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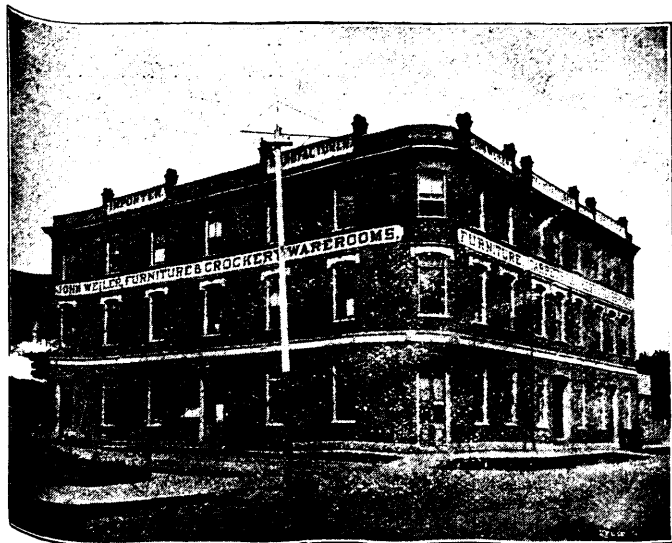
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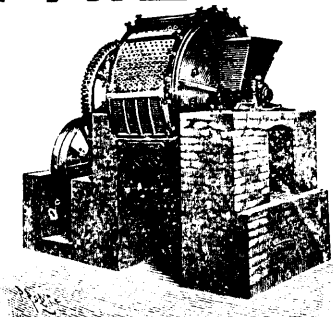
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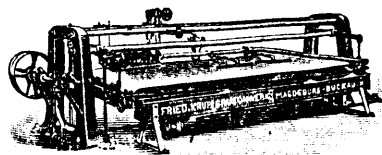


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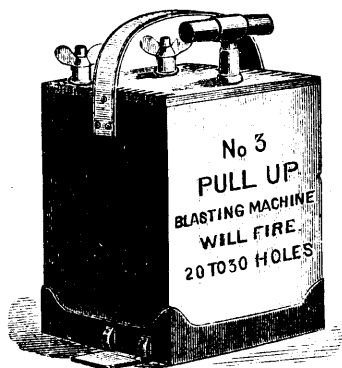
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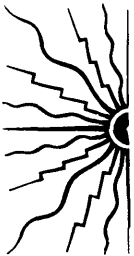
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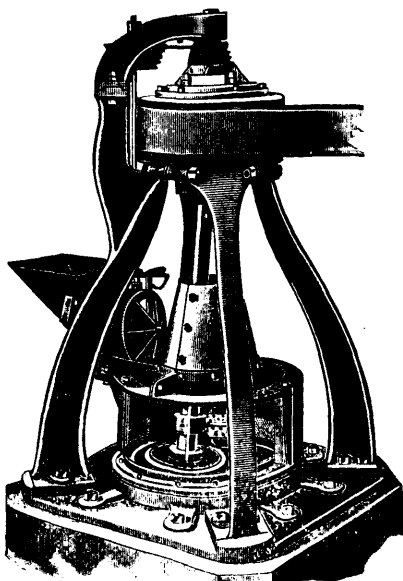


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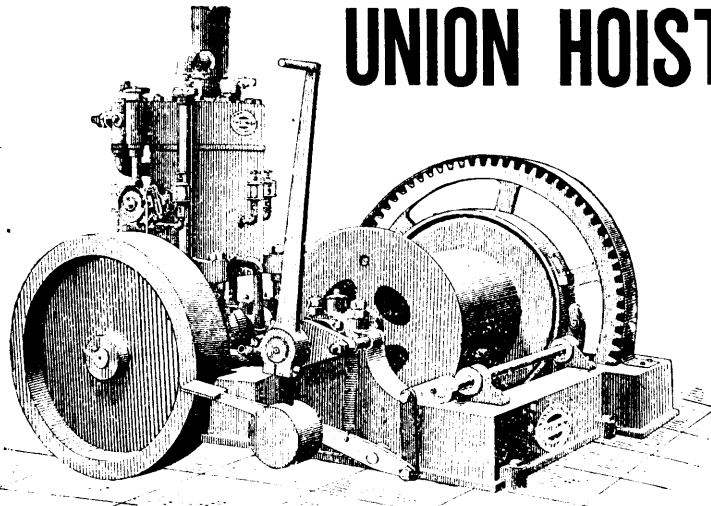
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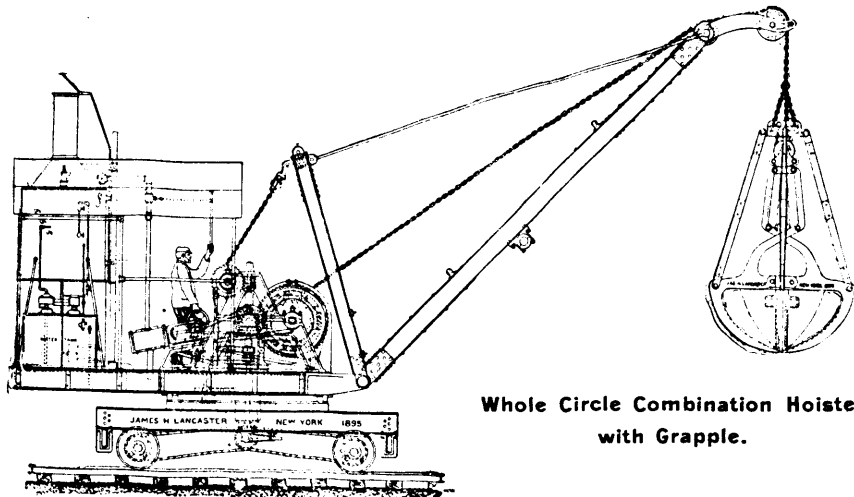
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In the great Sloean mining district, surrounded by sixteen pay mines.

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One heavy Engine, 22x30, very suitable for Saw Mill; one Wm. Hamilton Saw Carriage; one Steam Drag Saw, Kalamazoo make; large Air Compressor; six new Peerless Miners' Drills; one Prospecting Hand Drill.

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(Associate Royal School of Mines.)

Will Report on Mining Properties

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an absolutely safe investment, with everything possible in favour of reaping the great harvest, purchase Capital Gold Mining Stock at 10 cents per share. We claim it will pay as high as 20 cents per share per month dividends, and any time you are dissatisfied with your purchase, return your stock and get your money back.

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MR. OSBORN PLUNKETT will join the Board upon expiry of term of Provisional Trustees.

BANKERS:—Bank of Montreal. SOLICITORS:—McPhillips & Williams.

# Two Friends Mine

LIMITED LIABILITY.

**SALE OF SHARES.**—One hundred thousand shares will be sold in the City of Vancouver, B.C., and 180,000 will be disposed of in other parts of British Columbia, Eastern Canada and other countries.

**APPLICATIONS FOR SHARES.**—Applications for the 180,000 shares will be received only from parties in this province resident outside of Vancouver, and from Manitoba, North-West Territories, Eastern Canada and other countries, by Mr. F. C. Innes, of Vancouver, the duly authorized agent of this Company, or by any broker duly appointed by him up to and including the 24th day of December, 1896, and allotment of said shares will be made on the 4th day of January, 1897.

Applications must be accompanied with a deposit of Ten Cents per share for each share applied for in the shape of marked cheque, bank draft, post office or express order, made payable to the Two Friends Mine, Limited Liability.

Should applicant not be allotted full number of shares applied for, any sum over amount of necessary deposit on shares allotted will be applied on payment of balance due on such shares.

The balance of Twenty Cents Per Share will be due and payable immediately on allotment, and unless so paid, deposit may be returned and application and allotment cancelled.

Share Certificates will be issued on payment of balance of Twenty Cents Per Share.

The annexed smelter returns shew the value of the first and second shipments:

**THE TACOMA SMELTING AND REFINING COMPANY, W. R. Rust, Manager.**

Bought of TWO FRIENDS MINING COMPANY.

Tacoma, Wash., Oct. 26th, 1896.

FIRST SHIPMENT.

Assay No.	CLASS OF ORE.	Mine No.	WEIGHTS.			ASSAYS.					Silver Quotations.	Lead Quotations.	Cost of Treatment and Freight		Total Net Per Ton.		VALUE.	
			Gross lbs. Less Sax.	Moisture pr'ct.	Net lbs.	Gold ozs.	Silv'r ozs.	Lead pr'ct.	Silica pr'ct.	Iron pr'ct.			Dols.	Cts.	Dols.	Cts.	Dols.	Cts.
4,336	409 Sax "Two Friends"		40,747	3	39,525	Trace	281.7	37.9	34	7	65%	260	20	00	172	02	3,399	54
	Empty Sax 510 lbs.											Le ss Duty	and	Custo ms.			114	85
3,284 69																		

SECOND SHIPMENT—November 11, 1896.

4,364	106 Sax	A	10,475	2	10,266	.....	379.3	52	.....	.....	64 7/8	275	22	00	237	50	1,219	08
4,365	219 Sax		29,440	2	28,851	.....	248.5	46.3	.....	.....	64 7/8	275	22	00	154	07	2,222	53
Less Duty 140 22																		
3,301 39																		

Basis of Settlement.—For Silver, 95 per cent.; for Lead, 90 per cent.

Two more shipments are now on the way to smelter.

The 100,000 shares placed on the Vancouver market were all applied for in a few days.  
One hundred and eighty thousand shares are now offered to investors in other parts of British Columbia, Eastern Canada

and other countries at par.

Prospectuses and application forms may be had from F. C. INNES, 538 Hastings St., Vancouver, B.C.

FORM OF APPLICATION.

To the Secretary TWO FRIENDS MINE, Limited Liability, Vancouver, B.C.

SIR—I, the undersigned, hereby apply for ..... Shares in the TWO FRIENDS MINE, Ltd. I request that you will allot me the above number of shares, and I hereby agree to accept said shares, or any less number that you may allot to me, and to pay the balance thereon of twenty cents per share on allotment. I further request you to place my name on the Register of Members for the shares so allotted to me, and I hereby subscribe and agree to conform to all By-Laws of the Company which have now or may hereafter be adopted.

Name in Full .....  
Address .....  
Occupation .....

Date .....  
Usual Signature .....

# Athabasca Gold Mining Co., Ltd.

## DIRECTORS:

B. W. SHILES, Mayor of New Westminster, Pres'd't. G. O. M. DOCKRILL, Barrister-at-Law, Sec'y. J. B. KENNEDY, M.P.P.

Head Office: - - - NEW WESTMINSTER, BRITISH COLUMBIA.

## PROSPECTUS.

**INCORPORATION.**—THE ATHABASCA GOLD MINING COMPANY, LIMITED, has been incorporated under the laws of British Columbia for the purpose of acquiring and developing the ATHABASCA GROUP of mineral claims, consisting of the "Athabasca," "Alberta," "Algoma" and "Manitoba," situated about two miles from the town of Nelson, in the heart of the famous Kootenay district, British Columbia.

**REPORT.**—The property has been carefully examined for the Company by Albert J. Hill, M.A., M.E., M. Can. Soc. C.E., who occupies a foremost rank among Canadian geologists, and whose report is as follows:

### THE ATHABASCA GOLD MINING COMPANY, Limited.

**GENTLEMEN**—I beg to submit the following report on the Athabasca Group of mineral claims as per your instructions of 15th inst.

#### SITUATION AND ACREAGE.

The Athabasca Group, consisting of the Athabasca, Alberta, Algoma and Manitoba claims, and comprising an area of 175 acres, is situated on the north-east face of Morning Mountain in the Nelson Mining Division of Kootenay District, immediately overlooking the rising town of Nelson.

The highest claim—the Alberta—is some 2,600 feet above the lake at Nelson, or some 4,100 feet above ocean level, both figures being approximate. It is approached at present by a good bridle path.

#### WOOD AND WATER.

The greater portion of the area occupied by the Group is covered with timber suitable for the general uses of the mine, the lower portion having a scattered second growth, the result of fires which have, years ago, denuded the base of the mountain of all heavy forest growth.

The claims also possess the advantage of having in the near vicinity a living spring of pure water, capable of being piped at small cost to any portion of the works for domestic supply.

#### QUARTZ LEDGES.

Seven ledges of free milling ore have been opened on the property, varying in thickness from one to eight feet, in every opening on which I detected free gold.

Ledge No. 1, as shown approximately on the accompanying sketch plan, varies in thickness from two to four feet. It is opened by shafts at three points and a twenty-five foot tunnel driven on the lead, and is traced on the strike for about 600 feet. Some fifteen to twenty tons of ore are lying on the several dumps, a certified assay of which gives \$207.45 per ton, of which \$201 is gold and \$6.45 silver, though picked specimens which I have examined would evidently give very many times that value, and I think I am well within the limit of probability when I suggest a general average of \$200 per ton, while the average of the ledge will be, I believe, fully \$100 to the ton.

The ore consists of free milling quartz with scattered iron and copper pyrites and finely crystallized galena, much of the pyrites being partially decomposed and forming cavities lined with oxide of iron, in which free gold is unusually abundant.

The same description will apply generally to all the ledges open which are identical in character and, it may reasonably be assumed, are similar in richness. The veins are evidently true fissure veins, as far as can at present be observed, maintaining a general parallelism, the strike being approximately southwest and northeast, and the dip west at a high angle.

Exposures of the measures are not frequent, and the discovery and tracing

of the leads has been attended with some difficulty, but the possibilities attendant upon a moderate outlay in this direction are unquestionably great, as it cannot be maintained that anything like the extent and value of the leads on the property has yet been disclosed. The work accomplished up to the present simply goes to prove that the entire face of the mountain in the vicinity is seamed with true fissure veins of extraordinary richness, the most valuable of which, in all probability, are as yet unsuspected.

#### GEOLOGICAL STRUCTURE.

The country rock, as disclosed at the several openings, shows the usual quartzose schist characteristic of the district, apparently cut at intervals by dykes of intrusive rock which intersect the leads without affecting their general continuity. A heavy band of porphyry is also stated to lie across the southern portion of the group, but this I had no opportunity of examining; indeed, from the fact of the paucity of good exposures, the satisfactory making out of geological structure has perforce to be deferred till increased development shall give fuller access to the measures.

#### FACILITIES FOR OPERATION.

The slope of the mountain on its northern face, while moderately steep, is even and gradual, and offers every facility for the erection of the necessary mining works, and proximity to the ample water power of Cottonwood Creek, to which, down the slope of the mountain on an even and favourable grade, a gravity tramway can be constructed carrying the product of the mine to the stamp mill and concentrator, renders the location, in the matter of transportation, exceptionally favourable.

#### GENERAL CONCLUSIONS.

From the careful observations that I have been able to make in the time at my disposal and with the facilities at my command, I have no hesitation in expressing an unqualified belief in the great promise of the Athabasca group as a mining proposition and the probability of largely increasing value as development proceeds. I am also impressed with the conviction that, favourable as are the present surface indications, they are but an imperfect index to the wealth that may here be ultimately revealed as the whole extent of the vein system is brought to light and deeper workings tap the ledges at lower and even more productive levels.

Fabulously rich quartz has already been taken from Morning Mountain, notably from its western flank, and I see no reason whatever that wealth as great, and, possibly, greater, may not be latent in the yet undeveloped leads of the better situated Athabasca group.

I have the honour to be, gentlemen,

Your obedient servant,

ALBERT J. HILL,

September 30th, 1896.

M.A., M.E., M. Can. Soc. C.E.

It will be seen from the foregoing report that the Company has not been incorporated on a mere "prospect," but that it has a valuable and proven property. It may also be mentioned that other assays obtained from the quartz of the Athabasca, in addition to that referred to above, have given \$96, \$294, \$300, \$446, \$9,800 and \$17,760 to the ton.

**STAMP MILL.**—It is intended to put a stamp mill upon the property, or contiguous thereto, by the end of the present year, or so soon thereafter as the machinery arrives, so that the ore may be treated cheaply by the Company itself, as with a mill on the ground the cost of mining and milling combined would not exceed \$5.00 per ton.

**NO ENCUMBRANCES.**—There are no encumbrances or debts, floating or otherwise, of the Company. The property will shortly be surveyed, and the Crown grant applied for.

**CAPITAL STOCK.**—The capital stock of the Company is \$1,000,000, divided into shares of the par value of \$1.00 each. The stock is issued fully paid up and unassessable and absolutely free from liability. Twenty per cent. of the proceeds of sale of stock, until the property is in a position to pay dividends, will be used in development work, but it will be seen that with the ore in such quantities and of such value as has been already disclosed, the permanent opening of the property could easily be provided for by the ore taken out while the work is going on. Arrangements for the sale of stock are such that no cutting of prices can occur upon initial sales.

It is believed that, owing to the large extent of ground, the number of distinct ledges now opened, the high value of the ore and the fact that it is of a free milling character and can be treated by the Company on the ground, the proposition is the best that has been placed upon the market in British Columbia.

Shares 25cts.

Apply to G. O. M. DOCKRILL, Sec'y,  
NEW WESTMINSTER, B.C.

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M. INST. C.E., M. CAN. SOC. C.E.  
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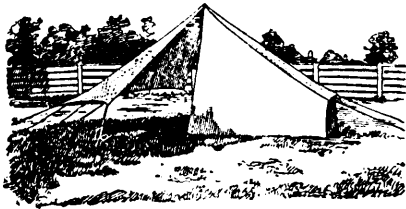
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**Rossland, West Kootenay, B.C.**

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 completest thing of the kind ever made.

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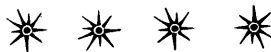
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Mining Properties for sale in all parts of Kootenay district.  
 Special attention given to the mines of Slocan district.

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(Associate of Royal School of Mines, London, Eng.)

**Mining Engineer, Analytical Chemist and Assayer.**

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 Assay Office and Chemical Laboratory.

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SAMPLE ROOMS FOR TRAVELLERS.



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THE LARGEST HOTEL IN TOWN.  
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BEST ACCOMMODATION.  
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RATES:  
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I am in the practical part of the Mining Business. My many years' experience in field work, and six years among the Mines and Prospectors of the Kootenay country, gives me a practical knowledge of the work I have undertaken to do. All business entrusted to me will be promptly and efficiently done. Ask your friends in Kaslo about my character.

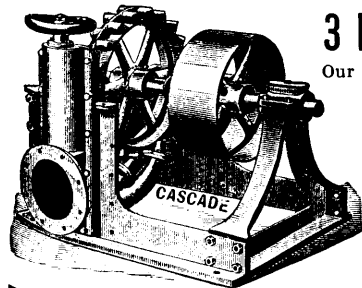
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Beurick, Moreing & Co. are prepared to undertake the Geological and Mineralogical investigation of new districts, to report on Mines and Mineral properties, to open out Mines, or undertake the management of such as are already opened. They are also prepared to treat with prospectors and others with a view to the introduction of approved properties to English and other capitalists.

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TRANSPORTATION COMPANIES.

Canadian Pacific Navigation Co., Ltd.

TIME TABLE NO. 27.

(Taking effect June 21st, 1896.)

VANCOUVER ROUTE.

VICTORIA TO VANCOUVER daily except Monday at 2 o'clock.  
VANCOUVER TO VICTORIA daily except Monday at 13 o'clock or on arrival C.P. Railway No. 1 Train.

NEW WESTMINSTER ROUTE.

LEAVE VICTORIA—For New Westminster, Ladner's Landing and Lulu Island Sunday at 23 o'clock; Wednesday and Friday at 7 o'clock. Sunday's steamer to New Westminster connects with C.P.R. Train No. 2 going east, Monday.

FOR PLUMPER PASS—Wednesdays and Fridays at 7 o'clock.

FOR MORESBY AND PENDER ISLANDS—Fridays at 7 o'clock.

LEAVE NEW WESTMINSTER—For Victoria Monday at 13:15 o'clock. Thursday and Saturday at 7 o'clock.

FOR PLUMPER PASS—Saturday at 7 o'clock.

FOR PENDER AND MORESBY ISLANDS—Thursday at 7 o'clock.

FRASER RIVER ROUTE.

Steamer leaves NEW WESTMINSTER for CHILLIWACK and way landings every Tuesday, Thursday and Saturday at 7 o'clock during river navigation.

NORTHERN ROUTE.

Steamships of this Company leave Victoria for Fort Simpson via Vancouver and intermediate ports on the First and Fifteenth of each month. If sufficient inducements offer, will call at points on the West Coast and Queen Charlotte Islands.

BARCLAY SOUND ROUTE.

Steamer MAUDE leaves Victoria for Alberni and Sound ports the 10th, 20th and 30th of each month.  
The Company reserve the right of changing this Time Table at any time without notification.

G. A. CARLETON,

General Agent.

JOHN IRVING,

Manager.

UNION STEAMSHIP CO., B.C., LD.

—HEAD OFFICE AND WHARF—

VANCOUVER, B.C.

NORTHERN SETTLEMENTS—SS. Comox sails from Company's wharf every Tuesday at 9 a.m. for Bowen Island, Howe Sound, Sechart, Jervis Inlet, Froeck, Texada Island, Lund, Hernando Island, Cortez Island, Read Island, Valdez Island, Shoal Bay, Phillips Arm, Fredrick Arm, Thurlow Island, Loughborough Inlet, Salmon River, Port Neville; and sails every Friday at 11 a.m. for way ports and Shoal Bay, calling at Bute Inlet every six weeks.

MOODYVILLE & NORTH VANCOUVER FERRY.

LEAVES MOODYVILLE—8, 9.15, 10.45, 12 noon, 2, 4, and 5.45 p.m.  
LEAVES VANCOUVER—8.35, 10, 11.20, 1.15 p.m., 3.15, 5.15, and 6.20. Calling at North Vancouver each way, excepting the noon trip.

Freight steamers SS. Capilano, and SS. Coquitlam; capacity, 300 tons d.w.  
Tugs and scows always available for towing and freighting business. Large storage accommodation on Company's wharf.

H. DARLING, Manager.

Telephone 94.

P.O. Box 771

WM. K. LEIGHTON,  
Financial & Mining Broker  
P. O. DRAWER 33.  
NANAIMO, B. C.

The Columbia & Kootenay Steam Navigation Co., Ltd

TIME TABLE NO. 10.

In effect June 8th, 1896.

ARROWHEAD-TRAIL ROUTE, STEAMER "NAKUSP."

South bound; read down. North bound; read up.  
Mon. Wed. Fri. 7 p.m. De ARROWHEAD Ar 11.30 a.m. Wed. Fri. Sun.  
" " " 11 p.m. Ar NAKUSP {De 7.30 a.m. " " "  
" " " 12 m. De " {Ar 6 a.m. " " "  
Tues. Thurs. Sat. 9 a.m. Ar ROBSON {De 8.30 p.m. Tues. Thurs. Sat.  
" " " 12 noon De " {Ar 8 p.m. " " "  
" " " 2 p.m. Ar TRAIL De 4.30 p.m. " " "

Connections at Arrowhead with C.P.R. to and from Revelstoke and all points east and west; at Nakusp with Nakusp & Slocan R. to and from Slocan points; at Robson with C. & K. R. to and from Nelson and Kootenay Lake points; at Trail with C. & W. R. to and from Rossland; at Trail with Str. "Trail" to and from Waneta, Northport and Spokane.

TRAIL-NORTHPORT ROUTE, STEAMER "TRAIL."

Daily except Sun. } 8 a.m. De TRAIL Ar 4.30 p.m. {  
} 9 a.m. Ar WANETA De 3 p.m. { Daily except Sun.  
} 10 a.m. Ar NORTHPORT De 1 p.m. {

Connections at Northport with S.F. & N.R. to and from Spokane and way points; at Trail with C. & W. R. to and from Rossland, and with Str. "Nakusp" to and from Robson, Nakusp and Revelstoke.

KOOTENAY LAKE ROUTE, STEAMER "KOKANEE."

Daily except Sun. {4.00 p.m. De NELSON Ar 9.30 a.m.} Daily except Sun.  
{8 p.m. Ar KASLO De 5.30 a.m.}

Saturday, June 6th and every second Saturday following, steamer leaves Kaslo at 10 p.m. for Bonner's Ferry; returning leaves Bonner's Ferry Sun. at noon.

Connections at Nelson with C. & K. R. to and from Robson, Trail, Rossland, Nakusp, Revelstoke and C.P.R. points; at Nelson with N. & F.S.R. to and from Spokane and way points; at Kaslo with K. & S. R. to and from Slocan points; at Bonner's Ferry with G.N.R.

The right is reserved to change this schedule at any time without notice.  
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T. ALLAN,

SECRETARY.

J. W. TROUP,

MANAGER, Nelson, B.C.

Columbia & Western Railway Co.

Time Table, in effect July 1st, 1896.

No. 2 Passenger, daily except Sunday; leaves Rossland 7 a.m., arrives Trail 7.45 a.m.

No. 4 Passenger, daily; leaves Rossland 3 p.m., arrives Trail 4 p.m.

No. 6 Passenger, Sunday only; leaves Rossland 8.30 a.m., arrives Trail 9.15 a.m.

No. 3 Passenger, daily except Sunday; leaves Trail 10.30 a.m., arrives Rossland 11.30 a.m.

No. 5 Passenger, Sunday only; leaves Trail 11 a.m., arrives Rossland 11.45 a.m.

No. 1 Passenger, daily; leaves Trail 5 p.m., arrives Rossland 5.45 p.m.

All trains run on Pacific standard time. Connections at Trail with Columbia River & Kootenay Steam Navigation Co.'s steamboats, Spokane Falls & Northern Ry. via Northport, Canadian Pacific Railway via Revelstoke.

KASLO & SLOCAN RAILWAY.

TIME CARD NO. 1.

To take effect Wednesday, Nov. 20, 1896. Trains run on Pacific standard time.

Going west.	Daily.	Going east.
Leave 8.00 a.m. Kaslo	Ar 3.50 p.m.	
" 8.36 " South Fork	" 3.15 "	
" 9.36 " Sproule's	" 2.15 "	
" 9.51 " Whitewater	" 2.00 "	
" 10.03 " Bear Lake	" 1.48 "	
" 10.18 " McGuigan	" 1.33 "	
" 10.30 " Bailey's	" 1.21 "	
" 10.39 " Junction	" 1.12 "	
Arrive 10.50 " Sandon	Leave 1.00 "	

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ROBT. IRVING, Traffic Manager.

R. W. BRYAN, Superintendent.

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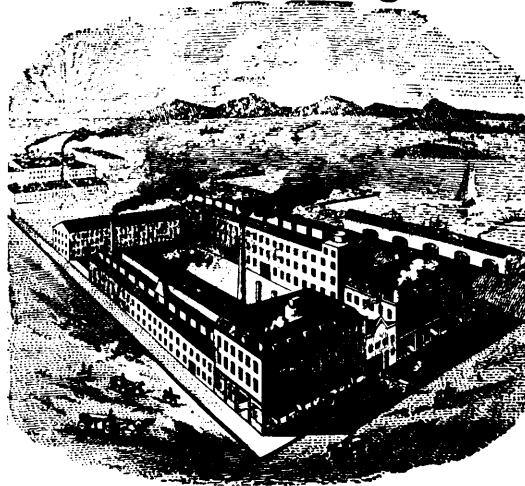
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# The Mining Record.

Vol. II.

DECEMBER, 1896.

No. 12.

## BRITISH COLUMBIA MINING RECORD.

Devoted to the Mining Interests of British Columbia.

ALEXANDER BEGG, Editor.

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Contracts for advertising can also be made at E. C. Duke's Advertising agency, 64 and 65 Merchants' Exchange, San Francisco, Cal., and at Gray's Agency, Montreal.

### DIRECTORY OF MINES.

The publishers of the "British Columbia Mining Record" have in preparation, and will publish in January, a Directory of Mines. The work will be corrected and issued quarterly, so as to "keep it up to date." It will give the fullest particulars obtainable of all mines in course of development or being operated, as well as other information regarding the mining districts, and it will be the aim of the publishers to make this work reliable as a means of reference. It will be invaluable to all who are interested in mining in British Columbia, and will be one of the best mediums for investors and others to gain a correct idea of the mining development going on in the province. It is intended at first to issue only a neatly bound subscription edition of the Directory, and as it will necessarily be limited, parties who desire to receive it should send in their names, accompanied by the subscription price, without delay, addressed to the Business Manager,  
"B.C. Mining Record,"

P.O. Drawer 57,  
Victoria, B.C.

Subscription price \$2 per annum for the four quarterly editions, published in January, April, July and October.

### A Christmas Greeting.

WE wish our readers every happiness and enjoyment during the holiday season which closes the year 1896. Looking back at the past season we find much to congratulate ourselves upon. Our province has attracted world-wide attention through the rich mineral discoveries made in almost every section of it. It looks as if the whole area of British Columbia is one vast deposit of precious metal, and the progress made in development during the past year is sure to result in very heavy and profitable returns during 1897. In sympathy with the rest of Canada, and indeed with the whole world we have passed through a long season of depression. But the clouds are lifting and a clear sky is beginning to show. Confidence is becoming restored amongst all classes of the people, and this means the coming of good times. The year 1897 bids fair to be a season of prosperity, and, so far as British Columbia is concerned, the opening up of her mines and the construction of public works incidental thereto are bound to bring prosperity to the merchant, the mechanic and the farmer. That its minerals comprise the greatest resource of British Columbia is now admitted on all sides, and it is a happy augury for the future of the province that so much activity exists in developing this until now hidden wealth. Already capitalists in all parts of the world are directing their attention to this province, and knowing, as we do, the immense riches stored within our boundaries only awaiting to be taken out and utilized, we may look forward to the future with confidence. Capital will not be wanting as we need it—men will flock to our province to take part in the industrial boom now in its infancy, and before the end of 1897 we predict that British Columbia will be the most active and prosperous province in the Dominion.

### EDITORIAL NOTES.

IT has become the fashion of late for the daily and weekly newspapers of British Columbia to devote a considerable amount of space in each issue to mining news. We are glad to see this, because it is a general tribute on the part of the press to the growing importance of the mining interests of the province.



The *British Columbia Mining Record*, which is now in its second year, was started for the sole purpose of urging the claims of our mining industry upon the attention of the public, and we are pleased to say that so far the journal has met with greater success than we anticipated when we commenced its publication.

Each mail brings us subscriptions from Europe, the United States and Eastern Canada, as well as from all parts of British Columbia, and our advertising columns show that merchants and manufacturers appreciate the *Record* as a medium for making known the business they are engaged in.

Above all, we have the satisfaction of knowing that we have won the respect and confidence of right-thinking men by the course we have pursued in denouncing purely speculative mining schemes and warning the public against those who are endeavouring to fill their own pockets at the expense of the unwary investor and to the detriment of the mining interests of this province.

But it should be remembered that there are a number of incorporated mining companies doing business in British Columbia whose shares afford a safe and profitable investment for capital, and all we have endeavoured to do is to warn investors against placing their money without first making the fullest enquiries about the standing and condition of the company they propose investing in.

