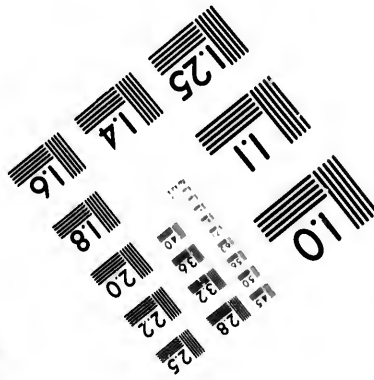
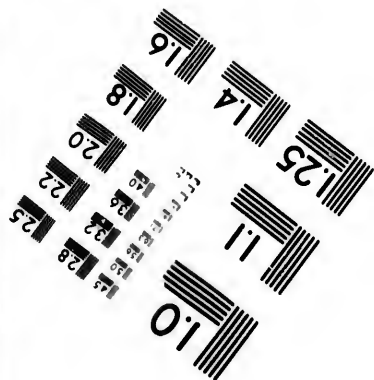
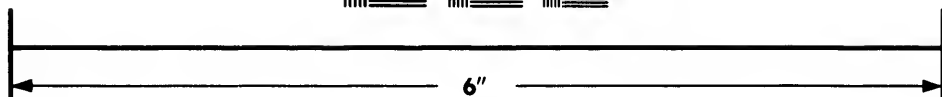
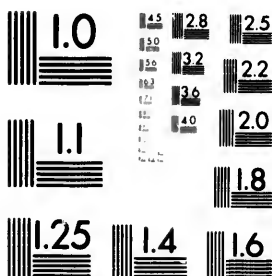


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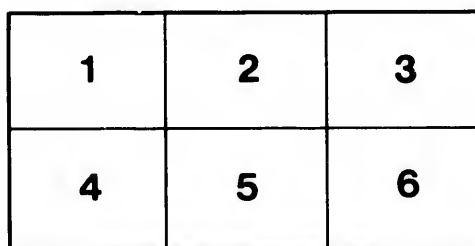
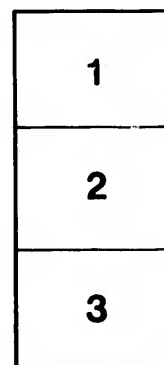
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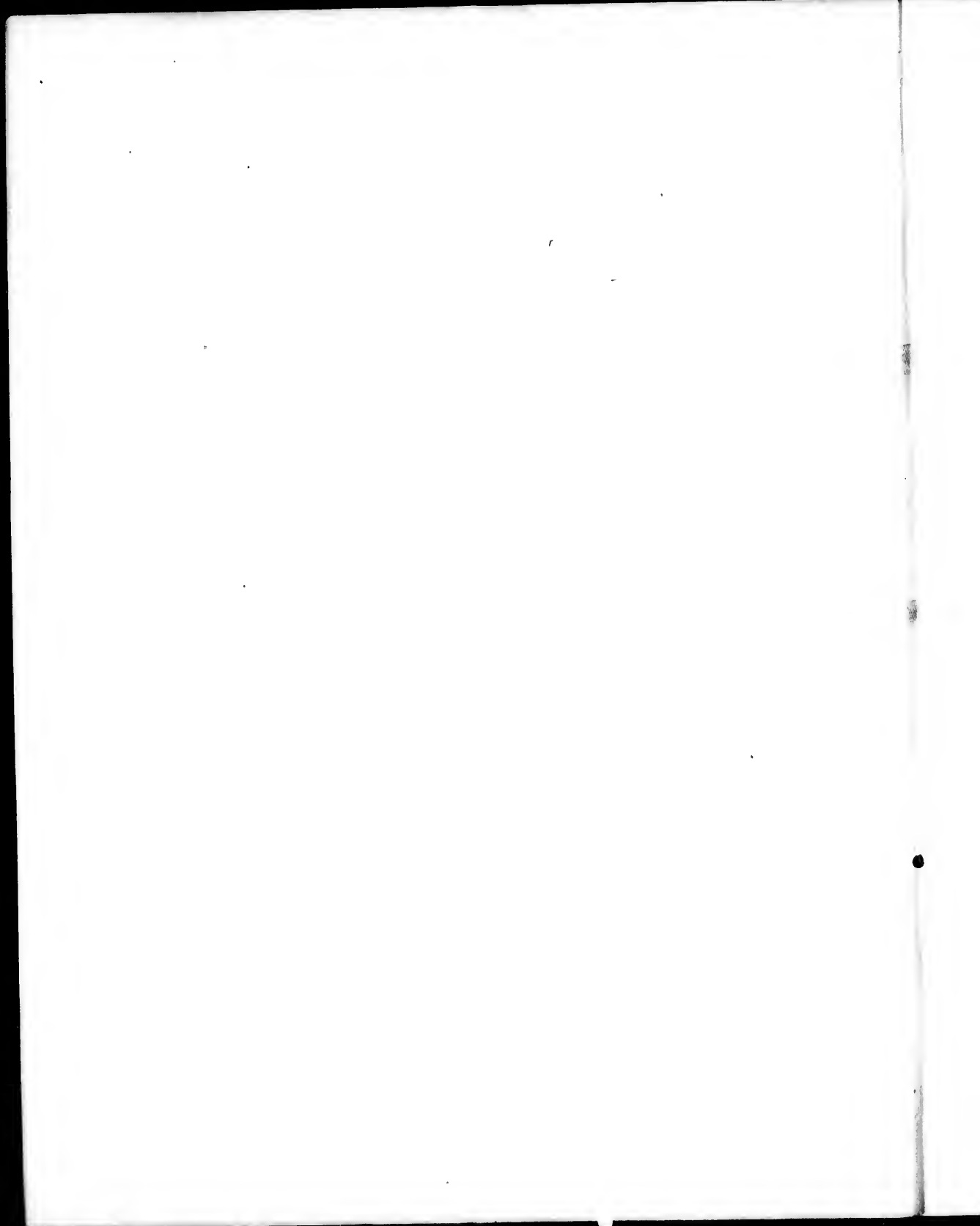
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Rossland in 1898



Published for
THE BOARD OF TRADE OF THE CITY OF ROSSLAND,
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Toronto, 1898.

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TORONTO
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Preface

The Rossland Board of Trade is constantly in receipt of letters from all parts of the world, and more especially Great Britain, asking for information about Rossland and its mines. These enquiries happened to be specially numerous during the recent visit of the Governor-General and Lady Aberdeen, and it occurred to the Board of Trade that the publication of a pamphlet containing general information, in an interesting form, would be very acceptable to the public.

The facts and figures relating to the development of the mines are as complete as could be obtained down to the 1st of August, 1898, and have been furnished by the Mining Engineers or Superintendents in charge of the respective properties.

The photographs reproduced were nearly all specially taken for this publication by Carpenter & Miller of Rossland.

ROSSLAND, BRITISH COLUMBIA,

12th August, 1898.

Rossland in 1898.

THE CITY OF ROSSLAND.



The town site of Rossland was located as a preemption by Ross Thompson in 1891, but it was not until the summer of 1895 that it was crown granted and sub-divided into blocks and lots. In the winter of 1895 the first sale of lots took place and the prices ranged from \$25 to \$100, the property sold being all in what is now the business portion of the city. It was during the same winter that the first "rush" to Rossland began and by the following April the town had a population of about 500.

During the summer of 1896 the population steadily increased and in the fall and winter the immigration began to assume the dimensions of a "boom." By the spring of '97 the population had increased to about 7,000, but shortly afterwards, the

"boom" having spent its force, began to decline. Low water mark was reached in the following August when not more than 5,000 people remained. Since then there has been a steady increase again, brought about by the constantly growing demand for labor in the developed mines, until now the population is conservatively estimated at over 7,000.

The city was incorporated in March 1897, and since then the sum of \$100,000 has been expended in civic improvements. Five miles of streets have been graded, ten miles of sidewalks built and a sewerage system has been constructed. The Rossland water and light company has meanwhile extended its water mains and electric light wires all over the city, and the telephone company its lines to all the leading mines and business houses besides many residences. The telephone company also gives connection over its long distance lines with practically all points on the Pacific Coast.



Columbia Avenue looking West. (From photo taken some months ago.)

The assessed value of real and personal property within the city limits is now \$1,500,000. The city has issued debentures to the amount of \$100,000, \$65,000 bearing 5½ per cent interest and the remainder 5 per cent interest, both lots running 2 years. The debentures bearing 5½ per cent interest were sold at par and the others at 97.

PUBLIC IMPROVEMENTS AND NEW BUILDINGS.

The city authorities are now engaged in opening up some new streets at a cost of \$20,000 and several thousand dollars more are to be expended in perfecting the equipment of the fire department. The purchase of the plants of the Rossland Water and Light Company for \$85,000 is also under consideration.

The Provincial Government is expending \$20,000 in repairing the roads near town and is constructing a new wagon road round Red Mountain. It is also erecting a court house to cost \$8,000, of which the community is very much in need.

Among the notable buildings in course of erection are the new \$50,000 Bank of Montreal block, the \$15,000 boarding home for the War Eagle mine, the new home of the Rossland Club to cost \$10,000, the new C. P. R. depot and a group of three office buildings for the British American Corporation. In all, including residences, it is estimated that \$150,000 worth of buildings are under construction or contracted for.

CHURCHES AND SCHOOLS.

The educational and religious interests of the citizens of Rossland are well provided for. Besides the Salvation Army, which is in evidence on the streets and holds meetings in its hall nightly, there are five religious denominations represented in Rossland. All possess valuable property in the shape of building sites, and two, the Presbyterians and the Baptists, have new churches with some pretensions to architecture. The Roman Catholic church has probably the most adherents. The St. George's Parish (Anglican) is about to erect, in addition to its present chapel, which will then be used as a mission, a handsome stone building costing several thousand dollars. The Methodist church building is large though not ornate and is located almost in the business centre.

Rossland now possesses two good school buildings, the larger of which contains eight rooms, while the smaller is to be enlarged at once from two to four rooms. The teaching staff provided by the Provincial Government has been somewhat handicapped in the past by reason of the excessive number of pupils in each class, but this is to be remedied by the appointment of more teachers, and it is expected the staff this winter will number at least ten, with an enrollment of between four and five hundred pupils. For the information of non-residents it may be as well to add that education is free and attendance at some school compulsory.

RAILWAY FACILITIES.

Rossland is connected with the outer world by two railroads; the Columbia and Western, a portion of the Canadian Pacific Railway system and the Red Mountain, recently purchased by the Great Northern Railway. The passenger travel over this line is enormous. Four passenger trains a day are run over the Red Mountain Railway to Northport Wash., where connections are made with the main lines of Spokane and Northern and Nelson and Fort Sheppard railways running between Nelson, B.C., and Spokane, Wash. At this latter point connection is made with three of the American transcontinental railways. Four passenger trains a day are also run over the Columbia and Western to the snelter town of Trail, distant thirteen miles by rail, though only five in an air line. Two of these trains run through to Robson where connection is made with the Canadian Pacific Railway branch lines to Nelson and all Sloean and Kootenay lake points, and by steamer with the main line at Revelstoke via Arrowhead.

The inward freight tonnage over these two lines aggregates over 600 tons a month, about equally divided in origin between eastern Canadian and eastern United States points. The outward freight tonnage, including ore, averages nearly 4,000 tons a week, and is rapidly on the increase.

Before winter Rossland will have direct connection via Robson with the East over the Crow's Nest Pass line now approaching completion, and within another year with the Boundary country to the west, over the extension of the Columbia and Western, now in course of construction.

THREE CHARTERED BANKS.

For a town only three years old Rossland is well supplied with banks. The first to open a branch here was the Bank of British North America. This is an English institution and occupies a handsome building of its own on Columbia avenue, on the lot next to that on which its great rival, the Bank of Montreal, is now erecting a three-storey brick building. This latter bank was only one day behind the English bank in opening a Rossland branch. A year later the Merchants' Bank of Halifax, N. S., which at that time had no branches further west than Montreal, astonished the banking world by making a jump of 3,000 miles to this point and signified its advent by purchasing the first two corner lots in the city. The combined capital of these three banks exceeds \$27,000,000.

GENERAL REMARKS.

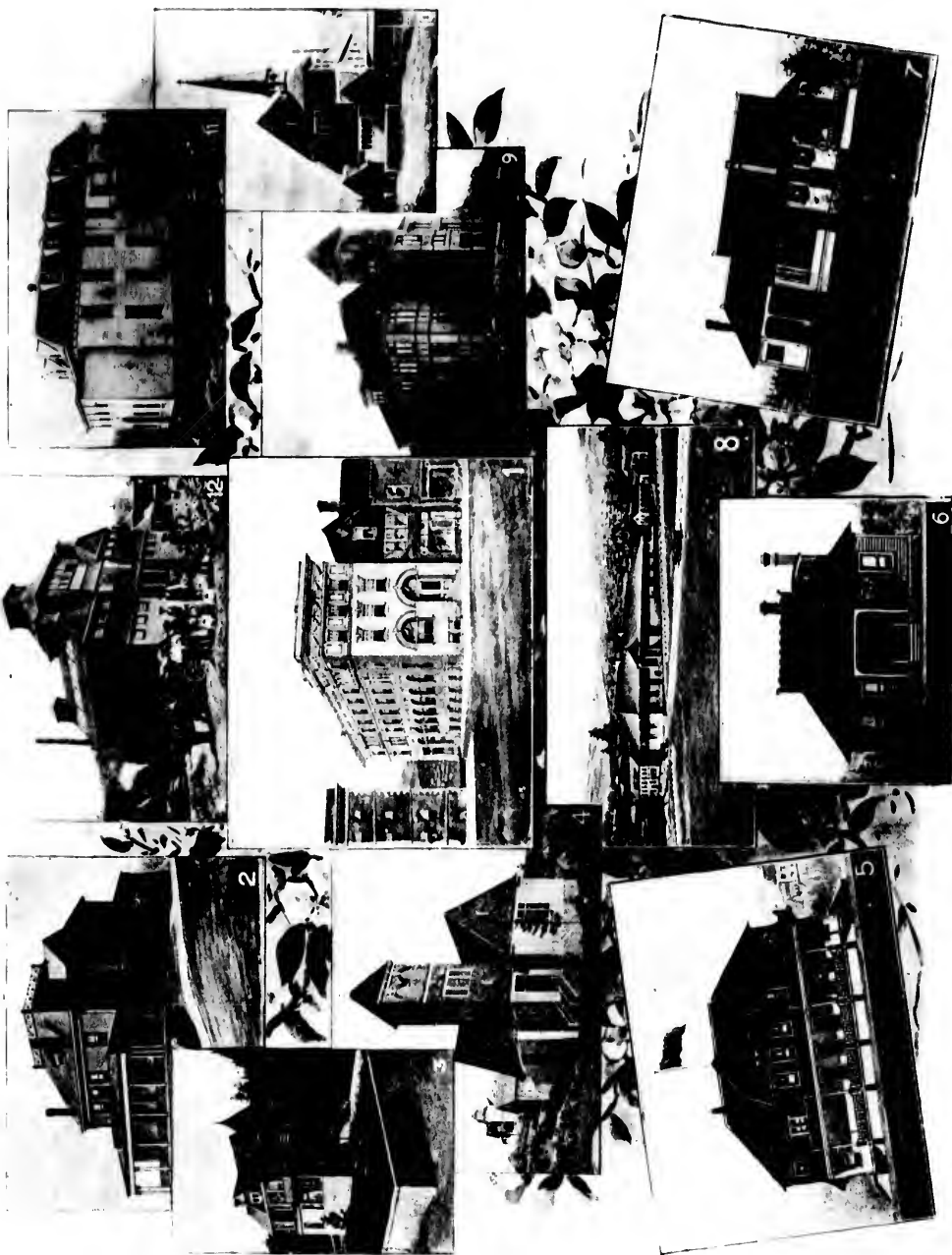
All lines of retail business are well represented in Rossland and the stocks carried by the principal stores are such as can usually be found only in cities of 20,000 population. A start has hardly yet been made in the jobbing trade, but already the city boasts three wholesale houses. The forty hotels provide ample accommodation for the travelling public at rates ranging from \$1 to \$3 per day. There are four breweries in the city, which sell their products all over Kootenay, the largest of which, the Lion, is illustrated on another page. The two leading machinery houses of Canada, the James Cooper Manufacturing Company of Montreal, and the Canadian Rand Drill Company of Sherbrooke, have warehouses here in which are kept large stocks of mining machinery, and they make Rossland their headquarters for Kootenay and indeed the whole Province of British Columbia. There are two daily and three weekly papers published in the city.

For a western town only three years old, and more especially a mining camp, Rossland is unique as a city of homes. The class of residences erected in the past year and at present building would do credit to any eastern community.

CLIMATE AND SPORTS.

The climate of Rossland is an exceedingly healthy one. Situated high up in the mountains as it is the air and water are both of the purest. There is consequently very little sickness of any kind and the death rate is exceedingly low. During the months of July and August the thermometer occasionally mounts up to 90 or 100 in the shade, but the nights are cool and one always needs a blanket to sleep in comfort. The snow lies usually from the end of November till April and sometimes attains a depth of from five to six feet. There are only a few days in the whole winter when the weather is as low as zero.

