

NEW DENVER THE PLACE

Vancouverites are Preparing to Come this Way in the Spring.

NEWSY LETTER FROM THE COAST

Vancouver, Feb. 6.—The greatest interest has been excited among local capitalists over the energetic movements made of late in the Slovan country by the British syndicate, which is operating through the agency of Messrs. Evans Bros. of this city. In some quarters the floating of the Galena Farm Co. has been censured, but the thorough manner in which the management is proceeding with development and the authenticated richness of the vein are having the desired effect in restoring confidence. The latest move of the syndicate in purchasing the Alamo basin properties and concentrator for \$500,000 is looked upon as one of the cheapest and best investments ever made in the Province. These properties being on a dividend paying basis warmly commend themselves to the representatives of British capital, and the result will be advantageous to the country. So many sales at such large figures is rapidly diverting public attention to Canada's great white metal camp, faith in which is growing stronger as the days go by.

New Denver is spoken of now as often as any town in the Kootenay country—quite a change from that of a year ago. Its close proximity to the mines, its admirable location, beautiful scenery and undoubted healthful surroundings are freely advertised, and many are expressing their intentions of locating in the Lucerne of North America. Another strong drawing card for the town is the decision of the Bank of Montreal to open a branch there. This has caused the business men of the coast to open their eyes as to the possible chances of the Slovan lake country, and makes more certain the future of New Denver. General approval is expressed of the bank's movement, especially among mining men, as they will now make Denver the basis of their operations. It is more than probable the Imperial Bank will locate in the neighborhood also.

D. McLachlan, of New Denver, is visiting in the city. He is figuring upon importing dry lumber from the coast. Messrs. Harris and Cleverly, also of New Denver, and J. Sullivan of Slovan City, were registered here this week.

T. Matthews, who was a frequent visitor in New Denver during the summer, has opened a broker's office here, his specialty being Slovan properties. He has just put through a number of deals on Cariboo creek.

The coal barons of Vancouver island met with a reverse this week that will, it is hoped, prove a lesson to them and materially benefit the Province for all future time. The Full Court of the Province, sitting at Victoria, has handed down a judgment declaring the constitutionality of the act forbidding the employment of Asiatic labor in underground workings. This will come especially heavy on the Dunsmuirs, who have been working Mongolians by the hundreds at Comox and Union. The judgment will have a bearing upon

the future life of mining camps in the Kootenay.

Last night a powerful meeting was held in the Market Hall against Asiatic immigration. Addresses were given by Messrs. Walkem, Forster and Cotton, M.P.s., Hewitt Bostock, M.P., and several others. Resolutions were passed appealing to the federal authorities to pass more stringent laws of exclusion. The feature of the meeting was the speech made by Rev. Mr. Coleman in support of the Chinese. The worthy missionary was proven false in his statements, and the drubbing he received will ever be a lesson to him.

With the visit of Albani, the presence of Her Majesty's North Pacific squadron in port, the propagation of the People's railway idea, and the anti-Mongolian agitation, Vancouverites have not had much chance this week to think about mines. Golden Cache still continues the strongest factor in the local stock market. The name bids fair to be remembered for future generations. A townsite, to be called Cachetown, is being surveyed close to the mine, and one of the principal backers is to erect a building here to be known as the Golden Cache block. Two Friends holds well here, and advices from the east report sales of 10,000 shares at 35 cents. Bondholder is improving in tone and confidence. Dardanelles has withdrawn all treasury stock. The recent \$100,000 dividend of the Reco has stiffened its shares, very few of which, however, are held on the coast. St. Keverne and Fisher Maiden are well spoken of. In Alberni the conflicting shareholders of the Mountain Rose have pooled their interests, and this will end the ridiculous spectacle in regard to that property. Van Anda stock—a big copper property on Texada Island—has had many inquiries and a few sales. Boundary creek, Fairview and Rossland quotations are quiet.

The following mineral claims are embraced in the Kokanee Mining Co., of which mention was made last week: Lake View, Royal City and Mayflower, situated on Kokanee creek; Six Friends and Volunteer, south fork of Kaslo creek; Mountain Flower and Golden Bazaar, north fork of Ten Mile creek; Royal Arthur and Charmer, second north fork of Lemon creek; and an undivided half interest in the Hungry Five mineral claim situated on south fork of the Kaslo creek.

TRAIL MINING NOTES.

A block of 50,000 shares in the Silver Bell was sold last Tuesday to one man at 10 cents a share.

The St. Elmo tunnel is now in St. Elmo ground and a crosscut will now be run both north and south to expose the ledge.

It is reported that a prominent member of the Canadian parliament now in London has been negotiating for the purchase of the Le Roi mine.

The Iron Mask vein has been cut at the 210 foot level, and the grade of the ore runs about \$45 per ton, the clean ore body being 15 inches wide.

The Rossland Miner states there is little or no doubt that the Northport smelter is to be built and that the work will be commenced by March 1.

There is a great showing just now at the Iron Colt. It has lately been shown in excavating for the new machinery plant to be put in, that

the whole of the hillside at that point is included in one very wide ledge, very much as is the case with the Kootenay vein in the east side of Columbia hill.

The ore shipments for January foot up 4,876 tons. This was distributed among the following mines: Le Roi, War Eagle, Josie, Iron Mask, Cliff, Jumbo, Kootenay, Red Mountain and O. K.

The new ore chute to the west of the old one in the Le Roi maintains its width and is running extraordinarily high in both gold and copper. A sample assay showed \$388 in gold and 14 per cent. copper.

Very rich ore is now being taken from the face of the No. 2 tunnel in the Cliff. It is a fine grained chalcopyrite and carries over two ounces in gold and about 24 per cent. copper, making a total value of about \$65 per ton.

The drift being run from the Southern Belle-Snowshoe tunnel is presenting very interesting findings. An assay of \$31.84 was obtained from the ore being found in the face of the drift, with a showing of 20 per cent. copper.

The Mayflower mine is looking better every day. The east drift, which followed the ore chute into the hill, is now run 25 feet and the clean ore is 30 inches wide. The ore is of excellent grade, showing a good deal of galena.

AINSWORTH

A dozen men have been put to work on the Black Diamond with Dan McDonald as foreman.

The Tariff mine made a shipment of ore last week. A steam pump on the property is now used to keep the water down and a Burleigh drill is also in operation. About 20 men are employed.

A number of small properties are being worked and many capitalists have visited the camp this winter looking after Ainsworth property. The prospects of this camp never looked brighter than at present.

The upraise to the surface to furnish the miners with good air, has been completed on the Highlander. Development work is being pushed rapidly.

A crew of men has been working on the Dellie mine all winter and it is showing up well. The No. 1 mine is working full blast and the concentrator is running night and day. Mr. Shaw, the manager, made another shipment of concentrates to Everett last week.

A Square Man

Wm. Thomlinson will sever his connection with Bourne Bros. store this month. Mr. Thomlinson will be missed from this pioneer establishment, but it is pleasant to know that he will still remain in the Slovan. He has done a great deal for this now famous district, and nearly everyone, especially the oldtimers, will be glad to know that fortune has dealt kindly with him. After a short holiday he will probably open a mining broker's office and if he does, his sterling character and honorable way of doing business is sure to bring success to him.

Send 10 cents for a copy of THE LEDGE containing Carlyle's report on the Slovan.

BANK FOR NEW DENVER

The Bank of Montreal are opening a branch in New Denver which is an evidence that the managers of that institution know a snap when they see it. It is the first branch of this bank to open in the Slovan, and a paying business awaits them. This paper has lost an ad, but thank God we have got a bank at last.

Stop Their Game.

For some time past an application for a private bill to incorporate a company to operate in a variety of ways in and around Slovan City and Brandon has been advertised. The citizens of those towns have entered a strong protest to the government as follows:

Whereas, The powers of expropriation in said notice mentioned would by implication enable said company to force a purchase of any business, industry or enterprise within the said radius by simply expropriating the site thereof.

Whereas, In said private bill no charter, grant, privilege, franchise or exclusive right should be granted so as to create a monopoly or give said company any exclusive rights whatever.

And, whereas, A grant of the water rights on the creeks and streams within the said radius to said company would prevent the erection of many concentrators, sawmills and other works; would enable said company to charge others such rates as their interest would suggest; would have the effect of retarding the growth of our towns and the development of our mines, which cannot be worked without a large amount of water; would cause a depreciation in value of all property within the said radius; would result in a great loss of revenue to the Province and would make the present and all future inhabitants and property owners within said radius mere vassals of said company; therefore,

Resolved, That we the residents of the said towns of Brandon and Slovan City and vicinity, in public meeting assembled, do protest (1) against the incorporation of said company with the powers of expropriation in said notice mentioned, or any power of expropriation whatever. (2) Against the grant to said company by any private act under said notice of any charter, grant, privilege, franchise or exclusive right whatever.

We further resolve that no company or person should by private act be given the power to take or use the water of any creek or stream within the said radius except under the provisions of the Land Act, Mineral Act 1896, and other general public acts made and provided, or except for a limited use upon the special petition of the town or community most affected.

The Two Friends.

Last week this paper said that the Two Friends mine refused to furnish its men with rubber coats. Upon investigation we find one of their miners quit because the rubber coat offered him did not suit him. The manager did not see fit to buy any more coats than were on hand, hence the rumor. There is evidently no truth in it as the Superintendent says they have no intention of making the men furnish their own rubber clothing.

W. A. CARLYLE'S REPORT

On the Slovan Mining District, Giving an Exhaustive Review of Its Wonderful Mineral Deposits.

[Official report of Provincial Mineralogist.]

The Slovan, according to the number of its shipping mines and the amount and value of the ore sold, now ranks as the most productive mining district in the Province, and in point of importance is not surpassed by any other.

In an area of fifteen by twenty five miles, there have been discovered many veins of high grade silver-lead ore, which are being developed with great vigor and success, and among the mining men is every feeling of confidence and hopefulness. This winter nearly fifty of these properties are shipping high grade ore that yields very profitable returns, and a large number of other claims are being opened up.

So far but comparatively little imported capital has been expended here, as in the case of nearly every mine now established, sufficient money has been realised from ore extracted during development to pay for more extensive workings, new buildings, mills, trails, roads and also dividends, but more or less capital will be required to properly open up many other claims on which the veins exist, but are not so easily accessible as those first discovered. But as most of these veins are found along the steep mountain sides and can be worked by tunnels, and the cost of mining is low, requiring little or no machinery, capital will be necessary mostly when tramways and concentrators are to be built, or in some cases for hoisting plants and pumps when tunnel sites may not be available.

Many of these mines are located near the summits of the high precipitous mountains at an elevation of 5500 to 6500 feet above sea level, where erosion has cleared away nearly all the debris from the veins but lower down also on the mountain sides and in the valleys, are being found other veins or those discovered first much higher up to the highest of which now run good trails or wagon roads or else wire rope tramways. The snow that lies deep on these summits during the winter is in nowise detrimental to mining operations, as most work is done after its fall, when the ore can be dragged down the smooth snow trails in rawhides in larger loads and at lower prices than are possible in the summer time, but the tracks of snow-slides must be carefully avoided.

During 1896, 18,215 tons of ore yielded 2,141,988 ounces of silver and 19,210,666 pounds of lead, or an average of 117.4 ounces of silver per ton and 52.7% lead which would have a net profit of about \$75 per ton, while many carloads were shipped that yielded from 300 to 400 ounces of silver per ton.

The "Slovan Star" has of course the largest chute of high grade ore yet found in the district, and we are kindly permitted to state that from 11,529 tons of ore and concentrates sold during the last three years, 912,600 ounces of silver and 13,482,000 pounds of lead have been paid for by the smelters, and of these amounts 7003 tons yielded 630,000 ounces of silver and 9,000,000 lbs. of lead during the past season of 1896.

Many of the veins are small, varying from 2 to 3 inches in width to 20 to 30 inches of solid ore, but the high value of silver at present makes this ore very profitable together with the low cost of breaking ground. The small Reco-Goodenough vein, the width of which is measured in inches, is probably the richest vein yet mined, as from the smelter returns of 600 tons the average was 407 ounces of silver per ton and 42% lead. The high percentage of lead makes this ore a very desirable one for the smelters, and the lead contents are usually sufficient to pay the freight and treatment charges, and the duty charged on the lead.

At no time in the history of this district have so many mines had high grade ore exposed, and of such mines can be named among others the Slovan Star, Ruth, Wonderful Monitor, Idaho, Alamo, Cumberland, Ivanhoe, Queen Bess, Wild Goose, Payne Group, Slovan Boy, Washington, R.E. Lee, Last Chance, Noble Five Group, Reco, Goodenough, Blue Bird, Antonio, Surprise, Rambler, Best, Dardanelles, Northern Belle, Whitewater, Wellington, Charleston, Lucky Jim, London Hill, Reed & Tenderfoot, Fisher Maiden Thompson Group, Galena Farm, Enterprise, Neepawa, Bondholder, Two Friends, Howard Fraction.

THE ORE AND ORE DEPOSITS.

There are four distinct kinds of veins in the Slovan:—

1. The argentiferous galena, with zinc blend, and some grey copper in a gangue or matrix of quartz and spathic iron. These veins cut across unstratified rocks, and through the dykes of eruptive rock, where, in many cases there is a good body of ore, and they also occur in the granite area, and with even the limited amount of prospecting, some have been traced from 3,000 to 4,000 feet along the strike, and one for nearly 2 miles. In the Slovan slates, it has not yet been proven, that as the vein cuts through slates, limestones or quartzites, that any one of the series has been favorable to the formation of ore-bodies than another, as in the different veins it will be seen that good ore chutes may have the wall of any of these rocks mentioned. The ore has been deposited along fissures, both in the open fissure cavities, and by impregnation of the country rock, and in the cavity-filled veins can be seen the banded structure described elsewhere, or the solid, usually big-cubed galena shows lines of foliation parallel with the walls, but it is evident that further motion has occurred along some of these vein fissures, after ore has been deposited.

2. The veins of argentiferous tetrahedrite or grey copper and jamesonite and silver compounds in a quartz gangue.

3. The dry ore vein is on Springer and Lemon Creeks, in the granite, with a quartz gangue containing argentic, native silver, and gold.

4. The gold quartz veins in the southern part of the granite, such as those reported to be on the Alpine group.

Most of the veins are narrow, varying from 2 and 3 inches to 15 and 20 inches in width, with occasional widenings to 3 or 4 feet of solid ore, and even much more, as seen in the Slovan Star and the Alamo-Idaho veins. The ore chutes are not persistent horizontally, as is characteristic of nearly all veins, but ore is often continuous for several hundred feet and where it then pinches, a thin streak of oxides is the index usually followed in the search for more ore, which seldom fails to re-appear, with more or less work. The mistake is made sometimes of following along a slip-wall or crevice that may cross the vein crevice at a flat angle, and thus lead the miner astray. Besides the solid ore some veins have associated with them 2, 3 or more feet of mixed ore, gangue and country rock, or a brecciated mass which may be of such grade as to pay well for concentration; and already there are three concentrators, the Alamo, Slovan Star and Washington, doing very satisfactory work, and the Noble Five mill almost completed this year. The product or concentrates is silver-bearing galena, but any value contained in the decomposed material that may enter the mill, will in all probability not be saved, likewise, that in much of the grey copper, which apparently seeps badly and escapes.

The ore is shipped as "crude," or the solid or unaltered sulphides, or as "carbonates," i.e., the decomposed ore, consisting of oxides and carbonates of iron, lead and silver, the mass a reddish-brown color, with more or less yellow material; those carbonates with a soft, velvety feel, assaying highest in silver. All material about these veins should be carefully assayed before being relegated to the waste-dump, where good ore, unsuspected, has already been thrown, especially soft, iron-stained decomposed rock or vein matter.

GOLD.—It might be well to be on the outlook for gold, remembering the good gold values found in the galena ores of the Monitor mine, which yield from \$2 to \$4 in gold per ton; one lot of 20 tons of ore assaying \$20 per ton in gold, while the carbonates average \$13, the smelter paying for all gold above \$2, or one-tenth of an ounce. The carbonates seldom are as high grade in silver as the unaltered, or crude ore in the vein, but in some mines this class of ore is very valuable.

While most of the veins are not wide, the richness of their ores greatly compensates, as may be seen from the lead and silver values as per smelter returns from a few of the mines, as:—

	ozs silver per ton	per cent lead
Slovan Star	90 to 95	70 to 75
Reco	83 to 730	19 to 67
Goodenough	197 to 507	15 to 67
Noble Five	82 to 543	39 to 75
Last Chance	155 to 238	35 to 78
Wonderful	113 to 133	70 to 76
Ruth	49 to 125	15 to 73
Monitor	142 to 337	32 to 57
Wellington	125 to 318	10 to 55
Whitewater	72 to 324	10 to 65
Dardanelles	149 to 370	15 to 55
Enterprise	155 to 130	18 to 30
Two Friends	218 to 381	38 to 52
etc	etc	etc

The other Slovan mines have ore of the same character and high grade, as may be seen in detailed accounts below. The lowest values in the above indicate the lowest smelter returns on ore that is classed as carbonates. The average value of all the ore sold being given above.

ZINC.—In most of these veins the zinc blende carries a small silver value and is sorted or concentrated out of the ore, so that very little ore sent to the smelter has over 10 per cent zinc limit. But in the Enterprise mine, on Ten Mile, the best silver assays are said to be got from the zinc blende, which is much more valuable than the galena. As is to be expected, small lots of very rich ore are mined, ore that will yield from one to two thousand ounces per ton, but the average figures already given will indicate the importance of these veins that are now being mined in both granite and stratified rocks of this district.

2. The veins of argentiferous tetrahedrite or grey copper and jamesonite and silver compounds in a quartz gangue.

These veins can be seen in the granite exposure on the Best and Rambler mines, and in the stratified rocks on the London Hill property, from which very high grade ore has been shipped.

3. The dry ore vein is on Springer and Lemon Creeks, in the granite, with a quartz gangue containing argentic, native silver, and gold.

These veins are now attracting much attention, as high assay returns have been secured as per smelter returns; sorted ore of this character from the Howard Fraction yielding 133 to 206 ounces of silver per ton, and 13 to 23 per cent in gold.

The Chapleau recently received the smelter returns on four tons of sorted ore, from which 3.6 ounces of gold and 91.7 ounces of silver per ton were returned, netting the owner \$102 per ton after deducting the freight and treatment charges.

4. The gold quartz veins in the southern part of the granite, such as those reported to be on the Alpine group.

The values and characteristics of the last three mentioned classes of vein will be better understood later on, as the work now begun yields results and information.

Costs.

MINING.—(a) The cost of driving tunnels and drifts varies from \$3 to \$9 per foot in stratified rocks, and from \$7 to \$19 in the granite.

(b) The cost of sinking shafts from \$19 to \$30, but so far little work of this kind has been done.

(c) The cost of stopping cannot be ascertained, but the following table, compiled by Edmund B. Kirby, M.E., and given in a paper to the Colorado Scientific Society, December 3rd, 1894, from experience gained in Colorado, where nearly sim-

ilar conditions and cost of labor, supplies, etc. obtain, may be of value:—

APPROXIMATE YIELD AND COST OF STOPPING PER TON OF ORE BROKEN

THICKNESS OF LAY-STREAK	TONS	COST PER TON
Calculated for ore when per sq fathom of ore sheet		
13 cubic feet - 1 ton	0.92	\$17.33
A streak 4 inches wide yields	1.33	11.55
" 6 "	1.85	8.67
" 8 "	2.31	6.93
" 12 "	3.77	5.78
" 14 "	3.23	4.95

(d) For labor the average paid miners is \$3.50 for 10 hours, or \$3.50 for 8 hours; timber men, \$3.50 for 10 hours; shift bosses, \$4 to \$5 a day; blacksmiths, \$3.50 to \$4 per 10 hours; trammers and topmen, \$2.50 to \$3 for 10 hours.

(e) For supplies, No 1 giant powder costs about 18 to 22 cents a lb; No 2, \$9 per 50 lb box; candles, \$7 a 40 lb box; cordwood, \$1.50 to \$2.50 at the mine; rough timber, \$11.50 to \$12.50 per M; drill steel, 16 cents a lb. The cost of food and other supplies is now very reasonable.

TRANSPORTATION.—(a) The cost of packing down ore on horses in the summer time varies from \$5 to \$8.50 per ton to rail road. In the winter time, by rawhides, \$2.50 to \$3.50 per ton.