We need not refer further to this matter. We have sounded the note of warning, and it is for investors now to take heed. In one particular we think the Dominion and Provincial Governments could aid the intending investor by compelling mining companies to publish regular statements of their condition and the condition of the mine or mines they are operating. This would enable the investing public to know something of what they invest in, whereas now it is exceedingly difficult to ascertain exactly how any of the mining incorporations stand.

It is gratifying to note that excessive capitalization of mining companies is going out of favour, but we still think that the Government should compel promoters, when asking for letters of incorporation, to show that the capital sought to be authorized is fully warranted. And in this connection we desire to sound a final note of warning to public men and men of influence not to allow their names to be attached to a prospectus without making the fullest enquiries.

We observe that some of the local mining papers have been accused of booming their particular localities by printing exaggerated accounts of the mines. We do not think the accusation is warranted in most instances. These papers are published for the purpose of giving the mining news of the districts represented. At one time a rich strike is reported to them, at another a high assay. A prospector reports the finding of what he considers a valuable claim, and so on. These items of news are published in good faith, and in many instances are perfectly true. It is the record of development going on in each locality, and to the local papers is entrusted the duty of making it known.

The boomers are the stock speculators, who, no doubt, sometimes succeed in using the newspapers to aid them. But, as a rule, the papers of British Columbia have shown a desire to be honest in their representations.

The mineral wealth of the province is becoming better known each day, thanks to those papers and the numerous correspondents who have written about it, and it is becoming more and more apparent that booming methods are unnecessary to attract capital to the province. The *British Columbia Mining Record*, for one, has no hesitation in saying that for the profitable investment of money the mines of the province afford one of the best fields to be found anywhere at present.

The name of Barney Barnato, of South Africa fame, has been frequently used of late in connection with British Columbia mines. At one time he had experts in the camps spying out the land. At another he was about to visit the province to see for himself. Now it seems Barney Barnato had no idea of investing in our mines, and the men credited with being his experts have published a denial of their having been employed by him. We expect Barney has quite enough to do to keep his South African house in order without looking out for other fields.

He is now said to have invested in Ontario mines, but probably that will turn out to be another canard. It has, however, been made the subject of correspondence in the *Victoria Times*, and inferences drawn which would have been better left unwritten. The writer, taking it for granted that Barney Barnato had sent experts to Rossland, who had persuaded the South African millionaire to have nothing to do with the camp, proceeds to make unfavourable comments on the Trail Creek District as compared with the Slovan.

In the first place, Barney Barnato, as we have seen, sent no experts to Trail Creek; and, in the second place, Trail Creek and the Slocan are two entirely different propositions. One is mostly gold and the other mostly silver. Both are known to be immensely rich, and both offer opportunities for the profitable investment of capital. The comparison between the two in the case of the *Times* correspondent, as coming from a British Columbian, is odious.

If the output from the Rossland mines was not as large during the past year as was expected, the cause was not lack of ore to ship, but insufficient transportation facilities to carry it to the smelter.

Thousands of tons of ore are lying on the dumps near Rossland, which, if it could have been conveyed away, would by this time have been turned into gold. Some of the ores run very high, others run low, but this is to be expected in a camp where so many mines are being worked. The average will not be ascertained until Rossland has proper shipping facilities for its ore.

As for the Slocan, we have reason to think that it is by far the richest silver camp in North America, and that the year 1897 will prove this to be the case.

The one thing needed to bring the mines of British Columbia to the front is better transportation facilities. We have abundance of ore. It is to be found almost everywhere throughout the province. What is retarding mining development in the various sections of West Kootenay, Trail Creek, Boundary Creek, Slocan, Lardo, Duncan, etc., etc., of East Kootenay, Cariboo, Lillooet, and other districts, but the want of railway communication? The want of this is preventing our mines from proving themselves to be dividend-payers, and it is the one thing that Government and people should bend their energies to obtain.

We are promised the Crow's Nest Pass railway. When will construction commence? There will be feeders to that line required—what of them? Is 1897 to be a year of railway construction in British Columbia, or is it to be another year of waiting? The coast cities are moving to have a connecting road built with Kootenay. This is important, because such a line would not only tend to keep much of the trade of the mining districts within the province, but it would also afford increased facilities for the smelting of ore. The Columbia & Western Railway Company failed to

obtain the necessary money to build it. It is most important that this road should be built, because some of the richest mineral sections of West Kootenay are tributary to it. It is an enterprise that deserves Government aid, without which it may be difficult to obtain the required capital.

It may be thought that in seeking for these railways British Columbia is expecting too much at one time, but there is this much to be said about it: In the first place the province is a large contributor to the revenue of the Dominion—much larger than some of the other provinces where the population is greater than ours. In the next, the development of our mines means increased trade and wealth to all the provinces of Canada. These railways that we now so urgently need will therefore not only benefit British Columbia, but the whole Dominion.

When transportation facilities can be afforded to and from our mines they will become immediate shippers of ore. Local smelters will be built at various points, and the output of precious metals be such that instead of our having to invite capital for development purposes capital will be eager to come our way. Once our mines become shippers and dividend-payers, that moment will money for further development be easily obtained. It will not be necessary then to sacrifice treasury stock in order to obtain a few dollars to go on with the work. The railway is therefore the one thing needed at present for the development of our mines.

But there is another view of this subject: Are we wise in being too eager for the introduction of outside capital? Would it not be better to get along with as little of that as possible in the development of our mines? That we cannot do without it altogether is plain, but with railways tapping our mining districts and British Columbians themselves putting their shoulders to the wheel, would we not be better off a few years hence if instead of outsiders owning and operating our mines, we owned and operated them ourselves?

The experience of other mining countries teaches us that if our mines become the property of outside capitalists they will likely suck the lifeblood of the province by employing the cheapest labour in order that they may be enabled to squeeze the uttermost farthing out of their investments, and thus draw out the riches of our province to enrich other lands. This is no fancy picture; it is based on the experience of other min-

ing countries, and it is worthy of consideration. We are not opposed to the introduction of capital, but care should be taken by British Columbians at this time that capitalists do not secure their birthright and leave them in the future with but a mess of pottage. Why should not British Columbians go in and develop mines instead of asking strangers to do so, and thus lose control of them? We could point to several companies recently formed with moderate capital, all furnished in this province, who within the next year or so will more than recoup the money invested. Why not go in more and more for this? Local trade will benefit by it, and the wealth of the province as a whole will increase month by month instead of being sucked out of it and lost forever.

We commend the perusal of the articles on cooperative mining which we have been publishing. There are many good points in them to be learned.

The past year has been chiefly one of development; the year to come will be one of production. Trail Creek will be a large shipper of ore. The construction of the Red Mountain Railway into Rossland will be an important factor in this, and it is to be expected that the Columbia & Western Railway will augment its rolling stock so as to keep up with the times. In the Slocan greater transportation facilities are much needed, and it is to be hoped that the C.P.R., as indicated by President Van Horne, will build other branch lines into it at an early date. There is plenty of room for all the railways that are proposed for the Slocan.

When the Crow's Nest Pass Railway is built East Kootenay will boom, and the immense mineral deposits in that district will astonish the world.

Golden Cariboo is much hampered by lack of proper transportation facilities, but, notwithstanding this, it and Lillooet will prove to be great producers during 1897.

It is not to be expected that in our editorial notes we can give an account of the progress of our mining districts during the past year, but a good idea of what has been done and what is yet to come may be learned by reading the various interesting articles which appear in this number.

We may, however, call attention to a new mining field which is bound to come to the fore during 1897—along the coast and on the various islands

of British Columbia. From recent discoveries made it is evident that great mineral deposits exist at several points, and the work of development which is now going on is bound to bear fruit ere many months. We commend the reading of the articles to be found elsewhere on this subject.

We trust that both the Dominion and Provincial Governments will not neglect necessary legislation on several points relating to the mining interests of the province which have been brought to their notice from time to time.

We again call the attention of mining men in the province to the advisability of forming a British Columbia Mining Association. We trust the idea will take root and blossom into a reality. Such an organization would be productive of much good.

In this number we give a portrait and short sketch of William A. Carlyle, the Provincial Mineralogist. Mr. Carlyle, during the short time he has filled his present position, has done noble service for the mining industry of the province. His report on Trail Creek was a most valuable one, and we regret exceedingly that his forthcoming report on the Slocan will not be ready in time to appear in this number. Parties interested in mining would do well to write to the Minister of Mines in Victoria for copies of these reports. They are the most valuable documents yet issued in regard to the mines of this province.

Another valuable report recently issued is that of the British Columbia Board of Trade, which not only deals with mining, but all the other industries of the province. It is full of reliable statistics, and should be in the hands of every one interested in British Columbia.

The need of local smelters at convenient points is a pressing one. The Nelson and Trail works have both been greatly enlarged recently, but they cannot even yet be expected to keep up with the supply of ore, which is increasing month by month. With the Red Mountain Railway running into Rossland, a great deal of ore will be taken out to American smelters, but the less our smelting is done outside the province the better it will be for mine owners and British Columbia generally. Better transportation facilities will give us more local smelters, so once more we say let us bend our energies towards pushing railway construction.



WILLIAM A. CARLYLE, M.A.E.  
Provincial Mineralogist, British Columbia.  
See page 25.

The more railways the better, but in the case of the direct line between the coast cities and Kootenay it is desirable, if not necessary, that the two parties in the field should unite into one company. It will give the enterprise a chance to be successful, whereas if the two companies remain in the field and oppose each other both may fail.

During the past season a number of experts visited our mining districts and took notes of what they saw. The reports of these men to their employers we of course know nothing about, but we candidly confess we have not much faith in an expert's opinion who merely takes a run through the land and makes a general report on his observations. If English capitalists desire to invest in our mines they would do much better to appoint a competent man to reside in the country, whose duty it would be to examine and report on special properties or claims. If capitalists would take hold of the latter with the view of working them they would do better in the end than by buying developed properties at large figures. English capitalists, however, do not seem to understand how to get in on the ground floor.

It is pleasing to note that the present Government at Ottawa is showing itself alive to the necessities of Kootenay. Improved mail service is receiving attention, and a County Court Judge has been appointed. We are promised, too, that the mining districts during next season will receive special attention. There is no doubt that the representations of Mr. Bostock, the member for Yale-Cariboo, have had much to do with bringing this desirable state of affairs about.

We would suggest to Mr. Bostock that he should on his return from England hold a series of meetings in a few of the principal places of his constituency to meet and discuss with mining men and others the needs of the district. In this way he will be made familiar with the needs of the country, and it will give his constituents an opportunity to lay before him their views. It would not only be a popular, but a most useful move on his part, and from what we know of the man he may be trusted to energetically urge upon the Government the claims of our mining districts. A session of Parliament will be held at the beginning of the year. British Columbia must take advantage of it.

Before the close of another year we may expect to see several incorporated towns in Kootenay. It seems ridiculous that such places as Nelson and

Rossland should remain without incorporation. It is satisfactory to note, therefore, that the residents of these two towns are moving for incorporation. They should insist upon its accomplishment at the next sitting of the Legislature.

We earnestly urge upon the Provincial Government to make liberal grants in their next estimates for trails and roads in the mining districts. They should remember that the more they assist in opening up and developing the several mining sections the more will their revenue from mines be increased. Trails and roads, and plenty of them, will prove to be a good investment for the Government.

While looking into the tariff question the needs of our mining districts should not be overlooked by the Dominion Government, and this is one of the points which might with profit be discussed with our representative, Mr. Bostock.

From all appearances there will be a heavy influx of people into the Kootenay and other districts during the coming year, and in this connection we note that several estimates of the increase in population during the next few years have been made. One sanguine individual has put it at an even million in ten years. Was that individual over-sanguine in his estimate? We do not think so. Take a few of the towns, such as Rossland, Trail, Nelson, Kaslo and Sandon. Each of these at the rate they are now going may easily have from fifty to one hundred thousand people in ten years' time. Then there are many other places, such as Greenwood City, Fort Steele, New Denver, Slocan City, Nakusp, Ainsworth, and others we have not space to enumerate, which are growing very fast in population. The Columbia river will be lined with small towns during the next few years, and, in addition to these centres of trade, there are the numerous mines with their army of miners and workmen. Taking it all in all, and looking at the fact that we are on the eve of vast development in many districts now sparsely populated, we do not think that a million in ten years is an over-estimate.

This, taken in connection with the settled policy of the Dominion Government to people the vast prairies to the east of the Rockies, indicates that in ten years' time the West will outnumber the East, and therefore control in a large measure the legislation of the Dominion.

It will be wise, therefore, for the East to treat the West liberally, so that in the years to come,

when the West gathers its full strength, there may be good feeling between the two sections of the Dominion, remembering always that the welfare of the East depends to a very large extent upon the welfare of the West.

#### *The Relation of British Columbia to the Dominion.*

ALTHOUGH British Columbia is the one province unrepresented in the Dominion cabinet, it is the keystone of Confederation. Without it the Dominion of Canada would be an imperfect union, and the hopes and aspirations indulged in by the fathers of Confederation would never be fulfilled. They knew its importance when they set about the work of welding the British North American provinces into one great bond of union and were prepared to make every possible concession to gain its adhesion to the proposed compact. One of the conditions insisted upon by the people of British Columbia before they would consent to enter the union was the building of the Canadian Pacific Railway through to the Pacific coast. That condition was fulfilled although not in the time specified, and British Columbia is now the door-way of the Dominion to the east, with several lines of ocean steamships connecting it with China, Japan and India. Not only is British Columbia already a large revenue-producing province, but its vast and valuable resources are of the utmost importance to the Dominion at large. Of late its immense mineral deposits, which apparently cover almost the entire area of the province, and which it may be said have remained undiscovered for ages, have added greatly to its importance as a province and increased its value to the Dominion. Two things are needed to make Canada a great country—a larger population and more capital. In area the Dominion is greater than the United States—in population and wealth it is inferior to that Republic. All that is required then to make us the equal of our American neighbours is increased population—wealth will follow. In resources and advantages we have many which the United States do not possess, and they have others which our northern climate prevents us from having. But the resources of Canada, if properly developed, are of as much value as those of any other part of the North American continent and the only things needed to bring about this development are population and capital.

The recent visits to this province of prominent members of the ministry at Ottawa show that at last the Dominion has become alive to the fact that British Columbia is an important factor to be cultivated in the interest of Canada's future welfare. This, it is true, has been known to public men for some time, but it has never been so fully recognized as at the present day. It has come upon them like a flash that here in this province we have vast stores of wealth which only require an energetic policy and the expenditure of some money to turn them to account for the good of the whole Dominion. More than this, it has dawned upon our public men that in the development of our mines they will open a door for the influx of population and capital they never dreamed of till now. The populating of the vast western prairies of the territories east of the Rockies is a worthy

policy for the Government to pursue, but the accomplishment of this laudable object will not only be slow, as compared to the increase of population in British Columbia if our mines are energetically developed, but in a large measure the peopling of the western prairies will depend upon the successful opening up of the mining industry in this province. With the rapid development of our mines will come a rapid, very rapid, increase in our population. Our resources consist principally of minerals, lumber and fish, which will give employment to a vast body of workmen. They will require food and other supplies which the province has not and will never have sufficient of. We will then have to look to the western prairies and to eastern Canada for the necessities which we cannot supply. In return we will give them of our products. The more then this province, with its limited food supply capacity, increases in population the greater will be the impetus given to the peopling of the western prairies. The least sanguine amongst us cannot but admit, looking at the experience of the past year, that in the ordinary course of events our population in the mining districts will increase during the next few years to a considerable extent. But with an energetic policy on the part of the Government in aiding development by the construction of railways and other means, the increase of population will be such as has never taken place in any part of the Dominion. We commend this fact, which is apparent to every thinking man who has given the subject any thought, to the attention of parliament at its next session in Ottawa, and the Government will be wise to lead in the campaign of progress on this Pacific coast which cannot be much longer delayed.

We must say the visits of cabinet ministers, their utterances in testimony of our great resources, and the promises they have made to give attention to the needs of the province, lead us to hope that an energetic policy in regard to British Columbia will be commenced immediately. Once commenced the results of such a policy will ensure its being carried on. But without any idea of looking at the matter from a political standpoint there is the greatest necessity for British Columbia to be fully represented in the Dominion cabinet. Our interests are so great, and they are so entwined with those of the whole of Canada, that it is imperative. It is a right that we have every reason to insist upon, that there should be in the cabinet at Ottawa a representative from this province. It cannot be delayed long and the Government will be wise not to delay it much longer. We want no representation tacked on to another department but a minister whose sole care in his administrative capacity will be the charge of looking after the vast and as yet almost undeveloped resources of the Pacific province—the keystone of the Confederation of Canada.

#### *The Relation of the Coast Cities to the Mining Districts.*

AS the perfect harmony and co-operation of the several provinces is necessary for the welfare of the Dominion, so is united action on the part of the various sections of British Columbia necessary for its advancement. The imperfect means of

communication between the coast cities and the mining districts, especially Kootenay, have up to now prevented those cordial and intimate relations which ought in the interest of the province to exist between the two sections. Added to this is the fact that the southern part of Kootenay, lying near the international boundary line, offered an inducement to our American neighbours to step in and secure a footing which British Columbians were not in a position to do. By building a railway to the south they were able to divert a large portion of the trade to the United States, which, during the time being, the western portions of the province were in a measure cut off from. Overlooking these circumstances a feeling was created in Kootenay that the coast cities were not alive to the importance of the district. Perhaps at one time they were not fully alive to the opportunities presented for the extension of their trade, but this is easily accounted for by the fact that the channels of communication were not sufficiently direct. Be this as it may, the time has arrived when the importance of the Kootenay country is fully recognized and now the best energies of the coast people are directed towards establishing more intimate relations with the great mining districts to the east of them. The necessity of direct railway connection between the coast and Kootenay is apparent when it is considered that the more a province endeavours to retain its own trade within its borders, while cultivating the export of its products to other parts, the better will be its general condition. By establishing intimate trade relations between all parts of British Columbia, the success of any one section is sure to have more or less of a good effect on the others.

But leaving the coast cities out of the question, what will be the effect upon Kootenay of the proposed direct railway connection with that district? It has now communication with the south and via the Columbia river with the north, but it has as yet no direct eastern or western connection. The tendency of trade and progress on this American continent is from east to west and from west to east, and any country not possessing avenues of communication in those directions is not in a good condition. Kootenay now has what it took Manitoba years of agitation to obtain—*independent railway communication with the south.* What it wants is the same means of communication eastward and westward. The Crow's Nest Pass Railway will give the eastern connection, and it is the duty of the Government to see that it is managed in the interests of the people and not of any corporation. But what about the western outlet, which is necessary to give Kootenay the full measure of transportation facilities it ought to enjoy? There is only one way and that is by an independent line to the coast.

With this effected Kootenay will then be in a position to go ahead and its progress will be such as to give an impetus to trade all over the province. To the north the banks of the Columbia river and adjacent country, served by the steamboat, will settle up fast, and in the Slovan railways will tap that rich district from all points of the compass. The same will be the case with the southern portions of the district.

Trade will not go all one way. It will spread

and in doing so all portions of British Columbia will benefit. To build the Crow's Nest Pass Railway and stop at that would virtually mean the cutting off of the coast from a fair participation in the trade of the Kootenay district. This must not be. It would be a deep injustice to this province because it would mean the diverting of the bulk of the business to the East and leaving the West out in the cold. British Columbia would never stand this. Kootenay could no more afford it than could the coast.

The British Columbian who would raise his finger against the building of the Crow's Nest Pass Railway would be a traitor to his province. For several reasons it is absolutely essential to the welfare of East and West Kootenay. The building of a direct line to the coast is, however, just as essential to the good of the province as a whole. One thing is certain, Kootenay to be great must be placed in the most direct communication possible with the ocean.

The Canadian Pacific Railway is able to serve much of the country in the northern and middle parts of the province, but it is so located that it cannot satisfactorily connect the southern part with the coast. It is necessary then that more direct communication should be established in the interest of that harmonious and united action between all sections of British Columbia, which we hold is so essential to its welfare as a province.

The question next arises: by whom ought this direct line be built? Whoever builds it can only do so by means of Government aid. Already the Provincial authorities have been approached. They can assist by means of a land grant, but the financial aid, in whichever way it is given, should come from the Dominion Government. To grant aid to a line running east and connecting the cities there with our mining districts and refuse like aid to a railway connecting our coast cities, thus cutting them off, would be manifestly unfair. We do not believe the present Government will be guilty of such a one-sided policy in the assistance they propose giving to railway construction in this province. Therefore we trust the promoters of the direct line between the coast and Kootenay will place their claim for aid before the Dominion authorities in the strongest and promptest manner possible. But in order to succeed there must be harmonious action, and the two companies in the field will do well to consolidate their interests and present their claims as one. Otherwise they must inevitably fail.

It is often asserted that the Canadian Pacific authorities endeavour to thwart any railway scheme which does not tend immediately to tap or feed their line. They would not be efficient railway managers if they did not watch with jealous eye anything likely to affect the welfare of their road. But we think they often get credit for obstructive tactics when they do not deserve it. The Canadian Pacific management must see that the more the different sections of this province are connected by railways, thus aiding development, the more it is to the benefit of the main feeder of the province, the Canadian Pacific Railway. A direct line between the coast cities and Kootenay would benefit the great trans-continental road even though its managers had no hand in it.



### My Christmas Story.

BY D. FALCONER.

A WEEK ago to-day the editor of the B.C. MINING RECORD requested me to write a short story for the Christmas number then in course of preparation. It was a good chance, he thought, to make a name for myself in literature. Though not having any use for literary fame at the present time, I said I would write the story, so I procured an ancient map of the Yale-Cariboo district and ten years' annual reports of the Department of Mines out of which to construct it. I also hunted up an old-timer by the name of "Billy," who was said to be well posted on the upper country, having been all the way to the head waters of the Skeena in the early sixties, when the "Fraser River Excitement" made house-room cheap and plentiful in San Francisco by nearly depopulating that historic town. One would think that with such abundant material and an imagination that has never been known to falter either in effecting sales of inferior goods, or in standing off a small pecuniary obligation until the first of the week, I would long since have produced a Christmas mining tale of no small merit; but such is not the case—the Christmas story of the early days in Yale-Cariboo is still incomplete. It is with a strong feeling that an apology is due to readers of the Mining Record that I write these lines as we go to press without the Christmas story to which they were justly entitled. The fact that they knew nothing about it, and did not expect it, makes no difference, and does not exonerate me from blame—I promised to produce the story and I have not done so. Now, let me explain why I did not produce the story. In the first place the map, which was my main dependence, though ancient and time-stained, did not reach far enough back to enable my principal personage to travel about the country. Nor did it indicate where he could locate a claim, find gold, purchase stores or starve to death on Christmas eve dreaming of dotting parents in his far-off Eastern home as I had intended. Had I relied on that map I might have made him locate a claim in a Chinaman's back garden somewhere around Soda Creek or hold up a stage in the woods where there were no roads and thus bring ridicule and discredit on this journal. As for "Billy," I blush when I think of him—blush for degraded humanity—also blush more or less on my own account, but never mind about that. The private directions given me just previous to a formal introduction to "Billy," were that to bring out his finer feelings, and gain access to the storehouse of valuable old-time information which he possessed, it was necessary to load him judiciously with "half and half"—not too much, but just a moderate-sized pailfull of that exhilarating and nutritious compound. But after accomplishing this at a cost of a dollar and six bits he unexpectedly exhibited a fine scorn for the early days and would do nothing but talk about the Manitoba School question, denouncing with great emphasis the iniquity of the worthy gentlemen, great and small, concerned in its settlement. "Wha' they want give em sheperate, hic, schoolsh? —Wha' right they got sheperate, hic, schoolsh? Give nuthin,' thash what I shay; Give em, hic,

nuthin.'". Supplementary mugs of half and half failed to jar him loose from the School question, and only kindled a transient gleam of hostility to the landlord, whose total annihilation he professed his willingness and ability to accomplish for a nominal consideration; then he zig-zagged to an inner room and went to sleep in a chair by the stove, so I was obliged to consider the interview closed.

The study of the map and the experiment with "Billy," though explained in a few words, occupied two entire days. Then I thought I would go it blind and "fake" the whole story—find a bottle containing a manuscript in a prospect hole away up in the Peace River country beyond the reach of the geography; but various objections to this course presented themselves, the chief being that the bottle scheme had already been worked so many weary years on a suffering public. The annual reports of the Minister of Mines, though full of solid information about the gold product of this province, contained no material that could be utilized in the construction of a pathetic Christmas story of the early days, and they did not reach far enough back anyway, by about twenty years. Two more days were wasted searching for maps of a date remote enough to enable the hero of an early day Christmas story to find his way around the Yale-Cariboo country and locate claims. But it seems that at that early period in the history of our mining development the greed of gain was so strong that no one stopped to make maps.

Under all these circumstances you can see for yourselves that I could not write a Christmas story with any hope of escaping criticism. It would be certain to be full of glaring inaccuracies, owing to my ignorance of the country where the events related were supposed to transpire. And then this country has always been so law abiding that no thrilling events have ever taken place so far as deponent is aware and verily believes. People who go on monotonously dying in their beds do not furnish material for the romancer however gifted. The hero of a romance—more particularly a mining romance—should meet death violently with his boots on, otherwise the public will have none of him. Even a Christmas tale—if it be a mining tale—should bristle with Colts revolvers, bowie knives and red liquor; such at least is the expectation of the public.

It is true that I might have obtained valuable information from scores of business men here in the city who thirty or forty years ago came to the country and went up with the rush to Barkerville, but I did not like to ask them to stop in the middle of a mail or leave good customers standing around while they communicated to an entire stranger facts about the price of onions, the habits of the local grizzly bear and the probabilities of homicide with or without provocation in the upper country in, say, A.D. 1863. All these things, and many more, I would need to know before attempting to write a story capable of travelling alone and defending itself, it would never do to build a cabin of redwood in Yale-Cariboo where the redwood does not grow, or charge Grisly Jack six bits a pound for coffee at the local store when the price at the time and place should be two dollars.





HYDRAULIC MINING WILD HORSE CREEK, EAST KOOTENAY.

Later:

The editor having grown restive and wishing to gain all the time possible, grabbed what I had written up to the lunch hour and carried it away to the printers. He says I can go on and finish this apology to the public while the first installment is being set up. I do not think it was altogether fair to do this, because a man very quickly forgets what he is talking about when he is not quite clear what he is trying to say, especially if a full meal and a short rest follow his first mental effort. Now, if I seem to wander or repeat myself, let the blame be placed on the head of the man who broke in with his ungentle hand and dislocated my train of thought. This is the first time that I have ever tried to explain or apologise on the installment plan. It may come easy to an editor because the exigencies of his business make him train his memory and become expert as an all around writer. He can keep his faculties well in hand under the most trying circumstances and think out an eloquent obituary for a departed statesman while splitting his sides at a performance of comic opera. He also has a head like an almanac, and if called upon, can remember word for word the ten year old arguments of a political opponent who has experienced a change of base. But the ordinary individual cannot be expected to do this, and I frankly confess that I am all at sea as to the nature and extent of the apologies already being set up. It may be as well perhaps to close with a few remarks about something or other, but time presses, and anyway it is too late now to go into the elucidation of deep subjects, even if they could be elucidated, which is doubtful. This much, however, I will solemnly engage to do. I will write a Christmas story for the '97 Record and place the scene in Yale-Cariboo, even if I have to go up and travel over the ground at the Record's expense, to get exact information; so let all those who have been disappointed in getting copies of the present number, save their money for the '97 issue, which will be the most gorgeous specimen of an illustrated mining journal ever attempted on this continent.

*William A. Carlyle, MA.E.*

**W**ILLIAM A. CARLYLE, MA.E., was born in 1862, at Hamilton, Ont., and afterwards educated at the High School and Canadian Literary Institute, Woodstock, the present home of his parents. In 1883 he entered on the course of mining engineering at McGill University, Montreal, graduating in 1887, winning first class honours in Natural Science and the gold medal presented by the British Association of Science, after spending during the long summer holidays of five months, two seasons on the Geological Survey of Canada in the Laurentian Mountains, Quebec, and one on the engineers' staff of the C.P.R., then constructing its line to Detroit. After graduating, Mr. Carlyle went West to Aspen, Colorado, where for four years he served as mining engineer for one of the most successful and influential mining men in the State, owner in the largest mines in what was then the best silver camp in Colorado. In 1891 he returned to Montreal to become lecturer and afterwards professor in Mining and Metallurgy at the University of his graduation, and in the fol-

lowing spring had the degree of Master of Engineering conferred upon him. The summer months were spent at different mining centres and in professional work, one summer being taken up at the famous mines near Lake Superior, at the great iron mines at Ishpeming and Negaunee, and the Calumet and Hecla and other copper mines on the celebrated copper-bearing peninsula of Michigan. Another vacation was spent partly in working in the gold mines at Black Hawk, Gilpin Co., Colo., and at the large smelters at Denver, while a third was passed at some of the mines in New York State.

In the autumn of 1895 he was appointed by the Hon. the Minister of Mines, Lieut.-Col. James Baker, to the position of Provincial Mineralogist and Director of the Bureau of Mines, which work he began at the beginning of this year, undertaking the organization of this new but important department.

### *Pennarby Mine.*

Pennarby's shaft is dark and deep,  
Eight foot broad, eight hundred deep,  
Rough the bucket and tough the cord,  
Strong as the arm of Winchman Ford.

Never look down;  
Stick to the line!

That was the saying at Pennarby mine.

A stranger came to Pennarby shaft;  
Lord! to see how the miners laughed!  
White in the collar and stiff in the hat,  
With his shining boots and his silk cravat,

Picking his way,  
Dainty and fine,

Stepping on tiptoe to Pennarby mine.

Touring from London, so he said;  
Was it copper they dug for, or tin, or lead?  
Where did they find it? How did it come?  
If he tried with a shovel might he get some?

Stooping so much  
Was bad for the spine;

And wasn't it warmish in Pennarby mine?

'Twas like two worlds that met that day,  
The world of work and the world of play;  
And the grimy lads from the reeking shaft  
Nudged each other and grinned and chaffed;

"Got 'em all out!"  
"A cousin of mine!"

So ran the banter at Pennarby mine.

And Carnbrae Bob, the Pennarby wit,  
Told him the facts about the pit,  
How they bored the shaft till the brimstone smell  
Warned them from tapping—well,

He wouldn't say what,  
But they took it for a sign

To dig no deeper in Pennarby mine.

Then, leaning over and peering in,  
He was pointing out what he said was tin,  
In the ten-foot lode; a crash, a jar,  
A grasping hand and a splintered bar;

Gone in his strength,  
With the lips that laughed!

Oh, the pale faces at Pennarby shaft!

Far down on a narrow ledge  
They saw him cling to the crumbling edge,  
"Wait for the bucket! Hi, man, stay!  
That rope ain't safe; it's worn away;

He's taking his chance.  
Slack out the line!

Sweet Lord be with them!" cried Pennarby Mine.

"He's got him! He has him! Pull with a will!  
Thank God! He's over and breathing still.  
And he; Lord sakes now! What's that? Well,  
Blowed if it ain't our London swell!