During the winter outdoor sports are freely indulged in, snow shoeing, ski running, hockey, curling and skating being the favorites, and a carnival, lasting two or three days, is held annually in January. At other seasons baseball, tennis, cricket, lacrosse and football have their votaries. The Rossland gun club gets up many matches and tournaments during their season and fishing and trout parties find the best of sport at dozens of points within a radius of a few miles of town, the favorite spot being on the Kootenay river near Sloean Crossing, about forty miles from town by the C. P. R.



1. New Bank of Montreal. 2. New Roseland Club. 3. Residence of Ald. Ross Thompson, the founder of the City of Roseland. 4. Baptist Church.
 5. British America Corporation, General Offices. 6. British America Corporation, Assay Office. 7. British America Corporation, General Superintendent's Residence.
 8. New C. P. R. Depot. 9. Public School. 10. Presbyterian Church. 11. Sisters' Hospital. 12. Lion Brewery.

VISIT OF LORD AND LADY ABERDEEN TO ROSSLAND.

No recent event in the history of Rossland, excepting perhaps one or two of the most important "strikes" in the leading mines of the camp, has done so much to attract the attention of the world to this city as the recent visit of Lord and Lady Aberdeen, on the occasion of His Excellency's farewell tour of the Dominion. It was in fact this visit which suggested to the Rossland Board of Trade the advisability of publishing the present volume.

Their Excellencies arrived at a late hour on the evening of Tuesday, July 19th, and left to continue their tour the following evening. Their stay in Rossland was, therefore, limited to about twenty hours, but the arrangements for their reception were so excellent that they were enabled to see and learn much more of the city and its surroundings than most other visitors have accomplished in a week.

They were greeted at the C. P. R. depot on their arrival, despite the lateness of the hour, by a vast concourse of people, and were at once escorted to their hotel by a reception committee composed of the Mayor, city council and a number of leading citizens, including the Hon. C. H. Mackintosh, preceded by a brass band and 100 miners carrying torches. They were then conducted to the opera house where between 500 and 600 people had assembled, to receive loyal addresses from the citizens of Rossland and the Board of Trade. These addresses, which were presented by Mayor Wallace and President McArthur of the Board of Trade, and read by W. J. Nelson, acting city clerk, and John McKane, secretary of the Board of Trade, are too lengthy to be quoted here in full, but a short resume of each will be of interest. The city's address extended to Their Excellencies a hearty welcome to Rossland and expressed appreciation of the manner in which His Excellency had discharged his responsible and arduous duties as Governor-General, and of Lady Aberdeen's kindly interest in the social life of Canada. Regret was also expressed that His Excellency's official connection with Canada was so soon to terminate. After drawing His Excellency's attention to the fact that the great development of the mines of this district had been wholly accomplished since he assumed the office of Governor-General, the address went on to say:

"It may be of interest to Your Excellency to know that there are already fourteen shipping mines in the Rossland district, and further to learn that there has been expended in mining machinery and plants not less than the sum of \$1,000,000, and that as a result over 170,000 tons of ore have been mined, amounting in value to over \$5,000,000—the gold production alone being more than 275,000 fine ounces."

The address concluded by extending to Their Excellencies the freedom of the city as its guests and a wish for their health, wealth and prosperity.

From the address presented by the Board of Trade we extract the following paragraphs:

"Four years ago the mineral output of the district was not begun; the site on which the city of Rossland now stands was to a large extent uncleared land, and the district had contributed nothing either to the Dominion or to the province.

"Now the output of ore from the Rossland mines has amounted to 170,000 tons; the value of reality within the city has already exceeded \$2,000,000, the value of the permanent improvements in connection with the mines, exclusive of roads and trails, is estimated at not less than \$1,000,000, while the present capital value of the mines is at least \$25,000,000.

"The revenue derived from the Rossland postoffice has been \$35,000, and the customs receipts total \$350,000, without reference to inland revenue."

His Excellency spoke briefly in reply.

THE MINES VISITED.

On Wednesday His Excellency and Lady Aberdeen and the other members of their party were early astir. Before they had finished breakfast several hundred school children in holiday attire had gathered in front of the hotel to greet them. On their appearance in the carriages in which they were to make a tour of the mines the children sang the "Maple Leaf" and other patriotic songs, while three of their number presented Lady Aberdeen with bouquets. Lord Aberdeen then addressed them briefly, promising that he would ask for a special holiday for them when school resumed.

The tour of the mines was at once begun. The programme included a visit to the Columbia and Kootenay group, owned by the British American corporation, of which the Marquis of Dufferin is chairman and the Hon. C. H. Mackintosh managing director; the Virginia, Monte Christo and Coloma mines, owned by a Montreal syndicate, of which Mr. C. R. Hosmer, of the C. P. R. Telegraph Company, is the head; the Centre Star, of which Mr. Oliver Durant is manager and one of the principal owners; the Iron Mask, owned by a Spokane company with Austin Corbin, Jr., as president; War Eagle group, in which George Gooderham and T. G. Blackstock of Toronto are the largest shareholders; the famous Le Roi, now under the control of the British American corporation, and the Josie mine, also owned by the same company. In the limited time at their disposal it was only possible to inspect the underground workings of two of these properties, the Columbia and Kootenay and Centre Star. The latter great mine had been lighted with some 2,000 candles, so that every nook and cranny was open to view. It was such a trip as few persons have ever made underground, and the manager of the mine, Mr. Oliver Durant, was warmly thanked for his courtesy. At the conclusion of the trip Lady Aberdeen was presented by the miners with a magnificent hand made miner's candlestick, which she assured the givers should be one of the most treasured souvenirs of her trip.

SPEECHES AT THE BANQUET.

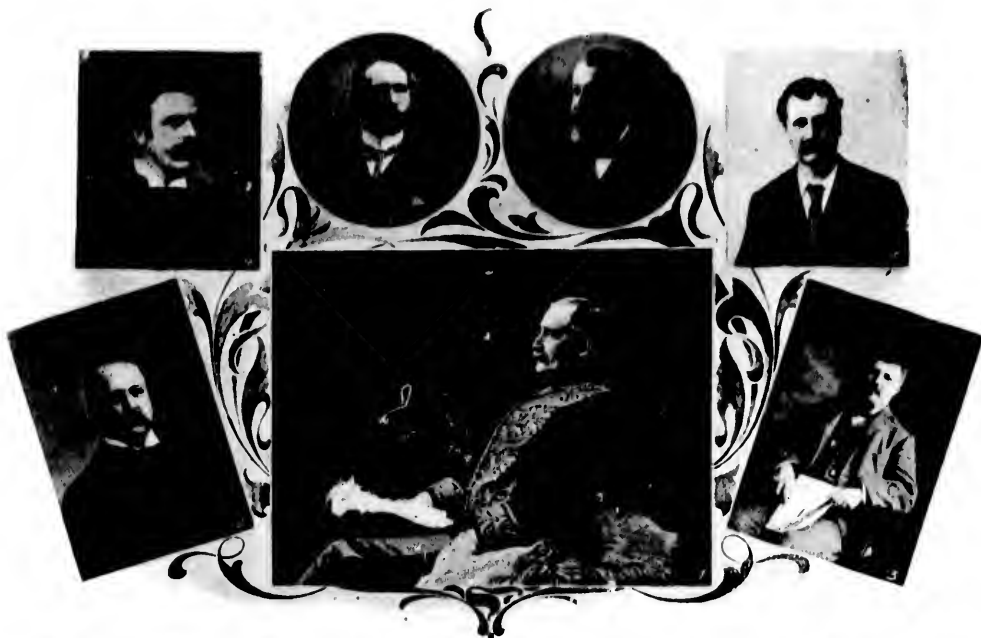
The next event on the programme was the luncheon to His Excellency. This was one of the most impressive public functions ever held in Rossland. The attendance numbered one hundred citizens and the speeches were of far reaching importance. The menu was excellent, and the decorations were unusually elaborate. Mayor Wallace presided and at his right hand sat the guest of honor, His Excellency the Governor-General.

The opening toast, "The Queen," was given in rousing fashion, and the singing of the national anthem followed enthusiastically.

"The mineral resources of British Columbia" was responded to by Mr. W. A. Carlyle, ex-provincial mineralogist now chief engineer of the B. A. C., who said: "For the second time it is my very pleasant duty to rise to respond to a toast in which most of us are very deeply interested—the Mineral Resources of British Columbia. It is my purpose to say but a very few words and to detain you but two or three minutes, and it is a pleasure for me to speak upon the mines and resources of Kootenay—a noble part of a noble province, the land of mountains, exquisite lakes, magnificent rivers and, moreover, a land of mines of wealth yet untold.

"It is almost needless this afternoon to remind our guests that this country but a short decade ago was a terra incognita, but we may be more able to appreciate its advance if we remember that the history of this district has been written during the regime of His Excellency. [Applause.] During the past five years that he has governed this country so wisely and so well, it must be, I am sure, a source of gratification and of interest to His Excellency as he makes this brief visit through this district, to see the wonderful development that has taken place, to remember that six or seven years ago nothing was here but a wilderness, where now are large and flourishing towns and cities, with connecting railroads and

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9. Public School.
10. Presbyterian Church.
11. Sisters' Hospital.
12. Lion Brewery.



1. Ex-Lieut.-Gov. Mackintosh, Resident Director B. A. Corporation. 2. J. B. McArthur, Q.C., Pres. Rossland Board of Trade.
 3. J. S. C. Fraser, Vice-Pres. Rossland Board of Trade and Manager Bank of Montreal. 4. Jno. McKane, Sec'y Rossland Board of Trade.
 5. W. A. Carlyle, Chief Sup't B. A. Corporation. 6. Oliver Durant, Manager Centre Star Mine.
 7. Jno. Kirkup, 1st Gold Commissioner Rossland District.



1. Mayor Wallace. 2. Ald. Clute. 3. Ald. Thompson. 4. Ald. Goodeve. 5. Ald Edgreen. 6. Ald. Lalonde. 7. Ald Barrett.

lines of steamships, I am sure along with others, he will be impressed with what has been accomplished in Kootenay during his term of office in Canada. It is hardly necessary for me to recite what has been done, but still we may take mention to our souls and just recite a few but interesting figures.

"Looking back after a peep in the blue books, with which until lately I have been more or less intimately connected we find that ten years ago the mines of Kootenay—and remember we are speaking of all Kootenay extending from the Rockies westward until we reach the Yale district—a decade ago these mines produced \$200,000; five years later the production had increased to \$100,000, while last year the production was \$7,000,000, and when we total up what Kootenay has produced within practically the last three years we find that it is \$17,000,000. In speaking of our own camp, in which we are here more deeply interested we may recite a few figures, and we find that in the early days of our camp, in 1894, the shipments of ore from our camp amounted to \$75,000, while last year it had increased to \$2,100,000, and we find that from the mountains within a rifle shot of this room, \$5,500,000 have been produced.

"These figures are not great compared with Africa or Australia, but they are certainly figures to be proud of. We know that they increase from year to year and we have not now that boom element which was here a year and a half ago, when all kinds of people were exploring these hills and coming back with bags of rock that could hardly be called ore; that time has gone by, and now we are settled down to good, hard, honest work."

"In looking forward, gentlemen, to the future of Kootenay, we cannot indulge in prophecy but I am sure that all who know what we know, and have seen what we have, cannot but have the very strongest faith in the future of this great district. In my report last winter, I said we had more capital than we had mines and I was sharply taken up for it, but I think I was right in what I said, and now that the time has come for digging, and that digging is being done, I am sure capital will find more and more encouraging places for investment. Last year I spoke in most encouraging terms of the future of Rossland; at the present time I am well familiar with its present conditions, having seen most of the properties during the last few months, and I may say that the progress here has been most encouraging within that period, and most mine managers who have driven down deeper and drifted in further are quite satisfied with the amount of ore disclosed.

"Your Excellency, we hope you will not only enjoy the scenery of this most beautiful part of the Province, but that you will be impressed by the magnitude and possibilities of the mineral resources of this district, and that when the tenure of your office in Canada ceases and you leave these duties which you have performed so admirably, we sincerely hope that you will carry with you to the motherland kind and fond memories of Kootenay."

MR. MACKINTOSH'S SPEECH.

The toast to His Excellency, the Governor-General, was given by Hon. C. H. Mackintosh, in one of the most interesting speeches of the day.

"The citizens of Rossland," said Mr. Mackintosh, "could not have conferred a higher honor upon me than by requesting me to propose the health of a gentleman so conscientiously, so distinguished, so respected, so deservedly popular, as His Excellency Lord Aberdeen, the Governor-General of Canada. [Loud applause.] Some one more capable might have been selected, none more sincere, none more truly appreciative.

"You all know in what esteem the Marquis of Dufferin and Ava was held when twenty years ago, he closed his term as governor-general. [Applause.] I am not unmindful of the fact that he, loving our people to day, as he did a quarter of a century ago, consented to accept the chairmanship of a great mining corporation, a corporation

destined, I am convinced, to prove how rich British Columbia is in mineral wealth. You have heard what that eminent authority, Mr. Carlyle, has said. I can add no more. [Cheers.] To my connection with that corporation, I doubtless owe the compliment paid to me. Gentlemen, in mentioning Lord Dufferin's name I am proud to be able to say that the interest manifested in Canada by that distinguished statesman, finds a responsive chord in the heart of the noble lord who to days accepts your hospitalities. [Loud cheers.] Eight years ago, when member for the capital of the Dominion, I had the honor of meeting His Excellency for the first time, and since then, like all observant Canadians, never failed to recognize His Excellency's devotion to every project promising to add to the progress of the commonwealth. [Applause.] He is here, and that alone should be sufficient proof that I am indulging in no questionable flattery. [Applause.] All will agree with me when I venture to add that Her Excellency Lady Aberdeen, has endeared herself to vast numbers throughout Canada and the United States; that she has beautified social life and set an example of perfect womanhood." [Loud applause.] (Hon. T. Mayne Daly here arose and proposed three cheers for Lady Aberdeen, which were given with hearty good will.)

Mr. Mackintosh continued: "A majority at least of those present are endeavoring to solve the problem of making British Columbia the great mineral producing country of the world. I am satisfied this will be accomplished, but the same indefatigable industry, the same singleness of purpose displayed by our guest throughout his term of office, will be necessary if we are to succeed. [Applause.] The noble lord five years ago administered the oath of office to me as Lieutenant Governor of the Northwest Territories;—more than that, he subsequently publicly proclaimed me one of his confidant bishops. [Laughter.] Naturally I was duly impressed by the temporal and spiritual responsibilities, and being an enthusiast, was perhaps carried a little too far by a desire to promote the welfare of the northwest. When a great exhibition, held away out on the prairie took place, His Excellency considered neither distance, fatigue nor hard work too great a sacrifice, and to him and to Lady Aberdeen, the Northwest owes much for their self-sacrificing efforts on that and other occasions. [Loud applause.]

"Why then should I not speak in terms of eulogy, why not rejoice, doubly rejoice, to welcome them to a province which bids fair to outstrip many an older one, so long as the people work and are true to themselves; [Loud cheering.] a province in which their Excellencies number hosts of friends and hold such important interest. [Applause.]

"Gentlemen, We part to-day from one who has been a good friend to Canada, a truly constitutional governor. He has had difficulties to face, obstacles to overcome—but he knew the constitution of the empire and every action of his is approved by all thinking and reasoning Canadians. I say this advisedly because, if there is one subject I have carefully studied it is Canada and its government, from both a colonial and imperial standpoint. [Cheers.]

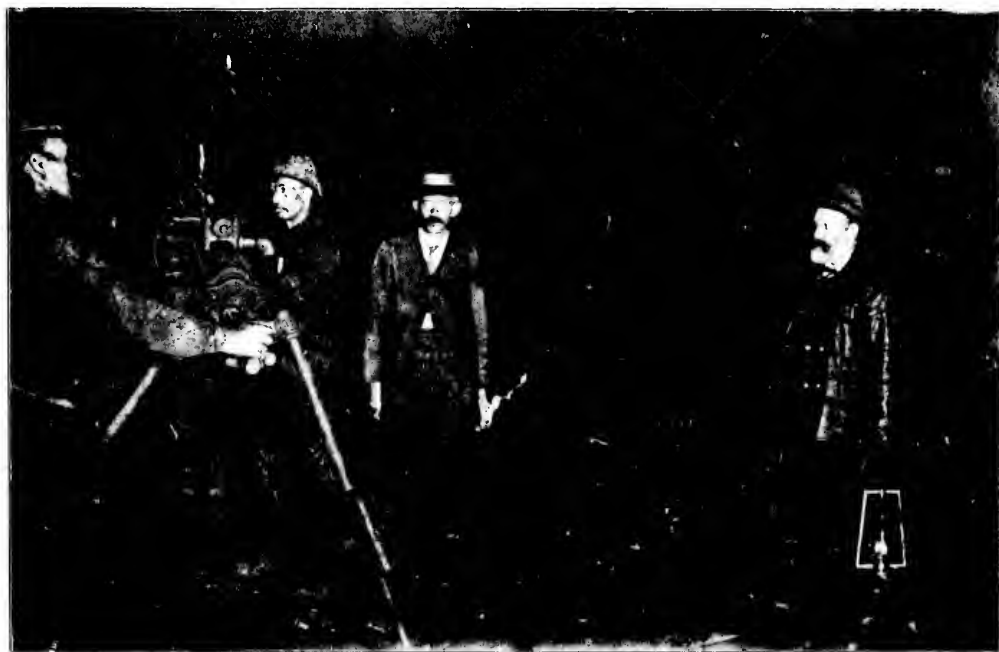
"Mr. Mayor and Gentlemen, I am perhaps speaking at too great length ('No, no, go on') but there is one other subject I wish to refer to, namely the presence of many friends from across the border. [Cheers.] Some one was ungenerous enough to insinuate that there had been a significant increase since war was declared. [Loud laughter.] That, of course, is badinage. We all appreciate what they have done in developing our mines both in the Rossland and Slocan districts. [Applause.] Although perhaps not inspired altogether by motives of charity. [Laughter.] To be candid, I failed altogether to appreciate the figures they put upon their properties when our corporation proposed to purchase them. [Loud laughter.] I think we got them down to hard pan at last, though. [Laughter.]

