

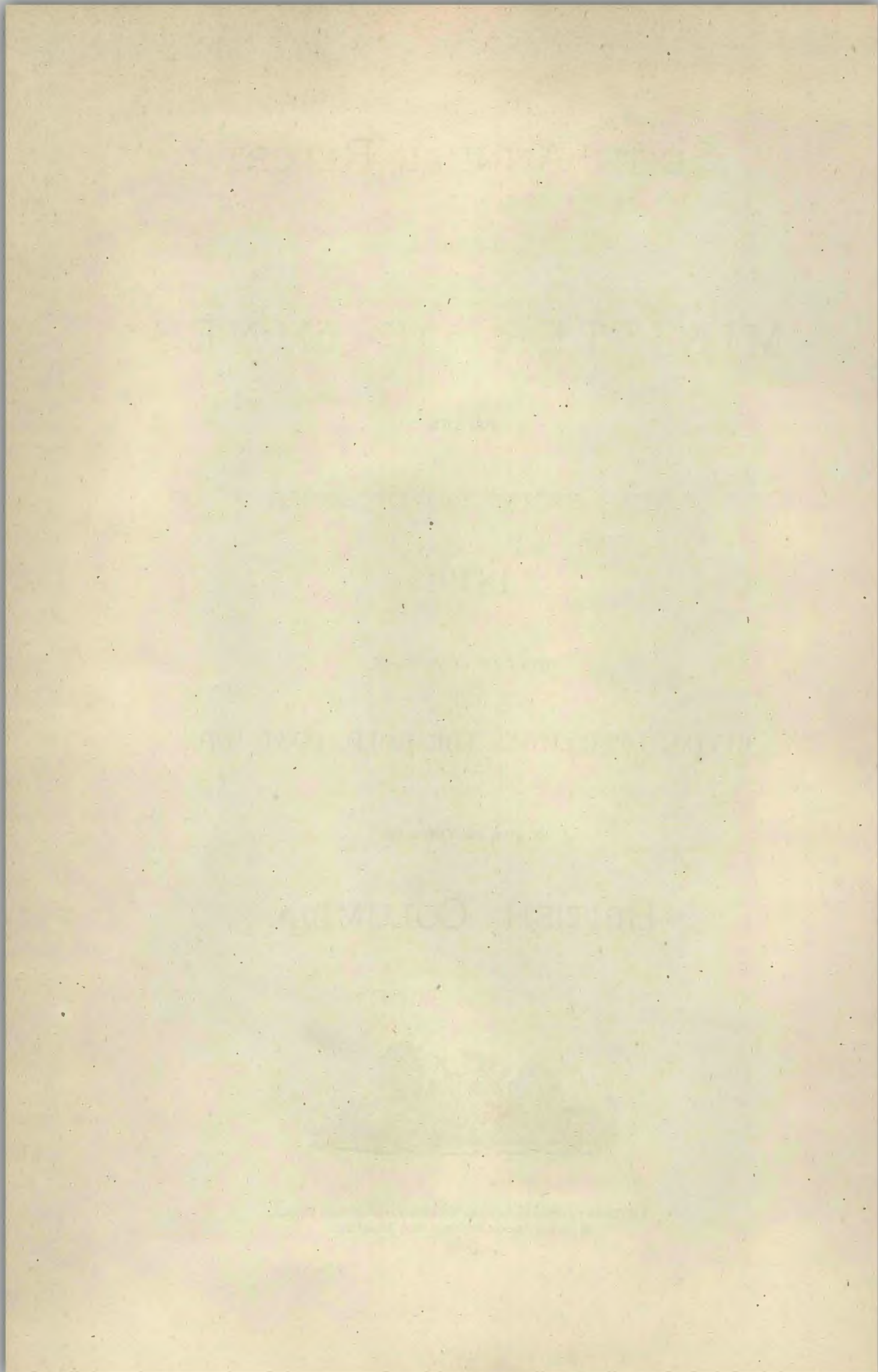
SIXTH ANNUAL REPORT  
OF THE  
MINISTER OF MINES  
FOR THE  
YEAR ENDING 31ST DECEMBER,  
1879,  
BEING AN ACCOUNT OF  
MINING OPERATIONS FOR GOLD, COAL, ETC.,  
IN THE PROVINCE OF  
BRITISH COLUMBIA.