Your heart is right  
If your coat is fine;

Give us your hand!" cried Pennarby Mine.

—A. CONAN DOYLE.

*From Grand Forks, B.C.*

TO one who has had a varied experience in mining for over twenty years, in such prosperous and productive countries as Colorado, New Mexico, Arizona, Utah, Nevada, Idaho and Montana, the British Columbia country instantly baffles his past experiences and he at once enters upon a new regime in mining, that virtually places him in a different school of mineralogy, metallurgy and formation, and in practical judgment at variance with all former experiences.

Since the opening up of the Trail Creek mines, smelting men have discovered that a combination of values, naturally contained in the ores have revealed to them a profitable future for the production of such minerals and values, as has never before been discovered in other sections of the mining world—a sulphide forming within itself and its waste ores, all the necessary fluxes that are required for profitable and successful reduction. The same may be said of this part of the country, and still more. The ores of the leading deposits, now being opened, carry sufficient values, in gold and copper to make them free smelting, while the arsenical, sulphuric and silicious qualities combine in substance to make the ore the most desirable and profitable ever discovered in the world—thus the success of the few mines at Rossland that are now attracting the attention of miners and mining men of the world. While there are four profitable and inexhaustible mines in Rossland, there are hundreds in this country equally as rich in all these qualities, and so scattered over an area of 300 square miles that a greater territory is to be benefitted by their product, as well as to encourage the establishment of reduction works in almost every favourable district in this part of the British Columbia country.

To substantiate this assertion I will cite such mines as the Volcanic Mountain and Seattle properties up the North Fork, from Grand Forks, two different mineral showings that are capable alone to keep two and four stack smelters in constant operation the year around. The mines of Pass Creek, through which the Vancouver & Eastern Railway route will run, is another valuable point, as well as reduction and refining works at Grand Forks.

Greenwood Camp alone has sufficient ore in sight in ten mines to keep a four-stack smelter in constant operation. Deadwood and Copper camps on Boundary Creek have an everlasting supply of ore from such mines as the Big Copper, Great Hopes, Sunset, Morrison and Mother Lode claims, while in sight in the Big Copper property is enough pay material to guarantee the expense of the building of large smelting as well as refining works. The same may be said of a dozen other camps throughout this section of the country that are now sufficiently developed to warrant the establishment of smelting plants, when the one decided factor is supplied—and that is railway facilities.

The country throughout is well provided with water and timber, and large coal deposits have been already opened, sufficiently, within thirty miles of the mines, to guarantee a good supply of this most essential requisite. The climate of the

country has no equal and is the very incarnate pride of its people. Prospectors are still working in the mountains, and at no time is the snow so deep and the weather so severe but that mining operations can be carried on successfully the year round.

In consideration of all these favourable and providential adjuncts nothing has a greater tendency to the progress and development of a new mining country than its prospects of railway facilities, combined with the possibility of a local market for the reduction of its ores.

There is considerable speculation here at present regarding these two important factors, and nothing is more essential and looked upon with more interest than the propositions herewith proposed, combining the two interests that form competition between the United States and Canada, none are more important to the people of this country than that which is of a financial importance to the present conditions now confronting the mining interests of the Kettle River district.

It is true we want and must have an outlet, as well as an inlet into our country by railways, and when it is considered that a majority of the miners and mine owners are Americans, they are as a unit favourable to the opening of the route to the coast and for direct communication with some business point on the Pacific, or its coast tributaries. In this division Vancouver seems to be the desired point.

While the Canadian Pacific, as an international route, offers excellent inducements, there is a direct feeling of interest in the proposed line from Vancouver through the Hope Mountains, into the Okanagan, thence into the North Fork country, and via Grand Forks to the Columbia River, terminating at Rossland, in the Trail Creek district.

Upon several occasions during the past summer this country has been visited by four parties of railway engineers, the most recent of them were the corps making the topographical survey from Vancouver through this part of the country. The party was composed of Messrs. J. H. Brownlee and C. Æ. Shaw, who have been industriously engaged in the inspection survey of the route from Vancouver, for some time.

In conversation with these gentlemen it was learned that they had already secured a route, and one of the most feasible in the country, and upon their arrival at Vancouver, were prepared to submit their notes, and topographical surveys, to the promoters of the proposed route, with a thorough description of the country, its bearings, agricultural and mineral patronage and the advantages they would derive from the route when completed. Mr. Brownlee expected to arrive in Vancouver on the 5th of November, prepared to submit his report to the company.

The past season has been a very prosperous one as far as prospecting and surface developments are concerned. The entire country, covering an area of over one hundred miles square, has been pretty thoroughly prospected and located, and with very few exceptions has proven very satisfactory in mineral showings to the very best and most experienced mining men and experts.

The Boundary Creek district has proven the most extensive mineral district in the country, while the North Fork, in the same belt, has also

developed some of the largest bodies of mineral known in the mining world. Development in every way is necessarily slow on account of the lack of transportation facilities, yet more has been done in a short time to practically show up the mineral resources of the country than in any other known country of its age, considering its advantages for so doing at a great distance from railroads and a market for the product of the mines. Two years ago this section was virtually a wilderness, with now and then a stopping place and occasionally a prospector's hut could be found upon the hillsides. To-day there are four growing towns at reasonable distances from each other, roads and trails throughout the mountains, and mining camps all over the district. Mines are being developed in all parts of the country, and hundreds of miners comfortably prepared for extensive development work during the winter.

The young city of Grand Forks is situated at the junction of North Fork with the Kettle River, about three miles north of the boundary line. It has a population of about 600, well supplied with all the requisite business interests, and is the commercial centre and supply point, as well as the main outlet and inlet to the entire mining territory. Its future as a railway centre is now established beyond a doubt, and in no instance can it be avoided as such in the event of railway communication with either a route from the coast, the north or from the south.

In the Boundary Creek district, twenty miles to the west, are three flourishing towns—Greenwood City and Anacouada, in the centre of the mining section, and Midway, on Kettle River, at the mouth of Boundary Creek, where the government officials transact all the business relative to the land and mining interests of this section. All are about the same size and furnished with two daily stage routes—the one from the east from Marcus, in Washington, and the other from Penticton, on Okanagan Lake. People, mostly strangers, are coming and going daily from all sources, and with but very few exceptions they are men with capital looking for investments, some involving considerable money, while most are of a speculative nature, the latter being characteristic of all new mining countries.

There is one feature of encouragement favourable to this country, and such as no other mining country on the face of the earth can boast, and that is: Men who have had a world of experience in mining, and who have visited all parts of the mining world, say without hesitancy, that this is the greatest country they have ever witnessed for a surface showing of ore. I say "surface showing" simply because there is no development done anywhere below a 100-foot shaft, but surface work has been done in hundreds of mines where the ore bodies have been exposed for a width of from one hundred to five hundred feet, showing a solid body of ore, and when developed to the stated depth show a continuity of mineral that increases in value all the time. The general character of the ore throughout the country is a sulphide carrying gold and copper, with very little silver. In the larger deposits there is considerable arsenical iron, or just about enough arsenic to make it a free smelting ore. The ore

bodies when first discovered are covered over by an iron capping for a depth of from two to four feet, when the mineral in a solid formation is found. This capping is a diorite heavily oxidized and in many instances is valueless.

The veins or mineral strata trend to the east and west, with the belt or mineral zone that crosses the Rocky Mountain range from the Slocan country on the east to the Okanagan on the west, a distance of about 200 miles. To the north about 50 miles the belt seems to break and granite, or trachyte, cuts off all signs of mineral beyond that point. The general formation in this immediate section is granite on the hanging wall, and a porphyry or diorite on the foot wall. Where the veins or deposits are large the mineral bodies are considerably broken up by mineralized dykes of diorite, which gradually diminish in size as depth is gained and are crowded out by the ore forming into a solid body.

The coming season will fully demonstrate the value of many of our largest mines, when it is hoped we will have railway facilities with which to furnish us machinery to develop the mines, at the same time create the establishment of smelters and a market for the production. The high rate of tariff on supplies furnished from the States has a great deal to do with keeping back necessary mining equipments, and for this reason the miners of the country feel a deep interest in the completion of the proposed route to the Pacific Coast from here to Vancouver.

The Corbin syndicate, operating the Spokane Northern Railway, are reported to have made partial arrangements for the construction of a narrow gauge route from Marcus, Washington, to Grand Forks, in which event the country will be considerably benefitted in the way of railway facilities from this source, but not of such a satisfactory nature as it would be were we connected with the Pacific Coast.

The Record being an illustrated mining journal, I hope to be able to supply it with illustrations of some of our most prominent mines, and a view of the location of Grand Forks, to appear in the January number.

GID. R. PROPPER.

### *South Fork of Kaslo River.*

RANDALL H. KEMP.

ALTHOUGH the residents of Kaslo cannot stand on one of the principal streets and point to big mines on the mountains immediately surrounding the city, yet they can truthfully say that a new and valuable mining district is being rapidly developed at their back doors, as it were, and every dollar put in circulation on account of the mineral claims being developed, and those producing, will naturally gravitate to Kaslo, so that municipality does not have to divide honours with any other town.

The section which is so rapidly coming to the front is the south fork of Kaslo River. This branch of the main stream, which empties its waters into Kootenay Lake at Kaslo, comes into the main river about four miles west of Kaslo. Two trails, one on each side of the south fork, extend a number of miles up the creek, making it compari-

tively easy to reach any of the claims which are being worked.

As late as 1894 but very few had any idea that mineral in paying quantities existed in that region, and a still smaller number had the faith to search for the hidden treasures which have since been brought to light.

During the Slocan excitement, the fall of 1891, scores of hardy prospectors traversed this section going to and returning from the Slocan. The Montezuma and Mexico claims were found by accident, and staked late that fall. Both these prospective bonanzas are now being worked under bond by a Seattle company, and, according to the latest reports, they are liable to equal the expectations of those who are demonstrating their faith by the expenditure of their money.

The Montezuma showed the largest on the surface of any Slocan mine, about fourteen feet in width of galena sampling from sixty-six to one hundred and six ounces silver and seventy-one per cent. lead. These claims are located on Montezuma Creek, a tributary of the south fork coming in from the West, and are about eleven miles from Kaslo. A raw hide and pack trail connects with the Kaslo-Slocan Railway at the Forks.

About three miles above the junction of the two streams the Briggs brothers have recently uncovered about two feet of galena and carbonates, which is said to average 154 ounces of silver per ton. These parties have expended nearly three years hard labor on this creek and hold twenty-two claims, several of which have fine surface showings. Their late strike is quite near to the stream. At present thirty tons of ore is mined, and 150 tons are in sight.

At a distance of five miles from the Forks, at an elevation of but a few hundred feet above the creek, the Black Fox and Daisy claims are located. These are the oldest claims in that vicinity, and the fact of their being purchased from Yuill Bros. and Blair, by Porter Bros. and Welch in 1895, stimulated other prospectors to seek for additional mineral wealth. The claims are located on an immense ledge of quartz, carrying galena, pyrrhotite and pyrites. The ore carries gold, silver and lead. Thirty tons have been sent to market, which yielded satisfactory returns. It is said that the work done by the owners has developed the property into an immense concentrating proposition.

Two miles farther up, and on an east branch called Cariboo Creek, are located the Palouse and Gibson claims, property of a joint stock company. A quantity of ore was shipped from these claims last winter, although they were only found in the fall, and several car loads will probably be marketed the present winter. Two parallel veins, about 200 feet apart, run through the locations. The ore is galena and silver. Quite a force of men are at work developing by tunnels, cross-cutting the country rock, and then drifting on the veins.

Between nine and ten miles from the forks are the Silver Bell and Hub, owned by the original locators, Nelson and Martin, although at one time \$40,000, and later on \$50,000, was offered for the property on a bond. This vein is from six to eight feet wide, carries galena, which is their lowest grade ore, and what is locally known as chloride quartz, sampling from 80 to 500 ounces silver per

ton. Two cars of ore are now ready to be shipped and three more cars are in sight. A tunnel 110 feet in length comprises the development.

Next comes the Silver Bear, owned by Hanson & Johnson. Two veins cross the location. They have been developed by a 90 foot crosscut tunnel. The ore is galena and black sulphides, assaying as high as 200 ounces silver per ton.

The Oriflamme is a vein averaging fifteen feet in width, carrying manganese and iron, from which 120 ounce assays in silver have been obtained. Developed by a fifty foot tunnel. Robert Williams is the owner.

Harding & Fletcher own the Great Bend, Little Two and a fraction. These are extensions of the claims above described. They have run a tunnel ninety feet. Your correspondent did not learn any further particulars about the claims except that the owners were satisfied to go on developing.

Robert F. Green, mayor of Kaslo, it is said, has a fine showing for a valuable mine in this vicinity. Also G. M. Gordon on his claim called the Warpsite.

On the Cable and Southern Cross claims, situated on the divide between Caribou and Woodbury creeks, Cameron and Kelly, the owners, have obtained 110 ounces in silver and \$70 in gold per ton.

The above list does not begin to enumerate the holdings of different persons in the section named. At least one hundred locations have been made and more or less work done on half that number. At least fifteen per cent. of the claims located—and nearly all have been staked within the past year—give every evidence of being mines.

About forty men will be kept at work during the winter, and no doubt next season there will be a strong effort to have either a wagon road or branch of the railroad built up the creek. There will be about five shipping claims by the rawhide process this winter.

### Omineca.

OMINECA was brought into prominence by the discovery of gold on the tributaries of the river from which it derives its name.

In 1868 Ezra Evans and others became dissatisfied in Cariboo, and, having heard from an employee of the H.B. Company that gold was found on the Peace River, decided to spend the season in that section of the country.

For a time good wages were made by them on the Peace River and Pete Toy's bar.

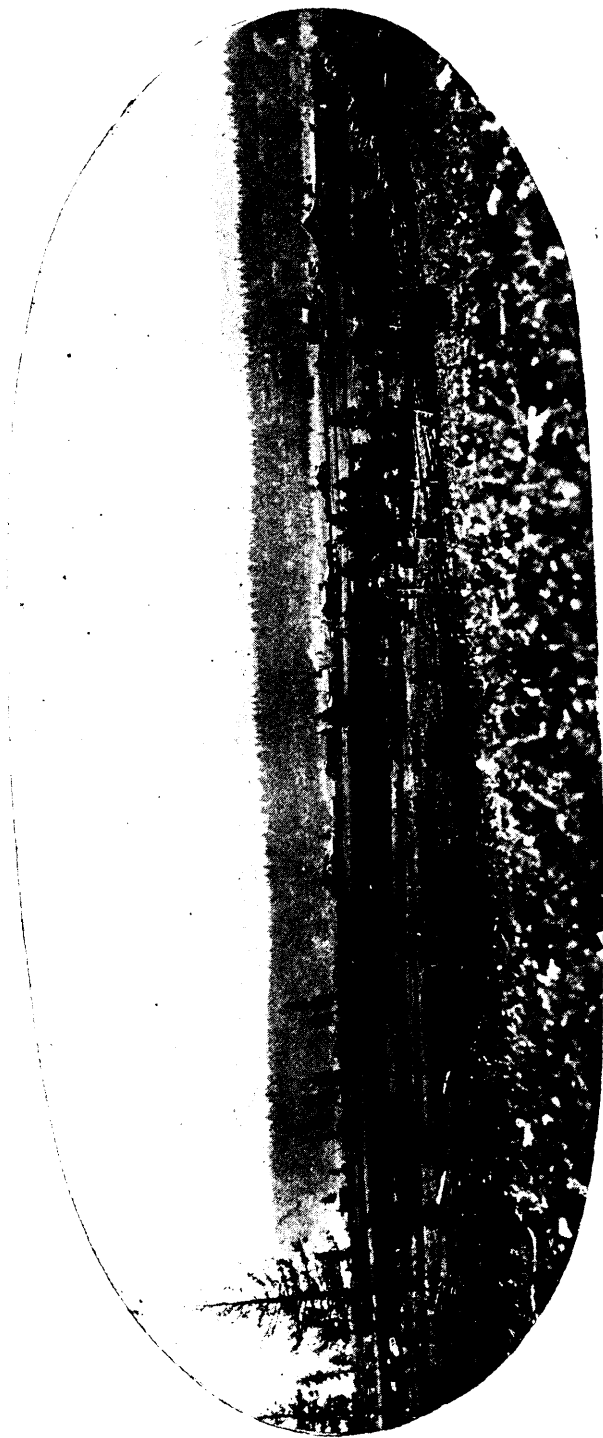
In the following year they discovered gold on Germansen Creek, a tributary of the Omineca.

In 1871 gold was discovered on Manson and Slate creeks. Miners flocked in by hundreds, and in 1873 and 1875 it is said that there were upwards of one thousand men working on these creeks.

But they gradually dwindled down to a few old miners who were content to spend their remaining days where they had made their little fortunes.

Mr. Ezra Evans is still at Manson Creek, and is the only government representative within sixty miles. At present one finds many remnants of old days, telling of activity and prosperity long gone by.

From Government statistics it is learned that upwards of one million dollars' worth of gold has



SCENE NEAR FORT STEBLE, EAST KOOTENAY.

been taken from these creeks.

The gold found in the Omineca is generally coarse; in many cases it has been found with quartz adhering to it.

Vital and Silver creeks are also worthy of notice. These creeks were discovered in 1868 and 1869, and for a time paid very well.

At present only a few Chinamen are to be found working old ground, apparently quite satisfied with the results.

Silver amalgam or arguerite is often met with in these latter named creeks.

No further discoveries were made until Tom Creek was discovered in 1889, which is but eight miles from Silver Creek, thus showing that little prospecting has been done except in the vicinity of the Omineca. At present there are about 20 miners working at Tom Creek, including Indians and Chinese.

Tom Creek gold is of a much finer quality than any previously discovered in that locality.

Fine gold occurs on the Finlay, a tributary of the Peace, but with the exception of Pete Toy's bar, no paying placers have been discovered.

Very little prospecting has been done on this stream; and as gold is found on the bars, one is inclined to believe that it will be found in greater abundance farther up the stream.

There are two routes by which the Omineca may be reached, either by Quesnelle and Stuart's Lake, or via Hazleton and Skeena River.

The distance from Hazleton to the Omineca is about 200 miles; from Hazleton to Essington, which is a convenient stopping place for C.P.N. steamers, is 180 miles.

The cost of transportation from Essington to the Omineca is about 20 cents per pound. From Ashcroft to Omineca, via Quesnelle and Stuart's Lake is nearly 500 miles, and owing to keen competition and good trails, supplies can be got in for about 15 cents per pound.

But with regular steamboat communication from Victoria to Hazleton, and an improved trail from that place to the Omineca, without doubt it would be much the better route.

At present flour in the Omineca is worth \$25 per hundred; sugar, 50 cents per pound; tea, \$1.50 per pound; dried fruit, 50 cents per pound, and other things in like proportion.

Large game at certain seasons of the year is found in abundance, consisting principally of caribou, bear and moose.

Marmots or ground hogs are to be met with in large quantities on the mountains, and are found to be excellent eating. Fish and feathered game are also met with, and all aid to economize the cost of living. J.

#### *Omineca Notes.*

THE recent return of Col. J. Wright and Captain Black from the Omineca River region has turned the attention of prospectors again to that one-time rich, but almost inaccessible country. The Wright party outfitted at Ashcroft in May last and started north with 35 men and about 50 horses. Neither men nor provisions enough were taken along to accomplish the work necessary to equip the mines, and probably the whole of next season will be consumed in getting the mines to the operating point.

The company, of which Col. Wright is manager, is known as the Forty-Third Mining Company, and owns leases on North Manson and Slate creeks. A ditch to carry 5,000 inches of water was partially completed, and designed to carry water to mines in both creeks. The pits in Slate Creek will be worked by the hydraulic elevator plan, which is now being utilized more or less by the miners of British Columbia.

The Black property is also on a tributary of the Omineca River and is about fifteen miles from Wright's operations.

The transportation question is one of moment to the Omineca region. It is nearly 700 miles from Ashcroft to the base of operations. From Quesnelle north the provisions, pipe, etc., must be packed by horses. The pipe is in convenient lengths to handle. One thing vastly in favour is that there is plenty of feed for the horses on the route.

Notwithstanding the distance, however, prospectors aver that Omineca offers great inducements to explorers.

#### *Shoal Bay Mining District.*

IT is situated 125 miles northwesterly from Vancouver, and embraces Upper Valdez, Thurlow and other islands, and the adjacent mainland. In a general way the district may be said to extend from Bute Inlet northwesterly to Knight's Inlet, and from Johnson's Straits on the west, easterly to an undetermined distance on the mainland. It is bisected by Cardero, Nodales and Chancellor Channels, Hole-in-the-Wall, Bute Inlet, Frederic Arm, Phillips' Arm, Loughborough and Knight's Inlets, which afford cheap and unexcelled transportation facilities.

Topography is very rugged, the mountains commencing at tide water and rising at from twenty degrees to vertical, and ranging in elevation from 2,000 to 6,000 feet, there being practically no level land in the district. The camp was most aptly described by an old miner as "A mining camp set in the ocean."

The main body of country rock may be classed as granite, varying from fine grained and compact to a coarse-grained, flaky rock, and in places is heavily charged with quartz crystals. Seyerite is of frequent occurrence, and is often rated as granite, diorite; dykes abound, and several slate belts are known. These range from slate to a coarse schistose slate that is heavily iron-stained, and so badly "folded" as in some places to resemble coarsely corrugated iron. Several lime belts are known, mostly dolomite. Iron abounds in the westerly portion of the district, chiefly associated with arsenic and sulphur; in the eastern portion it appears frequently as magnetite iron in the form of a "cap." In most instances the iron, in whatever form it occurs, may be classed as a "cap," as the surface showings all assay low, and with depth the iron formation changes, and in the westerly portion sulphurets of fine character appear, while in the eastern part copper appears associated with gold.

The rocks at tidewater are more or less crowded and irregular, while a few hundred feet up the mountain they assume normal conditions.

The shore lines are usually quite sharply de-



fined. Frequently twenty to forty fathoms of water are obtainable within 100 feet of shore. The usual mine "dump" will in many cases form the principal part of a wharf.

Fresh water abounds, streams that at minimum stage will afford 30 to 150 miners' inches being numerous.

There is an ample supply of timber for mining purposes for many years. Transportation of ore will be cheap, probably about \$1.25 per ton to the Everett or Tacoma smelters. The present transportation facilities are supplied by the Union Steamship Company, of Vancouver, the SS. *Comox* making the main trip to Port Neville and numerous out of the way post offices on the first run, and on the run leaving Vancouver on Fridays to Shoal Bay direct and return to Vancouver. Necessarily all the trade of the district is with Vancouver.

While quite a large number of claims have been located within the past year, the country cannot be said to be "prospected," nor even a fair commencement made, the larger portion of the claims being utter strangers to even "assessment work," and to but little painstaking, systematic prospecting. During the summer considerable development work has been done in the district, and with most satisfactory results. The first work done in the district was on the Alexandria, on Phillips Arm. This property now has a tunnel on the vein some 170 feet, and this fall crosscut their "formation" some sixty-eight feet. This property is now under the direction of Superintendent McLean, who is doing good work and making regular shipments. If from the first it had been under a well-directed management it would now have at least five levels, with necessary shafts, air plant, etc., and these paid for from the ore obtained, and it would undoubtedly have several hundred thousand dollars of ore "blocked" out and ready for "stopping." The Channe Mining Company, of Vancouver, have some eighteen or twenty properties, and, under the direction of Superintendent Willis, have done a large amount of work. This has been in the nature of "prospecting" some of the company's holdings, and aggregates far more work than any other company in the district. Great credit is due Superintendent Willis for the energy and confidence he has displayed. The Channe Mining Company have recently effected a sale of a part of their holdings to a London syndicate, represented by Mr. Ernest Grant-Govan. It is understood the new company will push matters, and the Channe Mining Company are preparing to push active operations on other property.

The Northern Belle Mining Company, a Seattle corporation, with F. C. Kilbourne as president, who is well known in connection with mining matters at Rossland, are pushing development work on the "White Pine," situated on Thurlow Island. The work is under charge of Superintendent John R. Wolcott, with George W. Goe as foreman. Thirty-eight feet of "open cut," two-thirds of it being in rock, and 114 feet of tunnel had been run up to November 16th, besides considerable other work being done. Ten men are employed. At seventy-one feet from the portal of the tunnel the No. 1 vein was reached. This is forty inches of solid ore, heavily mineralized from wall to wall.

A change in the ore about a foot above the floor of the tunnel shows a radical difference in the character of the vein matter, the upper portion being quartz heavily charged with iron, sulphur and arsenic in pyrite form. Below the change the quartz is well mineralized with fine-grained sulphurets, indicating excellent values. This is one of the instances before noted of the change in regard to the iron showing at the surface. The No. 2 vein parallels the No. 1 at a distance of forty feet, and is much larger, being over seven feet at the surface. While syenite is the only country rock showing on the surface, we encountered near the No. 2 vein some eighteen inches of black lime, and next to it diorite, well mineralized, near the vein. A shaft will be sunk and levels run on No. 2 vein. During December the company will start work on an adjoining property, the "Electric," where a nine and a half foot vein is exposed. This at three and a half feet assays most satisfactorily. A shaft will be sunk and later on a level run out to the valley leading to Shoal Bay.

Adjoining the Bobby Burns, a group owned by the Channe Co., Messrs. Costello & McMorrin, and Crean, of Vancouver, are developing the Bully Boy and Queen Bee, both very promising properties. Recently Dr. Carroll and Mr. G. B. Harris, well known Vancouver capitalists, have become associated with this property. The B.C. Development Company have ten men working on the Shoo Fly, having run two tunnels, one now being in ore. A number of others are working in the district, and most of the work will be continued during the winter, in a number of instances with largely increased forces. The district is a most inviting one, with its large bodies of ore capable of being opened at a very low expense as compared with most districts, and with merely nominal freight rates, of itself a most important consideration, it is worthy of and will command the attention of capital, and that very soon. If the district, with its advantages of cheap transportation, large ore bodies and economy of developing, was situated in the State of Washington and had been known for three years, there would to-day be fully 1,000 miners regularly employed, several dividend-paying mines developed, and a number of steamers required to furnish the necessary service.

This district presents the almost unheard-of feature of English capital taking hold of practically undeveloped prospects. Some of the property taken by the Grant-Govan and B.C. Development syndicates does not even boast of a ten-foot "prospect" hole. When the aversion of English capital to take hold of any proposition not developed to a dividend-paying basis is considered, the action of such men as Lord Sudley, Captain Mitchell and Mr. Ernest Grant-Govan speaks volumes for the camp. So far as known, it is a gold camp. A little silver shows in a few properties, and in many there is a fair percentage of copper coming in with depth. In the easterly portion of the district there are several excellent showings of copper carrying gold.

Recently a number of parties representing capital, both British and American, have visited the camp. A large amount of development work is assured for the coming season. This district



should receive the prompt attention of the business men of Victoria and Vancouver, as its development means a great increase of trade and of the most desirable character.

JOHN R. WOLCOTT.

November 23rd, 1896.

*Notes From Omineca, Lorne Creek, Skeena River, Etc., Etc.*

WE wish to call attention to the bad state of trails which exist in the Omineca. For miles and miles they are almost impassible, owing principally to fallen timber, which greatly impedes the progress of packers going into that section of the country.

Owing to the bad state of the trails, the packers charge high rates, which miners cannot afford to pay. If the Government would spend a small amount of money on these trails, supplies could be sent in at a much cheaper rate, thereby enabling miners to live at some reasonable figure. Their present bad state prevents men from going into that mining district, thus impeding the country's development.

Another great necessity is the want of a mail service. As it is at present, the miners stand little chance of getting any mail except when brought in by an occasional packer. We feel confident in saying that upwards of two hundred men will be working in the Omineca during the following season. We sincerely hope that the Government will take immediate steps to alleviate these wants of the miners in that vicinity.

We regret to state that there is but little hope that Ben Reed, the missing miner, who has been working on the Peace River this summer, will ever be found. This adventuresome miner, becoming dissatisfied with the poor wages which he and his companions were making on the Peace River bars, started out on a few days' prospecting tour. He, however, did not return and his companions, after many days of anxious waiting, began search. They succeeded in finding Reed's tent, blankets and a few provisions in perfect order, but farther than that no trace of the missing man could be found.

Many suppositions have been advanced about his mysterious disappearance. Some seem to think that he has met with foul play, others that he left his camp on a daily prospecting trip and met with some serious accident which prevented him from returning to camp. As yet he has not returned, and owing to the unsettled state of that section of the province, there is but little hope that the missing man will ever be heard from.

The name "Kootenay" is now known the world over by mining men and is already noted for its vast mineral resources. But there are many other places which are claiming the attention and capital of miners and investors. Many of these are well known to you, as Alberni, Texada and adjacent islands. But there are few who are aware that rich quartz is now being discovered in large quantities on the Skeena River and its many tributaries.

Such is the case, and in the near future this section of the country will no doubt go ahead very rapidly. Several claims have already been lo-

cated and work on them begun with promising results.

The Emma mine, owned by Mr. Clifford and others, is at present being developed. A shaft is being sunk in a large vein, which at a recent assay, went as high as \$100 per ton, carrying nearly equal percentages in gold, silver and copper. It is situated above the canyon, about 100 miles from the river's mouth.

At Lorne Creek, a tributary of the Skeena, about 100 miles from its mouth, gold has been found in paying quantities for many years.

This year rather extensive operations are being done with promising results, but owing to destructive forest fires, which, this summer swept over that section of the country; the work has been impeded and in some instances the miners were burnt out of house and home, and are now compelled to live on the charity of their more fortunate fellow miners.

In the good old days of gold mining in British Columbia, when the name of Cariboo was known and spoken of the world over, there were other fields claiming the attention of many miners namely: Those of Cassiar and Omineca. These diggings claim second place among our placer mines.

The old days have gone by, perhaps never to be enacted over again, and now the old miner with pick and shovel can make little more than a good living. But a new system is coming into use, namely, that of hydraulic mining, a system which is now being worked with great success in Cariboo and on the Fraser River. The same system is being tried in the Omineca and promises to fulfill all expectations.

There are at present two companies engaged in hydraulic mining in the Omineca, the Ottawa company, owned principally by Eastern capitalists and the Omineca Consolidated Hydraulic Mining Company, owned almost entirely by Victorians.

The Ottawa company have large mining interests at North Bend and first turned their attention to the Omineca in the summer of 1895, when they sent out a party of prospectors, for the purpose of prospecting and acquiring certain properties in that locality. Several claims were located on Manson Creek and also on Slate Creek.

In the spring of the present year about forty men, under the management of Col. Wright, were sent out to begin work on these properties. After a long and tedious trip of forty days via Quesnelle and Stuart's Lake, they reached Manson Creek.

Work was at once begun and pushed with all possible haste, and when they left in the end of September, owing to cold weather, they had made a very credible showing. A ditch nearly six miles in length is in course of construction. A portable saw mill has already been erected, which will next season supply their many wants in that line, and lessen the cost of the works considerably. It is expected that in 1897 the claims will be in good working order.

