

ANNUAL REPORT
OF THE
MINISTER OF MINES,

FOR THE
YEAR ENDING 31ST DECEMBER,

1884

BEING AN ACCOUNT OF

MINING OPERATIONS FOR GOLD, COAL, &C.,

IN THE

Province of British Columbia.



PROVINCE OF BRITISH COLUMBIA.

TABLE

Showing the actually known and estimated yield of gold; the number of miners employed; and their average earnings per man, per year, from 1858 to 1884.

Year.	Amount actually known to have been exported by Banks, &c.	Add one-third more, estimate of gold carried away in private hands.	Total.	Number of Miners employed.	Average yearly earnings per man.
1858 (6 months)	\$ 390,265	\$ 130,088	\$ 520,353	3,000	\$ 173
1859	1,211,304	403,768	1,615,072	4,000	403
1860	1,671,410	557,133	2,228,543	4,400	506
1861	1,999,589	666,529	2,666,118	4,200	634
1862	\$ 1,184,700	1,061,566	4,246,266	4,100	517
1863				4,400	482
1864	2,301,388	933,962	3,735,350	4,400	849
1865	2,618,404	872,301	3,491,205	4,294	813
1866	1,996,580	665,526	2,662,106	2,982	393
1867	1,860,651	620,217	2,480,868	3,044	814
1868	1,779,729	593,243	2,372,972	2,890	992
1869	1,331,234	443,744	1,774,978	2,369	749
1870	1,002,717	334,239	1,336,956	2,348	569
1871	1,349,580	449,800	1,799,440	2,450	734
1872	1,208,229	402,743	1,610,972	2,400	671
1873	979,312	326,437	1,305,749	2,300	567
1874	1,383,404	461,154	1,844,618	2,838	648
1875	1,856,178	618,726	2,474,904	2,024	1,222
1876	1,339,986	446,662	1,786,648	2,282	783
1877	1,206,136	402,045	1,608,182	1,960	820
1878	1,062,670	1-5th 212,534	1,275,204	1,833	677
1879	1,075,049	" 218,009	1,293,058	2,124	607
1880	844,856	" 168,971	1,013,827	1,955	518
1881	872,281	" 174,456	1,046,737	1,898	551
1882	795,071	" 159,014	954,085	1,738	548
1883	661,877	" 132,375	794,252	1,965	404
1884	613,304	" 122,861	736,165	1,858	396
			\$ 48,672,128		

REPORT
OF THE
MINISTER OF MINES
FOR THE
YEAR 1884.

*To His Honour CLEMENT FRANCIS CORNWALL,
Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

The Annual Report of the Mining Industries of the Province for the year 1884,
is herewith respectfully submitted.

JNO. ROBSON,
Provincial Secretary & Minister of Mines.

*Provincial Secretary's Office,
23rd February, 1885.*

REPORT.

GOLD.

The value of the Gold exported by the Banks at Victoria, during the year 1884, is as follows:—

Bank of British Columbia	\$ 249,077
Bank of British North America.....	61,088
Garesche, Green, & Co.....	303,139
	\$ 613,304

CARIBOO.

MR. BOWRON'S REPORT.

" RICHFIELD, 25th November, 1884.

" *To the Hon. the Minister of Mines, Victoria:*

" SIR,—I have the honour, herewith, to transmit the mining statistics of the Cariboo District for the current year; and, for your further information, to submit the following report:—

" The accompanying statistics will be found to show a slight decline in the product of the mines the present year, as also a decrease in the number of white miners, with a corresponding increase in the number of Chinese.

" Although the gold yield has been quite large, yet the season has been one of disappointment to a majority of the white miners, fully three-fourths of the total amount having been produced by Chinese.

" But little prospecting for new mines has been undertaken. I have, consequently, little to say respecting 'explorations.' One party only received Government assistance in procuring their outfit, and that but to a limited extent. A copy of the report handed in by this party will be found herewith enclosed.

" I may state that the impression here very generally prevails, that the fund voted by Government for explorations would be much better applied if given upon certain prescribed conditions to assist some properly organized company to test the value of the deep ground on, say Slough Creek, or some other expensive but promising enterprise near the centre of the present gold-producing sections; while others would favour devoting the amount apportioned to this district towards inducing a thoroughly competent and reliable quartz miner, or expert, to spend a season examining our ledges, as it is thought, with the work now accomplished on many of the old ledges, and the discovery of new veins made within the past two or three years, a competent person would have no difficulty in soon forming a very decided opinion as to their value. As it is at present, whatever work is being done on ledges is little better than so much labour thrown away.

" Williams Creek has produced less the present than any season for the past twenty-four years. The fact is, the creek is about worked out, except, perhaps, the lower portion (which requires a different system of working from that at present in vogue to make it remunerative) and possibly a few of the hill claims which may continue to pay a fair return for a time longer.

A new hydraulic claim was opened on the hill side, between the Black Jack claim and Conklin Gulch, by Mr. Nason, which, I learn, promises well. With this exception, nothing new has been attempted on this creek the present season.

"The benches of Lower Antler Creek, now mined exclusively by Chinese, continue to yield fair returns. On the upper portion of the creek, the Yellow Lion Co.'s claim has paid very well for the amount of work accomplished. The difficulty of procuring a supply of water during the dry season of the year is a serious drawback to this company. The Nason Co., which has now the most complete and effective machinery on any mine in the district, is at the present time just starting work underground. The shareholders in this company have pushed ahead their extensive works during the season with vigour, and now believe that they will be successful in finally proving the value of their ground during the coming winter.

"The Waverly Hydraulic Co., of Grouse Creek, has made good progress during the season, and, judging from the appearance of the gravel in the 'face,' have at last reached ground that will pay; but, owing to a large cave late in the fall, they were unable to make a 'wash-up.' Little is to be said regarding Lightning Creek, or its tributaries. The Cypress claim, on Dunbar Flat (purchased last year by the Chinese), has paid exceedingly well, and is, perhaps, the only claim on the creek paying over fair wages. Legislation would appear to be required in view of the large extent of ground held on Lightning Creek by absentees, under a 'real estate' title, whereby the project of bringing up a bed-rock drain is completely blocked. It is definitely known that a very large extent of this ground, from the town of Stanley down, would yield handsome returns, were the same properly drained.

"On Slough Creek and Devil's Cañon, discoveries on the high benches, and in some instances well up the sides of the mountain, continue to be made. A large number of Chinese have worked here during the summer, in some instances taking out exceedingly good pay. A few whites have taken up claims which they will work by hydraulic pressure, where a supply of water can be secured. One company on Slough Creek is at present running a tunnel for a hill channel, which is thought to exist. I regret to say the company who, last season, applied for and obtained from the Government permission to lease a large extent of the deep ground on Slough Creek, has failed, so far, to effect an organization.

"Returns sent in from the Quesnellemouth Polling Division show a slight increase in the gold product of that division over last season.

"The closing of the Assay Office at Barkerville is felt to be a severe loss to the community. It not only occasions a direct loss to the miner in a depreciation in the value of his gold dust, but will have a tendency to discourage quartz prospecting, as it leaves us without the means of testing the value of any minerals which may be found. The office having become so nearly self-sustaining, it is hoped that the Government will succeed in finding a properly qualified assayer, and cause the office to be again opened.

"The following is an approximate estimate of the gold yield of the district for the year 1884, exclusive of Omineca:—

Barkerville Polling Division	\$153,600
Lightning Creek "	78,000
Quesnellemouth "	77,660
Keithley Creek "	89,595
Estimated yield from date to 31st December	25,000

\$423,855

"But little has been done in the way of developing our quartz mining industry during the season. The Burns Mountain Quartz Mining Co. (limited) indeed pushed ahead their tunnel to a point where it was expected the ledge would be found, but, failing to strike which, the work was suddenly stopped for some time. They have, however, just resumed operations, and will continue the tunnel some distance further.

"The Dominion Quartz Ledge Co., whose mine is situated some 30 miles south of Barkerville (referred to in my report of last year) sent out prospectors during the summer, who succeeded in sinking on the ledge 12 feet, and cross-cutting it at that depth. They brought in some of the rock, which it is proposed to send to San Francisco for a test.