"Pleasantry aside, we thank them for assisting in doing honor to the Governor-General of Canada. [Applause.] We congratulate them upon recent achievements of their



Lord Aberdeen listening to School Children singing Patriotic songs.

Lord Aberdeen responding to the Toast of "Our Guest."



Ore Stope 20 ft. wide, main drift Centre Star Mine, showing Air Compressor at work.

army and navy while waging a white man's war for the extension of modern civilization [Cheers] and we implore them, when the auspicious hour arrives, to cast their influence with those who advocate the white man's policy of an Anglo-American alliance. [Loud cheers.]

"Gentlemen, there can be no legitimate civilization where a bible is carried in one hand and a drawn sword in the other. [Applause.] Once usher in that era when the 'war drum throbs no longer and the battle flag is furled'; when English-speaking races backed by better thinking men of other nations, determine to link their fortunes, then will be perfected a union worthy of man—a union sanctioned and blessed by the Almighty. [Immense cheering.] Then, too, will be written by angel fingers the brightest page in history—that recording the coalescing of two powers owning the same origin, speaking the same language, but long severed by passions and prejudices for which the older must be prepared to accept some responsibility. [Applause.] Then and only then will be established the greatest confederation of freemen the world has ever dreamed of. [Loud cheers.] A consummation devoutly to be wished—an epoch during which each star upon the flag of the United States will represent a civilizing power, each British colony a great auxiliary force, all working in concert with the parent country, all honoring the brave old flag of our fathers, all revering the banner that has ever been the harbinger of liberty and patriotism, the protector of the oppressed of all lands. [Applause.]

"'Tis only a small piece of bunting,
'Tis only an old tattered rag;
'But thousands have died for its honor,
'And shed their best blood for the flag.'

[Loud cheering.] The Stars and Stripes! the Union Jack! Your Excellency, Mr. Mayor and Gentlemen, 'long may their varying tints unite and form in heaven's light one arch of peace!' [Applause.] My Lord Aberdeen, we soon must part. We will ever reserve a warm spot in our hearts for you and yours. We know you will gladly convey to Her Most Gracious Majesty a message of loyalty and love. We know you will be proud to carry this message across the ocean—assurances of our patriotic devotion and unswerving allegiance. [Loud applause.] Assurances, too, that should ever the storms and passions of envy and hatred beat about the Motherland, the hardy sons of this western hemisphere will surround her during every period of gloom and despondency, their strong arms bear her through the dark clouds of trial, tribulation and adversity into the glorious sunshine beyond. [Applause.] Mr. Mayor, Gentlemen, I give you our guest Lord Aberdeen, Governor-General of the Dominion of Canada." [Immense cheering.]

LORD ABERDEEN'S SPEECH.

His Excellency, rising to reply, was warmly welcomed. He said: "This demonstration is indeed a very impressive one, so impressive that I confess that it will not be conducive to eloquence, even though I ordinarily possessed that gift. Notwithstanding, I am at least endeavor to express to you my deep appreciation of the kindness, loyalty and cordiality of this manifestation upon the part of all present. It has been offered in response to a speech which I am sure could not have been surpassed, either in the kindness of its tone, or, I venture to say, in well-chosen and graceful language. As to the more than kindness of ex-Governor Mackintosh's words, it is not my business to endeavour to persuade you that he said a great deal too much. (Cries of "No, no.") No, of course not. I leave that to you; if you wish to disclaim or object now is the time. (Laughter.) I can only say that I am most grateful, and perhaps it is because he is an old and valued friend of mine that you may think he has erred a little in the way of over-indulgence; but certainly it enhances the welcome that this toast should have been proposed by one who is a friend of such long standing. In the early days, long before I came to Canada officially,

long before I ever expected to come in that capacity, I had made some acquaintance with Canada and Canadians, notably among them my friend Mr. Mackintosh. (Cheers.) I do not for a moment forget that the primary and fundamental motive of this manifestation, and the unbounded consideration and marked respect with which I have been received in Rossland, is due to your loyalty to and firm belief in the British constitution, as well as your admiration, love and reverence towards the head of that constitution, our Queen. (Cheers.) My friend who proposed the toast, expressed the wish that I should take an opportunity—and it will not be the first time—the opportunity of conveying to Her Majesty the Queen assurance of the manner in which her name is ever received in this country. (Loud applause.) Gentlemen, I feel I am not divulging any official secret when I say that the marks and tokens on the part of Her Majesty the Queen, of, I might say, a peculiar interest in her Dominion of Canada have been many and manifest. It is, of course, my duty from time to time to address letters of almost a personal character to the Sovereign, and sometimes I think they have been rather long, but I have never heard any complaint on that account; on the contrary I have received decided indications that they were of interest. (Applause.)

"I fully realize that any Governor-General might feel fortunate in meeting such an audience as this, and in receiving such a demonstration. It would be presumptuous of me to make any personal allusions, but I can candidly say that had my visit to Rossland been limited or circumscribed to this meeting, I should have gone away with very pleasant memories of it after having met the gentlemen I see before me to day—a body of vigorous, hardy and good-looking men. As to your actions, I think, gentlemen, that they reflect credit upon the people of Rossland and upon your kindly feeling, and prove that while deeply interested in the development of this splendid district, you are not unmindful of those other virtues of public spirit, loyalty and patriotism, and certainly they are not forgetful of hospitality.

"I had the opportunity last night, as you know, of receiving in a most pleasing and graceful form, the record of your feelings and your assurances of welcome in two addresses, which were not only admirably written, but handsomely engrossed and illuminated—the work, I am sure, of some expert hand in this district. (Applause.) There was a good deal in these addresses about the characteristics of this district, not alone with reference to its magnificent resources, about which we heard from Mr. Carlyle, who in the course of a few minutes managed to present to us many important facts concerning the development of the country. This morning we had the opportunity of seeing not only the wonderful progress of Rossland and the neighborhood, but owing to the systematized arrangements made were vouchsafed an opportunity of seeing something of the actual working of the mines. It was impossible during the limited time at our disposal to thoroughly explore many of the properties, but we were enabled to visit a few of the more important ones and to see the inner workings of some. I refer to the Le Roi, War Eagle, Centre Star, Josie, and Columbia and Kootenay mines, names which have become household words in Canada. (Cheers.) We had the opportunity of going somewhat thoroughly into one of the mines, the Centre Star, under the guidance of Mr. Durant, and I wish to take the opportunity of thanking Mr. Durant publicly, as I have done privately, for the way he aided in making the visit not only most profitable but most enjoyable. The dark tunnels were turned into a blaze of light, and the splendid illuminations made the ordinary accessories of a visit to the mines unnecessary. One little souvenir was taken away from the mines by Lady Aberdeen, a miner's candlestick, and altogether the visit was full of interest and will not be forgotten.

"That reminds me of an allusion in the addresses last night in which the hope was expressed that I might endeavor to do my part towards making known the



Columbia Mountain, showing Air Compressor and Workings of Columbia and Kootenay Mine.



Little Sheep Creek Valley from Giant Mine showing Loops on Red Mountain Railway.
[The hill on the right is O. K. Mountain, with mine of the same name at its foot. The hill on the left is Deer Park Mountain. Sophia Mountain is seen in the distance.]



tain. Sophia

resources and development of this favored region. I am happy to say that I shall not only be willing but proud to assist in that laudable work. (Applause.) I think the country is becoming pretty well known, not only as to its valued resources and riches, but also another important fact has been established, namely, that if ever there was at one time anything of a boom, or element of undue inflation, that period has passed, and you have settled down to the permanent work of development and production. During the visit I spoke of just now the desire was evinced to prove the actual possibilities more than the possibilities, the actual facts concerning the ores and deposits, not only that are ready for shipment, but what there was to go upon: all tending to demonstrate the extraordinary mineral wealth of the Kootenay country. I need hardly say that I agree with Mr. Carlyle that anyone who sees what we see around us to-day, would be amazed when he is told that it is the growth of such a few years.

"There is another feature I wish to speak of concerning this country, for it has not yet been dealt sufficiently with. I refer to the splendid scenery of the neighborhood. (Cheers.) We all know that tourists' traffic is not to be despised; it confers benefit not only upon those who handle it, but upon the whole country, because of the business naturally resulting therefrom. I have travelled throughout every portion of the Dominion of Canada, and although very appreciative of scenery, I wish to say that I have never seen anything to surpass the forests and waterways of Kootenay. (Applause.) I shall do my best to make that known: and not only that alone but the health resorts.

"I wish to congratulate you upon the city of Rossland, not only as a city, but as a city notable for good government. Rossland is, and must emphatically be, a city set upon a hill, and you will have special opportunity of setting an example of public spirit, accompanied by economic management. There is something grand and stirring in having the opportunity of showing how well a young city may be governed from the very fact of its being young and having a fair field and scope. I remember a rather quaint illustration of the spirit which marks the welfare of persons and places. There happened to become people waiting at a railway station; it was a cold night and there was a big box stove with a good fire. By and by, a man entered the room who was somewhat out of shape; it might have been rheumatism, and probably he had never heard of the celebrated Haleyon Springs. (Cheers.) At all events he was deformed. Feeling cold, he went up to the stove and spread out his hands to get warm. Meanwhile, another man who happened to be in the room and who was well, not quite himself—noticed this strange figure at the fire. He gazed at him for some time in astonishment, and then came up and tapped him on the shoulder: "Are you a well man, sir?" "Yes, sir." "Do you feel as well as usual?" "Yes, sir." "Then you had better get away from that fire for you are warping." (Laughter.) Where there is a little assistance and a little sympathetic co-operation, it helps to pull all together and to make a success of the ends we are trying to attain. Petty sectional jealousies retard the operations of those who are sincerely anxious to assist in the promotion of a town's growth. (Applause.) I wish also to say, gentlemen, that I am glad to have this opportunity of expressing my appreciation of the circumstances under which I have the pleasure of seeing you to-day, for although I had the opportunity of speaking to a large gathering at the opera house last night, I felt I did not do justice to the occasion.

"There is another thing in Mr. Mackintosh's speech which I wish to refer to, and that is the allusion to the Countess of Aberdeen. I may say that nothing he could have said could have affected me more than the manner in which the remark was made and the enthusiastic way it was received; and I venture to say this, that if you all knew more of Lady Aberdeen you would not retract or withdraw one iota. (Prolonged cheering.)

"The time for our departure from Canada is drawing near, and it is a regretful prospect for us; for in leaving

this country we feel that our departure means the severance of many friendships that have been made; for we have made many friendships in Canada and shall have many pleasant remembrances. I know how true you all are. I know how loyal the Dominion is. (Cheers.) We shall always take the deepest interest in anything that concerns the country, and shall ever be most happy to assist in furthering or making its vast resources known throughout Great Britain."

The conclusion of His Excellency's address was marked by a veritable ovation, and it was some time before the applause ceased.

GENERAL WARREN'S SPEECH.

General Charles S. Warren, in replying to the toast of "Our American Cousins," said:—

"It gives me great pleasure to say that I am an American, in every sense of the word, and I am as proud of the fact as a man can be. I am also greatly pleased that I have been honored by being called upon to respond to the toast 'Our American Cousins.' In the days of old Rome, before the imperial people were put up at auction and sold to the highest bidder, the proudest boast that could be made was that a man was a Roman citizen. I know of no prouder boast a man can make to-day than that he is an American citizen except perhaps that he is a British subject. On last May Day, the day which your great poet Tennyson has immortalized in his 'Queen of the May,' while the children of America and England were picking flowers and weaving them into garlands and crowns for the adornment of the Queen of May, one of your American cousins, named George Dewey, placed 'Old Glory,' that symbol of liberty, above everything written or unwritten, on the pyramid of fame. The eyes of the civilized world are to-day riveted upon your American cousins. Almost since the beginning of time England has been to the forefront in redressing the wrongs of the weak and oppressed, but upon this particular occasion of the Spanish war, your American cousins have taken the contract of wiping barbarism off this continent. The present war, no matter what it may cost, no matter what amount of money or treasure may be spent, or more precious blood be spilled, is worth all its great cost, provided it brings nearer together the father and the son and aids to make Anglo-Saxons respected wherever the sun shines. There is no doubt but that the bold and determined attitude of England in this war has kept the wolves and hyenas from interfering, and hence I say here's to the Anglo-Saxon—'May he live long and prosper.' Your American cousins, like yourselves, have set the pace for civilization, have set the pace in the arts and sciences, and wherever you find an American, he is free born and answers the roll-call at all times for good government and the advancement of human rights.

"I was first made acquainted with Your Excellency and Lady Aberdeen to-day. You were at the World's Fair in the City of Chicago, and there made a history which shall be more lasting than monumental brass. I congratulate you, Sir, upon your administration as Governor General of Canada. You are respected and loved as well by Americans as by your own subjects. Any time an American citizen comes across the line, he expects to obey your laws, feeling that your interests are ours and ours are yours. Your Excellency your American cousin is a part of the history of this country. As you saw sailing down the Arrow Lakes last night, the hundred camp fires, reaching from the lake shore to the timber line, it is safe to say that those fires were built by your American cousins. They blazed the trail for you to follow—they are responsible for the Kootenays—they are responsible for the Klondike. They do not build many railroads in this country, they simply blaze the way for you to do so. The winter or the summer storm has no terror for your American cousins. Wherever you find him in this broad land, you find an enterprising, progressive, law-abiding citizen, proud of you, proud of your



Centre Star Mine—First Location on Red Mountain.



Le Roi Mine, showing dump of Second-Class Ore.



institutions, and proud of the greatest and noblest queen the world has ever known, but prouder still of the land that gave him birth. I wish Your Excellency and Lady Aberdeen a pleasant trip throughout the province and a safe return to your native land, and beg to thank you for the honor conferred upon me and upon my countrymen."

Toasts to the "Mayor and City Council" and to the "Ladies" followed and the assemblage adjourned to the Opera House where Lady Aberdeen had meanwhile been entertained by the ladies of Rossland. A public reception by their Excellencies followed, and after a hurried visit to the Sisters' Hospital they boarded the C. P. R. train for Nelson.

THE MINES OF ROSSLAND.

Rossland, as a mining centre, now has a very enviable and bright future as well as a most important present. The collapse of the 1896-7 inflation was distressing for many, but now that that bubble state is over and rapid development work is wresting their golden secrets from the mountains, permanency and wide extent of ore-bodies are assured. A strong feeling of confidence is now abroad in the camp as it is demonstrated that there are other ore-chutes and that the old ones continue in depth. The weekly tonnage of ore shipped to the smelters is increasing and will yet increase much more as the mines have the ore in sight to warrant this statement. The amount of work now in progress is very much in advance of that of last year: new discoveries of great importance have recently been made, and some properties hitherto unheard of now have every promise of making mines.

For mining many exceptional facilities are now afforded, as one or both of the railroads run to each important property, or may easily do so. All supplies, machinery, etc., can be most easily obtained at reasonable cost, while skilled labor is to be had at fair wages. While the rock is hard for mining still the minimum of timbering is demanded, and very little water comes into the mines.

GEOLOGY OF THE CAMP.

Geologically speaking, the mines are located in an area of eruptive rock, of which the centre or core is gabbro surrounded by uraltic porphyry. This area is traversed in a north-east or south-west direction by lines of fissuring, along which the ore-bodies have been formed by the impregnation or replacement of the country rock by gold-silver bearing pyrrhotite, chalcopyrite and very finely disseminated quartz. In some parts of these veins the ore-bodies assume the great width of twenty to forty feet of shipping ore—in one mine one stope is sixty-six feet wide—and, as depth is attained, both size and values appear to be well maintained.

These ores are essentially smelting ores, the charge for transport and smelting having recently been reduced to \$7.50 per ton, or \$4.00 less than a year ago, but the mill being erected by the B. C. Bullion Extraction Company will soon be ready to treat the low grade ores that do not contain more than a small percentage of sulphides. The Canadian Pacific Railway having purchased the railroad to Trail and the Trail Smelter, has completely over-hauled the latter, while the former is being greatly improved by being changed to a standard gauge. At Northport, on the American side, the LeRoi Mining Company has a very complete smelter plant in operation, so that now all Rossland smelting ore goes to Trail, Northport or to the smelter at Nelson, B.C. Some day may see smelting plants at Rossland, but several difficulties, surmountable, have so far retarded their construction.

PRODUCTION.

From the beginning to the present date, the mines of Rossland have produced 177,000 tons of ore, worth \$5,500,000, and it will be of much interest to insert the following tables from the Report of the Minister of Mines for 1897:

NET PRODUCTION, PER SMELTER RETURNS.