Last March Captain Black, in the interests of the Omineca Prospecting Company, made a trip into the Omineca and located valuable hydraulic claims on Manson, Germansen and Lost creeks.

On his return in May the Omineca Consolidated

Hydraulic Mining Company purchased these properties from the Prospecting Company, and in August Captain Black again left for the Omineca via Hazelton with twenty men.

They arrived early in September and began work at once. Three miles of ditch was completed which will bring a sufficient quantity of water from Manson Creek, to work the Evans claims on Black Jack Gulch.

These claims are known to be very rich; prospects were made which averaged \$2.50 per day to the man, and by the economical method of hydraulicing it is expected that a large amount of gold will be taken from these claims at a very small cost.

All the properties are so situated that they can be easily worked, and an abundance of water can be obtained with little labour. To quote the words of Captain Black: He said that in all his experience he has never seen any place better adapted for hydraulic mining.

Sufficient saw logs for 250,000 feet of lumber were cut and will be brought down to the mill site, where a mill will be erected early in the spring.

The party, with the exception of four who will remain all winter, left on October 1st, and after a hard trip through rough weather, reached Victoria on November 8th.

Mr. Hugh Grant has spent much time prospecting in the Omineca. He reports having found prospects of fine gold on Nation River and tributaries, but not being able to reach bed rock, he was unsuccessful in his search for coarse gold. He will remain in all winter, and will next spring be prepared to again begin his search with renewed energy. Mr. Grant is one of the old-time miners and has had much experience in Cassiar and other mining centres. He has great confidence in the Omineca, and is to be admired for his untiring energy in search for the precious metal. J.

#### *From Trail.*

IT is currently reported that within the next few months Trail will be connected with Robson by a broad gauge railroad running along the west bank of the Columbia River, a distance of about twenty-three miles; certain it is that tenders are now being called for. Application is also to be made to the Dominion Parliament at its next session for yet another line connecting Trail with the Okanagan country, and so these lines will be better able to cope with the large amount of freight and mining machinery which the river steamers have been struggling to handle all the summer.

These reports, together with the gradual but sure development of the surrounding claims and the large purchases of mining property and real estate both in Rossland and here, seem to point uncontestedly to the fact that those who know regard this district of West Kootenay as a permanent camp, although its mineral wealth is, except in a few cases, by no means thoroughly explored and developed. No doubt seems to remain about the Crow's Nest Pass Railroad, at least application is to be made to Parliament at Ottawa for a charter, and its completion will insure a constant supply of fuel and a consequent reduction in smelter rates.

On Lookout Mountain the claims are showing considerable promise. On the Sovereign the work amounts to a tunnel over 100 feet long, several shafts some about 50 feet deep, and surface work; the highest assay ran \$52. The Joker is a good-looking property adjoining the Sovereign. A powerful company is about to open up this claim, seven men are kept working without intermission and the Crown grant will shortly be obtained. There have been good surface assays as high as \$12 in gold. The Norway, which is just behind the Nelson saw mill, has just been sold, report says, for \$16,000 cash, to the Goodeve syndicate. Two sample assays ran \$84 and \$62.40. The Red Point, recently sold by Ben Perkins, the locator, to the Red Point Company for \$11,500 cash, is a very promising looking claim. A diamond drill was for some time at work prospecting on the claim, and after drilling some 150 feet, the owners were so satisfied with the cores extracted that a contract for a 300 foot tunnel has been let to Mr. P. W. Riley, who will work through the winter. Everyone will watch the development with interest, and we hope to see the owners strike a rich ledge early next year. The St. Croix, Grey Cliff, Wolverine, Blue Chip, April Fool and Oriental are neighbouring claims from which good assays have been obtained and which are sure to be further developed within the near future. The Debs, Prince of Wales and St. Charles were lately bonded to an English syndicate, who will open up their property in the spring. The Imperial is being developed, and the outlook is encouraging. The Steward has been sold, so report says, for a good figure. To give the names of all the claims on Lookout Mountain considered by their fortunate owners veritable bonanzas would be to draw a list too lengthy, I fear, for your columns, but as soon as some of these properties are further developed and the pay streak encountered the owners themselves will not be backward in trumpeting abroad the news of their good luck. You have no doubt heard of the assay on the Red Eagle, which ran 46.44 oz. gold and 9.25 oz. silver, making a total of \$933.80 to the ton. This is one of the highest assays ever obtained in the camp.

The more one considers the position of Trail the more convinced is one how admirably adapted it is for the wholesale trade, and as a distributing centre from which the markets and outlying camps, which exist at the mouth of every creek on both sides of the Columbia River, can be easily supplied. A large brewery, an offshoot of the Yuengling Brewery of New York, is building a 50-barrel brewery here. The Mac Machine Works have earned the gratitude of several mine owners, for these iron works are able to repair on the spot intricate pieces of mining machinery which before were sent away hundreds of miles, thereby effecting an incalculable saving of time and money. The smelter is building more furnaces and plans for a refinery are ready.

So much has already been written about Murphy and Sullivan creeks, Champion Creek, and the North Fork of the Salmon River, Waterloo and Montgomery, that anything I can say will be, I fear, mere superfluous repetition. Still here are a few facts.

The Salmon River country is attracting great at-



DEVELOPING THE CALIFORNIA MINE, ROSSLAND—NO. 1 SHAFT.

tention and a considerable amount of surface work is being done, the best experts from Rossland having been encouraged by the excellent assays. The Tamarac group has just been bonded for \$60,000, and several other bonds are talked about, amongst other properties the Arlington, owned by the Boyd family, has just changed hands for a large sum; assays ran as high as \$74, I am told. The new town-site is Salmon. Three claims on McPhee Creek, between Toad Mountain and Waterloo, belonging to H. D. Braydon and partners, were recently bonded for \$30,000 to an English syndicate. At Montgomery, which, for the information of your readers, lies on the east bank of the Columbia River about five miles below Robson and about the same distance above Champion Creek, considerable development is still going on. On Apache Mountain, reached by a trail kept broken by the horses packing up supplies from the river, the Lillooet Company have a diamond drill prospecting the Apache group and on the Aaron group are sinking a shaft which is already down some eighty feet on the Aaron's Isle, and are running a tunnel to meet the shaft and are in about 150 feet. The Maud S. has the honour of being easily first with respect to assays, several samples having run as high as six and seven ounces in gold, with far higher results in samples where the free gold is visible. At Waterloo, which lies about two miles below Montgomery, the Ontario is a promising prospect; the tunnel is in fifty feet, and on the Little Jessie and neighbouring claims, some \$5,000 has been spent. More will be heard from these properties in a short time.

The surface showings on these hills and, in fact, on all the claims comprised in the district which forms a triangle and lies between Toad Mountain, McPhee Creek and the North Fork of the Salmon River, are very fine, and with more general development some really good strikes may be confidently looked for next spring.

The Dominion Government geologist, Mr. McConnell, made a careful examination of the rock formation of the Trail Creek district, and stated that the Rossland and Toad Mountain mineral belts almost meet near McPhee Creek, and he predicted a good future for this part of the camp, feeling convinced that the formation was one indicating values.

XAVIER.

#### *Kamloops Items.*

THE first claims were staked last July, and since that time about 150 have been recorded. The mineral belt lies about three miles southwest of Kamloops and extends about three miles south and five miles west so far as known. The ore is gold and copper, the average assays are about \$5 in gold and 30 per cent. copper, and the ore bodies are close to the surface. What is called the Guerin ledge was struck about six inches below the surface, and when uncovered showed seven feet of almost solid ore between the walls. This is only a fraction of a claim, and when down at a depth of about six feet, was sold to an English company, represented by Mr. James Coubledick, for \$13,000, and the adjoining claims, upon which no work has been done, are bonded for \$5,000 each. The Python, situated on the northeast corner of the belt, about one mile easterly of the Guerin lead, is down

about sixty feet with a shaft and has a fine showing—they expect to work all winter—owned by Messrs. Wood & Buchanan of this city. About half a mile westerly of the Guerin claim is the Iron Mask, owned by an Eastern Company, of which the Hon. N. Clarke Wallace is president. They have done considerable work and have an excellent showing. Another group is situated about three miles south of the Python, enough work has been done to show that they are all right. The Chieftain group lies about one and a half miles south of the Iron Mask, owned by myself, has a shaft down about twenty-five feet and is looking well. Mr. John Hepburn has a claim about one mile west of the Chieftain, showing free gold. In this same locality F. A. Kelly, George McDonald and Robert Lyons have a fine group of claims, from which they have had assays showing sixty per cent. copper, but not much work has been done on these claims. All the claims that have had any work done are very promising. The Flora H., joining the Python, owned by Bennman & Smith, has been bonded by some Everett parties, who will sink a shaft during the winter.

The mineral belt lies upon the bunch grass hills and is very easy to prospect, and the claims can be worked very economically. We have had quite a number of mining men here looking for investments, and next year promises to be a very active one in the camp.

I am sending you a sample of ore by this express.

P.S.—A Mr. Thynne, representing some Vancouver parties, is negotiating for a bond on a group of six claims west of the Chieftain.

L.

#### *Dredging.*

I MUST say that for the past four or five years dredging has had a hard struggle to make a success, for many different reasons. Each and every company has always had some unforeseen accident arise, which caused either delay or non-success in the prospects, but always gained sufficient knowledge of the various deposits of gold in the river beds to induce them to continue the industry.

During the present year (1896) the large Young dredge, on the upper Fraser, at Quesnelle Mouth, has made a very fair test of their property dredging, and would have paid this year only for the breaking of their centrifugal pumps, which happened twice in succession, and, being so far away from any opportunity to renew them, the best of the season passed without being able to do much work. I learn from the manager that they had taken out a fair quantity of gold during the short time the machine was in working order.

I also learned at Quesnelle before returning here that the Alexander dredge, just below the mouth of Quesnelle river, was paying well, and during the time I was there the machine was working steadily.

The Underwood dredge, on Quesnelle river, built this year, is tied up at present. The intention of the company is to change the process and machinery to a Dipper Dredge. This I believe to be the final completion of dredging; that is to say, that it will never be a success until they all use the original Dipper Dredge. The gold is there, and there is only one question, and that is to take it out. It

is particularly known that the Dipper Dredge has been a success the world over.

The Fader Dredge on Quesnelle river has been tied up all summer, caused by the litigation of the company. This machine would have paid had it been carried on, but owing to the litigation the summer was lost. As everything is settled now, the work will go on at once, and by the middle of next summer several dredges will be at work in that vicinity.

From the tests I made myself on the Quesnelle river I am of the firm opinion that dredging will continue there for the next fifty years to come, as the deposits are, without any doubt, very rich in the river beds of the Cariboo district. As to the developments on the lower Fraser, I am not posted whatever, although I may say that there is a vast field for dredging along the lower Fraser, which, it is to be hoped, will prove a success in the near future. G. J. FADER.

### *Transportation to Cariboo.*

THE completion of the steamer to ply between Soda Creek and Quesnelle, on the Fraser River marks a new era in transportation in the upper country, and gives almost sixty miles of steamer service over the hardest parts of the Cariboo road. The steamer is to ply in connection with the B.C.X. stages, and this arrangement is of even more benefit to the travelling public than in the matter of freights, as such connection can be made for almost eight months in the year so that Barkerville can be reached in three days' time from Ashcroft on the C.P.R., which is a saving of one day in making the trip. The time card on the balance of the road remains the same.

### *Cariboo Notes.*

DEVELOPING and equipping of mines in Cariboo has proceeded up till cold weather has precluded further operations this season. Notable exploitation has taken place this year throughout the district and while the output of gold has not, probably, exceeded greatly that of recent years, it is a fact that the mining interests have been put on a firmer basis and promoters are more confident than they have heretofore been. In some parts of the Cariboo, the Quesnelle, for instance, development has not been prosecuted as projectors and friends of the district could have wished, but it has been attributed to the unsettled condition of affairs across the border in the United States, and rightly so, for a great many of the projects are in the hands of Yankee people, and until the Presidential election occurred many of them did not know, so to speak, "where they were at." However, the election of McKinley has the effect of starting enterprise in the States, and a modicum of "confidence" has been revived, and money for "Yankee" enterprises in all parts of the world is now forthcoming.

In addition to the regular Cariboo output of gold, the big "Cariboo" mine on South Fork of the Quesnelle has turned out its addition of about \$130,000, and a promise of double next year, has caused a great deal of attention to be attracted to the Quesnelle River. To be sure, J. B. Hob-

son, the gritty manager, really took "Hobson's" choice when he selected for his operations the great gravel banks now known as the "Cariboo" mine, and it is not saying too much to state that probably the equal of that great deposit has not yet been discovered on earth; but other benches on the Quesnelle have on development shown great merit.

Of other big concerns now being equipped, the Seymore-Baker, at the mouth of the Cottonwood, promises well. A ditch to carry 5,000 miner's inches has been constructed and two tunnels, of 1,300 and 200 feet respectively, through steep spurs are being cut this winter, through which to carry the water flumes to the pits. It is expected the mine will be in operation about the middle of next summer.

The work of building the plant on the Cariboo Gold Fields Concessions at Barkerville has been vigorously pushed all summer and as cold weather comes on the huge pipes are being forwarded under contract from Ashcroft by S. Tingley. It will cost at least \$40,000 to lay the pipe down at Barkerville from Ashcroft, and a good part of the summer next year will be encroached upon before the pipe is in line.

On Cunningham Creek a new hydraulic mine has been exploited by Chicago people and a test run this fall caused the mine to change hands. Fry & Johnson, of Quesnelle, handled the deal. The agent from Chicago was well pleased with the operations at the mine this fall.

A good deal of prospecting throughout Cariboo has been done the past season, and some attention has been turned to quartz. The Government concentrator has been stamping for some months, and the Island Mountain mill has been renovated and set to work this fall. Some very rich quartz has been discovered in the Little Snow Shoe region, but as a rule, prospectors are not looking for quartz in the Cariboo. The ledges now being exploited are of decided merit, as samples show.

Several minor discoveries of placer in the Barkerville region of exceedingly rich deposits have proved that rich rewards are still to be gathered by the patient seekers, who, apparently, never tire in the search for gold. S.

### *Texada Island Gold Mines.*

TAKEN from reports of Mr. F. W. McCrady, the well-known engineer, who has been examining and reporting on mining propositions there for both eastern and western capitalists: "I find many remarkably fine surface showings and some systematic development work being done on a number of what would appear to be very valuable properties, noticeably the Kirk Lake gold mines. On the Victoria and Texada claims work is being carried on extensively; on one vein a 100-foot shaft is being sunk, and at present is down to the 50-foot level in ore that when shown in Rosslund was pronounced by experts to be superior to anything in that camp in the shape of high grade ore. This ore is remarkable for its uniform appearance and in almost every piece of it free gold is visible to the naked eye. Assays from this vein give returns all the way from \$30 to \$2,000 per ton, and the average, as near as can be estimated, would be about \$100 per ton. On these properties there

are a number of other veins, most of them recently discovered, on which contracts have already been let to do development work, and, from surface showings, will probably be as good or better than the place where the 100-foot shaft is being sunk. These properties also control the waters of Kirk Lake, some thirty acres in extent, which will give all the necessary power; and as the ore is free milling, the gold can be extracted at very little expense."

On the Lorindale claim, about one-quarter of a mile distant from the Victoria, they have struck ore very rich in free gold on the surface. Shafts have been sunk on two other veins on this property, and further development work should make a mine.

This portion of the island seems to be rich in minerals, principally sulphide ores carrying gold, silver, copper, iron and a small amount of galena, with veins varying in width of from one to six feet; and from the systematic way in which some of the properties are being developed, it may not be long before Texada will be known as one of the principal gold-producing camps of the province.

#### Rossland.

WE have on several occasions referred to the early days of Rossland, and need not at this time recapitulate the incidents relating thereto more than to say that the town is not really two years old. Although the townsite was surveyed in 1894 it was not until March, 1895, that the place took its real start. Previous to that date there seemed to be some uncertainty whether it or some other site would be the future metropolis of the Trail Creek mining district. Now all doubt on that point is set at rest, and Rossland is acknowledged on all sides to be the coming great city of Southern Kootenay. The building of the narrow-gauge line of the Columbia and Western road to Trail gave it the first railway connection with the outside world, and now the Red Mountain (broad-gauge) is completed into it. The want of sufficient transportation facilities has been a great drawback to Rossland and the mines in its vicinity, but a new era of railway development has begun and there is every reason to expect that within the next two years it will become the central point of several important lines. Not only will the Crow's Nest Pass Railway have connection with Rossland, but a direct road from there to the Pacific Coast is on the tapis. The Canadian Pacific, which already has connection by means of the Columbia River steamers to Trail, the Northern Pacific and Great Northern systems are not likely to allow their interests to be overlooked in a camp of so much importance, so that the view we take of Rossland becoming in the near future a great railway centre is well founded. At the present moment a gigantic scheme is on foot to drive a tunnel through Red Mountain, a distance of 5,000 feet, with a sufficient width to allow of two electric railway tracks. This will give a more expeditious and economical outlet for the ore of the camp. The advantages of such a scheme to the mines in the vicinity are incalculable, especially in the matter of expense in handling the ore, and it is satisfactory to note that there is every likelihood of the enterprise being carried through to completion.

Until a few weeks ago the telegraph facilities of Rossland were quite inadequate for the business, but now the Canadian Pacific and Western Union systems

have established communication and opened offices in the town, and a movement is on foot to open a telephone line to Spokane, which, if carried out, will be a great advantage to mining men and others.

No town in British Columbia is so liberally supplied with newspapers as Rossland, there being no less than four journals published there—the *Record*, *Miner*, *Rosslander* and the *Review*. The first named has the honour of being the pioneer paper, it having been established on the 14th February, 1895, and to it also belongs the credit of having brought out the first daily on June 22nd of this year. The *Miner* now publishes a daily edition with full telegraphic dispatches, so that Rossland, a town not quite two years old, can boast of having two daily and four weekly papers—a pretty good record for so short a time.

A Board of Trade, composed of the leading business men, has been organized, and is in full running order, but, strange to say, Rossland to-day is not incorporated. It is still nursed in the lap of the Government, and is obliged to depend upon the private enterprise of the people and whatever aid it can obtain from the Provincial authorities for its improvements. This unsatisfactory state of affairs will, however, be remedied immediately and incorporation applied for at the approaching session of the legislature.

Recently a very efficient system of electric lighting was established, and the town is well supplied with water. The sanitary condition, too, has been carefully looked into during the past year and placed in a more satisfactory state than it was at the beginning of the season. The climate resembles somewhat that of Toronto, there being a short period of hot and sultry weather during the summer, with a delightful autumn lasting well into December. The fall of snow is at times heavy, but the thermometer rarely goes below zero, while thaws and rains may be expected at any time during the winter.

Although building operations have been carried on actively during the past year the progress of the town in this respect has been retarded by the locking up of large railway additions, which however are now being placed on the market. This will result in a better class of buildings being erected, and brick and stone will take the place of wood in the construction of most of them. Already a start has been made in brick—a fine hotel and opera house being in course of erection. Above the town a level plateau, which is now covered with mere shacks, will soon boast of handsome blocks and level, well-paved streets. One wealthy Eastern syndicate lately purchased over 800 lots in the town, and as a large number of these will be placed on the market immediately, it is reasonable to expect that there will be a regular building boom in Rossland during 1897.

With incorporation will come many benefits which Rossland does not enjoy fully at the present time. Its fire protection, street grading, sewerage, and police force will be on a better footing. It speaks well, however, for the people of Rossland that up to now one solitary policeman has been sufficient to preserve order. As the town grows a regular police force will be necessary, and the providing of this will of course be one of the outcomes of incorporation.

Rossland is surrounded on all sides by gold mines, many of which have already demonstrated their great value. The past year has been, however, one of development rather than production, but at this time of writing there are actually fourteen mines which may be called shippers. The names of these are Le Roi,

War Eagle, Iron Mask, Cliff, O.K., Josie, Poorman, Crown Point, Nickle Plate, Kootenay and Columbia, Centre Star, Jumbo, Lily May and Evening Star. During the coming year there are likely to be at least twenty mines around Rossland shipping ore. Hitherto the drawback to production has been lack of proper transportation facilities, but as we have already shown a new era in this respect is dawning upon Rossland. With sufficient railway facilities the output of ore from the Rossland mines will be enormous. The Trail and Nelson smelters have doubled their capacity and still will be unable to cope with the work offered them. Only the other day the Trail smelter was treating nearly 400 tons per day. The Pilot Bay works will have to be re-opened without delay, and there is room for other smelters just as soon as the question of fuel is satisfactorily settled. No time then is to be lost in pushing through the Crow's Nest Pass Railway, which will settle that problem for ever. That Rossland will have smelters of its own at an early day is plain to be seen. The nearer home the smelters the better it is for the mine owners. Electricity will probably be a factor in smelting, and already a plant on that principle is spoken of. Activity and progress in mining and smelting is everywhere in the air, and will assume shape before the close of 1897. That one great central smelting point will yet be established in Kootenay is evident, but where the site will be remains a matter of conjecture to be solved only when railway construction in the country is more advanced. This, however, will not prevent local smelters from being erected wherever they can be placed advantageously. The time is not far distant when the lowest grades of ore from the Rossland mines will become valuable as transportation and smelting facilities improve. The permanency of the camp was established some time ago so that active mining operations will more and more demonstrate its position as one of the richest gold mining camps in the world. B.

## THE MINES.

There are, as already pointed out, fourteen mines at Rossland which may be termed shippers and this number will probably be increased to twenty or more during the season of 1897. Mr. Wm. A. Carlyle in his report on Trail Creek made mention of the following:

Le Roi	Josie	Red Mountain
War Eagle	Monte Christo	Cliff
Iron Mask	St. Elmo	Jumbo
Virginia	Mayflower	O.K.
Poorman	California	Great Western
Centre Star	Nickle Plate	Enterprise
Idaho	City of Spokane	Evening Star
C. & C.	Georgia	Iron Horse
Columbia & Kootenay		

And on the South Belt near Rossland:

G. R. Sovereign	Homesake	Palo Alto
Crown Point	Lily May	San Joaquin
R. E. Lee	Deer Park	
Maid of Erin	Commander	

Most of these were reported upon as in good condition and with considerable development work done. Fourteen, as already shown are looked upon now as shippers although some of the others might be placed in the same category. Since Mr. Carlyle's report other claims have come into prominence, of which we may mention the following: Caledonia, Consolidated, Mugwump, Homestake, Nest Egg, Silverine.

The whole ground around Rossland is staked off into claims and a list of their names would occupy

more space than we can spare. But of the forty we have mentioned we do not think that we are going too far in saying that half the number will be shipping ore in 1897. A description of all the claims in the camp is of course impossible, but in the Directory of Mines which the publishers of THE RECORD intend issuing in January all worth mentioning will be given.

*Fort Steele Mining Division.*

THE mining interests of this section of British Columbia made good progress during the past year in spite of the inadequate facilities for the transportation of ore. As we are at present situated all the ore has to be shipped per boat to Jennings on the Great Northern, and as last summer it took three steamboats during the season of navigation to carry out 4,000 tons of North Star ore, it stands to reason that other means of transportation will have to be provided before the other ore-producing mines of the district can be placed on a paying basis, which, of course, means that the construction of the Crow's Nest Railway has become a matter of absolute necessity to the welfare of the country, but just as soon as this road is built a great many of the various mineral belts of the section will be opened up and developed into ore-producing mines. At present all these vast deposits of mineral are practically laying idle for want of railroad communication. When one considers the vast number of valuable discoveries that have been made in this region within the last few years, combined with the rapid development of the adjoining West Kootenay District, it certainly does seem strange that more active measures have not been taken to connect this section of the country by means of a railroad with the other portions of Canada. Just take into consideration the following description of the mineral resources of the district, and then judge for yourself:—

Commencing in the south-eastern portion, we find on a branch of the Flathead River and only a short distance south of the proposed railway line large coal-oil springs, which are apparently inexhaustible, the oil also having been proved by geologists and experts to be of the very best quality. Going a little further north to the valley of Elk River, right in the Crow's Nest Pass itself, we find really immense bodies of coal, comprising large seams of bituminous, anthracite and Cannel. Riding along the Crow's Nest trail, which follows the bottoms adjoining Elk River, the coal can be seen for miles as it crops out between alternate ledges of sandstone, high up on the mountain side, some of the seams being over 30 feet in thickness; then following the trail up Coal Creek, a tributary of of Elk River, over the Coal Creek summit and down to Michel Creek, another tributary, a distance of over 10 miles, coal can be seen in place all the way, in fact there is no doubt but that this is the biggest and richest coal deposit yet discovered on the continent. Leaving Elk River where it enters the Kootenay Valley and going south along the western slope of the Rockies on the east side of the valley for a distance of 15 miles to the International Boundary, numerous veins of high-grade copper ore have been located. The most important discoveries in this spot have been made adjacent to the boundary line, in fact it is a matter of doubt whether some of the claims are not in the State of Montana, the boundary line never having been cut out across the divide. Going north from Elk River and still following the eastern side of the valley, a mineral belt is found which extends for a distance





GROUND HOG BASIN, BIG BEND.  
(Looking from Summit.)



GROUND HOG BASIN, BIG BEND.  
(From "Big Bend Belle" Mine).



of about 50 miles, crossing the following streams which heading in the western portion of the main range of the Rockies flow in a south-westerly direction into the Kootenay River:—

The Kik-a-min, Sand Creek, Ahkuttuk, Bull River, Lost Creek, Horseshoe Cañon, Shingle Creek or Maus Creek, Wild Horse, Six-Mile, Tracey, Lewis, Walsh, Wasa and Sheep Creeks, on this belt where it crosses these streams and on the intervening ground numerous valuable discoveries of mineral have been made. Commencing about three miles north of Elk River, a mile from the proposed railway line, there is a well defined ledge about 8 feet in width, assaying 20 to 30 per cent. copper. Considerable development work has been done, a quantity of ore being on the dump ready for shipment. On Sand Creek three claims, 10 foot ledge, 10 per cent. copper, carrying silver and gold; on Bull River there are about eight or nine claims which show a good percentage of copper and prospect well in gold; on Lost Creek there is now the well-known Debble group, the ore is a gray copper, carrying gold and antimonial silver, the country rock being porphyritic slate and talcose schist; free gold quartz veins have also been found on this property. These claims have been developed and opened up, a tunnel has been run in for 400 feet, striking the main ledge at a depth of 300 feet, and cutting four other veins which crop out on the surface, each vein gaining in width as it goes down. It is a high grade ore, the general average being 150 ounces in silver, \$30 in gold and 12 per cent. copper. Down the creek, and close to where it enters the valley, there is a good showing of peacock copper ore. On Horseshoe Cañon there are several gold quartz properties, one being the Minnie Wells, on which there is a small vein of very rich gold-bearing quartz. Up Shingle or Maus Creek there are several claims. At the source of this creek, on the summit, about a mile from the Debble group, there is a 4½-foot ledge running through porphyritic diorite and slate, assaying about 30 ounces in silver and from \$5 to \$24 in gold. The Wild Horse properties having been described in former articles, it will be sufficient for our purpose just to state that besides the four or five hydraulic companies in active operation, there still remains quite a large amount of ground which can be worked to advantage. There are also numerous gold quartz claims on the creek and its various tributaries, some of which have been developed to quite a considerable extent, showing up large bodies of gold quartz. There are about fifty locations staked off in this vicinity, which comprises an area of country about seven miles up the creek and extending for a couple of miles up the branches on each side. On Six-Mile Creek there are large outcrops of copper and galena on which there has as yet been no development work done. On Tracey Creek, in a basin near its source, seven or eight claims have been staked out during the last year, and from present appearances they promise to develop into valuable mines. There are three ledges, one 10 feet wide, of copper oxide, assaying gold \$2.10, silver \$11 and copper 16 per cent.; the second 3-foot ledge of gray copper, 65 to 140 ounces in silver, 16 per cent. copper; the third, a 6-foot ledge of solid galena, low grade. From Lewis Creek through to Wasa Creek and on to Sheep Creek are numerous locations carrying gold, silver and copper, the principal being the Wasa and Mammoth, on Wasa Creek, which is just about being sold to a Victoria Company. There is a fine showing on this property, development work having been carried on

on these claims at intervals during the last few years. This mineral belt has not been traced any further north than Sheep Creek, where there is a decided change in the formation. Some distance up Sheep Creek there is a curious group of mineral springs down close to the bed of the creek; in fact they are overflowed during high water. The springs consist of sulphur and salt; the smell of sulphur can be detected for a couple of hundred yards before reaching the spot, and the springs are so close together that it is possible for a man to sit in one and put his hand in the other, the sulphur spring being hot while the salt spring is quite cold.

On the west side of the valley, about twenty-five miles from Fort Steele, on Mark Creek, a branch of the St. Mary's, is situated the now celebrated North Star group of mines, with its sister group, the Sullivan, in close proximity; there are between eighty and a hundred claims in these two groups, the silver lead belt line extending, as far as at present known, for a distance of about five miles north and south, with a width of about a couple of miles; Mark Creek running diagonally across the centre of it. At present, the North Star is practically the only ore producer of these groups, the company shipping ore all last season, and have eighteen men engaged for the winter in getting out carbonates for shipment in the spring. Teams will be busy all winter hauling to the landing on the river. This mine is well worth a visit, hundreds of feet of tunnelling and drifting having been done, running through solid bodies of ore; in fact, in all the workings there is nothing else in sight but silver lead ores, and no man knows or can guess at the extent or size of the deposit. This mineral belt is covered to a great extent with a glacial deposit in some places of unknown thickness, but, wherever the bed rock has been exposed to view, it has been found to be highly mineralized with galena and iron, and on some of the claims solid bodies of ore have been struck similar to the North Star, notably on the original locations in the Sullivan group; while the Midnight, Dean, All Over, Quantrell, Utopia, Stemwinder, Good Luck, Big Chief, Eureka and others have either ore in place, or very good indications of there being large bodies in the near vicinity. In fact, all the working and prospecting done on these two hills tends to show that in all probability this whole belt is just one immense silver lead deposit. All the way up the St. Mary's, on all its various branches right up to the summit, a distance of about sixty miles from Fort Steele, there are numerous outcrops of mineral. Right along close to the summit, with a width of three to four miles, and extending for a distance of thirty miles is a mineral belt containing copper, silver and gold, on which a year ago there were over seventy locations, and many more have been staked off during the last season; some of the claims assaying very high in silver, with a good percentage of gold and copper. On Hell's Roaring Creek, a large tributary of the St. Mary's from the south there is a ledge about 10 feet in width averaging from 4 to 8 feet solid mineral the ore being galena and gold. It is situated four miles up the creek from its mouth, and about thirty miles from Fort Steele, development work has been done to the extent of a tunnel seventy-five feet in length and a twenty-five-foot open cut following the lead; the formation of the country rock being porphyry and slate.