(b) By waggon or sleighs, \$1 to \$2.50 per ton.

(c) Cost of transportation from shipping centres to the smelters in the United States, from Sandon, \$7.50; from Slovan City, \$11.

TREATMENT.—The treatment charges depend upon whether the ore is crude or carbonates and on the latter according to the percentage of lead. On the crude ore, or nearly pure galena, the smelter charges vary from \$15.50 to \$18 per ton; on the carbonates from \$9 to \$15 per ton; the \$9 rate being given in one case where the lead did not exceed 20%.

The smelters pay for 95% of the silver and 90% of lead, assay values, at the New York quotations at time of settlement.

For zinc, 50 cents is charged per unit—about 10 per cent. The duty on lead in the ore entering the United States is 1/2 of a cent per lb.

DESCRIPTION OF CLAIMS

In describing the mining properties the following grouping has been followed. Beginning at Sandon, on the south fork of Carpenter creek, now the distributing and main shipping centre in the Slovan, where recently the Bank of British Columbia and the Bank of British North America have opened offices:—

(a) The mines and claims on the mountain range south of the creek are the Slovan Star, Ruth, Wonderful, Canadian, and Adam's groups, Ivanhoe, Yakima, Alamo, Idaho, Cumberland, Queen Bess, Monitor, and adjacent claims.

(b) The mines and claims on the south slope of the mountain range running east and west, north of the creek, as Lucky Jim, Payne, Slovan Boy, R. E. Lee, Last Chance, Noble Five, American Boy, Reco, Goodenough, Blue Bird, etc., with the claims in the basins on the north slopes as Northern Belle, Dardanelles, Rambler, Best, Surprise, Antoine, Washington, etc.

(c) The mines and claims north of the K. & S. Ry., as the Whitewater, Wellington, London Hill, etc.

(d) The mines and claims on the creeks tributary to Slovan lake.

(e) Claims on Cribboe creek and its tributaries.

SLOVAN STAR.

This property has not only paid a larger amount of dividends, or \$30,000, than any other mine in British Columbia, apart from the coal and placer mines, but has proved itself to be the largest silver-lead mine so far developed in the province. It was discovered October 7th, 1891, by one of the present owners, Mr. Bruce White, and others, who following up Sandon creek, discovered in the bed of this stream, a mile above its junction with the south fork of Carpenter creek, the site of the town of Sandon, a vein 18 feet wide, of quartz and spathic iron interspersed with galena, zinc blende, and angular pieces of slate country rock. Prospecting to the west in a dense forest of heavy timber along the strike of the vein, at about 800 feet, a large exposure of the surface croppings of the large ore chute was found, and here the Slovan Star claim has developed the ore body to be described below.

This group of claims, all Crown granted or Crown grants applied for, comprises the Slovan Star, Slovan King, Silversmith, La Planta, Windsor, Sohgo, Emma and Jennie, of which Slovan Star, Slovan King, and Silversmith, apex claims, are located along the trend of the vein for about 4000 feet. It is owned by the Byron N. White Co., Pres., Angus Smith, Milwaukee, Wis.; Gen. Manager, Byron N. White, Superintendent Bruce White, Sandon. Capital stock of the company 1,000,000 shares at 50 cents each.

ORE BODY.—This vein cuts across the steep, heavily timbered mountain side and nearly at right angles to the well stratified slates, quartzites and siliceous limestones of the Slovan slate series, with an east and west strike and a dip of 51° to the south. While this vein has been traced through and beyond this property into other claims, it has not yet been traced continuously, nor has it any constant width, varying from a width of a few feet to 20 or 30 feet with in other places no signs of mineralisation at all along the fissure along which the country rock has been more or less shattered and the ascending mineral-bearing solutions have formed large deposits or chutes of fine ore. A large porphyry dyke runs nearly parallel with the vein and in places in the mine is found in it, but evidently affected by this fissure.

Along this fissure is seen much brecciated slate cemented together by the gangue materials, galena and blende, and in many other parts of the mine was noticed more or less parallelism in the deposition of the different minerals; but one interesting peculiarity noticed was the fact that many samples of ore clearly showed by the separation by the quartz of corresponding parts that the sulphides, as galena or blende, after deposition, had been shattered, perhaps by further movement along this line of break, and then cemented into the present mass by quartz.

It is doubtful if two well-defined walls can be traced in this mine, for while the hanging or fissure wall is very distinct, the ore-merges into the country rock towards the supposed foot-wall, but more time could not be spent in very careful observation. In the mining of this one large ore chute as has been opened up and exploited upon the Slovan Star, the ore body has been found to vary from

a few feet to 25 feet in width of mixed but pay ore, and a large amount of ore has been mined from bodies 2 to 8 and 10 feet wide of solid galena.

ORE.—(a) The first-class ore consists of the nearly pure galena, both fine and coarse graine, carrying some grey copper and some blende, but not enough to pass the excess line, or 10% of zinc. Average value, 95 ounces of silver per ton, and 72 to 75% lead.

This ore is sacked and shipped direct to the smelter.

(b) The concentrating ore consists of the mixed ore or the spathic iron quartz gangue with galena, with a little grey copper, and in all the ore there are evidently some of the silver sulphides. The large amount of mixed ore taken from the upper workings and kept separate became available on the construction of the concentrator, and was being sent down the hill. In concentrating most of the blende is removed so that the concentrates carry not more than 6% zinc. Average value of concentrates, 80 ozs. silver per ton, 70% lead.

THE MINE.—This main ore chute has been developed for a distance of 430 feet along the vein and to a depth of nearly 350 feet from the surface down on this dip, and from it several small bodies of ore have formed along divergent crevices.

TUNNEL NO. 1 was first run in the large surface exposure for 50 feet and then stopes were run to surface or 30 feet.

TUNNEL NO. 2 is a cross cut for 100 feet, and then a drift for 100 feet, with a stope up to No. 1 80 feet long and from 4 to 10 feet wide.

TUNNEL NO. 3 is 70 feet below No. 2, and in crosscutting at 70 feet, intersecting a leader of ore drifted upon for 25 feet, and then passing through the slates, more or less mineralised, cut the main lead at 150 feet. A drift 150 feet to the west, through low grade ore, entered a splendid body of high grade ore which, on being stoped back 110 feet to east, had led back to within a few feet of connecting with the short drift run at the 70-foot mark in the tunnel, thus leaving a pillar nearly 40 feet wide of what promises to be low grade, but paying, concentrating ore. This stope is now 180 feet long and 4 to 7 feet wide, and is worked up for most of the distance to the upper level, while the drift has a total length of 430 feet along most of which, is much concentrating ore. But this chute has developed its largest and most productive ore body between the level and No. 4, below which no work will be done until tunnel No. 5 reaches the ledge.

TUNNEL NO. 4 was the main working entry at the time of visit, and here were erected the ore bins at the upper terminal of the gravity tramway to the concentrator. At a distance of 575 feet this tunnel entered the vein, where it was 10 to 12 feet wide, and to the west a drift of 75 feet long had encountered a fault which had not been explored, but up along which a stope had been extended a short distance in 8 to 10 feet of mixed ore. Easterly from the tunnel, at 100 feet, an up raise had been made 210 feet to the next level, and all the way in good but mixed ore, with 14 to 16 feet of concentrating ore at the foot of the tunnel level. At 150 feet in this east level a cross cut showed up a width of over 25 feet of mixed ore with several feet of solid galena but at the face, or 225 feet, the chute was then narrowed to 3 feet. A large amount of stoping has been done for 70 or 80 feet below level No. 3, where the body of clean ore had been 8 to 10 feet thick, but a large amount of ore was still showing in all the limits of these stopes.

TUNNEL NO. 5 was in 200 feet in the slates, with 600 feet remaining to reach the vein 210 feet on the dip below level No. 4. The ground was all ready for the building and air compressor plant, i.e., 4-drum and an 80-horse-power boiler, and rapid progress would be made with the machine drills in the extended exploration of this claim, along this level.

On the Slovan King to the east, near the vein exposure in the creek, a tunnel had been driven in 80 feet, but although there was considerable ore for some of the distance, the ground was much broken up. To the west, on the Silversmith, ore was exposed in some shallow cuts, but this claim has in reality been but very little prospected.

TIMBER and water are abundant for mining purposes—the timber being of large size, and immediately at the mine, where the stopes are timbered up with heavy stulls and lagging.

TRANSPORTATION.—A steep wagon road from Sandon climbs up past the mill to tunnel Nos. 3, 4 and 5, but all ore is sent down to the mill by the 3-rail gravity tramway, about 1,600 feet long, covered where necessary by snow sheds, the concentrating ore being automatically dumped into the mill bins, the sacked first-class ore being loaded into ore wagons or sleighs, and drawn, also the concentrates, 1/2 mile to the railroad at Sandon, at a cost of 8 cents per ton. Number of men employed \$3, of which 55 were in the mine, and 19 at mill.

THE CONCENTRATOR

This mill, designed and constructed by Mr. T. L. Mitchell, Sandon, who built the Washington Mine Concentrator, and is now completing the mill for the Noble Five Mining Co., is situated at the foot of the tramway, and is 45 by 102 feet, with four floors.

BINS.—There are two 150 tons capacity each, one for the coarse ore from the mine, the other for crushed ore below the crusher for supply.

POWER.—(a) A Pelton wheel, a 3-foot steel disk, with a 17-16 inch nozzle, supplies, when water is sufficient, ample power, and is situated on the upper floor, so that water from it, after going through a 12-mesh screen, may be used for washing in the operation of the mill.

(b) When water is scarce, an auxiliary steam engine will be used, or a 40 horse power engine, with a 50 horse power boiler.

WATER.—(a) A flume 3,000 feet long in two branches, brings from Sandon and another small stream, water that flows down through 1,200 feet of spiral riveted steel pipe, the lower 250 feet 7 inches in diameter, with a total head of 471 feet at the wheel.

(b) Another flume from Cody, 9,350 feet long, 2 x 2, on a 0.2% grade, costing \$7,400, now supplies water for washing purposes in the mine, but has no head for power.

MACHINERY was made by E. P. Allis & Co., Milwaukee, much after Mr. Mitchell's designs and comprises:—

(a) A Blake crusher, Reliance pattern, 14 x 26 inches.

(b) Four sets of rolls, Reliance pattern, 14 x 26 inches.

(c) Six Hartz figs, i.e., 2 double 2-compartment, and 1 double 3-compartment figs.

(d) Six 2-compartment Collum figs.

(e) Elevators, trommels, classifiers and settling tanks, etc.

(f) Two double-decked round slime tables, 18 feet diameter.

METHOD OF CONCENTRATION—The ore from the crusher is automatically fed by a cam-feeder to two sets of coarse rolls, whence the material is elevated by elevator No 1, into one revolving screen with three sizes of screens, from which the refusal of the screens passes to two coarse Hartz jigs; the material from the 16 m. m. (.64 in) screen, to two coarse Hartz jigs; the material from the 7 m. m. (.28 in) screen, to two coarse Hartz jigs; the material from the 3 m. m. (.12 in) screen, passes to two 3-compartment hydraulic classifiers, which give three separations, each of which goes to two of the double-compartment Collum jigs, while the overflow passes on to the V shaped settling tanks, or a species of spitzkasten, from which each of the four sizes of fine stuff goes to its own slime table.

The pitch of each slime table is different, so as to conform to the size of the fine sand fed to it, and by using two water sprays, three separations are here made the heads, middlings and tails, of which the middlings pass back by elevator No. 2 to the hydraulic classifiers.

The middlings from four coarse jigs pass to the coarse set of middlings rolls, and thence back to elevator No 1, the 7 m. m. middlings to middlings rolls, thence to elevator No 2, while the fine middlings from six Collum jigs, go to the fine middlings rolls, which discharge into elevator No 2. The automatic discharge material from six coarse jigs, and the sieve work from the six collum jigs, and the heads from the tables, pass by the concentrate sluices to the concentrator bins below, whence they are shoveled into sacks of 155 to 160 pounds each, while the overflow, carrying much fine material, goes into the settling tanks in the slime house.

Capacity of mill is up to 150 tons of ore per 24 hours, the ratio of the concentration varying, of course, with the grade of ore sent down from the mine.

The mill has worked excellently from the start and is giving great satisfaction. The product is very clean galena with seldom over 6% zinc, and never up to 10% of zinc, but there is a considerable loss of silver, some of which is carried away in the blende, while the greatest loss is believed to be in the grey copper, much of which escapes in the finest slimes.

Cost was for buildings, \$12,700; for machinery, not including engine and boiler, \$17,000.

Other Claims—To the east considerable work by tunneling has been done on the Eureka claim, which lies on the steep mountain side along which this vein, by the angle of its dip, would be expected to run. Between 60 and 70 tons of ore have been shipped during 1894-5-6.

The Babbit Paw, lying to the south and west, is being prospected by a company who are searching for its extension westward of the vein.

RUTH

This group of claims, the Ruth, Hope, Wyoming and the Ruth Fraction, all surveyed for Crown grants, are located on the same mountain side, one-half mile from the Slocan Star and one and one-quarter miles by road from Sandon, and was owned by the locators, F. P. O'Neill, D. C. Clark, J. Y. Kesler, F. E. Starkey, D. E. McVey and W. H. McVey until last October, when two-thirds interest in this property was sold for \$163,000 to Mr. H. M. Foster, England, Messrs. D. E. and W. H. McVey retaining their one-third interest.

After many hardships and disappointments, but persistent prospecting, the Ruth vein was accidentally disclosed by a small piece of iron-stained rock sticking in the roots of a fallen tree that had stood nearly on the top of the ledge, and even then considerable work had to be done before the ore chute was struck from which has since come the mine's production. Under the foreman, D. S. McDougall, this property has been prospected in a systematic manner, and all the work has been done with care and thoroughness which has greatly enhanced its market value, as is evidenced by the recent transfer at such good terms.

The vein dipping N W 60-90° strikes across the slates N E by S W, and carries in the gangue of spathic iron and some quartz very coarsely crystalline galena that runs from 100 to 120 ounces in silver per ton and 54 to 76% lead, while within surface influences the sulphides have been changed to the carbonates that run from 30 to 65 ounces of silver per ton, of both of which classes of ore 1,500 tons have been sent to the smelters. The width varies, but in one drift the chute was seen to be at one part 9 feet wide, but as far as the vein was opened up, or 800 feet, it was very persistent and regular in its course, the fault dislocations being small. The ore is always banded parallel, of course, with the walls, and in the upper workings bands of galena have bands of the oxidized ore on either side, or there were in other parts alternate bands of spathic iron, galena and blende.

The Mine—Tunnel No 1 follows the vein or vein crevice for 350 feet, but the ore chute is not reached by it, it not being far enough into the mountain to be under the ore mined in the tunnels above.

Tunnel No 2 was 740 feet long (Aug 16th), but for 90 feet but very little ore was found, or 11 tons, but beyond this the vein, though small, is more defined, until 150 feet in, where a slope 160 feet long begins, and runs up 40 feet, with an average width of 5-3 feet, with ore still in the roof. An upraise of 85 feet connects with tunnel No 3. Farther in was another slope 55 feet long and up 30 feet, showing at the top 4 1/2 feet of banded ore or galena, spathic iron and carbonates. Still another slope 160 feet long, 3 1/2 feet wide, was up about 40 feet, with ore in the roof, while beyond in the tunnel level there was a width of 8 feet of first-class ore for a length of 25 feet and at 630 feet an 80 foot upraise, also in ore. In the breast of the tunnel the vein was passing through a porphyry dyke, but only as a narrow seam of ore.

Tunnel No. 3 was 330 feet long with ore all this distance, but not so wide as below, although at the face were 3 feet of galena and decomposed ore or carbonates. As the ground was soft all the tunnels were timbered up in an excellent manner and every part of the mine was in the best of order, and there is much good timber on the property. A wagon road 6,000 feet long has just been completed at a cost of \$1,575, thus giving easy facilities for the shipment of ore to the railways. Number of men employed, 25.

WONDERFUL

The Wonderful, 34.50 acres. Crown Grant, and the Lookout and Columbus mineral locations, situated on the mountain slope about one mile west of the Ruth and Slocan Star, and south of

the branch of Carpenter creek, is owned by the Wonderful Group Mining Co., of Spokane, Pres., W. W. D. Turner; Sec., H. G. Bell, Spokane. Capital stock, 1,000,000 in 1 share. Superintendent, E. J. Field, Sandon.

The mining operations conducted during the past season were rather unique. The property had been under bond to Jno. A. Finch, who had done over 2,000 feet of underground work, mostly along the supposed course of a vein, but with not very successful results, only two carloads of ore being shipped from these workings in 1895. Ore was found scattered through the wash and the much shattered slates near the surface so the company decided to prospect the claim by bringing water from one of the small streams in a small flume and then letting it cut its way down through the wash to bed-rock as it rushed down the mountain side to Miller creek. Water was turned on June 18th, and it was found that pieces of galena ore were being left in the bottom of the cut and this prospecting then developed into hydraulic mining, the water being allowed to run for several hours, when there would be a clean up of tons of high grade ore, with the result that over \$25,000 were thus won.

As the work proceeded it was seen that the mineral-bearing wash or debris was not more than 100 to 120 feet wide, while the real "pay dirt" had a much less width than this, and as seen in the cut that as the channel cut down it left on either side country rock apparently in place. In the pay dirt there was not only the solid ore but much decomposed mineral, all of which of course was swept away, only the boulders of galena, with all the surface decomposed, remaining; one of solid galena weighing over 13 cwt. While some believed that the ore had been brought down from a vein higher up on the mountain side, the fact that this ore was found only in a narrow channel, and that immediately above it, and this conclusion then arrived at has apparently been confirmed in that this washing is now reported by the manager to have disclosed the solid vein in place with a strike S. W. and N. E., and regular underground mining has begun.

A good wide track or trail, 7500 feet long, was built from the mine to Sandon, and the ore is packed out to the railroad, the ore assaying from 113 to 133 ounces of silver per ton, and 70-76% lead, and Mr. Field has succeeded not only, as he claims in uncovering the vein by this method of prospecting, but has recovered 400 tons of first-class ore from the debris.

North of the townsite of Sandon are three claims, the Argo, Belt and St. Charles, owned by Wm. Snowdon, John A. Whittier and Alex. McDonald, and immediately above the K. & S. Ry. and a few hundred feet from the town, hence near the bottom of the deep valley of this branch of Carpenter creek, ore was found during the past summer, and on the surface in one place the vein was cleaned off for 10 to 12 feet, showing a maximum width of three to four feet of solid ore. A tunnel, then 45 feet long, was being run to explore this new ledge.

MONITOR

This claim, 1500 by 1500 feet. Crown grant to be applied for, and the Hustler fraction, are located at Three Forks, on the south slope of the south fork of Carpenter creek, and are owned by the locator, George A. Petty, who, finding the white coated galena on the hillside, after considerable search, found the vein which runs north-east and south-west and dips south-east 60° to 90°, crossing the slates at right angles, in close proximity to a porphyry dyke. This vein varies in width from a few inches to 3 1/2 feet of galena and carbonates, or oxide ore, and by surface cuts has been found to be faulted in two places to the north-west—at one point 50 feet and the other 30 feet.

The lowest tunnel, No. 1, 151 feet long, is a cross-cut, but has not yet disclosed the vein, but in No. 2 15 feet higher up the hill and 275 feet long, the ore is continuous for 196 feet, and from 3 inches to 2 1/2 feet wide, and at the face the 50-foot fault is struck and a cross-cut to the west is being run to pick up the continuation of the lead. Tunnel No. 3, 100 feet above, after cross cutting 50 feet had just struck the vein, where it was much broken up. Tunnel No. 4, 110 feet above No. 3 and 480 feet from the north end line of the claim, or 300 feet south-west of the mouth of No. 1, is a crosscut for 73 feet, and then a drift both ways along the vein, with a slope 75 feet long and 38 feet to the surface in which was a fine chute of ore, 12 to 16 inches wide, that at either end had changed to zinc blende, but in all probability will again be found to improve on extending the drift. The foot wall of the vein is very smooth and regular, and apart from the solid ore there is much shattered slate cemented with quartz and galena. The 30-foot fault is south-west of the working. All the mine buildings, ore sheds and mine timbering, where such was necessary, were in first-class order, and there is much good timber on the claim.