Year.	Tons, 2,000 lbs.	Gold, ounces.	Silver, ounces.	Copper lbs.	Value.
1894.....	1,856	3,723	5,357	106,229	\$ 75,510
1895.....	19,693	31,497	46,702	840,420	702,459
1896.....	38,075	55,275	89,285	1,580,635	1,243,360
1897.....	68,801	97,024	110,068	1,814,586	2,097,280
Total.....	128,428	187,519	251,412	4,346,870	\$4,118,607

AVERAGE NET SMELTER RETURNS, OR ACTUAL YIELD VALUES PER TON.

Year.	Gold.	Silver.	Copper.	Value.
1894.....	2.00 oz.	2.89 oz.	2.85%	\$40.69
1895.....	1.60 "	2.41 "	2.10%	35.67
1896.....	1.45 "	2.34 "	2.08%	32.65
1897.....	1.42 "	1.60 "	1.32%	30.48
Average, 128,428 tons	1.46 oz.	1.96 oz.	1.73%	\$32.05

Following are the ore shipments from the mines adjacent to Rossland from January 1st to August 12th, 1898:

Le Roi.....	27,721
War Eagle.....	20,186
Centre Star.....	2,577
Poorman.....	453
Iron Mask.....	2,143
Cliff.....	140
Velvet.....	350
Monte Christo.....	416
Sunset No. 2.....	30
Deer Park.....	6
Giant.....	83
Total.....	54,105

The amount of ore shipped each week from the mines of Rossland now averages close to 3,000 tons, valued at \$90,000.

WORKING MINES AND THE PAYROLL.

The amount of the monthly payroll is always an important factor in determining the degree of prosperity enjoyed by a community. In Rossland the main reliance is, of course, on the mines, and to determine what the average monthly payroll is a canvass of the working mines was made on August 1st with the following result: It was found that the total number of men directly in the employ of the companies then working to be 1,001, involving a monthly expenditure of \$102,690. Had the census been taken a few days earlier or later the number of workers would have been considerably larger as work on the Good Friday and Birdseye, employing thirty-five and twelve men respectively, had been temporarily suspended, while the Lily May, Northern Belle, Mountain View, Red Mountain, Iron Colt, Roderick Dhu, Homestaker, R. E. Lee, Maid of Erin, Gopher, Commander, Mayflower, St. Elmo, Big Four and several other properties were likely to resume operations at any time.

The result of the investigations is very concisely put in the following table, which shows not only the names of the properties then at work with the number of men employed and the amount of the monthly payroll, but also the number of lineal feet of drifting and sinking on each property and the greatest depth from the surface attained by the workings.



1. First Building on War Eagle ground. 2. New Boarding House for War Eagle Miners. 3. War Eagle Mine, showing Dunips.



Iron Mask, Mine.



g Dumps.



Name of Property.	No. of Men.	Amount of Monthly Pay Roll.	Amount of Work Done.	Greatest Depth.
Abbotsford	6	600	.....	.....
Abe Lincoln	6	600	100	132
Atlantic Cable	5	550	617	238
Centre Star	45	4,050	6,000	500
Cliff	5	630	1,500	300
Columbia & Kootenay	52	5,300	1,700	400
Copper Wonder	6	600	.....	.....
Coxey	6	600	600	200
Deer Park	15	1,550	650	260
Evening Star	4	400	750	240
Eureka Consolidated	5	500	.....	35
Gertrude	12	1,200	110	51
Giant	14	1,470	200	70
Good Hope	10	1,150	500	80
Great Western	32	3,200	200	260
Green Mountain	4	420	.....	.....
Iron Mask	30	3,100	4,000	350
Josie	33	3,500	2,100	300
Junble	6	665	1,600	350
Le Roi, (approximate)	250	25,000	.....	730
Mascot, (Big 3)	12	1,500	500	175
Monte Christo	35	5,000	7,500	620
Colonia	50	5,000	1,350	200
Nickel Plate	16	1,700	200	65
No. One	7	700	230	54
Royal George & Florence	5	410	215	155
Ruth & Esther	6	675	300	175
Santa Rosa Group	5	700	250	150
Southern Belle, (Big 3)	6	700	.....	.....
Tootsie & Whoozup	23	2,485	1,450	340
Sunset No. 2	31	3,030	150	60
Alabama	9	875	650	250
Goldhunter	24	3,500	800	330
Velvet	210	19,500	8,500	675
Portland	16	1,500	425	195
Bluebell				
Victory-Triumph				
Virginia				
War Eagle				
White Bear				
Totals	1,001	\$102,630		

BRITISH AMERICA CORPORATION, LIMITED.

The chairman of this corporation is the Marquis of Dufferin and Ava, vice-chairman, Whitaker Wright, Esq., of London, and the resident director, Honourable C. H. Mackintosh. The capital stock is \$7,500,000, of which \$5,000,000 have been paid up, and the following properties in Rossland are now controlled and being operated, viz.: the "Le Roi" mine, under Superintendent N. Tregear; the "Josie" group, consisting of the "Josie," "Poorman," "Number One," "West Le Roi," "You Know," "Surprise," and fractional claims, under Superintendent J. M. Long; the "Nickel Plate," "Great Western," "Golden Chariot," and "Golden Dawn," under Superintendent W. S. Haskins and the "Columbia & Kootenay" group, under Superintendent B. J. Macdonald.

The financial manager at Rossland is Edwin Durant, and Wm. A. Carlyle is general superintendent and mining engineer in charge. Work is progressing rapidly on all the above groups, and as soon as possible each will be well equipped for thorough and extensive exploration and mining. The exceptional advantages afforded by the railways are being utilized, and all ore can be easily shipped directly from the mines. A short description is now subjoined of the working properties:—

THE LE ROI MINE.

The B. A. Corporation owns the controlling interest in the now famous Le Roi mine, which so far has paid \$825,000 in dividends, and now has large reserves of good smelting ore in sight. The early history of this mine is well known, so only a description of it as it is to-day will be attempted. The main ore chute is now known to continue in strength and value to the lowest or 700 foot level, although most of the ore down to the 500 foot level has been mined, leaving in one place a stope 66 feet wide. On the 600 foot level an almost unbroken ore chute continues for over 600 feet in length, with a width varying from four to twenty-four feet of good shipping ore. On the new 700 foot level, a large body of smelting ore is being rapidly opened up,—there is known to be a width of at least twenty feet and a winze from the 600 level has proved the existence of very good ore between these two levels.

Development is progressing rapidly, and the shaft, (on an incline of seventy-two degrees) is being sunk to the 800 foot level as quickly as possible, while a triple-compartment vertical shaft will shortly be begun which will permit the more rapid and economic working of the mine. Drifts are also being driven along the vein to the west, while nearly all waste rock is being thrown into the old stopes to make them safer from caving in. An output of 200 tons per day can easily be maintained for a long time, but when more fully opened up, the mine will ship from 400 to 500 tons daily. In 1897, 56,000 tons were sent to the smelter, and so far this year, 27,000 tons, but shipments have been greatly reduced pending the negotiations for sale of this property.

The mine is equipped on the surface with a large 300 H. P. hoisting engine, small hoists, pumps, etc., and on the "Black Bear" claim is a stone building, enclosing a 40 drill Rand Air Compressor, the largest in Canada, and with this power thirty machine drills, pumps and small hoists can be operated in the mine.

At Northport, Washington, is situated the Le Roi smelter, one of the most complete and best equipped smelting plants in the northwest a full description of which will be found on another page.

JOSIE AND POORMAN MINES.

The "Josie," lying next north from the Le Roi, has shipped considerable ore in the past, and at present the vein is being developed both to east and west on the 300-foot level, and sinking for another level is being begun. The ore now taken out during development is being stored, and is a very good grade of smelting ore. All the buildings and plant are in excellent condition, and shortly the compressor plant capacity will be augmented.

The "Poorman" will be worked through the "Josie" workings, the west drifts of which will be rapidly pushed into the "Annie" claim and "Rockingham," better known as the "West Le Roi."

NUMBER ONE.

The extensive development of this valuable property, through which runs a strong vein carrying at the surface high values in gold and silver, is now in progress, a large two-compartment shaft being sunk to tap the vein at a depth of about 250 feet. An electric hoist may be installed here. To the west a tunnel is now in 150 feet, along an unbroken vein, which is improving rapidly in size and value as the tunnel gets farther into the mountain.

NICKEL PLATE.

This mine, from which some very high grade ore has been taken, is being explored along the 200-foot level, and soon the shaft will be sunk to the 300-foot mark for another level.

A 12-drill Ingersoll air-compressor, equipped with two 60 H. P. boilers, pumps, heater and condenser has just been installed at the Centre Star gulch, and is a plant



Monte Christo Mine, showing Compressor plant with two Tunnels above. The Dump at the left is at the Colonna Tunnel.



Virginia Mine, showing War Eagle and Le Roi across Centre Star Gulch.

that will afford ample power for some time to come both for this mine and the "Great Western," to which half a mile of piping has been run.

GREAT WESTERN.

This property is located in the city and has a strong outcrop of a vein from small workings in which high assay values in gold and silver have been obtained. A large two-compartment shaft is now down 230 feet, on a slope of 72 degrees, and the first drift is started at the 200-foot level to prospect this most promising vein. When this work is well under way, the shaft will be sunk deeper and probably equipped with an electric hoist and cage.

COLUMBIA AND KOOTENAY.

This property, consisting of five claims and a fraction lying on the summit and north east slope of the mountain of the same name as the group, is traversed by what is believed to be the "Le Roi" or "Centre Star" vein. There is a very strong iron capping on the vein now being developed by three main tunnels, of which No. 3 is now in nearly a thousand feet, disclosing a continuous vein, except where traversed by dykes of eruptive rock. This vein or ledge in places is very wide, the ore where cross-cut in No. 4 being 27 feet wide of solid pyrrhotite, and the vein running straight down the mountain side offers ideal advantages for mining. Tunnels will be run in at vertical intervals of 150 feet and then connected by raises so that ore can be run from the slopes to the railroad spur that will be run around to a convenient point as soon as the mine is fully opened up, so that the ore will be mined and sent to the smelter at a minimum cost.

At the foot of the mountain, near the water supply, is a 30-drill Ingersoll air-compressor, which supplies ample power for the mine, at which comfortable board and bunk houses have been erected and also a blacksmith shop and other buildings, so that now this mine is well equipped for thorough development.

In addition to comfortable cottages for the different superintendents at their respective mines the company is erecting commodious offices and laboratories, store house and machine shop on the Nickel Plate ground in the heart of the town.

THE CENTRE STAR.

Oliver Durant and A. H. Tahet purchased the Centre Star in 1891, at which time Mr. Durant was manager of the Le Roi mine. In the winter of 1891-2 a shaft was begun about 500 feet from the east end line of the claim and subsequently a tunnel was driven from the level of Centre Star gulch to a point beyond the shaft. The work so far was done by hand, all the supplies having to be packed over trails from Marcus, Wash., a distance of 80 miles. In 1895, The Centre Star Mining and Smelting Company was organized, with P. A. Largey of Butte, as president and Mr. Durant as general manager, and with the advent of a wagon road to Rossland a machinery plant was installed. It started up December 21st 1895, and since then tunnels, shafts, cross-cuts and drifts aggregating over 6,000 feet have been completed.

The tunnel traverses the main, or Centre Star-Le Roi, vein for 1,500 feet, giving at the extreme west end where the Centre Star adjoins the Le Roi, a depth of about 350 feet on the incline. These workings are in ore for practically their entire length, showing sulphide ore chutes from 50 to 500 feet in length and from five to 20 feet in width, with bodies of silicious ore between. The vein itself is from 70 to 200 feet wide where cross-cut. From this main tunnel level a winze has been sunk on the vein, near the west end, to the same depth as the 500 foot level in the Le Roi. Connecting with this winze is a level run in from the Le Roi, a distance of about 50 feet showing a fine body of sulphide ore from 12 to 15 feet in width. This drift is now being continued easterly in ore.

South from the main vein about 200 feet, a cross-cut from the tunnel disclosed a parallel vein with about 30 inches of ore. Only about 70 feet of drifting has been done on this ledge.

North from the main vein 225 feet the cross-cut shows a 9-inch vein of very fine sulphide ore. Twenty-five feet beyond that another ledge is cut, showing 18 inches of fine sulphide ore. About 35 feet still further north another and very strong vein, from 10 to 12 feet wide between walls and carrying about five feet of very fine sulphide ore was found. This vein has been drifted on for 60 or 70 feet and from the croppings on the surface and its course underneath is confidently believed to be the Poorman-Jonie vein.

The cross-cut was still continued to the north and at a distance of 195 feet from the last named vein still another was cut. This is known as the War Eagle vein and a portion of it is in dispute between the Centre Star and Iron Mask companies. The apex of this vein shows on the surface of the Centre Star for not less than 750 feet. A shaft has been sunk from the surface to the tunnel level, a depth of 320 feet, showing ore from top to bottom. The vein itself has been drifted on for fully 750 feet. It is a very wide ledge and the ore chutes are all the way from 6 inches to 9 feet in width. The ore is of good paying grade.

The management intend shortly to start a triple compartment vertical shaft near the north side line and close to the present incline shaft on the north vein. Here will be erected the permanent works, consisting of a large compressor plant and hoist operated by electrical power. When this shaft is sunk to a depth of 600 feet cross-cuts to the different veins will be run. The mine will be in a condition to mine, raise and ship fully 500 tons of ore per day. It is also the intention of the management, when the above work is completed, to erect a combination plant suitable for milling and concentrating the low grade ores of which they have enormous quantities. It is conservatively estimated that from \$2,500,000 to \$3,000,000 net are now in sight in this mine. The only ore so far shipped has been taken out in course of development.

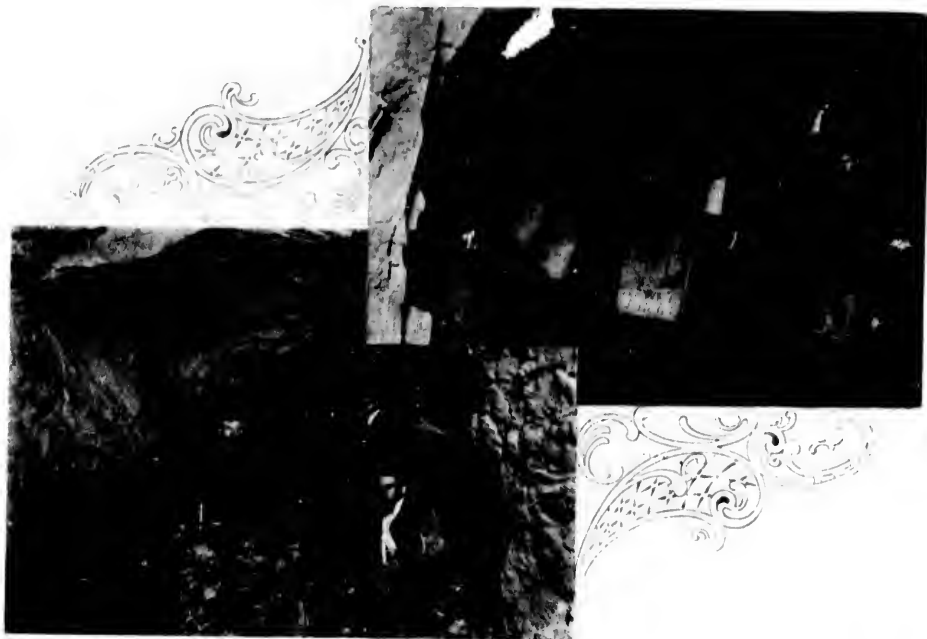
At the close of Lord Aberdeen's visit to the Centre Star mine, and when looking at the great chamber of ore disclosed before him, he addressed Mr. Durant, the late manager, and said: "Mr. Durant, I would like to be an owner in this great mine."

[NOTE.—Since the above was written George Gooderham and T. G. Blackstock, of Toronto, have purchased the mine for \$2,000,000 cash.—Ed.]

THE WAR EAGLE.

The War Eagle mine was offered to many capitalists and was bonded by more than one before P. Clark, of Spokane, Wash., purchased it in 1894, together with the Virginia and two thirds of the Iron Mask for the modest sum of \$25,000. Under his management the mine paid \$187,500 in dividends before it was sold to its present owners for \$700,000. At the same time it had to its credit in the bank the sum of \$52,500, so it brought Mr. Clark and his associates within two years \$940,000. Their remaining interests in the Iron Mask were disposed of at prices which produced over \$100,000 more, while the Virginia was sold last winter for \$25,000, or a total return of over \$1,065,000 from the original investment of \$25,000.

The present owner of the War Eagle is the War Eagle Consolidated Mining and Development Company of Toronto, Ontario, of which George Gooderham is president and T. G. Blackstock vice-president. Mr. John B. Hastings is general manager, and the mine has been constantly under his direction since January, 1897. When he took the property over he found that most of the ore developed by the two adits driven on the ledge had been extracted. There was an inclined winze from the lower of these tunnels down about fifty feet and he concentrated work in that shaft which has now attained a depth of 400 feet on the vein below the No. 2 tunnel level and is conse-



West Drift, all in ore, 700-foot level, Le Roi Mine.

Station at 700-foot level main shaft, Le Roi Mine.



