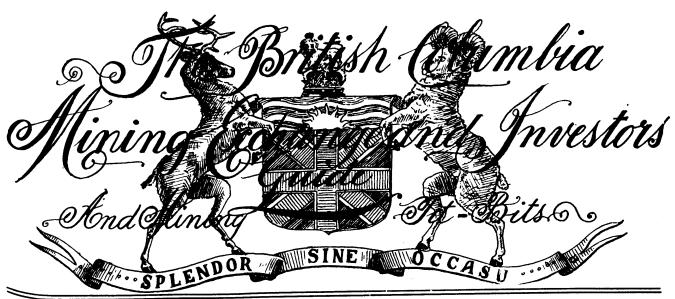
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Vol. II, No. 5.

VANCOUVER, MAY, 1900

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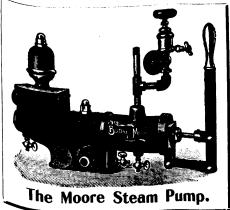
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THE B. C. MINING EXCHANGE AND INVESTOR'S GUIDE

And Mining Tit-Bits.

Vol. II.—VANCOUVER, B. C., MAY, 1900—No. 5.

THE SCIENTIFIC PROSPECTING OF MINES.

BY W. THOS. NEWMAN, M.C.M.I.

Written, by request, for The Mining Exchange and Investors' Guide.

The subject of the proper and intelligent development and prospecting of mineral deposits is of world wide interest, and, at the present stage of affairs, is of very special interest to Canada, where the industry of mining is only beginning to receive that attention from capital which its importance and the now recognized wonderful extent and value of her metaliferous veins warrant. Not only is this the most certain branch of industry to attract the better class of settlers, but it is

as his labors may prove after the mine has been proved and developed and the treatment of the ore begins. Something beyond a sound knowledge of geology, mineralogy and metallurgical operations, coupled with all these, becomes the expert prospector. A man must not only be earnest and ardent in the pursuit of his object, but must also add a rare experience, who will successfully demonstrate the existence of a paying body of mineral in untried ground.

To illustrate: the sportsman, who is a crack shot and has hunted in civilized centres from boyhood, finds it absolutely impossible to secure his opportunity in the wilderness without the assistance of the experienced woodsman. The game may be plentiful and the



SLUICE AND ELEVATOR, CARIBOO, B. C.

also the most lasting and permanent. The men who comprise the great body of the mining population of any new country are men of exceptional physical and mental vigor, men who meet all the vicissitudes of pioneer life as conquerors, not to be intimidated by dangers or hardships which would condemn the new country in the eyes of any other class. Those who undertake to subjugate the wilderness of mountains need to be of sterner mould than the settlers of the plains or seashore. Who would plough solid rock formations must be possessed of keen intelligence, an unwavering perseverance, indomitable pluck, and a large share of that "go" which the agriculturist seldom possesses and never requires.

Success in the earlier branches of mining, the seekthe for mineral bearing localities, the finding of veins,
the "sizing them up" when discovered, and their
economical exploitation when found, necessitates a
knowledge which few acquire and which it is usless to
expect from the college bred mining man, all successful

sportsman keen, but unless he has also served a long apprenticeship in woodcraft he seeks in vain for the quarry.

Again, it is not all who earnestly desire and seek to obtain a knowledge of these things, but the few, who are successful. A certain natural adaptability, and what can only be described as intuition, is an invariable attribute of the successful hunter or trapper of game, and equally of the successful prospector who can "feel" or get an impression which he cannot give definite reasons for, of the direction in which a vein of ore will develop. As every mine was once only a "prospect," and as not more than one in one hundred of Canadian mines are yet discovered, the importance of this subject may be realized and appreciated.

Capital must be brought to develop these resources and each time that a failure results several avenues through which capital might have been available are closed. To discover the main causes of failure is worthy of effort.

By far the most common cause of failure is the inexperience of the man entrusted with the development. Illustration is so common as to be superfluous here. It is quite the usual practice to consider the prospecting of new deposits, and especially in new localities, as of secondary importance to the proper management of mining industries already established, and the directors of mining companies, while generally anxious to secure the services of the best men in managing their mines, are apt to consider almost anyone competent to undertake the opening of a "mere" prospect. In the face of the fact that much more actual working capital is being utilized in the making of mines than is as yet employed in mining production no greater mistake financially could be made.

A man who is quite capable to run a going mine, or the largest mining plants, is seldom indeed competent to correctly judge the value of a prospective mine or unopened deposit, and almost without exception totally incompetent to plan its development to the best advantage, or with economy of time and money. Ten times the number of competent mine managers are available as compared with the competent mine prospector, which is a very unfortunate thing for Canada in the present stage of the business, as at least the same proportion of money will be expended in development work in the next decade in ratio to that which will be put into actual mining production, and this of necessity.

The only safety lies in the thorough realization of the fact that more experience, more varied experience, more brains, greater resourcefulness, and more practical, scientific common sense, is necessary to prevent disaster in developing mines than in the after operation of any mine in existence.

The profits in development of mines are in much the same ratio. On an average, the profits of re-sale of British Columbia mines—taking into consideration only those in which value was received by the buyer—are entirely beyond any possible profits to be made by operation for production. A true average comparison is unfortunately not obtainable, because fully one half (probably more) of the prospects "turned down" are discredited by the incompetence of the men entrusted with their exploitation and valuation, and not for cause.

The main delinquents in this regard are the representatives of foreign and Eastern capital. Western miners' work is, as a rule, fairly well calculated to produce results as far as it goes. The most common cause of failure on the part of the former is a too previous desire to produce results, and attempting to lay out a mine before doing the essential prospecting which would enable the mine to be studied and laid out on business lines.

It is quite common to see surface plant ordered and installed long before the mine capacity is even approximately proved or sufficient work done to enable an intelligent idea to be formed of the most suitable plant necessary. The idea of sitting down and thinking the matter over for a week before making any beginning is not met with. Surface prospecting, for any considerable time, is apparently considered superfluous and money wasted, while in nine cases out of ten the expenditure of a little time and money on the surface would enable the thorough study of the structural geology of the vein and surroundings to be made, without which no practical economical attempt is possible.

The common sense plan is to obtain all the knowledge of the facts and lay of the ground which can be obtained *first*, and then to take all the time necessary to a thorough understanding of these before burning

any powder. To leave the question of installing plant to the last possible moment and then order accordingly. To have the mine and all features connected or to be connected with it on paper many times before reproducing same in and on the ground. In short to know all about the ground and its contents before considering what to do with the product. Another frequent cause of loss is the reliance placed on a man because of his success in some certain line or locality, no attention being paid to his having had experience and success in many localities and training as a prospector, which it is obvious is the important, the wholly important question.