"It is reported that the Messrs. Girod, late of Quesnelle, now in France, have succeeded in bonding the Sadoux quartz mine near Mosquito Creek, to a company of French capitalists, and that work will be shortly commenced on the mine.

"In view of the early completion of the Canadian Pacific Railroad, many old Caribooites continue to leave the district, with the object of making themselves homes somewhere along the line of railway, while but few new comers appear to take their place in the mines. This state of affairs may be expected to continue until the completion of the railroad, when a reaction will probably take place. So far, the construction and maintenance of the railroad has been most injurious to the interests of this district, as, while the works of construction have attracted away a large number of our most enterprising miners and prospectors, the maintenance of that portion of the line over which the cars now run has actually, owing to the exorbitant tariff, increased the prices of all kinds of supplies in Cariboo. This fact will be better understood when it is known that before any railroad works were commenced a sufficient number of ox-teams and pack-trains were employed on the road between Yale and Cariboo to meet all requirements. But, anticipating a fall in the rates for freight, many of the carriers disposed of their stock till, at the present time, the carrying trade is in the hands of a few, who naturally make all they can out of the situation; while merchants, anticipating a fall in the freight rates on the completion of the railroad to Spence's Bridge, withheld their orders till late. Even with the scarcity of teams on the Cariboo road, I am informed that some of those actually go to Yale for their loads, travelling from Spence's Bridge to Yale and back, a distance of 160 miles, loaded one way only, and are able successfully to compete with the railway company's charges.

"I have ventured to say this much to show that if the district appears to be on the decline, there are other than local causes affecting its prosperity, as, to my knowledge, quite a number of persons are leaving the district owing to the unusually high prices of provisions. I am informed by merchants here that the lowest freight rate from Victoria to Barkerville this fall has been 12½ cents per pound. It may, therefore, be inferred with what anxiety Cariboo looks forward to the early completion of the Canadian Pacific Railway; a consummation which, it is hoped, will bring about a different state of affairs.

"Crops with the farmers in the lower part of the district have been exceedingly good. The wheat crop especially exceeds in quantity the production of any former year, notwithstanding which flour, at the present time, is selling at Soda Creek for 6½ cents per pound, and at Barkerville for 12 cents. The mildness of the climate thus far this fall is unprecedented. There is not sufficient snow at Barkerville at the present writing to make good sleighing, and below Stanley waggoning is still good.

"The following is the retail price, in Barkerville, of some of the principal articles of consumption:—

"Flour, 12c. $\text{\$ lb}$; Butter, 62½c.; Beef, 10c. to 15c.; Mutton, 18c.; Hams and Bacon, none in market; Dried Apples, 40c.; Peaches, 50c.; Rice, 20c.; Potatoes, Turnips, Beets, Cabbage, and Carrots, 4 to 5c.; Onions, 18 to 25c.; Tea, \$1 to \$1.25; Coffee, ground, 75c., green, 55c.; Raisins, 40c.; Coal Oil, \$19 per case; Candles, 40c. by the box; Eggs, \$1.25 per doz.; Gum Boots, \$10 per pair; Giant Powder, \$1.50 to \$1.75 $\text{\$ lb}$; Wheat, 8c.; Oats, 6c.; Timothy Hay, 3c.; Wild Hay, 2c. $\text{\$ lb}$.

"It is fondly hoped that these figures will be materially reduced upon the advent of good sleighing.

"I have, &c.,

(Signed)

"JNO. BOWRON,

"Gold Commissioner."

REPORT OF MESSRS. LANYON AND D'ORPENTIGNY.

"Left Barkerville on the second of September, 1884, for the purpose of prospecting in the neighbourhood of the Mustang Valley, below Mustang Creek; arrived the following day, and prospected several small gulches for twelve days; found a little gold, but not in sufficient quantities to pay, and concluded to go down the valley to Willow River; tried several creeks on the road, but found nothing. After striking Willow River, travelled down stream until we struck Valley River, emptying into the Willow. About six miles below Mustang Valley, prospected on three creeks and found a little gold on the first creek after leaving the Mustang Valley; made a small ground-slice and could find a little gold to every pan; started a shaft; got down ten feet, but not having proper tools, and striking large boulders, we could not go any deeper; could find a little gold in the bottom, but, not being able to find the bed-rock,

could not say whether it would pay or not, but think it was the most favourable looking creek we saw on the trip. After spending four days, we started to return, by way of Valley River. Tried several creeks but found no gold, and arrived back at Sugar Creek, after being nine days on the trip. Still having some provisions left, we started to prospect at the head of Sugar Creek, going west toward Willow River, but found the snow too deep, there being from two to three feet. Had to turn back and come to Hardscrabble Creek, and prospected the left fork. Found the bed-rock shallow at the head of the creek, and found a little gold. Came some distance down the creek, and found a little gold on the clay; sunk a shaft twenty feet from the clay; found very little gravel on the bottom and scarcely any gold on the bed-rock. Our provisions being then exhausted, we returned to Barkerville, after an absence of eight weeks.

(Signed) "JOHN LANYON,
" OLIVER D'ORPENTIGNY.

"To John Bowron, Esq.,
" Gold Commissioner."

MR. STEPHENSON'S REPORT.

"FORKS OF QUESNELLE, B. C.,
"26th November, 1884.

"To the Hon. the Minister of Mines.

"SIR,—I have the honour to forward herewith the mining statistics of Keithley Division, Cariboo District, for 1884. Of the estimated yield of gold, there is a falling off from last year, which is chiefly owing to the decrease in the number of white miners, as many have left the mines and gone down country to find employment on the railroad.

"The season all through has been favourable for mining in this section, and I am well satisfied the Chinese have done better this season than last, although they will not admit it; but the truth is something I do not expect from a Chinaman, except by accident. Although there has not been any new diggings found, the Chinese seem to be more scattered over this section than for several years past, while their numbers are about the same; and wherever you find a Chinaman that has worked a few days in a place, it is a sure thing he is making some money.

"On the Horsefly River, where the Chinese thought they had found good pay last fall, it proved to be a failure, and consequently there has been very little done in the Horsefly section, only one company working through the season.

"In conclusion, I may add that the outlook, though not bright, is not worse than it was a year ago; in fact, the Chinese traders must think it better, as their shipment of goods has been much heavier this fall than last.

"I have, &c.,
(Signed) "W. STEPHENSON,
"Government Agent."

CASSIAR.

MR. CRIMP'S REPORT.

"LAKETON, CASSIAR,
"13th October, 1884.

"To the Hon. the Minister of Mines.

"SIR,—I have the honour herewith to forward the Mining Statistics for 1884, as well as my report upon the district.

"Dease, Thibert, and McDame Creeks are all about worked out—that is the bed of the streams. The past summer a great many have been working over the bed of the streams the second and third time.

"On Dease Creek there have been about ten white men and fifteen Chinamen, and the result of their labours has been about \$10,000, as near as I can find out, and I think the estimate is pretty accurate.

“On Thibert Creek there were twenty-two white miners and twenty-four Chinese miners, and the amount taken out was \$30,000. This creek has a few fairly good bill claims, but they are getting pretty well worked out.

“On McDame Creek and its tributaries the same may be said as of the before mentioned creeks; the amount for the year past \$ 53,600

Dease Creek	10,000
Thibert Creek	30,000
Defot Creek	3,000
Desultory mining	5,000
Total	\$ 101,600

“I think the above amounts are pretty accurate as far as I have been able to ascertain.

“There has not been any discoveries made the past season. There were seven white men and four Chinamen down the Liard River the past summer, but did not find anything that would pay wages.

“There were about 180 miners in the district during the season—about equally divided—half white miners, and the other half Chinese; and it is fully expected that there will be about the same number next year. Of these, about 33 white men and 40 Chinamen will winter in the mines.

“The health of the miners during the past season has been generally very good; only one death, and that was by the drowning of the late A. F. Black.

“Law and order have been generally good in this district the past season.

“The market is well supplied with everything that the miner wants; vegetables are abundant, at reasonable prices.