Surface outcrop of recently discovered vein on War Eagle, showing 35 feet of shipping ore.

quently about 625 feet on the dip from the surface. It has also been extended to the surface and enlarged throughout to a triple compartment skip shaft. The lode shows from six to ten feet of ore for the whole length of these workings.

At the 375 feet level the ore body has been drifted on for a distance of 1,000 feet and stoping operations have recently been started at this point. At the 500 foot level connection has been effected with the main low adit tunnel which comes in from the Iron Mask and is 2,350 feet in length. At a depth of 625 feet drifting is now in progress upon the vein, for the purpose of opening another block for development. Thus it will be seen from the old No. 2 adit level of the previous company down to 625 foot level, the mine is virtually untouched.

But this is not all. In excavating on the surface for the new power plant a parallel vein was discovered, an illustration of which will be found on page 17. Crosscuts have been run on two of the lower levels which have tapped this ledge proving the continuity and value of the ore with depth. It promises to make in itself a mine of equal or greater value than the ledge on which the whole future of the mine was previously based.

A contract has been let to the James Cooper Manufacturing Company of Montreal for the installation of new, complete and more powerful machinery. The hoist will weigh thirty tons and will be capable of lifting eight tons deadweight at the speed of 750 feet per minute from a depth of 2,700 feet. Alongside this machine will be situated an Ingersoll-Sergeant air compressor nominally of 40 drill power. The whole plant will be housed in a steel frame building covered with galvanized iron. It is expected that everything will be completed within the next two months and the new plant will give a working capacity of 500 tons of ore per day. The machinery will all be operated by electrical power furnished by the West Kootenay Power and Light Co., and when completed it will be the largest hoisting plant in the world using electricity. The steel gallow's frame will also be the most complete and tallest extant. A set of new offices for the company's local business, and boarding and other houses for the miners are also under construction, and it is computed the total cost of improvements this summer will amount to over \$100,000.

THE IRON MASK.

The Iron Mask is one of the group of claims which was first located on Red Mountain. Its extreme length is 1,452 feet and its extreme breadth 600 and 461 feet respectively at either end. It is surrounded by the Mugwump, War Eagle, Centre Star and Virginia. Though it was located in 1891 it was not until 1895 that any considerable amount of development work was done. Since then the Iron Mask Company, of which Austin Corbin, 2nd, of Spokane, is president, has kept steadily at work. A shaft was sunk on the No. 1 lode to a depth of 200 feet in payable ore, the value of which from this particular work alone was estimated at \$70,000. A level was driven some little distance on the lode from the bottom of the shaft and a winze sunk to a depth of 160 feet below the bottom of the shaft level. Drifting on the lode is now in progress at this point. The vein ranges from three to fourteen feet in width and the average value of the ore is \$25 per ton.

A main adit level has been driven in from the gulch side of the property for the whole length of the ground and extending into the War Eagle. Acting as a cross-cut it has intersected several other known ore bodies. Upon one of these, known as No. 2, active operations are now in full swing. It has been opened up by a drift for 115 feet and has proved to be a body of ore varying from 5 to 8 feet in thickness and averaging in value about \$35. The development of this lode is now being systematically pushed ahead by raising and stoping and the bulk of the ore for shipment is coming from this point. Another shaft, called No. 2, has been sunk to a depth of 180 feet. Two levels have been opened out on the lode at 120 and 180 feet respectively. The former is in a total distance to

date of 120 feet and the latter 130 feet. Above the 120 foot level considerable stoping has been done and a good deal of ore broken out, some of which was very high grade. On the whole, however, this section of the mine shows one of rather low grade in gold though the copper maintains its average. The veins here are of large size, and should a slight improvement take place in the quality, or the expense of working be diminished somewhat, they will prove a valuable adjunct to the present resources of the company.

Other veins, which are wholly intact to the surface, traverse the property further to the north and it is the intention of the management to open them up in the near future. This will be done by extending a cross-cut from the main tunnel level which will intersect them and prove their value, when, if sufficient encouragement is met with, an extensive scheme of operations will be initiated here. At present 30 men are employed on the mine and a regular shipment of 15 tons of ore per day is being effected, the whole going to the C. P. R. smelter at Trail. Needless to say with the facilities which exist for breaking out ore the shipments could be largely increased.

MONTE CRISTO CONSOLIDATED.

The Monte Cristo mine lies on Monte Cristo Mountain, a short distance north of the town. It is a consolidation of the Monte Cristo, Colonna and Buckeye, No. 2, embracing a total area of 42 acres. Being in strong hands no expense has been spared in pushing ahead developments with all speed so as to place the mine on the basis of a regular ore producer. At the surface the ore bodies were by no means of a promising description, but by going down boldly success has been achieved, for the ore has greatly improved, carries more copper and enough gold to make it payable to ship.

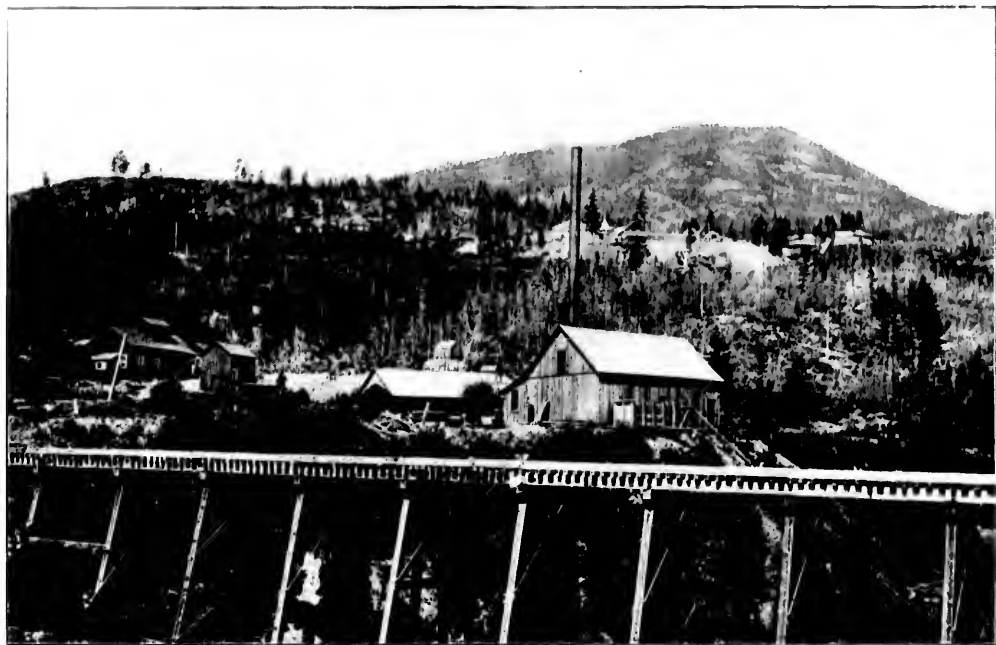
Two tunnels run in from the surface for over 500 and 1,200 feet respectively, have intersected the main lodes and a considerable amount of drifting has been done on them at these levels. The present manager, Mr. G. Pfunder, was anxious to get down below, and for this purpose a station was excavated at a point 700 feet in from the mouth of No. 2 tunnel and an incline shaft commenced. This is now down a total depth of 630 feet from the surface, on the hanging wall of the lode most of the way. It has, moreover, been carried up and connected with No. 1 tunnel.

The Monte Cristo lode is one of the mother lodes of the district and is traceable the full length of the claim, having outcrops in some places 80 feet in width of solid pyrrhotite, which, however, only carries value in depth. At present operations are restricted in the mine owing to lack of power. Working the drills a certain supply being allowed for working the Virginia. When the West Kootenay power company gets started the Monte Cristo company will install a new 45 drill air compressor, when much greater progress will be possible. The C. P. R. branch line, which will shortly be constructed, will pass the Monte Cristo dump in obtaining the requisite grade to reach the War Eagle hoist. This will be of great advantage to the former company, as it will mean additional facility and greater economy in transporting ore from the mine to the smelter. The mine will thus at an early date be one of the biggest shippers in the district.

John W. Mackay, of Bonanza fame, and C. R. Hosmer, of Montreal, and the Crokers of San Francisco are understood to be the principal shareholders in this company and the Virginia.

VIRGINIA MINE.

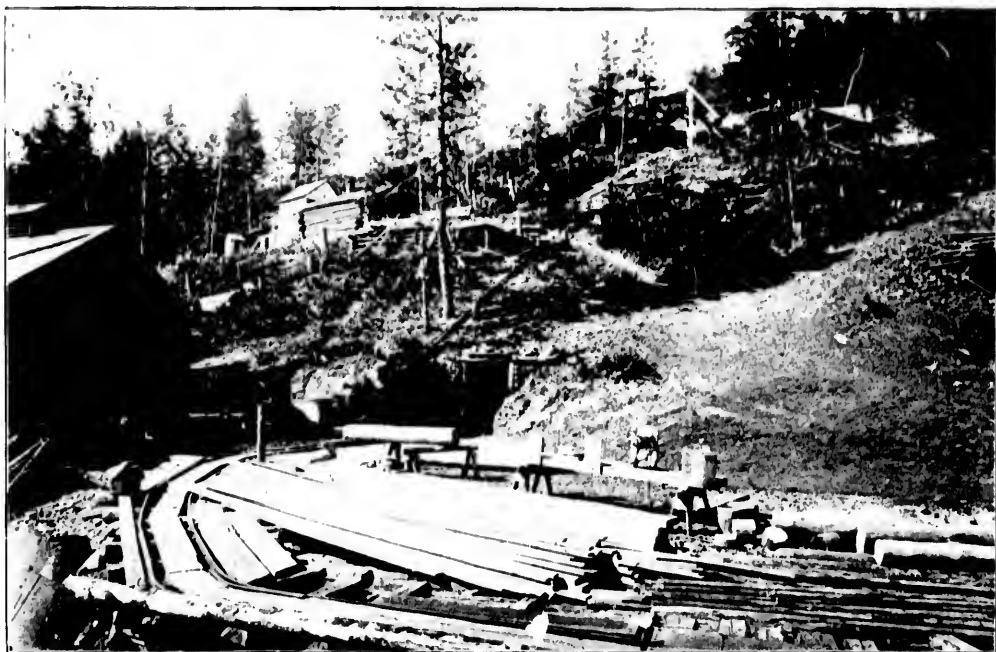
Mr. Geo. Pfunder is also manager of this mine, which adjoins the Iron Mask on the War Eagle lode. The present company assumed possession of the claim last December, and very wisely decided to develop the mine straightway by a deep shaft before wasting time in useless surface expenditures. Contrary to the general practice this shaft is being sunk vertically and it has attained a depth to date of 315 feet. It is expected from bearings



Nickel Plate Mine, showing War Eagle Mine and Red Mountain in back ground.



Great Western Mine.



No. 3 Tunnel Columbia and Kootenay Mine.



Josie Mine, showing Outcrop of Vein.

taken and calculations made that the lode will dip into the shaft at a depth of about 600 feet, but in the meantime levels will be opened at different points. At 300 feet a station was cut out and a cross-cut driven to the lode. At this point the ore body was found to be 30 feet wide, 9 feet averaging over \$40 to the ton. This constitutes one of the biggest strikes ever made in the Rossland district and gave the Virginia rank as a proved mine at once.

The intention is to continue the shaft down to the 1,000 foot level. At 500 feet another crosscut will be extended to cut the lode and after that levels will be opened every 100 feet. In the meantime cross-cuts are being driven on the 300 foot level to tap two other veins which are known to traverse the property.

The office of the company, which heretofore has been located in Spokane, has now been formally transferred to Rossland, and this step should be productive of good.

GIANT MINE.

The Giant Mine is situated on Red Mountain, the west boundary line of the City of Rossland passing through the property. The Giant is bounded on the north by the Coxy and Novelty; on the west by the Gold King and Little Darling; on the south by the Evening, Thompson and California; on the east by the Novelty and California. The Giant is approximately only 2,700 feet west of the famous War Eagle.

Two veins traverse the Giant and both are being developed night and day. Two cars of ore, about 32 tons, are shipped every week from the upper vein. A shaft is being sunk on the lower vein. It is now down 40 feet. When the 100 foot level is reached a station will be cut and drifts run each way across the ore body. The shaft at present is all in one of about \$10 grade in all values. Better grade ore is expected when the vein is cross cut.

The management have decided to put in a plant consisting of a 5 or 7 drill compressor, hoist and pump. This will be installed inside of 60 days, and air drills will be available by the time the shaft on the lower vein reaches the 100 foot level.

A tunnel is being run on the course of the upper vein to intersect the No. 1 shaft at a depth of about 150 feet. An upraise will be made to the shaft and stoping ground blocked out. The smelter returns from this vein average between \$15 and \$16 per ton. The smelter charge is \$7.75. The ore is now being shipped to the C. P. R. smelter at Trail. The Giant at present employs 18 men.

WHITE BEAR MINE.

The White Bear lies immediately west of the Black Bear, the western extension of the famous Le Roi. It is owned by a Spokane corporation, the largest individual stockholder being John V. Cole of Rossland. A number of well known Toronto capitalists are also interested. The mine is well equipped with machinery, including 60 horse power boiler, air compressor, hoist, pump and air drills. It has now been developed to a depth of over 200 feet, and inside of 60 days the 300 foot level will have been passed. The shaft is now going down in ore which has just been encountered. On the 100 foot level a cross-cut was run to the vein which was then drifted on for 110 feet. At the 160 foot station crosscuts and drifts to the extent of 100 feet were made. The management has not yet determined on what level the next drift will be run. On the 100 foot level the workings show up to 10 feet of ore and the next level showed a slight increase both in width of vein and value of ore.

JUMBO MINE.

By many it is confidently expected that the Jumbo will prove to be one of the biggest mines in the camp. It has an enormous showing of low grade ore on the surface, and in the No. 1 level the values have improved as much, two good chutes of ore has been developed. One of these chutes is 18 feet wide, and the ore, which is highly silicious, averages \$20 in gold. In the other chute the ore is

a heavy sulphide, and is fully 20 feet wide, averaging for that distance about \$13 in all values. The No. 2 level is now within a few feet of these ore bodies, and the news of an important strike is expected at any time. In all some 1,650 feet of tunnels have been driven and the lower level will give a depth on the ore body of 350 feet. The mine is owned by a Spokane company, John A. Finch and Mr. R. Galusha being the principal stockowners.

GERTRUDE MINE.

The Gertrude is situated on the south slope of Red Mountain adjoining the No. 1 on the west. It is one of the older locations, being 1,500 feet in length by 600 in breadth, and having extralateral rights. It is traversed by known veins which come into it from the No. 1 and Menita. Development work is being concentrated on the south or No. 1 vein. It is the intention of the company to sink the double compartment shaft, now down 68 feet on the No. 1 vein, to a depth of 200 feet and then cross-cut north and south to thoroughly explore the claim. The present showing in this shaft is very favorable. The ore is pyrrhotite and arsenical iron carrying fair values in gold and silver. A shaft was sunk some time ago on the north vein and assays from \$5 to \$50 have been obtained. The property is controlled by the Montreal Gold Fields, Limited, and R. G. Edwards Leckie is manager.

THE COXEY.

