

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from: /
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

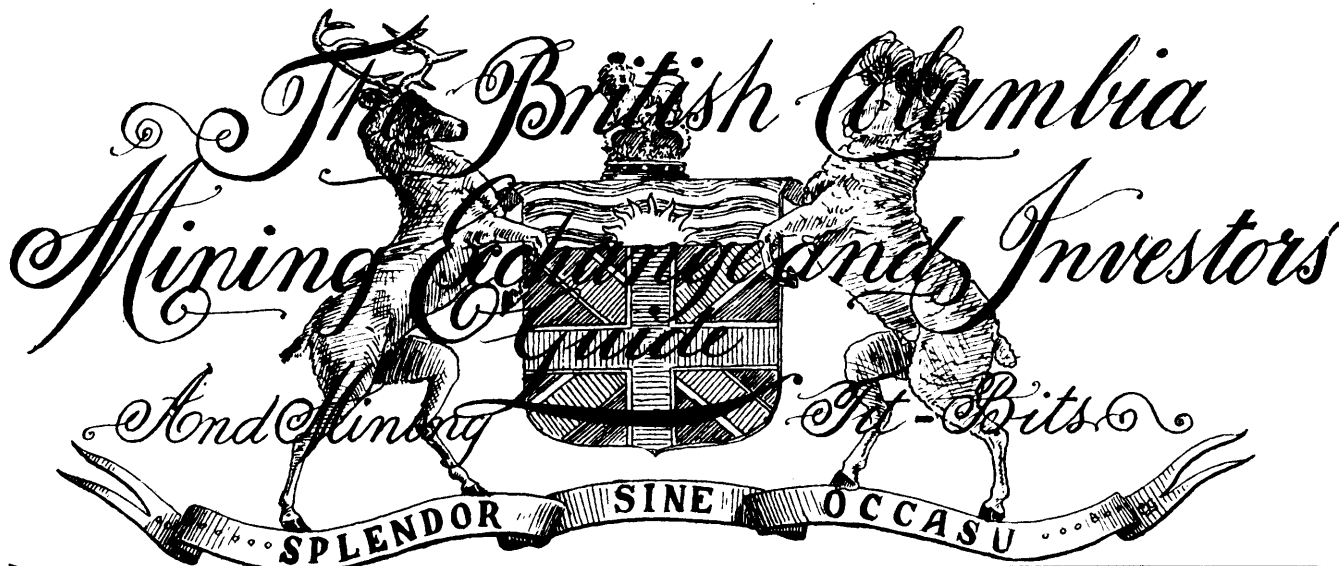
Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X



Vol. II, No. 4.

VANCOUVER, APRIL, 1900

PRICE 20 CENTS.
\$2.00 PER YEAR.

MERCHANTS BANK OF HALIFAX

INCORPORATED 1869.

Capital, \$2,000,000.00. Capital Paid-up, \$1,985,070.00. Rest, \$1,700,000.00

HEAD OFFICE, HALIFAX, N. S.

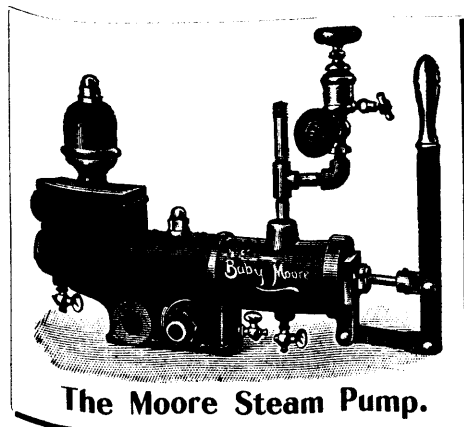
Branches in the Provinces of Nova Scotia, New Brunswick, Prince Edward Island, Ontario, Quebec and British Columbia; also at St. John's, Newfoundland; Havana, Cuba; New York, and Republic, Wash.

A General Banking Business transacted. Drafts and Letters of Credit issued. Money transferred to any part of the World. Gold Dust Assayed and Purchased.

BRANCHES IN BRITISH COLUMBIA—Atlin, Bennett, Grand Forks, Nanaimo, Nelson, Rossland, Vancouver; Vancouver, (East End); Victoria.

London Agents—THE BANK OF SCOTLAND, Bishopsgate Street, through whom money can be transferred direct to any of our Branches.

W. M. BOTSFORD, Manager, Vancouver Branch.



THE Moore Steam Pump

For Creameries, Boiler Feeders, Tank, Vacuum, Air, Milk, Acid, Brine, Artesian, etc.; Handling from 250 to 5,000 gallons per hour.

This pump is giving the best general results of any small pump heretofore put upon the market. While adapted for all classes of ordinary work, its special features permit of its use in the most difficult places, where pumps of other makes are not practical.

Moore's Steam Pumps are kept in stock and orders can be filled promptly. Write us for further information.

ARMSTRONG & MORRISON,

OFFICE AND WORKS,

VANCOUVER, B. C.

Foot of Heatley Avenue.

Manufacturers of Hydraulic Riveted Steel Pipe, Mining and Waterworks Plants, Ore Cars, Ore Buckets, Boilers, etc. General Machinists.

Grand Forks of Bonanza Gold Mining Co., Klondike, Ltd.

PRESIDENT—THOS. KITCHIN, Esq.

SECRETARY—T. R. HARDIMAN, Esq.

MINE SUPERINTENDENT—M. MARKS, Esq.

This Company have the following properties :—Bench Claims ; No. 43, Quartz Creek ; No. 16, Dominion Creek ; No. 3, Little Skookum Gulch ; Grand Forks ; El Dorado ; and have further acquired ten Bench claims (double,) 8 to 13 on Last Chance, Hunker Creek ; three of which are proved properties, being prospected to a depth of 12 ft. with average value from surface gravel of 25c. to pan. No. 14, adjoining, took out \$60,000 this summer.

For particulars, maps, plans, etc., apply to Secretary, Head Office, 612 Cordova Street, Vancouver, B. C.
A further issue of 50,000 shares are offered at 50c., to enable the company to put in two more 20. horse power machines and for working capital.

Special Machinery, made in VANCOUVER, working most satisfactorily.

HEAD OFFICE:

612 CORDOVA STREET, VANCOUVER, B. C.

E. SPILLMAN,

WHOLESALE - WALL PAPERS - AND RETAIL.

Room Mouldings in Colors to suite all Papers. FRESCO PAINTING and INTERIOR DECORATING.

Designs and Estimates given when required. House Painting, Graining, Kalsomining and Paper Hanging of every description.

Telephone 745

70 East Cordova St., Vancouver

ASSAYER IN CHARGE OF PROVINCIAL GOVERNMENT ASSAY OFFICE.

W. PELLEW HARVEY, F.C.S.,

Member of the Institute of Mining and Metallurgy.

ASSAY OFFICE AND ORE TESTING WORKS, VANCOUVER, B. C.

Representative for Vivian & Sons, Swansea ; Elliott's Metal Co., Wales ; Cassell Gold Extracting Co., Glasgow.

Cable Address—ANALYSIS. VANCOUVER.

The White Pass and Yukon Route

Pacific and Arctic Railway and Navigation Company.

British Columbia Yukon Railway Co.

British Yukon M. T. & T. Company.

“The Scenic Railway of the World.”

FREIGHT shipped through in Bond. Direct Route to KLONDIKE, ATLIN, and CAPE NOME GOLD FIELDS. Send for one of our Folders, containing Maps of Alaska. For Rates, Routes, etc., address—

E. C. HAWKINS,
GENERAL MANAGER,
SEATTLE, WASH.

S. M. IRWIN,
TRAFFIC MANAGER,
SEATTLE, WASH.

A. H. B. MacGOWAN,
AGENT,
VANCOUVER, B. C.

A Work of Art, in the way of Souvenir Playing Cards, each one with a View of Alaska on its face, will be mailed you for \$1.00 in stamps.

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

And Mining Tit-Bits.

VOL. II.—VANCOUVER, B. C., APRIL, 1900—No. 4.

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.

GIVE BRITISH COLUMBIA A CHANCE.

The Province possesses a mineral belt equal to any on this sublunary sphere, but for want of capital to develop we are still mainly in embryo.

Our people have the wealth in the ground, not being in a position to get it out. To those willing to assist them in the operation large fortunes will result. Given a tithe of the chance which has been shown South Africa and Australia we will astonish the world. To do this, however, money is necessary, and money makes money when the proposition is a good business one, and that should be well ascertained.

The Dominion Pacific Coast output of *Gold* alone, even under existing want of development funds and such a small comparative area of mineral lands worked—for 1899 is: Yukon, \$16,000,000 (to this may be added at least another third, which undoubtedly the ten per cent. royalty has caused to be smuggled out), so that a moderate estimate gives us \$21,000,000; estimating the B. C. gold production at, say, \$3,000,000, or a total of \$24,000,000. To which we add the U. S. Pacific Coast gold output, \$72,000,000, giving a total Pacific Coast Gold production, for 1899, of \$96,000,000, or nearly one-third of the balance produced in other parts of the American Continent and the Old World combined.

These facts should surely prove that gold mining is a business and not a gamble, and when taken hold of as a business proposition there is no legitimate business that can compare with it in results.

M. T. A. Rickards, M.Inst.M.M., in a paper read before the institute, says in a most practical and forceful way: "Mining is not a scientific pursuit, although at times it may to the observer have seemed to be either that or one big insanity. But mining is an

industry. The good sense which financial men have of late years contributed to the operations has done much to bring it from a windy mistiness to the solid footing of sound business. The main purpose is not to develop the waste places of the earth, but simply to win a profit by extracting ore out of the ground. The result will be reliable in proportion to the care taken. Any shirking of difficult places in the mine, any avoidance of hard portions of the vein, any assistance from untrustworthy hands, will vitiate the result. Careful sampling is worth a bushel of suppositions, and the painstaking determination of the working costs is better than any amount of geological generalities. In the estimate of costs are many items—breaking of the ore, development work, equipment, milling, management, etc. Then the question of available ore, or likely to be available on exploration. This is the *pons assinorum* of mining. Often that which is described as ore in sight is out of sight. When values of ore and tonnage available have been arrived at and working costs determined, the engineer has the greater part of the evidence needed to submit to the client he is advising. The padding of a report with a large amount of geological disquisition where it is not necessary to a comprehension of the facts of the case, is very nearly an impertinence, seeing that it is not expected that it will be understood by those for whose guidance it is written."