“The crops have been good the past summer in the farming district, partly owing to the plentiful rainfall, the crop of hay was abundant.

* * * * *

“I have, &c.,
 (Signed) “J. L. CRIMP,
 “Gold Commissioner, &c.

LILLOOET.

MR. SOUES' REPORT.

“GOVERNMENT OFFICE,
 “Clinton, 12th Dec., 1884.

“The Hon. John Robson, Minister of Mines, Victoria:—

“SIR,—I have the honour to enclose herewith the mining statistics and my annual report for the district of Lillooet for 1884.

“The total ascertained yield of gold for the district this year is \$107,934, a very noticeable and gratifying increase over former years.

“The figures given are from perfectly reliable and trustworthy sources. Seven-eighths of the amount named has been bought by Mr. Smith, Lillooet, and Messrs. Foster & Bell, Clinton. I make no estimate of the amount carried out of the district by Chinese and others. This amount is undoubtedly large, but no reliable account can be had of it. For comparison, I give the ascertained yield of the district for the past four years, viz.:—

1881	\$ 63,915
1882	54,295
1883	68,342
1884	107,934

A very large amount of this year's increase must be credited to Bridge River and its tributaries, and I have much pleasure in reporting that nearly the whole of the miners in that locality are white men, and have every reason to believe that the majority of them are well satisfied with their season's work, and nearly all intend returning there next spring.

"I have no new discoveries of gold to report in this district for the past year. A party of three prospectors, aided by Government, were out for three months in the eastern part of the district. Unfortunately, they kept too far to the north, having reached a point within a short distance of the head waters of Canoe River, a tributary of the Columbia. This expedition was entirely without results in the discovery of gold or other minerals.

"In minerals other than gold, I have to report the discovery and location of a mica ledge at a high altitude on Clearwater River, a tributary of the North Thompson. A specimen (11 inches by 8 inches) of the mica in my office, taken from the exposed surface of the ledge, shows a large number of fractures, the result, I presume, of ages of alternate freezing and thawing. Should the mineral prove to be without fracture at a depth below the action of frost, it will undoubtedly be a most valuable addition to the resources of this Province. Mr. James McKinlay, of Lac La Hache, is the locator, and is most deserving of success, having spent two seasons, unaided, prospecting between Lac La Hache and the foothills of the Selkirks, a portion of this district in which there is ample room for others.

"Mr. McKinlay has brought in a number of specimens of quartz, &c., samples of which I forward to your department by this express. He informs me that he has sent samples for assay and analysis to different places, a few weeks ago.

"Considering the comparative few engaged in mining industries, this district may be congratulated on the result of the season's work. At the same time I must express my regret that enterprise and capital still hold aloof from adding to the general welfare of the Province at large, by opening out and developing the known auriferous benches on both sides of Fraser River in this district.

"The same remark applies to the claims on the Big Slide lode, on which nothing has been done this year.

"I have, &c.,
(Signed) "F. SOUES,
"Gold Commissioner, Lillooet District."

YALE AND LYTTON.

MR. HUSSEY'S REPORT.

"LYTTON, 29th November, 1884.

"To the Honourable the Minister of Mines, Victoria:—

"SIR,—I have the honour to enclose the mining statistics for the Hope, Yale and Lytton Divisions of the Yale District for the year 1884.

"In the Hope Division the silver mines which attracted so much attention some time back seem to have gone out of thought, simply from the want of energy and capital to work ground which has been shown to contain an almost inexhaustible supply of the precious metal.

"Gold mining operations in the Yale Division are not so extensive as they should be, considering what energy, perseverance and capital might accomplish. At present they are principally confined to Chinese rocking on the bars of the Fraser River. A few may be said to be making wages, whilst the remainder are only making a bare subsistence. It is impossible to arrive at even an approximate estimate of the yield of gold in this division. There are several recorded claims on the flat opposite the town of Yale, but no workings are carried on at the present time.

"Mining in the Lytton Division is confined to Chinese and Indians working on the Fraser and Thompson Rivers, the majority of whom secure but a scanty remuneration for their labour. There are only a few recorded claims in this division. From reliable sources I have received information that the amount of gold exchanged at Lytton is about \$12,000. It is not possible to obtain a correct estimate of the total yield, as some is carried away or remains in private hands.

"It is safe to add \$3,000 to the above, making the total amount \$15,000.

"I have, &c.,
(Signed) "FREDERICK HUSSEY,
"Government Agent."

KAMLOOPS.

MR. TUNSTALL'S REPORT.

"KAMLOOPS, January 7th, 1885.

"To the Hon. John Robson, Minister of Mines, Victoria."

"SIR,—I have the honour to state that, in consequence of the Chinaman who formerly supplied me with information, being absent from this place, I have been unable to furnish the mining statistics of the Kamloops District for the year 1884.

"I regret to say that the efforts of the Government prospecting party, which left here last fall to find gold in paying quantities have proved unsuccessful. I herewith enclose Mr. Ratchford's report.

"I have, &c.,
(Signed) "G. O. TUNSTALL,
"Government Agent."

MR. RATCHFORD'S REPORT.

"KAMLOOPS, January 8th, 1885.

"To Geo. Tunstall, Esq."

"DEAR SIR,—We left Kamloops on the 21st of September, 1883, and arrived at Kirby's Landing, Columbia River, on the 28th September. Cached a part of our provisions and proceeded up the river; found gold everywhere, but not in paying quantities; saw where there had been a good deal of prospecting done. On the 7th of October came back to cache, and during the winter explored the surrounding country with very little results. We are of opinion that placer mining in that section is very limited, there may be ledges. The country we passed through between the Eagle Pass and Goldstream, being anything but favorable. Left the Columbia on the 4th of March and arrived at Kamloops on the 15th.

"I remain, &c.,
(Signed) "JAS. RATCHFORD."

KOOTENAY.

MR. VOWELL'S REPORT.

"KOOTENAY, B.O., 23rd December, 1884.

"To the Hon. John Robson, Minister of Mines, Victoria."

"SIR,—I have the honour to enclose herewith the "mining statistics" for the present year, together with my report upon the mining industries of the district.

"The following returns are the result of much careful enquiry, and are as correct as it is possible to have them, owing to the many difficulties in the way of obtaining accurate information.

Wild Horse Creek	\$36,730 00
Bull-Moyea Rivers	17,232 00
Lesser Creeks and Bars	6,864 00
Total	\$60,826 00

"As compared with past years the returns from the placer mines are satisfactory, but I must point out that the mining interests of this district in the future, will depend almost entirely upon the development of the promising quartz mines which are now being opened. At and since the time when placer mines were first discovered at Wild Horse Creek, and in the Big Bend country (some 20 years ago), miners have been prospecting for that class of diggings along the Columbia River, upon its tributaries, and throughout the Selkirk range of mountains, with no very favourable results.

"It is true that in the early days many difficulties existed which are now being gradually removed by the advance of settlement, encouraged by the construction of the Canadian Pacific Railroad through the Province.

"Deeming the country to have been only partially prospected, miners have gone out in different directions this year searching for shallow or placer mines, but I regret that in no instance has any marked success attended their efforts.

"The season, however, has not been favorable in consequence of the heavy and constant rains which have prevailed throughout the summer, the water in the different rivers and creeks being continuously at a high stage which prevented the effectual prospecting of their beds.

"The quartz developments in the vicinity of Kootenay Lake are full of promise, it being no exaggeration to state that mountains of ore have been discovered. Mineral claims have been located upon the west side of the lake this year which far exceed in richness anything hitherto discovered in that section.

"Forty-nine (49) mineral claims have been taken up in that locality, and a large company has been organized for the purpose of bringing in machinery and commencing active operations upon several of the mineral claims next spring. A wagon road is under construction from Sand Point, a station on the North Pacific Railroad, to Bonner's Ferry, on the Kootenay River, a distance of some 40 miles. The company also intend to place a steamer upon the Kootenay River, to complete the line of transport from the North Pacific Railroad to the Kootenay Lake mines.