The ore is similar to that found in the other veins in the Slocan, only it carries an appreciable value in gold, the smelter returns showing that the galena, or crude ore, as shipped in carload lots, assays from \$2 to \$14 per ton in gold, 142 to 304 ounces of silver and 37 to 55% lead, netting, after deducting freight and smelter charges, from \$91 to \$203 per ton. One shipment of 19 tons returning \$20 in gold per ton, 367.5 ounces of silver and 32% lead, or \$249 net per ton. In the carbonate ores the gold values averaged for 88 tons over \$13 in gold per ton, the silver values ranging from 128.4 to 323.8 ounces per ton, and the lead from 19 to 35%, or \$83 to \$212.40 net per ton. No tests have been made, as known, to determine whether this gold occurs in the sulphides or disseminated in a free state in the quartz. Number of men engaged, 12.

Other Claims—On the mountain slope west of Carpenter creek, the Idler is being worked by the Idler Mining Company, who have a vein of galena ore.

ALAMO

The Alamo Mining Company, capital stock \$500,000, General Manager J. D. Farrell, Spokane, Superintendent P. J. Hickey, own the Alamo, Ivy Leaf, Twin Lakes, 76.6 acres, Crown-granted, and the Clarence, Hampton, Victory, Morning and the Continental claims situated in the Alamo Basin, 3 1/2 miles up Howson creek, which enters Carpenter creek near where the concentrator is erected, along the track of the C. P. R., one mile below Three Forks.

The Mine—In this vein has been found one of the largest and most productive ore chutes yet mined in the Slocan, an ore chute that extends into and is being worked on the Idaho claim. This vein strikes east and west (mag.) dip south 70° to 80°, crosses a deep spur from the main ridge and thus offers the best of facilities for the driving of tunnels along it at different levels. Along this line of fissuring in the slates is much brecciated country

rock, quartz, lime spar, spathic iron and ore, of which 8 to 9 feet of solid galena, interspersed with grey copper, have been stoped out, also carbonate ores, while much mixed or mill ore has been sent down to the concentrator. In some of the levels there has been encountered a cross-fault of considerable throw beyond which the ore chute has since been picked up. Tunnel No. 4, the lowest, extends west for 330 feet along the vein which here carries little ore, and the fault being met, the drift was run north-west 130 feet, then south-east 34 feet, striking again, apparently, the ledge. In tunnel No. 3, in 347 feet, and No. 2, a large amount of ore has been stoped out to the Idaho side-line, the ore chute being 4 to 6 feet wide, the ore breaking to two smooth walls between which is both solid ore and ore mixed with shattered slates and quartz. Tunnel No. 1, 240 feet below the summit of the spur, was in several hundred feet, and the slopes from the lower levels continue on up for 30 to 40 feet above this level, when it pinches above where has been found the greatest width of ore in the mine. There is ample room for other tunnels below No. 4, and such will yet be driven in to exploit a large area of the vein. Ore is being found on other claims on this group, and men were at work prospecting and developing these other leads.

Transportation—(a) From Tunnel No. 3, a 3 rail tramway, 340 feet long, ends in the ore-bins at (b) a very good wagon road, 3 miles long, dropping down 1,700 feet to the ore bins at the head of (c) the exceptionally long 3-rail gravity tramway, 7,100 feet long, which is in two sections, 3,400 feet and 3,700 feet long, respectively, and dropping 1,675 feet, delivers the ore into the bins at the mill at the C. P. R. track. The wagon road also runs down to the mill.

The Concentrator.—From the supply bins of 1500 tons capacity, the ore is trammed into the mill, which is built large enough to permit if needed, the doubling of the present plant of machinery. On the upper floor, after passing over a grizzly, the ore is fed to a Comet breaker, whence it passes to 16 by 30 inch rolls, and thence by elevator to 3 5-foot trommels, delivering 4 sizes to the jigs on the next floor, of which there are (1) coarse two-compartment Hartz jigs, (2) 2 three-compartment Hartz jigs, and (3) 2 four-compartment Hartz jigs. The middlings pass to a 5-foot Huntington mill, and for classifying the fine stuff, Lake Superior classifiers are in use, the tailings going into V-shaped settlers, that feed to 4 double decked 18-foot round tables. The power is got from a Pelton wheel generating 80 h. p., with water under a 224 foot head in a 12 inch penstock, from a flume that runs about 2 miles to the head-gates on the south fork of Carpenter creek, the water of Howson creek being also utilized. The sacked concentrates are then loaded directly upon the railroad cars.

This mill was built by Fraser and Chalmers, Chicago, and its daily capacity is 50 tons. It is owned by the Slocan Milling Company, and is under the management of Mr. Farrell.

IDAHO-CUMBERLAND

The Cumberland Mining Co., capital stock \$500,000 in 500 shares, also under the management of Mr. Farrell and Superintendent Hickey, owns the Cumberland, Crown grant 32.74 acres, High Ore, Daisy, Eastern, Thistle, and the Idaho Mining Co. the Idaho and St. John, Crown granted, 101.53 acres.

On the Idaho ground, the extension of the Alamo vein is being worked through that mine—tunnels 1, 2, and 3 having been extended across the line. In tunnel No. 1 a slope 25 to 30 feet above the level, had 10 to 30 inches of very good ore, and up a 60 foot raise, 12 to 15 inches of solid ore continued to the top, while in the face of the level were 2 feet of solid galena, and 4 to 5 feet of mill ore. These claims lie north and west of the Alamo group, in the Idaho basin.

In the Idaho basin, reached by a branch road one-half mile long from the main road, another vein on the Idaho, striking N. E. and S. W., and dipping S. E. 60-70°, yielded a large amount of good ore from the upper cuts and tunnels, but in the main tunnel 550 feet long, there was found little ore, but 20 to 12 feet of brecciated slate, quartz and calcite and iron pyrites.

On the Cumberland, four tunnels had been driven in on the vein that runs parallel with the one just mentioned on the Idaho, but being only 150 to 200 feet west, it had not yet been shown whether this is another vein, or the Idaho vein faulted. The upper tunnels Nos. 1 and 2 were caved in, but in No. 3 a narrow vein of nearly solid galena and blende had been followed and stoped out for a distance of 350 feet, and in an under-hand slope a streak of 4 to 10 inches of galena was being mined. Tunnel No 4 was not being worked. Several hundred feet lower down, a cross-cut tunnel had been driven 500 feet to cut two small veins showing on the surface. All ore is shipped by the Alamo road and tramway, and treated, if concentrating ore, at the mill, and this property is proving very productive. On the Idaho and Alamo 35 men are engaged.

Other Claims—The Hustler and Silver Bell, lying south west of the Idaho claim, owned by a Victoria syndicate, are said to be traversed by both the Alamo-Idaho vein and the Idaho-Cumberland vein, on the latter of which work has been done, and much more will be done this summer.

YAKIMA

The Yakima, Sunshine, Monday and Oregon in the next basin east of the Alamo, owned by the Sunshine Mining Co., Manager J. D. Farrell, was not visited as work had been suspended, but several carloads of galena ore had been shipped from this property during 1894 and 1895.

Other Claims—Many other claims on these slopes are now being prospected, and with successful results. On the Wild Goose and Corinth, owned by J. Gillooley, A. J. Murphy, and A. Belmont, Three Forks, a vein of solid galena, 6 inches to 2 feet in width, has been stripped for 200 feet on the surface, and ore is now being mined in a tunnel driven in on this ledge. These claims are about three-quarters of a mile by trail up the creek beyond the Queen Bess.

QUEEN BESS

On the east slope of Howson creek, opposite to the Idaho Basin, are the Queen Bess, Young Dominion, Crown-granted, 78.2 acres, and the May Be, Concord, American Girl, Hub, and First Extension, the property of Jas. Moran, Jno. A. Finch, P. Larson, et al., Superintendent, Jas. Moran, Three Forks. A ridge separates these claims and the Monitor, and on the Queen Bess claim has been done most of the work, resulting in the discovery of four veins within 500 feet. On the east vein a tunnel had been driven 200 feet, in which the ground was much broken up and the small vein decomposed, the ore from which pro-

duced in shipments by leasers in 1883, of 40 tons, 93 ounces of silver per ton and 74% lead. Work was being pushed ahead on the west vein, 300 feet distant, and in a 65-foot tunnel, after 15 feet of surface material, a vein, strike N. E. and S. W., dip S. E. 80 to 85°, was followed for 45 feet and stoped up 20-30 feet, producing high grade ore assaying 141 ounces of silver per ton and 75% lead of a very coarse cubed galena, of which 25 or 30 tons piled on the dump were being sacked for shipment to the Omaha and Grant smelter. At the face a winze was being sunk on two leaders of galena separated by four feet of slate. The third vein lying between the east and west leads had only been stripped and thus traced for 200 feet, but there was a wide zone heavily iron-stained, slightly impregnated with galena and reported to give assays in gold of \$4 to \$6 per ton. The fourth vein is 100 feet west of the west lead, and at the surface 6 inches wide of carbonate ore assaying 50 to 60 ounces of silver and up to 40% lead. The ore will be packed down over a short trail to the road and thence one-half mile to the Alamo tramway, and then delivered at the C. P. R. track. It had been decided to thoroughly explore this property, and this winter 14 men are employed.

CANADIAN GROUP

On the summit of the ridge, at an altitude of about 7,200 feet, between the south fork of Carpenter Creek and Four Mile Creek, or two miles S. W. of Sandon, whence a trail, via the Ruth mine runs to these properties, are the Adams and Brandon, Crown-granted, 86.1 acres, and the Katie D., Sarah B. and Hill Top, owned by M. Adams, Sandon, and W. H. Brandon, Slocan City. Several small galena veins are to be seen on these claims, but as yet not much work has been done to explore them. On the Hill Top a small vein of galena a few inches wide can be traced for some distance, strike N. and S., dip W. 60°. On the S. W. slope of the Brandon a vein is traceable down the hill for several hundred feet, sticking up as a rib of galena, calcite and quartz, 4 to 12 inches thick, in which are driven two short tunnels, in the upper one of which the ore is cut off, while in the lower one there are 3 to 5 feet of mixed milling ore. About 1,200 to 1,500 feet east of this is another vein, strike north and south, dip 6° west, which, although small, can be traced down the slope for several hundred feet and then down through the bottom of a narrow gully in the cliff, forming the north slope of the ridge at this point. A tunnel was in 35 feet under a smooth hanging wall, and the vein consisted mostly of coarse calcite with some galena, but on the surface the ore was sticking out in places in ribs of solid big-cubed galena. There is very little or no timber on this ridge, and only small springs of water. Trails lead over to the Alamo and Idaho mines to the west along the ridge, or down the mountain to the south to Four Mile Creek, and thence to Silverton on Slocan Lake. No work was being done at the time of our visit—Aug 21st.

THE IVANHOE

Lying next to the Canadian group, on the east are the Ivanhoe and Elgin, Crown-granted, 81 acres, owned by the Minnesota Silver Co., Ltd., Pres., W. H. Yawkey, and under the same management as the Idaho and Alamo.

Mr. McConnell, in his report of 1895, says: "The Ivanhoe, situated high up on the slope of the mountain, shows several nearly parallel veins. Two cross-cut tunnels, the upper 50 feet and the lower 90 feet in length, connected by an upraise of 70 feet have been driven, and drifts have been extended a long the lead from the ends of both tunnels for varying distances. The workings have exposed an ore chute 60 to 70 feet in length, with a maximum width of five feet of pure and concentrating ore. A contract for a third cross-cut tunnel, 150 feet below No. 2, had been let at time of visit."

During the past year about 15 carloads of ore were shipped to the smelters, and development work is being continually carried on.

ADAM'S GROUP

On the same high ridge, and on the west of the Canadian group, lie the Britomarte, Chamblet, Crown Grants, 86.3 acres, Midnight, Mammoth and Slater Fraction, owned by Capt R C Adams, Montreal, et al.

In the slates and limestones run many dykes and spurs of porphyry, and on the south slope on the Britomarte, close to the Canadian group, an open cut exposes a vein of mixed ore, i. e., cube galena, calcite, and quartz, 15 to 30 inches wide, running north and south with a dip of 80° west, this vein crossing over the ridge where it stands up as a narrow rib of solid galena ore 4 to 14 inches wide and intersecting on the north slope another galena-bearing vein. On the south slope, running down the hill, are three or four narrow veins of galena close together, that nearly merge into one another at a point where a 12 foot tunnel had been driven in on a vein of 4 to 12 inches wide of nearly pure galena. On the north slope is a very steep, rocky face, scored yearly by snow-slides, and running nearly parallel with the dykes, are several small veins of the same kind of ore as found in the others. On one of these veins, traceable to the summit, a tunnel was being driven, and for its length, or 20 feet, there were four feet of mixed ore, calcite, coarse galena blende, and grey copper, of which six or seven tons were on the dump. Above the tunnel on the surface this vein showed 8 feet of mixed ore, with small, nearly parallel, veins, evidently stringers from the main lead. About one hundred feet S W of this vein is another that showed in one place four feet of mixed ore, and was running 60° E by S 60° W. On the south slope two tunnels have been run to tap these veins, one for 50 feet, 150 feet below the summit, where in a cut were 6 7 feet of concentrating ore, and the other 400 feet below the summit, for 245 feet, in which for the last 40 feet some ore had been followed.

This property can be developed by running a cross cut tunnel from a place free from any likelihood of snowslides, as is done on other properties in this district, and from this same point an aerial tramway, on a steep grade, could be built down to a point convenient to a wagon road to be built to Sandon. Good cabins are being erected about 1000 feet below the workings, and a trail, four miles long, as mentioned in connection with the Canadian group, leads down to Sandon.

NOBLE FIVE MINE

The original Noble Five group, located for 5000 feet along the course of the vein, comprised the Noble Five, Bonanza King, World's Fair, Knoxville and Maud S. 63.6 acres, but the two adjoining claims on another vein, the Deadman and Wild

Goose, have been added since the consolidation of these properties as now owned by the Noble Five Consolidated Mining and Milling Co., Spokane, Wash.: Pres, Jno D Porter; Sec, J F Cutler; Gen Manager, J G McGuigan, Sandon, B. C. Capitalization, 1,200,000 shares at \$1 each.

This property is located about 3 1/2 miles by trail N E of Sandon, and 2500 to 3000 feet above that town, on the steep southern slope of the mountain, on which have been discovered the series of veins now mined from the Payne group on the west to the Blue Bird on the east. There are two veins, and perhaps three, now known, striking N E by S W, dip 60° S E, through slates and limestones, intersecting at an angle of 30 to 45° the "porphyry" or granitic dykes through which the veins continue, and in places carry their best ore chutes. The ore occurs both as solid galena and as carbonates and oxides in a spathic iron and quartz gangue, and from the limited workings these claims have yielded from \$125,000 to \$150,000.

Noble Five vein—On the surface in a rocky gulch scoured by snowslides, are large croppings iron-rock, which, on being broken into, is found to consist of galena, blende, and spathic iron, while in the mine the ore is arranged along a smooth and slickensided wall, that is sometimes on the hanging wall and then on the foot wall side, in bands arranged in one drift with four bands, i. e., spathic iron, blende, spathic iron, and then galena, with fragments of slate scattered through the ore chute and spurs of ore running off into the country rock. In the early history of this mine, when the costs and difficulties of shipping were excessive and changes of management often, small drifts were run in on the ledge and the ore extracted in an unsystematic manner, but under the new management the property is being developed in a thorough manner, and the mine placed in a proper condition for its best development and most economical working.

On the most southerly claim, the Noble Five, a tunnel 65 feet long and short cross-cuts were driven resulting in the finding of some good ore, but as this was a dangerous place for snowslides this work has not yet been extended to prospect this part of the vein. On the Knoxville and Bonanza King has been done most of the mining, consisting at the time of visit (August 18th) of tunnels aggregating 1,380 feet in length and opening up the vein vertically to a depth of 600 feet. In these workings but very little high grade ore was left in sight, although much ground remained to be prospected, but there were slopes 6 to 8 feet wide, while the amount of concentrating ore exposed, consisting mostly of galena in decomposed material, was considerable, and in some of the drifts 7 to 9 feet wide. The mine was not in a condition at that time to show up or do justice to this strong ledge, but the three main tunnels to be run and connected by winzes will put this property on a proper working basis.

About 200 feet below these workings the main tunnel has been started in a place perfectly safe from slides and cross-cut to the vein which on the surface at this point had a strong out-crop of galena. This tunnel will be extended well into the mountain along the vein and connected with the upper tunnels, thus enabling all ore to be brought down to the mouth of this main level, where will be the ore bins at the head of an aerial rope-tramway, 6,100 feet long, vertical drop 2,100 now being built to the concentrator at Cody.

On the Deadman and Wild Goose claims are several large dykes and tongues of porphyry, and the Deadman vein is about 400 feet east of the Noble Five vein and parallel to it. No work is being done in any of the three tunnels, in two of which that were entered but little ore had been left in sight, but several faults were in evidence. Ore has been shipped for three years from this vein, or 26 car loads in all, of ore that assayed 68 ounces in silver per ton and 15% lead for the carbonates, and up to 255 ounces of silver per ton and 69% lead for the solid galena ore.

There is little or no timber on the property of this company, and in fact upon any of these properties high up on the mountain, fire having destroyed the most of it, but lower down on the slopes the supply is good.

Concentrator—Following up his success with the Slocan Star mill, Mr T L Mitchell has just completed a mill on Cody creek, at the town of Cody, which is arranged practically after the same scheme as that followed out in the Slocan Star. A flume brings water from Cody creek and in the conveyance of ore from the mine automatic devices have been introduced throughout. At the main working tunnel of the mine bins of 600 tons capacity automatically discharge into the buckets of the Finlayson double rope tramway, and at the lower terminal the ore drops into the bins of 260 tons capacity and thence automatically to the 9 by 15 inch rock crusher and thence into the mill. The capacity of the tramway will be 20 tons an hour. The machinery for the mill has been purchased from the E. P. Allis Company, of Milwaukee, Wis., and the first-class ore and concentrates will be loaded into the cars of the K. and S. R. R. which has a branch line running to Cody.

LAST CHANCE.

This property, the Last Chance, 600 by 1,050 feet, Crown-granted, the Starlight, Starlight Fraction, Blizzard and Little Widow, crown grants applied for, lying immediately west of the Noble Five group, is owned by the Last Chance Mining and Milling Co., Spokane. Capital stock, 500,000 shares at \$1 each.

There are two small parallel veins running N. E. by S. W., one standing vertical, the other dipping S. E. 5°, and two tunnels 100 feet apart in elevation. The upper tunnel is 240 feet long with cross cuts and drifts on smaller veins that lead off from the main one, while the lower, a cross-cut tunnel, intercepts the incline vein at 180 feet, along which drifting has been done for 140 feet, with an uprise to the upper workings. This tunnel was being continued to strike the other vein but had not done so at 100 feet, but it was in the works between these two tunnel levels that the character of the ore and the vein was best seen, as from an incline started down on the vein near the mouth of the upper tunnel, and when about midway between the levels extended as a drift, very high-grade ore had been mined where the vein, varying in size from a few inches to 3 feet of solid, rich silver-bearing galena was found to have, where galena was not solid, a quartz gangue with galena, forming good concentrating ore. Within surface influences the veins have suffered the usual alteration, and rich "carbonate" ore has also been stopped out.

While so far most of the work has been directed toward the development of this mine a quantity

of excellent ore has been sent down by rawhiding to Sandon and thence shipped to the smelters, as in 1895 about 9 car-loads of ore assaying 168 to 191 ounces in silver per ton and 71 to 78 per cent lead, and in 1896 17 car-loads averaging 182 ounces in silver per ton and 67% lead were sold. This property is another example of many which have been paid for themselves from the beginning, and during this last year a dividend of \$20,000 has been declared, after providing for the new mine buildings, more extensive underground work and the purchase of other claims. There is but little timber on these claims. Foreman, J. Egan. Number of men engaged, 10.

Other claims—Below this claim is the American Boy, now being worked by Thomas McGuigan, with a yield to date of 5 or 6 cars of good silver-lead ore, and the Ajax, under the control of Matthews and Braden, who also have the Ruby Silver at the northern end of the Noble Five string of claims, both of which mines have shipped high grade ore. Upon the summit, at an elevation of 76-7,800 feet, Dr. Hendryx, of Nelson, was driving a cross-cut tunnel on the Galena, to cut a vein of silver-lead ore that shows up well on the precipitous bluff to the north, and is thought to be the northern extension of the R E Lee vein. It has a strike N. E. by S. W. across the slates and limestones, and also across a porphyry dyke, and a dip of 60° to the S. E.

