently spent some months in the mining districts of British Columbia, and his descriptions of some of the towns will interest many of our readers.

While in the Trail Creek country I spent some time in the town of Trail itself. With its 1,500 people, its great smelter—the largest in Canada—its monthly pay roll of \$60,000 and its convenient location, Trail is one of the most important business centres of South Kootenay, and from what I can see is destined to remain so. Business does not appear to be overdone, there are several first-class hotels, one of which—the Arlington—is one of the best in Kootenay. The smelter has a capacity of nearly 600 tons a day. It has in the bins enough material to keep it going for the next six months. It is being constantly enlarged and improved to keep up with the procession. Its various structures cover about three acres of ground. They include sampling works, O'Hara calciner building, reverberatory calciner room, boiler and engine room, blast furnace, reverberatory house, refinery building, matte granulation, racking building, store house and general office buildings. Some 300 men are employed. The owners are a company of Butte capitalists and the manager is Mr. Heinze.

The boats to and from Trail stop every mile or two to let off some adventurous prospector loaded with 100 to 150 lbs. of supplies in his blanket strapped to his back; or to throw out huge piles of beef, dump wagons and other articles for the gangs of men who are rushing construction work on the new railway which is to connect Trail with Robson. At present transportation between the two points is handicapped by shallow rapids on the river. At one particularly bad place a cable has been stretched in the bed of the stream and is picked up by the boat and passed around the capstan, the paddles are stopped and with a donkey engine working the capstan the boat creeps up the rapids at snail pace. At other places a cable is thrown ashore, carried along the bank on the shoulders of 6 or 8 men, passed round a post, and the boat capstanned over into smooth water.

NELSON AND KASLO

are at present the two leading towns of the Slokan. Both have good town-sites and excellent facilities, with the promise of even better in the near future. Nelson looks forward to being the terminus of the Crow's Nest Railway and as she has already a railway from the west, another from the south and two steamboat lines from the north, she will probably be for some time to come a leading centre of West Kootenay. Nelson is an old town, quite sedate. She has the best buildings, the best sidewalks, and the most paint of any Kootenay town. There is a substantial air about Nelson which will attract, not the boomster and the wild-catter, but the steady-going, respectable citizen who wants to settle down to a "slow but sure" proposition. Its population is anywhere between 1,500 and 2,000. It has not at present many working mines, in fact, only one of any pretensions—the Silver King, worked by the great Hall Mines Company, managed—some think mismanaged—from London, England.

But this is a matter to be dealt with at length and separately.

Kaslo is a prettily situated town with excellent prospects. It is the chief shipping point for the Slokan. The Slokan country, which includes the recording divisions of Slokan and Ainsworth and a good part of Nelson, has two outlets for its ore, Kaslo and Nakusp, and when the railway from Slokan lake to the Nelson and Robson branch is completed this summer it will have three. This may possibly take business from Kaslo, but the Kaslonians expect this will be more than made up by the developing of the country lying further up the Kootenay lake. A railway project is on foot to open up from this point the rich Lardo-Duncan country. The sampling works at Kaslo, owned by Mr. Geo. Alexander's company, supply an excellent market for the silver lead ores of the district. The ore is bought at the sampler and paid for at once, on the basis of the value shown to be in the ore by passing 700 lbs. out of each car through the sampling works. The ore is first crushed, then pulverized, the works containing several different machines for the purpose. It is afterwards sacked and shipped to American smelters. The profit is made by securing lower rates from the sampler than is possible for the individual shipper to get. The assaying apparatus in connection with the works alone cost \$1,000 and is very complete. One of the scales is so finely adjusted that it will weigh a lead pencil mark on a piece of paper.

MINING ON THE SASKATCHEWAN.

THE South Edmonton *Plainedealer* says much public indignation is being expressed over the suspension of the placer mining regulations, and gives the following report of an incident during the week:

PUBLIC INDIGNATION EXPRESSED.

Saturday morning last the band stand near the depot presented the appearance of a gallows entertaining a victim. Suspended from the frame work above with a stout rope, hung by the neck, was the form of a man, which on closer inspection proved to be an effigy. The following inscription was affixed to the unfortunate individual, explaining the meaning thereof:

"This effigy represents the Industries of the district, strangled by order of Antideluvian Legislation."

Another placard had the following significant mottoes:

"No Mining Reserves."