Allowing the risk of investment in prospective mines, it is submitted that the risk in this Province, at the present time at least, is at the minimum. One of two thousand dollars intelligently expended, by a competent valuator of such matters, in visiting and investigating the various offerings, will unquestionably develop an opportunity where the fact that a mine which will pay to work to some certain extent exist, can be definitely concluded. The only question then remaining is, how large an industry may ultimately result; and this development alone will answer.

The point is, that careful search will discover the raw material disclosed to an extent which will warrant the beginning and guarantee some return on the it vestment, with a fair chance of very large returns, and the possibility of its working out to an indefinite extension of the business.

Low grade deposits exist where the return is certain provided sufficient capital is economically and carefully invested in first blocking out large reserves in shape for economical stoping and treatment, before attempt ing to make returns by installing plant. Of these deposits many contain possibilities of high grade of developing and furnishing quick bonuses from imme diate shipments. Within easy reach of this city are many such deposits, where water for power and plents of timber are both available, and which (although a present known only to the original prospector) are capable of making returns on a very large investment and making the same for a lifetime. Competent de velopment, under careful management, alone is essential to make these ventures certain to result satisfactorily to investors.

MINERAL DETERMINATION AND MINERAL TERMS.

COMPILED BY T. R. HARDIMAN. (Continued.)

COPPER.

Copper is one of the most useful metals, having been used for utensils, etc., both as a metal and in various alloys, from very early times. Of later years, the demand for this metal has been great, because of its good conductivity for electricity. It composes the material of the wires for dynamo machines and for carrying the electric current generally for electric light, electroplating, electrotyping, gold saving machines, etc. Its alloys form some of the most indispensable material, known as gun-metal, bell-metal, bronze (antique and medal). With zinc, in a ratio of all brass is made. Copper alloyed with tin and aluminum forms aluminum bronze.

Its specific gravity is 8.9; hardness, 2.5 to 3; lustre, metallic; color, a fine red; very soft and ductile, so that it can be drawn into fine wire or rolled into sheets; takes a high polish, but soon tarnishes

With oxide and carbonate of copper. It is one of the best conductors of heat and electricity. The Calumet and Hecla Copper Mines, on Lake Superior, stamp and Wash some 800 tons of rock per day, five per cent. of this weight being shot copper or copper dust. Copper is easily dissolved by nitric acid, giving a blue solution, and ammonia in excess (enough to dissolve the precipitate first formed) turns it a deep blue.

Cuprite, or cuprous oxide. Gravity, 5.9. Contains 88 per cent. of copper and 12 of oxygen. It is a deep red color, semi-metallic lustre, generally in crystals, either cubic or octagonal.

Chalcopyrite, or copper pyrites. Gravity, 4.2; hardness, 3.5 to 4. A sulphide of copper and iron in the following proportions: 35 per cent. copper, 30 of iron, and 35 of sulphur. It has a deep brassy color and bright metallic lustre; streak greenish black, tar-

between purple-red and brown. Gravity, 5; hardness, 3.

Azurite, blue carbonate of copper. Gravity, 3.8; hardness, 3.5 to 4; lustre, vitreous; color, azure-blue, streak lighter. Occurs in nodules and concretions.

Malachite, green carbonate of copper. Gravity, 3.8; hardness, 3.5 to 4; color, bright green, streak paler. Contains 56 per cent. copper, 14 of oxygen, 22 of carbonic acid, and 8 of water.

Melaconite, black oxide of copper. Gravity, 5.5. Contains 72 per cent. copper and 28 of oxygen; color, black, dark blue or brown, and velvety in appearance.

Silicate of Copper. Gravity, 2.1. Contains 30 to 35 per cent. copper; color, bluish green; lustre and texture, resinous or dull glassy, fractures like glass, but is soft and can be easily cut with a knife. Turns black when heated.



nishes easily and is sometimes variegated, giving it the appearance of bornite. Chalcopyrite can easily be distinguished from iron pyrites by its inferior hardness and its color, which is deeper. It is distinguished from gold by its brittleness, also by breaking in pieces under the point of the knife. It is a very common mineral and when present in large masses it is one of the valuable ores of copper.

Chalcocite, or copper glance, cuprous sulphide. Copper and 20 of sulphur. Hardness, 2.5 to 3. It is with a knife. Color steel gray and rather soft. A nost valuable ore.

Bornite, or erubescite, sulphide of copper and iron, has, however, a number of other names, such as peachesh ore. It has a metallic lustre and a color varying

Copper is obtained in nature in the native state. The North shores of Lake Superior are especially rich in native copper, also portions of the interior of British Columbia, the Indians at one time making their bullets from the copper which they found in its native state. British Columbia copper deposits have not been developed as yet, although they are extensive, and the values in both copper and gold high, in so far as present limited workings have shown.

RELIEF OF MAFEKING.

As we go to press, the good news that Baden-Powell and his heroic supporters have at last been relieved is to hand. We need not refer to Sparta as having had a monopoly of heroics, Englishmen and Mafeking have taken the shine out of Leonidas and Thermopylæ.

"In Liberty's defence fight constant, single, 'Tis no life if you survive her."

INTERREGNUM.

"For forms of government let fools contest, What e'er is best administered is best."

The separate platforms of our political trio is decidedly amusing, since each is almost a counterpart of the other, differing only as to party, and we maintain that the importing of Party politics into Provincial matters is not political economy. We want the brains of our representatives free and unfettered from trammels of this sort. "Party," as we have before pointed out, "is the madness of the many for the gain of the few."

Imperial and Dominion matters are a different quantity, and affects extensive relations outside of ourselves, which, when the time comes, we individually take issue upon. Our Provincial Government is a domestic institution—snubbed very considerably by ultra vires, which forcibly recalls the fact—and should be elected in the best interests of our internal economy, when we shall command the attention and respect we are entitled to.

Primarily, we require men of integrity and brains, whose party is the Province and whose object is its advancement. We do not infer that they are not amongst those who have already offered themselves as separate leaders now before the enlightened constituents of this Province; but past experience renders us somewhat tired, and we don't want to take a lantern and hunt for what we should have had at the commencement. We are glad to note a more progressive policy all along the line, and, if promises are not the proverbial "pie-crust," we may expect satisfactory development.

The re-appointment of a London Agency, on a representative basis, is a most necessary step, and we hope, which ever side wins, this will be done without delay.

WHAT INNOCENCE!