On Perry Creek, another branch of the St. Mary's which joins the main stream about fifteen miles west

of Fort Steele, there has been made a discovery which at present has the appearance of being the most important mineral belt in the district, consisting of three or four parallel ledges of free gold quartz, which can be traced for upwards of a distance of seven or eight miles. There are now about one hundred locations on this belt the original claims being a group of four staked off by Sherwood & Co. in July, 1895; three ledges cross this block, being 8, 10 and 20 feet in width, three crosscuts and a tunnel 18 feet in length have been run in shewing up  $3\frac{1}{2}$  or 4 feet of high grade gold quartz, average assay being about \$50. To the south comes the Thompson block of seven claims with three crosscuts, one cross cutting the lead from the footwall, no hanging wall has as yet been reached, the other two shewing the continuation of the lead but no foot or hanging wall. The next is the Hoskin block of seven claims with fourteen crosscuts shewing five leads averaging from 4 to 8 feet, and in some places wider. The Ellwood block consisting of seven claims, adjoins the Sherwood block to the north, with four leads crossing it, two of them opened up, one shewing an 8-foot lead. On the other there are five crosscuts about 100 feet apart, with a depth of 10 or 12 feet, shewing at least 25 feet of a lead in one place without a hanging wall. A tunnel has been started which is at present in 70 feet, and in about another 5 feet will strike the lead which it is the intention to follow, and at a distance of 600 feet they will have a depth of 400 feet on the lead; a couple of men will be at work on this tunnel all winter. The rock here averages from \$6 to \$8 in free gold. Simmons, Petley & Co. have altogether about thirteen claims; on one block of six they have four or five leads, one lead opened up by a 14-foot shaft shewing an 11-foot ledge averaging \$29. On two other claims they have struck the big lead which runs through the Thompson block shewing a width of 30 feet. On the Moffatt block of four claims adjoining the Hoskins block, the big Thompson lead has also been struck, 30 feet in width. On the Queen Anne group adjoining the last mentioned block, there are cross veins from the big lead which assay very well. There are numerous other blocks of three or four claims each, namely: The Jennings, Walsh, Young, Lamont, Waters, Scott and another Thompson, besides quite a lot of single claims, while only a short distance across the divide in different directions, on Weaver Creek, Hell's Roaring Creek and tributaries of the Upper Moyie there are quite a number of locations, all being of the same character of gold quartz, in fact this whole region seems to be a zone of free gold quartz, easily accessible for waggon roads, with lots of water power in the numerous streams and any quantity of timber for mining purposes.

The townsites have been staked off on Perry Creek close to the gold quartz claims and just above the old placer diggings, as next year there will in all probability be a large number of men at work on these properties, besides, the Perry Creek Placer Company expect to commence work early in the spring on their ground.

Below the placer leases and not far from the old town, on a branch of the creek, there are six or seven more quartz claims, assaying \$13 in free milling gold. Some very good prospects have been obtained from a couple of claims belonging to Jack Lamont, the assay going as high as \$65. These claims are on the other side of the main creek, from the Ellwood block.

There is another most important mineral belt con-

sisting of silver lead ore, down on the Moyie Lake, about thirty miles south from Fort Steele. As these properties have been described in the October number it will be only necessary to state that a large amount of development work has been done, but no ore shipped, as at present they have no means of transportation. Messrs. Finch and Cronin have at least 5,000 tons of ore on the dump, with over 15,000 in sight in their various tunnels and shafts. On the adjoining claims work has been progressing favourably, Houghton & Co. having run in a 100-foot tunnel on one of their claims, showing up a large body of ore, while on the other a couple of men will be employed all winter in running in a tunnel to strike the lead at a lower elevation. A tunnel is also being run in on the ledge on a claim belonging to Farrell & Co., where the indications are very good.

From the above descriptions it will readily be seen that there is a vast area of country still to be gone over. The prospectors so far have generally been contented to confine themselves to those streams and their tributaries which are comparatively easy of access, leaving the more inaccessible places for some future occasion. There are large areas remaining practically unexplored, all that region lying between the upper reaches of Elk River and the western slope of the Rockies, which forms the eastern boundary of the Kootenay Valley, comprising the headwaters of Bull River, Wild Horse Creek, Sheep Creek and other streams. Then there is also the country around the head waters of the Yalik River and Gold Creek, lying between the international boundary to the south, the St. Mary's to the north, the Moyie to the west, and the Kootenay to the east; and again the whole Purcell range, extending from the North Star and Sullivan group on the south to the northern boundary of the division, and from the Kootenay River to the summit of the mountains. Of course it has to be borne in mind that the present claim owners and prospectors are in a manner forced to confine their operations to the claims they have already staked off, doing their assessment work and waiting for the railroad. For it is not to be denied that it is a very difficult matter to induce capitalists to invest their money in silver lead properties in this country, considering the state of our transportation facilities. No doubt the late discoveries of free gold quartz on Perry Creek, Wild Horse, and other streams, will help us out immensely, as transportation is not of so much consequence in connection with gold quartz as it is with silver lead propositions. Nevertheless the fact still remains that until the Crows' Nest road is built our mineral interests must of necessity continue to be handicapped to a great extent. It is sincerely to be hoped that this road will soon be commenced and pushed through to West Kootenay. Then six months will see a greater change and more material progress, not only in this section, but over the whole of the two districts than has taken place within the last thirty years. It therefore behooves every man who has an interest or stake in the country to bestir himself and impress on the powers that be the absolute necessity for the immediate construction of the Crow's Nest Railroad.

#### *The Slocan During 1896.*

ANY attempt to enumerate even the main features of the year's progress in the Slocan, must necessarily be incomplete with the short space at my disposal. The known mineralized region is

becoming so extensive in area and the ore characters met with so varied, that a volume would hardly suffice to describe adequately all that has gone on during the past year, and is still going on. It is well and truly said that comparisons are odious, and while it would be invidious and hardly conducive to the peaceful advancement of the country to carry it to the verge of rivalry, we may with evident advantage note the essential points of difference between the two principal West Kootenay camps, Trail Creek and the Slocan.

When so much outside capital is flowing into Rossland we may surely be excused if a slight feeling of jealousy occasionally asserts itself here. Without wishing to underestimate the value of that camp or relegate it once more into the background, it is well to remember that the net value of Slocan ores is a long way ahead of that from the more famous Trail Creek district, and whatever advancement Rossland may have made during the year, the Slocan also has certainly shown great strides in its production. Statistics after all reveal the true condition of affairs better perhaps than anything else, but for various reasons these are not now available, and it is found impossible to give them here in their entirety. At the beginning of the year extravagant estimates were made by responsible and irresponsible parties as to the probable value of the mineral production for 1896. The more moderate of these have been all but realized, and while it is neither necessary nor in place in this article to go into the various reasons which have led to the non-fulfilment of these predictions, it cannot be amiss to state that so far as the Slocan is concerned, the highest obligations have been fully met.

The advent of the iron horse into Sandon and vicinity has worked wonders in that camp, and made it possible to ship ore by means of competing railways at a minimum cost. There is some danger that if sampling works are erected at Northport and Bonner's Ferry, as projected by the United States Government, the competition will cease, at least for a while. The inevitable, however, is sure to come sooner or later and the long looked for day when home smelters shall be erected at convenient and central points will be thereby hastened and its ill effects remedied. Not only so, but the still serious question of freight rates as compared with other important mining centres, will be thoroughly reconsidered and materially reduced. Amidst all the progress and advancement of the year these vital wants appear to have been almost wholly neglected. For some still unexplained reason the one smelter in the country so far capable of treating Slocan ores successfully, was closed early in the year and never since reoperated. The present output of the mines should suffice to keep more than one smelter hard at work, and with the certain increase which is sure to follow, there need be no alarm felt as to the source of future ore supplies. It is to be hoped that the active measures in contemplation in connection with both the Nelson and Trail smelters will soon mature, so that Slocan ores may find a ready market at home.

There seems to be literally no end to the marvellous wealth of this section, regions previously regarded as unproductive, now contribute their

quota towards the increased output, and new camps are springing up in every direction.

Sandon, as the great centre of mining activity, has more than held its own; despite its many natural drawbacks, the enterprise of its citizens and the wonderful riches lying hidden at its very door suffice to keep it in the front rank among progressive mining camps. It is said that there is more money in circulation in Sandon to-day per capita than in any other town in the country, and one can well believe it.

Palatial hotels and residences are being everywhere erected and there is an air of permanence about the place that not even Rossland can surpass.

Among the many improvements of the year the inaugurating of an efficient waterworks system, and the installation of the electric light, stand out conspicuous, and might be copied with advantage by other towns in the neighbourhood.

The danger from fire, the natural enemy of towns so situated, has been reduced to a minimum, and the citizens showed commendable foresight in having the matter attended to before serious damage was done. The banking fraternity has at last awakened to its responsibilities in these regions.

After vigorous efforts on the part of influential citizens and the local press, the Bank of British Columbia has at last been induced to establish a branch office here, the first incorporated bank in the Slocan, and it is hardly necessary to say it will be highly appreciated and supported by those who formerly had to remit all the way to Nelson. The name Sandon brings forcibly to our minds that now magic expression Slocan Star. During the year the reputation of this, the Slocan's greatest mine, has not only not suffered but become greatly enhanced. It still stands pre-eminent among the mines of the province, and during the year, notwithstanding extensive outlay on improved concentrating plant, it has managed to pay the magnificent sum of \$200,000 in dividends up to the present, with a prospective \$50,000 more before the year closes. Who would not be proud of such a record as this? Several times in the last few months the great mine has been reported sold at sums varying from two to two and a half million dollars, but even at the latter enormous figure the owners display little desire to part with it. The large contract entered into with the Omaha smelter people has been satisfactorily discharged and 12,000 tons of Star ore has found its way to their establishment during the past twelve months. The concentrator, naturally the best equipped in the Slocan, has been working uninterruptedly on nearly two hundred tons of ore a day, and is giving complete satisfaction. With regard to the future prospects of the mine, the reported price offered speaks for itself in very eloquent and unmistakable language. A fifth tunnel has been started to tap the lead at a depth of over 600 feet, and there is no doubt, from present indications, that the value will continue. As about one hundred men find employment in connection with the working of this property, its importance to the community can be readily estimated. The controlling interest in the Ruth, another great mine, which it is thought may in time become a formidable competi-

tor with the Star itself in the race for chief honours in the district, has recently passed into the hands of an English syndicate on a \$250,000 cash basis. Six feet of shipping ore is exposed in more than one place in the mine, and, everything considered, the price was by no means exorbitant. The Wonderful, most properly and appropriately named, has surprised everybody by the remarkable persistency which the company operating it have displayed in its development, and the regularity of its output. An anomaly in the district, it has so far obtained its entire production from fragments and boulders of galena found in the glacial or alluvial deposit which completely covers the formation to a depth of some thirty feet. Surrounded as it is by mines exhibiting all the characteristics of true fissures in the solid rock, it is the more remarkable as it disproves once more the old rule of thumb methods of mining and goes to prove that sluicing and hydraulicizing, if necessary, are not by any means confined to the Cariboo district or the recovery of gold dust.

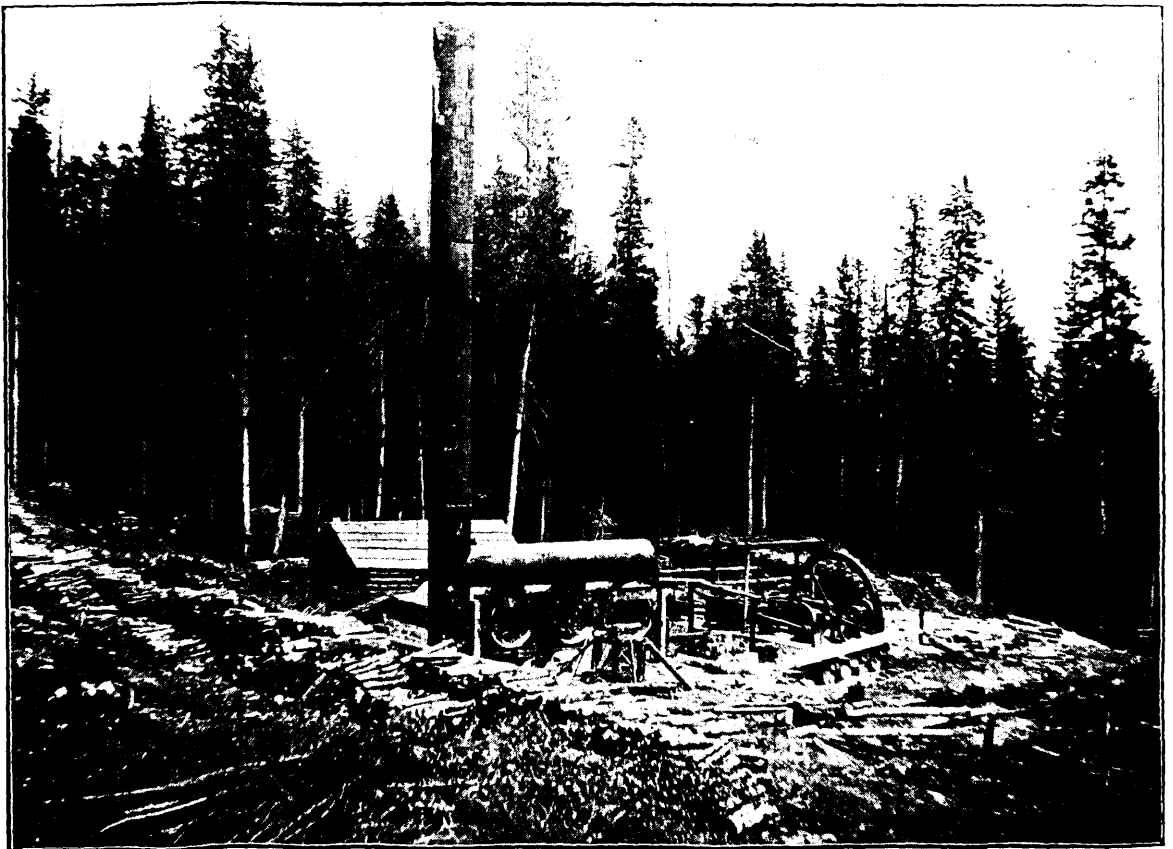
That there was an immensely productive lead somewhere in the vicinity from which all this float, as it is called, had come, was very evident from the first, and as the result of a diligent and painstaking search the management now report having discovered it in place. We may expect to hear further encouraging particulars of this property in the near future. Space will not permit of a more extended reference to the mines of this region, so just noting in passing the wonderful strides in production made by the Whitewater during the last few months, we will take a glance at Cody, a town which has sprung into existence with remarkable rapidity. Close at hand lie those recently stocked mines, the Reco and Noble Five. When so many doubtful and too often absolutely valueless properties are being foisted upon an unsuspecting public, bringing the whole system into disrepute, it is a real pleasure to find that investors are being invited to share in the working benefits of such as these. In marked contrast to the grabbing tendencies of too many company promoters, the owners of the Reco actually guarantee to distribute the sum of \$100,000 in dividends to the shareholders within three months; after this, comment is unnecessary. The owners claim to possess the richest ore in the Slocan, and a recent shipment would certainly bear out that statement. During the late election in the United States so much was heard about the necessity for closing the silver mines of the Slocan, especially if McKinley were elected, that it might not be out of place to state that earlier in the year, with silver at 59 cents, the Goodenough, a claim adjoining the Reco, was enabled to make a profit of \$524 per ton on one of their shipments. This is pretty conclusive evidence to all right thinking people that the Slocan can easily survive a number of presidential elections, whatever the result. The Noble Five and Reco will each soon possess efficient concentrators and tramways, and then we may reasonably look forward to largely increased outputs from them both. The extension of the railway system to Sandon and Cody, has left Three Forks in a somewhat secondary position, but the importance of the mines surrounding it is but vaguely understood by the outside world, and almost always under-

estimated. Among the many rich mines in the neighbourhood, the Idaho and Alamo, worked conjointly, are conspicuous by the certainty with which they periodically declare dividends. One of \$18,000 was recently divided among the shareholders, bringing the total so far paid up to \$50,000. The concentrator owned by the Slocan Milling Company, and worked in connection with these mines, was the pioneer in the Slocan in that direction, and the success attending its operation is made abundantly evident by the number of mine owners who now intend to benefit by the experience gained in its adoption. At New Denver, somewhat facetiously called the metropolis of the Slocan, we find greater activity displayed than ever before. On account of its situation as the most central point in the district, the Government records are kept there, and it necessarily commands a large share of the business which is transacted in connection with the surrounding mines. The Mountain Chief has again taken its place in the list of shippers, and very little is required to place the California in the same enviable position. But the greatest advance has been made in the opening up of new regions down the lake, which threaten to rival, and may even some day eclipse the older established camps from which so much wealth is now being obtained. On Four Mile, the Alpha, which has shipped over a thousand tons of ore, still remains idle, apparently for private reasons, but numbers of other properties have been acquired or bonded by companies who intend to operate and prove them during the winter. The Thompson group, now so well known, is producing ore from a small streak which assays over 400 ounces, and the others are all doing proportionately, though it is too early yet to make definite statements as to their permanence. It is worthy of notice, however, that with respect to the Thompson, a few weeks' work on the part of the company has proved an ore value estimated at over half the bonding price, or more than \$20,000. Among the fine looking properties on this creek now in course of development, mention might be made of the Silver-ton Boy, Vancouver, Fisher Maiden, Thompson and Mount Mabel groups. What has already been done on the Galena Farm is known to all and need not be here repeated. A year ago the Currie was in the hands of the original owners, who, having every confidence in its being a valuable property, did all in their power to develop it to the best advantage. That the requisite capital will make a great mine of it is believed universally, and further backed up by the periodical reports from the scene of operations.

On Eight Mile, further down the lake, we apparently leave the silver belt and turn our attention for a while to its more valuable neighbour, gold. Work is being conducted on the Willa by Rossland parties, with very satisfactory results. The ore body is immense and consists of a mixture of quartz with massive iron and copper pyrites, carrying a few dollars in gold. The ore is improving with depth and behaves very much like that from Rossland, although the characteristic pyrrhotite of the latter is here wanting. It is more than possible that development will disclose valuable bodies of ore, and as there are known to be similar indications elsewhere in the neighbourhood, profitable gold mining



LE ROI NEW COMPRESSOR PLANT, ROSSLAND.  
(In course of erection.)



COLUMBIA & KOOTENAY COMPRESSOR PLANT, ROSSLAND.

may result. The Little Daisy, another Eight-Mile property, recently made a small shipment, which gave returns of considerably over a hundred dollars to the ton, principally free gold. Ten-Mile, the creek first brought into prominence by the systematic exploitation and development done on the Enterprise, has probably advanced further during the season than any other section of the lake country. A magnificent waggon road follows the creek for a distance of nearly nine miles, and the mines tributary to it will now be able to ship their ore with corresponding ease and facility. Both here and on Four-Mile we begin to graduate into the dry ore belt, the prevailing slates and schists of the Sandon district give place to granite in which the felspar crystals exhibit a most pronounced porphyritic structure. Many first rate properties are situated in this vicinity, the Enterprise, Bondholder, Neepawa, Dalhousie, Silver Nugget (under bond to Hugh Sutherland, of Winnipeg) and Kalispel being those best known. Preparations are now being made to ship continuously from the Enterprise, and it is estimated that nearly a thousand tons of high grade ore will leave the mine this winter. The Bondholder and Neepawa will also each furnish work at the smelter before very long. Although the main value lies in the silver which they carry, the ores exhibit a most diversified character, some containing much galena and zinc blende (the latter usually argentiferous), others again being composed mainly of dry ore carrying the silver in the form of uncombined sulphide and in the native state. The question of the best treatment for ores of this class has yet to be settled satisfactorily, but it is being earnestly considered in several quarters, and by the time the mines are in a position to contribute a regular output there should be no difficulty on that score. A great future is predicted for Ten-Mile by those who know it best; claims without number have been staked and recorded this year, and with every facility afforded for rapid development there appears to be no reason why it should not actively assert its merits in the immediate future. Across the divide we enter the Springer Creek district, and in this connection it would be timely to refer to the existence of two thriving towns at the lower end of Slocan Lake, namely, Slocan City and Brandon. Although Slocan City has existed nominally on the maps for a considerable length of time, until the beginning of this year there was not an acre of ground cleared and the whole consisted of one log hotel with a total permanent population of about half-a-dozen. Now instead we find two well built-up towns situated about half-a-mile apart, the citizens of which exhibit the greatest energy, and display the liveliest interest in all matters pertaining to mining. It would be hardly correct to say that all the adjuncts of modern civilization are to be found there, but Slocan City boasts a Presbyterian church and local newspaper, while the other necessities and luxuries will follow in due time. After this it would be superfluous to say that both Springer and Lemon Creeks, on the mineral wealth of which these towns depend for their subsistence, are making very distinct headway. It is true that so far as Springer Creek is concerned the bond on the Arlington has been thrown up, but as I explained last month even if the mine never amounts to anything, it is no criterion with which to judge the others.

The Two Friends, a name now familiar to all mining men, produces ore resembling very closely that from the Enterprise. Shipments so far have given returns averaging 300 ozs. to the ton and it is publicly announced by the company that some 600 tons of ore will probably be shipped from the mine this winter. Being now in the main granite formations the ores here, with few exceptions, are almost entirely dry, consisting of quartz carrying argentite, laminated native silver and various argentiferous copper ores. Although there is no gold found on Ten-Mile Creek almost all the ores here encountered carry gold in varying quantities, and in some of them it forms the main value.

The Ottawa, Tamarac, Exchange, Howard, Fraction, and Crusader are only a few of the claims of great promise in this region and next year should surpass even the present busy season in development done and results obtained. Prospecting was continued assiduously down the Slocan River beyond Lemon Creek, but with only indifferent success and it is now generally conceded that the limit of the ore belt has been reached in that direction. Valuable finds are however reported all the way across to Kootenay Lake and free gold propositions of wonderful richness are here found. The Slocan Lake district has at last obtained that for which it has been crying aloud for many months and even years, *i.e.*, a sufficiency of capital to develop and prove its worth as a mineral region. The number of moneyed men who have either visited the district themselves or sent representatives is almost phenomenal and now is undoubtedly the most critical time in its history. Should these preliminary investments prove successful the country must inevitably go ahead by leaps and bounds. At any rate the confidence of the people here is such that they are ready to stand or fall by the results of the development which the most important claims are now undergoing.

It might be advisable to discuss in closing one or two important facts which bear directly upon the opening up of our mineral resources. The great cry now is for home smelters, and with the advent of the Crow's Nest Pass road a new era of unparalled prosperity should sweep over the entire country. At present the freight and treatment charges are altogether disproportionate to those of other mining centres, and the erection of local smelters capable of treating the entire output is becoming an absolute necessity. The more general introduction of concentrators is working wonders, and thousands of tons of formerly worthless ore is now being converted into a valuable market product. Those now operating are all more or less affected by lack of water, but with greater experience this difficulty can be readily overcome. If rumour counts for anything, this time next year will witness nearly a dozen concentrators hard at work, and the output will correspondingly increase.

Transportation facilities, although none too good, have advanced materially during the year, and good waggon roads and trails now render travelling in the mountains comparatively easy; but I think the great saving in this direction in the future lies in the introduction of some form of gravity tramway, certainly for those mines whose output is at all considerable. Several mines in the district have already adopted this plan, and it is undoubtedly far ahead of the more primitive methods employed elsewhere.

Owing to the unusually soft nature of the ground, the supplanting of manual labour by machine drills



has made but little headway here as compared with Trail Creek, but their more general application is only a matter of time, and already the introduction of more than one is being seriously contemplated. One of the features of the year was the attempt made on the part of the Provincial Legislature to levy a two per cent. tax on all mineral raised in the province. As was natural under the circumstances, this induced a vigorous protest from all classes, and none more so than among those in the Slocan who depended solely upon the progress made in mining development for a living.

Experience has shown that the Government pursued the wiser course in amending the bill to its present wording. Forest fires in the summer season are becoming a regular nuisance, not only here, but wherever mining is being carried on in the province, and steps cannot be taken too soon to prevent their recurrence. Stringent laws should be formulated by the Government, and rigidly enforced, or we shall soon be without sufficient timber for conducting mining operations in some quarters, to say nothing of the danger to life and property. The stocking of all kinds of undeveloped claims, although not nearly so prevalent here as at Rossland, is yet beginning to assume serious dimensions, and it would be well for the reputation of this section if the practice were nipped in the bud. No better evidence can be offered as to the satisfactory position which mining now occupies in the Slocan than by referring to the current receipts at the Government office, and when we state that over three thousand dollars were paid in at New Denver alone during the month of July, the vast proportions which it is assuming can be better imagined than described.—Howard West, A.R.S., M.S.C.

#### *Fairview.*

**H**ITHERTO the attention of the mining world has been centred upon Rossland and the district adjacent thereto, yet it is conceded by all who know anything of the vast extent of the mineral wealth of British Columbia that numerous other localities bid fair to surpass in richness all the great prospects which have been so prominently before the eyes of the world for some time past. A section of the province, which up to a few months ago, was, in a mining sense, an undiscovered land, but which is surely destined to become world famous as a gold-producing region is Camp Fairview, Okanagan District. It is the purpose of this article to attempt a brief description of the character of the country and mineral wealth of the district.

The Fairview mining district is that lying in the valley of the Okanagan, about twenty-eight miles south of Okanagan Lake. It is reached from the main line of the C.P.R. by a branch line called the Okanagan & Shuswap Railroad, connecting at Sicamous Junction, and running to the head of Okanagan Lake, thence by steamer of the former line for a distance of sixty miles down the line to Penticton, at the southern extremity. Here may be found good hotel accommodation. The waggon road from this point takes one through to the town of Fairview, twenty-eight miles distant. This waggon road is a trunk route through Osoyoos to the United States boundary line, and from it other points are reached, such as the now well-known camps of McKinney, Greenwood, Midway and Boundary Falls. These towns are centres of mining, inaugurated through the success of the ventures

carried on to prospect the varying classes of ores produced in that vicinity.

Fairview is ranked as being among the list of well-known localities as, apart from the encouraging field for mining, the country also offers inducements to settlers from an agricultural point of view. These naturally look to the mines for the consumption of their products, the miner and farmer being mutually benefitted by the advantages of the other.

The district is healthy, the fall of snow being extremely light, with very little frost—so little, in fact, that the Okanagan Lake is open to navigation for the whole year. The district is unlike almost all other portions of the province in that it is not mountainous, the topographical features resembling one huge park of gently rolling hills. There is abundance of timber at hand for mining purposes.

Quartz containing gold was first discovered in 1888, but just then very little was done to explore the find.

The main mineral belt runs east and west, and the ore is distinctly free milling. The veins are believed to be true fissures, the strike regular, invariably showing gänge between the walls, the formation being shistose and dioritic rocks. It is estimated that the ore can be treated for from \$3 to \$5 per ton. Mr. Edward Bluett, a mining man whose name is familiar in many of the Western states, recently visited Camp Fairview, where he is interested in the Silver Crown and Joe Dandy mines. Speaking of the district, Mr. Bluett said: "I just want to say one thing, and that is that though I have been interested in mining in every mineral producing state and territory in the Union, I have never seen any country that begins to 'size up' along with this." "Why," he continued, "you people here don't appear to have grasped the idea that you have the richest country on this green earth."

As was stated in opening, Fairview as a mining district was, until very recently, comparatively an undiscovered land; but it is so no longer—thanks to the enterprise of two well-known residents of Victoria, B.C., W. A. Dier and A. A. Davidson. These gentlemen, with commendable enterprise, did not sit down and "wait for the good times to come," but, as soon as convinced that there was hidden wealth in the rocks of Fairview, invested their money and put men to the work of development.

A few of the principal claims in the district are: Morning Star, Joe Dandy, Comstock, Brown Bear, Silver Crown, Silver Bear, Smuggler, Silver Bow, Stemwinder, Black Diamond and Winchester, on all of which considerable development work in the way of shafts and tunnels has been done. The owners of the Morning Star intend, so it is understood, shortly to erect a stamp-mill. Messrs. Dier and Davidson, of Victoria, who are more largely interested in the district than any others, have acquired control of about twenty-five of the most prominent claims. They have at present fifteen men at work, and expect in the spring to employ at least a hundred men in the work of development on their claims alone. Messrs. Dier and Davidson have also secured 300 acres of townsite property, and those who are in a position to form an accurate opinion of such matters do not hesitate to predict that within two years Fairview will be a city with 20,000 inhabitants.

In consequence of the big strike of rich free milling quartz recently made on the Comstock claim this statement does not seem to be at all extravagant.

Mr. Dier, who recently returned from a trip to

Fairview, states that nearly every available claim in the district, with the exception of the lot controlled by the company of which he is a member, has been secured by representatives of English capitalists.

Fairview with its salubrious climate, rich soil, good timber and great mineral riches, is without doubt destined to take a prominent place among the foremost centres of British Columbia—a country which is now engaging the attention of capitalists the wide world over.

### *Illecillewaet.*

THE Illecillewaet station is about twenty-eight miles east of Revelstoke and the surrounding country has been known as a rich mining part for some years and prospecting has been going on there during the past few years, but owing to reasons I am not in possession of has made no progress until the last year and is now attracting a great deal of attention, several companies operating there, among them are the Lillooet, Fraser River & Cariboo Gold Fields Co., commonly known in this part as the Horne Payne Co. They own the Lanark and Maple Leaf mines, both of which were located in 1886 and purchased by this company within the last few months, paying a round sum therefor. The work on these mines consists of two tunnels, one of which is driven 100 feet, the other 750 feet, tapping the ledge about 350 feet from the surface. They have shipped 500 tons of ore averaging \$100, and still have about 1,000 tons on the dump which is said to average \$50 per ton. This company is now building an aerial tram to the railway, about one and three-quarter miles long, with a descent to the railroad of about 3,500 feet; they have also in prospect the putting up of a concentrator in the spring. It is claimed that they have at least half a million dollars in sight in the opening. This mine will be a very large shipper next season. The Cariboo claim in the same locality has about 250 feet of tunnelling, showing a large body of ore which averages \$100 per ton in lead and silver, is about two miles north of the railroad and five miles east of Illecillewaet. The Jumbo, in the same locality, has 400 feet of tunnelling, with good showing in all openings; the ore carries gold, silver and lead, is a concentrating proposition on a basis of 6 to 1 with an assay value of \$300 to the ton; some run as high as 7 per cent. in gold.

The Silver Bow Group is about three miles above the Cariboo, carries copper, silver and gold. Some assays have been obtained running as high as 60 per cent copper; there has not been much development on this claim, but the indications are very promising indeed.

The North Star Group, three claims, is on the North Fork of the Illecillewaet, will have to be shipped by way of Albert Cañon, has about 50 tons ore on the dump assaying about \$100 per ton.

The Dunvagon, on Fish Creek, about ten miles south of Illecillewaet, has been opened up very largely and promises great things; belongs to Messrs. Bain & Boyd, has one tunnel on the ledge about 125 feet and another 25 feet; these openings are run along the ledge, had 200 tons of ore taken out in running the tunnel and has about 1,000 tons of concentrating ore in sight on a basis of 6 to 1, averaging \$100 to the ton in gold, silver and lead. Three cars of this ore shipped this season to San Francisco netted \$700 to the owners. Besides those mentioned there are about a hundred other locations in the Illecillewaet of which

at least one-half bid fair to be shippers next season, will give some idea of the great chances for Illecillewaet becoming one of the great wealth producers in the next year.