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1880.



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# REPORT

OF THE

## MINISTER OF MINES

*FOR THE YEAR 1879.*

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*To His Honour ALBERT NORTON RICHARDS, Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR EXCELLENCY,—

I have the honour herewith to present to your Honour the Sixth Report of the Mining industries of the Province.

All of which is respectfully submitted.

I have the honour to be,  
Your Honour's obedient servant,

T. BASIL HUMPHREYS,  
*Provincial Secretary and Minister of Mines.*

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## REPORT.

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### GOLD.

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The amounts actually exported by the Banks during 1879 are as follow:—

Bank of British Columbia .....	\$349,809 29
Bank of British North America.....	289,360 45
Garesche, Green & Co.....	435,879 33
Total.....	<u>\$1,075,049 07</u>

In the Mining Report of last year the amount added to this sum to cover private exportation was reduced from one-third to one-fifth, and, retaining the latter percentage, we have \$1,290,058 88 as the total yield for the year 1879. It is very doubtful, however, whether the amount added to cover private export is not yet too high, and probably one-tenth of the Bank export would fully represent the amount of gold which leaves British Columbia in private hands.



## CARIBOO.

The opinion expressed in the Mining Report of 1878, that the decreased yield of gold in this district was probably only temporary, and could to a great extent be accounted for by the quartz excitement, has been fully borne out. The increased yield from this wonderful district is estimated by the Government Agent at \$100,000, and the total yield at half a million. His anticipations of "a continued increase in coming years" will probably be realized on account of the greatly increased attention which the system of hydraulic mining is receiving. This effective mode of extracting gold from the alluvial deposit in which it may be embedded has not until lately taken the position it is now holding in the estimation of the miners. Several causes led to this neglect. Although comparatively few succeeded in "striking it," the prizes in the deep ground were very rich, and a miner as a rule prefers to take his chance of making "a pile" to engaging in steadier but possibly less remunerative work. In many cases, too, the necessary water cannot be brought to position without the expenditure of more capital than the ordinary mining company can command.

It is gratifying to be able to state that two large companies have been formed with the object of engaging in hydraulic mining on a large scale. The Waverley Hydraulic Mining Company on Grouse Creek, and the Cariboo Lake Ditch and Mining Company on the North Fork of Quesnelle, are both enterprises which deserve, and are likely to attain, great success.

With the exception of Lightning Creek, the yield from every creek seems to have exceeded that of last year, and Mr. Bowron's interesting and satisfactory report will be read with pleasure.

The returns from the section of this district immediately under the control of the Government Agent at the Forks of Quesnelle show a considerable increase in the amount of gold taken out; the return from Snowshoe being especially favourable, the yield having risen from \$9,000 in 1878 to \$25,000 in 1879. It should be borne in mind that in Keithley Creek and Quesnellemouth divisions nearly the whole of the mining ground is shallow, and can therefore only be worked during the summer months. This polling division is unfortunately almost entirely monopolized by Chinese. The greater portion of the ground, however, does not pay sufficiently for white men to work it at present prices of provisions.

"RICHFIELD, November 7th, 1879.

"SIR,—I have the honour to enclose herewith tabular form giving a synopsis of the mining operations and results of the past season's work in this district, exclusive of the Keithley Polling Division, upon which Mr. Stephenson reports.

"I take pleasure in reporting an increase in the gross yield of gold in this district over that of last year, and fully anticipate a continued increase in coming years.