The B. C. Review, referring to the Hull fire, says: "No doubt a finer 'Ottawa' will arise from the ashes of the old, just as the burning of Chicago, which this disaster the present closely resembles, was followed by a Phœnix-like transformation." Just so; but Chicago was burnt down, and what the B. C. Review means by the "destruction" of the Canadian Capital is beyond us and, further, most misleading. The B. C. Review evidently don't know the Hull lot about it.

WHITE PASS AND YUKON R.R.

On May 15th, this company commenced issuing through bills of lading from Vancouver to Dawson, Y. T. They have already sufficient business in sight to load every vessel booked to leave Vancouver from now till July. Over one thousand tons of freight is now lying at the sheds for shipment to Dawson, and that is being added to each day.

The Company are sending up two Pulman palace cars, each forty feet in length. The barge Ajax will also take up two new Mogul locomotives and five others will be shipped shortly, also some two hundred freight cars.

An immense volume of trade, consequent on the successful development of the diggings and the gold won and to be won this season, is trending North. Some \$55,000,000 in gold have already been sent out of the Klondike goldfields.

BRITANNIA COPPER SYNDICATE, LIMITED.

The Britannia group of copper properties is situated on the eastern shore of Howe Sound, 28 miles from the city of Vancouver, B. C., and owned by the Britannia Syndicate, Ltd.

The Britannia Syndicate has issued the following circular to the Shareholders:

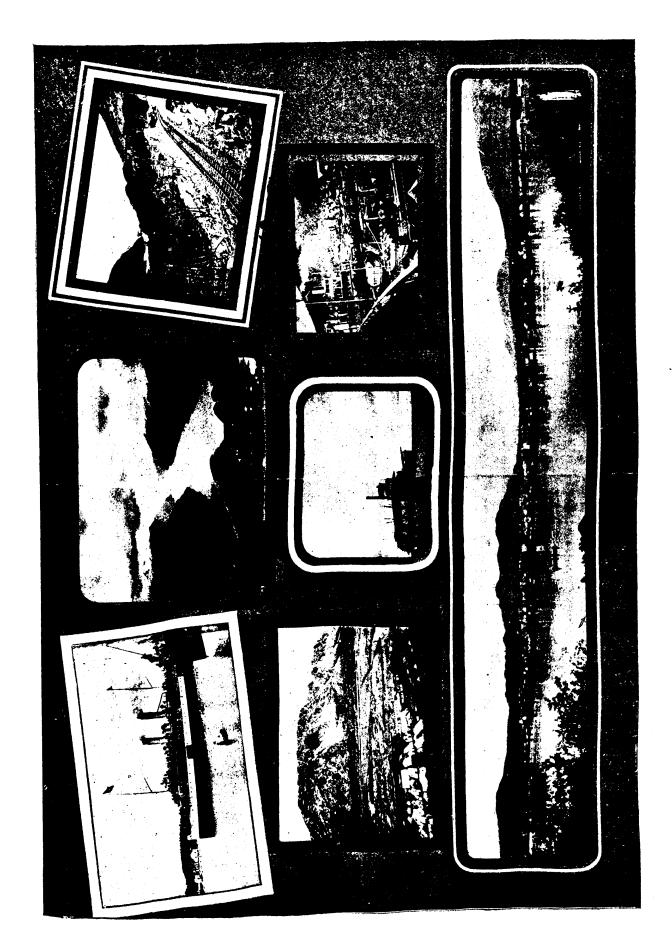
'' I take great pleasure in advising you that the Brit' annia Group, during the four months it has been under my investigation, has never looked so well in all of the workings, as at the end of the current month neither have we, who are most familiar with it, ever been less able to place a limit upon the capacity for profitable ore production than at the present time; this, because, although we have broken into the ore body at intervals throughout some two hundred and fifty feet in width, there is yet good, (and we think the best) ore ahead, toward the hanging wall. Also because of the substantial (and seemingly increasing, as the hang ing wall is approached), amount of gold present, in particularly the Mammoth Bluff ore. At the outset, Nov. 1899, I could not avoid the conviction that the Mammoth Bluff outerop would afford thousands of toll of concentrating ore; happily, the results of our actual exploration are such as to amply justify the assertion that hundreds of thousands of tons of ore are in sight above ground, in the Britannia group, and the results obtained from the assays of ore from the Mammoth Blut outcrop, will therefore be of especial interest. figures given show the actual value, in dollars and cents, of the gold, silver and copper present, per ton ore, in the respective samples of Mammoth Bluff of tested between Nov. 17th, 1899, and March 31st, 1900 More than ordinary importance attaches to a number of the results since the samples yielding them were taken by independent experts, who sought to at the very bed rock values for information of the principals. In this connection I might say that the Britannia workings have into the principals. Britannia workings have just been critically examined by one of the gentlemen referred to, and who did prove an exception to his predecessors, in that frankly pronounced the Britannia 'a wonderful min having ore in sight incapable of exhaustion by many years of vigorous operation.'

"Thus far our investigations have been confined to limits of the Jane claim, by reason of the accumulated snowdrifts. These, however, are rapidly disappearing and I am exceedingly confident we shall shortly be able to advise you of such disclosures of ore, in the Cliffor and Fairview claims, as will add vastly to the actual visible value of the Syndicate property, and in a corresponding degree to its shares."

"Howard C. Walters."

Some sixteen assays, obtained from samples taked from the Mammoth Bluffs of outcropping ore traversing the Britannia Group of copper properties, give average of \$16.00 per ton in gold and copper.

The gold exhibit of the State of Colorado, at the Paris Exhibition, is a statue of "The American Girl," cast from 40,000 sovereigns. Miss Maude Adams, a popular American actress, was the model for piece, which stands 5 feet 5 inches in height, contains of Miss Bessy Potter. A silver statue of the great of Miss Bessy Potter. A silver statue of the great Irish actress, Ada Rehan, was exhibited at the Worlds Fair in Chicago by the State of Montata. It cost £6,000.



The B. C. Mining Exchange and Investor's Guide.

1s published monthly as a Guide to Investors generally, to whose interests it devotes itself.

MANAGING EDITOR . . . T. R. HARDIMAN.

CORRESPONDENTS.—All correspondence should be addressed to the Editor, B. C. Mining Exchange, and any correspondents desiring advice or information in reference to investments, we will reply to, free of charge, provided they are annual

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THE B. C. MINING EXCHANGE AND INVESTORS' Guide circulates throughout the Empire and the U. S. We shall always be happy to give the fullest information in our power to those correspondents who are subscribers. Lately, however, we have had so many enquiries from non-subscribers on matters British Columbian, that to reply to all takes both time and money, and, while always ready to oblige correspondents as far as possible, we shall in future expect non-subscribers to remit sufficient to cover postage.