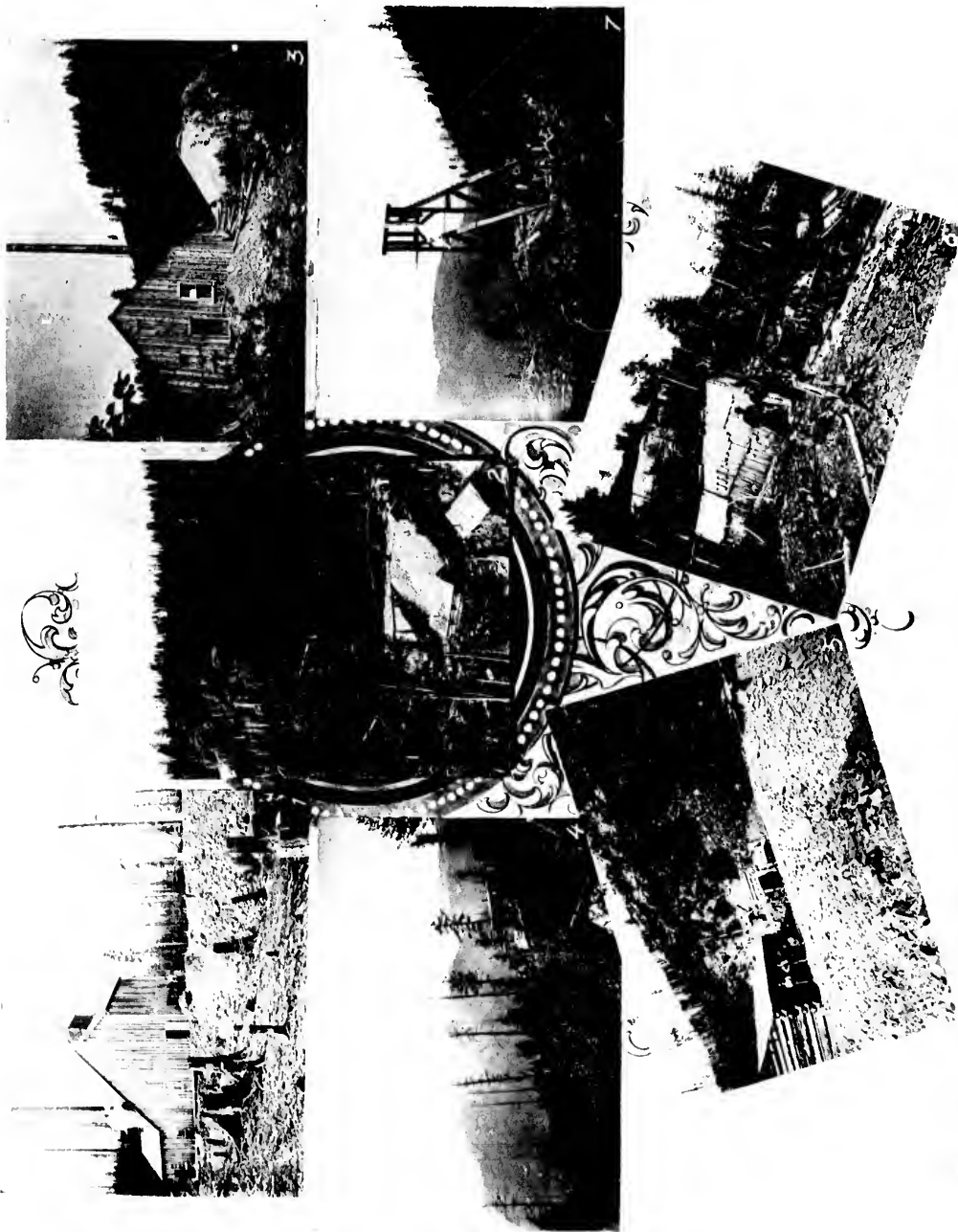
On the west slope of Red Mountain, adjoining the Giant Mine on the north, is the Coxe, owned by the Montreal Red Mountain Gold Fields, Limited. Two veins have been opened up by surface cuts, the most northerly of which shows high grade copper ore. A tunnel is being driven to cut this ledge at a depth of 250 feet. This tunnel is now in 530 feet and nearing the ledge. The south vein shows a large outcrop of decomposed sulphides, but no depth in any workings on this vein. The property, in all probability, is traversed by the north and south vein which is now being developed on the Giant, and from which shipments are being made. R. G. Edwards Leckie is manager.

IRON COLT.

Adjoining the Columbia and Kootenay group on the west is the Iron Colt mine. It is owned by a provincial company, the principal stockholders being Messrs. Wm. MacKenzie, President of the Toronto Street Railway; Thomas Holt, of Montreal; P. Burns and John Ferguson McCrae, of Rossland. The mine is equipped with a five-drill compressor and hoist. Over 1,000 feet of tunnelling and eighty-five feet of shaft work have been done by the company to date. Both veins have been cross cut by the tunnel at a depth of about 300 feet. The south vein has been drifted on for 150 feet, showing silicious ores lying alongside of each other. No drifting has been done on the north vein, which shows three feet of solid ore in the tunnel. It is the intention of the company to resume work shortly and ore shipments will begin with the commencement of operations.

OTHER NORTH BELT MINES.

Besides the mines described above there are in the North Belt many other promising properties, and one or two which are entitled to rank as proved mines. The Cliff has been and is a considerable shipper. It is located on the Red Mountain on the same vein as the Monte Cristo. West of it along the same ledge are the Consolidated St. Elmo, St. Elmo, Northern Belle and Nevada, on all of which a large amount of work with satisfactory results has been done. North of these claims lie the Northern Belle, Good Friday, Good Hope and Green Mountain. To the south the Red Mountain Evening (Eureka Cor.), San Francisco, Atlantic Cable and Big Four are the best known. On Monte Cristo Mountain are the Evening Star, Iron Horse, Enterprise, Georgia, City of Spokane, C. and C., Idaho, several of which are bound to develop into big mines. On Columbia Mountain are the North Star, Mascot, Alberta and others which show good ledges and pay ore.



1. White Bear Mine.

2. Jumbo Mine.

3. Iron Colt Mine.

4. Gertrude Mine.

5. Coxey Mine.

6. Giant Mine.

7. No. 1 Mine (B. A. C.).

THE HOMESTAKE MINES.

Next to the Lily May the Homestake is the oldest location in Rossland district, having been staked several weeks prior to any of the more famous mines on Red Mountain. The mine is now owned by the Homestake Mines, Limited, a newly organized provincial company with stock assessable to the extent of five cents a share and a capitalization of \$1,000,000. The mine is equipped with a five-drill Ingersoll-Sergeant air compressor and forty-horse power hoist. The principal development consists of a shaft in the middle of the claim sunk to a depth of 125 feet, which will be continued to connect with the tunnel from the Gopher at a depth of 300 feet. Other small shafts and open cuts have proved the vein from one of the claims to the other. It has an average width of seven feet. Assays from the main shaft and crosscuts show an average value of \$20 per ton.

THE GOPHER.

The Gopher adjoins the Homestake on the east and is located on the same ledge. It is owned by the Gopher Gold Mining Company, whose capital stock is about equally divided between Toronto and Rossland. The principal development consists of a tunnel in 450 on the vein. An ore chute 100 feet long with an average width of seven feet has been opened up by this tunnel. The ore looks precisely the same as that of the Le Roi, but the average values are lower, aggregating only about \$20 in gold and silver with a little copper. This tunnel is to continue, as stated above, into the Homestake ground, and a shaft will be sunk from the surface on the ore chute already exposed. Power for the mine has thus far been obtained from the Homestake plant and all the work was under the supervision of W. S. Haskins, superintendent of the Nickel Flute and Great Western.

R. E. LEE MINE.

The R. E. Lee and Maid of Erin claims constitute the holdings of the R. E. Lee Gold Mining Company. These claims are direct extensions of the Homestake and Gopher on the east but across Trail Creek. Work on this property consists of a shaft sunk on the vein at the junction of the two claims to a depth of 50 feet with a drift 40 feet long to the east. The ore exposed averages five feet in width and is a fine grained pyrrhotite averaging also about \$20 per ton. An open cut on the surface not far from the shaft shows a narrow chute of ore assaying up to \$75 per ton. It is the intention of the management to continue the drift to a point underneath the open cut and at the same time to continue the sinking of the shaft. A 7-drill Ingersoll-Sergeant air compressor and large hoist are in place ready for work.

DEER PARK.

The Deer Park mine is considered one of the most promising in the South Belt. It is owned by a Toronto company and a majority of the stock is held in Toronto. F. A. Mulholland is general manager. It is now opened to a depth of 275 feet by a shaft, which shows a nice body of shipping ore in the bottom, and drifts have been run at the 50, 100, 150 and 200 foot levels, all of which developed large bodies of quartz and concentrating ore. The management now purposes to equip the mine with an adequate power plant, when the shaft will be continued down to an indefinite depth and at the same time the ledge will be thoroughly explored on the 300 foot level by means of drifts and cross-cuts.

THE SUNSET.

The Canadian Gold Fields Syndicate, Limited, owns the "Sunset No. 2," "Gold Hunter" and "Alabama," all crown granted properties covering 110 acres and forming one of the largest solid blocks of holdings in the Rossland Camp. These properties are situated on the east slope of Deer Park Mountain, and about three-quarters of a mile from the business centre of Rossland. The main workings are confined to the "Sunset No. 2" and

consist of over 1,600 feet of underground development work. A depth of 350 feet has been attained in the main shaft. A good body of ore was encountered on the 300 foot level, and again on the 350 foot level, and, trial shipments made to the smelter gave most satisfactory returns in gold, silver and copper. The properties are equipped with a seven drill compressor plant, hoist, pumps, etc. which have a capacity to work to the 500 foot level.

The president of the company is, Dr. R. J. Wilson, of Toronto, Ontario; the managing director, J. C. Drewry, of Rossland.

ABE LINCOLN.

On Deer Park Mountain adjoining the Sunset and right opposite the Le Roi, is the Abe Lincoln. It is owned by a provincial company but the principal stockholders are residents of Chicago, Minneapolis and St. Paul. The property has been under active development for a year, under the management of W. T. McDonald. The mine is traversed by three veins, all of which have been more or less prospected, but the main development work is being done on the centre vein. Here a vertical shaft has been sunk 160 feet and will be continued to the 200 foot level when cross-cuts will be driven north and south to open up two of the ledges. At the 60 foot level the main vein was cross-cut showing 26 inches of good grade ore. The company is amply provided with funds to open up the property.

THE LILY MAY MINE.

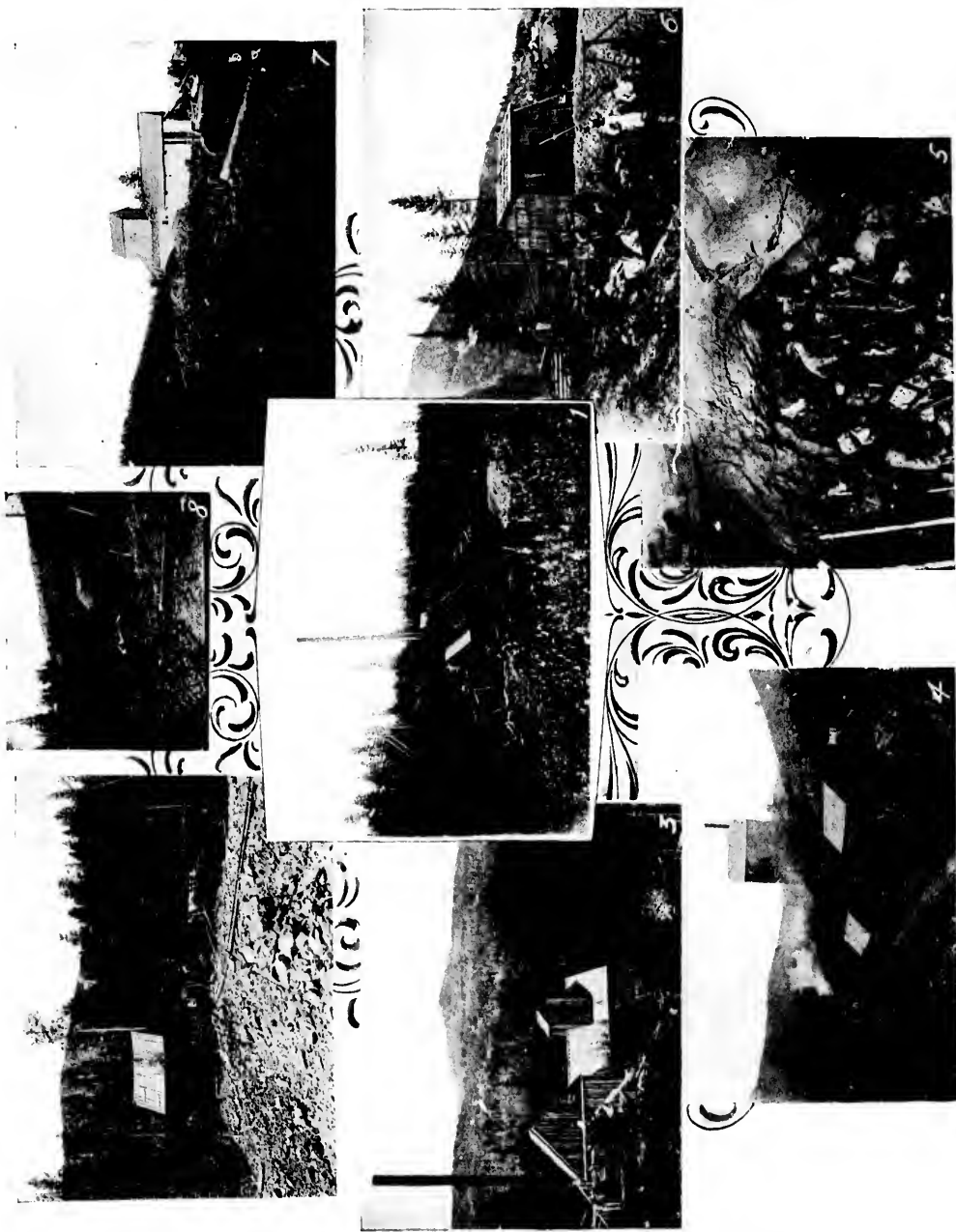
The Lily May property, which consists of the Lily May and a fraction of Spokane, is owned by the Lily May Mining Company, of which United States Senator George Turner, is president, and W. J. Harris vice-president and manager. It is located at the foot of Deer Park mountain on the old Dewdney trail and is the scene of the first discovery of mineral in the Trail Creek mining district. It is equipped with a 5-drill air compressor, 80 horse power boiler and 40 horse power hoist. The ground is traversed by three distinct veins, all of which have been prospected more or less. The No. 1 shaft is down 108 feet on an incline which followed ore all the way. A tunnel 165 feet long intersects this shaft at the 45 foot level and is also in ore all the way. At the 100 foot level in the shaft the vein has been drifted on for 170 feet both east and west, showing a continuous chute of ore from one to three feet wide. This ore will average \$15 per ton, 45 tons having been shipped to the Trail smelter last winter. Shaft No. 2 is 80 feet deep on the No. 2 vein and is in ore all the way. The No. 3 shaft is 60 feet deep and is also sunk on the No. 2 vein all the way in ore. Both these workings show a better grade of ore than is described in the workings of the No. 1 vein.

The property is under bond to the British Canadian Finance Corporation of London, England, a substantial first payment having been made, and this corporation intends to start work on a large scale in October.

Adjoining the Lily May on the west is the Black Horse mineral claim.

COMMANDER MINE.

One mile east of Rossland and at the foot of Columbia mountain is the Commander mine. It is owned by a Spokane corporation, but a provincial company is being organized to take it over. The new company will be known as the Commander Consolidated Mining and Smelting Company. W. J. Harris, managing director of the Le Roi, is one of the largest stockholders and will be president of the new company. The mine is equipped with a 4-drill compressor, 60 horse power boiler, 40 horse power hoist, etc. The buildings consist of a shaft house 40x80 and four other out buildings 20x30. The workings consist of a vertical shaft 200 feet deep. Drifts have been run on the vein at the 100 foot level 140 feet east and 100 feet west. On the 200 foot level a cross-cut was run 70 feet, exposing both walls of the ledge. The east drift on this level is 130 feet and the west drift 160 feet long. The ledge has an average width of 40 feet and carries about three feet of pyritic ore averaging \$18 to the



1. Lily May Mine. 2. Gopher Tunnel showing Horse stake in distance. 3. R. E. Lee Mine. 4. Homestake Mine. 5. 350 foot level Sunset No. 2.
6. Abe Lincoln Mine. 7. Deer Park Mine. 8. Commander Mine.

ton in gold and copper. The company expects to resume operations, which have been suspended for some months, before this publication is issued.

OTHER SOUTH BELT PROPERTIES.

Some promising South Belt properties which are not illustrated in this issue are the Nut Egg and Phoenix, adjoining the Sunset; the Grand Prize, Young America and Roderick Dm, near the Deer Park; the Zibor and East St. Louis, near the Lily May; the Mayflower, Curlew, Bluebird and Hattie Brown, north of the Homestake group, and the Celtic Queen, Trilby, Zion, Tiger, Uncle Sam and Crown Point group to the east. On all of these a large amount of work has been done and on the Crown Point and Mayflower good bodies of pay ore have been developed.

SOPHIE MOUNTAIN DISTRICT.

The district of Sophie Mountain owes its name to the first mineral claim staked there which was called the "Sophie" (now the "Victory"). It is accessible from Rossland by two routes, one, the famous Dewdney Trail which crosses the range within close proximity to the mines, and the other down the main branch of Sheep Creek to the connection with the Red Mountain Railway. This creek drains a wide area and the valley through which it runs gives the elevation of the "Victory-Triumph" and "Velvet" mines a panoramic view of mountain scenery unsurpassed in British Columbia.

All the mines in this district are exceptionally favored by nature. The main branch of Sheep Creek affords a very large amount of water power which can be inexpensively utilised for mining and milling purposes. The present prospects of the district are particularly bright. Its budding mines are in the hands of strong and responsible companies and it bids fair to be one of the most productive camps directly tributary to Rossland.

THE VICTORY-TRIUMPH.

The Victory and Triumph, which are now consolidated and owned by the "Victory-Triumph Gold Mining Company," D. B. Boyle, manager, are the oldest locations and first Crown Grants in this district. The "Victory" has been located since 1891, although not under its present name. A very large fissure of quartz, in which chutes of rich copper-silver appear at intervals, has been developed to a depth of 250 feet by means of a tunnel, the mouth of which, with a part of the ore taken out, is shown in the accompanying illustration. In the photograph the walls of the vein, some 25 feet apart, are distinctly visible. The apparatus at the mouth of the tunnel is a Sibley stove used for ventilating the mine, and a very cheap and effective apparatus it is, largely used during the development of mines where fuel is plenty and transportation difficult.

The "Triumph" which lies between the "Victory" and the "Velvet" is on flatter ground than the "Victory" and is being developed by means of a shaft on a vein of gold-copper ore similar to the ore found on the "Velvet" and differing considerably in character from the "Victory" ore.

THE VELVET MINE.