"A noticeable feature, and one doubtless favourable to the welfare of the district, is that the gold taken out this season is found to be more equally distributed among the many, as no claims of extraordinary richness have been reported, whereas in previous years some half dozen claims on Lightning Creek produced about one-third of the whole amount reported from this district. This year these claims produced something under \$8,000 all told. Cariboo is slowly but surely recovering from the almost fatal prostration into which it was recently thrown by being too sanguine of the immediate development of its quartz mines. I am not to be understood, nor am I prepared to say, that the impressions hitherto prevailing in regard to the extra richness and ultimate development of our quartz has undergone any change; but we are to-day painfully aware of the fact, that in neglecting our gravel mines to undertake the development of quartz mines, the magnitude of the undertaking was not properly understood. The dazzling visions of immediate wealth presented to the gaze of the sturdy miner by the rapid rise in quartz stocks, induced him to leave his difficult and expensive deep gravel mine and to invest his limited means in 'feet' or 'shares' (as the case may be) in some promising quartz venture; when, upon the sudden collapse of the latter, he was either unable or unwilling to return to his former hazardous mode of prospecting. In this way many old miners were led to give their attention to the advantages we possess for hydraulic mining, and, from our present stand point, it appears a most remarkable oversight that this species of mining has so long been neglected, as from the best informed—indeed it



is now universally admitted—that we possess an abundance of good mining ground in different parts of the district suitably situated for hydraulic mining, which must eventually prove highly remunerative.

“This oversight appears the more remarkable when we review our past experience, and are reminded that in our deep drifting claims not more than one in every hundred has proved valuable, whereas among the few hydraulic claims which have hitherto been working, nearly, or I might say all, have been profitable to the owners.

“We are therefore of the opinion that the attention which is being directed to this manner of working some claims which have already been drifted, and benches suitably situated, will result in restoring much prosperity to the district.

“On Williams Creek I have no new discoveries to report; it is, however, satisfactory to notice an increase of the gold yield over that of last year.

“On lower Antler Creek the benches referred to in my last report have given remunerative employment to between thirty and forty men during the summer, and there is still a large extent of unoccupied ground which will probably yield fair wages. I anticipate a much larger return from this creek next year.

“Grouse Creek has also exceeded the returns of last year in its output of gold. On this creek a large company has been formed for the lower part of the creek to be worked by hydraulic power. Extensive appliances for this purpose have been ordered. The company estimate an expenditure of about \$20,000 before receiving any returns.

“Cunningham Creek exceeds its last year's returns. Gold is, however, taken out principally by Chinese, which is, therefore, of little benefit to the community.

“On Mosquito and Hardscrabble Creeks, companies are preparing to work their claims by hydraulic, monitors and iron piping having been ordered for this purpose.

“The Two Sisters' Claim, on Jack of Club's Creek, has recently struck very good prospects. This will open up a large extent of ground which has been lying idle for some years. It is now believed the lead will be traced to Slough Creek.

“The Bonanza Company, situated on lower Lightning Creek, and referred to in my former report, has, it is rumored, struck gold in paying quantities; if this prove true a large field will be opened up to prospectors. But, perhaps, the most important move made for years in placer mining, and one from which we may reasonably anticipate real and substantial results, is at present being inaugurated by the formation of a large company to bring water on and work by hydraulic power the benches on the North Fork of Quesnelle River. Since 1860 this has been a favoured project among the pioneer miners, who left that locality upon the breaking out of the Antler Creek excitement in that year. The well known energy and enterprise of the promoters of this undertaking is a guarantee of its being carried to a successful issue.

“The statistics from the Quesnelle Polling Division have been collected by Mr. Barlow, who deems that in calculating the amount of gold taken out fifty per cent. might safely be added to the amount reported, on account of the unwillingness of the Chinese to disclose the real amount of gold taken out from their claims.