"Freedom to All."

"Welcome Prosperity."

Yet another writing was:

"Tenders Wanted:

For fencing five miles or fifty of the river as a mining reserve for beginners. Tenders also wanted for an improved grizzly that works automatically. Tenders must be accompanied by accepted cheque for 10 per cent. amount of tender."

We are not aware who set up the effigy, but there is one thing sure, the sentiment expressed is that of the whole community—indignation at the present suspension of the placer mining regulations. There is now a large number of persons here anxiously waiting to file claims, and cannot do so. A still larger number, we have reason to believe, are in Omaha yet, wanting to invest in the improved mining machinery but will not do so unless they can get claims on the river in time to put in a full season. Quite a number of local men have become interested in the matter, and are anxious to take claims, but they, as well as outsiders, are blocked.

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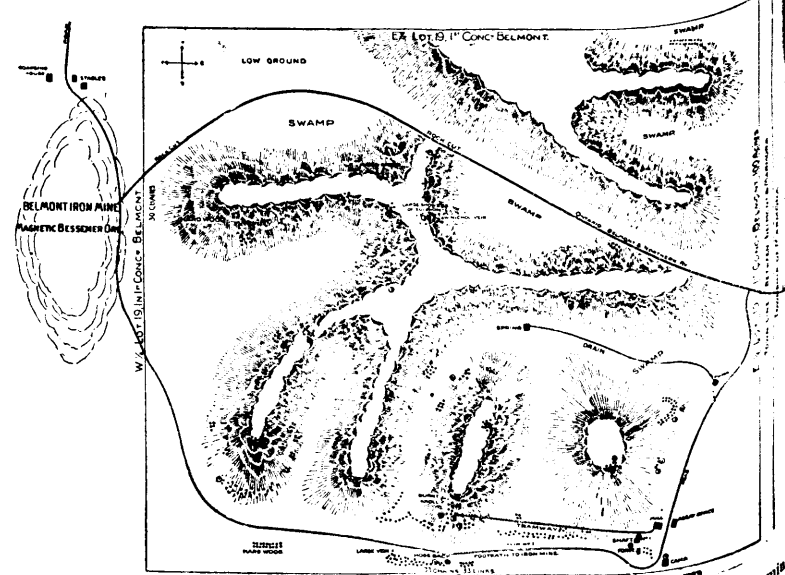
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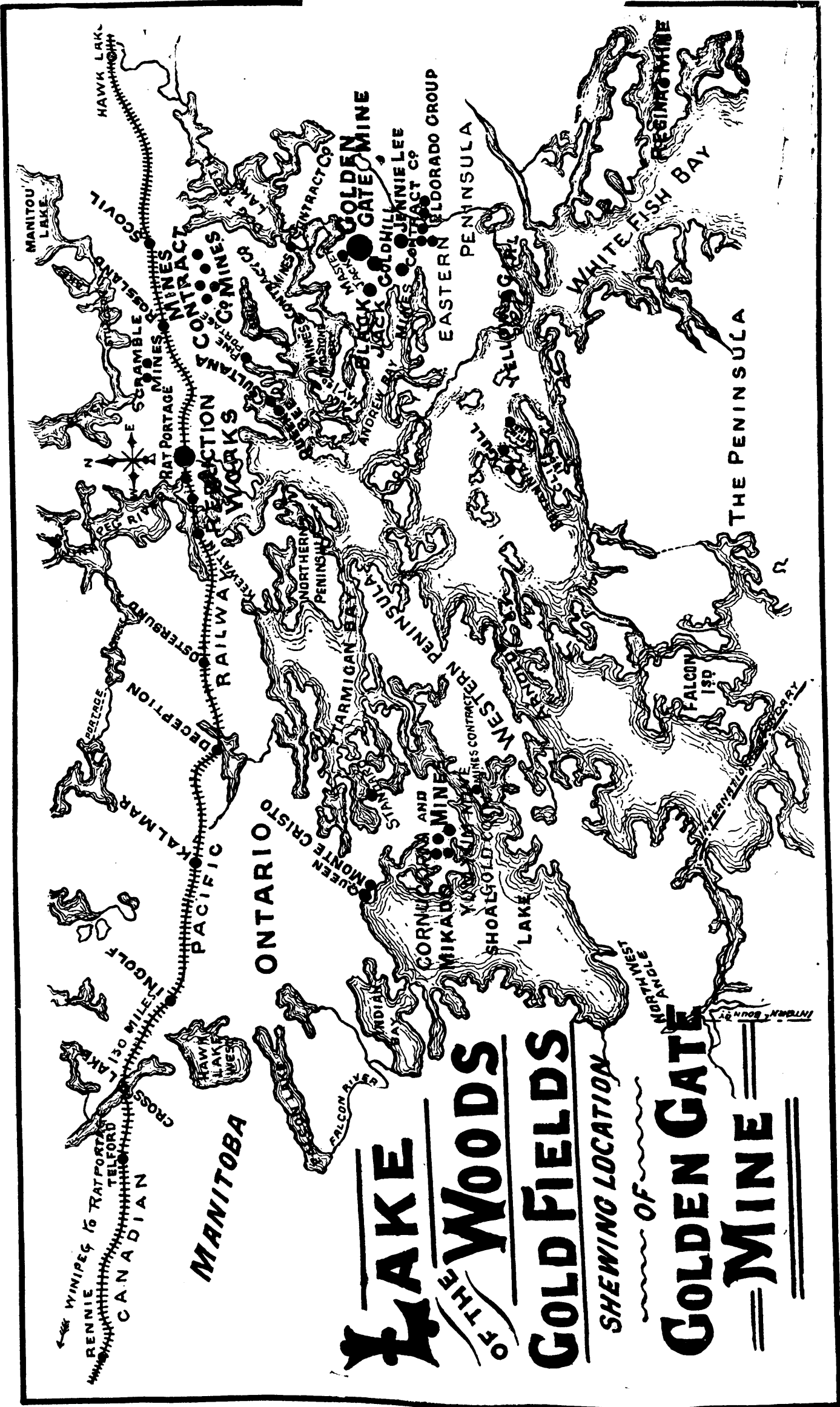
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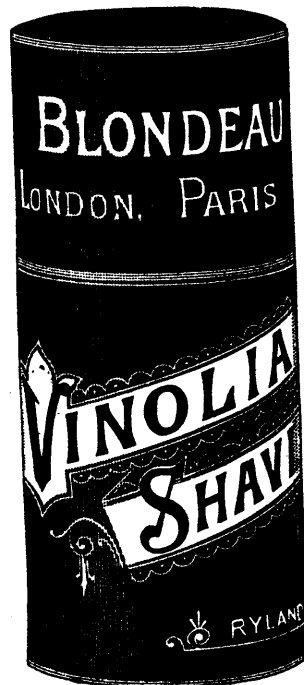
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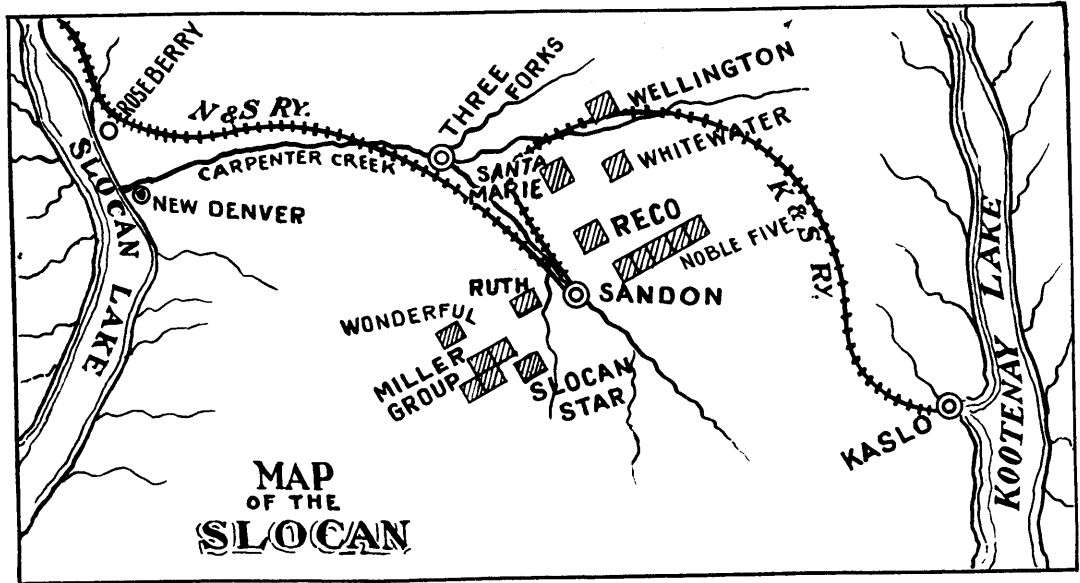
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THE CANADIAN MINER.