The Velvet mine was purchased by the New Gold Fields of B. C. Limited, in August, 1897, and mining operations were commenced early in September and have been continued since that time. On an average a force of 30 men has been employed, and the mine is now being developed below the 100 foot and 160 foot levels. To date upwards of 1,200 feet of development work has been done—and the results are very satisfactory. Shipments of ore to the amount of 256 tons have been made. These gave a net result of about 89 per ton. This ore was taken out during development. No stopping has been done. There are several thousand tons of ore lying on the surface but as the cost of transport is so heavy it is not though desirable by the management to ship any large

quantities until cheaper means of transport and treatment are established. There are also large quantities of ore reserves in the mine which can be easily and cheaply worked when the proper time arrives.

Until recently this property was operated by the New Gold Fields of B. C., Ltd., of which Sir Charles Tupper, Bart M.P., is the chairman, but since the 1st June, 1898, it has been under the control of the "Velvet Mines Limited," which company came into existence a short time ago with a capital of £100,000. The head office of the Company is 23 Leadenhall Street, London, E. C., England, and W. A. Stearns is the Secretary. It is the intention of the Company for the present to develop this property carefully and thoroughly with a view later on of working it on a large scale. Only sample shipments of ore will be made during the next 12 months. The present appearance of the property has every indication of developing into a good pay mine in the near future. James Morrish M.I.M.M. is manager and has directed all the work on the mine since it was purchased by Sir Charles Tupper's company.

SALMON RIVER DISTRICT.

TOWN OF YMIR.

The Town of Ymir is beautifully situated in the valley of Salmon river, on the Nelson and Fort Sheppard railway, about 20 miles from Nelson and 60 from Rossland. Though the Salmon River district forms a portion of the Nelson mining division its mines are principally operated by Rossland companies. On either side of the town the mountains rise to a height of about 2,000 feet. Opposite the town Wild Horse and Bear Creeks join the Salmon. On these creeks are respectively the Ymir and Dundee mines. Running through the town is Quartz Creek which has the Bullion property working about a mile and a half from its mouth. About a mile below the town Porcupine and Boulder creeks enter the Salmon, on the former are the Jubilee and Iona properties. At points two and four miles north of the town Stewart and Barrett creeks flow into the Salmon, on the latter creek is situated the Porto Rico mine. All these creeks have an average length of about 12 miles, it can be seen that a very large area of mineral lands is immediately tributary to Ymir.

The location of the camp gives it splendid facilities for the treatment of its ores. Waterpower is within easy reach of any of its properties. There is a smelter 18 miles distant at Nelson, another 40 miles distant at Northport, and another 50 miles distant at Trail. Two of these smelters are in direct railway communication with the camp, giving the benefit of competition in smelter rates with only a nominal difference in freight rates.

The town of Ymir was surveyed in the spring of 1897. Previous to that a number of settlers had "squatted" on the site recognizing that it was bound to become an important business centre at an early date owing to the mineral discoveries in the neighborhood. To-day the town can boast of one block built up almost solidly with business houses, besides a great number of business places scattered over the town site. It has two churches—Presbyterian and Methodist—and the Provincial Government is building a commodious and handsome school house. The resident population now numbers about 500.

PORTO RICO MINE.

The Porto Rico mine is six miles west of Porto Rico Siding on the Nelson and Fort Sheppard Railway. This mine is one of the properties of the Canadian Pacific Exploration Co., Limited, of London, England, which has a capital of £500,000. The chairman is Lord Powerscourt and the managing director is W. H. Corbould. A. B. Irwin is general manager and Henry Kehoe is the company's mining engineer.



1. Victory Triumph Mine.



2. Velvet Mine.



3. Big Sheep Gully from Velvet.

The Porto Rico group consists of the following Crown granted mineral claims: Porto Rico, Lizzie B, Alpha, Barbara and Sunshine. The development consists of over 1,000 feet of tunnels on the lode as follows: Tunnel No. 1, 250 feet; No. 2, 250 feet; and No. 3, 510 feet. Fine bodies of high grade free milling ore have been opened up in each of the three tunnels, some of the assays from bulk samples running from \$250 to \$550 in gold per ton. A trial shipment of three lots of ore consisting of 41 tons was made to the Trail Smelter which gave average returns of \$77.60 gold per ton.

The company is at present erecting a ten stamp drill and live drill Rand compressor, also an aerial tramway 2,500 feet in length to transport the ore from the mine to the mill. This plant will be in operation by October 1st of this year. There is sufficient ore at present blocked out to keep the mill running for nearly a year without counting on further development work which will be actively continued.

THE DUNDEE MINE.

The Dundee Gold Mining Company owns the "Parker," "Old Bill," "Lightheart," "White Pine" and "Klondyke," and the fractions "Kitten" "Edna," "Annie," comprising in all about 350 acres, and being about 1½ miles in an air line from Ymir. The work done so far on the property consists of a shaft sunk on the "Parker," the central claim, 260 feet in depth, with 300 feet of drifts and crosscuts. This shaft is connected by a wagon road 2½ miles in length (built by the Dundee Gold Mining Company) with the Nelson and Fort Sheppard railroad. The machinery at the mine consists of a 20 h. p. hoisting engine, 35 h. p. boiler, and a Northey-Cameron sinking pump and steam drills supplied by the Ingersoll-Sergeant Co. of Montreal. A concentrator of 50 ton capacity has been contracted for. A tramway 1,800 feet in length has already been built, connecting the mine with the concentrator.

The vein is a true fissure one and is eighteen feet wide. The values principally are gold and silver, and are contained in iron and lead sulphides in a quartz gangue and average nearly \$10 in all values for the full width of the vein. Separate and distinct from this, bodies of high grade shipping ore have been encountered in the shaft and drifts running as high as \$121 per ton—and on the average ore \$30 per ton. These bodies vary in width from eighteen to thirty-six inches. Two trial shipments have been made to the Nelson smelter as under:

Wright.

1st	39,002 lbs.	at \$25.07 per ton	= \$488.83
2nd	25,604 "	34.47 "	= 280.39

On the dump are 1,500 tons of concentrating ore, which, added to the ore in the mine, amounts to nearly a quarter million dollars' worth of ore already opened up.

The "Dundee" was the first mine to put in machinery in the Ymir district. Operations commenced in September, 1896, and have been continuously kept up. The force at first was only three men for three months, and then averaged fifteen men for the balance of the time. The principal officers of the company are Charles Dundee, president, Ernest Kennedy, secretary-treasurer, and J. L. Parker, M.E., superintendent.

THE TAMARAC GROUP.

The Kenneth Mining and Development Company, Limited, operates the Tamarac group of claims, consisting of the Tamarac, Raetam, October and Dinner Bucket, comprising 170 acres. This property is close to the town of Ymir, being about 2½ miles northeast, and is about one

mile from the Nelson and Fort Sheppard Ry. The work is being done on the Tamarac, and consists of a shaft 160 feet in depth, sunk on the vein which is a true fissure cutting the formation. This vein has been opened up on the surface for 400 feet on the strike. The ore is principally a free milling gold quartz with iron sulphide and arsenical pyrite, and averages four feet in width. The values are gold, and average \$17.40 per ton, and already there are \$120,000 worth of ore in sight, and arrangements are contemplated by the company to erect a 10-stamp mill on the Salmon river, and connect the mine with the mill by an overhead cable conveyor. The machinery on the ground consists of a 20-horse power hoisting engine, 35-horse power boiler and two iron ore cars.

The president of the company is the Hon. T. Mayne Daly and J. L. Parker, M.E., is superintendent.

Adjoining the Tamarac is the Utica group, consisting of three claims, with a shaft down 40 feet.

THE YMIR MINE.

About five miles from the mouth of Wild Horse creek is situated the Ymir mine. Leading from the town to the mine is an excellent wagon road. This mine is now preparing a site for a 40-stamp mill and an air compressor is already installed. This mine with its exceptionally large body of ore should in the near future be one of the greatest producers in the province. The ore is galena, pyrites of iron and quartz, all carrying in gold. On the same creek a little further up are such properties as the Elsie, Blackcock and Wren, on all of which work is being actively pushed.

THE JUBILEE MINE.

The Jubilee mine is situated about a mile and a half from Ymir and about half a mile from the railway. It is owned by the Mountain Goat Mining Company, of Rossland, of which Ross Thompson is president. It is traversed by a strong ledge of quartz carrying pyrites and blend with traces of galena in seams from an inch to two feet in width. Astonishing values have been obtained from picked specimens of this ore assays running from \$2,000 to \$3,000 per ton in several instances. The development consists of a shaft sunk for 60 feet in well mineralized vein matter and a tunnel on the vein now in about 150 feet at a depth below the shaft of 100 feet. This tunnel shows 7½ feet of good ore on the face. A small force is kept steadily at work opening up the mine.

THE SALMO CONSOLIDATED.

South of Ymir are the towns of Salmo and Erie, which also promise to be important mining centres. The group of four properties belonging to the Salmo Consolidated Gold Mining and Development Company is situated about ten miles southeast of Salmo, on the Nelson and Fort Sheppard Ry. The company is vigorously developing its properties, in a practical and progressive manner, which has served to quickly transform a group of claims with promising surface indications into a mine. The development consists of two shafts and a tunnel. Shaft No. 2, at the depth of 125 feet, presents a very rich appearance, being entirely in ore, carrying values averaging \$30.00 in gold and silver. Crosscutting at this depth is now in progress, when the width of the lead will be finally determined. The company, while now in a position to ship its product, will await the speedy installation of its own concentrating plant, when the yield will be very much increased, the ore concentrating readily three into one. Five parallel leads running through the group gives ample scope for development. The main ledge is white quartz carrying gold, silver and lead. The assays taken at various depths gave returns of from \$24.75 to \$61.33, the values increasing with depth, hitherto and

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1 Town of Ymir.

2. Salmo Consolidated.
5. Tamrac Mine.

3. No. 3 Tunnel Porto Rico Mine.
6. Dundee Mine.

4. Jubilee Mine.

the average has proved to be \$30.00. Excellent water power is available for all mining purposes, the company having secured the water rights of Sheep creek, its property extending to the stream mentioned. Development work is being continuously pushed under careful and intelligent management. James Chambers is president and Charles Dempster, of Rossland, secretary.

Erie is situated at the junction of the North Fork with the main Salmon river. Up the valley of the former there are many fine prospects on which work is being done at the present time, and at least one mine, the Second Relief, owned by the French syndicate of Spokane.

THE TRAIL SMELTER.

The Canadian Smelting Works, formerly owned by the British Columbia Smelting and Refining Company, are now the property of the Canadian Pacific Railway Company. The works are in process of reconstruction, and after the alterations and additions are finished they will be the most complete copper and lead works in the North-west, with a capacity for treating about 500 tons of ore per day.

At present there is a complete automatic ore sampling works, two copper blast furnaces, one O'Hara roasting furnace, two hand roasting furnaces, two reverberatory furnaces, and a refinery. A large lead furnace, six automatic roasters for lead ores, forty-eight roasting stalls, and a new sampling mill are now building. A large stack is also under construction.

Ore is brought to the works from the mines in automatic dump cars, and then passed through the sampling works. It is next piled upon wood, and roasted for from two to three months in open heaps, these heaps containing on the average about 20,000 tons of ore. The roasted ore is charged into copper blast furnaces, and a copper matte is produced which contains from 15 to 22 per cent. of copper and up to \$200 in gold and silver per ton. The slag is granulated in water and carried to the slag dump. The matte is tapped from the forehearth of the furnace into matte pots, and is then granulated in water and elevated to bins from which it is taken to the O'Hara roaster. The roasted matte is charged into a second blast furnace with some well roasted ore, and a matte is finally produced containing about 50 per cent. of copper. The matte is now shipped to eastern refineries, but in a short time it will be refined at the works. The value of ore, fuel, etc., constantly on hand at the smelter will total up at any time over \$400,000.

The lead ores are roasted with dry ores and smelted in a high shaft furnace, producing a lead bullion containing 97 per cent. of lead and whatever precious metals there were in the ores. This bullion is then shipped to a refinery, but it is expected that in the near future a complete lead refinery will also be built.

The works will be operated in a short time by electric power from Bonnington Falls, thirty miles distant. At present electric power, developed from small streams in the vicinity, is being used. A complete steam plant is held as reserve in case of accident to either of the electric powers.

The Canadian Pacific Railway Company, since securing control of the Trail Smelter, has materially reduced the charges for smelting ores, and as its policy is to give the country the benefit of cost prices of smelting, it is anticipated that still further reductions will be made at an early date. As the country develops it is intended to construct other large smelting works, which will tend to develop the country to the greatest extent. Already charges for smelting are lower at Trail on certain classes of ores than in either Colorado or Montana, where there is the keenest competition between both railroads and smelting companies.

The coke now used comes from the Pacific coast. Upon the completion of the Crow's Nest Pass Railway, coke of

better quality will be available at a less price. Limestone of particularly fine quality comes from Kootenay Lake.

THE ELECTRO CHEMICAL ORE REDUCTION WORKS OF ROSSLAND.

The works of the British Columbia Bullion Extracting Company are located on the Red Mountain Railway, near Rossland. Its unique situation at a point where an admirable mill site, water and railroad come together, renders it most suitable for the economic handling and treatment of the low grade ores of the Rossland camp. The mill site was chosen on account of the opportunity offered to build works where the ore might enter above and travel by gravity during its course of treatment with the least amount of handling possible. The water supply is conducted by a box flume from Little Sheep Creek at a point of diversion about 3,500 feet north of the Company's works. A railroad siding connected at both ends with the main line passes over the large ore bins, a track scale belonging to the Company being installed, so that every carload of ore can be properly weighed before being dumped. The ore in the course of treatment passes through crushers and specially constructed rotary mills to reduce it to a degree of fineness before its treatment in the chemical vats. Here it is agitated by means of stirrers and with the aid of chemicals and electricity receives its treatment in order to extract the precious metals contained in it. After this has taken place, occupying a period of from eight to twelve hours, the pulp is discharged to undergo a subsequent treatment.

The British Columbia Bullion Extracting Company is a private Company with a capital of £40,000 (\$200,000), having its head office in London, England, and as its manager Mr. Lionel H. Webber, who is also the promoter of the undertaking. Its board of directors consists of Major-General Webber, chairman; Lieut.-General Sir Bevan Edwards, Mr. Wilberforce Bryant, and Mr. Louis Pelatou, the latter gentleman being one of the inventors of the Pelatou-Chloric system of ore reduction, which constitutes the main feature of the system employed in the Company's works. The patent rights in Canada are owned in British Columbia by this Company, and one department of its business is to install plants throughout the province in mines which are desirous of using their system after their ore has been proved by a thorough test on a large scale to be amenable to the system.

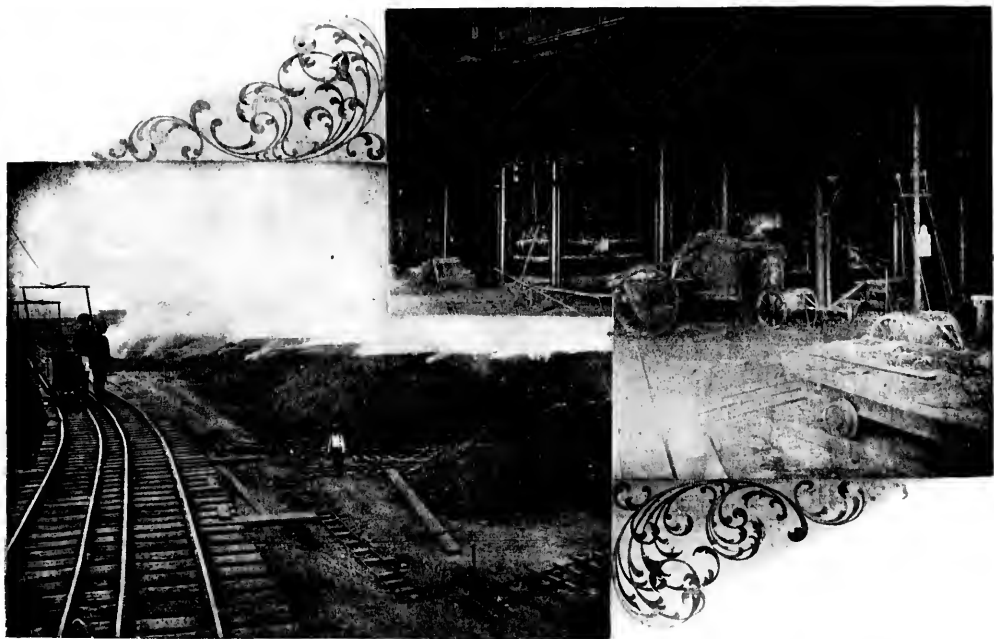
The photograph taken August 1st, '98, shows the works nearing completion, in the course of installing its machinery, and preparing for work. Their actual construction commenced April 1st, of this year. Its first operation will be on second class ore, varying from \$5 to \$12 per ton, from the War Eagle mine at the rate of sixty tons per twenty-four hours, it being the intention of the Company to increase this capacity by enlargement of the works to 100 tons per day in the near future.

THE LE ROI SMELTER.