“Upon the whole the result of the season's work may be considered most satisfactory and promising. It may be safely estimated that taking the whole district together, the mines have produced fully \$100,000 in 1879 over that reported in and for 1878, with a considerably decreased population the present year, and to place the present total yield at a half-million would perhaps be a fair estimate, which I account for as follows:—

Amount reported to Collector, Barkerville Division.....	\$207,041
"                    "                    Lightning                    "                    .....	84,763
"                    "                    Quesnelle                    "                    .....	62,700
Estimated amount taken out in Keithley Polling Division, inclusive of Fraser River below Quesnelle .....	100,000
Estimated amount not reported to Collectors .....	45,496
Total.....	\$500,000

“In reference to the development of our quartz mines but little progress has been made; with the exception of the Quesnelle Quartz Mining Company of Hixon Creek, and Mr. J. C. Beedy's location on Burns' Mountain, all companies have suspended operations. The Quesnelle Company are still persevering, at the present time being engaged



in the erection of a commodious building over their works, which shows a confidence in the ultimate success of their mine. Mr. Beedy keeps his small mill at Van Winkle running, crushing ore from his mine on Burns' Mountain, which is, I understand, paying about wages.

"I have, &c.,

"JNO. BOWRON,

"Government Agent.

"To the Hon. the Minister of Mines."

"FORKS QUESNELLE, B.C.,

"October 17th, 1879.

"SIR,—I have the honour to forward herewith the Mining Statistics for Keithley Polling Division, Cariboo District; and as I have had to visit all the different creeks and rivers in my section of the district, I believe the statistics are as near correct as it is possible to get them, considering the greater part of the mining is done by Chinese and it is very hard to get the truth from them under any circumstances, although some of the old hands in this section have learned what is wanted and will give the required information.

"Last winter was so cold, with heavy snowfall for this part, that there was no river mining done, not a single wingdam having been put in on either rivers. But, on the other hand, the snow when melting made an abundance of water in every gulch and ravine, and the Chinamen were not slow to take advantage of the water while it lasted, thereby fully making up for lost time caused by a hard winter and deep snow.

"The yield of gold on Keithley Creek has not been as satisfactory to the miners as in preceding years, but the new developments on Snowshoe Creek quite make up for any falling off on Keithley, bringing the yield of gold fully up to, if not in excess of, the preceding year, with the prospects as good as they have been at any time since I came to this section of Cariboo, while there is, I believe, more prospecting than at any time for the past three years.

"I have the honour to be,

"Sir,

"Your most obedient servant,

"W. STEPHENSON,

"Government Agent.

"To the Hon. the Minister of Mines."

#### CASSIAR.

The only encouragement to be derived from the Gold Commissioner's report is the alleged discovery by Mr. Daniel Bone of a creek "the richest and most extensive yet discovered in Cassiar." Should Mr. Bone not have been deceived as to the richness of the creek, the discovery is of importance.

It is greatly to be hoped that the attention of the Cassiar miners will be attracted to hydraulic mining, but it is possible that the difficulty and cost of obtaining water, in sufficient quantity and at the desired height, may delay the carrying out of such undertakings on a large scale.

It is most disappointing that nothing has been discovered in the neighbourhood of Defot Creek, and also that the paying ground on that creek should have been so limited.

The long prospecting tour of Messrs. McKenzie and McClellan does not appear to have had any practical result, but they are able to report a favourable looking country, and further prospecting may lead to the development of paying ground.

"LAKETON, CASSIAR, B.C.,

"20th October, 1879.

"SIR,—I have the honour to enclose herewith for the information of the Government the Mining Statistics, &c., for 1879.

"The returns for the present season, as will be observed, show a considerable falling off in the yield of gold when compared with other years.



"The past summer has been one of the most unseasonable ever experienced since mining has been carried on in Cassiar, cold rains, sleet, and storms, &c., having steadily prevailed.

"As previously reported upon, Dease, Thibert and McDame creeks, which have proved the most remunerative and lasting yet discovered, are nearly worked out, affording at present, with but few exceptions, no profitable employment to white men, and but an indifferent and uncertain means of livelihood to the indefatigable efforts of the Chinese. Mining, however, will be carried on upon these creeks, chiefly in the hills, for many years to come; and if water were brought in for the working of the benches, which prospect well, especially upon McDame Creek, a considerable impetus would be given to that branch of mining in this district. Defot Creek did not come up to the expectations of the miners, having proved even more limited as to the amount of remunerative labour it afforded than was anticipated last fall, and nothing has been discovered in its vicinity, although much prospecting for shallow diggings has been done. On Walker Creek some 45 men made small wages, and the inducements offered for 1880 are about in the same ratio.