RECO GROUP.

Immediately to the east of the Noble Five claims on the same south slope of the mountain lie the Reucan, Texas, Clifton and New Denver, 165.65 acres, Crown Grants applied for, and the mineral location, the Ephraim, the property of the Reco Mining and Milling Co., Ltd., Sandon, B. C. Capital stock, \$1,000,000 in \$1 shares; treasury stock 100,000 shares. Pres. and Gen. Manager, Jno M Harris; Sec., F T Kelly, Sandon, B. C.

Two distinct silver-lead veins strike N. E. by S. W., dip 60 to 75 S. E., are being worked on this ground, i. e., (1) Big vein and (2) the Small or Goodenough vein, and in all probability veins lying in contiguous claims will be discovered, on prospecting, to extend into this territory. This mine affords another example of the opening up and development, and the purchase of other claims, without any capital save that got in mining, from the beginning of work, of rich ore. On the Big vein have been run three tunnels, from which has been taken most of the ore extracted from this lead, save that from one small slope that yielded over \$16,000; and in tunnels Nos. 1 and 3, the former 650 feet long, and the other 900 feet long, connected by a raise 125 feet long in the vein; the veins consist mostly of decomposed vein matter, in places a few inches wide, in others several feet. Work on this vein so far has been confined to purely development during the past year, but in 1895, 4 carloads of galena were shipped, and yielded on an average 179.8 ozs. silver per ton, and 71% lead (smelter returns). While the carbonate ore or 9 carloads yielded from \$9.3 to 161.6 ounces silver per ton, and 23.2 to 37.1% lead.

From the small Goodenough vein, lying several hundred feet to the east, has come the richest silver-bearing galena yet found in Kootenay, the silver evidently occurring as argentite, although much rich silver is found in some of the solid galena. The mining operations are being carried on in co-operation with the Goodenough mine, and three tunnels, Nos. 2, 4 and 6, have been driven to and extended both ways along the vein in each of these properties; the vein being from 2 or 3 inches wide up to 20 inches of solid ore, with in places only a narrow streak of iron-stained matter. The ore so lies that generally the ground can be mined out along it, leaving the ore to be afterward broken down clean. The ground is faulted in one place with a lateral throw of the vein for 10 feet, and where the vein passes through the porphyry dykes the ore chute is found, generally, to be the most productive part of the vein. From these tunnels several hundred feet of drifting have been driven, the vein being not always productive, but in the miners' term "in and out," and these levels will be continued much farther before reaching the limits of the claim. (See Goodenough mine below).

The ore, while mined from a small vein, is very profitable, and at the time of visit, in August, several tons of rich ore were piled up at each tunnel mouth, and the following data from smelter returns will give some idea of the value.—The galena ore has run from 225 to 730 ounces of silver per ton, and 67% lead; one lot of 21 tons assaying 730 ounces of silver per ton, and 67% lead; and two shipments in 1895, or 45 tons, yielded net (or 95% of assay) 24,820 ounces silver and 27 tons of lead, or \$340 per ton after deducting all charges.

The carbonate ore from this vein, for 20 carloads has yielded from 230 to 337.8 ounces of silver per ton, and 19 to 28% lead.

This company now propose to build an aerial tramway down to Cody creek, and there erect a concentrator. Foreman, Alex McPhee. Number of men, 15 (in Aug.)

GOODENOUGH.

The Goodenough, title, crown grant, 8.3 acres, and the location the Grey Copper, 6.0 by 1,284 feet, lying south of the Reucan, are owned by Jno. A. Whittier, Jno. Thompson, and Jno. Martin, Sandon, and six men were at work on the "small vein," as described in the Reco above. In the workings, tunnel No. 6, or the lowest, was a cross-cut for 275 feet and near the point of intersection with the vein an upraise had been made for 169 feet to tunnel level No. 4 along the Reucan-Goodenough line, following for nearly all that distance several inches of the very high grade ore. In the N. E. the drift ran off into the Reco ground, while to the S. W. the Goodenough drift, in 170 feet, with 500 feet of the vein on this level available before leaving the side line, had good ore for 110 feet both above and below the level, with a narrow streak of carbonates to the face, an improvement in the ore chute being expected when the vein passed through the dyke 30 feet ahead. In the tunnel levels Nos. 2 and 4, the relation of the vein to the surface was such that but a comparative short distance along the vein could be worked on this ground, and all was stopped out, but in the Reco these two levels were being extended to the N. E.

There is a fair amount of good timber. As in the other mines, greatest activity is during the winter season, when the cost of shipping ore to Sandon, by rawhiding, is \$9 per ton, instead of \$7 by packing on mules in the summer. The grade of the ore, of course, is similar to that sent from the Reco, the smelter returns for car load lots giving from 277 to 507 ounces of silver per ton, and 48 to 67% lead for galena ore, and 168.5 to 322.5 ounces of silver per ton, and 2 to 31% lead for car-

bonate ores, while one lot of 64 tons assayed 768 ounces silver per ton and 61% lead.

Other Claims—To the east of these claims lies the Blue Bird, on which some work was being done on a tunnel. Three, if not four, veins have been discovered, and 10 to 12 car loads of ore, averaging 134 ounces of silver per ton, and 75% lead, have been sent to the smelters. South of the Goodenough property lies the Chambers group, i. e., the Chambers, Eureka, Jay Gould and Wellington, 8.0 by 1,500 feet claims; one of the oldest locations in the camp on which exploratory work has been done, but the depth of wash here, at base of mountain, makes such operations more difficult than higher up where the surface is pretty well scoured off the leads, and any float can generally soon be traced to its source. One carload of ore was shipped during 1896.

Much good country in this vicinity yet remains to be explored, and while little or no ground is now left open for location, there is every probability that thorough prospecting will be followed by good results.

The Omega, south of the Reco group, has a vein of galena ore, but all work is at a standstill pending legal decisions as to the ownership of this ground.

R. E. LEE.

Title, Crown grant, 600 by 1500 feet. Located on the ridge of the mountain, one-quarter of a mile west of the Last Chance, and five miles by trail and road from McGuigan's Siding, on the K. & S. Ry. Owned by Lorenzo Alexander, Kaslo. At the time of visit, in August, 10 men were employed by leasers, who were working on a narrow galena vein, striking N E by S W, and dipping S E 45°, near a very large exposure of porphyry or eruptive granite. Two tunnels, one 500 feet long, had been run in and connected by a 95-foot up-raise, and from the lower tunnel, down an incline, some ore was being extracted. In places in the mine the ore has been found 18 inches wide. During the last year about three carloads of ore have been shipped that averaged 130 ounces in silver to the ton and 75% lead, the cost of transport to the railway line being \$5.50 to \$7.50 per ton. Mr Alexander has now 8 or 9 men at work, is building more substantial living houses, ore shed, etc., and from the mine is taking some good ore.

SLOCAN BOY.

This claim, 600 by 1500, title Crown grant, lies on the ridge immediately east of the Payne group and south of the Washington, and is leased by S K Green et al, to T M Gibson and Lane Keith.

Two leads are being worked, one on the south end of the claim, a very small but rich silver lead vein, being worked through three tunnels, one 140 feet, another 100 feet long. The other, the southern extension of the Washington vein, is also argentiferous galena that follows along two or three feet from an eight foot porphyry dyke, on both sides of which the slates and slates are very much contorted and to a very considerable extent converted into gangue matter. Beginning at the north end line a tunnel is run in 170 feet along a small streak of ore, and connects with level No. 1, 235 feet long, which runs from the shaft, 200 feet deep, where at a depth of 100 feet the vein, here dipping at a high angle, is passed through. Eight to ten car loads of ore, both galena and carbonates, had been shipped, of which 30 tons of the ore from the small vein gave 332.4 ounces of silver per ton, and 75.4% lead, while the ore from the other vein averaged over 100 ounces of silver per ton and 68% lead.

PAYNE GROUP.

At time of visit, part of this property was in litigation, recently terminated by all interests being bought up from Mr S S Bailey by Mr A W McCune et al, and this group will comprise the Payne, Mountain Chief, Maid of Erin, and the Two Jacks, 38.4 acres, title, crown grants, with 2,500 feet along this vein, located on the ridge forming the western end of the range on which are the mines that have been described, three miles east of Three Forks, and three or four miles N W from Sandon, to which place is being built a new wagon road.

The Payne was the first location made in the Slocan District and the locators believing the trend of the vein would follow the strike of the country rocks as at Ainsworth, put in their stakes accordingly, and in reality made their location across the vein. Until lately this ground had been opened up by Mr. Bailey, and on the Payne a tunnel has been run in for over 300 feet, with ore continuous for nearly all that distance, the vein strike, N E by S W, having a quartz gangue, but with a maximum width in parts of solid high grade galena of three feet. Substantial mine buildings were being erected at this tunnel mouth, to supplement those already built, and on the Maid of Erin, to the south, a tunnel lower down had been begun and extended into the Payne claim. To the north of this claim, on the Mountain Chief, tunnels had also been run in on the vein, and ore stoped out to the grass roots, but the main mining operations will be conducted from the southern side of the mountain, on which slope is a fair amount of timber suitable for mining purposes; fires having destroyed most of the wood supply. It is reported that over (Sept. 1896) \$100,000 worth of ore has already been sold from this vein, the carbonates assaying 80 to 100 ozs. silver per ton, and 35 to 40% lead, and the galena ore 175 ounces of silver and 70% lead, or an average net value on all ore sold of over \$100 per ton. Mr. Scott McDonald formerly in charge of the Skyline, is superintendent of the work now being vigorously carried on. At time of visit 28 men were engaged on the different claims.

THE WASHINGTON

Was located on the northern slope of this mountain on the vein that showed in the face of the cliff, and over 1,400 tons of ore were shipped in the early years of 1892-3-4, but work ceased until the end of 1895, when the concentrator was built, permitting the shipment of much mill ore on hand in the mine and on the dump. This claim, Crown-granted, 14.76 acres, together with four mineral locations, is the property of J L Montgomery, of New York; J L Retallack et al, Kaslo.

The porphyry dyke in places lies next to the ore, but so far has not been found to cut across the vein, which, with a strike N E by S W, and a dip to the S E from 60 to 85, is 3 to 12 feet wide, with an average width of 5 to 6 feet of galena in the gangue of spathic iron and quartz with zinc blende, much of which is sorted out. Bodies of clean, solid galena are also mined, but there is very little carbonate or decomposed ore. In the

upper tunnel, No 1, 77 feet long, there was considerable mill ore, but most of the ore came from tunnel No 2, 200 feet below and 275 feet long, over which was a large slope 150 feet long and 30 feet high, with a good quantity of concentrating ore in sight, which on being broken, was sent down to tunnel No 3, 300 feet long, in which the ore chute is much smaller and completely cut off at the face by a fault not yet explored. From the mouth of this tunnel-level the ore passes down through a chute 180 feet long to a 3-rail gravity tramway, 1,450 feet long, which leads to the chute down to the strong log ore bins of the concentrator, where an excellent wagon road—one of the best in West Kootenay—three miles long, runs to McGuigan's siding on the K & S R R.

Concentrator—This mill was the first built in the Slocan, by Mr T L Mitchell, who used machinery mostly made in Canada. It has a daily capacity, when water is sufficient, of 5,000 tons of ore, and the ore, after passing through a 4 by 10 inch Blake crusher into the supply bin, is automatically fed to coarse rolls, and thence elevated to the revolving screen which makes three sizes: (a) The smallest screened material is further sized to 3 sized by an hydraulic classifier, each of which passes to one of the 3 fine Hartz jigs, while the overflow of the classifier runs into a V shaped settling tank, and the settlings of which are drawn off into a double round slime table, the middlings from which pass to elevator No 1, into the trommel, and then to classifier again; (b) Of the 2nd and 3rd sizes of the revolving screen, and the refusal or the product passing out of the lower end of the screen, each passes to one of the three coarse Hartz jigs, the middlings from which go to coarse middlings rolls, and then back by elevator No 1. The middlings from the fine jigs pass to fine set of rolls, and also to elevator No 1. The clean concentrates pass into concentrator bins, which drain into settling tanks to save the slimes, and all shipping material is sent down the hill in sacks.

Ore—The crude ore or unconcentrated galena assays from 108 to 133 ounces of silver per ton, and 66% lead, and during the past year, the concentrates, of which 50 to 60 car loads have been shipped, yielded 95 ounces of silver per ton, 60% lead. As the water supply for the mill is for some months precarious, or only available for half of the year and for the last season even less than that, it has not been feasible to pursue mining operations to that extent otherwise possible, but the development work will be done in the meantime, as there is good site for another tunnel on the lead below the present No 3.

BEST.

The Best, 600 by 1,500 feet, title Crown Grant, and the Cincher, alt. 5,800 feet, lie in the Best basin on the north slope of the mountain range, on which are the Reco, Noble Five and other mines already described, are owned by A W McCune, Geo W Hughes, P Larsen and Scott McDonald. The Washington Mine road has been extended to the mine, which is thus 4 miles from McGuigan's Siding.

The ridge separating this basin from the Dardanelles basin is formed by a fine grained granitic boss, on which are the above claims and part of the Rambler group, and on the Best claim this mass is seamed with a series of quartz veins from a few inches to 6 feet wide, running N W and S E (mag.) and dipping north-easterly 30-45°. The ore consists of quartz and rich silver-bearing tetrahedrite and jamesonite, with, in isolated places, galena and a little blende and iron and copper-pyrites. These veins are irregular in size, inasmuch as they will have a width of 2 or 3 feet, then pinch out or break into several small stringers. An incline shaft had been sunk 75 feet on one of the veins, and in this and a 25-foot drift, ore was continuous with a maximum width of 3 feet, and 120 feet down the hill in a tunnel 312 feet long; at 100 feet a vein of 6-8 inches of good ore was being followed to the S E for 65 feet (Sept 6th), and at 25 feet a raise to connect with the incline was up 55 feet, at the foot of which was a vein 18 inches wide, of galena, grey copper and blende. The value of the ore shipped was not learned, but other shipments this winter are expected, when the mine will have been put in the best shape for good work. Foreman, F Banaman, with 9 men.

RAMBLER GROUP.

Higher up in the Best basin and south of the Best claim, lie the Rambler group, i. e., the Rambler, Caribou, Antelope, Tiger and Best Fraction. Crown grants applied for, the property of the Rambler and Caribou Consolidated G and S Mining Co. Capital stock \$1,000,000. Pres J B McArthur, Rossland; Sec A L McClaine, Kaslo; Superintendent, Richard Shea.

Although the ground embraced within the limits of this property has hardly yet begun to be prospected, two different series of veins have been discovered and are being worked. The veins first found were two quartz veins in the same granite as the Best, with the same character of ore, but when building a trail a narrow streak, a finger-width of red and brown iron oxides, betrayed the existence of a typical silver-galena vein, running through the Slocan slate series and porphyry, close to the contact with the granite area, and since following this streak, three feet of solid high grade ore have been found in one of the tunnels. Galena ore in good quantity has been found in other veins on which a little work had just been done, and every indication pointed to the high value of the property.

(A) Veins in Granite—About half way up the slope of the ridge of the granite, two strong quartz veins 200 feet apart, traceable to the summit 400 to 500 feet above, had been entered by two tunnels, and the strike of each was about N 20° E by S 20° W, nearly at right angles to Best veins, a short distance away. In one tunnel 20 feet long the vein, dipping easterly 70°, consisted of a very white crystalline quartz, with druses, 3 to 20 inches wide, with parts of the vein strongly impregnated with grey copper and jamesonite, and in other tunnel, 75 feet long, the vein dipping easterly 40 to 50°, was continuous, with a width of 2 to 20 inches of very fine looking tetrahedrite or grey copper ore from a small slope in which, it was stated, 18 tons shipped to the Pilot Bay smelter has assayed 439 ounces of silver per ton, \$7.50 in gold 2% copper. No work was being done on these veins at the time of visit, but large and commodious cabins, ore houses, etc., were being erected, there being a good supply of large timber in the basin.

(B) Silver Lead Veins—The vein material mentioned above has been traced on the surface for over 400 feet by cuts, and tunnel No 1, after being run as a crosscut for 78 feet through the porphyry and slate, had been drifted for 30 feet (Sept 6th) along a vein of solid galena ore, in places a few inches wide, in others 12 to 24 inches,

and at one point in the drift there were two bands of galena along what made the walls of the drift, with crushed country rock between. Along the planes of bedding and fracture in rock there were iron pyrites and galena and the country rock was impregnated with pyrites. In tunnel No 2, 170 feet long and 50 feet above and 115 feet beyond the face of No 1 drift, the vein varies from 3 and 4 inches to 2 and 3 feet in width, but at the face the ore was scattered through the country rock. On the ridge a small tunnel exposed two feet of solid ore, of which 15 tons had been piled outside, and this vein appeared to be traceable for several hundred feet to some slopes made by leasers in 1898 on the Antelope ground on the slope of the ridge overlooking the Dardanelles basin. Although these slopes were badly caved in, the vein was seen to betwining very flat, with 2 or 3 feet of mixed ore, and in one place 2 feet of solid galena ore, and during the present winter this vein will be properly prospected and put in shape for mining.

The galena ore shipped, as per smelter returns, has yielded from 79.6 to 273.3 ounces of silver per ton, and 31 to 64 / lead. One lot of 27 tons netting \$185.12 per ton, while the carbonate ores, running 22 1/2 / lead, assayed 166 to 178.5 ounces per ton, of silver. Ore shipments will be sustained, and it is proposed to extend the Washington wagon road via the Best up to the mine, to greatly facilitate the export of the mine output, and it is now reported that this has been done.

Other Claims—On the City of Spokane Foss & McDonald were exploring for the extension to the south-west of the main lead vein.

SURPRISE AND ANTOINE.

In the next basin, or the Surprise basin, mining operations are active, but lack of time forbade a visit to the well-known mines, the Surprise and the Antoine, that lie to the north of the Noble Five group, but down on the north slope of the ridge. The Surprise, title, Crown grant, 15.7 acres, manager, Alex Smith, Kaslo, has made regular shipments of high grade ore during the years 1894-5-6, and is now being actively worked. The Antoine, Manager, J C Ryan, Kaslo, is also shipping, ten carloads of ore being sent to the smelters during the past year.

RUBY SILVER.

The Ruby Silver, owned by Matthews and Braden, Kaslo, is being developed, and during the past season the mine shipped two carloads of high grade silver ore, one lot 11 tons assaying 198.2 ounces of silver per ton, and 46 1/2 / lead, and another 13 1/2 tons, 256.4 ounces per ton, of silver, and 68 1/2 / lead. This claim, lying just north of the Noble Five claims, is Crown-granted, and contains 17.94 acres.

DARDANELLES.

This important group of claims lies in the Dardanelles basin, between the Best and Jackson basins, but as all work was suspended in September, this mine was not visited. Recently the newly organized Dardanelles Mining and Milling Co., Ltd., of Kaslo, B.C., Sec. A L McLaine, Kaslo capital stock \$1,000,000 in \$1 shares, has acquired the following claims, embracing 175 acres, the Dardanelles, Dardanelles No 2, Diamond Cross, and Okanagan; and mining operations on a sufficient and systematic scale are to be now inaugurated.

On the vein on the Dardanelles, cutting across the Slocaan slates and the porphyry dykes, a shaft has been sunk 220 feet and 1300 feet of drifts and raises run, and from these workings over 250 tons of high grade ore were shipped that averaged 265 ounces of silver per ton and 28 1/2 / lead, while several hundred tons of second class ore, said to assay 75 ounces of silver and 16 1/2 / lead, were piled on the dump, 76 tons of which were shipped to the Pilot Bay smelter giving the above returns. From a copy of the smelter returns the ore is seen to have run from 145.8 to 470.2 ounces of silver per ton, and from 15 to 56 1/2 / lead; one shipment of ten tons giving the highest returns, while 115 tons yielded 300 ounces of silver per ton. The ore carries a low unit excess of zinc above the 10% smelter limit.