"Many old Californians, familiar with Leadville and other valuable quartz mines of notoriety, who have visited Kootenay Lake during the past season, have predicted for those mines a brilliant future. There will be about 100 men actually engaged in quartz mining at Kootenay Lake next season, besides a great many miners prospecting, and I would recommend that an officer be provided for that place as well as a record office and lock-up. In future it is also expected that many miners will winter there, as once the mines are properly opened, work, to a great extent, can be advantageously carried on throughout the year. I would here mention that the officer to be there stationed will require to be one of some experience and judgment, as otherwise complications of a serious nature are certain to arise owing to the valuable interests there centred, etc. Several mineral claims have been taken up during last fall on Wild Horse Creek, but as no assays have as yet been heard of, it is impossible to pronounce upon their respective value. About 100 men, whites and Chinese, will winter at the last named place.

"In the Kicking Horse region 135 mineral claims have been located in different directions, viz.: in the vicinity of the summit at Kicking Horse, the First Crossing of the Columbia River, Quartz Creek, Beaver River, the Ille-cille-waet, and the Spallumcheen River, the latter empties into the Columbia River about 30 miles above the mouth of Kicking Horse.

"The mineral rock discovered gives evidence in many claims of gold, the majority being galena. No developments, however, have as yet been made of a character to enable me to furnish any definite information regarding their value, etc.

"Upon the Spallumcheen River, where locations extend for over four miles, considerable work has been done upon several of the claims. The ore, a free milling, low grade, galena, is abundant, giving returns from various assays of from \$12 to \$64 in silver, to the ton, The ore improves in quality as the work advances and gives evidence of gold, copper, antimony, etc.

"Feeling it my duty to do so, I would again call the attention of the Government to the great and pressing necessity that exists for the establishment of an assay office in this district. It has been frequently represented to me that the cost of shipping ore and having assays taken at a distant place is not only expensive, but unsatisfactory in every respect, as in most cases the returns so obtained cannot be relied on. I feel certain that in a pecuniary point of view, the assay office would be self-sustaining, the rapid increase in quartz mining expected throughout the district cannot but lead to such a conclusion.

"It is estimated that about 15 men will winter at Golden City, 150 at First Crossing of Columbia River, and at the Beaver some 250 traders and others. There will be from 1,500 to 2,000 men along the line of the C. P. R. getting out timbers, etc. The misunderstanding existing between the Dominion and the Provincial Governments, relative to the precious metals lying within the railway belt in this district, has militated very much against the progress of mining, etc., in Kootenay this year, and it is hoped that with the advent of the coming season, 1885, all such distracting complications may be removed.

"I have, &c.,
(Signed) "A. W. VOWELL,
"G. C. & S. M."

 COAL.

The following table shows the output of each year from 1874 to 1884, inclusive:—

Year.	No. of Tons.
1874	81,000
1875	110,000
1876	139,000
1877	154,000
1878	171,000
1879	241,000
1880	268,000
1881	228,000
1882	282,000
1883	213,000
1884	394,070

 REPORT OF THE INSPECTOR OF MINES.

*"To the Honourable John Robson,
Minister of Mines.*

*"NANAIMO, B. C.,
4th February, 1885.*

"SIR,—I have the honour to respectfully submit my Annual Report up to the 31st December, 1884, as required of me, as Inspector of Mines, by the 'Coal Mines Regulation Act, 1877.'

"During the year 1884, the following collieries have been in operation, viz.:—

"Nanaimo Colliery, belonging to the 'Vancouver Coal Mining and Land Company (Limited).'

"Wellington Colliery, the property of Messrs. Robert Dunsmuir & Sons.

"East Wellington Colliery, owned by R. Chandler, Esq.

"The Alexandra Colliery, belonging to the 'Esquimalt and Nanaimo Railway Company.

"The aggregate output of coal in the year 1884, from the collieries, amounted to 394,070 tons, which, with 1,830 tons in stock on 1st January, 1884, made a total of 395,900 tons of coal available for export and home consumption.

"The coal exported during 1884 amounted to 306,478 tons, of which the principal part (see statement of California importations below) was shipped to San Francisco and southern ports in California; various shipments were also made to Portland, Oregon; Washington Territory, to Alaska, the Hawaiian Islands, and China; and supplies were furnished to steamships and vessels calling.

"The local consumption of coal in 1884 was 87,388 tons.

"In my last report I gave a comparative table of exports and local consumption of coal from 1878 to 1883 inclusive, on reference to which it will be seen that the exports of 1884 have more than doubled in amount over those of 1883, while the local consumption for 1884 is upwards of 20,000 tons more than that of the previous year.

"On the last occasion of my addressing you I had to account for a decrease in the output and exports of 1883 as compared with those of 1882; this year, however, I have the pleasure of pointing to the remarkable and very gratifying increase of upwards of 180,000 tons in the output, and of 156,911 tons increase in the exports of 1884 above the output and exports respectively of 1883. I need hardly remind you that this increased production of our mineral resources has added, in a relative degree, to the wealth and prosperity of the Province at large.

"The following statement, which is authenticated by an accepted commercial authority, will show the important position which British Columbia has attained as a coal producing Province, in San Francisco, the chief market, at the present time available for our coal, and will also indicate the various other sources from which San Francisco and Wilmington in California have drawn their supplies of coal during the year 1884, viz.:—

	1883.	1884.
British Columbia.....	128,503 tons	291,546 tons.
Australia	174,143 "	190,497 "
England and Wales	131,355 "	108,808 "
Scotland	21,942 "	21,143 "
Eastern States.....	43,861 "	38,124 "
Seattle	139,600 "	125,000 "
Carbon Hill.....	140,135 "	122,060 "
Mount Diablo	76,162 "	77,485 "
Renton, Newport, South Prairie...	43,600 "	60,413 "
	<u>899,301</u> "	<u>1,035,076</u> "

"The commercial authority from which I have quoted, also remarks upon the prospects in the California coal market, in very encouraging terms, as follows:—'Our' (California) 'increased consumption of coal gives very strong evidence of the multiplying of our manufactories and their further enlargement in 1885, and if, as is anticipated, there should be a 'reduction in the duties on coal and pig iron, there would be a marked impetus to their 'success;' and therefore may I add a corresponding increase in the demand for coal.

"There is, therefore, likely to be a good market for the first-class coal produced by our mines for many years to come, in San Francisco; and it only remains for our colliery proprietors, and their able representatives, to maintain their hold of, and enlarge their sales in, that market; and there is little doubt that they will do both, as their keenness and energy in business has been well proved. Besides which there is ample room for expansion of our coal trade with the Hawaiian Islands, Portland, O., and Central American ports; there is also a demand for railway purposes looming up in the near future in this Province.

"NANAIMO COLLIERY.

"DOUGLAS PIT.

"In this mine—which is owned by the Vancouver Coal Mining and Land Company, Limited—there has been no mining done during the past year; but they have continued to pump the water, keeping the mine nearly dry.

"NEW DOUGLAS (OR CHASE RIVER) MINE.

"This mine—also owned by the Vancouver Coal Company—is worked by slope, extending about 500 yards from the entrance, to what is known as No 4 level. At a distance (northerly) of about 400 yards in this level, is the head of the 'slant,' which is driven across the pitch—the coal being too steep here to go down straight to the dip—the slant is driven about 500 yards down, taking as much down grade as they had power to work with. At the slant head there is a steam winding engine, by which the coal is drawn up the slant; steam is brought from the surface.

"The workings in this mine are at present entirely situated in the district of the slant and its levels, in which, so far as they have gone down, the coal is very hard, of good quality, and from four to seven feet thick.

"The coal has been worked on the pillar and stall system, the pillars of coal being taken out after the stalls have been worked to their destination, leaving those pillars which protect the main road and airways to be taken out at some future time.

"Ventilation is good. The last time I was down in this mine, in December, there was in circulation, near to the face of the workings, about 300 cubic feet of air per minute to each person.

"In this mine, the Vancouver Coal Company were at one time very much troubled with water; but now they are about masters of that difficulty, as they have got good and powerful pumping machinery, both in the slope and in the slant. The manager is now satisfied that, even in the wet season, if no accident or derangement happens to the pumping gear, it is not likely that there will be any stoppage to the working caused by water.