"Messrs. McKenzie and McClellan, at considerable expense, started on a prospecting tour last July, travelling out in a north-westerly direction from Defot Creek. They report having travelled some 240 miles through a very favourable looking country, but being constantly on the move the time devoted to prospecting was limited, and the result of the same nil. A rough map, supplied me by Mr. John McKenzie, I will forward as soon as I have obtained some more information as to the country north and west of McDame Creek. Mr. Daniel Bone, well known in this district, spent the summer in prospecting in the latter direction and in the vicinity of the Liard River. He returned in September, and reports having found a creek "the richest and most extensive yet discovered in Cassiar," but, for reasons of his own, he declines describing the exact locality. Next spring he promises to disclose the much-coveted particulars, which are looked forward to with much anxiety and not a little faith by all here.

"As closely as can be estimated, where the creeks, &c., are so scattered and cover such an extent of country, the number of miners and others in this district this year, exclusive of Indians, amounted to about 1,400. Of these between six and seven hundred were Chinese, and fully one-half absolutely made nothing, not even the price of the barest necessities of life in many instances. Farming on the Stickeen is being carried on successfully, and thousands of dollars which have hitherto been expended in a foreign market for vegetables and feed for pack animals, &c., will in future be circulated within the Province.

"The supply of provisions in the mines is not excessive, and it is thought that should there be an excitement in the spring many articles of supply will fall short before the trails will be open for pack trains, &c.

"Some 350 men, besides Indians, will winter in the district, as follows, viz.:—

McDame Creek and vicinity,	60 white men and 35 Chinese.
Thibert       "       "	45       "       "       35       "
Dease       "       "	45       "       "       65       "

and at Glenora and on the Stickeen, not including settlers or Indians, about 75 white men.

"Having done everything in my power to secure accuracy, I beg to submit the following as a statement of the total output of gold at Cassiar for the year 1879:—

McDame and outlying creeks and gulches, &c.....	\$113,200
Dease and Thibert creeks, &c.....	127,000
Defot, Porcupine, and Mosquito creeks, &c.....	105,000
Yields unaccounted for .....	60,000
Total.....	\$405,200

The latter includes gold taken out, &c., during close season last spring, and what will probably be taken out during the next two months.

"The past season has been felt by all to have been in every way a most unsuccessful one,—far more so, it is confidently believed, than any year for some time to come will prove.



"The district, as usual, has been characterized by a total absence of crime among the whites, and, everything considered, but very little amongst the Indians and Chinese. The fact of there having been no mail communication between this district and Victoria during the year now about to close, has been the cause of much censorious comment, and was felt by all as an inexplicable hardship.

"The revenue for 1879 compares favourably with the last two years, although owing to the poverty prevailing and to the fact that about one-half of the Chinese and many whites had paid that tax before coming to Cassiar, very little school tax was collected. I have repeatedly impressed upon Mr. Crimp and Mr. Pool the necessity that existed for their using every exertion in the collection of taxes generally, and School tax in particular, and believe that they have done all in their power.

"I have, &c.,

"A. W. VOWELL,

"G. C. & S. M., &c., Cassiar."

"The Hon. the Minister of Mines."

### LILLOOET.

The bars and benches of Fraser and Bridge rivers still continue productive, although worked, in a more or less desultory manner, ever since the first discovery of gold in British Columbia. The report of the Government Agent is interesting, more particularly with reference to the Indian mining at the season of low water:—

"LILLOOET, 31st December, 1879.

"SIR,—I beg to transmit to you herewith Mining Statistics for this division of Lillooet District for the year 1879, which is a very fair estimate of the yield of gold taken out of the banks and bars of Fraser and Bridge rivers.

"I gathered the information from the traders in this town, who kindly informed me of the exact amount of gold they had bought. The Chinese traders were averse to telling the amount received until assured that it would not increase their taxes. The total amount which came into the hands of the traders was \$38,708. I have added to it \$1,292, which was the minimum sum carried off in private hands.