Had the Government of British Columbia the good fortune to possess men of the same character and quality as those composing the Governments of the Australias or South Africa, our position as a mineral producer would have been equal to any long ere this.

THE ROCKS.

(Continued from No. 3, Vol. II.)

Gradually, through many æons, the deposits have become of greater thickness in those parts where erosion has taken place continuously, in many cases obtaining a depth of over 50,000 feet. The immense pressure in these parts has caused a depression of the earth's crust, which, pressing in turn on the liquids or gases imprisoned in the interior of the globe, have caused an upheaval and folding in others, forming the primary mountain ranges, at the same time causing a weakness of the raised portions: first, by the wearing away of the primary rocks and, secondly, by the tension on the outer rim of the elastic earth crust. So as one dynamic period has been formed others followed in succession, and are still and always will be forming in more or less degree whilst our globe has motion or until it has become a solid sphere.

Essentially consequent on the eruptive periods are the minerals of value to the mining world, and to them do we owe our mining camps.

When the crushing and folding took place and the primary and sedimentary rocks were broken and folded, whole areas of volcanic matter were upheaved into and through the natural fissures formed. This volcanic matter carrying with it, partly in solution, the

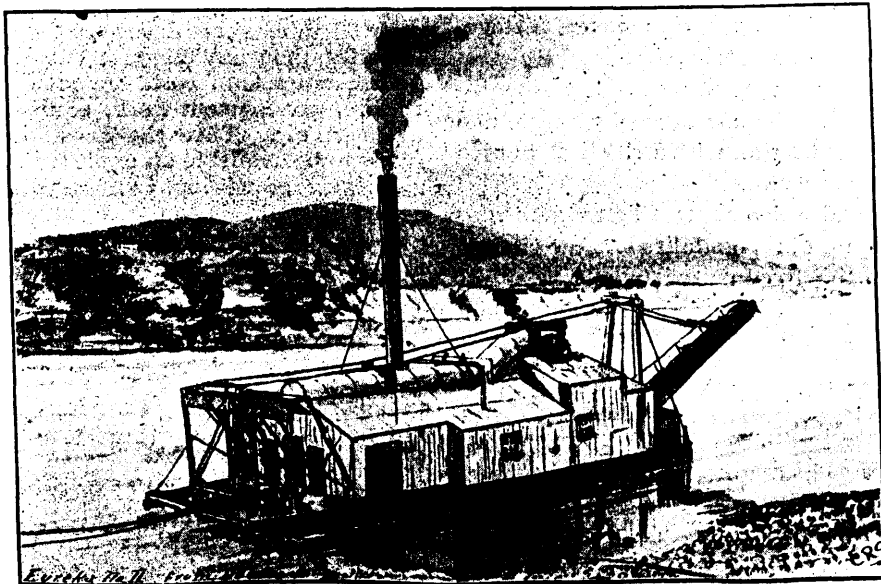
chemicals requisite to crystalize out into the valuable minerals. All was in a molten state, running over and covering large tracts of country, intruding itself into every flaw and crevice in the sedimentary rocks and often finding its way between two strata of different ages, lifting these above it until it found a vent or became solidified by contact with the cooler rocks, altering them greatly from their original state and creating the metamorphic series.

In the cooling process these eruptive rocks became fissured themselves, and also left, by shrinkage, minute irregular spaces between themselves and those formations through which they had come. Through these fissures and spaces the highly mineral-charged liquid gases, emanating from the still molten interior, have forced their way, eating out on their course the softer portions of rock and enlarging the spaces through which they came, gradually crystalizing out into veins and ore zones, which are known as fissure, contact veins and deposits—of which more hereafter.

character had to be encountered and overcome ere the pioneers reached the Northern El Dorado, but capital and engineering skill have now removed these obstacles and one can travel through in comfort if not luxury.

DREDGING IN BRITISH COLUMBIA.

Considerable doubt has been expressed with regard to dredging ever becoming a paying industry in this country. The doubt is sustained by the records of the past, having been very far from satisfactory. Truth to tell, we are now going through the same experience here that the dredging companies went through in New Zealand some ten years ago, when the industry was in its experimental stage there. It took a number of years of continued reverses, each reverse only stimulating to new energy and more improved methods until at last success attended determined effort. The gold was there and it simply meant the devising of



The various periods of disruption and their approximate ages can only be determined by a careful consideration of the general construction of these rocks and their chemical composition. The different ages have a considerable and important bearing both on the values and classes of minerals to be met with; certain ages being throughout whole districts utterly barren of values. As the eruptive series are of vast importance in British Columbia and throughout the great ranges running lengthways through the American continent, and as the mineral areas of known importance are directly or indirectly associated with them, they will receive particular attention.

To be continued.

THE WHITE PASS AND YUKON RAILWAY.

The Company has decided to establish a daily service between Skagway and Dawson, to commence on June the 1st next. This brings the goldfields another step nearer civilization, and we doubt not but that this enterprising corporation will eventually push on to the northern capital the steel road that, under such difficulties, they have already to Cariboo Crossing, and bring it within a few hours journey of Skagway. The retrospect is an object lesson. Some two years since, difficulties and hardships of extreme

methods of recovery. Now there are several hundred dredges working successfully in that country, and all paying substantial dividends. Values as low as 1 3/4 grains per cubic yard are being worked successfully.

We have gold in B. C., in the Fraser, Thompson and many others of our rivers, in large quantities, often showing values far above the average of New Zealand, and to all appearances exceptional ground to work; though we have in most cases a greater preponderance of boulders—only another difficulty for perseverance to overcome.

About ten or twelve years ago the first dredges were built on the Fraser and Thompson rivers. These were antiquated concerns even then; either of the clam-shell or centrifugal pump style, and were not at all suitable to the strong currents and heavy river wash to be handled. This was soon demonstrated, but other methods were slow in being tried.

Instead of going to experienced sources for advice, there seems to have been an antipathy to using any machine that had proved successful elsewhere, and all sorts of excuses were put forward for this, such as "that the currents were different and the boulders larger and more numerous."

The true reason was one of jealousy—something, by the way, which seems indigenous here,—and those who had interests here in this line wanted to have all

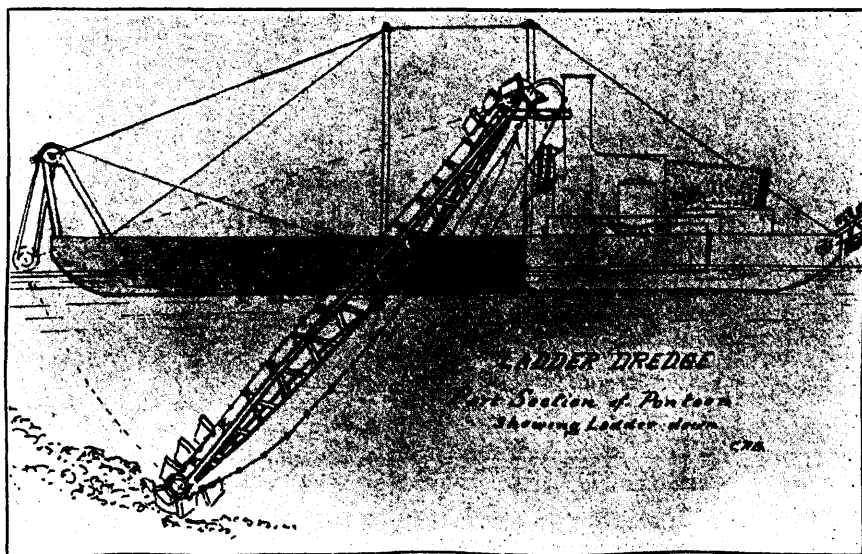
the say and all the kudos, did not wish for and were afraid of opposition in their line of business from men who really understood it. The former parties had some knowledge of ordinary river and harbor dredging, but none whatever of gold dredging.

Some of the apparatus placed on the rivers were excellent as far as moving ground went, but were not applicable to the work they were required for. Some might have been in a degree successful had those who were running them had experience in the business or known anything of the ground they were working, and had the dredges been placed on ground suited to them. One only, as far as we can ascertain up to date, has made any appreciable success. This dredge is working at North Bend on the Fraser. It is only an antiquated outfit, as dredging goes now-a-days, being of the dipper class, and has been made a success only by extremely careful handling of well selected ground.

Within the past year or so several engineers, thoroughly acquainted with the industry in New Zealand, have gone over the B. C. ground and have decided

hope that Mr. Cobledick may make a success of it for sake of other B. C. properties.

Mr. William Rattray has just completed a dredge at Yale, which, though of the dipper type, is supplied with modern screens and gold-saving appliances, and also with a conveyor to carry off the tailings and deposit them away from the dredge. The capacity of this dredge will be somewhere in the vicinity of 1,200 cubic yards per diem. Mr. Rattray is manager of the Fraser River Consolidated Gold Company, Limited, who own very extensive concessions below Yale Canyon on the Fraser River and intend to thoroughly explore them. Some few miles below Yale, another company has been for some time past working with a centrifugal pump dredge, having at last struck ground which is paying this season. The Big Bar dredge above North Bend is of the same class as the one at North Bend, but it has not been a success, although working in ground said to average 25c. per cubic yard. The ground is claimed by experts to be exceptionally good.



that the conditions here are decidedly favorable, with proper appliances and modern improved dredging plants; they also claim that the exigencies here are the same as those in New Zealand.

A dredge is now being built for the Cobledick Company at Lytton, which is by far the largest venture of its kind as yet attempted in B. C. It was designed by Mr. Satchell Clarke, who has had a large and successful experience in New Zealand as dredge-master. The machinery was manufactured under his supervision in Scotland and is a fine piece of work.