AUTHORIZED STOCK BULLETIN.

Name of Stock.	Authorized Capital.	Par Value.	Market Price.	Name of Stock.	Authorized Capital.	Par Value.	Market Price.
Alberta.....				Kootenay-Cariboo Min. & Invest. Co	2,500,000	\$1 00	\$0 25
Arlington Con.....	\$1,000,000	1 00	0 10	Kootenay (London).....	1,000,000	1 00	0 12
Bannockburn	1,000,000	1 00	0 20	Lake Harold.....	1,000,000	1 00	0 15
Big Three.....	500,000	1 00	0 10	Ledyard.....	1,000,000	10 00	2 50
Bondholder.....	3,000,000	1 00	0 10	LeRoi.....	2,500,000	5 00	7 50
British-Canadian Gold Fields.....	1,000,000	1 00	0 14	Lily May.....	1,000,000	1 00	0 20
Butte.....	2,500,000	1 00	0 15	Lloyd Gold Mining and Dev. Co..	1,000,000	1 00	0 08
Caledonia Con.....	1,000,000	1 00	0 04	London Hill Dev. Co.....	150,000	0 25	0 10
California.....	1,000,000	1 00	0 10	Mabel.....	1,000,000	1 00	0 15
Canada Mutual.....	2,500,000	1 00	0 10	May Flower.....	1,000,000	1 00	0 13
Cariboo M. C. C.....	1,000,000	1 00	0 15	Mikado.....	1,000,000	£1	7 50
Colonna.....	2,500,000	1 00	0 50	Miller Group (Slocan).....	1,000,000	1 00	0 07½
Colorado.....	800,000	1 00	0 26	Mines Dev. Co.....	2,500,000	1 00	0 10
Columbia and Ontario.....	1,000,000	1 00	0 10	Minnehaha	1,000,000	1 00	0 15
Commander.....	1,000,000	1 00	0 10	Monarch.....	1,000,000	1 00	0 10
Consolidated Sable Creek.....	750,000	1 00	0 10	Monita.....	750,000	1 00	0 22
Confederation Mines Dev. Co	500,000	1 00	0 20	Monte Cristo.....	1,000,000	1 00	0 16
Cornucopia.....	1,000,000	1 00	0 10	Montezuma	1,000,000	1 00	0 04½
Cracker Jack.....	1,000,000	£1	7 50	Morning Star.....	1,000,000	1 00	0 12½
Crown Point.....	1,000,000	1 00	0 09	Norway.....	1,000,000	1 00	0 10
Deer Park	1,000,000	1 00	0 21	Novelty.....	1,000,000	1 00	0 31
Dellie.....	750,000	1 00	0 15	O.K.....	1,000,000	1 00	0 15
Eagle Nest.....	1,000,000	25 00	25 00	Old Ironsides.....	1,000,000	1 00	0 08½
Eastern Mining Syndicate.....	1,000,000	1 00	0 09	Ontario Gold Fields.....	250,000	1 00	0 12½
Eldon.....	1,000,000	1 00	0 10	Ottawa and Ivanhoe..	700,000	1 00	0 09
Elsie.....	1,000,000	1 00	0 08	Orphan Boy.....	500,000	1 00	0 15
Empress.....	500,000	1 00	0 21	Phœnix.....	1,000,000	1 00	0 09
Enterprise.....	1,000,000	1 00	0 20	Pug.....	500,000	1 00	0 25
Ethel Group (Preferred)	1,500,000	1 00	0 75	Princess	500,000	1 00	0 06
Eureka Con.....	500,000	1 00	0 10	Poor Man.....	1,200,000	1 00	0 08
Evening Star.....	1,000,000	1 00	0 15	Red Eagle.....	1,000,000	1 00	0 10
Exchequer.....	1,000,000	1 00	0 10	R. E. Lee.....	2,500,000	1 00	0 11½
Foley.....	1,000,000	10 00	3 50	Rossland Gold Mining and Dev. Co.	1,000,000	1 00	0 25
Germany	1,000,000	1 00	0 20	Rossland Red Mountain.....	1,500,000	1 00	0 10
Gertrude.....	500,000	1 00	0 15	Royal Five.....	1,000,000	1 00	0 06
Gold Exploration Co.....	1,000,000	£1	5 00	Santa Marie (Slocan)	1,000,000	1 00	2 85
Gold Hills.....	1,000,000	\$1 00	0 10	Saw Bill	1,000,000	1 00	0 06
Gold Quartz.....	1,000,000	1 00	0 10	Silver Bell.....	500,000	1 00	0 10
Gold and Silver Mines Dev. Co.....	1,000,000	1 00	0 20	Silverine.....	1,000,000	0 10	0 10
Golden Cash	500,000	1 00	1 75	Slocan-Cariboo	1,000,000	0 50	2 63
Golden Gate Min. and Dev. Co.	300,000	1 00	1 50	Slocan Star.....	1,000,000	1 00	0 19
Good Hope.....	500,000	1 00	0 10	Smuggler.....	900,000	1 00	0 10
Great Western.....	1,000,000	1 00	0 10	Spokane-Kaslo	1,000,000	1 00	0 11
Hansard	1,000,000	1 00	0 10	St. Elmo.....	1,000,000	1 00	0 12½
Heather Bell	1,000,000	1 00	0 20	St. Paul	500,000	1 00	0 25
High Ore.....	500,000	1 00	0 07	Sweden.....	250,000	1 00	0 75
Homestake.....	1,000,000	1 00	0 17	The Industrial Mining and Dev. Co.	240,000	0 30	0 31
Ibex.....	1,000,000	1 00	0 03½	Two Friends.....	1,000,000	1 00	0 15
Ibex of Slocan	300,000	0 25	0 30	Victory-Triumph.....	500,000	1 00	0 13
Investors Prospecting G. and M. Co (Cripple Creek)	1,250,000	1 00	0 10	Virginia.....	1,000,000	1 00	0 10
Iron Colt	1,000,000	1 00	0 20	Waneta.....	1,000,000	1 00	1 04
Iron Mask.....	500,000	1 00	0 45	War Eagle (Con.).....	1,000,000	1 00	0 26
Iron Queen.....	1,000,000	1 00	0 04	Washington.....	500,000	1 00	0 27
Josie.....	700,000	1 00	0 55	West LeRoi and Josie.....	2,000,000	1 00	0 15
Josie Mack.....	1,000,000	1 00	0 12½	White Bear.....	1,000,000	1 00	0 10
Jumbo.....	500,000	1 00	0 60	Winnipeg and Eureka.....	1,000,000	1 00	0 02
Kelley Creek.....	1,000,000	1 00	0 13	Yale.....	1,000,000	1 00	0 15
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(OVER)