"No new gold discoveries have been reported to me during the past year. Very little prospecting has been done, except by one white man, who spent the greater part of the year seeking remunerative diggings on Bridge river, but was unable to discover them.

"Indians and Chinese do most of the mining in this neighbourhood. The Indian's season is when the river is low, and then about 350 men and women take part in the operation of mining. They take out a great deal of gold by aid of the rocker.

"Ah Sam's ditch on the left bank of the Fraser has been completed at a cost of \$31,500. It is nine miles in length, and capable of carrying four hundred inches of water. He is now working Parsonville Flat, opposite this town.

"I have, &c.,

"C. PHAIR,

"Government Agent."

"The Hon. the Minister of Mines."

### KOOTENAY.

The report of the Government Agent will be found below:—

"KOOTENAY, October 20, 1879.

"SIR,—I have the honour to forward my Report and Mining Statistics for the Kootenay District for the year 1879.

"I am sorry to be unable to report any improvement in the prospects of the mines in this section of British Columbia. There has been very little prospecting done this year and nothing new found. The old claims being worked have paid generally as well as in former years. There are quantities of what are called small diggings in this vicinity, but the present high price of provisions prevent their being worked until men



can live cheaper. There is no doubt that this portion of the country will support a much more numerous mining population than is here at present when its resources are properly developed.

"I have, &c.,

"WILLIAM FERNIE.

"*The Hon. the Minister of Mines, Victoria.*"

## YALE.

### OKANAGAN DIVISION.

Great interest attaches to this report on account of the mines being situated within the boundaries of a large agricultural district, and in consequence the ready market, without long transportation, which they afford to the adjoining settlers. The Government Agent writes most hopefully of the mining prospects of his district, and apparently not without good grounds for so doing. No returns were received from this division for 1878, but the yield as estimated for the past season trebles that of 1876.

"OKANAGAN, 25th November, 1879.

"SIR,—I have the honour, as requested by your Circular, dated 7th July last, to forward you mining returns for 1879 for this district, and to submit the following report:—

"In comparison with the more extensive and richer diggings of British Columbia, the gold mines of the Okanagan District are not of a character at present to attract much attention from the outside, at the same time they are of considerable importance to the parties interested in them, and have produced, since discovered in 1876, a large quantity of gold in proportion to the labour expended.

"Mission Creek Camp has not this year been quite as flourishing as formerly, owing to the extremely high state of the water, caused by heavy and continued rains in the mountains. Most of the mining on this creek has been done in the bed of the stream at the lowest stage of water. This year some of the miners, tired of waiting for the water to go down, left the mines, and found employment in the adjacent agricultural district, not with any intention of permanently forsaking the mines, but merely to tide over the bad season. Above a certain place on this creek no gold is found, and old miners are of opinion that a rich ledge exists some where in that vicinity, or that the bed of the stream has changed. Some are at work prospecting to find the ledge or old bed of the creek, and, although so far with little or no success, are still sanguine.

"Mr. Haywood, a most persevering prospector, has a good claim on this creek. He has stuck to it through high and low water, and has taken out a good deal of gold during the past six months—from \$5 to \$15 per day is what the claim pays him. About 13 whites have been in this camp during the past season. No Chinamen.

"Cherry Creek, situated about 80 miles North-east of Mission Creek. This camp is altogether more flourishing and extensive than that on Mission Creek. There are at present some 30 white men and 15 Chinese at work, and no complaints are made. Every one appears to be making wages at the least, and some amongst the whites are doing much better than that. During my visit there some three months ago, one man showed me \$17, and another \$11, as the result of one day's labour, while I was in the camp. What the Chinese make you cannot tell, as their information is not always to be relied on. Most of them admit to making from \$1.50 to \$3 to the hand, but are believed to be making double that amount. A few rockers are used, but for the most part where water can be got on they use sluice boxes.