The pontoons on which this machinery was to be placed have, however, not been built according to his ideas and are not approved by him. There is a chance that this may cause a flaw in the working of the whole. However this may be, Mr. Clarke saw fit to sever his connection with the Cobledick people and did not install the plant. We were informed by him of the likelihood of this occurring some time previous to the machinery arriving here. The company has acquired about twenty-five miles of river above Lytton; much of this ground has been tested and proved to contain values ranging approximately between 10 cents and \$1.00 per cubic yard. The only fear of failure arises from possible bad management and that running of the dredge may be placed in inexperienced hands. We

This year the season of low water should be a long one; the break up of the rivers has commenced earlier than usual and, as there is very little snow to melt, there should be virtually no high water and work should be almost continuous, and good results may be looked for. There is, however, great want of thoroughly experienced dredge-masters, and the best results cannot be expected until they are employed.

There is another point in connection with dredging here which has as yet not been brought out, that is, the working of the numerous high lying deposits, benches and old channels, which are now being worked by shaft and tunnel and hydraulicing, by what is commonly known as dry land dredging; where dredges are built on the ground and afterwards floated with sufficient water brought down for the purpose. Once floated large areas of ground can be worked over, the dredge carrying the water along with her onwards, laying the tailings away to one side with conveyors. This mode of working has almost done away with hydraulicing in New Zealand, and other countries are fast following the example. Vast areas exist here which could not be worked by any other means.

It is reported that Howard Gould, of New York, is developing properties at Kitsalas Canyon in the Omenica.

MINERAL DETERMINATION AND
MINERAL TERMS.*(Continued.)*

Silver, (ag.) is one of the precious metals, used as a medium of exchange, as also for utensils, ornaments, etc. Specific gravity, 10.53. Color, a brilliant white, when perfectly fresh, tarnishes when exposed to the atmosphere, particularly should any sulphur gases influence it.

It is extremely malleable and ductile, though harder than gold, and somewhat softer than copper. When pure, can easily be cut with a knife and is extremely hardened by a small portion of alloy.

The silver coin of the United States and France contain silver and copper in the ratio of 9 to 1; that of England, in the ratio of $12\frac{1}{3}$ to 1. Is found principally in combination with other substances forming ores.

Native silver, however, is not uncommon and is found naturally in Mexico, Arizona, Norway, South America, Australia and occasionally in British Columbia. It occurs in isometric crystals, but mostly in

Silver amalgam, gravity 14, is heavier than pure silver and contains 64 per cent. mercury to 33 of silver; color, bright silver white, very soft and easily cut with a knife.

Stephanite; sulphur, 16; antimony, 15; silver, 68 per cent. Hardness, 2.2-5; gravity, 6.3; lustre, metallic; color, iron black; fracture, uneven.

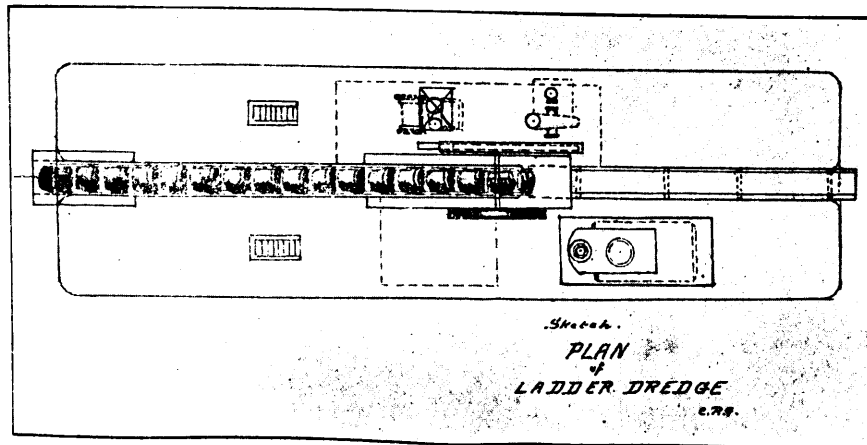
Hessite is a telluride of silver. Hardness, 2 to 3.5; gravity, 8.4; lustre, metallic; color, lead to steel gray; fracture, even, sectile.

All sulphide veins of copper, antimony, zinc or lead should be tested for silver.

To test minerals for silver, dissolve a piece in nitric acid, pour on strong salt water and if the white powder resulting should turn black on exposure to sunlight, it contains silver.

As this treatise is written for the information of the prospector in particular, and as I have referred to the specific gravity of metals throughout, without up to the present defining the importance of its character, I shall next proceed to supply this deficiency.

Specific gravity is the gravity of a body considered in relation to its bulk. The comparative specific grav-



arborescent or branching groups, in scales, thin leaves or wirelike in form, often in nature alloyed with gold. We have seen some beautiful specimens of native silver from the Lardeau and Ainsworth camps, B. C., also leaf silver from near Kamloops, B. C.

Silver dissolves readily in nitric acid, forming silver nitrate; adding to this solution, hydrochloric acid or sodium chloride, will cause part to separate and form a white curdy deposit of silver chloride.

Argentite, or silver glance, (sulphide of silver). Gravity, 7. Pure silver (which is rare) contains 87 per cent. of metallic silver, mostly found mixed with galena. Hardness about 2, easily cut with a knife and to some extent flattening under the hammer, almost all other sulphides being brittle and break into fragments from a blow. Lustre, metallic; color and streak, grayish black.

Ruby silver. Gravity, 6 to 6.5. When dark red in color (pyargyrite) contains per cent. 60 of silver, 20 of antimony, 12 of sulphur and 8 of oxygen. It has a metallic lustre and is usually found in crystals; it is termed proustite when a clear transparent red color and is a double sulphide of silver and arsenic, containing 65 per cent. of silver.

Cerargyrite, or horn silver, (silver chloride), gravity 5.5; contains 75 per cent. silver and 25 chlorine. In appearance it looks like a pearly gray putty and is easily cut, being quite sectile.

ity of bodies is mostly ascertained by weighing them in water.

A solid body of the same specific gravity with water, when immersed in it, will neither rise nor sink. A body lighter than water will rise to the top, and take up such a space below the surface, that the weight of water which that space would contain, will be equal to the weight of the body.

Thus a ship displaces a bulk of water equal to the weight of the vessel and lading.

Fishes have within them a bladder of air, by compressing or dilating which, and thus diminishing or enlarging their bulk, they are enabled to rise or sink in the water at pleasure.

By weighing metals in water, we can discover their adulteration or mixtures with tolerable exactness. Thus a five dollar gold piece and a counterfeit coin, if weighed in air will appear both of the same weight. But if weighed in water, the real coin will lose only the 19th part of its weight and the counterfeit the 8th part.

The instrument used for weighing metals in water is called the hydrostatic balance, said to have been invented by Archimedes, from an observation which he made while bathing, that the water rose in proportion to the part of his body immersed; whereupon he is said to have been so transported with joy, that he ran out crying: "Eureka, Eureka! I have found it, I have found it"

The cause of this exultation is said to have been owing to the following circumstance: Dionysius, the tyrant of Syracuse, had employed an artist to make him a crown of gold which, although of the weight required, he suspected to be mixed with alloy, and applied to Archimedes to ascertain the fact. From the impossibility of doing this any other way, without injuring the crown, than by the hydrostatic balance, and from the anxiety of Archimedes to solve so curious a point, we may imagine his joy on this discovery.

He first found out how much the crown lost of its weight when weighed in water; next, how much a piece of gold equal in weight to the crown, lost of its weight, and so detected the fallacy.

As we can thus discover the specific gravity of different solids by plunging them in the same fluid, so we can discover specific gravity of different fluids by plunging the same solid bodies in them, for in proportion as the fluid is heavy, so much will it diminish the

exploitation. There is little doubt that when roads and railroads have opened up the interior, so that machinery can be got in, they will prove of great value to the country.

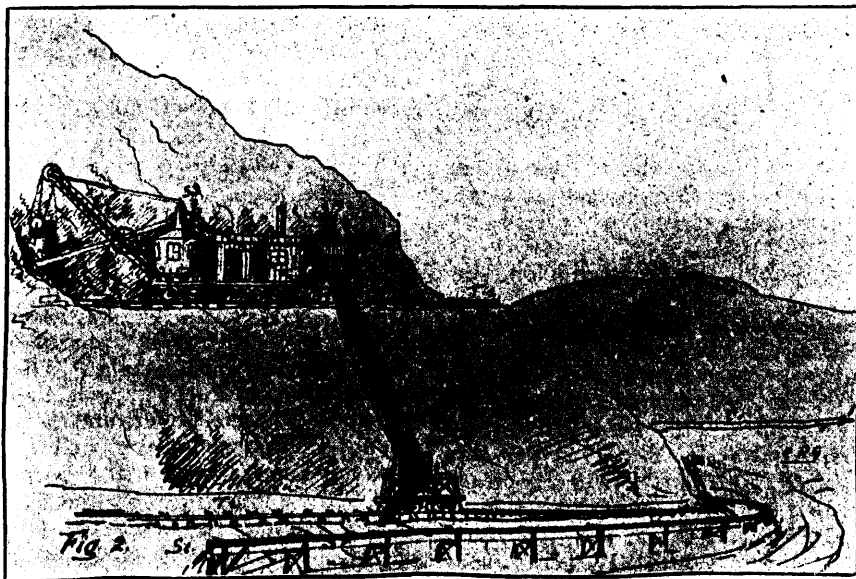
GRAND FORKS OF BONANZA GOLD MINING CO., KLONDIKE, LIMITED.

The following report is issued by the Grand Forks of Bonanza Gold Mining Co., Klondike, to the shareholders:

Dec. 1899.

Your Directors have great pleasure to present you with the following statements, re the Company's development to date: The capitalization of the company is \$125,000 in 500,000 shares of 25 cents each, 240,000 going to vendor in full consideration for the properties handed over to the company, viz:—

1. Skookum Gulch; 2. Bench claim No. 43 Quartz Creek; 3. Lode claim, Dominion; 4. Lode claim, corner El Dorado and Bonanza, known as "Grand



weight of the bodies immersed in it. Thus a solid that swims in water, will sink in spirits of wine; and a solid will sink in water, which swims in spirits of nitre.