The Le Roi Smelter of which James Breen is manager, and H. C. Bellinger, superintendent, is situated at Northport, Stevens County, Washington, on the main line of the Spokane Falls & Northern Railway, and close to the Columbia river. Short spur tracks from the main line are advantageously run through the smelter yard for the convenient handling of ore, coke, lime rock, matte and supplies. The smelting plant has a capacity of four hundred tons of ore per day, and consists of a most complete ore stamping mill 65 by 70 feet, with a bin capacity of 1,400 tons, a battery of 84 ore roasting stalls, a furnace building 70 by 160 feet containing two 38 by 120 copper furnaces; a calcine building 70 by 140 feet containing a 10 by 100 Holtzhoff-Wetley calcining furnace run by a Pelton water motor; a power house 70 by 78 feet containing two 60 by 16 boilers, a 16 by 42 Reynolds Corless engine with con-



Trail Smelter, showing Columbia River.



Roast Heap, Trail Smelter.

Furnace Building, Trail Smelter.

denser, two Connellsville cycloidal blowers for supplying the blast furnaces, a dynamo for lighting the plant with both arc and incandescent lamps, and a machine shop in which all the smelter repair work is done.

The other buildings and appliances comprising the plant are a matte sampling and sacking-house, blacksmith shop, brick carpenter shop and store-house in which a large stock of the tools and supplies used about the works is always kept on hand; brick general office, brick assay office and a brick dwelling house for the use of the superintendent.

For the cheap and expeditious unloading of ore, a set of ore bunkers is located close to the sampling mill, and the ore unloaded into the bunkers from dump cars run on top of them by means of an incline track connecting with one of the spurs from the S. F. & N. main line. When the ore is required for sampling, it is taken from the bunkers in push cars holding $1\frac{1}{2}$ tons and dumped into a 20 by 10 Blake pattern crusher, which has a record of 360 tons of ore crushed in 12 hours.

The present supply of lime rock is brought to the smelter in cars from a quarry about half a mile distant from the smelter on the line of the S. F. & N. railway, but a new quarry is now being opened up at a site only about 1,000 feet distant from the stamping mill, and to which the lime rock will be conveyed by a gravity tramway which is at present under construction. A supply of water for the various purposes for which it is required around the works, as well as for furnishing the city of Northport with an ample supply for domestic uses, and fire protection, is brought from Deep Creek in a flume 11,600 feet long, to a wooden tank located at an elevation of 175 feet above the plant, and holding 125,000 gallons of water, from which separate mains lead to the smelter and the city. The problem of removing slag, which is quite difficult and expensive in some places, is here made easy and inexpensive by the use of powerful streams of water which strike the molten slag as it flows from the fore hearths of the blast furnace, granulating it into grains about the size of coarse sand, and conveying it in a flume, lined with iron to prevent wear, into the Columbia river. The low grade matte is also granulated by a somewhat similar process, elevated into bins by means of a bucket elevator and from which it is drawn off into push cars and taken to the calcining furnace. Among the many new improvements which have been introduced into the plant is a machine for making lime dust and calcines into bricks, before treatment in the blast furnaces, which obviates a possible loss on account of the fineness of the material before bricking.

Work was commenced upon the plant in August, 1897, and the furnaces blown in on January 21st., 1898, since which time there has never been a shut down on account of accidents or for repairs, a fact which speaks volumes for the skill displayed in the design and construction of the plant, and the efficiency of the management and superintendency which keeps the plant thoroughly up to date in all respects, and provides it with every possible labor-saving device for the treatment of ore at a minimum of cost.

WEST KOOTENAY POWER AND LIGHT COMPANY.

The falls of the Kootenay river known as Bonnington Falls have been harnessed, and the power is now being electrically transmitted to Rossland, a distance of 30 miles. Bonnington Falls is an ideal site for such a plant, the river at that point being 400 feet wide, while the water rushes over a high granite cliff with a fall of 34 feet.

The determination to utilize the water power at Bonnington Falls for the development of power led to the organization of the West Kootenay Power and Light Company. The conception and commencement of the works are

largely due to the efforts of Oliver Durant and Sir Charles Ross, Bart., of Balnagowan, Ross-shire, Scotland, the former being president of the company and the latter a director, and for a time engineer. The charter was obtained in the name of P. A. Larges of Butte, Mont., president of the Centre Star Mining and Smelting Company; Oliver Durant, manager of the same company and C. R. Hosmer, manager C. P. R. telegraphs. Primary surveys were made early in '97, but it was July of that year before the location of the plant was finally settled and actual construction begun. The plans of the company contemplate the ultimate utilization of the entire three falls, which will give 60,000 horse power, the middle falls, which is now utilized, developing about 20,000 horse power.

The site of the company's power plant is about midway between Nelson and Robson, on a branch line of the Canadian Pacific Railway. The power is supplied by two pair of Victor turbines directly connected to two 725 k. w. Canadian General Electric Company's generators of the revolving field type. The voltage is taken from the generators at 1,000 volts and stepped up by transformers to 20,000 volts, at which pressure it is transmitted over the company's high tension lines to the sub-station at Rossland. There the power is stepped down to 2,000 volts for distribution to the different mines in the immediate vicinity as well as for lighting the city of Rossland.

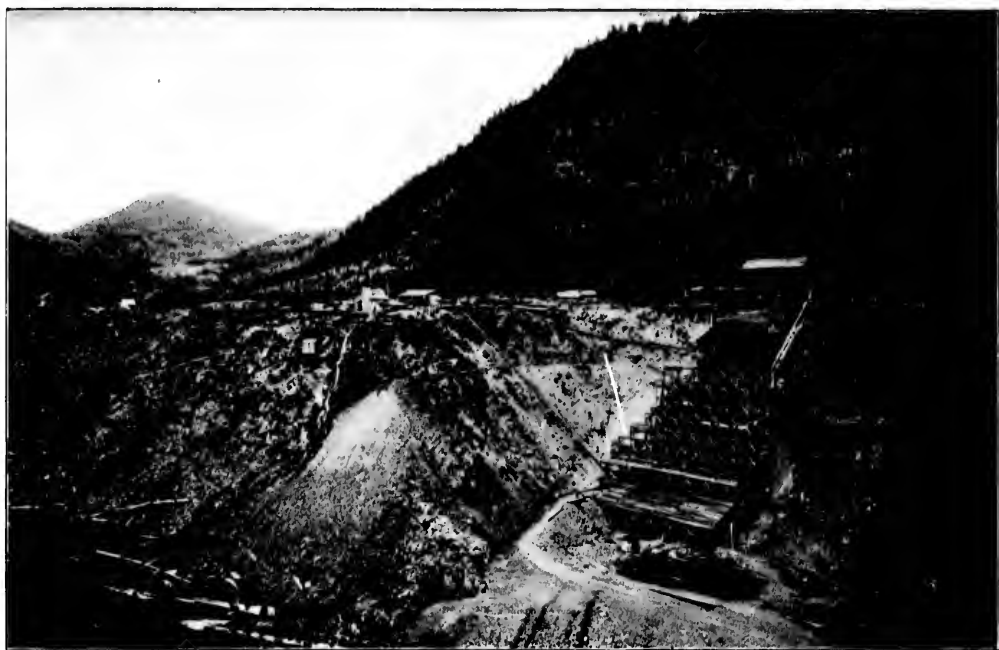
Since the introduction of this electric power in Rossland, the cost of mining operations formerly using steam as a power factor has been practically cut in two, and judging from the numerous applications for power the company is receiving, it will be only a question of a short time until it will be necessary to greatly increase the capacity of the plant, a contingency which has already been provided for.

The power company is at present building a duplicate auxiliary high tension line over the entire distance, between Bonnington Falls and Rossland, which, when completed, will be a double safety to the continuous operation of the plant, as all the apparatus in the generating and sub-stations is in duplicate. Branch power lines are also being built to the Trail smelter and the reduction works of the British Columbia Bullion Extracting Company at Silica.

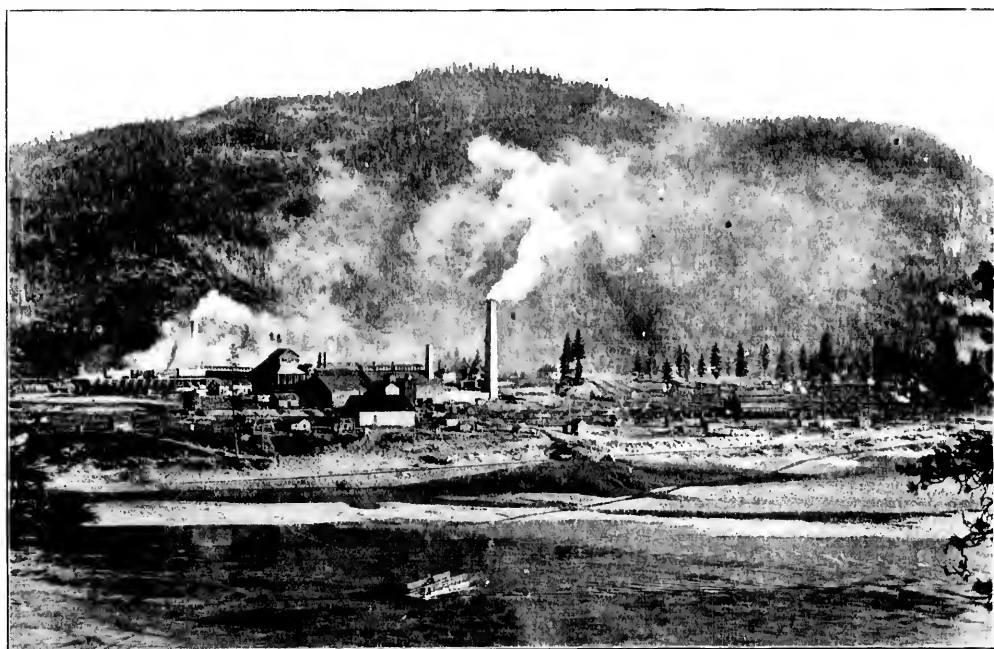
TOWN OF TRAIL.

The only important town in the Trail Creek mining division, besides Rossland, is Trail. It is situated on the Columbia river at the mouth of Trail creek and is one of the oldest settled business centres in Kootenay. It owes its present importance principally to the big smelter located there in 1896 by F. August Heinze, but now owned by the Canadian Pacific Railway. It also does a large amount of business with the various mining, timber and railway camps along the Columbia river, while right behind the town rises Lookout mountain, to which there is a good wagon road, and on which are located some of the most promising undeveloped properties in the Trail Creek district.

The town is well supplied with hotels and retail business houses of all descriptions. Besides the smelter, it has a sawmill, a machine shop and foundry, and a large brewery. It is lighted by electricity and has a good system of water works. The school and church facilities are ample, and the press is represented by a weekly newspaper. The population now numbers about 1,500, and is rapidly on the increase. It is the headquarters of the Columbia and Western Railway, and in all likelihood will soon have direct connections with the towns of the Salmon river valley, by means of a new railway crossing the Columbia river at Rock Island.



British Columbia Bullion Extraction Company's Electro-Chemical Ore Reduction Works at Silica, near Rossland.



Le Roi Company's Smelter at Northport, Wash.

HALCYON HOT SPRINGS: ARROW LAKE.

Nature, beyond doubt, has a great store-house within the precincts of the Kootenays. Not only minerals and timber, not only great waterways exist, but quite recently, the waters of the Halcyon Springs, being analysed, established the existence of what is now claimed to be the purest Lithia water in the world. The Springs have their source in the Selkirk Range of the Rocky Mountains, and for many years old settlers made annual pilgrimages for the purpose of being benefited by bathing in, as well as drinking the waters. Last year several gentlemen formed a Company for the purpose of erecting a large hotel and Sanitarium, and for the erecting of bottling works. Before doing this, the opinion of Mr. McGill, Analytical Chemist connected with the Geological Department at Ottawa, was obtained. In his report that eminent authority said:—

"I have visited the hot springs on Arrow Lake, on the Columbia River. These springs are remarkable. Two important springs unite to form the supply of the baths at the Halcyon Hotel. The most remarkable features about this water are the high contents in silica and the large amount of lithium present. I judge these, from the spectroscopic investigations to be about ten times the quantity present in the hot springs at Bandt, and have no hesitation in saying that these springs are among the richest in lithium salts in America, if not, indeed, the richest in the world, in this respect."

Added to this, the promoters of this great enterprise consulted J. Falconer King, F. R.C.S., Lecturer on Chemistry in the Edinburgh School of Medicine, Examiner in Chemistry and Public Health, Royal College of Surgeons, Analyst to the City of Edinburgh, Analyst to the Edinburgh Agricultural Association, and Fellow of the Institute of Chemistry of Great Britain and Ireland. After a careful analysis of the Halcyon Lithia water, the distinguished gentleman reported:—

"This water is remarkable chiefly for the very large proportion of silica and alkaline salt which it contains. Another noticeable feature in the composition of the water is the presence of a very considerable amount of sulphuretted hydrogen, and also the rare substance, lithia. Of this latter substance, there is fully six times as much as is shown to exist in two different American waters, results of the analysis of which are now before me."

It is, therefore, not remarkable that what would appear to be miraculous cures, are daily being effected through the use of Halcyon water. In fact, the most reliable authorities unite in the opinion that the very best German waters fail to equal the springs at Arrow Lake, in Canada. As a blood purifier, it is unequalled, also in cases of kidney disease, torpidity of the liver, sciatica, and all forms of rheumatic complaints. There can be no doubt that the future will prove how valuable this discovery is, and that thousands who have been in the habit of drinking other waters, containing absolutely little lithia, and travelling thousands of miles to bathe in foreign springs, will realize that within the boundaries of a British country, hot springs exist possessing curative powers, far in excess of any yet discovered elsewhere. During this summer, a splendid steambath landing and other improvements have

been added to the system, but the photographs in this publication, taken some months before the additions referred to, will convey an adequate idea of the Halcyon Hot Springs. For the information of readers, we might state that communications of any kind should be addressed to the Manager, Halcyon Hot Springs Sanitarium Company, Rossland, B. C.

THE ROSSLAND MINER

This publication would not be complete without mention of *The Rossland Miner*, the home of which is shown in the accompanying illustration. This journal has been a very important factor in attracting the attention of the civilized world to the magnificent mineral resources of Rossland, and the other camps of the Kootenays. Its first issue was published on March 2nd, 1895, and it

appeared weekly until December 1st, 1896, when it became a daily, as well as a weekly, using the regular Associated Press reports, and giving all the important news of the world.

As progress was made in the development and settlement of southeastern British Columbia, *The Rossland Miner* continued to expand in its circulation and influence until to-day it has the largest circulation and is one of the most influential newspapers published between Vancouver and Winnipeg. *The Rossland Miner* is intensely loyal to the Kootenays and to British traditions.

The paper is owned by the Rossland Miner Printing and Publishing Company, Limited, and its managing editor is C. E. Race.



Office of Rossland Miner.



Power House at Bonnington Falls of West Kootenay Power and Light Co., showing Generators.



Falls of Kootenay River, showing Power House of West Kootenay Power and Light Co., before completion.



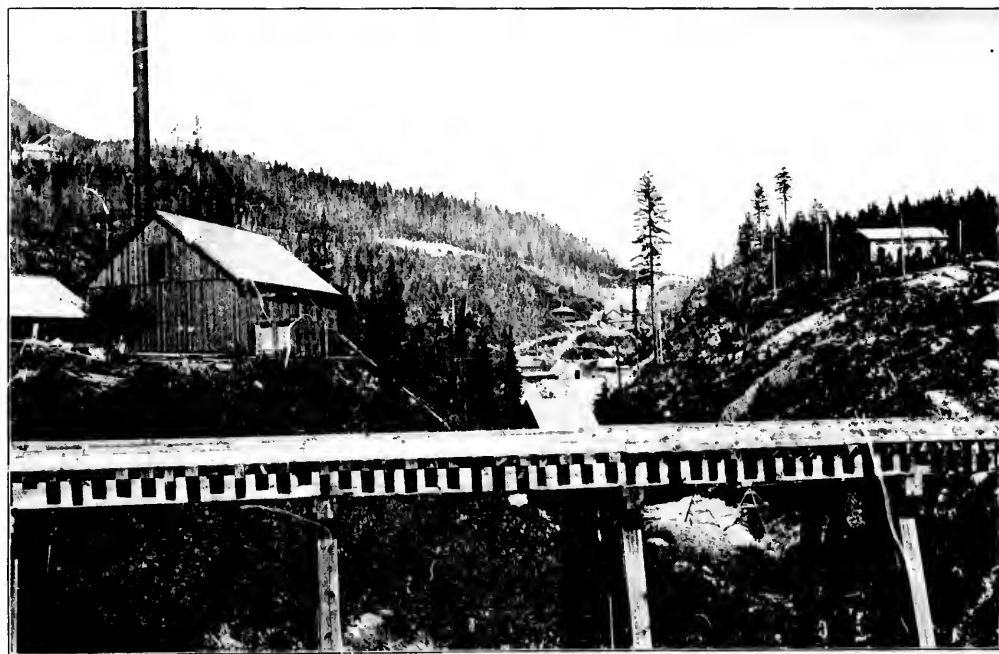
Halcyon Hot Springs Hotel, Arrow Lake, B.C.



Arrow Lake looking North, with glimpse of Halcyon Hot Springs Hotel.



Town of Trail.



Looking up Centre Star Gulch from Second Ave Bridge, Showing Centre Star and Iron Mask Works. The mine buildings to the left are those of the Nickel Plate and War Eagle. The brick building on the right is the Sub-Station of the West Kootenay Power and Light Company.



Sheep Creek Falls.