"Messrs. L. Blond, Bassett, and Linnell have run a tunnel into the hill-side about 70 feet, besides a side drift; this has been paying them all the way about \$5 to the hand.

"Mr. Narcisse Duteau is also working in a tunnel; he is now in about 100 feet, and has two side drifts of about 60 feet, and has good pay all the time.

"Messrs. Jones and Duncan ran a tunnel into the hill 100 feet during the past year, but from the first found nothing. This was merely a venture, as they started in with the idea of striking an old bed at about 50 feet from the surface, where they hoped to find gold; being disappointed in that, they abandoned it, for the present at any rate.



Since then I am happy to be able to report that they, in company with Mr. Henry Barrett, have struck very good pay indeed about one mile further up the creek. They deserve very great credit for the persevering manner in which they have prospected this section of country.

"Two or three small pack trains have been employed during the past summer taking supplies in to the mines. A ready sale is here found for most of the flour, pork, bacon, and butter produced in the agricultural district immediately adjoining.

"On the whole I consider this an important mining camp, and one that will soon make itself felt beyond its immediate vicinity.

"A good prospect of silver ore has been produced from this section. A Montreal Company, under the superintendence of J. F. Torrence, Esq., C. E., worked on the discovered ledge a year ago, sinking a shaft 30 feet, but without any definite results. Mr. Torrence told me that if it were possible to take in machinery, such as diamond drills, &c., he would strongly urge the company he represented to go to the expense of taking in such machinery, confident that silver in paying quantities exists there.

"Gold exists, in a greater or lesser quantity, throughout this entire region. About a month ago a party of prospectors found a good prospect of coarse gold on the Salmon River, emptying into Shuswap Lake, and intend in the spring to follow up their find.

"The trail to Cherry Creek is in need of a little repair, and I think about \$250 spent there next spring would be sufficient.

"A general desire to have an Assistant or Acting Gold Commissioner appointed for this district has been expressed at the camps both on Mission and Cherry Creeks.

"I have, &c.,

"T. MCK. LAMBLY,

"Government Agent.

"Hon. T. Basil Humphreys,  
"Provincial Secretary, Victoria."

#### KAMLOOPS DIVISION.

The report from this division is unimportant.

"KAMLOOPS, November 29th, 1879.

"SIR,—I have the honour to enclose herewith mining statistics for the year 1879, Kamloops Division of Yale District.

"As heretofore in this division of the district, the mining has been carried on to a great extent by the Chinese, the majority, as in the past, confining themselves to Tranquille River; a few have worked on the Bonaparte River, between its confluence with the Thompson and Cache Creek, and others have prospected on Dead Man's Creek.

"During the month of April two white men, Guerin and Dole, created quite an excitement on Tranquille, from having, as they supposed, discovered good paying diggings on a bench about five miles up the river. A number of white men who were in quest of work at Kamloops and vicinity at the time, repaired thither and prospected the river in various places, for a space of three or four weeks, without finding anything that would pay moderate wages. The Chinese, who are always alive to their own interests, owing to the rumour, in almost every instance recorded the ground upon which they were at work, and continued steadily at it during the season, apparently satisfied with the result. It is impossible to ascertain from them what they make a day to the hand, from six bits to a dollar and a half is their invariable reply when asked.

"At the close of the season there was only one white man at work on Tranquille, and he had spent the whole summer in prospecting.

"Twelve Mile Creek on the North Thompson River, has been abandoned during the past season, the company who were at work there the season before never having bottomed their shaft—nothing more is known of it.

"A party of five white men from Kamloops started with provisions, tools, &c., with pack horses for Big Bend, on the Columbia River, during the month of July, with the intention of working there during the present winter. Two of their number returned to Kamloops with the horses, and report having been successful in getting through, and also to finding the old diggings on French Creek in almost the same condition, in respect to the bed-rock drain and timbering in the diggings generally, as when last worked in



the year 1872. It was their intention to return on snow shoes, the company having determined to open out from the old diggings and search diligently for the lost pay channel of the creek. It is sincerely to be hoped that they will succeed in finding it. It is the general belief among miners who formerly worked in the Big Bend country, that there exists rich deposits of gold on the various creeks, and it requires but an impetus of this kind to lead to rich discoveries there. Although not within the limits of this district, I think it worth while to mention this fact, as it may not come to the knowledge of the Government Agent at Kootenay, within whose district the Big Bend country lies. And, moreover, the effect such discoveries would have on the Kamloops Division of Yale would be inestimable.