Miller Creek Mining Company

DIRECTORS.

A. J. ROSS,	Vice-President Exchange National Bank.	C. H. THOMPSON, Vice-Pres. "Wonderful Group" Mining Co.
J. M. ARMSTRONG,	Treasurer LeRoi Mining Co.	H. C. BELL, Secretary "Wonderful Group" Mining Co.
W. C. JONES,	Member of Congress.	E. J. FIELD, Manager "Wonderful Group" Mining Co.
F. A. DAVIS,	Superintendent Summit Mining Co.	

OFFICERS.

President,	C. H. THOMPSON.	Treasurer,	A. J. ROSS.
Vice-President,	J. M. ARMSTRONG.	Secretary,	H. C. BELL.

CAPITALIZATION.

Capitalization at 1,000,000 Shares of \$1.00 Each, with 400,000 SHARES Appropriated for Treasury Stock. Shares fully Paid-Up and Non-Assessable.

THE PROPERTY.

It owns in fee the three claims known as the "New Springfield," "Sampson," and "Wonderful Fraction," comprising in all about 130 acres of mineral land, directly adjoining the famous Wonderful Group Mining Company's property in Slocan Mining District, West Kootenay, B.C., only one and one-half miles from the town of Sandon, in the very heart of the Slocan country, which stands without a rival in mining history; and so far every prospect which has been systematically developed has proven a mine. Among the most noted of which are the "Slocan Star" with its record of \$300,000 paid in dividends, and its shares with a par of 50 cents, are eagerly sought for at \$2.60. The "Reco" with its \$150,000 paid to shareholders during the past year. The "Idaho and Alamo" with their \$135,000 to shareholders; the "Goodenough," "Noble Five," "Payne Group," "Ruth," "Wonderful Group," "Reed and Robinson," the "Whitewater," "Wellington," and a host of others.