Other veins have been slightly prospected upon the Okanagan and Diamond Cross, but these will now be properly opened up. In the 220 foot shaft the small plant of a 7 h p boiler and a No. 6 Knowles pump, was quite inadequate to handle the water, and a plant of requisite capacity will be now put in, and this vein will be extensively exploited. There is a good supply of timber for mine purposes; and for transportation at present a trail 1 1/2 miles long leads out to the Washington wagon road and thence to McGuigan siding.

Wm S Tretheway, M E, will be superintendent for the company, and the above information has been taken from his report to the company, and from a copy of the smelter returns.

NORTHERN BELLE.

The Northern Belle, Dublin Queen, Kootenay Star and Ophir, surveyed for crown grant, located in Jackson Basin, 5 miles south of Whitewater station, on the Kaslo & Slocaan R.R., and 4 or 5 miles by trail via Reco mine trail, north-east of Sandon, have been bonded by R Jackson to Geo. Alexander et al. Nine men were at work upon this property under B J McPhee, and a wagon road about 5 miles long, with all grades under 10%, was to be constructed from the railroad to the mine. There are many features of interest in this vein which, accompanied by a greenish colored eruptive rock and cutting across the very carboniferous shales and slates and limestones, is much disturbed by faults of a small amount of displacement. One peculiarity is that throughout all the workings where the vein has been explored, along the very smooth foot-wall lies a band of a few inches to 3 feet of solid zinc blende and above this, in a quartz and spathic iron gangue, is the galena varying in texture from the fine steel galena to the very coarsely crystalline. Up to 15 inches of solid ore have been mined, while in places in the mine there is a width of several feet of mixed milling ore. Prior to the giving of the present bond all the ore in sight had been extracted to cover the heavy legal expenses forced upon the owner by a former leaser, and ore was being found during the present development, but at time of visit the mine was just being put in proper shape for exploration. In the uppermost tunnel, No 1, 50 feet long, work was begun on a big out-crop of decomposed vein matter and blende, and 60 feet below, tunnel No 2, driven in 250 feet, had been the source of most of the ore shipped. In the upper and underhand slopes the underlying band of blende always proved persistent, but as the ground was soft and much water was coming in, but little work was being done on this level, although 40 sacks of first-class ore lay at the tunnel mouth. The new cross-cut tunnel, No 3, 60 feet lower down, was in (Aug 23rd) 35 feet and apparently approaching the vein. Tunnel No 4, 135 feet vertically below No 2, had been driven 340 feet along under a smooth wall, or along a line of fissuring, along which had been irregularly deposited a small amount of ore. Tunnel No 5 had been begun under present management on the strong out-crop of the vein near Jackson creek, in which a good amount of water for power and milling purposes is said to be available all the year round, and at the surface on the smooth wall lay about two feet of black-jack, then 3 or 4 feet of the greenish eruptive rock, and then a band 1 to 2 feet wide of steel galena, which continues with varying thickness most of the distance to the face where lying next a very smooth hanging wall were 6 to 18 inches of this fine grained ore. On the dump were 10 to 12 tons of good ore and a considerable amount of milling rock, and if further work justifies, a concentrator may be erected on this creek. There is a plentiful supply of good timber right at the mine, and the present management propose a thorough exploration of the property, and with a new road ore can be easily hauled to a railroad at a cost of \$2 per ton. During the month of December 5 or 6 carloads were shipped to the smelters, the returns of which had not been received.

OTHER CLAIMS.—Time did not permit the examination of other claims in this basin, but work was being done on several with very encouraging results, other veins of high grade silver-lead ore being uncovered. On the Bell and Sunset, at the upper end of the basin, L Peterson was engaged by the owners, J L Retallack et al, Kaslo, in opening up a vein of this ore found running through these claims, and ore has also been found on the Silver King owned by J Moore and P A McPhee of Kaslo. About 1/4 of a mile north of the Northern Belle very rich ore was found on a small vein on the Bon Ton, title, Crown grant, owned by Capt R C Adams, Montreal, but no work has been done for some time on this claim. On the Crown Point formerly the San Franciscan, lying up on the mountain slope east of the basin and of the Northern Belle group, it is reported that a silver-lead vein can be traced by different croppings through the claim, but nothing but assessment has so far been done.

WHITWATER.

This property has also paid for itself since its discovery, high grade silver ore having been mined from the grass roots without ever a demand for money being made upon its owners; and this year a dividend will be paid of \$25,000.

The two claims, the Whitewater and the Irene, Crown grants applied for, are located about one mile north of Whitewater station on the K & S R.R., 18 miles of Kaslo, are owned by J C Eaton, J L Retallack, J L Montgomery, and W C Pierce, of Kaslo; Superintendent J C Eaton.

Crossing the shales and slates on the Whitewater claim the vein runs east and west (mag.) and dips S 40 to 45. A good wagon road 8,300 feet long, has been built, at a cost of \$2,800, from the mine to the railroad, and there is an abundant supply of good mine timber, and also in Whitewater creek ample for power and other purposes.

In mining all the underground workings are kept timbered up in an excellent manner, as is imperative, as this vein is evidently located in a shear zone along which the country rock has been shattered and ground up for a distance of 10 to 25 feet from the fissure, so that very little blasting is required in this soft material, only pick and shovel work, while the timbers must be kept right up to the face, spilling even often being necessary. Along the well-defined smooth foot-wall or fissure plane, there is usually a band of spathic iron, sometimes five feet thick, and upon this will be found a varying thickness of galena and then carbonates or oxidized ore, the ore being often scattered irregularly through the broken mass of shale for a width of 20 feet.

On the surface the vein has now been disclosed for 800 feet, and from strippings several car loads of good ore have been shipped from the crushed mass of shale and iron oxides and yellow carbonates, copper stained by the decomposed tetrahydrate. In the mine the uppermost tunnel, No. 00, had been driven in 30 feet along the much decomposed vein, and ore was being piled up at the mouth. Tunnel No 1, 260 ft. below No. 00, had been driven west along vein 130 ft., but with little ore. In tunnel No. 2, 400 ft. long, 75 ft. below No. 1, with 45 dip, 3 or 4 car loads of ore were extracted from a small slope near the entry and beyond this the vein was almost barren for 340 feet, when the ore chute widened from 16 inches to 6 feet of solid ore, and in the face, beside the carbonate ore, were 6 to 12 inches of solid steel galena. Tunnel No 3, 96 feet on the dip below No 2, had been extended 425 feet with 4 to 10 inches of continuous ore for 200 feet, when in a crosscut, running both ways, was a mass of barren crushed shale about 20 feet wide, with a band of steel galena along either boundary of this zone. At the face of the ore chute was small, but the solid mass of spathic iron was 3 to 5 feet wide. Near the mouth of this tunnel \$1,000 worth of ore was taken from a narrow streak of carbonate ore in driving 40 feet, and a wize had been sunk 15 feet to a short tunnel following good ore, and then 70 feet farther, with 2 to 4 feet of very high grade ore for 40 feet of galena, varying from very fine to the coarsely crystalline and carbonate ores. In tunnel No 4, 104 feet on the dip below No 3, the heading was in 175 feet, and in the face was a solid band of spathic iron 2 feet wide on the regular dip of the vein, with a finely crushed mass of black slate and shale on either side. In a slope 40 feet long, and up one set above the drift, there were 6 to 12 inches of steel galena, and then coarse broken galena, as if shattered by movement since deposition.

From this description it will be seen that work has been confined almost entirely to development, and that but little stoping has been done between levels. Good and commodious ore sheds were being built at the lower tunnel, and other mine buildings, cabin, etc., were close by.

Ore—Six lots of ore sent from this vein was the first sent out of the Slocaan, via Kaslo, and in the early days it cost \$100 per ton before any returns were received. Much of the ore shipped is of the carbonate class, and the silver value ranging from 72 to 398.5 ounces per ton, the lead from 11 to 30 1/2 /, while the galena ore yielding 35 to 65 / lead, assays in silver from 75 to 382.6 ounces per ton, or an average on the whole out-put of the mine for 1896 of 114 ounces per ton, and 30 1/2 / lead. This ore carries from 18 to 17 1/2 / zinc, and the smelter charges vary from \$9 to \$13 per ton—\$9 if the lead is below 20 /; the cost of freight being \$1 per ton to the railroad, and \$11 to the smelter. Number of men, 28.

Other Claims—Work was being done on the Elkhorn, the eastern extension of the Whitewater, and on the Charlestone, further up the mountain, Mr J Mitchell was driving a tunnel to reach a vein from which he had already taken some ore. Seven men are now working on the Corean, the western extension of the Charlestone; seven men are opening up this vein and getting some ore, and seven men are working on the Lone Star, the property of the Hansard Mining Co. These three claims were staked out by Mr. Wm Mathewson, the locator of the Wellington. To the east of the Wellington seven men are employed on the Sunset, on what is believed to be an extension of the Wellington ledge, which is thought to extend into the claim east of the Sunset, the Colorado, where again seven men are mining. On the Eldon and Acton claims, 3,000 feet west of the Lone Star, the Eldon Gold and Silver Mining Co., of Spokane, Wash., have at work ten men.

WELLINGTON.

On the same mountain slope, one and a half miles west of the Whitewater, lie the Wellington, crown grant, 50.5 acres, Ivanhoe, Ottawa, Metis Bleucher, Goodluck and Bolderwood, the property of the Keoteny and Columbia Prospecting and Mining Company, of Ottawa, Ont., Capital stock, \$40,000. Superintendent, John McConnell, Kaslo.

On the Wellington are two veins in the Slocaan slates, one striking N 50 E and dipping 60° southerly, and the other dipping north, described by Mr. McConnell, of the Geological Survey, as a "wide crushed zone, traversing the slates in an east and west direction. The crushed slates holds stringers and pockets of quartz, spathic iron and calc spar." A cross-cut tunnel 170 feet long taps the vein at 40 feet in depth, and an 800-foot cross-cut tunnel intersects the south-dipping vein at 550 feet at the 200-foot level, along which so far the vein dipping north has not been found, although it is now being followed down towards this level. The works are all connected on the south vein from the 200-foot level, up in the 149-foot drift the north vein is intersected. At present ore is being mined from both veins, but the highest grade ore comes from the vein dipping north. The mine is about 2 miles from the siding on the K & S R. R., and ore is being packed down half way by the trail, and half way by wagon road. The ground is very soft, requiring little or no powder, but the timbering, as in the Whitewater, must be constantly kept up to face of work.

Ore—From a copy of the smelter returns, the ore which occurs both as the carbonate and galena, with grey copper and zinc blende, in which is found good silver value, has assayed from 125 to 328 ounces of silver per ton in car load lots, and 10 to 55 / lead, the average for 400 tons shipped, being 173 ounces in silver, and 30 1/2 / lead. Number of men employed, 24. During the year 1896, 25 lots of ore have been shipped, and the mine has been put in excellent condition for mining and further development.

THE LUCKY JIM.

The Lucky Jim group is located at Bear Lake, 20 miles west of Kaslo, 1,300 feet south of the K & S R.R., and 670 feet above it, and belongs to Wm Braden and E J Mathews, of Kaslo. Mr McConnell reports in the Summary Report of 1895, that this claim is situated on what "appears to be a faulted line of contact between the slates and a brecciated band of limestone. The ore occurs in large pockets and side fissures penetrating the limestone." In developing this mineralized limestone band, in which the ore is galena, zinc blende, iron pyrites and some carbonates, a 3-drill Rand Compressor is being used for the machine drills, but as most of this ore is concentrating material, it is proposed to erect a mill during the coming spring.

The Ore—Of 110 tons shipped, the silver value was 59.2 to 75 ounces of silver per ton, and 50 to 56 / lead, and by tests in concentrating, the probable value of the concentrates will be 60 to 75 ozs. of silver per ton, and 55 to 56 / lead. Number of men employed, 15. Superintendent, E J Mathews.

LONDON HILL GROUP.

The London, the Third of July, the Pompeii claims, 1,500 by 1,500 feet, and the fractional claim the Bound Up, situated on the ridge of the mountains, west of Carpenter Creek, about three miles from Bear Lake and the K & S R. R., are being acquired by the London Hill Development and Mining Co., Ltd, Kaslo, B. C. O T Stone, President; T G Proctor, General Manager. Capital stock \$150,000 in 600,000 shares at 25 cents each.

This mine was not seen, but Mr D B Irving reports that near the summit a ridge two tunnels had been driven, in one of which, over 40 feet long, was a 4-foot vein, carrying grey copper ore and silver sulphides. On the other side of the ridge, 254 feet below the summit, a tunnel 326 feet long was being driven to tap the vein in depth, in which several small quartz veins, traversing the slates and quartzites, were cut. Three lots of high grade ore, or about 40 tons, have been shipped, on which the smelter returns were 190 ozs., 267 ozs, and 150 ozs of silver per ton respectively; and this winter Mr Proctor has a force of men engaged opening up this property. As in other veins of this character of ore, there is much 2nd class ore that will have to be milled near the mine but the method to be adopted will be decided upon after more underground work has been done.

Slocaan Lake.

This beautiful lake, lying in a deep valley between the valleys of the Arrow and Kootenay lakes, is 23 miles long and about one mile wide, and in the valleys and on the ridges that trend away from it to the east, mines of very great promise are being rapidly opened up, and new finds of value are being made as prospecting is more thoroughly and widely carried on. As yet the great granite mountains to the west have not been found to be mineral-bearing, but more diligent search may reveal as good veins of rich mineral as have been found in the granite area east of the lake, which, until lately, was shunned by the prospectors, who had an unwarranted lack of faith in the likelihood of veins being in this formation.

However, all doubt has been dispelled, the granite area is fast gaining in importance, and this part of the Slocaan now offers many good inducements for further search and investment. It is true that most of the leads so far discovered are small, but the high value of the ore to a great extent compensates for this, and as to their persistence, there is no reason why these pay-chutes should not continue to carry their size and value as depth is attained.

At Roseberry the lake steamers connect with the C.P.R., and then stop at New Denver, which has one of the best townsites in Kootenay, and is the official centre for the Slocaan; at Silverton at the mouth of Four Mile creek; at landings at Ten Mile and Twelve Mile creeks, or any other point desired; and at Slocaan City and Brandon, two rival towns at the south end of the lake, whence the trails lead off to Springer, Lemon, Twelve and Ten Mile creeks, and a branch of the C.P.R. will be built during the coming season to connect with the line running from Robson to Nelson.

On the south of the range dividing the south fork of Carpenter creek from Four Mile creek, on the north slope of which are the series of mines, from the Slocaan Star to the Idaho and Alamo, are the Mountain Chief, California, Alpha Group, Reed and Robertson, Jenny Lind, Ottawa group, and Fisher Malden, all of which were visited, except the first two, and south of Four Mile creek are the Thompson group, Vancouver group and the Hewitt claim.

Four Mile creek, for ten miles of its course, forms a dividing line between the Slocaan slates and the granite, although small areas of each cross the river in places.

THE MOUNTAIN CHIEF.

This property lies at the western extremity of this ridge and is owned by Geo W Hughes, who was one of the earliest shippers from this district via Nakusp, having purchased this claim in 1892 and then shipped a large amount of ore in 1893-4-5, of galena averaging 130 ounces of silver a 70 / lead. After this the lead was lost and much work has been done prospecting for its continuation. This fall several carloads of zinc galena ore have been shipped and work is being pushed ahead.

THE ALPHA.

The Alpha, Crown-granted, 51.67 acres, and other claims are locally known as the Grady group, and are owned by Jas McNaught, Alex McKenzie, and Jas McKenzie, Manager, F McNaught, Silverton. A good road 2 1/2 miles long from Silverton, leads to the foot of a 3 rail gravity tramway about 1200 feet long, up to tunnel No 1. No work has been done for some time as there is some litigation in progress, in fact, none since the fall of 1894, but over 1000 tons of ore had been sold that averaged 115 ounces in silver per ton and 70 / lead.

This vein runs true N E and S W, and dips S E 30 to 40°, through the black limestones, shales, and slates but no ore was in sight. The ground is much disturbed and faults were in evidence. There are 5 tunnels, of which No 2 was in about 300 feet to the face, with three upraises, cross-cuts and an incline, and another tunnel starting near the mouth of this one ran 50 feet N 70° E, while immediately below was a third, connected by slopes with the upper ones. No 4, 80 feet down the hill, is a cross-cut for 100 feet through the much contorted country rock, and then a drift 110 feet along a smooth fault wall lying next to which was much black gouge, but no ore. Tunnel No 5, below No 4, appears to be following another lead altogether, from the position and strike, or north and south, dip, E 45° 50', and for 130 feet along a smooth wall with several inches of decomposed matter or iron oxides; but there were no sign of any ore having been taken from this working.

Other Claims.—North west about one mile is the California, owned by J McDonald, J Marino, B C Van Houten et al, to which mine a road had been built from New Denver, as a carload of galena ore was ready on the dump for shipment.

THE REED AND ROBERTSON.

High up on this range, 6 miles by road and trail from Silverton, is a very strong vein, that runs up the south slope, crosses the ridge and then passes down the north slope as far, it is believed, as the Carnation claim, and along its strike eight or ten claims have been staked.

Reed and Tenderfoot—These two claims, surveyed for Crown Grants, extend up the slope and across the ridge, and had been secured by Mr C W Callahan, M E, for his clients, who were prospecting the vein by surface cuts. The vein runs about north and south (mag.) and dips from 45 E to nearly horizontal. At the southern boundary of the Reed a tunnel had been driven in 110 feet, disclosing considerable milling galena ore, and on the surface the ledge was very wide with also a good deal of mill ore occurring in wide bands of very coarsely crystallized calcite, 10 to 12 feet wide, while next to the calcite bands are several inches of solid galena. Higher up the slope the calcite bands continue, forming a prominent landmark from their whiteness, and several cuts narrow bands of solid, very large cubed galena lie next to these bands, that at a point 300 feet above the tunnel come together in a solid mass of lime 10 to 14 feet wide, with several feet of concentrating ore, and a few inches of solid lead ore. At the small cuts, about 30 tons of splendid ore were piled up, but more work is required to demonstrate the value and conditions of this very striking lead. There is no timber on these claims to amount to anything, and to get this ore in quantity down to Four Mile Creek, a long aerial rope tramway, on a very steep pitch, will have to be built down a ridge safe from snowslides.

The Jenny Lind, lying south of the Reed has about 800 feet of the vein crossing one corner, and is owned by Paul and Chas Anderson, Silverton. The vein presents very much the same characteristics of a large amount of calcite and brecciated slate and lime with irregular masses of concentrating ore and stringers of solid galena. A tunnel had been driven 150 feet in a direction diagonally across the ledge, but in it as yet no ore in quantity has been found. In 1895, 30 tons of galena was shipped, and on the dump was piled mixed ore or calcite, galena and blende.

The Robertson, lying south of the Reed and Jenny Lind, is owned by Wm. Robertson et al, Silverton. The vein is here covered mostly by wash, but 40-foot tunnel had been run in where the ledge showed 8 to 10 feet of calcite, with little galena. No work was being done.

The Wakefield, Ottawa and Cazabazhua, owned by Geo. Fairburn and Wm. Smith, Silverton, and located on the southern extension of the vein, had on the Wakefield a tunnel running N E 125 feet, in which, at 80 feet, were 16 to 20 inches of solid fine-grained galena, beyond which was the coarse calcite lying on a dip only 12° to 20° from the horizontal, and on the Ottawa further down the slope, the ledge is said to be lying even flatter. No work but assessment has been done during this

year.

FISHER MAIDEN GROUP.

At the time of visit to those claims no work was being done, but they belong to Jno Pophan and Albert Webb, Silverton, and lie along a small creek flowing into Four Mile Creek, seven miles east by trail from Silverton.

This vein was discovered in a narrow gulch in syenitic granite, with strike N E by S W, and a dip 75° N W. It shows on both sides of the gulch, where in two tunnels were spaced 1.3 feet wide up to the surface. Below these workings have been run two other tunnels, one on the south of the gulch being in 100 feet with crosscuts, but showing no ore. On the north side over 400 feet of work had been done, in which four drifts had been run along smooth fissure planes that proved to carry no ore. At one part where two drifts branched off at an angle of 45°, was a winze full of water, close by which were lying several large blocks of galena ore in quartz gangue. On the dump were pieces of ore, consisting of zinc blende in a quartz and sphatic iron (?) gangue, also some galena ore; but the percentage of lead was very low. Native silver was found along the seams, and of about 50 tons shipped in the fall of 1894 the silver value is reported to have been 150 ounces per ton, while one lot of 93 tons carried 40% lead, the remainder 10%.