No doubt you are aware that Revelstoke holds a very enviable position as a distributing centre to this great mining country, being on the main line of the C.P.R., having the Illecillewaet mines only 28 miles off, the Big Bend country to the north containing placer and quartz ledges *ad lib.* Carnes Creek, 28 miles north, has immense bodies of gold ore similar to that round Rossland, and operations going on to open up these claims are at present under bond for good figures. Then again, there are the Jordan Pass claims, with large bodies of galena carrying silver, about 15 miles west of Revelstoke. To the south we have Lardeau, with its hundreds of locations, several of which are shipping ore. Then there are the Sable Creek mines, gold and copper, Boyd Creek mines, lead, silver and copper. Notable among these are the Glengary Group, from which assays have been had ranging from 38 oz. silver up to as high as 1,040 oz. Revelstoke is the natural supply point for all this vast country, and will no doubt take its place as such within the next year.

JOHN D. SIBBALD.

### *From Nelson.*

THE year 1896 has been a memorable one in the annals of Kootenay. It has seen the wonderful development of the Trail Creek camp, and the final culmination of years of work in the establishment and successful working of the Hall Mines Smelter at Nelson. Previous to this year Kootenay and its mines were unknown except to a very limited circle, even in Canada. To-day you cannot take up a paper without reading some account of the field, often grossly exaggerated, while the presence of special correspondents from the great London papers shows that the world at large is at last interested in the great British Columbian mining region.

Another feature of the year, and an undesirable one, has been the mushroom growth of wild-cat companies, and the over-capitalization of others of more standard value. If the public at large were only able to discriminate among the vast numbers of stocks offered to them, as well as people on the spot can, there would be little harm done. But enterprises are taken away from the country where their real character is known and put upon the market in the cities of the East and in England, where the investing public have absolutely no guide to their desirability save and except the prospectus and other fanciful descriptions emanating from the fertile brains of promoters. Amongst all the rubbish offered there are many reliable investments, and it is to be hoped that a disgusted public, when it finds itself loaded up with shams, will not turn and cast forth good and bad alike from its markets.

The beginning of the year saw the establishment of the Hall Mines smelter at Nelson. This consisted of a single water jacket furnace with a capacity of 100 tons a day. The ore was brought down from the Silver King mine, 4,800 feet above, by a wire tramway. This mode of transport did not work well at first, but after some time its defects were detected and remedied, and since then it has been easily able to keep the furnace going. The plant has worked so well that during the period it has been running it has treated considerably more than the 100 tons a day it



was designed for. Stoppages for repairs have been necessitated from time to time, and also during the period of installing new air compressing and other machinery at the mine. Up to 14th November the smelter has treated 25,969 tons of ore, producing 2,131 tons of copper matte.

The company is now erecting another furnace with a capacity of 250 tons a day, as well as reverberatory furnaces and other adjuncts. In addition to the ore from its own mine, other ore, especially that from Trail Creek will be purchased.

While the establishment of the Nelson smelter has been so successful, bad luck has attended the one at Pilot Bay. This was started in 1894 by a strong American company which also owned the famous Blue Bell mine. After running for more than a year the works, both at mine and mill, were closed down, with no immediate prospect of their being re-opened. There is no reason that the country's reputation should suffer from the stoppage of these works. The real reason thereof is securely locked in the breasts of its proprietors, but certain facts are known and may be recounted. The smelter itself was admirably constructed with all its machinery, its concentrator, and its roasters of the latest pattern, amply capable of doing its work. The Blue Bell ore, however, is of extremely low grade, too low to work at a profit. Possibly its owners may have calculated on an increase in value as depth was gained, or a rise in the price of its products, silver and lead, neither of which has occurred. But it is patent that the mines at Ainsworth just across the lake and in the Slocan were putting out ore of high grade, which was rich enough to pay heavy freight charges to distant smelters of the United States. The freight to Pilot Bay would be infinitesimal. Had the Pilot Bay people thought fit to come to terms with the mine owners of Ainsworth and the Slocan, their smelter would have probably been running at a profit to-day, as it very likely will next year. There is of course some reason why this course was not adopted, and though conjectures as to its nature are numerous, and some probably near the mark, nothing is definitely known about it.

The third active smelter at Trail meanwhile is hard at work. Owing to a change in the character of the ore from Rosslund, which occurred as depth was gained in the mines, some little difficulty was experienced at first in getting the furnaces to work properly. But these have been overcome and the works have now a large and increasing output.

Another marked feature of 1896 has been the ready market for mining property. Not only have shares in companies been largely subscribed for by the public, but everyone who owned a prospect or a mine, or any other intermediate development, had no difficulty in finding a purchaser, provided that he was content to accept a price commensurate with the real value of the property. The first large English syndicate to enter the field was the Lillooet, Fraser River & Cariboo Gold Fields Ltd., headed by Mr. Horne-Payne. This company has made extensive purchases not only in the districts covered by its cumbrous title but in Kootenay as well. After throwing up a bond on the Cliff at Rosslund, the company acquired the City of Spokane, and then took up large groups of claims in what is called the Waterloo camp. Meanwhile the Northern Belle near Kaslo was acquired by an English syndicate, and more lately the London & British Columbia Gold Fields Ltd. has entered the market and acquired a bond over a group of claims in the Crawford

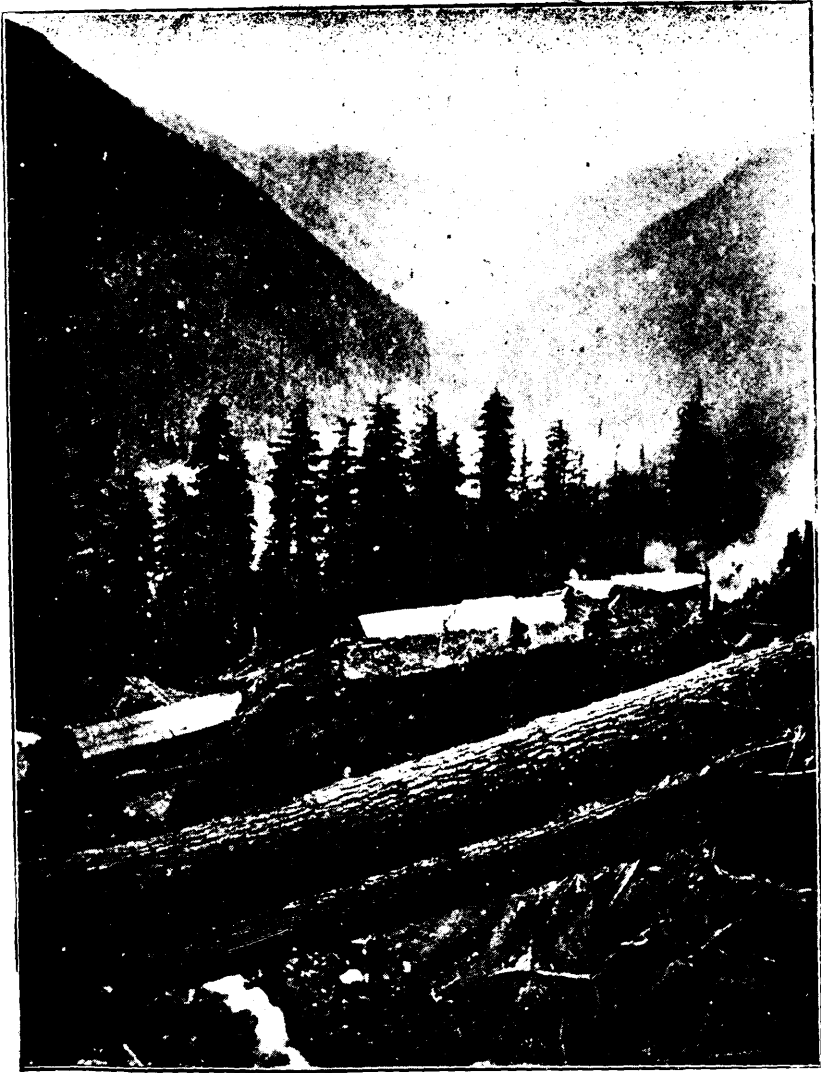
Creek district. The Vancouver & British Columbia General Exploration Co. Ltd., generally known as the "Vancouver syndicate," has acquired several Slocan properties, including the Read and Tenderfoot, two claims on the divide between Four Mile and Sandon Creeks, and the Galena Farm, another Four Mile claim. The shares of this company are of the nominal value of £1 each, of which ten shillings only is paid up, but their value on the London market at the time of writing (21 Nov.) is £8.

Negotiations have been proceeding for some months for the purchase of the War Eagle at Rosslund by an English company of which Mr. Grant Govan is the head. For some reason or other these negotiations have not as yet come to a definite conclusion, but the company has acquired other interests. Several other syndicates and companies have taken bonds on properties and Eastern Canadians have not been backward in securing some of the prizes which their own country offers to them. The Gooderham-Blackstock syndicate, of Toronto, has purchased the Crown Point mine at Rosslund for \$200,000 and made further arrangements for the purchase of the Tiger and Uncle Sam, two adjoining claims.

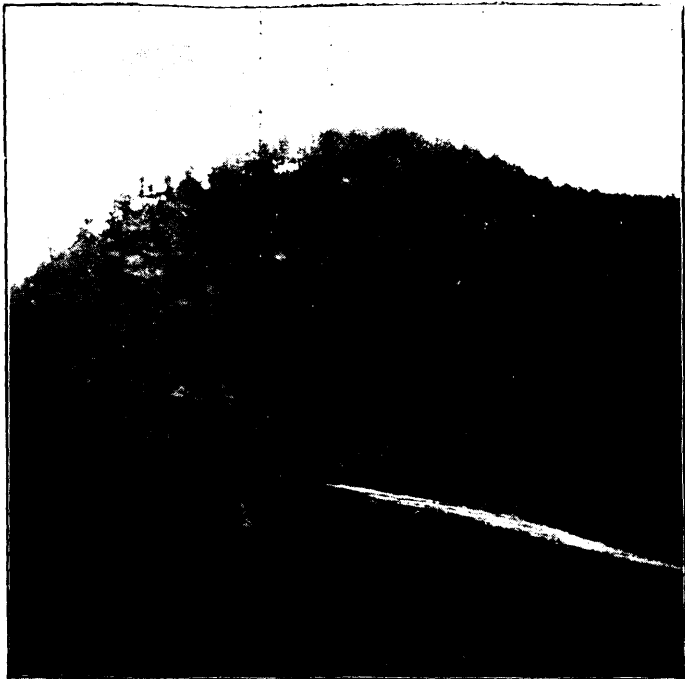
These are only some of the most important deals that have taken place, indicating the willingness of capitalists to purchase Kootenay properties. The country has been full of mining engineers and financiers of the highest reputation, sent out by capitalists to inspect the district. Most of them were on the lookout for established mines in full working order and so far Kootenay has not had many of those to offer. The class of people represented by these engineers will not buy a prospect or a small affair costing one or two hundred thousand dollars. They want big things and are willing to pay millions for them. Unfortunately many of these heralds of capital had strict orders to purchase gold properties only and much as they would have liked to make purchases in the Slocan they were unable to do so.

The War Eagle, Le Roi, Slocan Star, Alamo and Idaho have continued to hold their places in the ranks of dividend payers. Many other Slocan properties have also been pouring dollars into their owners bank accounts, but as they are private property, details are unknown. Recently, however, some of the most noticeable have become joint stock companies and, in future, their progress will be a matter for public information. Of these the Ruecau, Noble Five and Last Chance may be mentioned.

Looking back over the year, those who have pinned their faith on Kootenay have no reason to be dissatisfied. The time has indeed come when its advantages and capabilities have become known far and wide, and there has been in consequence a large influx of capital to reward the toilers for their patience. The future looks brighter still. The older and well known fields are daily attracting more and more attention, and new finds of rich mineral in various directions prove that the wealth of Kootenay is spread over an enormous area. Her rugged mountains and dense forests render prospecting a most difficult task. Only here and there, where avalanches or torrents have laid bare the naked rock, or where some bold bluff pushes its way through the covering of *débris* and bush can the prospector hope to find his search rewarded. While not half the country has been prospected at all, there are still thousands of square miles over which men pass every day, hiding their treasures beneath a deep covering. It is only reasonable to



WONDERFUL MINE, SLOCAN.  
(From photograph by Edwards Bros., Vancouver.)



THE GOLDEN CACHE.  
(From photograph by Edwards Bros., Vancouver.)

suppose that there may be mineral lying hidden in the covered portions of the country as well as in those comparatively small parts where the bed rock is exposed.

The new finds that have attracted numbers of men during 1896 are on the North Fork of the Salmon River, the south-east littoral of Slocan Lake, Crawford Creek, White Grouse Mountains and lastly Kokanee Mountain. It will be a great surprise if these camps do not, some of them, if not all, rival their elder neighbours next year.

It would be impossible to chronicle a detailed account of the progress of Kootenay within the space of this article, and only the more prominent points have been touched upon. Rossland and the Slocan have scarcely been mentioned as their stories demand separate articles.

PICK.

### *The Work of the Provincial Mineralogist.*

WHEN the Provincial Government secured the services of Wm. A. Carlyle we expressed the opinion that one of the best moves had been taken for the promotion of the mining industry in British Columbia. The high character of the man and his great knowledge from a scientific and practical standpoint of all subjects relating to minerals, as well as his varied experience in mining, invested his appointment to the office of Provincial Mineralogist with a degree of importance which it seemed to us at the time could hardly be overestimated. He had only been a few hours in Victoria when he was hard at work organizing his department, which, although yet in its infancy, is already one of the most important in the Government service.

A few of the local mining papers and some of our mining men were at first inclined to underestimate the value of Mr. Carlyle and his services. They did not know the man; but since then he has visited the mining camps, and it is safe to state that to-day there is not one connected with mining or a mining newspaper in this province who has not a good and appreciative word to say about him and his work. They found in him a practical and thoroughly experienced man, and above all an honest and straightforward official, intent only upon doing his duty without fear and without favour. His report on Trail Creek has had the effect of setting aside any doubt that may have existed as to the value of that rich camp, and his forthcoming report on the Slocan we feel sure will be equally valuable. The statements which the Government are publishing in regard to the various mining districts, carefully compiled by Mr. Carlyle from his own personal investigations, will do more to further the interests of mining in British Columbia than anything that has taken place during the past year.

May Mr. Carlyle remain long with us, for we cannot afford to lose him now that we know his worth.

### *Slocan River Valley Railway.*

THE survey for a railway route from the foot of Slocan Lake to a connection with the Columbia & Kootenay Railway, just completed, will enable construction to proceed with little delay. This valuable link in the chain connecting the C.P.R. system with the extreme southerly portion of West Kootenay and the proposed Crow's Nest Pass Railway, affording a direct outlet for the lower Slocan territory, deserves more than passing notice. When constructed, this road will be a great factor in promoting the rapid

development of the rich prospects in South Slocan and lying along the Slocan River Valley; its length from foot of Slocan Lake to its junction with the Columbia & Kootenay Railway is nearly thirty-two miles—the course of the proposed line following directly along the river valley, which is undoubtedly one of the most beautiful in the province, averaging from one and a half to two and a half miles in width. Well wooded and watered generally, the main mountain chain recedes from the river, leaving a succession of benches, flats and easy slopes. Wherever the rocky ridges abut directly on the waterway on the one side the opposite bank is flat. In its numberless twistings and doublings the stream presents so many varied aspects of wooded slope, gentle upland, sunny glade and steep declivity as to afford a perfect kaleidoscope of natural effect. When in operation this Slocan Valley Railway will be an altogether delightful means of ingress and egress to one of our most valuable mining centres.

The Slocan River has a length of about fifty miles. There is very fair fishing to be had in this stream, and some hunting, principally deer. The mean width of the stream is 250 feet; it is navigable for boats and canoes, if properly handled; there are no falls on the river; rapids and drift piles require care and skill to avoid mishap. The best time for the tourist or sight-seer to visit the Slocan Valley, and, indeed, this will apply to the entire district, is from the 15th August up to 15th November. The weather during the months of August, September and October cannot be beaten in Italy; little or no rain; bright, sunny days, and cool nights. The snowfall throughout the river valley does not exceed two feet, and it rarely comes to stay until after Christmas.

### *Deer Park.*

MINERAL was discovered in Deer Park October 15th, 1895, by Al. Hughes and the Alma claim staked by him near the mouth of Cayuse Creek. The Loon claim was staked on October 25th across the lake opposite the Park by Henry Pillken.

Early in February, 1896, Messrs. Bates Bros. & Co. staked most of the lake front from Van Houghton Creek to the Park. They then worked inland, making many good locations before it became generally known that the Park contained anything but the sleek, fleet deer for which it has long been noted. But their little secret leaked out, and in March the beautiful wild flowers were mercilessly trampled down by hundreds of anxious prospectors in their greed to stake golden claims.

The entire country was (supposed to be) staked back to snow line, and many prospectors were camping upon the edge of the snow, following it up daily, making locations upon the first mineral, or even a shadow of mineral, that showed up.

As is usually the case, much of this enthusiasm proved to be merely a mining or prospecting excitement without any real cause for it, and the stampede was soon checked. Then followed a more thorough prospecting, and many good claims were staked. But Deer Park, like all good camps, was doomed to get a black eye.

During July assays of fabulous richness were being turned out by our local assayer. All rock contained from a few dollars to a few hundreds, and even thousands. We were skeptical. We wanted to believe all we saw, but could not do it. We sent two average samples of about \$700 rock to the editor of the B.C.

MINING RECORD, asking him to give it to his best assayer and wire results. We got \$3.75 and \$3.90, respectively, and then we *knew* it was loaded—the rock. But we were a tenderfoot, and instead of giving up the ghost, kept right on prospecting, staking many claims right where the ground was all located, too, for which we are not sorry.

Development work throughout the winter camp has proved most satisfactory.

We regret that our time has been so limited that we have not had time to "look into" all the claims of the camp, but here are a few:

The "Red Blanket" on Cayuse Creek, owned by Messrs. Campbell and Boise; two foot lead in porphyry—widening fast—assays on surface, \$26.82.

Black Cloud, by same parties, assays \$10.63.

Black Bear—McDougald, Knapp and Huston—assays \$20 to \$30.

Assessment work on the Atena (No. 2) on Deer Creek, by Lyman Proctor, shows a value of \$24.70.

Assessment work on the Vega, Comet and Genoa, by Lowe & Co., shows up fine ore bodies, which are said to be highly satisfactory.

The Boston Boy, owned by Lowe and Smith, makes a showing which experts say would, if in Rossland district, be quickly taken at \$30,000 to \$40,000.

The Great Mogul, by T. J. Alexander, shows a five-foot ledge of pyrrhotite similar to the Rossland district.

All of the above claims, except the Vega and Genoa, are iron caps in granite and porphyry formations. Vega and Genoa are quartz.

Passing on to the west and crossing a small creek about two and a half miles north of Deer Park Landing, we come to the Parker Group of eight claims, in a lime formation.

While W. Parker was prospecting the Ella claim for a ledge upon which to do assessment work, he found a small point of mineralized rock that upon investigation proved most satisfactory. One shot unearthed almost solid mineral. The third shot showed a five-foot iron cap, which assayed \$9 and \$12, respectively, gold.

He is now sinking a shaft twenty feet. If an assay of \$18 is obtained at that depth, there are parties waiting to put in two other claims and cash, form a company and work upon a large scale.

Besides the ledge now being prospected upon this claim, there are two others further up the mountain, both larger.

Adjoining the Ella, on the west, is the Fourth of July, owned by William P. Robinson, of Nelson. No development work has yet been done on this claim, but it has two immense iron-capped ledges which cross the Ella. A piece of this cap broken from the surface assayed \$4.96 gold. The Lucy A., lying south of Ella, owned by Hon. J. Fred Hume, has the Ella ledge upon which Parker is sinking. These three—the Ella, Fourth of July and Lucy A.—will constitute the group for incorporation, providing the 20-foot shaft proves satisfactory.

Crossing a branch of Deer Creek, going west, we find many promising claims lying in the lime belt. C. A. Sapandowski & Co. are now moving up to begin work upon some of these claims.

William Cooney and M. McGilivray are doing assessment work on a group of eight claims to the east of the Ella, which are showing up fine ore bodies and promise to become famous in Deer Park history.

Going northward to the head of Deer Creek we find

Lynaman, Dodd & Co., with a group of eight claims, in a granite and porphyry formation. Assays from one of these, the Prince Bismarck, were \$21 and \$57 gold, silver and copper. A tunnel is now being driven upon this claim and is in thirty feet to wall rock. Five men are working—they have in a stock of provisions and will push the work during the winter.

About ten miles up the lake on the water front Sapandowski & Co. have driven a tunnel thirty-five feet on the White Iron claim to tap a galena cropping in porphyry and granite. They expect to tap a fifty-foot ledge soon. Across the lake from the park many promising claims are located but little or no work done except on the Monarch, near the natural bridge, owned by Wm. Burgh. Mr. Burgh has sunk a nine-foot shaft; has a nine-foot ledge—assay \$12.

The Loon has a tunnel twenty-five feet and is said to assay \$12 to \$15 gold, silver and copper.

A mountain of clay, owned by W. Parker, is perhaps one of the most valuable finds. Here we find a grade of clay for ordinary brick and for a fine pressed brick, pipe and terra cotta work. In one strata we find a natural sapolio and in another as fine silver polish as one could ask for. We expect to see this develop into a fire clay.

We neglected to mention the Wild Horse claim in the park about one mile from the landing, owned by Jack Bates. This is the pioneer. Mr. Bates worked this during the spring and summer, and has a tunnel in 130 feet. Unfortunately this claim is in litigation, works with closed doors and closed mouths, and no information is obtainable, though it is supposed to be very rich.

Nature has specially favoured us. We can reach all parts of our great mineral country by easy, natural grades. Trails and waggon roads can be built at very low cost. One man can make a trail in a day to almost any claim, not to exceed three miles, that he may take a horse over with ease; in fact we have deer trails to almost any place we wish to go.

Our climate is mild. We are now living in a tent 1,800 feet above lake level and are quite comfortable. We do not get severe cold or violent storms in winter nor extreme heat in summer. Neither do we get the festive mosquito. Wild flowers come to greet us in March. Our park becomes a beautiful green sward and flower garden in April. Our clear, rippling streams are full of speckled beauties, while our beautiful Lower Arrow Lake supplies us with many varieties of large and small fish. We have plenty of venison at all times. In fact we have an ideal camp, in all respects, which we expect to see rival all her sister camps in a short time. We are 20 miles north of Robson on the left bank of Lower Arrow Lake. W. P.

#### *Albani and Vicinity.*

SEVERAL accounts have been published of the placer mines of China Creek. For fourteen miles from the mouth of the river the land is all held by hydraulic leases. It was only this summer that actual steps were taken to mine the ground in a systematic manner. For the last twenty years Chinamen have worked in different parts of the river. That a large amount of gold must have been taken out is evident where the Chinese have worked so persistently for such a number of years, with the crude appliances at their command, and we presume made money, or they would not have kept at it. There should be a good prospect for handsome returns when the ground can

be worked by hydraulic machinery with all the latest improvements.

Such a plant is now in existence in China Creek. During last summer a complete hydraulic plant has been erected in the Duke of York mine under the able supervision of Mr. M. W. Leveridge, of California. The work was commenced in February and completed the end of July. Unfortunately, just as the company commenced operations, a disastrous forest fire swept through the country, destroying several of the company's buildings, a large amount of lumber, and came within an ace of clearing off not only the camps but all the people employed. By the time the work was again put on its former footing the water, owing to the exceptionally dry summer, was too low to commence piping.

A very solid dam has been completed this fall which has successfully withstood the big flood that prevailed the beginning of November.

A flume with a capacity of six thousand inches conveys the water from the dam to the mine, a distance of a mile and a quarter. This is a good bit of engineering work. To carry the grade required necessitated trestling, in some places sixty feet in height, in one particular place the flume is suspended by chains on a perpendicular bluff.

Sufficient water can be obtained to work four seven-inch machines, two of which are on the ground.

The company also possess a very complete derrick for removing stumps and rocks as the work progresses. It is operated by water power with only one man in charge. The boom is adjustable to a maximum length of ninety feet; anything can be moved up to six tons in weight, 180 feet in three minutes. Everything is now in readiness to commence operations as soon as the weather permits.

Considerable development work has been done on other placer claims, which from all accounts is very satisfactory. Another summer will probably see some of them working.

Good as the placer claims may be, the quartz mining, however, will prove the important factor to build up this country.

Extensive work is being done on the McLaughlin Mountain, known as Mineral Hill, where the celebrated Alberni Consolidated is located. This company at their own expense have built a good road from their mine to the Duke of York hydraulic mine, a distance of five miles from the Duke of York to Alberni. Ten miles further the road is simply deplorable. Until the Government build the section of road surveyed last summer to the new townsite, which is only six miles from the Duke of York to the new wharf and a splendid grade, there is no chance of shipping ore or working to advantage.

The Alberni Consolidated have a small stamp mill in position, and will commence working immediately. Should the returns of this mine bear out the value of the many tests made, the Alberni Consolidated will cause a sensation in the mining world.

The Mountain Rose claim, owned by a Vancouver company, are driving a tunnel to strike their ledge, which they expect to do shortly. The tunnel is now in over a hundred feet.

Mr. Saunders' claim, the Ace of Spades, is also being developed, with very good success. Samples of this ledge give handsome returns.

The Quadra Company, under the supervision of Mr. G. Brown, are about to open up their property,

numerous assay returns from which are most encouraging.

The Minnesota group, belonging to G. A. Kirk, Esq., and others, are doing a lot of work. This property, composed of six claims, was acquired last spring. On the Minnesota and Neptune a big blow-out of granular quartz appears, measuring over thirty feet from the base to the top, and twenty-eight feet in diameter, traceable in a direct course north and west for a great distance. A tunnel has been run in through the country rock for thirty-five feet, which exposed an enormous mineral showing, the extent of which has not yet been defined.

On the recommendation of Mr. Pellew Harvey (who thinks very highly of this property), a tunnel is now being driven a distance of 172 feet, that will cross-cut the ledge at a depth of 135 feet. This work the company expects to have completed by Christmas.

Running parallel with Mineral Hill is Douglas Mountain, separated from Mineral Hill by China Creek; here is the scene of the latest finds, the Regina being the first mine to cause attention. This claim was staked during the last summer by Mr. Hovalaque and others.

The showing from this claim is very fine, the character of the lead entirely different from anything found on Mineral Hill. The proposition is a smelting one. The value of the ore is high enough to ship, and the extent of the lead enormous. The fortunate owners are working away with a will; every week's work showing an improvement in the quality of the ore. Extensions of the Regina have been opened up with great success. Next summer, Douglas Mountain will be the scene of great activity.

I have not attempted to describe the work going on in various parts of Alberni, in Barclay Sound, the Santa Valley, Copper Island and lots of places on the Alberni Canal. That an immense mineral belt extends right through Vancouver Island is undoubted; that immense ore bodies exist all along the coast can be seen; that all the rivers and streams flowing on the West Coast carry gold is a well known fact. The quantity and quality of quartz is simply amazing. I can vouch for the fact that samples of ore and quartz from this section of the country can be produced that will compare favourably with anything that has been found in British Columbia. The value of the returns of these prospects, when they become known, cannot fail to attract attention, the results of which—who can estimate?

F. T. CHILD.

### Boundary Creek.

THE people of Boundary Creek have little reason not to feel eminently satisfied with the progress that has been made in the development of the rich mineral resources of the district during the year that is passing. Taking into due consideration the disadvantages under which the camp labours, the lack of transportation facilities, the long and tiresome journey by stage from Marcus or Penticton—the terminal points of respectively the Spokane & Northern Railway and the C.P.R.—and the very magnitude of the mineral deposits, requiring capital in large amounts even to thoroughly prospect, all militating against the chances to obtain recognition by investors, the wonder of it is that so many men of means and business ability have been content to sink their money in prospects from which no returns may certainly be expected for some time to come.

Since January last between one thousand and

fifteen hundred new claims have been located in the district. While of course many, I may say the majority, of these will ultimately prove utterly worthless, some finds, notably on Pass Creek, give excellent promise of becoming great mines. The Pass Creek camp was unexplored territory twelve months ago, and was in fact discovered only last spring. The characteristic surface indications in this locality of mineral are immense cappings of magnetic iron, under which at a depth of perhaps three to four feet bodies of auriferous pyrrhotite and chalcopyrite ores are found. In the case of the Rambler, now being worked by a Spokane syndicate, copper predominates, and specimens it is said, have been procured that assayed as high as seventy-five per cent. in this metal. Pass Creek lies about fourteen miles from Greenwood city, in a north-easterly direction.

Kimberley Camp, situated seven miles from Greenwood, up-stream on Boundary Creek, is another new field, and here, within recent months, some fifty claims have been located. The assays of the ores, however, have as yet given no very extraordinary results—about \$10 from surface rock being rather better than the average—but there are strong grounds to believe, judging from the little that has already been done, that some of the properties will prove more valuable when the oxidized capping has been penetrated.

On Kettle River Creek, some wonderfully promising prospects were located this summer. The Crown Point, situated some fourteen miles above Rock Creek, and the Carmie, nearly forty miles beyond, up the West Fork, are among the best "strikes" of the year. The ledge of the Crown Point was cross cut in several places, and, to all appearances, is fully fifty feet wide, the ore assaying as high as 700 ounces in silver and 68 per cent. lead. The ledge of the Carmie is about five feet wide, lying between feldsite and syenite. The ore is iron and copper pyrites, zinc blende and galena, with a quartz gangue. The assays from well averaged samples returned \$52 in gold and 23 ounces in silver.

Of the older and better known properties in Boundary, few remain that have not been either sold or bonded within the past year. The Gold Drop, the Old Ironsides and the Knob Hill in Greenwood Camp were recently purchased by Eastern syndicates. The Mother Lode, in Deadwood Camp, and the No. 7 in White's Camp, are now being worked under bond by the Boundary Mines Company. The City of Paris and the Lincoln in White's Camp were both recently bonded by an English capitalist. The Denaro Grande and the Jewel, in Long Lake Camp, were bonded within the last few weeks by Mr. Leslie Hill for the Prospector's Syndicate of Vancouver.

The Gold Drop was bonded last winter by the British Columbia & Montreal Promoting and Prospecting Company, who ran a tunnel into the ledge a distance of 120 feet, the entire length being in ore. The vein is well mineralized with iron and copper pyrites and assays fairly well in gold. Besides, the claim was thoroughly prospected by means of a diamond drill to a depth of two hundred feet. The fact that the company took up the bond after working on the property for several months is proof enough of the claim's value.