SITUATION.

On the mountain lying south of Carpenter creek and close to the town of Sandon is the "Slocan Star," next west is the "Ruth," next west is the "Wonderful," and adjoining this on the west is the "Miller Creek" properties. The Wonderful has extracted a large amount of ore from surface workings by hydraulic mining, and in prosecuting this work their tail race down the steep mountain side has cut a large strong vein (see Field's Report) which courses directly through the entire length of the Miller Creek property, and should it continue that far would give us over 3,000 feet of this heretofore unknown vein, and in that distance several ore chutes ought to be discovered, and one means a fortune.

This vein, and that exposed by the work on Miller Creek, make this group of claims have great prospective value. Title to the property is perfect and lies absolutely in the Company. It was passed upon by W. C. Jones, Attorney-General of the State of Washington. Application will be made for a Crown Grant, and as there are no adverse claimants, the Crown Grant will unquestionably be issued during the summer of 1897.

Adjoining as it does directly on to the Wonderful on the north and east, it ought to have the same veins and character of ore and in order to show what that is, it may not be amiss to here quote from the smelter returns received by the Wonderful from the first five carloads of ore shipped by them (since which time they have shipped many additional cars of like ore).

SMELTER RETURNS.

DATE.	TO WHOM SHIPPED.	TONS.	NET PER TON.	NET PER CAR.
1896				
July 28	Tacoma S. & R. CO.	18.197	\$ 87 07	\$1,392 95
August 4	" "	21.211	99 47	1,871 28
" 4	Puget Sound R. Co.	15.897	95 98	1,346 52
" 8	" "	16.165	99 30	1,420 66
" 10	" "	15.952	102 14	1,449 92

TRANSPORTATION.

The Canadian Pacific Railway track is within one-fourth of a mile of the Miller Creek Company's property; down hill. Easily reached by a gravity tram. Kaslo and Slocan Railway at Sandon, one and one-half miles distant. A good trail is now built to the property from the wagon road on Carpenter Creek, and can be easily and cheaply converted into a wagon road.

DEVELOPMENT.

There is about one hundred feet of work done where Miller Creek crosses the vein and a few prospect holes. Where Miller creek crosses the property it has made a deep gorge, and exposed the vein at the point described by Mr. Field; it is here the company propose doing the first work, and they will be enabled to drive both east and west on the vein and gain considerable depth from Miller Creek without sinking any shaft or requiring pumps or machinery, except an air compressor and drills which if supplied will enable the work to be done in one-half the time required by hand.

While the company does not claim to have a developed mine, they do believe they have a very valuable property and one which on proper development will take rank with the best of them. And as they own their property in fee, and are absolutely out of debt, and with the assurance that all money received from the sale of treasury stock will be honestly and judiciously expended in developing the property, they offer their shares to the investing public with the fullest confidence that they will be readily taken up by investors, and those who buy this stock now and hold it until the property can be developed, will undoubtedly find themselves shareholders in one of the big mines of the famous Slocan.

Following is a letter from Richard Shea, Esq., superintendent of the Rambler-Cariboo property, giving his opinion of the property of the Miller Creek Mining Company:

H. C. BELL, Esq., Sec'y Wonderful Group Mining Co.,
311-312 Hyde Block, Spokane, Wash.

RAMBLER MINE, MCGUIGAN SIDING, B.C.
February 4, 1897.

DEAR SIR:—Yours of February 12th at hand. You must excuse my delay in answering as I was away when it came. I beg to report as follows on the New Springfield, Sampson and Wonderful Fraction:—There are two (2) ledges running across the Springfield, namely, the Queen Bees and Palmetto which I sold the other day. My opinion of the property is that it is as good a prospect as there is in this country. Hoping to hear from you soon, I remain, yours respectfully,

RICHARD SHEA, Supt. Rambler-Cariboo.

A limited number of Treasury Shares are now offered at 7½c. per share.

Apply to **COULTHARD & CO., Mining Brokers, 28 VICTORIA STREET, TORONTO.**