"Considering the troubles they have had in this mine, one way and another, in the past, the mine is kept safe for the workmen. There is always plenty of timber and any other thing that may be required for the use of the miner.

"A 12-inch plunger pump in the slope is operated by massive wooden rods and pumping gear attached to the slope head engine at the surface; but the steam for working the large spare pump in the slope, and the several other pumps in the level and the slant, is taken down into the mine from the surface, the pipes passing along the side of the travelling road, which is sometimes made very warm.

"SOUTH FIELD MINE.

"This mine, of the Vancouver Coal Company, is about four miles south of Nanaimo, upon that part of the Company's Nanaimo estate which is designated as the South Coal Field. The mine is entered by what is called the Adit, which keeps in an easterly direction, and a little way in slopes somewhat, until, at a distance of about 300 yards, a slope is driven off the Adit in a northerly course for about 500 yards. The last time I was down, the coal was six feet thick at the face, good and hard, but it has not been so all the way; sometimes it got soft, and at other times it would almost pinch out. In some places the coal is twelve feet thick. The coal, when clean, is very hard and of good quality. In certain parts there is solid conglomerate rock overlying the coal, and at other places a thick bed of shale, full of slips, which makes it very dangerous.

"This mine is ventilated by a large furnace at the bottom of the upcast shaft. Ventilation is good, and on the separate split system, and at my last inspection there was about 340 cubic feet of air per minute for every person in the mine. There is little or no gas, and, considering the depth, there is very little water to contend with.

"There has been much ground gone past which will not pay to work, and, in addition, they went over a down fault, since which the coal looks much better and more regular. Having a series of bores ahead of the slope, proving the coal to be thick, there is good prospect of this mine being a valuable property.

"About 300 yards in a northerly direction, the Vancouver Coal Company have opened another mine, known as—

"NEW SLOPE, SOUTH FIELD.

"This mine is entered by a slope. The company have incurred great outlay in opening this mine and erecting slope head works, with a pair of powerful steam winding engines to provide for the output of a large quantity of coal per day; also in extending their railway from New Douglas Mine—bridging Chase River—up to this mine, with continuation to the South Field Mine, forming altogether a first class railway of steel rails, flange section and fished, gauge 4ft. 8½in., of about 6 miles in length, from the company's coal loading wharfs at Nanaimo.

"Starting at the surface, and in the direction (northerly) of a bore which had been previously put down there, the company drifted down through clay and gravel to get where the outcrop of coal is supposed to be; they succeeded in finding the coal, which was not very hard at first, but as they drove into it the coal got harder, and for the last 150 yards of the "New Slope" the coal is good and hard.

"Ventilation is good, although at present the motive power and airway are only temporary. The company have put down an air shaft between the "adit" of South Field Mine and this "New Slope," and they are now driving an airway to the air shaft, which will soon, almost immediately, be connected with the shaft, when extensive mining can be carried on in this mine.

"This has the appearance of being a good mine, and is being worked towards the bores which I have previously referred to.

No. 1 SHAFT, ESPLANADE, NANAIMO.

"This shaft of the Nanaimo Coal Company, is the shaft which I have mentioned in a previous report as having got to the coal. I have now to introduce the No. 2 Shaft, which I reported as being then down 480 feet. Sinking was steadily kept on until 17th February, when the coal was struck at a depth of 614 feet from the surface, the coal proving itself to be 7ft. 6in. thick and of good quality. At the same time they were drifting from No. 1 Shaft for a connection with No. 2 which was made on the 23rd February. Since that time the two

places are known as the "No. 1 Shaft." The No. 1 being the intake and hoisting shaft, and the No. 2 the up-cast or air shaft.

"Everything about the No. 1 Shaft is executed in a good and workmanlike manner. The pit bank and head gear seem to be of the best kind, and as strong and substantial as massive timber, bolts and iron work can make them. The pit head is all housed and covered. There are two cages working in this shaft, they are what are called double deckers, to hold two coal cars on each deck or storey of the cage, so that four cars can be hoisted on each cage at one time. There are wire rope conductors in this shaft to guide the cages up and down, which are made fast at the top to the pit frame, the other ends being held in their respective places at the bottom of the shaft by large cast iron weights.

"From the bottom of No. 1 Shaft levels run north and south. The No. 1 south level had very good coal, about 10 feet thick, but when it got in about 100 yards it gradually got thinner, until top and bottom came almost to each other. They drifted into it for some distance, when the level was stopped for the present. In No. 1 north level the coal kept good for quite a distance when it got thin and soft, until the level got in about 400 yards, when it improved. The coal soon reached 7 feet in thickness, hard, and of good quality, and continues to keep so. About 30 yards from No. 1 Shaft bottom along No. 1 north level there is a slope, at the head of which the company have made an engine room, having heavy foundations of squared timber (cedar), and sawn balks 18in. x 18in., upon which will be laid a fine pair of 16in. cyl. winding engines, which will replace the present engine in hoisting coal up the slope, which is driven down a gentle grade for a distance of about 500 yards in an easterly direction. From this slope two levels, No. 2 north and No. 2 south, are driven.

"No. 2 north level has been driven through ground of the same kind as No. 1 north passed, and now the company have got in No. 2 north level the same good hard coal as I have mentioned as being in No. 1 north, and of equal thickness—7 feet.

"The No. 2 south level, for the first 200 yards from the slope, had very good coal, varying in thickness from 5 to 10 feet; but the fault met with in No. 1 south was struck and is now being driven through.

"The above mentioned slope goes out direct under the estuary of Nanaimo harbour for about 500 yards, and at the face the slope is of a vertical depth of 750 feet below tide water, with all the rock gone through in the shaft intervening. The workings are almost dry; but what little water is made is free from salt.

"Ventilation is good. When I was down in December there were 511 cubic feet of air per minute for each person. This mine is ventilated on the separate split system. Air being good they are not much troubled with gas.

"Coal is hoisted from No. 1 shaft by a pair of very powerful engines of 30-inch cylinders with 5 feet stroke, and winding drums of 14 feet in diameter, capable of raising 1,000 tons per shift of 8 hours. In hoisting and lowering workmen every regard is had for their safety. There is at this shaft a good supply of prop wood and everything required by the miners.

"No 1 shaft is connected with the company's coal loading wharves by a well constructed railway of steel rails of the same weight and gauge as the other railways belonging to the company.

"ALEXANDRIA COLLIERY.

"This is a new work being started in Cranberry District by the Esquimalt and Nanaimo Railway Company. Besides the mineral owned by them in the railway belt, the company have purchased the mineral rights from some of the settlers. And now they are prospecting in that property for coal. They have found the outcrop in three or four places. There is one shaft down about 50 feet to the coal; there is also a slope into the coal about 70 yards. At the start the coal was soft and not regular, but now the coal is good and hard, and six feet thick, in two layers with dirt between them. The coal is improving as they go into it and the dirt getting thinner.

"This work is about one mile south of the Vancouver Coal Company's South Field Mine, and close on the side of the line for the Esquimalt and Nanaimo Railway, and I think this mine will give a good account of itself before the year 1885 shall have come to a close.

“WELLINGTON COLLIERY.**“WELLINGTON MINE.**

“This is the slope mentioned in previous reports as being down 1,100 yards. Messrs. R. Dunsmuir & Sons, the proprietors of Wellington Colliery, have worked this mine regularly during most of the year. On the west side of the slope the mining is at present confined to the pillars (of coal), but there is more coal in the pillars than was taken out by the working of the stalls. On the east side, in No. 10 level, there are a few places working, besides which, work is being done at the pillars here also. Those works are well spread over the mine. The Wellington Mine will continue to send out a large amount of coal for a long time to come, and as the coal was good that has been taken out, the same quality may be expected from the pillars. There are four shafts or outlets from this mine, and in case of an accident they can be used at any time.

“Ventilation is good, the motive power being a large furnace. The air is conducted on the separate split system, with the main divisions to each side of the slope. The last time I examined it there were 300 cubic feet of air per minute to each person; this is conducted well into the face of the stalls and pillars. There is very little gas to be found in this mine, but the fireman, as a proof that he has been examining the works, puts the number or day of the month on the face of the coal where he made his last examination, no person being allowed to go past the fireman's station until such examination is made and reported to each individual miner. I should mention that the same method is also practiced in all the coal mines of this Province, by their respective firemen.