The company owning the old Ironsides are now developing the property by sinking a 100-foot double compartment shaft. The old Ironsides and Knob Hill are on the same lead which is proved to be, by surface crosscuts, from sixty to seventy feet wide. The ore

runs from three to ten per cent. in copper and averages about \$5 in gold.

Some two months ago a tunnel was started from the vein contact on the mother lode. After being driven thirty feet the ore body was struck. At the present time the tunnel is through solid ore for sixty feet and the manager of the company tells me that according to his computation the ledge will be two hundred feet wide. As the work has proceeded the quality of the ore has gradually improved becoming more silicious. There can be no question but that the bond, which expires next month, will be taken up. Equally as satisfactory is the result of development on the No 7. On this claim a shaft has been sunk to a depth of 140 feet and drifts run along the ledge at this level. The ore is high grade silver and gold.

Other properties that are being worked are the Skylark, purchased this spring by Mr. Renger, general manager of the Lexington Mining Company of Butte, Montana, the R. Bell, in Summit Camp, and the Stenwinder in Greenwood Camp, owned by Messrs. Farrell & Midgeon, of the well-known copper-smelting firm. The Skylark was the first mine in Boundary Creek to ship ore, and notwithstanding the enormous expense of transportation at that time by pack train the owners actually made a fair profit. The R. Bell is a silver and copper proposition and is rich in both metals. The copper is in the form of almost solid pyrites and assays over twenty per cent.

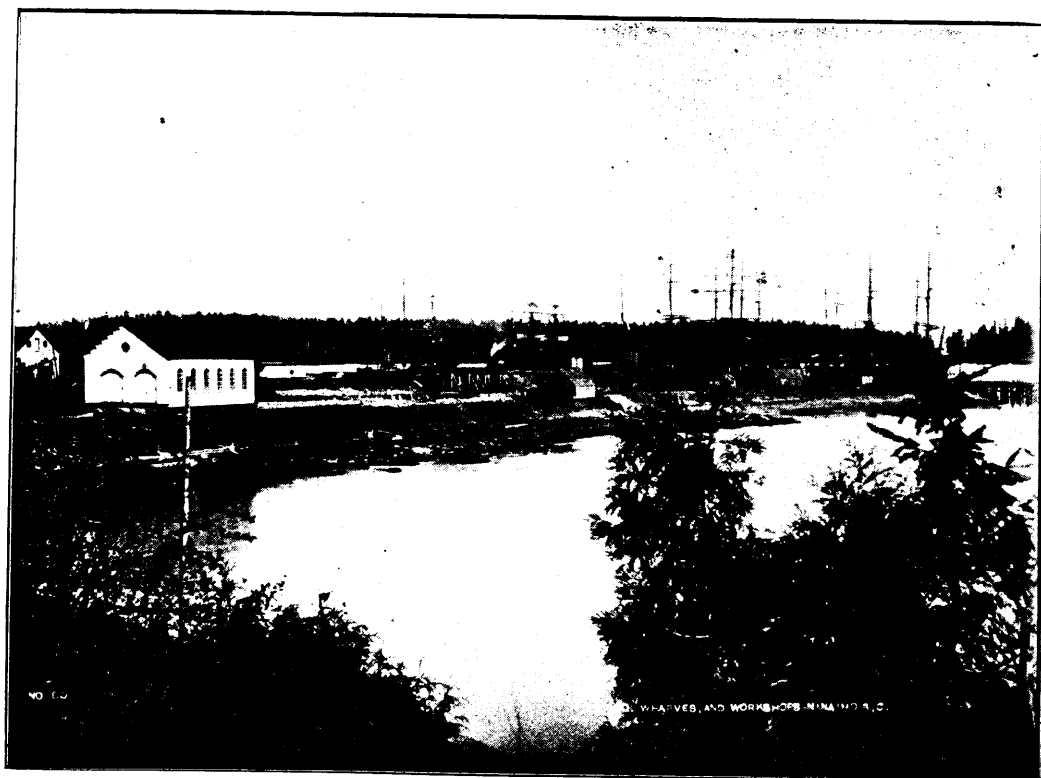
In conclusion, there is no better evidence of the confidence experienced by every resident on Boundary Creek in the future of the district than is shown by the rapid, albeit, substantial growth of the towns. Nine months ago Greenwood "City" could but boast of two log cabins, one of which was used as a general store; to-day the town has a population of 300 people, and buildings that would not be discreditable to an old established city. Anaconda, the rival townsite, and Midway, as charming a spot as one could desire, are both becoming important centres. Two newspapers are published in the district, *The Advance* at Midway—a very creditable publication—and the *Boundary Creek Times* at Greenwood. It is quite within the bounds of probability that within another year Boundary Creek will be disputing with Rossland the title of being styled the greatest copper-gold producing camp of British Columbia.

H. MORTIMER LAMB.

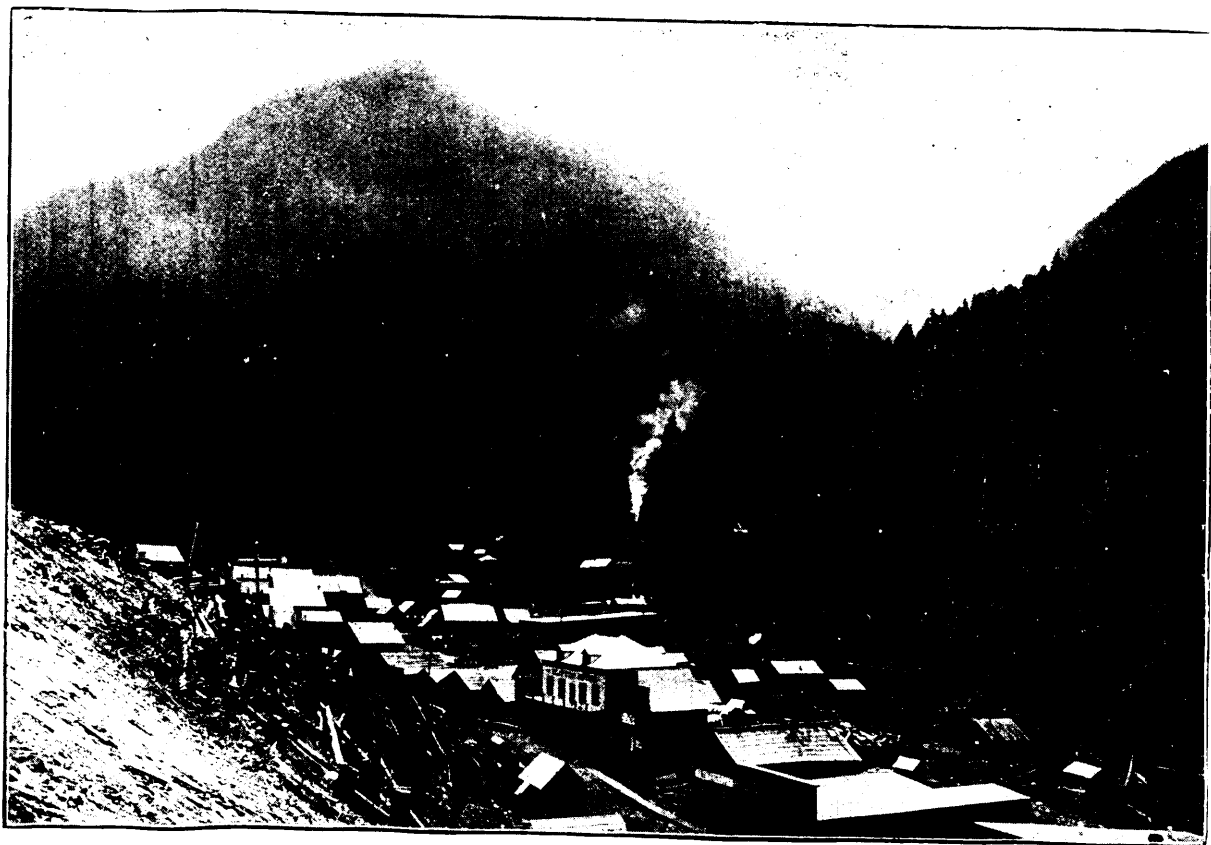
### *Big Bend.*

JORDON RIVER mining camp is of recent discovery, and is situated twelve miles in a north-westerly direction from Revelstoke. It is on the Gold Range side of the Columbia River. The ledges are strong and well defined and heavily capped with iron carrying gold, silver, lead and copper. The formation is granite, shists, slates and limestone. The principal development work done so far has been done on the Wild Goose ledge, and the showing of mineral is most satisfactory to the owners. A good trail is urgently needed to give claim holders an opportunity to get in supplies at a reasonable cost. This section will no doubt receive a thorough prospecting next year. The whole region appears to be thoroughly mineralized and full of parallel ledges. Frisly and Rightly are the discoverers of the camp and are the owners of many claims.

The Big Bend mineral region is beyond question the richest and most extensive auriferous district in the



NANAIMO COAL DOCKS.  
The Great Coal Centre of Vancouver Island.



SANDON, B.C.  
(From photograph by Edwards Bros., Vancouver.)



now famous West Kootenay district. Its auriferous gravels have already turned out large quantities of gold and, under efficient hydraulic working, when cheaper communication is secured the output will reach into the millions.

Mining men of known ability and ripe practical experience who have tested the gravels and given them the most careful examination are unanimous in voicing their appreciation of its wondrous wealth. But mining operations are destined to take a wider range in the immediate future. Quartz prospecting has shown beyond question the presence of enormous ore deposits over a large area of country, extending between fifty and sixty miles in length by fifteen miles wide. There are practically two mineral belts traversing the Big Bend district from south-east to north-west, the most westerly one being auriferous in its character. The easterly one is practically a continuation of the argentiferous ledges that traverse the Lardeau, Fish Creek and Illecillewaet mining divisions. Goldstream and its tributaries will soon become the scene of extensive hydraulic operations; Chicago, Kansas City and St. Louis capitalists having secured a large number of promising locations, are preparing for extensive development. The quartz ledges in the immediate vicinity are being secured by syndicates with ample means, and a mining camp will no doubt be created that will help to swell to large amounts the gold output of the district.

The Waverly, Tangem and Montague group of claims are located near the Summit, or watershed, between the North Fork of the Illecillewaet and Donnie Creek. There are seventeen claims in this group. The ore occurs in calcite or stratified limestone, a formation characteristic of the Kootenay zone or silver belt of the Selkirk range. The average returns from seven samples of ore taken from this group gave a return of 264 ounces of silver per ton, with a high percentage of copper and lead, besides carrying gold in appreciable quantities. The width of the ore deposit or veinstone, as determined by a crosscut in the north opening on the Waverly claims, is approximately 40 feet. There are 6 feet on the hanging wall of clean shipping ore, then occurs another 6 feet of ochre or oxidized gangue that, with concentration, would make it valuable for shipping. The centre of the crosscut exposes concentrating quartz, and last, but not least, 3 feet of high grade ore is deposited on the foot wall. The Waverly, for the amount of work done, has few rivals even in the far-famed West Kootenay district. It is safe to say that the aforesaid group of claims will take high rank among dividend-paying properties.

Keystone Mountain is noted for ledges of great width, some of them being heavily capped with iron. The ore occurs chiefly between contacts of massive limestone and metamorphic slates. The character of the ore is arsenical iron, sulphids and wavy galena. Twenty-three locations have been made on this mountain, but the amount of development has not been large owing chiefly to the recent discovery of the camp. Claimholders are enthusiastic and predict a large output of ore in the immediate future. The camp is in close proximity to the Columbia River.

Carnes Creek mineral claims are showing up considerable ore as development proceeds. The ore and formation is of a similar character to Keystone Mountain and the day is not far distant when Carnes Creek will make a reputation for itself.

Last but not least we will refer to the Illecillewaet mining camp which is practically a portion of

the Big Bend district. Illecillewaet has many promising claims, among others the Maple Leaf, Red Fox, Jumbo, Dunegan, Sanquair and Roundhill claims. The character of the ore is argentiferous galena occurring in a stratified limestone formation. The Lanark Mining Company are erecting a concentrator on the railway track which is to be connected with the mine by an aerial tramway. The completion of the tramway and concentrator will swing this property into the front rank of Kootenay's best ore producers. Many other properties will become ore producers on a large scale. The development of the magnificent mineral resources of this vast region has been handicapped by exorbitant freight charges, packing in supplies by pack animals is a primitive method of opening up a mining camp, and is necessarily expensive. But evidence is not lacking indicating a growing appreciation of the capabilities of the district coupled by a desire to introduce a cheaper method of transportation, and we have no doubt that the incoming year will overcome the drawbacks and obstacles that so far have retarded the development of its great natural resources.

OBSERVER.

#### *Notes on the Big Bend.*

THE following are a few notes on the Ground Hog Basin in the Big Bend of the Columbia, taken during my stay there this last summer in the interests of the Big Bend Mining & Development Syndicate, all the members of which, except Mr. J. W. Haskins, of Revelstoke, are residents of Vancouver. I also send some photographs of this beautiful country taken by myself.

The Vancouver syndicate's property lies in and around the Basin at the head waters of McCulloch Creek, which is reached by trail from Revelstoke, a distance of about seventy miles, the principal stopping places on the route being Carne's Creek, twenty-eight miles from Revelstoke; Boyd's Ranch, thirteen miles from Carne's Creek; Downey Creek, six miles from Boyd's; Laforme's Ranch, at Goldstream, about nineteen miles from Downey, and from Goldstream to the claims about five miles.

When following the trail up McCulloch Creek, and within one mile of the claims, the valley, which forms the Basin, commences to extend on either side of the creek, spreading out for a considerable distance, with grassy knolls rising gradually up to the summit of the hills which surround the basin, until an elevation of 7,000 feet above sea level is reached, the scenery from which is magnificent.

Water appears to be plentiful, and I should judge there would always be sufficient for all ordinary milling purposes, as there are innumerable small streams running on the country formation, all uniting to form McCulloch Creek.

Timber is fairly abundant for mining purposes, and sufficient for all present needs for fuel and the necessary log cabins, and consists of black and white spruce. There is no cedar at this altitude, about 6,000 feet above sea level. The country through which McCulloch, French and Camp Creeks run, though mountainous, is surrounded by still more enormous peaks.

The formation of the Basin, and the French Creek side of the summit is micaceous slate, which runs east and west, with a slight inclination to the east. It is worthy of note that it is in place, and not tilted on end as many persons have asserted, but, I presume,



they have never been there, and, therefore, these statements were made in ignorance. The quartz veins cut the country formation at right angles, running north and south, and dip slightly to the west. This applies to all the claims as far as the assessment work shows, though, I believe, the course of the Orphan Boy lead is northwest and southeast, and is proving of great width as depth is attained, bearing out Mr. Haskin's contention that some very large leads run in that direction, and he knows the country well, and has studied it in a very practical manner, incorporating the Orphan Boy as a result of his energy and labour.

The work done on the Vancouver property shows some good continuous leads, from one foot to three feet wide of free milling quartz; in several claims free gold being visible in the wall, as well as in the quartz. The assays, from careful sampling of various claims, run thus: \$200.25, \$180.40, \$20.64, \$28.40, \$94.00, \$76.00, etc., in gold; there is also a fair percentage of silver, for which no test was made.

The present appearances indicate next spring the commencement of steady development, and the consequent expenditure of a large amount of capital, in two cases, I believe, by representatives of London, or English financiers; and the Vancouver syndicate will incorporate some of the property early in the spring. Before the Big Bend, however, can attract the attention it deserves, it will be necessary to facilitate transportation by removing many boulders from the bed of the Columbia River, in order to make that stream navigable for steamers even as far as Daporte, and though I understand a certain appropriation has been made for this purpose by the Dominion Government, the sum mentioned, I learned from reliable sources, is totally inadequate. This question is of vast importance to all interested in this section, and means much in the way of trade to the town of Revelstoke, and some united action should be taken to induce our Local Government to co-operate with the Dominion in this good work, as the country benefitted will be large, there being over forty locations in the Ground Hog Basin, besides those at Keystone Mountain, Carne's Creek, and other places. The present mode for getting in supplies and machinery is by pack-train and boat, towed along the bank and poled up stream by men.

When this disadvantage is overcome there is every reason to believe that the Big Bend of the Columbia will become one of the richest mining sections of British Columbia. The quartz in the Ground Hog Basin being free milling, it is readily seen that the expense attendant on the treatment of smelting ores does not apply to this district. J. H. HOARE.

#### *Mining Notes.*

**A** CONTRACT has been awarded by the Athabasca Gold Mining Company for 150 feet of tunnelling, to be commenced at once on their property.

An error occurred in our mention of the Two Friends mine in the November issue. We made it appear that the ore was rawhided to the railway track. As the mine is situated several miles from any railway this was manifestly a slip in writing the description. We also desire to state that the dispute which has been going on between the original owners of the property is simply one between themselves and in no way affects the company's title to the property.

#### *List of Mines.*

**I**N our last Christmas number we gave a list of mines in British Columbia. It occupied one column of THE RECORD and was a fairly complete list. To give a full list of the mines to-day would occupy the whole of this Special Number. Interesting and useful as such a list would be, we cannot see our way to give it to the exclusion of everything else. But next month we will publish a Directory of Mines which will contain not only a list of names and localities but also a description of each mine. It will be a most useful guide for investors and others interested in the mines of this province.

#### *The Two Friends Company.*

**I**N our last issue we gave a short description of this company and their property. In our advertising columns will be found their prospectus. The Two Friends may be regarded as the pioneer company on the lines which we have all along been so desirous of seeing. With a splendid property and one which bids fair to pay heavy dividends, the company is formed chiefly by British Columbians and has a moderate capital. The result will be that the shareholders will get the full benefit and the money will not go into promoters' pockets. Thus the good work has commenced and the instances we are able to record in this issue of British Columbia mining companies cannot fail to induce others to follow. British Columbia should develop her own mines as much as possible and thus get the full benefit of them. We are not against large capitalization when it is fully warranted, but we are against outsiders stocking our mines merely for watering purposes only. The Two Friends is one of the best propositions placed before investors in this province.

#### *Athabasca Gold Mining Company.*

**I**N this issue will be found the prospectus of the Athabasca Gold Mining Company. It has every appearance of being a straightforward document, and includes a full statement relating to the company's property over the signature of a well-known professional man, Mr. Albert J. Hill. From what we have been able to learn, we believe that this company possesses a fine property, and that it will, if judiciously and carefully managed, prove to be a highly profitable investment. The directors are British Columbians of good standing, and this should be a guarantee that the affairs of the company will be well looked after.

#### *The Silver Band Mining Company.*

**W**E point with pleasure to the Silver Band Mining Company as one which has been formed on a business-like straightforward basis. The capitalization is moderate (\$250,000) and the shares are sold at par value, only 25 cents, thus settling the question of liability of shareholders, as no further calls can be made on them. The directors are all British Columbians and prominent residents of Victoria. The property is well situated in the Slocan district, with waggon roads and trails right to the mine. The title to the latter is clear. Considerable development work has been done and samples of ore have assayed from 808 to 826 ounces

of silver to the ton. Mr. W. J. R. Cowell reports most satisfactory assays and gives as his opinion that the ore will increase in value with depth. Altogether this proposition appears to be one of the best placed on the market and is the forerunner, we hope, of other mining companies formed by British Columbians on business-like straightforward principles. In connection with the property we publish the following latest news received by the directors from the manager at the mine, dated 10th and 13th instants, in which he says the trail is now in good shape right up to the mine. All the buildings were completed and afford ample conveniences both for the men and the work of the mine. The tunnel was started at the lower end of the claim, at a spot where by going in on a slant it could be carried straight up the lead, and the slope of the ground will give depth as the work proceeds.

If the ore from the tunnel is as valuable as the assays from the cuts at surface would lead us to expect, the Silver Band will be a great property.

Tools, provisions and general supplies sufficient for some six or eight months have been taken up the trail and the men are fully equipped for the winter's work.

#### *The Dominion Developing and Mining Co., Ltd., Ly.*

THE Dominion Developing and Mining Company, Limited Liability, head office Vancouver, B. C.

Elsewhere in these columns will be found statements showing profit and loss account and assets of liabilities of the company. The publication of such statements is a step in the right direction, and one which we have often advocated in these columns. The representative of the RECORD was by the courtesy of the directors of the company permitted to examine the books, and can verify the balances shown in the statements. The company is in good hands, the directors being men of integrity and responsibility who have the interests of their shareholders at heart and intend guarding those interests at any cost. In order to further strengthen their position, it is the intention of the directors to make application to the Legislature for permission to reduce their authorized capital from 500,000 shares of a par value of \$1 each to 90,000 shares of a par value of 25 cents each, thus making their shares beyond any dispute fully paid, and settling the minds of those shareholders who, looking at the large authorized capital of 500,000 shares, have an idea that the directorate might make other investments which might imperil their one valuable asset, that of one-quarter interest in the Golden Cache Mines Company (a company that has often received favourable comment in these columns). Pursuing such a course, the Dominion Developing and Mining Company bids fair to be one of the most successful concerns ever formed in British Columbia.

In the statement of assets and liabilities it will be noticed that the directors have only valued their interest in the Golden Cache Mines Company at par, whereas the shares of that company are selling in the neighbourhood of \$2 each.

#### *The Queen Gold and Silver Mining Co., Ltd., Ly.*

HEAD Office, Vancouver, B.C. Bankers, Imperial Bank of Canada, Vancouver, B.C.

This property consists of two mineral claims, and is admirably situated, being within  $2\frac{1}{2}$  miles of Yale,

through which the main line of the C.P.R. passes, and the same distance from the steamboat landing at the head of navigation on the Fraser River, affording every convenient opportunity for the cheap delivery of mining material.

Over 2,000 feet of tunnelling has been driven, intersecting three true fissure veins. The management have ordered the necessary rails for the tunnel, and it is expected that a large shipment of ore will be made to the smelter at an early date.

The stock is firmly held and only sufficient will be placed on the market to supply the mine with the necessary machinery. The company is in good hands and is being managed in the best manner consistent with economic working.

#### *Notes.*

THE Montreal Rolling Mills Company, whose advertisement appears in another column, are the largest manufacturers of Paul's Wrought Iron Pipe, etc., etc., in the Dominion. Their extensive works, situated on the Lachine Canal, are of the latest and most approved methods, affording ample facilities for carrying on such a large establishment in its various branches, being incorporated since 1868, they are, from long experience and successful operation, able to undertake all orders entrusted to them, and execute them to the best advantage.

In our notes last month through a printers' error it was stated that Mr. Geo. W. Pennington resided at one time in Staffield. It should have read "Sheffield," which is one of the greatest of England's iron and steel manufacturing centres.

Among the industries started in Vancouver this year that deserve special mention is the Vancouver Biscuit Company, Limited, whose factory and offices are situated on Columbia Avenue, opposite Oppenheimer Bros. Notwithstanding the fact that this enterprise was started and for the first three months operated under the most unfavorable conditions, the present management have succeeded by strict attention to business in placing it in a position that insures success. They have one of the largest and best equipped plants north of San Francisco, and as nothing but the best materials that can be procured are used, this, combined with skilled labour, enables them to turn out a line of goods equal to any on the market, foreign or domestic.

#### *Gasoline and Oil Engines.*

THE gasoline engine for mining purposes was first successfully built by the Union Gas Engine Co., of San Francisco, and it has gone through all the stages of development customary with patented machinery, until the modern "Union" engine has reached a point of simplicity, efficiency, durability and economy not dreamed of a few years ago, and an examination of that company's recent product discloses a very high class of engineering ability. About 2,000 engines have been built under the patents of the Union Gas Engine Co., ranging in size from 1 to 150 H. P. in actual use, for all kinds of service.

Amongst the advantages possessed by this type of power is the fact that there is no boiler, fire, heat or

ashes to contend with, and the plant is started up only when required for work. It is started and stopped in a moment, and when doing no work there is no expense, and while at work the expense is only in proportion to the power exerted, as the "Union" gas engine is fitted with a very sensitive governor, which accurately regulates the supply of oil in proportion to the power required.

The illustration to be seen in the advertisement of the Union Gas Engine Co. in this issue represents one of the latest type of combined hoists built by this company. It is strong and compact, and intended especially for mining use in districts where wood and water are scarce. It is pretty hard to beat one of these outfits for prospecting and developing mining properties. The illustration is taken from a 10 H. P. hoist, which has a drum capacity for 600 feet of rope, and will easily raise one ton 125 feet per minute.

The address of the Union Gas Engine Co. is 315 Howard Street, San Francisco.

### The Press of British Columbia.

#### THE VICTORIA TIMES

in each issue of its daily and weekly editions gives a very full report of mining operations in the various camps in the province. In fact it makes a specialty of this kind of news, and is therefore a most valuable paper for investors and others to obtain.

#### THE VANCOUVER WORLD

not only gives a full report in each issue of mining news, but it also contains from time to time most valuable articles on mining matters. Mining men in the province, or out of it, would do well to subscribe to the *World*.

#### THE COLUMBIAN,

New Westminster, is one of the oldest established journals in B. C., having been running in old Cariboo's golden days. Its first editor and proprietor was the late Hon. John Robson, Premier of the province at the time of his death. The publishers and proprietors, Messrs. Kennedy Bros., themselves "grew up with the country," so to speak. There are two editions of the paper, the daily and weekly, and both, perhaps, are too well known to require their merits being expatiated on here. It is worthy of note that the publishers have within the last year cut the price of the weekly down one-half, making the subscription \$1 per year, the cheapest big weekly in the province.

#### THE NANAIMO FREE PRESS,

the only daily paper published on Vancouver Island, outside of Victoria, may be said to be the representative journal of the coal and gold mines of that district. Almost each issue contains something of interest to mining men, and as Vancouver Island is bound to be most important as a gold mining region, parties interested will find the *Nanaimo Free Press* of great service to them.

#### THE ROSSLANDER,

formerly the *Prospector*, is fast coming to the front among the newspapers of Trail Mining District. It has aimed to be Conservative touching all matters connected with the mines of this remarkably rich mineral district, avoiding anything in the way of boom articles, yet covering the whole field of both mining and general topics. Its steady growth of circulation and its favour with the public show that the middle course taken by it is being appreciated both at home and abroad. The *Rosslander* aims at keeping clear of the influence of cliques and corporations who

have to a larger extent than most people are aware influenced what has appeared in public print.

#### THE B.C. MINING JOURNAL,

of Ashcroft, is the representative newspaper of Cariboo and the upper country generally and each issue contains most interesting and valuable articles on the progress being made in those districts. No mining man interested in hydraulic mining, dredging, &c., in the upper country or those seeking reliable information about Cariboo should be without the *Journal*.

#### THE KOOTENAIAN

is one of the best conducted and spiciest papers published in the province. It is brimful each week of news from the great Slovan district and what you cannot find in it about silver mining in British Columbia is not worth knowing. Moreover it is a reliable paper.

Other mining journals published in British Columbia will be noted in our January issue.

### Foreign Coal Shipments.

Following is the list of foreign coal shipments for the month of November, 1896:

#### NEW V.C. CO. SHIPPING.

Date.	Name and Destination.	Tons.
1—	Steamer Holyoke, Port Townsend.....	26
3—	Bark Carrolton, San Francisco.....	2,318
4—	Steamer Wanderer, Port Townsend.....	38
4—	Steamship Signal, Juneau, Alaska.....	660
7—	Steamship Peter Jebsen, San Diego.....	4,716
9—	Steamer Edith, Tacoma.....	9
9—	Steamer Willapa, Port Townsend.....	60
14—	Steamship Aztec, Acapulco.....	4,003
14—	Steamer Willapa, Juneau.....	21
22—	Steamer Edith, Tacoma.....	8
22—	Steamer Wanderer, Port Townsend.....	42
23—	Steamer Sea Lion, Port Townsend.....	32
24—	Steamer Willapa, Port Townsend.....	63
25—	Steamer Angeles, Port Townsend.....	56
23—	Steamship Peter Jebsen, Port Los Angeles.....	4,669
28—	Steamer Willapa, Juneau.....	29
28—	Bark Big Bonanza, San Francisco.....	2,222
30—	Steamer Pioneer, Port Townsend.....	33
30—	Steamer Tacoma, Port Townsend.....	27
Total.....		19,032

#### WELLINGTON SHIPPING.

1—	Ship Grenada, San Francisco.....	3,670
2—	Steamship City of Topeka, Sitka.....	170
3—	Steamship Excelsior, Karluk.....	280
5—	Bark Cheney, Honolulu.....	2,050
6—	Ship J. C. Potter, San Francisco.....	1,950
9—	Steamship Costa Rica, San Francisco.....	2,540
11—	Steamship Wellington, San Francisco.....	2,500
13—	Steamship Al-Ki, Mary Island.....	600
13—	Steamship City of Topeka, Victoria.....	350
16—	Steamship Astoria, Port Angeles.....	27
18—	Steamship City of Everett, San Francisco.....	3,600
19—	Steamship Willamette, Juneau.....	2,200
24—	Steamship Costa Rica, San Francisco.....	2,450
26—	Steamship Al-Ki, Port Townsend.....	875
27—	Steamship Wellington, San Francisco.....	2,600
28—	Bark Gatherer, San Francisco.....	2,200
29—	Steamship Tyee, Port Townsend.....	6
Total.....		29,068

#### UNION SHIPPING.

9—	Steamer Tyr, Tacoma.....	300
Total.....		300

#### RECAPITULATION.

	Aug.	Sept.	Oct.	Nov.
New V.C. Co.....	18,384	14,206	17,310	19,032
Wellington.....	8,710	24,850	17,552	28,068
Union.....	6,198	9,565	11,534	500
Total.....				
33,292      48,621      46,396      47,400				



SCENE ON THE COLUMBIA & WESTERN RAILWAY, BETWEEN TRAIL AND ROSSLAND.



STREET SCENE, ROSSLAND.

**Omineca Consolidated.**

THE shareholders of the Omineca Consolidated Hydraulic Company, Limited, capitalized \$100,000, met the other day, the president of which is Mr. William Munsie, and the secretary, Mr. J. F. Bethune. The other directors of the company are Dr. G. L. Milne, Messrs. Thomas B. Hall, J. W. Ladd, R. T. Williams, J. W. Moore and Capt. C. E. Clarke.

When Mr. T. B. Hall took the chair there were about forty shareholders present, and Capt. C. N. Black was called upon to read his report.

Each location has been prospected by drifts, and good pay found in them all; ranging from 25 cents per cubic yard to \$1 to the pan. Where I intend to turn on the water next spring I prospected by hand-sluing this season, and it paid over \$3.50 per day to the man. \* \* \* With one monitor and 1,000 inches of water, as the ground is easy to work, I expect to be able to move at least 800 cubic yards of gravel per day of 10 hours. At the very lowest estimate of 25 cents per cubic yard, this would yield \$200 at a cost of \$50 per day. If a small electric plant was added, so as to be able to run for the 24 hours, the income would be greatly increased. Should you decide on taking water from Germansen Creek, where there is an unlimited supply, and start a number of monitors to work, you can imagine what the income might be, and as I think you can safely estimate the gravel at 70 cents to the yard, you can see what may be realized from the property. \* \* \*

In organizing this company, I favoured capitalization for the amount it would probably require to develop the mines, and not capitalizing for a large amount to speculate on.