In our next, copper ores will be referred to.

To be continued.

FRASER RIVER CONGLOMERATES.

An article appeared in *The Record* setting forth that one Ludloff by name lays claim to the discovery of the source of gold in the Fraser River. The conglomerates mentioned by him have been known to miners for many years and their connection with the placers recognized. As far back as eleven years ago quite a little excitement occurred when it was reported that values up to \$7.00 in gold were obtained on samples taken from them on the upper North Thompson, at the same time a conglomerate belt was struck within 45 miles of the Coast and north about 700 miles from Vancouver. Attempts were at that time made to form a company to work them, but the difficulty of transportation then existing prevented anything being done. The conglomerate belt, of which these discoveries are a part, is of very great extent, covering a large portion of the interior of this country and are well worthy of

Forks"; 5. Lode claim "Kalgoorlie", Hunker Creek. 100,000 shares were offered for subscription in April last, 1899, and fully subscribed, to enable the company to purchase machinery plant, outfit, etc., to ship the whole with men, horses, etc., freight and insurance paid via Bennett to Dawson. Your directors are happy to state that they were enabled to carry this successfully and satisfactorily out, having had three machines made from 4½ to 15 horse power, and one 4½ horse power engine for hoisting, the whole being shipped through in charge of superintendent Marks safely to Dawson, where they arrived about the second week in August, the superintendent being hopeful of having got through in time to have shown returns for the company before the frost set in. He at once, on arrival, had machines put together and installed and six men were set to work and got some 300 to 400 buckets of gravel out, yielding an average of over a dollar per bucket. The frost, however, set in at night and cut the sluicing short. Your superintendent then decided to push work on 43 Quartz creek, where he had two men employed to sink 16 feet, struck the pay streak and got men to sign to work through the winter, said men agreeing to take their pay on the wash up. Your superintendent estimates the value of the wash-up will be a satisfactory figure. Skookum Gulch property was then prospected satisfactorily, having an average of 10 cents to the dish.

Your superintendent reports cabins erected on Quartz and Skookum Gulch, and that the other properties are protected. The representation papers signed by the gold commissioner being in the company's hands and all in good order, your superintendent advises your directors that the Grand Forks property be bought straight out by the company from the government and permission obtained to have the property surveyed as a town site. This would be an extremely lucrative investment as the company could lease the lots at a good figure. Your directors have some ten months to do this in, should this be decided on, which your directors think favorably of. Your superintendent has further secured for the company 10 claims (double-bench) 8 to 13 on Last Chance (Hunker Creek) three of which are proved, and which the company's solicitors have advised the transfer, which has been made.

Your directors have great pleasure in advising a further issue of 50,000 shares at 50 cents, so as to provide a working capital to enable your directors to carry out the objects mentioned, viz:—purchase of Grand Forks property and working capital for at once developing the Hunker creek diggings; also to enable the company to place two 20 h. p. machines with derrick and engines on the property so as to obtain the quickest and best results.

The prospecting tests on Nos. 12 and 13 have given from surface gravel down to depth of 12 feet, 10 to 18 cents per pan. The adjoining claim No. 14 took out last summer \$60,000.

Messrs Hunter and Waugh, well known Klondyke millionaires had given their opinion of this locality and are united in their reports as to their value, which they say are as rich as any in the Yukon. Mr. Rudd, of the mounted police, who was stationed on Last Chance and Hunker creeks last summer, also gave his field notes on these properties, No. 11 lower half third tier; average prospecting test washed \$100 per day per man; No. 11 upper half third tier, average prospecting test 20 cents to dish; No. 10 third tier average 50 cents per pan. Mr. Rudd collected the royalty on these creeks for the Government during the last season, which amounted to \$86,000.00, thus supporting fully your superintendent's report. This is sufficient to show the value of the company's property, independent of your superintendent. Therefore, your directors are extremely pleased to say that the company's position is most satisfactory, and our properties as good as the best, consequently our prospects of the brightest.

Your directors appreciate the fact that the acquisition of these Hunker claims have considerably enhanced the value of the company's shares and in securing them they have done so advisedly and in the company's best interest. Your directors have secured them on the most favorable terms, viz:—

For further providing capital to the extent of \$5,000, \$5,000 in shares and a further \$5,000 to be paid the vendor after all expenses, working or otherwise, have been paid, and from the gold won from the ground. Your directors have therefore, assumed no further responsibility other than working capital which of course must be reckoned on in any event.

Some 125,000 shares have been disposed of, leaving a treasury balance of 135,000 shares of which 50,000 shares are offered at 50 cents for the purpose stated, leaving a treasury balance of 85,000 shares.

Your directors further express every confidence in your superintendent, M. Marks, who has worked so assiduously in the interest of the company, without salary, which himself as also the other officers of the

company agreed to do till the gold is won on the wash-up.

This, your directors maintain, is sufficient to prove the bona fides of your interests and speaks for itself the opinion practical mining men have of the value of the company's diggings. Your directors are pleased to endorse the recommendation and report of your superintendent.

T. R. HARDIMAN, SEC.

Superintendent Marks with four men left Vancouver on March 20th, to take up the work on the newly acquired property and superintend the washup, and we trust ere this are on the property.

THE BEARING OF UNITED STATES LAWS ON NOME PLACERS.

As a locator of mining properties, under United States laws, is not questioned as to his nationality until such time as he applies for patents on the property, this gives him two years clear, in which he can work and test his property unmolested, and can make output from them. There is not much likelihood of there being any difficulty with regard to Canadians and other aliens holding property during that term either in Alaska or Nome, as the average life of a claim, if diligently worked, will not as a rule exceed two years.

AFTER FOUR YEARS.

Mr. A. E. Lee arrived from the North by the S.S. *Amur*, having bicycled from Dawson to Bennett and having had to walk only some thirty miles the whole distance. He was one of a party of six who left Edmonton, N.W.T., in August, 1897, over a trail rightly named the "death trail," pulling a hand-sleigh some 3000 miles of the distance. They followed the Mackenzie River to Fort Simpson, then striking the Laird River to Francis River, and thence to Francis Lake, then to Finlayson River and Lake to Pelly River, striking the Yukon at the confluence of the Stewart and Pelly. The trip took him ten months. Only two of the original party reached Dawson in June, 1898. He has been some four years away from civilization and, needless to add, enjoys the change.

Mr. Lee thinks highly of the diggings and says they are the richest in the world, but have been badly managed by the Government and the mining companies alike. He denounces the five years lease as a most deceptive scheme on the part of the Government, also the non-allowing of further staking on the creeks located on to date. The Government taking possession of all properties falling out by non-representation, as also all fractions.

However, as an investment, if properly managed, he knows nothing better than the Klondike Goldfields. Pay dirt, from 3c. to 10c. per pan, according to condition and situation, he considers amply remunerative. Numbers of claims had been given up as n.g. that have on the working proved some of the most valuable. A notably exceptional one, present date, where the owner struggled along for two years, working steadily and was about to say die, when he got a partner to put a little money in, to buy the necessary provisions to enable them to carry on the work, and for which he gave half interest. Almost immediately after resuming work, his partner struck 11 feet of pay dirt, averaging \$6.00 to the bucket. Now, the troubles and difficulties of the past are over and the future of the partners is incomparably bright. This claim is 46 above on Sulphur Creek, and proves the value of persistent work. The ordinary prospector, however, is generally handicapped through want of working funds.

LOW GRADE ORES.

As an instance of what can be accomplished with a low grade ore we append the following tables, showing for several months the tons raised, the value per ton, the bullion produced and cost of mining and treating the ores of three of the great Alaska companies:—

ALASKA TREADWELL.			
Tons Treated	Bullion	Value	Cost
July 54,376	\$ 92,000	\$1.69	\$.64
Aug. 59,699	115,750	2.60	.68
Sept. 57,513	115,019	2.00	.62
Oct. 58,407	107,037	1.83	—
229,895 av.	\$469,859	\$2.03	—

ALASKA MEXICAN.			
Tons Treated	Bullion	Value	Cost
June 13,482	\$ 20,391	\$1.51	\$1.49
July 14,058	20,512	1.46	1.34
Oct. 12,881	27,339	2.12	1.47
Nov. 14,204	23,791	1.67	1.33
54,625 av.	\$ 92,033	\$1.69	\$1.43½

ALASKA UNITED.			
Tons Treated	Bullion	Value	Cost
June 25,268	\$ 48,033	\$1.90	\$1.67
Oct. 24,777	59,554	2.40	1.50
Nov. 21,304	54,615	2.50	1.77
71,349 av.	\$162,182	\$2.26¾	\$1.64¾

Total and General Average—	355,969	\$724,071	\$2.03	\$1.51
----------------------------	---------	-----------	--------	--------

Mine	Capital	Par Value per share	Present quotations
Alaska Mexican	\$ 1,000,000	\$ 5	\$ 5.50
Alaska Treadwell.....	5,000,000	25	35.00
Homestake.....	21,000,000	100 }	none for sale.
Highland	10,000,000	100 }	
	Total paid in dividends	Paid first 5 months 1899	Average value ore per ton
Alaska Mexican.....	\$ 353,031	\$ 36,000	\$ 2.31
Alaska Treadwell.....	4,070,000	150,000	1.63
			to 2.50
Homestake.....	7,556,250	437,500	3.00
			to 4.00
Highland.....	3,924,718	140,000	3.00
			to 4.00

The Alaska Treadwell operates 700 stamps, the Alaska Mexican 240, the Alaska G. M. Co. 220, and the Homestake and Highland no less than 840 stamps.

In British Columbia ores of far better value than those shown above are being turned down almost every day, although the veins in which they are contained are of almost unlimited extent. The cry is always, "Oh, the values are too low!" even when they show values averaging over \$4.00 per ton, and extending in many cases over a width of from 100 to 200 feet.

In many respects some of these could be treated at a much less comparative cost, as 70 per cent. and over is saveable on the plates, and 75 to 80 per cent. and over of the tailings is recoverable by cyanidation, and does not require to be roasted, as in the case of the Treadwell and others mentioned.