“In connection with the Wellington Mine there is what is known as the Adit Level, going out level free to the valley of the Millstone River. In this place there has not been any stoppage during the year. The proprietors are taking out the coal which is above this level, and there is a considerable area of coal which may be got from this place, as it can be worked out to the outcrop, not fearing if some water should come in. No machinery is required to pump the water, as it runs out itself. The coal here is hard and of a good quality. Ventilation is good. This place is ventilated in connection with that part of the mine I have previously mentioned, and I may say that this place is clear of gas, as it is seldom or hardly ever found.

“No. 3 PIT, WELLINGTON COLLIERY.

“This is the only working shaft that Messrs. Dunsmuir & Sons have in the valley. It is 200 feet deep. Nearly all the mining has been to the dip. About 75 yards in a southerly direction from the bottom there is a slope, which is down 750 yards into what is known as the basin of the Wellington Coal Field. There is a gentle grade all the way, but gradually getting flatter until it becomes level, and from here the coal gradually rises all around. The working is very dry, with the coal coming in on every side. Before getting to the bottom of this slope there are three levels, two on the south and one working on the north side; the latter is No. 4 level. This mine, as are all the mines of Messrs. R. Dunsmuir & Sons, is worked on the pillar and stall system. As the works here are under the Millstone Valley, and 400 feet from the surface, they are leaving large pillars about 20 yards one way, with cross cuts put through to the adjoining stalls, so that, at present, fully one-half of the coal is left to support the roof, until such time as the stalls have got through to their destination, or, when there is no further use for them, to be taken out. Great care has been taken here to prevent accident, either from an inflow of water, gas, or otherwise. Ventilation here is very good, and it is scarcely possible for a mine to be in a better position to be ventilated, the return being a shaft about 20 yards from the down-cast, the motive power being a fan of 30 feet diameter and 10 feet wide, worked by a pair of engines, one at each end of the fan shaft, either of which engines is capable of working the fan to whatever speed may be wanted. Besides this fan, the engines at the top of the slope (underground) exhaust into the return, and as the mine is dry a jet of water is running in the down-cast, so that the air is not so dry as it would otherwise be; and, while helping the ventilation, it also causes the mine not to be so dust-dry as it was before the adoption of this method. Air coming down the shaft has 75 yards to get along the level; then it gets the slope in a direct line for 750 yards. This is the farthest place from the two shafts. Now the air passes on its way along the faces, coming on a rise all the way. The most of the air is taken to the faces; what escapes takes the old works, and when coming to No. 4 level it is all caught up again. The area of the slope there is little of it less than 90

feet. I have often tested the current of air, and never found less than from 500 to 600 cubic feet per minute of air for each person working in the mine, with the fan making 23 revolutions per minute, having seen this fan making nearly double this number, as it is doing at present. Ventilation machinery here is capable of keeping in motion 1,000 feet per minute for every man employed in the mine. This mine gives off a considerable quantity of gas, but it does not give much trouble. This is the mine where that terrible explosion occurred on the 30th June; but since that time it has been very free from gas, so that with ordinary care on the part of all parties connected with this mine, this place should be free from accidents by explosion of gas, as the manager spares no expense to have the mine safe.

“No. 4 PIT, WELLINGTON COLLIERY.

“You will see by a former report that this is a shaft on the bluff overlooking the Millstone Valley. In this shaft there has been very little time lost with the mining operations during the past year. The coal continues to keep hard and good and from 6 to 12 feet thick. There have been some few drawbacks with faults, but, with all that, this is a valuable mine. In last report I mentioned that Messrs. Dunsmuir & Sons were pushing a slope from this place towards their No. 3 pit. They succeeded in making the connection in the early part of February. Then they could employ all the men they could accommodate. The workings of this pit go out from the north and south sides of the shaft, two levels from each side. From these levels mining is carried on extensively. Ventilation was good, the motive power being a fan and steam jet, down-cast and return, the shaft being partitioned off. This mine is also ventilated on the separate split system, the first division being at the shaft, the intake being the north and south levels, returning by way of the stalls, and being carefully conducted to the faces by brattice, thence taking a rock tunnel to the upcast shaft. The last time I tested the air here I found 57,600 cubic feet of air per minute in circulation, or 500 feet for each person.

“On the 30th December there was a fire discovered in this mine, but how it originated cannot be found out. William Drew, an engine driver, while attending an engine down in the mine, fixed about 30 yards in from the shaft on the side of the north level—there being a door a few feet behind the engine, as a way into the return airway—heard a sound as if it were some one coming down that way. He took no notice of it for some time, when, the door being a sliding one, he pulled it open, and then he found that what he had thought to be the noise made by a person in the airway was a fire, roaring like a furnace. As the steam came from the surface for the engine, and there was no water at hand, he closed the door as well as he could, but not close, ran to the shaft and gave the alarm; and afterwards he ran past the fire, being acquainted with the works, then went to one section of the mine, told all the men, and afterwards went to another section, notifying the men to make haste and come out, as the mine was on fire. This was about five o'clock in the afternoon, and all the men were supposed to have been got out; but it appears that about the first man that Drew told is missing, as well as a Chinaman who worked with him. I enquired of Drew whether he had told the missing man, and Drew alleged that he had notified the missing man, who had answered him. It is concluded that the man must either have lost his way in coming out, or have delayed too long before he started to come out, as Drew came out some time after the missing man knew that the mine was on fire, but he does not seem to have known the danger he was in.

“In two or three hours after the fire was first seen it was burning out the mouth of the shaft, consuming the greater part of the ventilating fan. The manager succeeded in getting the shaft covered over, and as No. 3 pit is connected with No. 4 pit, the fan there had to be stopped, and those shafts were also covered, leaving eleven mules in the mine.

“At present all communication from the surface is shut off, and it is to be hoped the fire will be got out that way; but, if unsuccessful, they are now prepared to turn water into the No. 3 pit from the river (Millstone), as they have got a large ditch cut, by means of which, if it comes to the worst, they will flood the mine. But after they are satisfied that the fire is extinguished it will take a long time to get the water out; the workings of both pits will have to be filled, as No. 3 pit is the lowest mine.

“It is a wonder that there are not more men missing, as there were a great many men in the mine when the fire was first discovered, and the only way of getting out was by a way near where the fire started; and I may here say that Mr. Drew, for the noble part which he undertook, in going and telling those in the mine himself, knowing the risk he was running, deserves the thanks of the community in general, for if it had not been for the prompt action he took there might have been many lives lost,

"No. 5 PIT, WELLINGTON COLLIERY.

"This is a new pit that has been put down by Messrs. R. Dunsmuir & Sons during the past year, and is about 1,000 yards in a northerly direction from No. 4 pit. They commenced work here on the 20th May, continuing at it by day and night, excepting during short delays now and again, nothing serious taking place, when, on the 20th August, the top of the coal was struck at the depth of 234 feet from the surface, and only three months after starting to sink. In this place they found the coal 13 feet thick, hard and of its usual good quality, and what is known about here and California as Wellington coal. They went below the coal 8 feet, making the shaft 255 feet deep; size inside, clear of the timber, 18 feet by 8 feet, the whole being complete on 30th August.

"There are here engines, coupled with boilers, and everything complete. The head gear, upper works and everything necessary for a large output of coal is now in good order. The railway is also in to this place. The first train of cars loaded with coal went away by the locomotive on the 5th September. This looks as if it was going to be a valuable mine, and proves a large portion of the Wellington estate. Ventilation is good; at present the motive power is a steam jet. The mine is almost free from gas. We are here 1,000 yards from No. 4 pit. This firm has now started to put down another shaft about midway between the No. 4 and No. 5 shafts, known as

"No. 6 SHAFT, WELLINGTON COLLIERY.

"This shaft is of the same dimensions as the other shaft that Messrs. R. Dunsmuir & Sons have put down, viz.: 18 feet by 8 feet. It is being timbered as they get down. They are now down about 75 feet. There is a steam engine to hoist the rock and water from the shaft, so that in all likelihood they will be getting coal from this shaft early in the spring.