Other Claims—South of Four Mile Creek are many locations on silver-lead veins, and work is being done on a number of important groups. The Thompson group, about six miles east of Silverton, on the Fennel Creek, has been bonded to Dr D Bell-Irving, of Vancouver, for \$40,000, who is engaged in developing a galena vein from which a considerable amount of ore has already been taken, and has contracted for the shipment of 100 tons of ore on the dump, while 300-500 tons are believed to be in sight that will yield about \$100 to the ton on an average.

Farther west of this group, on Granite Creek, is the Vancouver group, embracing the Vancouver, Mountain Booter, Le Roi, Iowa and Donec, owned by Mahon Bros. The Hewitt, owned by Capt R G Tatlow, C F Yates, et al, Vancouver was being opened by Major Reid, with ten men, who was running a tunnel on a vein believed by him to be the extension of the vein on the Galena Farm, to be described, and the breast of the tunnel was reported to be all mixed ore or zinc blende and sphatic iron, with 5 feet of mixed ore in a 75-foot shaft.

GALENA FARM.

This property, otherwise known as the "Currie Group," obtained its name by the finding of ore scattered over a plateau east of the Slocan Lake, and the subsequent discovery of the large ledge that now bids well to rank among the largest producers in this district. Great importance may be attached to this vein in that, while resembling in many details the large Slocan Star lead that runs through the slates and limestones, this is evidently in the granite, although pieces of slate occur in the quartz gangue, a small, but very probably shallow, area of slates occurring close by, but bosses of granite protrude from the wash all over these claims, from which the slate formation has been eroded, and this lead not only demonstrates the importance of the granite area, but also points to the persistence of the veins in the different geological horizons.

The first to work this property were discouraged rather by the presence of much zinc blende and small amount of galena scattered through the ledge matter, but in the prospecting done during the last season by the present owners, fine solid galena ore with high silver values had been uncovered. The group of claims comprising the Currie, Grover, Stephenson, Katicand Peerless, Crown Grants applied for, 1 1/2 miles south of Silverton, and one mile east of the lake, was secured by C W Callahan, M E, for English investors who have recently formed the Galena Mines Company, Ltd, London, England, with a capital of \$550,000, in 550,000 \$1 shares.

On the Currie claim this vein was seen to have a strike east and west (mag.) and a north dip of 30 to 65°, and on the surface, and an outcrop now traced for 1,000 feet, with, in places 12 to 14 feet wide, of milk-white quartz, sphatic iron, fragments of slate and granite, and some zinc blende and galena. In an old shaft, at a depth of 50 feet, a short cross-cut entered the vein at 12 feet, and there a drift was run 60 feet east and 70 feet west, exposing a large body of concentrating ore for a distance, and along the smooth hanging wall a good body of solid high grade galena. In the west drift, 35 feet from the cross-cut a winze was being started, since sunk 45 feet, in four feet of solid galena along a smooth foot wall with considerable concentrating material.

Since the time of visit a 2-compartment working shaft, now down 65 feet, has been sunk west of the old shaft and a 140 feet north of the outcrop, with the expectation of striking the lead at 130 feet, but at 41 feet what is believed to be a cross-ledge running north and south was entered, dip 65° west, and down to 51 feet the shaft was in concentrating ore, that by tests made by Mr. Callahan, concentrating 5 to 1, yielded 123 ounces of silver per ton and 62% lead. This cross-lead is now thought to be traceable for 800 feet. The shaft, equipped with requisite steam hoisting plant and pumps, will be now sunk 500 feet, with crosscuts to the vein at every 100-foot station, and when sufficient development justifies it, a 15-ton concentrating plant will be built, for which the water from Eight Mile and Cold creeks is expected to supply 600 inches under a 50-foot head. The ore is essentially a milling ore, but a test shipment of assorted assayed 98 ounces of silver per ton and 57% lead. A good wagon road, 1 1/2 miles long, has been constructed from the mine to Silverton, whence the concentrated ore will be shipped to the smelter, and suitable bunk-houses, etc., have been erected. D J McDonald, a Californian, a mining man of long experience, is in charge of the work as superintendent, and was employing 25 men in the proper exploitation of this valuable property.

Other Claims.—Many claims have since been located about the Currie group and many are being prospected. To the east the Noonday is thought to have the extension of the Currie vein, but here the formation is the small area of highly altered slates. The Baby Ruth, Los Vegas, Mountain View, Granite Mountain and Daisy, on Eight Mile creek, occurring according to Mr Mc Connell, in an outlier of hard, rusty slate several miles in extent and enclosed, the granite, reached by trail from Silverton via the Galena Farm, were not visited, but assessment work was being done. The L H, also one of this group, is situated high up on a very steep ridge, and Mr Mc Connell (summary report, 1895, p 26) says: "The slates are fissured along an east and west line, and the schistose rock adjoining the line of fracture on the

south has been altered, silicified, and impregnated in places with ore, along a zone varying in width from 20 to 40 feet. The ore appears to consist mostly of native arsenic, mispickite, pyrite and pyrrhotite, distributed through the vein in an irregular manner." Four hundred feet up the steep face of the bluff a tunnel had been driven in 22 feet into this zone, but very little mineralisation was apparent there. J M M Benedum, one of the owners, has obtained several assays high in silver and gold from samples taken from this vein, on which only assessment work has been done.

TEN MILE CREEK.

An excellent wagon road has been built from the landing 8 miles up this creek, through a valley of fine timber, to the Enterprise mine, and thence rails pass over to Springer and Lemon creeks and back to Slocan City, and also farther east to the head waters of Kokanee and Yuill creeks and the south fork of Kaslo creek, where a great deal of prospecting has been done during the past season, with good results.

THE ENTERPRISE.

The success attending the development of this vein has to a great degree demonstrated the possibilities and the value of this granite area. The Enterprise and Slocan Queen, situated on the slope south of the creek were located in 1894 by R Kirkwood and Jno McKinnon, then bonded to J A Finch, who recently sold these, to David M Hyman, et al, Colorado, for \$800,000, on the advice of D W Brunton of Aspen, Colo, one of the most eminent Mining Engineers of the West.

This vein on the surface, while small, can be easily traced for two claims, and runs N 55° E and S 55° W, and dips S E 70° 80°. The gangue is quartz, the enclosing walls are a dark colored micaceous granite, that shades into the typical syenitic granite of this area, and the ore is fine and coarse grained galena, with a large amount of zinc blende, which, it was stated by the management, carried the best and very high silver values, and is found generally along the foot-wall, with bands of galena and quartz. In July last, a shipment to the smelter of 40 tons of ore yielded 172.7 ounces of silver per ton, and 18% lead, and during December in three shipments, or 120 tons, the silver values run from 153.7 to 179.5 ounces per ton, and now 2 or 3 carloads of ore are being shipped every week.

Three tunnels were being driven in on the vein, with the fourth just being started, and in the lowest or No. 1, 120 feet long, the vein of solid blende and galena varied from 2 and 5 inches, to 8 and 10 inches in width, and as in the other workings, the tunnel was being driven along the ore, leaving it standing to be broken down clean. Tunnel No. 2, 170 feet vertically above No. 1, was in 400 feet, with continuous ore for 300 feet, where an upraise 100 feet to surface, followed over 8 inches thick for 80 feet, but at 330 feet a fault had been encountered, beyond which the vein had not been picked up, but cross-cuts were being driven with the probability of finding it in the south-west. In this tunnel the ore was 8 to 18 inches wide, with very little gangue matter, and overhead stopes were being started. In tunnel No. 3, 25 feet above No. 2 and 310 long, for 250 feet the vein carried continuously 6 to 12 inches of ore, with more or less quartz, with one small fault to the S E, but for the last 20 feet the vein was pinched. In the opening cut for tunnel No. 4, 50 feet above No. 3, were 6 to 14 inches of solid ore, and thus, by these workings, for about 1,000 feet along the strike, had been exposed an almost continuous chute of ore for this distance. Bunk-houses, cabins and ore sheds had been built, and the ore will be shipped by the road to the lake, and thence by steamer to the C.P.R. Number of men employed, 20.

Other Claims—The Iron Horse and United Empire are located on the N E extension of the vein, and still farther N E, but on the north slope of the creek, this vein is said to have been found on the Alexandria. On another claim on the north slope, the Oregon City, owned by Jno Thompson, L Parkinson, et al, is a 50-foot tunnel, it was reported that 9 to 8 inches of galena ore had been struck, and that ore was found on the Westmount, owned by F Griffiths & West, et al, who were running a cross-cut tunnel.

NEEPEWA.

About one-half mile west of the Enterprise, and on the same slope, lie the Neepewa, Argenta, Fossivain and Baker Fraction, owned by E Shannon and A McGillivray, and since bonded to D Bell-Irving, of Vancouver, of the Alliance Prospecting Syndicate for \$30,000. The vein running N 20° E by S 20° W, and dipping easterly 60°, had been prospected by open cuts and a tunnel, and in one cut there were 10-15 inches of solid fine-grained galena and zinc blende, with 3 to 4 feet of concentrating ore, and since then ore has been found in a lower tunnel, and a trial shipment has been made to Tacoma.

A cabin was being built, and only a hundred yards of road will be necessary to connect with the Enterprise wagon road.

DALHOUSIE GROUP.

These claims, still further west, were not seen, but Silver-Joe, Dalhousie, Glad Tidings, Sayger and Whyecomagh are owned by J Angrierson, Jos Pilon, M McLean, et al, who had driven a tunnel 110 feet on the vein, with 2 1/2 feet of concentrating galena ore reported, and with 4 men driving a cross-cut tunnel to the ledge, which runs N E by S W and stands almost vertical.

THE BONDHOLDER GROUP.

The Bondholder, Pine Log, Lone Star and Rose Bud are located on a vein supposed to be the same as the Enterprise, high up in the basin near the ridge south of Ten Mile creek and are bonded to the Bondholder Mining Co, of Vancouver. Capital stock \$1,000,000; Gen Manager, R C Campbell-Johnson, M E.

This vein, running N E by S W (mag) and with a dip of 50° to 60° S E in the granite, had been traced by cuts and out-croppings for 4000 feet through nearly the entire length of the claims, and at the time of visit in September, commodious cabins for the men, stables, etc, were being erected, and development work had just begun, but little could be then seen of the vein, as the work had hardly progressed far enough to expose other than the surface influenced part, where it was in places 12 to 16 inches wide of blende quartz, iron oxides and galena, and in others more solid galena with some blende. On the Pine Log a short crosscut tunnel, then in 35 feet, was nearing the vein, down which an incline was to be sunk, and to the S W over a thousand feet distant, and near the ridge, an open cut showed an 8-inch vein, while to the N E on the Bondholder, where the vein can be easily seen for several hundred feet cutting across the face of the

steep bluff, tunnel No 2 was in just 12 feet and showing mixed ore in the face. Excellent facilities are here for the extensive development of this vein, and when the extraction of ore begins a trail for raveling will have been built down to the road along Ten Mile Creek, 2,500 feet below the mine and a wagon road may be built. This property can also be reached by trail from Slocan City, via Springer Creek. Foreman B C Bradshaw was in charge of 15 men.

KALISPELL.

The Kalispell, Crown-granted, 37.1 acres, is located on Ten Mile Creek one mile from the lake in a small area of stratified rocks, i. e., altered slate, quartzites &c., and is owned by Wm Ladder, Deadwood, South Dakota. In a 75-foot tunnel on the south bank of the creek is seen evidence of a sheer zone and later faulting, and along this is quartz, crushed country rocks, galena and silver minerals, such as ruby silver. Some stoping has been done along this lead that has a strike of N & S (mag.) and a dip easterly 70°, and several tons of high grade silver ore have been shipped, of which 8 tons assayed 289 ounces of silver per ton and 3 tons 212 ounces. There is ample water in the creek, and a large amount of timber on the property, and a short trail connects with the wagon road. No work was being done at time of visit in September.

Springer and Lemon Creeks.

From the rival towns of Slocan City and Brandon at the foot of the lake, trails lead off to the country drained by Twelve Mile, Springer and Lemon Creeks, and in this part of the district many locations have been made, some on galena veins, but many others on the "dry ore" veins and the gold-bearing quartz leads, all in the granite. Much prospecting was being done and considerable development work, but as many investors have been securing bonds and options on many locations, the coming season promises much greater activity, and certainly the careful attention of mining men is warranted by the very satisfactory results already attained by the as yet very small amount of work. The Howard Fraction, Two Friends Group and the Arlington were visited, besides these properties on Ten Mile Creek already described, and the writer is much indebted to Messrs. Gwillim and Johnson, for information concerning other claims it was impossible to visit this season.

THE TWO FRIENDS.

This claim, 1,500 by 1,500 feet, is seven or eight miles east of Slocan City, and on the divide between Springer and Lemon Creeks, and is bonded to the Two Friends Mine Co., Ltd., Pres. F C Innes, Sec. C C Bennett, Vancouver. Capital stock \$240,000 in 8,000 shares at 30 cents each.

By the discovery near a small spring of a little honey-combed quartz sprinkled with zinc blende, another vein in the granite of very high grade galena had been located, and was being opened up in an excellent manner by Capt J A Wood when visited in Sept. With a good supply of timber close at hand, good mine buildings were being completed and all underground workings carefully timbered where necessary. This vein strikes N E by S W (mag.) and dips S E 60°, and tunnel No 1, after crosscutting 25 feet, ran 50 feet along the vein, which was stoped up 10 or 12 feet to the surface and about 100 feet below. Tunnel No. 2 was driven 200 feet in 60 days to the ledge where the solid galena in large crystals lies next the smooth well-defined foot wall, or with a narrow seam of iron oxides between, while next to the hanging wall of dark, fine-grained altered granite was segregated more or less of zinc blende. To the S W a narrow dyke crosses the vein, beyond which no work had been done, and in the drift, then about 40 feet long, the vein varied from a narrow streak to 12 or 14 inches of solid blende and galena ore which in a raise up 25 feet and 8 feet wide there were 12 to 15 inches of this solid, clean, very rich ore.

Ore was then being shipped by pack-horses to Slocan City, at a cost of 15¢ per ton, which rate will be made less when the raveling season has begun after the fall of snow. Up to the end of the year shipments of over 40 tons of silicious high grade ore had been made that yielded, as per smelter returns, from 250 to 380 ounces of silver per ton and 88% to 92% lead, and ore, after deducting all charges, showed net to the owners the high value of \$150 to \$180 per ton. Number of men, 20.

THE ARLINGTON.

The vein found on the Arlington and Burlington, owned by R Cooper and C Fielding, of Slocan City, and located 6 miles from that place, on the north slope of Springer creek, on the trail leading over the divide to the Enterprise mine, has attracted much attention by reason of the rich specimens of native silver found along the cracks and crevices in a zone of shattered granite, in which also are small stringers of fine-grained galena and zinc blende, the native silver evidently being deposited in this state within the region of surface influences. This zone of crushed and more or less altered, mineralised granite, 4 to 6 feet wide, has a strike N E by S W (mag) and dip to the N W 55°, and has been traced it is claimed, through several claims. About 80 feet of tunneling had been made on either side of a shaft down 55 feet on the vein, with drifts at a depth of 35 feet, of 45 feet showing this broken country rock with stringers of ore and quartz, and on the dump were piled up 70 or 80 tons of ore, the value of which could not be learned as none had been shipped to the smelters. This winter the owners are continuing the development work.

THE HOWARD FRACTION.

This was the only dry ore property examined, and on the south slope of the divide, or Gold Hill, between Springer and creeks, 8 miles from Slocan City, lie, besides many other claims, the Howard Fraction, Tiger Fraction, Altgeld, Deadwood, Bland and Free gold, owned by A E Teeter, Wm Price, V T Ratelle, et al Slocan City.

The granite is traversed by many porphyry dykes, some of considerable width, and also by quartz veins carrying argentite or silver sulphides and varying values in gold.

This vein, running about east and west, was dipping northerly into the mountain at a very low angle, or at a dip of 10° to 15°, and an incline had been sunk about 115 feet, but not all along the vein, as it was found to be faulted up 3 feet, and 15 feet further again faulted 8 feet along the same direction or throw, while a third fault had been struck. The vein was 12 to 20 inches wide, of honey-combed quartz, with argentite disseminated through it in crystalline form, and considerable ore had been stoped, hand sorted and shipped

OTHER CLAIMS.

The Meteor, 1/2 mile north-east of the Howard Fraction, and bonded to Jno A Finch and Sheran has also a vein of dry ore, which was being opened up and prospected during the last fall.

The Silver King, 1 mile south-east of the Howard Fraction, owned by C Faas and M Heckman, has a 120 foot crosscut tunnel heading for a vein.

The Crusader Group, owned by C Faas, R N Clay, et al, Slocan City, comprises the Crusader, Boulder and Hidden Treasure, up the first north fork of Lemon Creek. Float having been found, trenching was resorted to, resulting in the discovery, within the walls of decomposed granite, of a vein 2 1/2 feet wide, of cellular, coarsely grained crystalline quartz, with coarse particles of silver glance and iron pyrites, some native silver and gold. A shaft has been sunk 33 feet along this vein, and this autumn one-half interest was sold to W H Hellyar and W H Smith for \$12,500, and supplies were to be packed up to keep 4 or 5 men at work all winter.

The Alpine Group, embracing the Swiss, Highland Chief, Burn and Kootena Pass, is located high up on the mountain side above Summit Creek, the south fork of Lemon creek, and has a strong gold-bearing quartz vein 2 to 3 feet wide, lying very flat, and traceable through three basins. But little work other than assessment has been done, and the owners, C Faas, H Clever et al, have lately bonded these properties to A B McKenzie and A Dick, of Rosland.

The Monument Group of claims is located near these properties.

The Ocean Group is located 3 1/2 miles north-east of the Crusader group, and west of the glaciers on the summit from which flow Kokanee Creek, south fork of Kaslo Creek, east fork of Ten Mile Creek, up which runs the trail from the Enterprise mine road and the main branch of Lemon Creek. This group of three claims lies at an altitude of 8,000 feet, and of course above timber line, and the ledge is said to be a dyke mineralized with silver glance and galena. The owners, W R Young, W K Richmond, et al, New Denver, have bonded 3/4 of the claim to Alex Dick, of Rosland. Many other claims are located in this vicinity, such as the Magnet, Big Four, Heather Bell, Three Guardsmen, Clipper, Boomerang, and U and I, upon the latter of which is reported to be a vein 2 to 4 feet wide of concentrating ore carrying argentite, grey copper and galena.

The Ottawa Group, north of Springer creek, is being developed by F C Reilly for a Winnipeg company.

Evening Star No. 3, owned by Geo A Petty, of the Monitor mine, Three Forks, situated on Dayton creek, a south branch of Springer creek, sent out five tons of ore this Autumn, and 2 or 3 men are at work.

The Victoria Group, also near Dayton creek, and 2 1/2 miles from Slocan City, is under bond to D Bremner for \$26,000, and has a vein of "dry ore."

Republic Group, embracing the Republic, Bell No. 2, and American Eagle, located 1 1/2 miles N E of Slocan City, is under bond to W L Parrish and W J Lindsay for \$25,000, and a shaft is being sunk on the vein, 1 1/2 to 2 1/2 feet wide, of quartz, carrying silver galena, and iron pyrites, and also gold.

The Slocan Bob, 1/2 mile east of the Republic, has sent out a ton of ore for trial test, and is being worked by the owners, who live in Vancouver.

The Chapleau, near Dayton creek, has shipped out 4 tons of sorted dry ore to the smelter, that returned 3.6 ozs. of gold, and 94.7 ozs. of silver per ton.

The Skylark and Ranger adjoining it, are bonded for \$40,000 to Alex Dick et al, of Rosland.

Other claims are under bond, and considerable work is being done this winter to prospect them.

On the Divide, at the head of Yuill creek, reached by a trail 1 1/2 miles long, up that creek from Kootenay river, between Nelson and Balfour, a large number of claims were located during the past season, and prospectors are awaiting the coming summer to resume the search for veins of both galena and "dry ore," now being found there in the granite.

The Florence, Molly Gibson, Aspen and Achilles 200, have been bonded to the Hon Rufus H Pope, Cookshire, Que., and this winter 12 men are engaged prospecting these new finds.

MAPS.