The subscription is \$2.00 yearly, postage free.

Further, we would say that our office is at the disposal of subscribers, for the use of books, maps, and general reference in connection with British Columbia industries, mining or otherwise.

We extend a cordial welcome to all strangers who may seek to investigate our possibilities. We extend to all Mining men the freedom of our office when visiting Vancouver, and request them to make it their headquarters. 612 Cordova Street West.

Mining News.

TEXADA.

The working shaft on the Copper Queen mine is now down 445 feet The winze on the 400-foot level is down 27 feet, and 445 feet. The winze on the 400-loot level is down 2/ leet, and continues in ore, while the stope on this level is being worked. It has narrowed considerably since last writing, but the grade of ore produced is satisfactory. In the No. 3 stope on the 300-foot level, the ore body is also smaller; stoping at both these points will be continued. The stope on the 200-foot level continues satisfactory, the vein being between five and six feet wide while the face ahead of the stope shows about two feet of wide, while the face, ahead of the stope, shows about two feet of The ore shipments to the smelter have been less than formerly.

The hoisting plant for the Cornell has been finished, and is now working satisfactorily. Some delay was necessary in making these changes, but the sinking of the shaft is now progressing very favorably. The shaft is still in the ledge with two feet of high-grade ore on the line wall. The shaft is down as feet. down 38 feet. The stope at tunnel level continues satisfactory with about two feet of smelting ore on the foot wall and three feet on the hanging wall, with five to seven feet of low-grade ore between. The winze is down 20 feet and is still in ore and ledge matter of fair quality. In the east drift the ore left in the Glory Hole is being taken out. Further drifting on this level has been discontinued.

Some further prospecting has been done on the crosscut trench on the Security. Samples of ore assaying \$8 to \$40 have been taken out. This ore occurs in felsites in two streaks of about 18 inches each.

MARBLE BAY.

The contractors for the drifting in Marble Bay mine have about completed the contract. This drifting of some 600 feet has exposed a large body of ore, and should the owners decide to stope ore many tons can be taken out between the first and second levels. Tenders are being asked for the sinking of the shaft another tro fort shaft another 150 feet.

SILVERTON.

The ore shipments for the week from here were made $\mathfrak{up}_{a,b}^{ol}$ 20 tons of clean ore and 20 of concentrates, all from the Wakefield. This mine has also 60 tons of ore on the dock. which may be taken off to-day,

The California, one of the oldest properties near New Denver, will again be worked. The property has considerable work done upon it and has shipped some ore, although it has been idle for some time.

A small force of men are now at work at the Galena Mine taking out and sacking ore for a asmple shipment. ment, which will consist of about 20 tons, will be sent to Dell' ver, Col., and will be submitted to various tests in order to learn what style of west-ing. learn what style of machinery the management will require its treatment.



WASHING OUT SOME SPENDING MONEY.

The first payment on the Hewitt bond, which fell de recently, was met promptly by the holders. This was expected as the new owners of the TV as the new owners of the Hewitt are fully satisfied with property. Considerable months are fully satisfied with property. Considerable ore is being sacked at the mine, sont picked samples of which picked samples of which recently gave assays of over 1 ounces, and when the name and 1 in ounces, and when the new trail is completed the Hewitt figure prominently on the shipping list.—Silvertonian.

ROSSLAND

The Le Roi was the only mine shipping any ore this week it its total for the week was 3,026 tons. This makes al for the year to date as 66. and its total for the week was 3,026 tons. This makes total for the year to date 20,664 tons for the Le Roi and 40,617 tons for the whole camp.

The ore shipments for last week (May 14th) were 3,461 tons, against 3,306 for the preceding week. The Le Roi smash the all its previous records last week by sending 3,441 tons to smelter. The statement of shipments for the mark and smelter. The statement of shipments for the past week year is as follows: year is as follows:-

Le Roi	3,441	24,633.5
War Eagle		10,603
Centre Star		7,017.5
Iron Mask		1,434.5
Evening Star		356
Monte Cristo		273
1 X L,	20.5	245
Giant	_	42
Totals	3,461.5	44,604.5

The crosscut which is being driven for the north ledge the Iron Mask has struck an intermediate ledge 50 feet the south ledge. It is ten feet wide, half of the width being solid ore and the other half mineralized and solid ore and the other half mineralized rock.

The Annie has up till quite lately been worked by the West Roi company from the Le Roi company from the extension of the levels of the Joseph

but it has been decided to sink a shaft upon the ground. For economical reasons a joint shaft has been made on the boundary line between the Le Roi and the Annie, the expense being being partly borne by the Le Roi and partly by the West Le Roi company. The depth gained at present is 20 feet. The vein, which outcrops on the side hill, facing west on the draw beyond the Black Bear compressor, is that known as the North Le Roi. It is shown to be 10 feet in width, and the assays in gold run as high as four onnees to the ton.

The Evening Star has leased the seven-drill compressor plant of the Iron Horse and are extending an air pipe line from the compressor plant to the workings of the Evening Star and will put two power-drills at work.

A find has been made on the surface of the Velvet at a point feet south-east of the shaft. It is an important one. The ledge is a rich one, carrying as high as six ounces of gold, and will pay from the grass roots. It is from six to seven feet in width and has well-defined walls, characteristic of a true fissure Vein.



TAKING GOLD FROM BOXES AFTER SLUICING.

The Le Roi mine is now working to the full capacity of its machinery, but this is only 60 per cent of the producing capacity of the mine. During the last 14 days of April the total shipments were 6,700 tons, an average of 479 tons a day and this output is being maintained, with 362 men on the pay roll.

Messrs. R. G. Edwards and W. A. McCurdy have arrived in the city from Houghton, Michigan. Mr. Edwards is the vice-president and general manager of the properties of the Pontiac Company on Pole Creek, in the Lardeau, and is on his way to them for the purpose of superintending the development work. Mr. McCurdy is the assayer for the Pontiac Company and has a complete assaying outfit, which will be set up at Comaplix, which is located only a short distance from the Pontiac properties. The Pontiac Company is well supplied with funds and is prepared to develop on its holdings on an extensive scale.

PHŒNIX.

Tracklaying on the Phoenix spur has been resumed.

A few days since, about 4.30 a.m., 75 pounds of giant powder exploded in the thawing house at the Old Ironsides. The building, a log structure, was located a couple of hundred wards from the old shaft house. Frank Elmgreen, an employee, but not very seriously. Considerable glass was broken in the upper end of the town by the concussion, as well as some down town. Not a vestige of the thaw house remains, nothing being left but a large hole in the ground to mark the place where it once stood.

 that the forces at the Athelstan and Hartford where some good ore strikes have lately been made will also be increased. The Golden Crown will doubtless add men to the force now employed, as soon as shipping facilities are afforded. In a comparatively short time it is estimated that a careful count of the names on the payrolls will show that at least 100 men are working on these different properties.—*Planeer*.