"EAST WELLINGTON COLLIERY.

"In my report of 1883 I stated that this place did not look well for getting out coal, as the coal kept thin and was sometimes soft; but for all these discouraging prospects the enterprising proprietor—Mr. R. D. Chandler—continued to work at it both up and down the valley of the Millstone River, with many side drifts. The one down was in an easterly direction, but it is now stopped, after continuing it for about 1,000 yards with no improvement, and no indications of getting better, and the rails were taken out. On the west, or going up the valley towards the Wellington Colliery, there has always been about 20 inches of hard coal; sometimes it would be somewhat thicker. This place is now in about 500 yards from the shaft, and is yet being pushed ahead with great expectation of getting the coal good. For some time back it has been improving, both in thickness and quality; now it is fully 3 feet and keeps getting thicker as they approach towards Wellington, so that there may yet be good and profitable work got here.

"They have now started a bore hole from the surface about 600 yards ahead of the drift, going to the eastward. This is now down 300 feet, and they have the hope that they will strike good coal soon. And it is wished that they will, as they have gone to a great expense and as yet had no adequate return.

"GENERALLY.

"All the above-mentioned works I have frequently inspected during the year. I found them generally in good order, with plenty of timber and every other thing that was necessary; and I may here say again, that on my inspection of No. 3 Pit, Wellington Colliery, previous to that memorable explosion, I never saw a mine in better order, and it did not appear in want of anything that was necessary.

"In the course of my inspection of the several mines I have noticed that sometimes the brattice in some places was not so close up to the face as it should be; and when I have pointed this out it has been alleged that the brattice had always to be put up three or four times, as it got broken down so many times, the coal from the shots being almost sure to break down the brattice when close to the face.

" ACCIDENTS

" IN AND ABOUT THE COAL MINES OF BRITISH COLUMBIA FOR THE YEAR 1884.

" 12th January—Chinaman, name unknown, was slightly injured by a fall of coal when at work at East Wellington Mine.

" 16th January—Chinaman, Gin Lin, got a leg broken by being caught in a rope when he was lowering a car down an incline in No. 4 shaft, Wellington Colliery.

" 16th January—Thomas Cassidy, miner, was bruised by coal from a shot in East Wellington.

" 23rd January—Joseph Walker, miner, was burned about the face and hands by accidentally setting fire to about half a pound of powder in the South Field Mine.

" 24th January—James Frame and William Hinksman, miners in East Wellington Mine, were burned about the face and hands by an explosion of gas. They were doing some repairs and were to keep anyone from joining in, yet the latter went in with a naked light; hence the explosion and burning.

" 30th January—G. Brinn, miner in No. 1 shaft, Nanaimo Colliery, was slightly hurt about the back, by a piece of rock striking him while putting in timber.

" 5th February—Andrew Moffat, mule driver, got one of his legs broken by getting jammed between the box and the shaft in the Wellington Mine.

" 11th February—Thomas Laughton, miner, and Ah Heang were slightly burned about the hand and face by an explosion of gas. They were working at a fault, and had struck the coal when it fired on them, in No. 3 shaft, Wellington.

" 13th February—James Lomas, miner, burned about the face and hand by the firing of loose powder, while getting ready to charge a hole in No. 4 shaft, Wellington Mine.

" 15th February—John Preacher, miner in No. 1 shaft, Nanaimo Colliery, was slightly burned about the face and hands by an explosion of gas.

" 19th February—Ah Hin was slightly burned about the face and hand by an explosion of gas in No. 1 shaft, Nanaimo Colliery.

" 20th February—John Dunn, miner in South Field Mine, was hurt about the face by a blast, by returning to the shot before it went off.

" 22nd February—Joseph Guthro, fireman; Joseph Randle, David Hardy, and Samuel Harris, miners working in No. 1 shaft, Nanaimo Colliery, were seriously burned by an explosion of gas, kindled by a shot.

" The above Samuel Harris died on the 28th February, and Joseph Guthro died on 27th March. *See inquest.*

" 22nd February—John Lowrey, miner in No. 3 shaft, Wellington Colliery, was severely injured by a piece of coal falling on him, the same having been loosened by a shot.

" 18th March—James Jamieson, miner, South Field Mine, got one side of his face severely cut with coal from a shot. He had returned to his working place before a shot went off which he had lighted.

" 21st March—Joseph Davey, miner in South Field Mine, was slightly hurt, being caught by the loaded cars on the slope. He seems to have been taken sick and could not get out of the way.

" 22nd March—J. C. Merritt, miner, working in the new slope, South Field, was killed by the falling out of one set of timbers and about two feet of gravel.

" 24th March—Isaac Emblem, miner, was slightly hurt about the leg, by being struck by a piece of coal he was taking down, in South Field Mine.

" 24th March—Ah Joe got one arm broken and one leg bruised by a piece of coal falling on him while at work in No. 4 shaft, Wellington Colliery.

" 15th April—Ah Chune got seriously injured about the back, by being jammed, while riding on a loaded car in the South Field Mine.

" 30th April—Neil McLean, miner, was killed, and Foo King had his leg broken, by rock falling on them from the roof while at work in their stall in the East Wellington Mine.

" The above-mentioned Foo King died on 22nd August.

" 2nd May—S. B. Rolley, miner, was severely injured by the premature discharge of a shot in No. 4 shaft, Wellington Colliery.

" 27th May—Thomas Nicholson, miner, was slightly hurt on one arm by being hit by a piece of rock thrown from a shot in No. 1 shaft, Nanaimo Colliery.

" 28th May—John Beahan, miner, was slightly burned about the arms and neck, by the firing of some gas in his stall in No. 4 shaft, Wellington Colliery.

"30th June—John Eno, Michael Wilkinson, Ben. F. Jose, James Donohue, John Gill, John Jones, Barney McGinnes, John Winders, John Frear, James Conndley, Thomas Pettigrew, Daniel Evans, Harry Arnold, Christopher Hoskins, Dominico Ricono, Vittoria Berdotti, Bettoni Lazarro, Milletto Domionico, Martin Lowry, John Lowry, Peter Traffo, Rosetti Vergino, and Roberto Vergino were killed; Charles McGarrigle and Henry Roberts were badly injured, and William Simpson, Thomas Jones and Evan Richards were slightly injured, by an explosion of gas in the No. 4 level of No. 3 shaft, Wellington Colliery, supposed to have been kindled by John Frear, deceased.

"10th July—William Dunstan, miner, was severely injured by the premature explosion of a shot in No. 4 pit, Wellington Colliery.

"12th July—Sam (Chinaman), employed by H. Coulter, was killed by being jammed between a loaded car and the coal in No. 4 pit, Wellington Colliery.

"1st August—George Bertram, miner, working in No. 1 shaft, Nanaimo Colliery, was slightly injured by coal falling upon him

"2nd August—Peter McClousky, miner, when working in No. 1 shaft, Nanaimo Colliery, got his foot hurt by coal falling on it.

"8th August—Thomas Davis, miner, was killed by a piece of coal falling on him, while at work in the No. 4 shaft, Wellington Colliery.

"27th August—Duncan McDonald, miner, was injured by coal falling on him while at work in his stall in the No. 4 pit, Wellington Colliery.

"29th August—George Mirando, miner, was slightly burned about the face and arms by a slight explosion of gas, while at work in his stall in South Field Mine.

"30th August—Harry Edwards, miner, was killed by a fall of coal, while at work in his place in No. 1 shaft, Nanaimo.

"3rd September—Daniel Evans, miner, was injured by a fall of coal and rock on him, while at work in his stall in the Wellington Mine.

"20th September—Ah Bong, loader, was injured by a piece of rock falling on him while at work in the Wellington Mine.

"20th September—Chung (Chinaman), runner, was seriously injured by being jammed with a loaded car in No. 3 pit, Wellington Colliery.

"9th October—H. Hilton, miner, was slightly hurt about the face and breast by coal thrown from a shot, in South Field Mine.

"10th October—Loot Lum (Chinaman), runner, had his leg broken by a water car in East Wellington mine.