An excellent sketch map of this part of the Slocan District has been prepared by Mr. Wm. Thomlinson, of New Denver.

Cariboo Creek.

Twenty miles south of Nakusp, Cariboo creek, on the east side of the river, flows into the Columbia at a small settlement, Burton City. A trail leads thence through an area of granite 6 miles to junction of Mineral creek, at a point known as Mineral City, and also up both sides of Mineral creek, one crossing over the divide to Blue Grouse creek. Most of the area is the regular Slocan granite, but isolated areas of stratified rocks as slates, etc, can be seen especially up Mineral creek. A number of properties are reported to have been sold during the past season, and much work will be done this year to prospect many of the claims now located.

The Promostora, owned by B C Rodd et al, Nakusp, is located high up on the west bank of Mineral creek, 2 1/2 miles from Madden's hotel at the junction, and it is in slates, silicious limestones, etc, in a quartz vein, strike east and west, dip 80° S, carrying pyrrhotite, iron and copper pyrites and gold, of which high assays have been obtained; the returns from a nine-ton lot sent to the Trail smelter, being authoritatively stated to have yielded \$80 per ton in gold. This vein can be traced for between 1000 and 2000 feet, and in a 75-foot tunnel it occurs in a small vein with stringers running into the country rock, but in an open cut a short distance above, appear to be two quartz veins, one 4 1/2 feet, the other 3 feet wide, coming together just at the surface, or else to be a horse of the country rock with this amount of mineralised quartz on either side. Considerable of the ore was piled up, some sacked for shipment, and near by these workings was a cabin.

The Gopher is the western extension of the vein, and the Oro Grande the eastern, but little work had been done on either claim.

Located along the trail on the east of Mineral creek are:-

The B C, owned by Louis Sherran, Hugh Madden et al, on which a narrow quartz vein is found in a line of break in the strata, along which break the country rock has been ground and crushed into a black mass, in which are small stringers of quartz. A shaft had been sunk 2 feet in this material, and then drifted in for 1 feet, showing some sulphide-bearing quartz, the value of which was not learned.

Several claims along this ridge were being prospected, and on the top of the ridge, 6,500 to 8,000 feet altitude, in the granite were several quartz veins carrying but a small amount of sulphides, and whose value had never really been determined.

The Heather Bell, owned by H McLennan, et al, had a small vein of white quartz, 3 to 12 inches wide, and on the-

Bonanza, owned by A McPherson, F G Fauquier et al, in a 8 foot hole, were two small quartz veins, carrying coarse crystalline pyrrhotite, but no values were ascertained.

The Flora Mac has two parallel quartz veins carrying very little mineral, with a strike north and south, and on the-

Noble Four a little work had been done in a mass of decomposed material in the granite, but little idea could be formed as to what this indicated. Both of these claims lie on the slope above Blue Grouse creek, and are owned by H McLennan and Alex McDonald.

The Hardy, alias Golden Eagle, one-half mile east of Mineral City, has a quartz vein 8 to 10 feet wide, strike N W and S E, with a mineralized streak, 10 by 18 inches wide, along the hanging wall. An opening, about 20 feet deep, had been made, but the material extracted was said to assay very low in gold.

The country further east was not seen, but a large number of claims have been staked, on some of which the discovery of galena was reported, such as:-

The Independence, four miles up Cariboo Creek beyond Mineral City, owned by A Moore, Burton City, on which is said to be a large body of quartz, interspersed with pyrrhotite, iron pyrites and galena. No work is being done.

The Eureka, 2 1/2 miles, farther up the creek, owned by James Durham and Wm Swan, who were preparing to run a 100-foot tunnel on a ledge showing 6 feet of quartz and sulphides, on the northern extension of which are the Shamrock and Black Dwarf.

Many locations have been made on Snow Creek but all at this part of the district is awaiting the results of further work and prospecting, and at present not much more can be reported.

NEW COMPANIES.

German Mining and Milling Co., Tacoma; capital \$50,000 in 50,000 shares of \$1 each. To carry on the business of miners.

Golden Bell Mining Co, Rossland; capital, \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, Perry Smith, George M Noxon, Harold Harold, W D McFadden and Charles S Carpenter. To carry on the business of miners.

Golden Eagle Mountain Gold Mining Co., Vancouver; capital, \$600,000 in 600,000 shares of \$1 each. Trustees, Griffith Griffith, J Duff Stuart, Geo L Allen, Ross J Ralph and A Allayne Jones. To purchase the Blue Pete and Eagle's Nest claims lying contiguous to the Golden Cache mines and carry on the business of miners.

Imperial Mining and Investment Co, Vancouver; capital, \$3,000,000 in 3,000,000 shares of \$1 each. Trustees, M Neelin Garland, W J Kidd, N S Garland, D Oppenheimer and Thos H Tracy. To carry on the business of miners.

Ramsdell Mining and Milling Co., Tacoma, capital, \$1,000,000 in 1,000,000 shares of \$1 each. To carry on the business of miners.

Royal Victoria Gold Mining Co, Rossland; capital, \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, J F McCrae, John Gloyd and W A Campbell. To purchase the Violet and Maggie claims, Trail mining division, and carry on the business of miners.

Victoria and Kootenay Mining and Development Co., Victoria; capital, \$100,000 in 100,000 shares of \$1 each. Trustees, George Riley, Stephen Jones and Richard Hall. To carry on the business of miners.

Wellington Square Gold Mining and Smelting Co., Grand Forks; capital, \$2,000,000 in 2,000,000 shares of \$1 each. Trustees, Robert Clark, Ella Clark, I A Dinsmore and Arthur C Sutton. To purchase the Snowbird, Wellington Square, Silver

Knot and Mayflower claims, Kettle River Mining division and carry on the business of miners.

Ashcroft and Kootenay Mining Co., Vancouver; capital \$500,000 in 500,000 shares of \$1 each; trustees, C McLach, James Z Hall and G Martin. To purchase the Fish Lake, Christiana, Shamrock, Mayflower, Johnson and Vancouver claims in Yale district and the American Eagle claim in Lillooet district and to carry on the business of miners.

Christina Mining and Milling Co, Tacoma; capital \$1,000,000 in 1,000,000 shares of \$1 each. To carry on the business of brokers and miners.

The Campbell McCrae Co., Rossland; capital \$150,000 in 30,000 shares of \$5 each; trustees, W A Campbell, J F McCrae and T Anderson. To carry on the business of brokers and miners.

Carbonate Silver Mining Co, Rossland; capital \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, A H McNeil, A F Corbin and W G Johnson. To purchase the Carbonate mineral claim on Spring creek, Ainsworth mining division, and carry on the business of miners.

Dollarocracy Mining and Smelting Co., Trail Lanbing; capital \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, F P Gutelius, J W Kimball and Lee Davenport. To purchase the Pete and Lulu claims, Pend D'Oreille River, Trail mining division, and carry on the business of miners.

Erie Mining and Milling Co., Sandon; capital, \$200,000 in 1,000,000 shares of 30 cents each. Trustees, Henry P Jackson, Marshall Jackson, Colin McArthur and John McNiven. To purchase the Erie and Minneapolis claims, Slocan mining division, and carry on the business of miners.

Mcynahan & Campbell, of Rossland, will have 100 men at work in the Slocan this season. Mr. Campbell, who is already a director in 60 mining companies, will make his headquarters in New Denver.

Don't overlook Wilson's Hotel when you are in Slocan City.

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STOCK QUOTATIONS OF THE KOOTENAY MINES.

Companies.	No. of Shares.	Pa Value	Price
SLOCAN.			
Alamo	1	\$ 1	
Cumberland	10		
Dardanelles	1	\$ 20	
Grey Eagle	1		
Idler	1	10	
Kootenay-Columbia	100		
Manesota	1		
Noble Five Con	1	64	
Rambler Con	1		
Reco	1		
Slocan Star	50	2 35	
Sunshine	10		
Washington	1		
Wonderful	1	11	
AINSWORTH.			
Dellie	1	15	
BOUNDARY.			
Old Ironsides	1	15	
CAMP M'KINNEY.			
Cariboo	1	48	
NELSON.			
Exchequer	1	10	
Hall Mines	1	15	
REVELSTOCK.			
Orphan Boy	1	8 1/2	
TRAIL CREEK.			
Alberta	1	15	
Beaver	1	10	
Big Chief	1		
Big Three	1	12 1/2	
Butte	1	3 1/2	
Brit. Can. Goldfields	1	40	
B. C. Gold King	1	10	
Bluebird	1	10	
Bruce	1	10	
Caledonia Con	1	9	
California	1	15	
C. & C.	1		
Celtic Queen	1	04 1/2	
Centre Star	1		
Colonna	1	26 1/2	
Commander	1	19 1/2	
Crown Point	1		
Deer Park	1	27 1/2	
Delacola	1	4 1/2	
Eastern Star	1	20	
Enterprise	1	20	
Erie	1	7	
Evening Star	1	11	
Georgia	1	18	
Gertrude	1	15	
Golden Drip	1	15	
Golden Queen	1		
Great Western	1	13 1/2	
Hattie Brown	1	07 1/2	
Helen	1	07	
High Ore	1	06 1/2	
Homestake	1	17 1/2	
Idaho	1		
Imperial	1	05 1/2	
Iron Horse	1	20	
Iron Mask	1	52 1/2	
I X L	1		
Josie	1	51 1/2	
Jumbo	1	62	
Knight Templar	1	04	
Kootenay London	1	10	
Le Roi	5	7 20	
Lily May	1	20	
Mayflower	1	13 1/2	
Monarch	1		
Monita	1	13 1/2	
Monte Cristo	1	15	
Morning Star	1	07 1/2	
Nest Egg	1	10	
Northern Belle	1	15	
Novelty	1	8 1/2	
O. K.	1	26 1/2	
Palo Alto	1	8	
Phoenix	1	13	
Poorman	1	08	
Red Mountain View	1	12	
R. E. Lee	1	15	
Rochester	1		
Rossland, Red Mt	1	25	
Rossland Star	1	15	
St. Elmo	1	10 1/2	
St. Paul	1	12 1/2	
Silverline	1	8 1/2	
Sou'n Cross & W. Con	1	20	
Trail Mining Co	100		
Union	1		
Virginia	1	17	
War Eagle	1		
West Le Roi	1	14	
White Bear	1	10	
Young Brit. Amr	1	06	

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TO CONTRIBUTORS.

Correspondence from every part of the Kootenay District and communications upon live topics always acceptable. Write on both sides of the paper if you wish. Always send something good no matter how crude. Get your copy in while it is hot, and we will do the rest.

THURSDAY, FEBRUARY 11, 1897.

We produce this week Carlyle's report on the Slocan as published by the Government. This is a feat no other journal in the world ever performed, unless it was published in a camp much larger than New Denver. It merely shows what editors will do if the sheriff has no rope on them. Extra copies, ten cents. Send your money in before the edition is exhausted.

In order to be a good and successful liar it is necessary to have an excellent memory. In order to be a successful literary and news pirate for a daily paper it is necessary to have a knowledge of the locality in which the news originates. As an example we might say that the Toronto Telegram remarks that a deer walked down the streets of New Denver the other day and jumped into the river. Now, an item about a deer did appear, but not in the way the Toronto paper puts it. The deer was caught swimming in the lake and promptly punished for bathing naked. The editor of the Toronto journal is a bright and breezy writer and we admire his style, but, when it comes down to hard pan, he should not make New Denver have a river when all we can find is a muddy, roaring stream called Carpenter creek. In conclusion it is not necessary to re-write anything found in this old-time Slocan journal. Its editor, like Uncle Sam's daddy, never told a lie, except under extreme provocation.

KASLO KERNELS.

Charles Clancy and James McNaughton have bonded their mineral claims, Scottish Chief and Echo, to J. Fred Ritchie of Rossland, for \$5000.

The Kootenay Ore Co.'s sampling works are handling from five to seven cars of ore per day. Mine owners generally are realizing what a benefit the plant is to them.

G. O. Buchanan's saw mill is closed down temporarily while additional machinery is being put in place. When completed the plant will have a daily capacity of 50,000. Seventy men will be employed the coming season.

An important gathering of mining men of West Kootenay district was called together at Kaslo last week for the purpose of effecting the organization of a protective association to

look after the mining interests of the district. There were present at the meeting representative mining men of the district and represented many millions of capital. It was determined to adopt as its name the Kootenay Mining Protective association. Permanent officers will be chosen at the next meeting.

Extensive changes have been made in the time tables of the steamers operating on the Kootenay lake. The International now leaves Kaslo at 5:30 a. m. and returning leaves Nelson at 4:40 p. m. The Alberta is used as a freight boat.

NOTICE.

NOTICE is hereby given that application will be made to the Legislative Assembly of the Province of British Columbia, at its next session, for an act incorporating a Company for the purpose of establishing water works and supplying water for mining, domestic, manufacturing, fire, electric lighting, power and other purposes to the inhabitants of the town of Brandon, and to the pre-emption of W. H. Brandon at the foot of Slocan Lake, and their vicinity, and to lay pipes and erect flumes for the conveyance and supply thereof; the water to be obtained from Springer and Climax Creeks, near the town of Brandon aforesaid; and for all the other necessary rights, powers and privileges which are incidental or conducive to the attainment of the above objects.

Dated at New Denver, B. C., this 12th day of January, A. D. 1897. R. E. KERR, Solicitor for the Applicants.

CERTIFICATE OF IMPROVEMENTS

TWO FRIENDS MINERAL CLAIMS.

Slocan Mining Division of West Kootenay District. Located East of Arlington Basin.

TAKE NOTICE that I, Herbert T. Twigg, as agent for Richard Marpole, free miner's certificate No. 63804, intend sixty days from the date hereof, to apply to the Mining Recorder for a certificate of improvements to be issued in his name the names of Peter M. Schonberg, free miner's certificate No. 61559, Andrew Provost, free miner's certificate No. 65824, George T. Gormley, free miner's certificate No. 74530, and Cornelius Murphy, free miner's certificate No. 74220, for the purpose of obtaining a Crown grant of the above claim.

And further take notice that action under section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 4th day of February, 1897. fb4-ap

VANCOUVER NO. 2 MINERAL CLAIM.

Slocan Mining Division of West Kootenay District. Located 3 1/2 miles east of Silverton.

TAKE NOTICE that I, Herbert T. Twigg as agent for Edward Mahon, free miner's certificate No. 54931, and Henry L. Mahon, free miner's certificate No. 54310, intend, sixty days from the date hereof, to apply to the Mining Recorder for certificates of improvements, for the purpose of obtaining a Crown grant of the above claims.

And further take notice that action, under Section 37, must be commenced before the issuance of such certificate of improvements.

Dated this 21st day of January, 1897. ja24-ma24

THE MOCKING BIRD MINERAL CLAIM.

Situate in the Slocan Mining Division, of West Kootenay District. Located between Sunshine and Twin Lake Basins.

TAKE NOTICE that I, Robert E. Palmer, acting as agent for E. W. Nettleton, free miner's certificate No. 60844; McI. McIver Campbell, free miner's certificate No. 73704; James Gillhooley, free miner's certificate No. 65858; A. J. Murphy, free miner's certificate No. 66035, and Albert Behne, free miner's certificate No. 68012, intend, sixty days from date hereof to apply to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown Grant of the above claim.

And further, take notice that action under section 37, must be commenced before the issuance of such certificate of improvements.

Dated this 14th day of January, 1897. R. E. PALMER.

THE DEFENDER, COMET AND DAYBREAK MINERAL CLAIMS.

Situate in the Slocan Mining Division of West Kootenay District. Located between Sunshine and Twin Lake Basins.

TAKE NOTICE that I, Robert E. Palmer, P.L.S., acting as agent for James Gillhooley, free miner's certificate No. 65858; A. J. Murphy, free miner's certificate No. 66035, and Albert Behne, free miner's certificate No. 68012, intend to apply, sixty days from date hereof, to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown Grant of the above claims.

And further, take notice that action under section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 14th day of January, 1897. R. E. PALMER, P.L.S.

WINDSOR AND SILVER SMITH MINERAL CLAIMS

Situated in the Slocan Mining Division of West Kootenay, located adjoining Slocan Star.

TAKE NOTICE that I, Herbert T. Twigg, agent for Byron N. White Co., Free Miner's Certificate No. 64921, intend, sixty days from the date hereof, to apply to the Mining Recorder for certificates of improvements, for the purpose of obtaining a Crown grant of each of the above claims.

And further take notice that action under Section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 31 day of December, 1896. 12-31

HIGHLAND MINERAL CLAIM.

Situated in the Slocan Mining Division of West Kootenay District. Located on the Galena Farm, adjoining the Peerless (Revised) Mineral Claim on the North-west.

TAKE NOTICE THAT I, FRANCIS J. O'Reilly, as agent for John McClements No. of Certificate 74459, Nellie Delaney No. of Certificate 74408, J. C. Bolander No. of Certificate 65906, and D. A. Van Dorn No. of Certificate 68088, intend, sixty days from date hereof, to apply to the Mining Recorder for a certificate of improvements, for the purpose of obtaining a Crown grant of the above claim.

And further take notice that action, under section 37, must be commenced before the issuance of such certificate of improvements.

Dated this 19th day of December, 1896. 12-24

PINELOG MINERAL CLAIM.

Situate in the Slocan Mining Division of West Kootenay District. Located on the divide between Springer and Ten Mile creeks and 8 miles from Slocan Lake.

TAKE NOTICE that I, Alfred Driscoll, as agent for the Bondholder Mining Co., limited liability, free miner's certificate No. 67899, intend, sixty days from date hereof, to apply to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown Grant of the above claim.

And further, take notice that action under section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 14th day of January, 1897.

MINNEAPOLIS MINERAL CLAIM.

Situate in the Slocan Mining Division of the District of West Kootenay. Located on Payne Mountain adjoining the R. E. Lee and Wanacott.

TAKE NOTICE that I, John Carne Blandy, of Kaslo, B. C., acting as agent for P. M. Hayes and S. Wese, Free Miner's certificates Nos. 65801 and 66297, intend, sixty days from the date hereof, to apply to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown Grant of the above claim.

And further, take notice that action under section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 14th day of January, 1897. JOHN CARNE BLANDY, Agent.

BONDHOLDER MINERAL CLAIM.

Situate in the Slocan Mining Division of West Kootenay District. Located on the divide between Springer and Ten Mile creeks, and 8 miles from Slocan Lake.

TAKE NOTICE that I, Alfred Driscoll, as agent for the Bondholder Mining Co., limited liability, free miner's certificate No. 67899, intend, sixty days from date hereof, to apply to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown Grant of the above claim.

And further, take notice that action under section 37 must be commenced before the issuance of such certificate of improvements.

Dated this 14th day of January, 1897.

RIENZI MINERAL CLAIM.

Situated in the Slocan Mining Division of West Kootenay District. Located in Reed and Tenderfoot Basin.

TAKE NOTICE that I, C. W. Callahan, free miner's certificate No. 65370, intend sixty days from the date hereof, to apply to the Mining Recorder for a certificate of improvements, for the purpose of obtaining a crown grant of the above claim.

And further take notice that action, under section 37, must be commenced before the issuance of such certificate of improvements.

Dated this 21st day of January, 1897. ja21-ma21

PURCELL MINERAL CLAIM.

Situate in the Slocan Mining Division of West Kootenay District. Located on the north slope of the south fork of Carpenter creek.

TAKE NOTICE that I, J. H. Gray, acting as agent for the "Purcell" Mining Corporation, Limited, (Foreign), free miner's certificate No. 89993, intend sixty days from the date hereof, to apply to the Mining Recorder for a certificate of improvements for the purpose of obtaining a Crown grant of the above claim.

And further take notice that action, under section 37, must be commenced before the issuance of such certificate of improvements,

Dated this 28th day of December, 1896. 12-28

NOTICE.

NOTICE IS HEREBY GIVEN THAT 60 days from date I, William H. Wall, intend to make application to the Chief Commissioner of Lands and Works for permission to purchase three hundred and twenty acres of unreserved Crown land, situated on Lemon Creek, at or near the point where it is joined by its second North Fork, in the Slocan Mining Division, in the county of Kootenay, and described as follows:—Commencing at a south-west corner post No. 1, thence running north 5280 feet to post No. 2, thence east 2640 feet to post No. 3, thence south 5280 feet to post No. 4, thence west 2640 feet to place of commencement.