SIMILKAMEEN.

The Sunset is down 190 feet and in very high grade ore (sulphide of copper). The development is progressing very satisfactorily.

The Coppercliff, on Copper Mountain, below the Sunset, has also uncovered a fine body of chalcopyrite.

The Lost Horse is developing a promising looking outcrop of earbonites of copper. This outcrop is some 200 feet from the shaft. W. A. Campbell is superintending the work, and is and is naturally very pleased with the new find.

Kennedy Mountain property is also proving satisfactory, the ore bodies getting richer and stronger on depth. The district is undoubtedly rich in copper sulphides and development is all that is needed to prove it.

CAMP MCKINNEY.

The Waterloo's stamp mill has resumed operations under the general management of Tom Graham, the company's largest stockholder. Five hundred tons of high-grade quartz is in the stopes and a full force of miners will keep the mill supplied hereafter. Orders have been sent by those on the inside to all mining stock exchanges where Waterloo is listed to pick it up at present prices. It is a well known fact that the Carriboo never milled better ore than that which will pass under the Waterloo stamps during the next 30 days.

The winze being sunk from the tunnel level on the Mammoth has reached a depth of 26 feet, and the indications are that it is being sunk in the centre of a rich pay shoot. The ledge itself is said to measure fully 36 inches between perpendicular walls. The quartz is well mineralized throughout with sulphurets of iron, and in the centre galena is coming in pretty freely, which is an excellent indication of high values. Recent assays gave the following returns; \$32, \$17 and \$46 in gold. The Mamm th Gold Mining Company of Spokane owns the claim, upon which the work has been continuous for a number of months.

GOLDEN.

C. Troyer arrived in Golden quite recently from Oxbow, Assa., to resume operations on his properties in the Windermere district, for which place he left.

FORT STEELE.

C. R. Brown succeeds J. L. Parker as superintendant of the North Star mine. Mr. Brown has been acting as agent for the company in Great Falls.

Dr. Brett, of Banff, and J. P. Curren, of Cochrane, are at present engaged in developing the Banff group of claims, situated near Moyie Lake.

Word was received from Kimberly to the effect that a contract for hauling 1,000 tons of ore from the Sullivan mines to Kimberly had been awarded to Paul Handley.

Work on the Invicta placers on the Wild Horse will be partially resumed in a short time. Some of the ground has been leased and will be worked this summer.

The Critchfield placer ground on Wild Horse is now being worked by a Fort Steele syndicate.

Unless all signs fail the Windermere country will be the scene of great activity this summer. A large number of men wintered in the country and many have gone in this spring, and others are coming almost daily into Fort Steele bound for that country of great possibilities. It is the most remote mining section in East Kootenay, and probably for that reason prospectors regard it as probably the best country in which to ply there vacation.—Prospector.

Tracy and Lewis creeks will be the scene of great activity this summer, and probably more mining will be done in that section than anywhere else in this vicinity.

REVELSTOKE.

We hear that the Standard Group of claims in the Big Bend Country have been acquired by the Prince Mining and Development Company, which has its headquarters at Revelstoke.

NELSON.

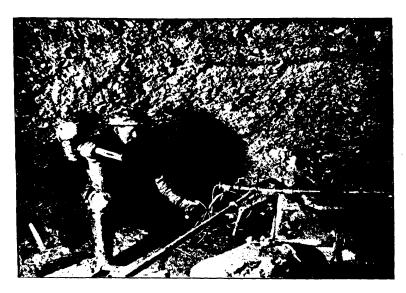
Athabasca, March crushings, 416 tons milled. Value, \$10,-674, or \$25.55 per ton.

KLONDIKE, Y. T.

The latest news from the diggings advises that great activity prevails on the creeks, and that the preparation for the season's wash-up are assuming definite shape and will be proceeded with so soon as the frost is out. The last mail from Dawson was on April 25th, which will be the last until navigation opens.

The S.S. Cutch is still carrying good passenger and freight lists. This Cutch is undoubtedly the best sea-going boat on the route, and we are glad to note that our local shippers recognize the advantage of supporting local enterprise. This is as it should be.

Eldorado, has a distinctiveness that is largely its own, and hardly follows the gold of the rest of the Eldorado tract; and the same is true of the gold of Skookum Hill in its relations to that of Bonanza, and also of the Victoria Gulch. Moreover, the recent assays that have been made by the Bank of British North America and the Canadian Bank of Commerce, in Dawson, to the gold of the different creeks and gulches, show plainly that marked differences as to fineness are distinctive qualities at least they appear to be such at the present time. Thus, while Eldorado and Bonanza gold generally assays but about \$15.50 of \$15.80 to the ounce, Dominion gold shows as high as \$17.80, and



THAWING THE GRAVEL, KLONDIKE.

KLONDIKE GOLD.

Assuming that alluvial gold is in the main a derivative from reef gold, says Prof. Angelo Heilprin, in Appleton's Science Monthly, it is certainly strange that streams flowing in well-nigh opposite directions, and yet rising within very short distances of one another, should be so largely charged with gold, nuless they have obtained it from a common source; nor can the fact, Hunker close to \$18.50. The gold of Bear Creek, a mind tributary of the Klondike, is reported to actually give \$19.2016 the ounce falling only behind the the ounce, falling only behind the almost pure specimens have been reported from Associated have been reported from American Creek and Manook, and which a valuation of court which a valuation of nearly \$20 has been given.

S. E. Adair, formerly a lieutenant the United States arm and now Dawson agent for the White Pass and Yukon railroad



WASHING GOLD IN THE KLONDIKE.

as received and reported by most miners, but of the full import of which I have not yet fully made up my mind, that the different streams carry different classes of gold, be argued away as having no significance in this connection. Claimholders profess at most times to be able to distinguish between Eldorado gold and that of Bonanza—between the gold of Bonanza and that of Hunker or Dominion and so on; and there is no question that marked differences in color and in contours of the coarse flakes and nuggets do present themselves, and even in narrower limits than has here been outlined.