"12th October—James Price, fireman; David Morgan, bratticeman; John Isbister, runner, and one Chinaman were all slightly burned by an explosion of gas in the new slope, South Field.

"27th October—A Chinaman runner in the South Field Mine was cut about the jaw by an iron rail sliding off the car he was running.

"26th November—Ah Hin, working in No. 5 shaft, Wellington Colliery, attempted to go across the bottom of the shaft, when he was caught by the descending cage and got slightly injured.

"8th November—James Pargeter, working in No. 1 shaft, Nanaimo Colliery, got his ankle hurt by being jammed with the fly-wheel of a steam engine.

"14th November—Murdoch Smith, miner, was seriously injured by the descending cage in the No. 5 shaft, Wellington Colliery, when he was going across the bottom of the shaft, after he had been frequently told not to do so, as the cage was coming.

"19th November—George Evans, miner, was seriously injured by coal falling on him while at work in his stall in the South Field Mine.

"9th December—Thomas Morgan, fireman in the New Douglas Mine, was slightly hurt about the head by a piece of rock falling on him when taking out brattice.

"16th December—C. Moore, runner in No. 1 shaft, Nanaimo, was slightly jammed about the head between the roof and an empty car.

"I am sorry to have to make a list of so many accidents for the year that has closed, both serious and fatal. Although some of the accidents were slight, yet they were casualties which had to be reported.

"Of the accidents in the list, six were by falls of rock from the roof, eleven by falls of coal, ten by shots and loose powder, eight by cars in the mine, two by descending cages, one by an engine (below), and forty-two by explosions of gas.

"In looking over the list of accidents you will observe that there were thirty-one fatal

three of which were caused by rock, two by coal, one by the cars, and twenty-five by explosions of gas. I have enquired into all of the accidents which have happened, and in the fatal cases inquests have been publicly held, in which all the evidence was taken that it was possible to get.

"I know you have not lost sight of the explosions which occurred on the 22nd February and 30th June; but after what has already been made public concerning those accidents in the newspapers, even up to this time there is no fresh evidence that I can bring before you, other than what was taken at the inquests, one of which was conducted by the Attorney-General and lasted three days. The depositions and proceedings at the inquests held on the fatal accidents are filed in the Attorney-General's office, and I beg leave to refer you to the same. With the exception of one by a car, all the other five fatal accidents took place at the face of the workings—three of them by rock, two by coal. The miner is under the direction of the overman, if that officer should see anything which he thinks dangerous, when he is going amongst the miners in their working places. The miner also is supposed to be able to judge for himself and to see when he is in danger. There are, however, besides the practical miner, a great many men employed in the mines who were never in a coal mine until they came here. Some of them are very careful workmen, but others, again, do not know when they are in danger; and therefore the overman, or some one under him, has to pay special attention to the latter persons.

"Accidents will happen sometimes to the most careful and experienced workman; but yet, one reckless person in a place of trust in a mine that gives off gas may be the means of causing a sad calamity to all those around him.

"Amongst the accidents you will note that there have been ten casualties by powder, one way and another. Per favors from the managers of the respective collieries I have been furnished with the quantities of blasting powder which have been used in the mines, amounting in the aggregate to 270,165 pounds (besides several thousands of pounds weight of giant powder, used in rock work, shaft sinking, &c.) The quantity of powder used is a large amount, in proportion to the output of our mines. Of course, I am not in a position to say that it might be less, the miners being best judges when powder is required and when it is not; and I have thought it well to bring the large amount of powder used under your notice, that the public might know what is used, and that due consideration may be given to the accidents that proceed from that cause, when, I submit, that all things being considered, the number of accidents, in their fewness, will compare favorably with any other mining district where such a quantity of powder is used.

"Appended hereto are the Annual Colliery Returns. I have, &c.,

(Signed) "ARCHIBALD DICK,

"Government Inspector of Mines."

COLLIERY RETURNS.

NANAIMO COLLIERIES.

Output of coal for 12 months ending December 31, 1884.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1884.	No. of tons unsold, including coal in stock, Jan. 1, 1885.
133,858 19-20	28,103	104,813	105 6-10	1,048 5-10.

Number of hands employed.			Wages per day.		
Boys.	Whites.	Chinese.	Whites.	Chinese.	Boys.
2	348	191	\$2 to \$4	\$1 to \$1.25	\$1 to \$1 50

Total hands employed (not including laborers employed by the miners)..... 541	Miners' earnings, per day\$2.50 to \$4
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Name of Seams or Pits—New Douglas (or Chase River), South Field, and No. 1 Shaft.

Value of Plant—\$350,000.

Description of seams, tunnels, levels, shafts, &c., and number of same—Chase River, worked by slope, seam averaging 6 feet; South Field, worked by slope, seam 6 to 12 feet; No. 1 Shaft, worked by shaft, seam 7 to 10 feet.

Description and length of railways, plant, &c.—Railway from Douglas Pit to loading wharves, with branches and sidings, $1\frac{1}{2}$ miles in length; railway, with branches and sidings, from Chase River to loading wharves, 2 miles in length; railway, with branches and sidings, from South Field to loading wharves, 3 miles in length; railway, with branches and sidings, from No. 1 Shaft, Esplanade, to loading wharves, 1 mile in length. The railways are of steel rails, with gauge of 4 feet $8\frac{1}{2}$ inches; eight (8) hauling engines, some of which are also adapted for pumping; ten (10) steam pumps, four (4) locomotives, one hundred (100) coal railway waggons, turning lathes, steam hammer, screw cutting and other machinery of fitting shops, diamond boring machine, capable of boring to 2,000 feet; wharves, bunkers, &c.

SAMUEL M. ROBINS,

Superintendent of the Vancouver Coal Mining and Land Company, Limited.

WELLINGTON COLLIERIES.

Output of coal for 12 months ending December 31, 1884.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1884.	No. of tons unsold, including coal in stock, Jan. 1, 1885.
254,538 $\frac{1}{2}$	58,746 9-20	196,931	1,725 12-20	586 8-20

Number of hands employed.			Wages per day.		
Boys.	Whites.	Chinese.	Whites.	Chinese.	Boys.
12	361	299	\$2 to \$3.75	\$1 to \$1.25	\$1.25 to \$1.50
Total hands employed 672			Miners' earnings, per day \$3 to \$4		

Name of seams or pits—Wellington.

Value of plant—\$250,000.

Description of seams, tunnels, levels, shafts, &c., and number of same—6 to 10 feet thick; 3 shafts working, 1 not working; 1 slope working; 1 adit level working; 2 air shafts and 1 sinking; 1 of these with large furnace at bottom, 1 with ventilating fan 30 feet diameter, driven by a pair of engines; 1 fan 12 feet in diameter.

Description and length of tramway, plant, &c.—10 miles of railway, 6 locomotives, 197 waggons, 10 stationary engines working, 1 engine not used at present, 9 steam pumps, 5 wharves for loading vessels, with bunkers, &c.

R. DUNSMUIR & SONS.

EAST WELLINGTON COLLIERY.

Output of coal for 12 months ending December 31, 1884.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1884.	No. of tons unsold including coal in stock, Jan. 1, 1885.
5,672½	538½	4,734		400

Number of hands employed.			Wages per day.		
Boys.	Whites.	Chinese.	Whites.	Chinese.	Boys.
1	17	13	\$2 to \$5	\$1.25	\$1.50
Total hands employed..... 31			Miners' earnings per day\$3		

Name of seams or pits—East Wellington.

Value of plant—\$100,000.

Descriptions of seams, tunnels, levels, shafts, &c., and number of same—1 seam (irregular); 1 shaft, 8x18x240 feet deep; 3 levels, 6x10 feet; 1 slope, 6x12 feet; 2 slants, 6x12 feet.

Description and length of tramway, plant, &c.—Railroad, 3½ feet, narrow gauge, 3½ miles long; 2 locomotives, 20 4½-ton coal cars, 1 wharf, 30 feet wide and 725 feet long; 1 steam pile-driver, 1 pair hoisting engines, 1 donkey engine, 1 steam saw-mill complete.

W. S. CHANDLER.