Captain Black, in reply to a question, explained the proposed plan of operations for next season to the entire satisfaction of those present.

Questions were also asked about water rights and privileges, and it was explained that in this respect the company's position was absolute and undoubted.

The question of finance came up, and Mr. M. McGregor took occasion to congratulate the directors on their prudent and successful management. He said he was a believer in paying cash and taking all the advantages that cash payments bring. A long but extremely friendly discussion followed, after which it was resolved that Captain Black's report be adopted, and that the management of the company be heartily endorsed.

**Held Over.**

WE regret exceedingly that the following interesting articles were received too late to appear in this issue of the RECORD. They will be published in the January number:

- "A Few Suggestions on Co-Operative Mining,"
- "Relations of Farming and Hydraulic Mining,"
- "Interesting Notes From Kaslo."

**Henry Croft, Esq.**

IT will be seen by our advertising columns that Mr. Henry Croft of Victoria has opened offices in Rossland. Mr. Croft intends giving particular attention to that and other camps in Kootenay, and will be a valuable addition to the mining fraternity of Rossland. For some time past, Mr. Croft has given his attention to the mining resources of Vancouver Island and the Mainland, and the knowledge and experience he

possesses makes him a valuable man to consult on such matters. He has filled in a professional way a number of high positions, one of which was Inspecting Engineer for the Government of New South Wales, a post which he held for nearly fourteen years. Mr. Croft is therefore a thoroughly practical man, and we wish him success in his new field.

**Table of Stage Distances.**

	Miles.
Alberni from Nanaimo.. . . . .	57
Aldergrove from New Westminster.....	22
Alexandria from Ashcroft . . . . .	185
Barkerville from Ashcroft... . . . .	280
Beaver Creek from Nanaimo... . . . .	16
Bonaparte Valley from Ashcroft... . . . .	20
Bridge Creek from Ashcroft... . . . .	85
Cache Creek from Ashcroft. . . . .	6
Clayton from New Westminster. . . . .	9
Clinton from Ashcroft. . . . .	32
Clover Valley from New Westminster... . . . .	13½
Coultlee from Spence's Bridge.....	40
Cranbrooke from Windermere... . . . .	87
Dog Creek from Ashcroft... . . . .	132
Duck & Pringle from Savona.....	40
83-Mile House from Ashcroft.....	68
Elgin from New Westminster.....	12
Empire Valley from Ashcroft.....	18
Fairmont Springs from Windermere.....	15
Fort Steele from Windermere.....	75
Hanceville from Ashcroft... . . . .	220
Hall's Prairie from New Westminster.....	19½
James Island from Victoria.....	12
Lac La Hache from Ashcroft.....	100
Lansdowne from Enderby.....	6
Lillooet from Clinton... . . . .	47
Mamette Lake from Kamloops.....	60
Saanich from Victoria.....	16
Okanagan Mission from Enderby.....	61
Okanagan from Enderby... . . . .	18
150 Mile House from Ashcroft.....	135
Pavilion from Ashcroft.....	45
Quesnelle from Ashcroft... . . . .	230
Quilcher from Kamloops.....	50
Rockford from Kamloops... . . . .	35
Rockford from Spence's Bridge.....	75
Rocky Point from Victoria... . . . .	22
70-Mile House from Ashcroft... . . . .	55
Soda Creek from Ashcroft.....	165
Sooke from Victoria... . . . .	26
South Saanich from Victoria.....	13
Stanley from Ashcroft... . . . .	265
Surrey Centre from New Westminster... . . . .	11½
Vernon from Enderby.....	26
Wasa from Windermere.....	64

**Incorporated Mining Companies of B.C.**

NAME OF COMPANY.	Capital Stock.	Date of Registration.	Office.
Alpha Milling & Mining Company	120,000	22 May, '89	Victoria
Anglo-American "	3,000,000	15 " '90	Yale
Alberta & British Columbia Exploration Co. Ltd.	£ 20,000	22 April, '91	Victoria
American Development Co.	\$ 100,000	17 Sept. '94	New Denver
Antler Creek Mining Co. Ltd.	1,000,000	10 Feb. '96	Vancouver
Allison Ranch Hydraulic Mng Co.	250,000	1 May, "	New Westminster
Alberni Mountain Rose Gold Mining Co.	250,000	13 Jan. "	Vancouver
Alliance Prospecting Syndicate B.C.	100,000	13 " "	"
Alhambra Gold & Copper Mng. Co.	600,000	5 Aug. "	Victoria
Athalasca Gold Mining Co.	\$1,000,000	13 Sept. "	New Westminster







# ALFRED ALLAYNE JONES

## STOCK & MINING BROKER.

Mining Shares bought and sold on Commission. . . . .  
Mining Properties negotiated. . .

Clough's and Moering & Neale Codes | Prompt attention given to order by wire or letter.

**GOLDEN CACHE, GOLD RANGE, TWO FRIENDS, BONDHOLDER**  
and all other reliable Stocks bought and sold on commission

**Hastings Street. VANCOUVER, B.C.**

### Mining Stocks.

[NOTE—No stocks are listed in the following table unless the property on which they are founded has been fully paid for and the title perfected].

Companies.	No. of Shares.	Par Value.	Price.
<b>TRAIL CREEK.</b>			
Alberta.....	1,000,000	\$ 1 00	\$0 15
Brit. Can. Goldfields.....	2,500,000	1 00	0 15
B.C. Gold King.....	1,000,000	1 00	0 10
Bluebird.....	600,000	1 00	0 10
Caledonia Con.....	500,000	1 00	0 11
California.....	2,500,000	1 00	
C. & C.....	500,000	1 00	
Celtic Queen.....	750,000	1 00	0 0 1/2
Centre Star.....	500,000	1 00	1 50
Colonna.....	1,000,000	1 00	0 15
Commander.....	500,000	1 00	0 27
Crown Point.....	1,000,000	1 00	0 47
Deer Park.....	1,000,000	1 00	0 18
Enterprise.....	1,000,000	1 00	0 20
Eric.....	1,000,000	1 00	0 10
Evening Star.....	1,000,000	1 00	0 20
Georgia.....	1,000,000	1 00	0 17
Gertrude.....	500,000	1 00	0 15
Great Western.....	1,000,000	1 00	0 18
Hattie Brown.....	1,000,000	1 00	0 10
High Ore.....	500,000	1 00	0 07 1/2
Homestake.....	1,000,000	1 00	0 17
Idaho.....	500,000	1 00	
Imperial.....	1,000,000	1 00	0 10
Iron Horse.....	1,000,000	1 00	0 20
Iron Mask.....	500,000	1 00	0 62
I.X.L.....	1,000,000	1 00	
Josie.....	700,000	1 00	0 62
Jumbo.....	500,000	1 00	0 68
Kootenay-London.....	1,000,000	1 00	0 10
Le Roi.....	500,000	5 00	7 75
Mayflower.....	1,000,000	1 00	0 17 1/2
Monita.....	750,000	1 00	0 25
Monte Cristo.....	1,000,000	1 00	0 17
Morning Star.....	1,000,000	1 00	0 12 1/2
Nest Egg.....	500,000	1 00	0 10
Northern Belle.....	1,000,000	1 00	0 12
Novelty.....	1,000,000	1 00	0 15
O. K.....	1,000,000	1 00	0 30
Palo Alto.....	1,000,000	1 00	0 15
Phoenix.....	500,000	1 00	0 08 1/2
Poorman.....	500,000	1 00	0 12 1/2
Red Mountain View.....	1,000,000	1 00	0 12 1/2
Rossland, Red Mountain.....	1,000,000	1 00	0 25
St. Elmo.....	1,000,000	1 00	0 12 1/2
St. Paul.....	1,000,000	1 00	0 10
Silverine.....	500,000	1 00	0 11
Southern Cross & W. Con.....	500,000	1 00	0 20
Trail Mining Co.....	2,300	100 00	
Union.....	600,000	1 00	
Virginia.....	500,000	1 00	0 21
War Eagle.....	500,000	1 00	1 58
West Le Roi.....	500,000	1 00	0 30
White Bear.....	2,000,000	1 00	
<b>ATNSWORTH.</b>			
Dellie.....	750,000	1 00	0 12 1/2
<b>BOUNDARY.</b>			
Old Ironsides.....	1,000,000	1 00	0 11
<b>CAMP MCKINNEY.</b>			
Cariboot.....	800,000	1 00	0 44
<b>NELSON.</b>			
Hall Mines.....	300,000	£1	8 00
<b>REVELSTOKE.</b>			
Orphan Boy.....	700,000	1 00	0 15
<b>SLOCAN.</b>			
Alamo.....	500,000	1 00	
Cumberland.....	50,000	10 00	
Grey Eagle.....	750,000	1 00	
Dardanelles.....	1,000,000	1 00	
Idler.....	1,000,000	1 00	0 07 1/2
Kootenay-Columbia.....	400	100 00	
London.....	600,000	25	0 25
Minnesota.....	1,000,000	1 00	
Noble Five Con.....	1,200,000	1 00	0 50
Rambler Con.....	1,000,000	1 00	0 32

Companies.	No. of Shares.	Par Value.	Price.
Reco.....	1,000,000	1 00	
Slocan Star.....	1,000,000	50	2 40
Sunshine.....	50,000	10 00	
Wonderful.....	1,000,000	1 00	0 12
<b>TEXADA ISLAND.</b>			
Van Anda.....	5,000,000	1 00	0 11
<b>ALBERNI DISTRICT.</b>			
Consolidated Alberni.....	1,000,000	1 00	0 37
<b>CARIBOO.</b>			
Cariboo Gold Fields Ltd.....	£100,000		
Cariboo Hydraulic.....	300,000		
Horsely Hydraulic.....	200,000		
Horsely Gold Mining Co.....	100,000	10 00	1 50
Slough Creek.....	500,000	1 00	0 50

† Dividends paid to date are as follows: Le Roi, \$250,000; War Eagle, \$187,000; Cariboo, \$112,000; Slocan Star, \$300,000. Alamo, Cumberland, Reco and Noble Five have also paid dividends.

### Bank of British North America in Sandon.

The Bank of British North America has recently established a branch at Sandon which will be of great service to mining men and others in that locality.

### Agents.

The following firms will receive subscriptions for the B.O. MINING RECORD, at \$1.00 per annum, and single copies may be had of them at 10 cents each:

Gordon & Gotch, St. Bride Street.....	London, Eng
Clarke & Stuart.....	Vancouver, B.C.
Bailey Bros.....	" "
Norman, Caple & Co.....	" "
Thompson Bros.....	" "
E. Galloway & Co.....	" "
Biddell & Co.....	" "
Hotel Vancouver News Stand.....	" "
T. N. Hibben & Co.....	Victoria, "
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Cashmore's Bookstore.....	" "
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H. Morey & Co.....	New Westminster, "
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Slocan News Co.....	Three Forks, "
S. W. Brown, Post Office.....	Trail, "
J. E. McCarthy.....	" "
S. B. Shaw.....	Rossland, "
J. E. Saucier, Post Office.....	" "
H. S. Wallace.....	" "
M. W. Simpson.....	" "
P. H. Kellegher.....	Nakusp, "
M. Skojeski.....	Sicamous, "
Slocan News Co.....	Slocan City, "
G. L. Eastabrooks.....	New Denver, "
Wm. M. Shaw & Co.....	Spokane, Wash
Shaw-Borden Co.....	" "
E.A. Thomas & Co.....	" "
J. W. Graham & Co.....	" "
Windsor Hotel.....	Montreal, Que
K. T. Takahashi.....	" "
San Francisco News Co.....	San Francisco, Cal

### Mining Papers on File.

The following papers are kept on file at the offices of the B.C. MINING RECORD for the use of visitors who may wish to consult their columns:

Mining and Scientific Press.....	San Francisco, Cal
Mining and Electrical Review.....	" "





WAITING IN LINE FOR MAIL AT ROSSLAND POST OFFICE.



MAYFLOWER MINE, ROSSLAND.

Mining and Metallurgical Journal.....	Los Angeles, Cal
Miner and Electrician .....	Spokane, Wash
Mining .....	" "
Spokesman Review .....	" "
Western Mining World .....	Butte, Montana
Mine, Quarry and Metallurgical Journal.....	Chicago, Ill
Engineering and Mining Journal.....	New York
Mining Journal.....	London, Eng
Shareholder .....	" "
The Colonies and India .....	" "
Canadian Gazette.....	" "
Australian Mining Standard.....	Sydney, N.S.W
Standard and Diggers' News.....	Johannesburg, South Africa
Canadian Engineer.....	Toronto, Ont
" Electrical News.....	" "
Industrial Canada.....	" "
Canada Lumberman.....	" "
Monetary Times.....	" "
Toronto World.....	" "
Toronto Globe.....	" "
Mining Review.....	Ottawa
Mining News.....	Montreal
Edmonton Herald.....	Edmonton, N.W.T
Rosslander .....	Rossland, B.C
Rossland Miner.....	" "
Weekly Record.....	" "
Kootenaian .....	Kaslo, "
Miner .....	Nelson, "
Trail Creek News.....	Trail, "
Boundary Creek Times.....	Greenwood City, "
Slocan City News.....	Slocan City, "
Grand Forks Miner.....	Grand Forks, "
Ledge.....	New Denver, "
Golden Era.....	Golden, "
Vernon News.....	Vernon, "
Paystreak.....	Sandon, "
Advance.....	Midway, "
Prospector.....	Fort Steele, "
Inland Sentinel.....	Kamloops, "
B.C. Mining Journal.....	Ashcroft, "
Nanaimo Free Press.....	Nanaimo, "
The Province.....	Victoria, "

**Catalogues of Mining Machinery and Supplies.**

We will be pleased to forward to any subscriber or reader catalogues and printed matter from the following firms:

- Joshua Hendy, Machine Works, San Francisco, Cal. Mining machinery of all kinds.
- The Giant Powder Co., San Francisco, Cal. Explosives.
- The Pelton Water Wheel Co., San Francisco, Cal. Water wheels.
- California Wire Works, San Francisco, Cal. Hallidie rope-way, etc.
- John Taylor & Co., San Francisco, Cal. Mine and mill supplies, chemicals, etc.
- Canadian Rand Drill Co., Montreal and Rossland. Mining machinery.
- Montreal Rolling Mills Co., Montreal. Mining supplies.
- Fried. Krupp Grusonwerk, Magdeburg-Buckan, Germany, and Montreal, Mining and Milling Machinery of every description.
- Hamilton Powder Co., Montreal and Victoria. Explosives.
- M. Beatty & Sons, Welland. Dredgers, ditchers, etc.
- Theodor Lexow, New York. Carbons, diamond drills, etc.
- James H. Lancaster, New York. Steam shovels, etc., etc.
- James Macbeth & Co., New York. Electric blasting supplies.
- Bradley Pulverizer Co., Boston. Griffin mill.
- The Reliance Oil & Grease Co., Cleveland, O. Valve-oleine.
- Northey Co., Ltd., Toronto. Pumps for mining.
- H. W. Petrie, Toronto. Second-hand machinery.
- Colorado Iron Works, Denver, Col. Milling and smelting plants, etc.
- John Boyd & Co., Machinery and Supplies, Vancouver.
- Jas. Lefell & Co., Water Wheels, Springfield, Ohio.
- Girard Water Wheel, San Francisco.
- Electrical Engineering Co., San Francisco.
- Geo. W. Pennington & Sons, " "
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**Province of British Columbia.**

- Minister of Mines—Hon. Col. James Baker.
- Provincial Mineralogist—W. A. Carlyle.
- Public Assayer—H. Carmichael.

**Provincial Government Agencies.**

- Alberni—Thos. Fletcher, Alberni.
- Cariboo—J. Bowron, Barkerville.
- Cassiar—James Porter, P.O. Laketon.
- Cowichan—H. O. Wellburn, Duncan.
- Comox—W. B. Anderson, Comox.
- Fort Simpson—J. Flewin.
- Kamloops—G. C. Tunstall, Kamloops.
- Kootenay East—J. F. Armstrong, Donald.
- Kootenay West—Northern portion, J. D. Graham, Revelstoke.
- Kootenay West—Southern portion, N. Fitzstubbbs, Nelson.
- Lillooet—F. Soues, Clinton.
- Nanaimo—M. Bray, Nanaimo.
- New Westminster—D. Robson, New Westminster.
- Nicola—John Clapperton, Nicola Lake.
- Okanagan—L. Norris, Vernon.
- Quesnelle—Wm. Stephenson, Quesnelle Forks.
- Yale—W. Dodd, Yale.

**Mining Recorders.**

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NANAIMO.—M. Bray.....	Nanaimo
NEW WESTMINSTER.—D. Robson.....	New Westminster
EAST KOOTENAY.—J. Stirret.....	Donald
F. C. Lang.....	Golden
G. Goldie.....	Windermere
C. M. Edwards.....	Fort Steele
M. Phillips.....	Tobacco Plains
WEST KOOTENAY.—J. D. Graham.....	Revelstoke
Corry Minhennick.....	Lardeau
A. Sproat.....	New Denver
John Keen.....	Kaslo
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J. Kirkup.....	Rossland
J. C. Rykert.....	Rykert's
W. H. Vickers.....	Trout Lake
R. J. Scott.....	Illecillewaet
F. G. Fauquier.....	Naku-p
CARIBOO.—W. Stephenson.....	Quesnelle Forks
J. Bowron.....	Barkerville
YALE.—W. Dodd.....	Yale
L. Norris.....	Vernon
C. A. R. Lambly.....	Osoyoos
W. McMynn.....	Midway
H. Hunter.....	Granite Creek
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LILLOOET.—C. A. Phair.....	Lillooet
F. Soues.....	Olinton
CASSIAR.—Ezra Evans.....	Manson Creek
Jas. Porter.....	Omineca
ALBERNI.—Thos. Fletcher.....	Laketon
VICTORIA.—W. S. Gore.....	Alberni
	Victoria

**Gold Commissioners.**

- For the Province.—W. S. Gore, Victoria.
- Alberni.—Thos. Fletcher, Alberni.
- Cariboo.—John Bowron, Richfield.
- Cassiar District.—James Porter, Laketon, Cassiar.
- Lillooet District.—Frederick Soues, Clinton.
- Nanaimo—M. Bray, Nanaimo.
- East Kootenay District.—J. F. Armstrong, Donald.
- West Kootenay District.—N. Fitzstubbbs, Nelson.
- West Kootenay District.—J. D. Graham, Revelstoke.
- Yale District.—Chas. Lambly, Osoyoos; G. C. Tunstall, Kamloops.

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- Public Assayer, H. Carmichael, Victoria.
- W. Pellew Harvey, Vancouver.
- J. A. MacFarlane, Vancouver.
- Frank Dick, assayer, Brandon, B.C.
- Robbins & Long, Rossland.
- C. M. Wilson, Sandon.
- Hill & Co., Sandon.
- Wm. J. Trethewey, Kaslo.
- Howard West, New Denver.
- Boundary Creek Engineering & Assaying Co., Greenwood City, B.C.

**Mining Centres in British Columbia**

—AND—  
**HOW TO REACH THEM.**

ALBERNI.

Alberni.—Steamboat communication with Victoria and by stage with Nanaimo.

*Barclay Sound*.—Forty miles from Alberni; communication by steamer with Victoria.

## CARTBOO.

*Barkerville*.—Two hundred and eighty-five miles from Ashcroft; stage from Ashcroft. See stage lines.

*Bonaparte*.—Six miles from Ashcroft; stage from Ashcroft.

*Big Bar*.—Stage from Ashcroft.

*Cintou*.—Thirty-two miles from Ashcroft station; stage from Ashcroft.

*Fort George*.—Nearest post office, Quesnelle.

*Horsefly*.—Nearest post office, 150 Mile House; stage from Ashcroft; change at 150-Mile House.

*Lac La Hache*.—One hundred miles from Ashcroft on stage line from Ashcroft to Barkerville.

*Lilloet*.—Weekly stage from Ashcroft.

*Lightning Creek*.—Between Quesnelle and Barkerville, by stage to Stanley.

*One Hundred Mile House*.—Stage from Ashcroft.

*One Hundred and Fifty Mile House*.—Stage from Ashcroft.

*Quesnelle*.—Two hundred and twenty-five miles from Ashcroft; stage from Ashcroft.

*Quesnelle Forks*.—Stage road from Ashcroft.

*Soda Creek*.—Stage from Ashcroft.

*Stanley*.—Stage from Ashcroft.

*Slough Creek*.—Stage from Ashcroft.

*Tatla Lake*.—Stage from Ashcroft, changing at Soda Creek.

*Willow River*.—Stage from Ashcroft.

*Williams Creek*.—At Barkerville.

## CASSIAR.

*Dease Creek*.—

*McDame Creek*.—

## COAL CENTRES.

*Crow's Nest Pass*.—

*Nanaimo*.—From Victoria, all rail, 73 miles. Steamer from Vancouver.

*Union*.—

*Wellington*.—From Victoria, all rail, 83 miles. Steamer and rail from Vancouver.

## EAST KOOTENAY.

*Cranbrook*.—Nearest railway station, Golden. Communication by steamer from Golden to Windermere, thence by stage.

*Fairmont Springs*.—Nearest railway station, Golden. Steamer to Windermere, thence by stage.

*Fort Steele*.—Steamer and road from Golden. Steamer from Jennings, Montana, G.N.R.R.

*Galbraith Ferry*.—Steamer from Golden. Stage in winter.

*Galena*.—Nearest railway station, Golden; thence by steamer. Stage in winter.

*Golden*.—On the main line C.P.R., 475 miles from Vancouver.

*Moyie River*.—From Fort Steele, 25 miles.

*McMurdo District*.—Steamer and trail from Golden, 35 miles.

*Perry Creek*.—Steamer from Golden to Fort Steele, thence by road.

*St. Mary's*.—From Fort Steele, 20 miles trail.

*Thunder Hill*.—One hundred and fifteen miles from Golden. Steamer in summer, stage in winter.

*Windermere*.—Steamer from Golden. Stage in winter.

*Wild Horse Creek*.—From Fort Steele, two miles trail to Kootenay River.

## WEST KOOTENAY.

*Ainsworth*.—Twenty-eight miles from Nelson and twelve from Kaslo. Steamer communication.

*Albert Canyon*.—A station on the C.P.R., 400 miles from Vancouver.

*Big Bend District*.—Fifty miles from Revelstoke by trail and boat.

*Cariboo Creek*.—Steamer from Nakusp, ten miles.

*Fort Sheppard*.—Nearest post office, Trail Creek; communication by rail and steamer from Revelstoke.

*Illecillewaet*.—On the main line C.P.R., 407 miles from Vancouver.

*Kaslo City*.—Thirty-five miles from Nelson; communication by steamer.

*Lardeau City*.—Forty miles from Revelstoke; communication by steamer.

*Lardo-Duncan*.—Steamer from Kaslo to head of lake, thence river trail 40 miles.

*Nakusp*.—North-west terminus of Nakusp & Slocan Railway, 50 miles from Revelstoke. Steamer communication from Revelstoke tri-weekly.

*Nelson*.—Thirty miles from Robson; is the eastern terminus of the Columbia & Kootenay Railway, and also on the Spokane & Northern Railroad. Steamer from Revelstoke.

*New Denver*.—Steamer from Revelstoke and rail from

Nakusp; all rail from Kaslo. Distant from Revelstoke, 78 miles, from Kaslo, 28 miles.

*Pilot Bay*.—Eighteen miles from Kaslo, thence by steamer. *Revelstoke*.—On main line C.P.R., 379 miles from Vancouver.

*Rossland*.—Seven miles from Trail Creek by road or stage. *Sproat's Landing*.—One hundred and sixty miles from Revelstoke, and one and a half miles from Robson.

*Springer Creek and South Slocan Camps*.—From New Denver by steamer, twenty miles.

*Sandon and Cody Creek*.—All rail from Kaslo, 29 miles. Steamer and rail from Revelstoke via Nakusp and Three Forks. Distant from Three Forks, four and a half miles.

*St. Mary's Country*.—Steamer from Kaslo or Nelson to Davie Townsite, thence trail.

*Three Forks*.—Steamer from Revelstoke to Nakusp, thence rail; from Kaslo, all rail. Distant from Revelstoke, 82 miles; from Kaslo, 24 miles.

*Trail*.—Rail from Spokane to Northport, thence steamer. All steamer from Revelstoke, or steamer and rail via Nelson from Revelstoke, 150 miles; from Nelson, 50 miles.

*Trout Lake City*.—Steamer and stage from Revelstoke.

## LILLOET.

*Br dge River, Cayuse Creek, Fraser River.*

## YALE.

*Boundary Creek*.—Nearest railway station on the S. and O. R., Okanagan Landing, thence by steamer to Penticton and on by stage to Midway.

*Fairview Camp*.—Communication by boat from Okanagan Landing to Penticton, thence by stage.

*Kettle River*.—Steamer from Okanagan Landing to Penticton, thence by stage.

*Midway*.—Rail from Sicamous to Okanagan Landing, steamer Penticton and on by stage.

*Okanagan Mission*.—Rail from Sicamous to Vernon, thence by stage or by steamer from Okanagan Landing to Kelowna, thence by livery.

*Osoyoos*.—Rail to Okanagan Landing, steamer to Penticton, and thence by stage.

*Rock Creek*.—Rail to Okanagan Landing, steamer to Penticton, and thence by stage.

*Yale*.—Nicola Lake Stage from Spence's Bridge and Kamloops, 50 miles.

Any of these points may be reached by rail from Spokane to Marcus, and thence by stage twice a week.

Mail stage leaves Penticton for Midway every Thursday morning.

## The Omineca Prospecting and Development Co.

Incorporated under Companies Act, 1862, Imperial.

### OFFICERS :

President, THOS. B HALL, (Victoria Roller, Flour and Rice Mills)

Secretary, J. T. BETHUNE.

Treasurer, DR. G. L. MILNE.

Manager, C. N. BLACK, C.E.

The objects for which the Company is established are :

To prospect and acquire mineral bearing property and to sell, loan or otherwise dispose of the same.

To promote and form other Companies for all mining purposes in the Dominion of Canada, Great Britain or any foreign countries.

This Company owns all the water rights and 720 acres of rich placer ground on Jamieson Creek, Omineca District, and has promoted the Omineca Consolidated Mining Co., now in successful operation at Manson Creek.

Parties having good placer ground to dispose of will do well to communicate with the Company's office, No. 30, Broad St., Victoria, B.C. (opposite Driard Hotel.) Cash will be paid for approved property.

# R. P. RITHET & CO.,

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Fur Muffs and Necklets, Swiss Embroidered Handkerchiefs,  
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We carry an unrivalled assortment of **Mantles, Jackets, Waterproofs, Capes, Furs, Umbrellas, Hosiery, Gloves, Underwear, Etc.**  
**IN DRESS GOODS,** our stock is very attractive, embracing novelties of a reliable kind at prices which are as near to manufacturers' cost as possible.  
**Blankets, Flannels, Comforters, Quilts, etc.,** at the lowest prices at which good goods can be sold.  
Special attention is called to a line of Grey Flannel—50 pieces in twilled and plain, light and dark shades—selling at the low price of 12½ cts.  
2,500 yds. nice, soft Flannelette, 31 in. wide, at 10 cts.

The Westside, J. HUTCHESON & CO, Dec. 1896.

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N.W. corner of Yates and Douglas Streets,  
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Salt Glazed Vitrified Sewer Pipe.  
TERRA COTTA CHIMNEY PIPE,  
Saves cost of Brick Chimneys.  
Can be set up by anyone. Accepted by all Insurance Companies.  
FIRE BRICK—ALL KINDS OF FIRE CLAY GOODS.

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OFFICE :

VANCOUVER, - B.C.

PROFIT AND LOSS ACCOUNT.

To General Expenses account.....	\$ 93 65	By 100,000 Shares Golden Cache @ \$1.00..	\$100,000 00
" Legal Expenses account.....	292 60	" Sundry accounts.....	452 00
" Printing, Stationary and Advertising account.....	230 54	" Bank balance.....	1,343 07
" Experts' Examinations account.....	140 00		
" Bank Commission account.....	13 07		
" *Incorporation Expenses account.....	3,680 57		
" Salaries account.....	550 00		
" Balance.....	96,795 14		
	<u>\$ 101,795 57</u>		<u>\$ 101,795 57</u>

\*This item includes expenses of incorporating the Company and placing the Stock.

LIABILITIES.

To Shareholders :	
86,864 Shares @ \$ .25)	\$21,796 00
80 " @ 1.00)	
" Balance of Assets over Liabilities.....	79,997 57
	<u>\$ 101,795 57</u>

ASSETS AND LIABILITIES.

By 100,000 Shares Golden Cache @ \$1.00..	\$100,000 00
" Sundry accounts.....	452 50
" Bank balance.....	1,343 07
	<u>\$ 101,795 57</u>

J. T. CARROLL, *President.*

JOHN MACQUILLAN, *Secretary.*

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Mine Manager, Yale, B.C. SECRETARY, John MacQuillan, Vice-President The Golden  
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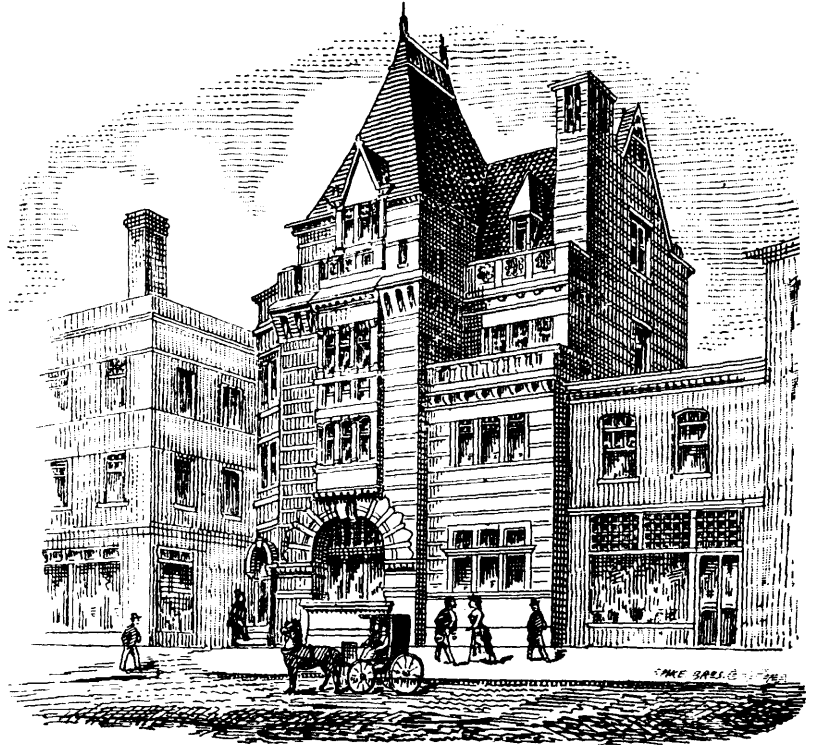
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