Thus, the gold from French Hill, abreast of claim No. 17 on

says there are two claims in the Klondike, No. 16, Eldorado owned by T. S. Linny and S. Linny an owned by T. S. Lippy, and No. 17, Eldorado, the property owilliam Pickett and James Hall, which will close the season with a yield of \$1,000,000, each. Adair has just arrived from Dawson, says the Seattle Post-Intelligencer of the 29th April Discussing the Klondike output, he said: "The employment of so much machinery the last winter in the counter has greatly so much machinery the last winter in the country has greatly increased the output. There is no estimate which I wish the quote as to what the output will be the quote as to what the output will be, but it will easily be the banner year. Sulphur has forged to the front as one of great creeks. On 46 above, owned by Warren, the widest pay. Streak in the country has been discovered. It is 14 feet wide. For a while last year the owner would have been glad to sell the property for \$1,500 to \$2,000, and he was not able to get anyone to take a lay. A number of holes had been sunk, but nothing struck. At last Warren went out and sunk another hole just beyond the last of the row already down. Much to his surprise he got rich pay and shortly afterwards was offered \$200,000 for for his claim, and refused the offer. He was but a short while placing on the dump what was estimated to contain \$70,000.

R. Nesbet, of Glasgow, Scotland, who for the past two days has been registered at the Oriental Hotel in charge of a party of six men for Dawson City, left by to-day's boat for Victoria. Mr. Nesbet left Dawson last fall and returned to his home in Scotland and while there he conceived the idea of forming a barty of experenced men and bringing them to Canada to work claims owned by himself in the Yukon. The party are taking from here one Cape Nome gold rocker as an experiment and five hundred feet of rubber hose to be used in raising water for mining purposes, besides some smaller supplies. They have also with them a patent English thawing machine, which it is expected will be the first of its kind in the Klondike. Mr. Nesbet is the owner of six claims on Bonanza Creek on one of which he has had a force of twenty men at work all winter. He will be joined at Bennett by a friend of his, Capt. Bonsfield, and the whole party will then head direct for the scene of their operations. The party includes as right hand man, Mr. J. Mossman, a mining engineer, also of Glasgow, much of whose experience has been gained in the mines of South Africa. He is expected to prove a valuable addition to the party.

 $b_{\rm e}$ Commissioner Ogilvie states the population of the Yukon to 16,107.

ALASKA.

The Treadwell Mine on Douglas Island is to have an additional 240 stamps this year. This will give a total stamp capacity of 1,120 and will involve an expenditure of \$750,000. The frame work is in course of construction at Stetson & Posts' yards, Seattle, Wash. It is in charge of Angus MacKay, constructing engineer of the Treadwell.

This portion of the work will be completed this month, and the stamp mill addition will probably be on the ground and in operation by Nov. 1st. One million feet of lumber is being used in the construction of the frame work, which is to be shipped North on the steamers Alki and Santa Cruz.

It has been less than a year since the Treadwell made an addition of several hundred stamps, and as the property stands it has the greatest number of stamps in operation of any mine in the world.

CAPE NOME.

Pebuary 3rd, the Secretary of the Interior has forwarded to the Senate a report on the investigation made by the geological survey in the Cape Nome district of Alaska in 1899. The report says that the Nome mining region is an ill-defined area in northwestern Alaska, lying near the entrance to Norton Sound, a north-east arm of Behring Sea. It is named from an unimportant promontory on the southern margin of the Seward Peninsula, which forms the northwest extremity of our continent, lying between the Arctic Ocean and Behring Sea. Cook discovered it over a hundred years ago, and, skirting its shores west and northward, charted mountains, headlands and rivers, naming a number of them. Further investigations will probably trace a connection between the Nome deposits and those of Golofvin bay, and possibly with those of Cape York. If such connection is established the name Cape Nome mining region will probably include the entire southern margin of the Seward Peninsula. The width of the mineral-bearing belt is yet to be determined.

The gold in this region has so far all been obtained from placer deposits. The production of gold of the entire belt during the season of 1899 will approach \$3,000,000. The coarse gold, as far as present developments show, is largely confined to the creek and gulch diggings, ranging from the size of a pinhead to nuggets weighing several ounces. Two have been found on Anvil creek weighing twenty to twenty-five ounces, worth from \$300 to \$400. Much of this gulch gold is about the size of No. 3 shot, while nuggets from one half to one ounce are not uncommon. It is probable that much of the gold is lost by the more or less primitive method of extraction now in use. The gold is usually rounded and often smoothit. Polished—that is, having a water-worn character. In colour is rather dull and somewhat resembles tarnished brass. The nuggets are round and subangular, but seldom flat. Small vitreous quartz masses are not infrequently found attached to the nuggets.

BRIDGE RIVER.

Bend 'Or returns for the month of April are as follows: — Mill pan, 25 days 21 hours 15 minutes. Rock crushed, 500 tons, yielding 334.98 ounces; value per ounce \$16.49, total value, \$5,550.61. The actual returns in cash, from 19th March to 30th April, amount to \$11,750.96. The cost of mining and milling for the same period cost about \$3,000. The total net returns to date amount to \$37,705.58.

BARKERVILLE, B. C.

(FROM OUR OWN CORRESPONDENT.)

I do not undervalue the varied resources of the Province its fish, forests, and fertile soil—when I say that it is distinctively a mining country; indeed, the paramountcy of the mining industry cannot be doubted, all other interests are subordinate.

The great interior can support but a sparce population unless mines are developed there, and they will not be developed to any appreciable extent until placer mines can be developed with the same security of title, and at no greater cost, than in other mining countries. Hence, the Governmental mining policy should be to make British Columbia as favorable a field as any in the world.

Instead of shutting out foreign brains and capital let us have more of both. We have had quite enough of such Boer business as the Alien law. Twice the royalty on dredging output as from other mining, raising the annual rental of dredging leases from \$50 to \$250, and the constant accretion of taxation in one form or another. In short, if the gentlemen of the Provincial Parliament want us to quit mining they should keep on in the same line; but if that is not their purpose let them make it possible for the average man to discover in their Mining Acts more than a trace of sense to a ton of blunders. We are quite aware that it is a difficult task for the Government to raise sufficient revenue and are content to pay our share—no more. The situation is simply this: If British Columbia makes mining more costly, insecure and difficult than in other countries, then the goose will be killed that lays the golden eggs.

The hydraulic season in Cariboo promises to be early and short. Sam Medlicott, manager Cariboo Exploration Co., Ltd., Gus Lange, manager Dragon Creek Mining Co., and H. B. Beecher, manager Cariboo Mining and Developing Co., are getting their respective properties in shape for hydraulicing.

H. E. C. Carry, manager Cariboo Deeps, Ltd., has arrived from Vancouver and will resume drifting on Antier Creek and Nugget Gulch.

The Colonial Mines Development Co., Ltd., has begun hydraulicing on Summit Creek benches, and the deep channel prospecting is being continued without definite result.