ON THE CREEKS.

Mr. E. A. Lee informs us that immense dumps have been got out this winter at the diggings; one in particular, on Dominion Creek, being over an acre in extent. He is afraid, however, that they will run short of water through the season opening up so early this year on some of the creeks.

Thawing machines, Mr. Lee says, should not be taken in less than 10 h. p., as they are perfectly useless, other than for prospecting. The larger machines take the same number of men to work them and do, of course, a far greater amount of work.

Mining News.

FAST KOOTENAY.

The North Star, East Kootenay, has been shipping to Great Falls, Mon., for the past two months. About 75 tons per day are being shipped. The ore averages about \$62 to the ton. It is a silver-lead ore averaging 55 per cent. lead and the balance of the values in silver. The mine is now paying a handsome profit and will continue to do so, as there is 16,000 tons of ore in sight. The eastern and western boundaries of the ore shoot are not fully determined.

Mr. Robbins, who has been the consulting engineer of the Company in the past, has now assumed the actual management of the North Star, and now resides at the mine. While being the consulting engineer, he has really been the manager, although not in fact until recently.

"The wage scale was recently raised by the management of the North Star, and is the same as in force and effect in the Slocan. The miners are pleased with the advance, and matters are running along on a satisfactory basis at the mine. In fact we have never had any labor troubles there. A five-drill compressor has been installed and is giving good satisfaction. The air is used for three drills and also for the pump in the shaft."

NELSON.

The Hall Mines, Ltd., of London, Eng., says the Nelson "Miner" of the 27th inst., have transferred to Wm. Curtis Ward and Wm. George Jefferies, their entire property in consideration of £50,000 in six per cent. first mortgage bonds. Mr. Ward, who is named as principal, is a well known banker. J. J. Campbell, the local manager of the property, says that the transfer is a matter of ordinary sequence and will not have any material effect upon the reopening of the works as this is an old matter concerning the debentures. It is probable, Mr. Campbell says, that the same force will be retained as at present.

FORT STEELE.

The North Star is now shipping 100 tons of ore daily. Reports from the Sullivan are to the effect that the property is improving every day. Large bodies of ore are being blocked out. Shipments will commence in a short time.

It is learned that work will be resumed on the Empire in a short time.

There are several claims on Wild Horse Creek which will be developed this summer.

Considerable ore will be shipped from the Swansea mine near Windermere this summer. It is said that 2,000 or 3,000 sacks were made ready during the winter and hauled to the landing.

KLONDIKE.

This seasons Klondike output is estimated, by the most conservative and experienced operators of the diggings, at from \$20,000,000 to \$22,000,000. Seattle expects to handle from sixteen to seventeen million dollars of it.

The steamers for the Northern Goldfields are carrying freight and passengers to their utmost capacity, in most cases freight has to be left over.

Mr. J. Bateman, M.E., has just arrived (April 12th) down from Lewis River. He advised us that rivers below the lakes are open water, the ice breaking up much earlier this year. Mr. Bateman had some narrow escapes coming out, the lightness and swiftness of his conveyance saving what otherwise may have been a catastrophe. He came out in a dog-sleigh, with good Lapland dogs, and fairly flew over the ice. Mr. Bateman leaves for England in a few days, and after a short visit there will proceed to superintend his interest on the Lewis River.

Several enterprising merchants left Vancouver in March for Dawson with their various wares, comprising, amongst other things, meat, potatoes, eggs, etc., expecting to reach the Klondike easily over the ice ere it broke up. Unfortunately for them, Old Sol shivered the icy bands with which John Frost holds the country in subjection, successfully disputing his sway some five weeks earlier than usual, and thus smashing to little pieces the bridges that were to carry them over, together with hopes and philanthropic intentions of relieving the Dawsonites of their gold nuggets in exchange for butter, eggs, etc. We hear some of these merchants have opened stores on the road, where they have, *volens volens*, to remain until navigation opens.

LARDEAU.

G. E. Grogan, of Revelstoke, writing in the *Ferguson (B.C.) Eagle*, says that the Lardeau district, in miners' parlance, takes in the whole country drained by the Fish River, by the Upper

Duncan and Lardeau and around Trout Lake. It has no relation to any official district, and indeed is made up out of three of the Government recording districts. It is a section which for its extraordinary indications of mineral wealth is surpassed by none in British Columbia. And in every case in which development has been prosecuted the results have more than borne out the promise of the surface prospects.

Paystreaks have increased not only in size but in value, and ore bodies have been found, the existence of which was previously unsuspected. In fact the extent to which the country is mineralized is only beginning to be suspected from the extraordinary results given by the development of the few properties on which work has been done to amount to anything.

The Nettie L., a mine located about a mile and a half from Ferguson and owned and operated by the Great Western Mining Company, is an instance in point. The paystreak of the Nettie L. is enclosed between two leads of iron ore, to which no attention was paid at all, until A. H. Holdich, the well known Kootenay assayer and mining expert, visited the mine and took some of this iron ore for assay, which it was found to run on an average of \$8 in gold. Up to that time tons of this rock had been thrown over the dump, but now it is regarded as a valuable product of the mine.

On the same property the lower tunnel ran for several hundred feet through a black talco-schist, the miners' "graphite," which constitutes the formation at that point. It was supposed to be utterly valueless, but a more rigid examination has disclosed the fact that the graphite contained seams of black sulphuret of silver, running high in value, but to casual observation hardly to be distinguished in appearance from the graphite itself. The management of the Nettie L. are always afraid to throw anything away at all, which comes out of their workings at present.

Another instance to the same effect is the great increase of the gold values in the Silver Cup ore with depth. These have increased from \$4 at the surface to \$80 per ton at 400 feet.

The formation of the Lardeau district consists of shales, schists and slates for the most part. The most usual ores are galena, grey copper (tetrahedrite) sulphides, but silver is found in other forms than as an associate of lead, and in one well-known case the Lade group, gold occurs as a telluride. There is also much iron pyritic ore carrying good gold values.

The time is now very close at hand when this district will come very prominently before the public, as two railways are being pushed in to tap the great mineral bearing areas. The C. P. R. is surveyed to run up the west bank of the lower Lardeau River and Trout Lake to Trout Lake City, with a spur into Ferguson. The Kaslo, Lardeau-Duncan Railway is located to strike the Lardeau district on the southeast, along the east side of the Lower Lardeau and following the east shore of Trout Lake to a point about a mile and a half from Trout Lake City, when it branches off and heads for Ferguson through an easy pass. At Ferguson the line will branch up both the north and south forks of the Upper Lardeau, so as to tap every mine in the district and open up the section thoroughly.

Michigan capitalists have taken over the Pontiac Group. There is a 20 foot ledge from which assays have been obtained ranging from 10 to 37 ounces in gold.

KAMLOOPS.

Messrs. Argall and Morrish, mining engineers, representing the B. C. Exploration Syndicate, who have been in town for some days, closed an important mining deal on Wednesday, which will mean a good deal for Coal Hill. They bonded four claims, adjoining the Lucky Strike group, owned by Messrs. J. H. Morrison, Bostock, Lambert and McArthur & Harper, for \$35,000, and paid a first instalment on the bond in cash. The terms of the bond are that work on the properties shall be commenced within fourteen days and prosecuted continuously during the life of the same. It is the intention of the syndicate to put on a large force of men at once to sink a 50-foot shaft.

Development work is being pushed on the Python.

The first payment on the bond on the Tenderfoot has been paid. The final payment falls due July 1st. The purchasers are well pleased with the property.

Development work is being done on a number of gold-bearing lodes on the North Thompson and good results are being obtained.

SANDON.

Fifteen men are working at the Ruth mine.

The Rambler-Cariboo mine shipped 102 tons of ore to Everett during the past month. It is reported that five feet of ore has been struck on this property.

ROSSLAND.

April 21—Regular shipments have begun from the Le Roi mine on Monday last, when 12 cars were shipped. The cars not arriving on time to be filled at the bins, only seven went. On the succeeding days 12 or 13 cars were shipped regularly. Thus far of the past week only 5½ days can be reckoned as full shippers, and yet the tonnage, including three cars shipped by the Evening Star, totalled up 2,198 tons, or at the rate of over 2,500 weekly from the Le Roi. The Smelter at Northport has not as yet blown in since the authorities wish to have an accumulation of ore on hand before starting. Shipments from the War Eagle and Centre Star have not as yet started, although some ore is being taken out as encountered in development work. The Iron Mask is in a similar position. The No. 1 and Josie are hampered by the want of the compressor ordered last Fall, and which is not as yet at hand.

Appended is a statement of the amount shipped during the past week and year, to date:

	Week.	Year.
Le Roi.....	2,108	15,233.5
War Eagle.....	—	19,603
Centre Star.....	—	7,017.5
Iron Mask.....	—	1,434.5
Evening Star.....	90	327.5
Monte Cristo.....	—	273
I. X. L.....	—	225.5
Giant.....	—	42
Totals.....	2,198	35,155.5

The Centre Star mine has received from the builders in Hopperstown, Ohio, their new hoisting plant. It was shipped on March 30th, and came from Chicago via the C. P. R., in nine days to Rossland. It will be installed on the main shaft at once. The capacity of the hoist covers a depth of 1,500 feet and the development of the mine will be greatly facilitated.

The mines of the camp are being opened as rapidly as possible under the contract system and will be under full operation shortly.

J. C. Drewry has bonded for the Canadian Gold Fields Syndicate the Sunset mine, near Whitewater, for \$30,000. He has gone to Montreal and on his return will start development.

As to the mining situation the Miner says: A force of men were set to work yesterday upon the Le Roi mine, and a start has thus been made. The management state that this will be done upon the War Eagle and Centre Star early in the week. The certainty is therefore that the late trouble in the camp is now a thing of the past. A few after surges, taking the possible shape of a few small hitches in the details of the settlement will possibly mark the passing away of the recent disagreement.

The Sunset Mine has been bonded to A. H. Buchanan, of Nelson, for \$30,000.

ASHCROFT.