Dated at New Denver, B.C., Jan. 14th, 1897. W. H. WALL.

F. S. ANDREWS,
NOTARY PUBLIC,
CONVEYANCER,
ETC., ETC.
MINING &
REAL ESTATE BROKER.
Slocan City, B. C.

Sole agent for the Canadian Fire Insurance Company

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MINING ENGINEER,
ANALYTICAL CHEMIST,
& ASSAYER.

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Dentist.

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Graduate of American College of Dental Surgery Chicago

J. L. PARKER,

CONSULTING
ENGINEER,

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British North American Gold Mining and Milling Co., Rossland, capital \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, G A Fraser, Hector McPherson, John Box, J Loring, J H Inkster, W R Ross. To purchase the Fraser and Loring claims in Trail mining division and to carry on the business of miners.

Canadian Gold Mining Co., Spokane; capital \$1,300,000 in 1,300,000 shares of \$1 each. To carry on the business of miners.

East St. Louis Gold Mining Co., Rossland; capital \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, Alex. Wilson, J J Henager, John Jackson, jr., H Sullivan, B F O'Neal, M Sullivan. To carry on the business of miners.

Galena Mines, London; capital £550,000 in 550,000 shares of £1 each. To carry on the business of miners.

Havre Gold Mining Co., Rossland; capital \$700,000 in 700,000 shares of \$1 each. Trustees, Thos. Lapslie, Phillip White, A T Chadwick. To purchase the Havre claim, Trail mining division and carry on the business of miners.

Hall Exploration Co., of British Columbia, England; capital £150,000 in 150,000 shares of £1 each. To carry on the business of miners and brokers.

Multum in Parvo Prospecting Syndicate; capital \$20,000 in 200 shares of \$100 each. Trustees, Wm. Crickmay, Hugh B Walkem, J E Miller, J M Bowell. To carry on the business of miners.

Alki Gold Mining Co, Tacoma; capital, \$750,000 in 750,000 shares of \$1 each. To carry on the business of miners. Red Horse and Salmon River Mining Co., Vancouver; capital, \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, E S Topping, Ralph White, J C McLagan, J M MacGregor, J T Wilkinson, J S Clute. To purchase the Red Horse and Blue Grouse claims, Nelson Mining division and carry on the business of miners.

Rossland Development Co., Rossland; capital, \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, John L Whitney, L H Northey, E L Clark, Louis L DeVoyn. To purchase the Ivanhoe and Bell claims in Nelson mining division and to carry on the business of miners.

Rock Creek Gold Mines, Victoria; capital, \$500,000 in 2,000,000 shares of 25 cents each. Trustees, Thomas B Hall, Simon Leiser, T Lubbe, B W Pearse, Thos W Patterson, R P Rithet. To purchase the Victoria, Queen and California claims, Osoyoos division and carry on the business of miners.

Rio Grande Gold and Silver Mining Co., Rossland; capital \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, F M Davis, John M Gilson, J W O'Connell, A C Fry and Wm R Spence. To purchase the Rio Grande, Suampane, Sandaulphon and Floral Flat claims, Nelson mining division, and to purchase the business of miners.

Selkirk Mining and Milling Co., Sandon; capital, \$250,000 in 1,000,000 shares of 25 cents each. Trustees, J A Smith, Thos Brown, G A Love, G H Wright, H A Smith and M L Grimmet. To purchase the Little Estelle Fraction, Gracie, Minnie, Tornado, and Hope claims in Slocan mining division and carry on the business of miners.

Treasure Mountain Mines, Vancouver; capital, \$1,000,000 in 1,000,000 shares of \$1 each. Trustees, Ed W McKim, James Fitzsimmons and W H Armstrong. To carry on the business of miners.

Campbell,
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Vancouver,

Largest tailoring establishment in B. C., now open a branch at :

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with a full line of :

Cloths, Gent's Furnishings, Clothing, Etc.

Travelers will call frequently at the various towns with samples.

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Subscribers to this paper can obtain THOMLINSON'S celebrated map of the Slocan Lake district for

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Address all orders to

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The Prospectors' Assay Office
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Assay Price List :

Gold, Silver, or Lead, each.....	\$1.50
Gold, Silver and Lead, combined.....	3 00
Gold and Silver.....	2 00
Silver and Lead.....	2 00
Copper (by Electrolysis).....	2 00
Gold, Silver, Copper and Lead.....	4 00
Gold and Copper.....	2 50
Silver and Copper.....	2 00
Gold, Silver and Copper.....	3 50
Platinum.....	5 00
Mercury.....	2 00
Iron or Manganese.....	2 00
Lime, Magnesium, Barium, Silica, Sulphur, each.....	2 00
Bismuth, Tin, Cobalt, Nickel, Antimony, Zinc, and Arsenic, each.....	4 00
Coal (Fixed Carbon, Volatile Matter, Ash, and percentage of Coke, if Coking Coal).....	4 00

Terms: Cash With Sample.
June 20th, 1895.

FRANK DICK,

Assayer and Analy

Wanted : Good Silver-Lead Properties for cash or stocking

Cowgill & Pugsley,
Members Spokane Mining Exchange, Spokane, Wash.

CHANT MUSIC CO.,

Pianos, Organs, Sheet Music, Musical Supplies, Sewing Machines and Supplies.
Mail orders receive prompt attention.
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Has ample accommodations for a large number of people. The rooms are large and airy, and the Dining Room is provided with everything in the market. Sample Rooms for Commercial Travelers.

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In each of their establishments

The wind never blows sand

Have stores at

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into the granulated saccharine, nor do the flies make cemeteries out of the butter-tubs. Everything, except the prices are high grade in these stores and the public, especially new pilgrims, should not overlook this sterling fact.

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Makes it one of the Largest and most Comfortable Hotels in Kootenay.

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Free Bus.

Cafe and Elevator service all night.

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Having placed some new machinery in our Mill, we are prepared to furnish all kinds of rough and dressed

Lumber and Shingles at Reduced Prices

PRICE LIST:

Rough Lumber, narrow,	\$10 00
" " wide,	\$11 00 to 12 ..
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" " 4"	22 ..
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" " Rustic,	19 ..
Shiplap,	14 ..
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A liberal discount on large orders for Cash,
PETER GENELLE & Co

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Dealer in—

Hardware, Tinware, Building Paper, Stoves, Dynamite, Nails, Glass, Putty, Wood Fibre Pails and Tubs.

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Good accomodation for the oscillating public.

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The Helena of Canada

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This Hospital which was opened in August, 1895, for the benefit of the Miners in the Slocan District under the medical superintendence of Dr. J. E. Brouse with thoroughly competent professional attendants, is equipped with all appliances and conveniences necessary for the treatment of Surgical and Medical cases. Situated as it is on the shore of Slocan Lake, it affords every advantage for the treatment of fever cases, the water supply and altitude being more favorable than any other point in the district.

Annual tickets entitling the holder in case of sickness or accident to all the privileges of the Hospital, including free Medical and Surgical attendance, nursing and board, may be secured at **TWELVE DOLLARS** each. Miners in regular employ, subscribing through their pay roll at the rate of **ONE DOLLAR** per month, can secure the privileges above mentioned.

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Is situated on the banks of the beautiful Slocan Lake, and guests can sit upon the balcony and gaze upon the grandest scenery in America without extra charge. The fire escape system is excellent. The rooms are airy and decorated with the latest results of the wall paper art. The exterior of the hotel is painted in colors that harmonize with the idealistic scenery. The Dining Room is always provided with food that is tasty, digestible and satisfying to the inner economy of man. The Bar is replete with the most modern, as well as ancient brands of nerve producers.

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make for the Newmarket when you reach the Slocan metropolis and do not forget the Landlord's name; it is

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—This New House,—

With the old name, is well equipped to accommodate a large number of Guests. The building is plastered and the rooms are unsurpassed for comfort in the Slocan, while in the Dining Room can be found the best food in the market.

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The only all rail route without change of cars between Nelson and Rossland and Spokane and Rossland.

Only Route to Trail Creek and Mineral District of the Colville Reservation, Nelson, Kaslo, Kootenay Lake and Slocan Points.

Daily, Except Sunday.

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Leave	A.M.	Kaslo	Arrive	3.50 P.M.
" 8 00	"	Southern Fork	"	3 15 "
" 8 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 38	"	Junction	"	1 12 "
Arr. 10 50	"	Sandon	Leave	1 00 "

For rates and information apply at Company's Offices.

ROBT. IRVING, Traffic Mngr.
R. W. BRYAN, Supt. and Ass't Trn.

Columbia and Western R'y Co.

Schedule No. 3, Jan. 4, '97

WESTBOUND.		EASTBOUND.	
No. 1	No. 2	No. 2	No. 1
Passenger.	Passenger.	Passenger.	Passenger.
Tues. Daily	Tues. Daily	Tues. Daily	Tues. Daily
Thurs. except	Thurs. except	Thurs. except	Thurs. except
& Sat., Sunday, Lv.			
6:30 pm	8:30 am	Trail	8:00 am
6:40 pm	8:40 am	Smelter	7:47 am
6:45 pm	8:45 am	McLeod's	7:42 am
7:00 pm	9:00 am	Warfield	7:31 am
7:05 pm	9:05 am	Tiger Switch Bk	7:26 am
7:10 pm	9:10 am	Crown Point	7:21 am
7:15 pm	9:15 am	Lake Mountain	7:16 am
7:25 pm	9:25 am	Carpenter	7:10 am
7:35 pm	9:35 am	Union Ave	7:03 am
7:40 pm	9:40 am	Rossland	7:00 am
8:00 pm	9:50 am	Rossland Wye	6:40 am

J. A. JORDAN, C. D. & T. M.

THE STEAMER

W. HUNTER

LEAVES NEW DENVER every morning at 8 o'clock (Sundays excepted)

FOR SILVERTON, SLOCAN CITY and ALL INTERMEDIATE POINTS.

Returning will, if possible, make connections with the west-bound train on the N. & S. Ry.

Powder carried only on Fridays. Time Table subject to change without notice.

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The Quickest
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Steamer leaves Nakusp every Sunday, Wednesday and Friday morning, making close connection at Revelstoke with trains for all points East or West.

Before you travel get information from C.P.R. Agents as to time and rates. It will save you money Apply to nearest Railway Agent or to

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Was turned against the country, and, now that the gloom of the Argonaut days has disappeared, it looms up brighter than ever as

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COME EARLY AND AVOID THE RUSH.

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Complete lists of claims for sale. Abstracts of claims, conveyancing.

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At the B.C. Restaurant
in Sandon

Is one of the
Attractions of
Life in the Slocan.

Take a bond on one of the beef-
steaks in that gastro nomical
resort the next time you visit
that burg, and you will never
regret reading this ad.

C. E. Stauffer.

SANDON LAUNDRY.

We lead in First-Class work.
3 fine Bath Rooms in connection.
Sea Salt Baths without extra charge.

J. S. REEDER, Prop.

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Office: Blacks Hotel,

SANDON

The Kootenay-Salmon Gold Mining Co.

Limited Liability.

Capital \$600,000.

In 600,000 shares of the par value of \$1 each, shares fully paid up and non-assessable.

DIRECTORS—Dr. Louis Beaupre, Esp., of Montreal, President; P. J. Shields, Esq., of Montana, Manager;
J. P. Martin, Esq., Merchant, Vice-President; J. K. Clark, Esq., President and Manager

Imperial Mining Company, Treasurer; W. H. Kerry, New Westminster, Secretary.

BANKERS—Bank of British North America.

THE PROPERTY comprises the Louis B, Copper King and United Verde mineral claims, situated two miles north of Salmon Siding, less than one mile from the Nelson & Fort Shepard railway, 20 miles northeast of Trail, in the West Kootenay mining district, purchased from original locators and fully paid for.

DEVELOPMENT. The surface of these claims have been thoroughly prospected, and the results have been highly satisfactory to the company. In each case the veins are shown to be large, regular and well defined, and well mineralized throughout.

250,000 SHARES put in the treasury of the company for development purposes, and now offered to the public at TEN CENTS per share.

P O Box 523, Rossland, B C

Call on or address—

MR. SHIELDS, in his report, says: "I inspected the surface and surroundings of your mineral property and found them of a most satisfactory character for the production of gold and copper ores. I found a large, well defined vein running through the Louis B and United Verde claims; the out-crop showing the vein to be from 8 to 20 feet wide. The strike is north and south. This vein extends south of the Louis B into the Portland company's property, where development work has exposed high-grade ore at a depth of 15 feet. The Copper King claim is on a parallel vein, which shows equally as well as the Louis B vein. The formation is a fac-simile of that in which the great mines of Rossland occur. Wood and water advantages are all that can be desired for mining and other purposes. The same may be said of transportation facilities."

J. K. CLARK, Acting Secretary

MINING RECORDS.

Recorded at New Denver, the Assessments Transfers and Locations:

ASSESSMENTS.

February 8
Silver Wave No 3—Sam Dischamps

LOCATIONS.

February 1
Sure Shot—Four Mile, Jas A McKinnon.

February 2
Mascott—Slocan City, Fred Bestford

February 3
Piedmont—Ten Mile, F D Phillips
Western—Same

February 4
Miller Fraction—Slocan City, Chas T Miller

February 9
Hoods—Carpenter, C Chambers
Big Cedar—Carpenter, J S Parker.

TRANSFERS.

January 30
Geo Blanc to J J Godfrey— $\frac{1}{2}$ in Smuggler, Jan 1; \$1

Jas A Baker to J J Godfrey— $\frac{1}{2}$ in Smuggler, Dec 23; \$1

February 1
G C Clarke to D McWilliam—1-16 in Bonnie Boon, Jan 23; \$1

J C Butler to J H Strickland— $\frac{1}{2}$ in Joint Eye and Summit, Feb 1

J C Butler to J M Lind— $\frac{1}{2}$ in Joint Eye and Summit, Feb 1; \$1

February 2
G Long to B Anderson—The Robin, Jan 30; \$1200

G Long to M R W Rathborne— $\frac{3}{4}$ in Telephone, Jan 26; \$750

J Knight to W J McMillan— $\frac{1}{4}$ Rob Roy, Jan 21; \$1

L Montgomery, R L Clarke, G A Shepard, A E Jefferson, J E Jefferson and J L Retallack to The Washington Mining Co (foreign)—I C Washington Fraction Charlotte and Herbert, Jan 9; \$1

J Lawson to D S Wallbridge— $\frac{1}{2}$ in Para, Feb 1; \$1

T Hulsiger to D S Wallbridge— $\frac{1}{2}$ in Para, Jan 26; \$1

P Aspinwall to G J Atkins— $\frac{1}{2}$ Idaho and $\frac{1}{2}$ Arizona, March 12, '94; \$10,000

T Hulsiger to J J Godfrey— $\frac{1}{2}$ Para, Jan 4; \$1

J Lawson to J J Godfrey— $\frac{1}{2}$ Para, Jan 2; \$1

C Murchison to J W Ryan—The Standard, June 28, 1895; \$50.

February 4
Wm Stubbs to The Carnduff Mining & Development Co, Ltd— $\frac{3}{8}$ Ruby Mav, Feb 3; \$200

Chas T Miller to Arthur W Ogilvie— $\frac{1}{2}$ Miller Fraction; Feb 2, \$1.

Gethro A Smith, Gavin H Wright, G F Golden and Geo A Love to Selkirk M & M Co., Ltd—Little Estella Fraction, Gracie, Minnie, Tornado, and Hope; Feb 4, \$1.

W L Callanan to Thos D Tobin— $\frac{1}{2}$ Gettysburg, Chesapeak, Dixie, Folorn Hope and St Aubin; Sept 29, \$1.

Thos D Tobin to J M Aston— $\frac{1}{2}$ Gettysburg; Feb 2, \$45.

February 5
Albert Behne to James Gilhooly— $\frac{1}{2}$ Convention Fraction; Feb 4, \$1.

A chunk of galena, 15 inches wide, and 20 inches long was brought into Sandon from the Goodenough last Saturday. It weighed 622 pounds and is worth \$750. Quite a number of mining men made a pool and entered into a guessing competition as to the weight of the chunk. George Wharton won the stakes with a guess of 620, while Colonel Sam got the farthest from it with a guess of 420.

The Selkirk Mining Co., with J. A. Smith, Thos. Brown and G. A. Love as officers, has recently been formed. The company will develop the Minnie Grace, Tornado, Little Estella, near Sandon, and the Hope, close to New Denver. The capital stock of the company is \$250,000, and the shares will be sold at par, 25 cents each.

NEWS IN PLACE

New Denver is to have a sash and door factory.

Sherrin and Hector are enlarging their Burton City hotel.

The B C, on Lemon creek, has been sold to Victoria parties.

Geo. Alexander has secured an option on the townsite of Silverton.

The rate on the N. & S. railway has been reduced to five cents a mile.

Harry Hughes was hurt in a slide near the Freddie Lee the other day.

There will be a grand opening dance at Black's hall, in Sandon, on the 22d.

Owing to the pressure on our space this week much valuable news matter is held over.

Efforts are being made to build a wagon road from Burton City to Blue Grouse creek.

Capt. Webb, of Rossland, has been appointed superintendent for the Eureka Co., on Cariboo creek.

The Payne is shipping 1500 tons a month, not 100,000 as an exterprising but unreliable Toronto paper reports it.

Daniel Simpson, of Buffalo, N. Y., has offered the owners of the California \$60,000 on a bond with 10 per cent. cash.

The sanitary condition of New Denver's school is a disgrace to the community. It should be immediately attended to.

The Loyal Orange Lodge at Sandon was recently made the recipient of several fine presents from lady sympathisers.

The dance of the Fat Man's club on the evening of the 19th promises to be the swellest affair of the kind ever given in the city.

Wm. Thomlinson has bought from W. R. Will lot 12, block 13, in New Denver. Frank Bourne has purchased lot 11, block 14, in the same city.

The Reco Mining Co. will pay a dividend next Monday of \$100,000. The Reco employs 100 men and is shipping three car loads a week of very high grade ore.

Grant Thorburn, at Silverton, has one of the best hotels in Kootenay. It is a pleasure for the weary traveller to reach Grant's place, and it is too bad that such excellent hotels are so scarce in this famous country.

All Kinds

Of Diamonds,
Watches,
Jewelry,
Clocks,
Silverware,
Etc., Etc.

At Knox's

NEW DENVER.

We make a special rate on hotel and restaurant silverware. Everything warranted.

The B. C. Government says that the Slocan Lake district's population is not large enough to warrant the employment of a provincial policeman. What a curse such a government is to a long suffering class of people? It is almost necessary to carry a gun in order that your life will be always safe in the Slocan, and yet the government cannot afford police for us.

Write Rufus Buck, M.E., Rossland, for blue printing and mapping of properties. Latest map of North Fork and Wild Horse district. \$1.50. †

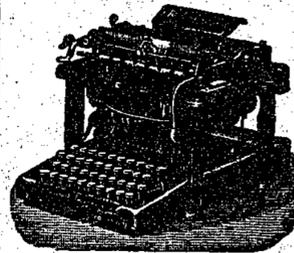
When in Vancouver stop at the Manor House. †

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of excellence. Everyone knows what it represents—the Best Work with Least Labor, Enduring Service, Unequalled Economy and Convenience. The... No. 6 Model

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Many notable improvements in the 1897 MODEL.

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ORRILLA BERTRAND, President
FLORENCE N. KENT, Secretary
ANNA M. KEISER, General Manager

Promoters and Dealers in

Mines And Stocks

Correspondence solicited with parties having good projects for sale or properties for development.

Address Secretary—

Spokane, Wash., U.S.

Kokanee Creek

The immense discoveries on Kokanee Creek led to the formation of the—
Canadian Mining, Milling & Smelting Co., Ltd

which has taken over the following choice claims:

Homestretch,

Glacier 4,

Two Snowbirds,

Clara G.

Full Sized Claims

CAPITAL, \$2,000,000—2,000,000 SHARES
400,000 shares for development now in treasury;

150,000 shares now on the market and **selling at 7½ cents**

This stock is bound to go up, as any prospector in the district who has been on the property can tell you that the croppings on the Homestretch exceed almost anything yet discovered in the Kootenay. The original owners form the company and stock is selling on its own merits.

Call on or write to the Secretary for Prospectuses. Ore can be seen at office.

LEIGHTON & WILLIAMS, Mining Operators & Brokers.
Box 111, Sandon, B.C.