Wm. Ogden has sold his half of the Ogden-McKenna ground at Eight-Mile Lake to the Sutherland Hydraulic Mining Co. for \$8,000. The same company has bought St. Clair's one-third interest in Coffee Creck, and a hydraulic is being installed here.

John Pinkerton has got in 500 feet in his tunnel between Coffee and Stewart creeks.

Pettry, Moore & Smith's tunnel, on upper Stewart Creek, is in nearly 500 feet and is expected to reach the deep ground and pay gravel in about 500 feet more. Good prospects have been found at the two places where their tunnel has touched the rim-rock.

Manager Windt, of the Slocan-Cariboo, Ltd., on Canadian Creek, reports a satisfactory prospect in the deep ground.

F. C. Laird, of Willow River, has gone to Chicago to engage men to work in compressed air, having been unable to hire local men for such work at \$3.50.

Frank Petrine and Wm. Ogden will hydraulic at Dunbar Flat, Lightning Creek.

J. Seymour Baker and James Deacon have bought the Mc-Alinden hydraulic on Grouse Creek. It is locally believed to be a poor investment.

Shaft-sinking continues steadily on the Inc. Expln. Co. of B. C. property, Slough Creek.

LARDEAU.

The Nettie L. is developing grandly, the ore keeping up if not increasing its values as depth is gained. The richness of the lead is most encouraging, and competent authorities express an opinion that this property will prove one of the best mines in the Kootenay.

The I. X. L. Group, which is adjoining and on which some drifting has been done, demonstrates that a valuable body of

ore exists there, and which appears to satisfy those concerned. The remarkable part of it is, to mining men, that such property is not worked—though it is whispered this is being contemplated.

The Silver Cup is another example of successful development in the Lardeau district. The two railways will help this camp wonderfully.

SLOCAN.

Work is being resumed on the Noble Five. It is reported that the property is about to change hands at 27c. per share.

One-tenth interest in the next property, the Last Chance, is said to have been sold, a few days since, for \$100,000,

The Galena Mines, at one time in the hands of an English company, who threw the property over because they struck a "fault" in the vein, is now being worked by Americans, who are developing the property into a dividend paying mine. The stupidity of English mining engineers is becoming proverbial. This is another instance of a good property lost to the Old Country shareholders through the want of a practical mine manager.

IN THE DIAMOND MINES AT KIMBERLEY BEFORE THE WAR.

\$17,256,070 THE ANNUAL PRODUCT.

Kimberley has the appearance of a mining town. It has been called the "tin town," because so many houses are built and covered with corrugated galvanized iron. The buildings are not high or in any way pretentious. Within the last few years a number of substantial structures have been erected; a new post office, city hall, and some business houses that have taken the place of the original ones destroyed by fire. The streets are very irregularly laid out; only a few cross each other at right angles. The population is about 30,000; not more than half are white. There is nothing at Kimberly or the surrounding country to induce a stranger to come here for pleasure or sight-seeing, outside of the famous and world-wide known diamond mines

The elevation of Kimberley is over 4,000 feet. Persons who have certain kinds of pulmonary or bronchial troubles come here and receive much benefit. Just outside the town limits is a modern and comfortable sanitarium or home.

My mind and time have been so taken up with what I have seen and heard in regard to the diamond mines that everything else here has little significance. One of the great inducements to visit South Africa was to see these mines and learn how these beautiful gems are secured.

I wanted to learn in full all that was being done, from the depths of the mine until the diamonds were ready for market. This can only be accomplished by having the proper permit from the manager's office. When I applied and presented my credentials, I soon found myself in the hands of Mr. Williams, assistant manager, a bright, wide-awake young man. We had a general talk regarding the diamond mines, their formation and the advantages of modern methods for securing the gems. Maps were shown to me of different levels under ground, where workings are carried on.

Suggestions were made as to the best way to visit the mines to advantage, and added to this, much to my pleasure, was an authorized permit giving me full authority to visit all the working above and below the surface. No one can tell in a letter or describe in words, to be fully realized, what is to be seen when making a full and complete visit to these various mines for two days, as I have had the privilege of doing. Diamond mines are different from all other mines in their formation. They have been correctly called collocal cylinders or large chimneys, 300 to 1,000 feet in diameter, which in ages gone by gave an outlet

for volcanic action that threw up from depths unknown liquid carbon that took on a form of crystallization and gave to the world these precious stones so much loved and admired.

These cylinder openings can be easily followed down from the surface by distinct lines, showing where the "kimberlite" or blue diamond-bearing ground, so-called, is separated from its surrounding formation. This is of a rock nature, and is taken out at first from what is called an open mine, until the great depth reached requires it to be taken through shafts, as is done in other deep mines. When this blue diamond rock is brought to the surface it is carried out and spread in large open fields, one or two feet thick, and left for the elements to work upon, and in time it dissolves, or is reduced to such a condition that it can be run through cylinders and washing pans, the true diamond composition separated from stones, large gravel, or anything not desired.

This pulverized dirt containing the diamonds is run through large, low, metal tubs, with arms containing iron teeth that go around from the center and mix up the dirt and water that runs in constantly. There are large numbers of these tubs, or rotar, pans, and in this way each day an immense amount of dirt is run off, called tailings or slime, which can be seen in piles man, feet high, and covering acres of ground. As this dirt is washed out and carried up in buckets to the slime pile, in another direction are coming into small tubs and clear water little pebbles, diamonds, and various collections, the result of this washing and separating process.

All this is taken to a special building and run through what is called the pulsators, a process these consolidated mines of and control, a valuable labor-saving machine that assists greatly in reducing the cost of production of diamonds. After this all the work is done by hand, selecting, grading or classifying the diamonds, as needed for market. A further explanation in regard to this "kimberlite," or blue rock, is that it must remain on the surface for months before it is in a pulverized condition, and even then there are more or less lumps of rock the elements fail to disintegrate. These are crushed by machinery, and are then suitable for the process I have described.

It is a great sight to look upon one or two hundred acres covered with this mineral as taken from the mines, each day thousands of loads being added to it, and at the same time so much as is added taken away of the dirt that has remained long enough to go to the mills. In this way there is a system atic routine of work carried out on the surface that soon convinces a stranger there is one at the head of all that is done who is competent and understands how to plan, direct, and make a grand success out of what appears to the looker-on as chaos, noise and a Babylonian talk among the different tribes of natives who do the hard laborious work.

My first visit was made to the Premier mine, which is now an open one, down 150 or 200 feet. It was interesting to stand on the brink and look down this cylinder opening, about 500 feet in diameter, and see hundreds of natives, with white men as bosses, digging out the blue diamond-bearing ground and loading up small cars holding about 1,800 pounds. They are run on little iron tracks by an endless wire rope, backwards and forwards, or up and down an incline through a deep open cut on one side, so the cars and their contents can be carried to the field, where they are dumped, and the hard, rocky material remains here until ready for use.