Steam was turned on the Cobeldick dredge at Lytton Wednesday. Dredging for gold will likely begin next week. The success of this dredge will add a great impetus to the gold dredging industry of British Columbia.

FERGUSON.

A Mr. Mayer, a smelter man from Philadelphia, was in town Saturday, says the "Eagle." He intends to remain in the district for a few weeks to size up the situation here, with a view to putting in a smelter on any scale which the supply of ore will demand. He is very favorably impressed with the prospects, and he has sent for other members of his syndicate to come in and locate a site with him. The Ferguson townsite company will make him concessions which will in all probability mean its establishment there this summer.

LILLOOET.

The arrastra at the Lorne commenced crushing last Tuesday and it is expected the results will exceed last year's run. Another arrastra has been built and will be started up shortly.

Dr. F. S. Reynolds, of Ashcroft, and Mr. R. T. Ward, of the Horsefly, last Monday succeeded in completing a deal with the Brett Brothers and John Marshall for their two-thirds interest in the group of claims on McGillivray creek, known as the Brett group, Messrs. Reynolds and Ward already holding the remaining third interest. The price paid for the claims by the syndicate represented by Messrs. Reynolds and Ward was \$225,000, with a cash payment of \$15,000. Messrs. Brett Brothers and J. Marshall also receiving 140,000 shares, balance of their interest in the property which will be placed in escrow in the bank, to be redeemed by the syndicate with the results of the clean-ups, less the cost of mining and milling. It is the intention to incorporate a company at once with a capitaliza-

tion of \$225,000, the par value of shares being one dollar. All interested parties are local and Ashcroft men and shares will be held by these only, none being offered for sale to the public. A ten-stamp mill placed on the property by Mr. R. T. Ward, will be in shape to commence crushing in a few weeks, and the new company will take charge as soon as possible to continue work. There are about twelve hundred tons of ore on the dumps which will be sufficient to keep the mill running for some time.

The mill on the Lorne group is being installed and will shortly be ready to work. Considerable development work has been done.

The Brett Bros.' property, near Anderson Lake, has been sold for \$150,000 to a company which has been formed at Ashcroft, filed under the name of the Anderson Lake Mining and Milling Company, Limited.

The Ben d'Or Mill is again working, having been closed down for a short while, owing to frost. The mill ran 12 days, 17 hours and 55 minutes, to April 2nd, with ten stamps working. 17.5 tons per day (24 hours) were treated: 230 tons from lower tunnel, 20 tons from upper tunnel; total rock crushed, 250 tons, yielding 416 oz. avoirdupois, or 280.26 oz. retorted gold, or 372.17 oz. troy refined gold; taken at a valuation at \$16.66 per oz., yields \$6,200.35. The average yield \$24.80 per ton. Tailings show a value of \$6.82 per ton and are being held for treatment. Considerable development is now ahead. No. 1 Tunnel is in 530 feet on the ledge with an upraise, thus blocking out a considerable body of ore in which values are sustained. Three hundred feet of stoping has been done on this level, and a fresh stope has just been started, showing values of \$38.00 per ton. No. 2 Tunnel is at a depth of 76 feet below No. 1. This is a crosscut, in which the vein was encountered at 236 feet; it is in now 250 feet. Drifts have been run both ways in vein with good results. An upraise will be made from this level immediately. The tunnel is 300 feet below the surface.

BOUNDARY.

We hear that a quarter interest in the Summit City townsite has been sold to P. E. McMillan, of Toronto, for \$25,000 cash.

The roasting of ore preliminary to the commencement of smelting operations, was begun April 12th at the Granby smelter. The event is an auspicious and noteworthy one in the history of the Boundary country. The roast heap represented a shipment of 40 ore from the City of Paris mine, controlled by the Graves-Miner syndicate.

Since the middle of January the B. C. mine, in Summit camp, has shipped nearly 2,500 tons of ore to the Trail smelter, averaging \$20 per ton. The new compressor, hoist and other machinery are being rapidly placed in position. After its completion the mine will be ready to make daily shipments of 100 tons.

On the Golden Crown, Greenwood camp, about 2,250 feet of underground work has been done. A shaft has been sunk to a depth of 325 feet and crosscutting is going on from both the 150 and 300-foot levels.

Ore bins holding 800 tons have been built and are filled with 400 tons of first grade and 400 tons of second grade ore ready for shipment as soon as the spur from Hartford Junction is completed to the mine. The property is in a position to ship 50 tons a day.

The Golden Crown is one of the leading mines of the district and when transportation facilities are afforded will soon after be one of the dividend payers. Mr. Laidlaw, of pyritic smelter fame, is shipping a carload of the ore to Leadville for experimental purposes.

A rich strike of chalcopryite ore has been made in the crosscut at the 100-foot level in the Buckhorn mine in Deadwood camp. The ore has an exceedingly rich appearance and the management are well pleased.

It is rumored that the Surprise claim in Deadwood camp has been purchased from Frost and Hardy by the Mother Lode company, whose property it adjoins.

Mr. T. B. Kellar is in the city after supplies from the Burnt Basin section. He has been engaged in developing the Harlam claim all winter. The shaft is down 43 feet on the vein. The vein is to be crosscut on this level. The ore so far met with averages \$61 to the ton. The intention is to commence shipping from this property early in April. Messrs. Dickinson and Forrest, on a claim which they own in Burnt Basin, have found several seams of native copper in the ledge. Some of the pieces of copper weigh as high as ten pounds. Mr. Cooper is gathering together a carload of copper ore on the Jennie Lind property preparatory to shipping it to the smelter.

Woodbury creek is among the mining possibilities. A United States company own 30 properties there and have bonded several others at the mouth of the creek. Mr. Town-

send, of Spokane, is their agent, and he is expected here about April 15th. It is rumored that he is figuring on putting an electric railway up the north fork of Woodbury creek which will handle the ore. The company contemplate doing much development as soon as the snow will permit.

Arrangements are being made for the immediate resumption of operations on the Emma, which has been idle for the past three years or more. The Mackenzie & Mann syndicate, which owns the controlling interest in this fine property, is said to have at last concluded to open up the mine, which is undoubtedly there, and the water will be got out of the shaft and work commenced within the next few weeks.

The railroad graders on this claim opened up a lead over 100 feet wide on the surface, which is the finest copper ore ever found on top of the ground in the Boundary. This ledge parallels that on which the shaft was put down 100 feet several years ago and which showed the property up sufficiently to prove it worth many thousands of dollars.

With the resumption of operations on the Emma, mining development in Summit camp will receive an immense impetus and many other owners of property in that section will be encouraged to begin development also.

Jim Cunningham is doing considerable development on his Treadwell and Mollie claims in Summit camp, adjoining the Homestake on the north, and is getting a very fine showing. These properties were originally known as the Silver Cliff and Coolgardie, and are said to have some of the finest and largest surface outcrops in the district. Deeper development has considerably increased the splendid surface showing and they are now classed among the best prospects of the camp. Mr. Cunningham intends opening up steadily until he has completely proven their worth and feels confident of making a stake among them before many moons have passed.—*Grand Forks Miner*.

J. P. Graves received a telephone message from J. L. Martin, superintendent of the City of Paris Mine in Central Camp, saying the lower level on the property had just opened up a body of high grade ore. This is supposed to be the same ledge opened in the intermediate level, 70 feet above, and thus proves the continuity of the City of Paris leads at depths. From this upper level, where the ore body is a very large one, assays of average samples have given \$6.75 of copper, 1 oz. of silver, and \$31.20 in gold for one sample, and 9.11 per cent. copper, 1 oz. silver and \$6.00 in gold for a second sample. Mr. Graves estimates that there is now in sight in the mine, above the lower level, more than 40,000 tons of ore which will pay for treatment.

A new regulation has been put into effect with regard to the making of application for Crown grant to mineral claims. The ruling requires the applicant to state in his application the exact date of the recording of each certificate of work, and various other particulars which make an application for Crown grant a virtual abstract title to a claim. So much work is now entailed in drawing up such an application that it is said the lawyers of Greenwood have entered into an agreement to place the price of preparing these papers at \$50 for each claim.—*Grand Forks Gazette*.

THE SILVERY SLOCAN.

The lower tunnel at the Ivanhoe is in 1,100 feet. The Camp Mansfield properties are still paying \$3.50 for eight hour shifts.

It is said that the Chapleau will erect a cyanide mill. Seventeen men are working on the property.

A fourth tunnel has been started at Hewett. It will tap the ore at a little over 400 feet from the surface.

An option has been given on the Tail Holt and Alberta, two Lemon Creek claims, and it is likely that they will be floated in England.

The Minnesota Silver Company will commence the erection of its concentrator at Sandon in a few days. It will have a capacity of 150 tons daily.

Eighty tons of ore are being run daily through the Wakefield concentrator, making ten tons of concentrates. The mill can handle 100 tons a day.

Messrs. Young and Murchison are still at work on their Goat Mountain property. They have a good showing of ore and are highly encouraged.

The Slocan Star mill commenced running last week. The force at the mine will soon be complete. A new body of ore was found in the west drift last week.

A Crown grant has been issued, after years of legal fighting, on the Legal Tender claim, adjoining the Noble Five and Madison, and work will be started on the property soon.

It will be impossible to ship any ore from the Enterprise for a week or more. A land slide carried away about 160 feet of the roadbed, and the same will have to be cribbed up before any hauling can be done.

The second payment on the Silver Tip bond has been made to H. Hess and Charles Miller by S. Schwader, acting for the Morris Syndicate. The final payment on the \$45,000 bond will be made October 1st.

Rockland Group on Slocan Lake has been bonded to J. P. Graves, Judge Spinks and F. Watson, the original owners retaining a one-third interest.

A company has been formed which has taken over a large group of claims near Ainsworth, extending for 2½ miles along the shores of Kootenay Lake. The deal was completed at Spokane. The company is to be called the King Solomon Mining Company, Limited, and has a capitalization of \$30,000,000. It is headed by J. B. Townsend, of Ohio.

The total amount of ore shipped from the Slocan from January 1st, 1900, to April 14th, was:

	Week	Total.
Payne.....	209	2,803
American Boy		61
Last Chance.....	40	306
Sunshine.....		20
Queen Bess.....		345
Rambler		421
Surprise.....		20
Ruth.....		18
Lucky Jim		73
Florida.....		38
B. N. A.....		16
Gibson.....		6
Bosun.....	20	200
Hartney		20
Capella.....		7
Emily Edith.....		20
Vancouver		20
Enterprise.....	60	300
Arlington	20	280
Black Prince.....		60
Total tons.....	349	6,034

ALBERNI.

Mr. C. R. Graves is now looking over the mineral prospects of the Alberni district. He reports considerable development.

The Monitor Mine is looking well and Prof. Maynard, from Chicago, is arranging for permanent work.

Hays' Camp is also encouraging, and it is expected that work will be resumed shortly on the W. W. W. Mine.

Mr. Graves reports having seen some magnificent copper ore in this district and will report fully in our next.

GRAND FORKS.

The Grand Forks Smelter, we hear, will soon be in operation. The laboratory has been finished and occupied for some time.

The power behind the generators is estimated at 2,500 h.p., they, however, propose to develop 800 h.p. only. For the present requirements 400 h.p. they believe will suffice. The smelter has two furnaces, 44 x 160 each, with a capacity of 250 tons every twenty-four hours. It will receive ore from the City of Paris mine in Central camp. A roast heap, which will be fired some time within the next fortnight, is now being built. Knob Hill, Old Ironsides, and Granby properties in Phoenix will also send their ores so soon as shipping facilities are complete. They will commence the roasting of ores so soon as received, and expect to have ample reserves for the smelter when the furnaces are blown in.

It is said prospectors and companies operating in this vicinity will have the benefit of cheap treatment, it being asserted that the smelter rates will be from \$3 to \$4 per ton, there or thereabout. Some \$11,500,000 worth of ore it is estimated is in sight in the Knob Hill, above the tunnel level, which will yield a net profit of \$3.25 per ton.

TEXADA ISLAND.

We hear work is progressing with the usual satisfactory results on the Copper Queen, Cornell and Security, all in ore.

Blubber Bay are driving to catch the lead at depth, as too much water has been encountered to continue sinking.

Work is being resumed on several of the other prospects; depth, however, is requisite to prove them, and capital therefore indispensable to that object.

Several properties, we hear, have been and others about to be bonded on satisfactory terms, and this undoubtedly rich little island is at last likely to have justice done in it in the way of development.

ATLIN.

We shall be glad to confirm any reliable reports from this district, at present we should recommend caution.

VANCOUVER ISLAND.

A six-mile tramway has been built from the Mount Sicker Mine to the F. & N. Railway. The mine is again shipping to the Tacoma smelter.

BARKERVILLE, B. C.

(FROM OUR OWN CORRESPONDENT.)

Engineer Bailey, of the Cariboo Consolidated, has arrived from Tacoma, and has assumed direction of the company's property. He has a number of men building houses at Lowee and preparing for hydraulicing.

At Slough Creek shaft sinking with air drill has begun.

The Ah Quoy tunnel, near Stanley, is progressing slowly on account of hard rock, and will not be finished in time to be of use this season.

Work on the properties of the Lightning Creek, Gold Creeks, and Drainage Companies is temporarily suspended owing to failure of machinery.

Laird, at Willow River, is trying to get into the deep ground of the river by the use of compressed air.

The Colonial Mines Development Co. allowed the option on Sharmer Ground, at Eight-Mile Creek, to lapse and the ground has been acquired by the Sutherland Hydraulic Gold Mining Co., composed of Chicago and Minneapolis men. The manager is B. A. Lasell, who has thoroughly prospected the Sharmer ground and reported favorably to the Sutherland Co. Mr. Lasell states that another company will take over a large tract of dredging ground on Willow River this year, and that a dredge of the most approved type will be constructed.

The Cariboo Goldfields Co. has a small force putting the property into shape for the seasons work. Wm. Thompson, of Thompson & Marsh, is superintendent.

A NEW DENVER DEAL.

A mining deal was made last week that means much to New Denver. The McMasters Brothers, representing extensive Colorado capital, have taken a short time bond on the 'Frisco' group, situated on the slope of Fidelity Bluff, and adjoining the Bosun-Fidelity Mines. The properties embraced in the group are known as the 'Frisco, Perseverance, Ruby Fraction and Morning Glory. Work has been put on the 'Frisco for the past three months with very satisfactory results. A strong ledge, seven or eight feet in width, has been exposed, carrying stringers of carbonates. It is the intention of the purchasers to put a large force of men to work as soon as possible to open the ledge and make a mine out of it. Those interested in the deal are Messrs. Jacobson, S. T. and H. M. Walker. The purchase price is \$15,000, the bond maturing in six months.

Reviews.

AMERICAN METAL MINING: GOLD.—A series of historical, statistical and industrial monographs on the Metals. By Theo. F. Van Wagener, M.E. Published by H. R. Van Wagener & Co., 1508 Fillmore st., Denver, Col. A most thorough and exhaustive little handbook, covering the metal referred to.

THE INVENTOR'S HELP.—A revised and enlarged edition of this valuable book has just been published by Messrs. Marion & Marion, the well known patent attorneys, of Montreal and Washington. It is a complete expose of patent law, giving the cost of patents in every country, and how successful inventors have made money. The work concludes with "A word of warning to patentees," and "Hints on the sale of patents;" the pitfalls into which an unwary inventor would stumble are pointed out. It is a trustworthy guide to inventors and is sent by mail for the nominal price of five cents.

THE STATE.—Published monthly at Tacoma, Wash. An illustrated periodical which contains matter both amusing and instructive.

NORTH-WEST MAGAZINE.—Published at St. Paul, Min. Illustrated. The standard of this periodical is if anything improved (if it were possible) by the March issue, which is really excellent.

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

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

MANAGING EDITOR . . . T. R. HARDIMAN.
SUB-EDITOR . . . C. R. GRAVES, M.E.

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 subscribers.

REMITTANCES should be made by P. O. Order or certified check, and addressed, British Columbia Mining Exchange and Investors' Guide, 612 Cordova Street, Vancouver, B. C.

AGENTS—London, England: J. Blanc Young, special agent for *The Financial Times*.

AGENTS in Montreal—Gray & Co., St., James Street.
DAKE'S AGENCY, San Francisco, Cal.

ADVERTISING RATES on application to Business Manager, 612 Cordova Street, Vancouver, B. C.

Finance.

THE LONDON STOCK EXCHANGE.

American rails and Copper Mining shares have the business nearly all to themselves, great activity prevailing in this department. Kaffirs are also recovering. C. P. R. and Grand Trunk on the rise as also Hudsons Bays.

B. C. Mining shares sluggish. Alaska Goldfields, however, has risen. Le Roi, Ymir, Yukon Goldfields and Velvet maintain their position. The Hall Mines mess accounts for depression in B. Cs.

Rhodes is arranging for the amalgamation of the Jagersfontein and De Beers Diamond Mines, consequently J. shares have gone up. The total assets of the company are something like \$53,000,000, and, according to latest reports, declares a net profit of nearly \$10,000,000. The result can be imagined when we consider it will be practically a huge diamond monopoly.

It is whispered that Rhodes is after further capital for B. S. A. Company.

An immense amount of British capital has been sunk in the Chartered Territories, and though the Rhodesian gold output for February (some 6,233 oz.) shows an improvement, much better results must be looked for ere satisfactory results can be realized.

Generally, business is exceptionally prosperous. Cable Companies, Iron and Steel, Dry Good, Banking, splendid dividends are announced and the outlook is brilliant.

RECENT REGISTRATIONS.

(LONDON, ENG.)

Kootenay and Lardeau (British Columbia) Mining Company, Limited.—Registered March 9th, by Dawes & Sons, 9 Angel Court, E.C., with a capital of £15,000 in £1 shares. Object: To carry on the business of financiers, miners, promoters, etc. The first directors (to number not less than three nor more than seven) are to be appointed by the subscribers. Qualification, £200; remuneration, £150 each per annum, and £175 for the chairman.

Yukon Premier Quartz Mining Syndicate, Limited.—Capital, £30,000, in £1 shares. Objects: To acquire gold and other mines, mining rights and lands in Canada, Alaska or elsewhere, and to carry on the business of miners, explorers, smelters, calciners, refiners, and dressers of and dealers in ores, metals, and mineral substances, etc.

The Stirlingshire Yukon Syndicate, Limited.—Capital £10,000, in £1 shares, to seek for and obtain openings for the employment of capital in Canada, Alaska, or elsewhere.

Anglo-Columbian Mines Syndicate, Limited.—Capital £10,000, in £1 shares. Object: To carry on the business of a mining, engineering and exploration company. Registered without articles of association.

The Stock Markets.

LOCAL STOCK MARKET.

	PAR VALUE.	PRICE
Alberni Con	1 00	5½
Alberni Mountain Rose..	1 00	5½
Athabasca	1 00	25
Big Three..	1 00	6
Cariboo Hydraulic	5 00	\$1.10
Cariboo McKinney	1 00	90
Canadian Goldfields....	—	6½
Crow's Nest Coal.....	25 00	36 50
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	1 00	—
Iron Horse	1 00	—
Iron Mask	1 00	40
Knob Hill	1 00	53
Le Roi	£5	£5
Mineral Hill	1 00	05
Minnehaha	1 00	3¾
Monte Christo.....	1 00	3½
Montreal Goldfields....	1 00	7
Morrison	—	4½
Noble Five	1 00	4
Novelty	1 00	03
Old Ironsides	1 00	80
Payne	1 00	1 20
Rambler Cariboo	1 00	25¾
Rathmullen	1 00	04
Slocan Star.....	50	—
St. Elmo.....	1 00	—
Van Anda.....	1 00	3½
Victory-Triumph	1 00	02½
Virginia	1 00	—
Waterloo	10	06
War Eagle	1 00	1 40
White Bear.....	1 00	2¾
Winnipeg	1 00	14

The Canadian Bank of Commerce opened a branch at White Horse, Y. T., on April 2nd. This enterprising banking corporation also opened another branch at Seattle, Wash., on April 25th. They will doubtless handle a large proportion of the Klondike output this season. Last year some two-thirds of the gold brought out found its way to Seattle. This corporation will therefore be prepared to handle any amount of it.