A record is kept of each load taken out of all the consolidated mines. The last annual statement shows that during the year 4,479,672 loads had been taken out. Of this amount 3,332,683 were from De Beers and Kimberly mines, producing 2,603,250 carats of diamonds, or an average of 80.100 of a carat to each load, and sold for £3,451,214. From the Premier mine were taken 1,146,984 loads, producing 189,356 carats, or an average of 27.100 of a carat to each load, and sold for £196,659. The total sales paid a dividend of 40 per cent., after deducting all expenses, on a capital of £3,950,000.

Zinance.

THE STOCK EXCHANGE.

LONDON, ENG.

The stock markets are waiting another relief; Mafeking would undoubtedly revive drooping spirits, or the entry into Pretoria, Johannesburg, or some decisive action on the Transvaal side. However, "everything comes to those who wait." The African complication does not control the whole show, although it influences greatly. Labor troubles in the United States have caused the U. S. rails to weaken, in fact American rails generally. There is a revival in B. Cs., Le Roi rising to 65%, being a recovery of about 17s. 6d. Realizations, however, is responsible for a fall to 67-16. Other stocks are firm. Lillooet and Fraser River, which up to the present have been unsaleable, have changed hands at 7s. 6d. Ymirs have gained a point or two, as also Alaska Goldfields.

Some big flotations are promised in the near future and the investing public seem to favor them. The amalgamation of the Leyland, the Atlantic Transport, the National, and the Leyland-Furness-Wilson, is a huge shipping combination and promoted by the Leyland Line. Capital \$25,000,000. Only preference shares offered to the public.

What a vast extent joint stock company trading has reached is borne witness to by the latest issue of the Stock Exchange Year Book. This bulky volume shows that the total number of limited liability companies existing in April, 1899, was 27,969, and the total amount of the paid-up capital was \$7,560,490,490. How rapidly these figures are piled up may be gathered by comparison with the registered position in April, 1889, when there were only 11,968 companies entered at Somerset House with a capitalization of \$3,359,350,920.

Mail advices from South Africa have been very gratifying to numerous manufacturing houses here recently. The iron and steel districts have a particularly good bunch of orders. Representatives of commercial houses, travelling in the wake of the advancing British army, report that the devastation caused by the war in many centres is incredible and replenishment orders are pouring in.

he is made of the right stuff, and cannot be knocked out by even organized envy. Mr. Hooley has been granted the right to work goldfields, some 8,000 miles in area, in the Nertschinsk region of Siberia. The Imperor Nicholas has hitherto worked these fields as his own private property under the direction of his private cabinet. Mr. Hooley says: "By a single move have won everything back, and I am again on the top." A company has been formed and capital, to the her of the Czar's cabinet is interested, and two of his strongest councillors are on the board of directors.

British Columbia for a man of your stamp. Here the People want electrifying into life. Wealth in the ground all around and yet apathy reigns supreme.

thanking him on behalf of the Canadian Government and on his own behalf for his kindness and promptitude in opening a fund for the relief of the Hull fire sufferers. Donations to this fund, including 1,000/. from

the Bank of England, now amount to 132,500/. The Queen has contributed 500 guineas, and the prince of Wales 250 guineas. Totaling roughly \$662,500.

RECENT REGISTRATIONS.

(LONDON, ENG.)

London and Dawson Agency, Limited. — Capital £2,000, in £1 shares.

Cape Nome (Alaska) Syndicate, Limited.—Capital f.12,000 in f.1 shares.

Cape Nome Goldfields, Limited. - Capital £1,000.

French Canadian Syndicate, Limited. — Capital £2,000 in £1 shares.

Klondike Corporation, Limited.—Capital £200,000 in £1 shares.

Tyce Copper Company, Limited.—Capital £120,000 in £1 shares. Object: To adopt an agreement between the Tyee Development Company and this company for the acquisition of certain mines, mining rights, etc.

The Stock Markets.

LOCAL STOCK MARKET.

PA	R VALUI	E. PRICE
Alberni Con	1 00	51/2
Alberni Mountain Rose	1 00	5 1/2
Athabasca	1 00	25
Big Three	1 00	6
Cariboo Hydraulic	5 00	\$1.15
Cariboo McKinney	1 00	90
Canadian Goldfields		61/2
Crow's Nest Coal	25 00	3 8 oo'
Dardanelles	1 00	3
Deer Park	1 00	2
Evening Star	1 00	9½
Grand Forks of Bonanza	25	50
Hall Mines	1 00	_
Iron Colt	I 00	
Iron Horse	1 00	
Iron Mask	1 00	40
Knob Hill	1 00	53
Le Roi	£5	£6 9-16
Mineral Hill	1 00	05
Minnehaha	1 00	334
Monte Christo	I 00	5
Montreal Goldfields	1 00	4
Morrison		31/2
Noble Five	I 00	7
Novelty	1 00	03
Old Ironsides	1 00	80
Payne	I 00	1 09
Rambler Cariboo	1 00	26 1/2
Rathmullen	1 00	04
Slocan Star	50	
St. Elmo	1 00	
Van Anda	1 00	3 1/2
Victory-Triumph	1 00	021/2
Virginia	1 00	
Waterloo	10	o 6
War Eagle	1 00	1 40
White Bear	1 00	21/4
Winnipeg	1 00	14
• •		

THE PAYNE MINE.

At a meeting of the shareholders of the Payne Mine, held at Montreal recently, the president announced that the dividends would be resumed, but he did not specify the amount. It was explained that the present output of 1,000 tons a month would net \$57 a ton, or \$57,000 per month, which takes \$15,000 for working expenses and leaves a net monthly profit of \$42,000, or more than sufficient by \$16,000 to pay a monthly dividend of 1 per cent. on the capital of \$2,600,000. The old board was re-elected, Colonel Henshaw being president.

B. C. AND KLONDIKE QUOTATIONS.

LONDON, ENG.

A1-1 - O 110 11
Alaska Goldfields,
Athabaska 1/
British America Corporation
B. C. Development Assoct
B. C. and New Find Goldfields,
Dominion Mining Development and Agency 5%
Duncan Mines,
rian wines, is od
Klondike Bonanza
Le Roi
London and B. C. Goldfields 13%
McDonald's Bonanza, 34
New Goldfields of B. C.,
Queen Bess Proprietary
Velvet,
Whitewater Mines, 11-16
Yukon Goldfields, (new) 13/4
Ymir Gold Mines, 11/8
1/8

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