Answers to Correspondents.

R. S., LONDON.—1. Your inferences are correct. 2. For no other purpose than want of development funds. That has retarded the whole business, which, under given conditions, we believe would have given excellent results.

INVESTOR, S. E.—1. Yes, you are certainly justified in the course you take. 2. Make the proposition and we have no doubt that it will be accepted in good faith. 3. By what we can ascertain, most certainly protected.

F. G., LIVERPOOL.—A great mistake, or, we should say, want of judgement on your part. If not too late, catch hold. The business is of an encouraging nature.

E. THOMSON.—1. The quotations are correct, they have advanced a few points. 2. Ascertain from the London office.

ARION.—1. Not at all; as safe and equally as productive as elsewhere. You forget that all depends on how and where the money is spent, which, if rightly, your chance is worth holding. 2. That, of course, is dead work and must always be reckoned on.

B. C. AND KLONDIKE QUOTATIONS.
LONDON, ENG.

Alaska Goldfields, 1.
Athabaska $\frac{1}{2}$.
British America Corporation, 15s. 6d.
B. C. Development Assoct. $1\frac{3}{4}$
B. C. and New Find Goldfields, $\frac{1}{2}$
Dominion Mining Development and
Agency 11-16.
Duncan Mines, $\frac{7}{8}$
Hall Mines, 1s. 6d.
Klondike Bonanza, $\frac{3}{4}$
Le Roi $5\frac{3}{4}$.
London and B. C. Goldfields, $1\frac{3}{8}$.
McDonald's Bonanza, $\frac{7}{8}$.
New Goldfields of B. C., 1 and $\frac{3}{8}$.
Queen Bess Proprietary, $\frac{3}{4}$.
Velvet, $1\frac{1}{4}$.
Whitewater Mines, $\frac{3}{4}$
Yukon Goldfields, (new) 1 and $\frac{1}{8}$.
Ymir Gold Mines, 1 and 7-16

LATEST POINTS.—Bank Rate, 4 per cent. Open market rate three months bank bills, $3\frac{3}{8}$ per cent. Silver, $27\frac{3}{8}$ d. per oz. (bar) Standard. Copper, $\pounds 79$ per ton, Pig Iron, 69s. 3d. Tin, $\pounds 139$. Lead, $\pounds 16$ 15s. Consols, 101. Canada Three per cent., $101\frac{1}{2}$. British Columbia Three per cent. Inscribed stock, 95. Canadian Pacific Railway Shares, $100\frac{1}{4}$. Bank of British Columbia, $17\frac{1}{2}$. Bank of British North America, 64. Bank of Montreal, 510. Hudson Bay, $23\frac{3}{4}$.

NOTICE—PARTY OWNING SOME GOOD Copper-Gold prospects in B. C., also Galena (argentiferous), would give an interest for development. A good chance to get in on the ground floor, all splendidly situated. Examination and fullest investigation courted. For particulars apply, "Prospector," care of 612 Cordova Street Vancouver, B.C.

British Columbia
Review.

PUBLISHED EVERY SATURDAY IN LONDON, ENGLAND. PRICE 2d.

Gives the Latest and Most Reliable information concerning KOOTENAY and KLONDIKE. Special Reports from the Mining Camps every week.

Reliable Prices. Exhaustive and valuable Criticisms of New Issues. Indispensable to all interested in British Columbia, Yucon, Klondike, Ontario, or Anglo Canadian enterprise.

THE CANADIAN MINING PAPER.

Subscription Rates: Yearly, \$3.00; half-yearly, \$1.50. Post free everywhere.

The best Anglo-Canadian Advertising Medium.

Publishing Office:

95 NEW BROAD ST., LONDON, E.C.

Cable Address, "Brydack," Vancouver.

Code Broomhall, Telephone 481.

A. C. BRYDONE-JACK, M.A.

Barrister and Solicitor.

CORPORATION AND MINING LAW.

Inns of Court Building, Vancouver, B.C.

WANTED—IN EVERY LARGE MANUF'G centre throughout the Empire and the United States, good live, energetic agents, to solicit advertisements for The B. C. Mining Exchange, Investors' Guide and Mining Tit-Bits. Liberal commission.

The H. B. A. Vogel
Commercial College



VANCOUVER, B. C.

P. O. Drawer
347.

The Best and Cheapest Store in B.C.

I. HERMAN'S,

The Workman's Watchmaker
and Jeweler,

For a Waltham or Elgin Watch, warranted accurate time-keeper, also Jewery, Spectacles and Clocks, see the above Repairs of all kinds a speciality.

135 Cordova St., Vancouver, B. C.

BRITISH COLUMBIA.

WANTED.—Six Gentlemen, or less to form a Syndicate to Develop good Mining Prospects. Work done sufficient to show the character of the property. Fullest particulars and investigation courted. Half interest will be given for development. Apply to M. E., office this journal.

J. O'SULLIVAN, F.G.S.

ASSAYER

AND

ANALYTICAL CHEMIST,

OFFICE AND LABORATORY,

EDISON BLOCK, RICHARDS ST.,

VANCOUVER, B. C.

26 years with Vivian & Sons, Swansea, Eng.

T. R. HARDIMAN

MINES AND MINING Mining Properties in the Kootenay and on the Coast; Gold, Copper and Silver-Lead, for Sale or Delevopment; also Shipping Mines.

Mining Stocks. Reports and Management of Properties. Correspondence solicited. Mining Stocks.

612 CORDOVA ST., VANCOUVER, B. C.

AND LONDON, ENGLAND.

Cable Address, Aurum.

Codes, Broomhall and A.B.C.

ENGINEER—C. R. GRAVES, M.E., Freiburg, Germany.

J. MEIKLEJOHN, Proprietor.

HARRY EDWARDS, Manager.

Oriental Hotel,

WATER STREET, VANCOUVER, B. C.

Popular. Central. Elegant Table. Famed for square dealing. Board and Room, \$1.00 per Day.

Britannia Assay Office and Laboratory.

RELIABLE



CONFIDENTIAL

J. B. FARQUHAR, 614 Hastings St.

FOR SALE: \$75 00 per year.

Union Steamship Co. of B. C.

HEAD OFFICE AND WHARF, VANCOUVER, B. C. LIMITED.

SKAGWAY—SS. CUTCH will sail direct for Skagway three times a month, on the 1st, 10th and 20th of each month,
 COAST SETTLEMENTS—SS. COMOX sails every Tuesday, Thursday and Saturday at 7 a.m., for Texada Island, Lund,
 and Shoal Bay points. Returning, leaves Shoal Bay every Wednesday and Sunday at 7 a.m. Every Thursday, at 10 a.m.,
 for Sechart, Texada, and Lund; returning, leaves Lund at 7 a.m., Friday.

SS. COQUITLAM sails every Monday at 9 p.m. for Port Neville, Alert Bay, and all way ports, and every Friday at 5
 p.m. for Shoal Bay and way ports.

FREIGHT STEAMER, SS. CAPILANO, 300 tons h. w. capacity; also tugs and scows, always available for towing and
 freighting business. Large storage accommodation on Company's wharf.

TELEPHONE 94.

H. DARLING, MANAGER

CANADIAN PACIFIC

* RAILWAY *

SOO-PACIFIC LINE

THROUGH TRAINS

ATLANTIC to PACIFIC,

WITHOUT CHANGE,

TO ALL POINTS IN

Canada and United States.

Lowest Rates

Best Equipments

For full particulars as to rates, time, and copies of C. P. R. publications, apply to

JAMES SCLATER,

TICKET AGENT, Hastings St.
 and C. P. R. Station.

Or to **E. J. COYLE,**

Assistant Genl. Pass. Agent,
 VANCOUVER, B. C.

Cable Address: Kitchin, Nanaimo, B.C.

Codes used: A. B. C., 4th Edition; Gloughs.

P. O. Box 236

THE NANAIMO REALTY, INVESTMENT AND TRUST AGENCY, MINING EXCHANGE.

THOMAS KITCHIN,

NANAIMO, VANCOUVER ISLAND, B. C.

REFERENCE: BANK OF BRITISH COLUMBIA, NANAIMO, B. C.

Established at Nanaimo 8 years. Formerly of London, Hull, Leeds and Worcester, England. Old friends please correspond. I have for sale some of the best Gold and Copper Claims on Vancouver and Texada Islands and in the Kootenay District—Mining Shares dealt in.

Note—Nanaimo is 3 hours by rail from Victoria, and right opposite Vancouver, 3 hours by steamer.

Advertising and Information ... Agency ...

612 Cordova Street, Vancouver, B. C.

MAHON, McFARLAND & MAHON;

LIMITED LIABILITY

HEAD OFFICE, VANCOUVER, B. C.

MINING AND FINANCIAL BROKERS

MINES

REPORTED ON.

CONSULTING ENGINEER,

LESLIE HILL, C. E.

A. M. I. C. E.

M. I. M. E.

MINES

MANAGED.

GORDON H. HARDIE.

NICHOLAS THOMPSON, Late Chief Engineer SS. *Tropic*

HARDIE & THOMPSON,
Marine and General Consulting Mechanical Engineers

TELEGRAMS "GARDIE."

520 CORDOVA ST., VANCOUVER, B. C.

TELEPHONE 787

Plans, Specifications, Estimates, Working Drawings, Surveys and Reports; also Contracts taken for Supply, Erection, Supervision, or Repairs and Alterations to Steamboats and all classes of Machinery.

Patentees and Designers of the **HARDIE-THOMPSON WATER TUBE BOILER, NEW HIGH-SPEED REVERSING ENGINES,** and Special Machinery in Light Sections for Mines.

PROPELLERS DESIGNED. ENGINES INDICATED AND ADJUSTED.

Sole Agents in B. C. and N. W. Territories for the **UNITED FLEXIBLE METALLIC TUBING CO., LTD., LONDON, E.C.**

Timms Printing Company, 517 Seymour St., Vancouver, B. C.