"I have, &c.,

"JOHN USSHER,

"Government Agent.

"The Hon. the Minister of Mines."

#### YALE AND HOPE DIVISIONS.

The Government Agent having failed to forward any estimate of the gold yield of these divisions during the past season, the amount put down for 1878 has been again inserted. It is safe to assume that this is a very low estimate indeed.

The returns from Lillooet, on account of its position, probably approximate more closely to the actual result than any others, and they show without doubt the large sums earned by Indians and Chinamen working in an isolated manner. It would, therefore, apparently be safe to double the present estimate without very much exceeding the actual yield. It is gratifying to learn from the Government Agent's report that the extensive flats or benches on either side of the Fraser are beginning to attract more attention; also that the claims worked last year in the neighbourhood of Boston Bar yielded to their owners a fair return.

"YALE, B.C., Nov. 29th, 1879.

"SIR,—I have the honour to submit herewith, in pursuance with your circular of the 7th July last, my Report, with Mining Statistics of the Hope and Yale Divisions, for the year 1879.

"I beg to report that notwithstanding mining operations on the lower portions of the Fraser are not so extensively carried on as formerly, the prospects generally throughout these districts are encouraging for a return of better times in our mining circles.

"Between Yale and Boston Bar the year has been marked with signs of an increased activity. The large unexplored flats which were hastily glimpsed at 21 years ago and left for the rich and easy worked bars of the Fraser, are now beginning to attract more special attention. The claims surrounding the Boston Bar locality during the season have yielded with satisfactory results. I have been informed on most reliable authority that these claims have yielded three, four, five, and at times as high as ten dollars per diem. Considerable gold has been taken out by the Indians of the neighbourhood this summer. They mine adventurously and dexterously by driving and drifting underneath the loose masses of slidden rocks, where they find deposits of pay dirt, which turn out to be very profitable. Judging from the large lumps of amalgam they have sold at Yale during the summer, they must certainly have done well. One company of five men have just completed their hydraulic appliances to work a bench claim on an extensive scale. The ground prospects fairly enough to remunerate them at six to eight dollars per day to the man.

"I have every reason to believe that the high and extensive gravel benches, which flank the course of the Fraser on each side, from their characteristics undoubtedly contain accumulations of paying auriferous strata, affording in many instances an easy access and offering most favourable opportunities to small capitalists for a remunerative field at a very trifling outlay.

"I am pleased to report that my former remarks are being verified by the recent new discoveries, situated on the banks of two small tributaries which flow into the Quequehalla, about 12 or 13 miles distant from the town of Hope on the Similkameen wagon road. The diggings were struck about a month since by John Johnson, James Copeland, and Robert Howell, and are causing quite a stir and much attention. The prospects obtained from the Howell Company's shaft were decidedly encouraging. The



exact weight was not told to me, but I should judge it from appearances to be about five dollars' worth of a remarkably good quality of washed channel gold, and was taken from their shaft at a depth of six feet. The gold is found on the bedrock, and also in a sort of soft, creamy wash above the bedrock about a foot thick. Howell informed me, when making the record, that three pans of dirt obtained just before he left to record the claim, yielded two bits of gold to the pan. I have already recorded ground for five companies consisting of 25 white men. The easy approach to the diggings by the way of the Similkameen waggon road is a feature of no small importance, for it tends to lessen the price of supplies, which can be laid on the ground at a small advance on Victoria prices.

"In all probability these mines will form a connecting link with the newly discovered mines on the Skagit river, the head-waters of which are only eight miles beyond in a south-easterly direction. The valley is wide and the course of the Skagit is sinuous. It is a clear and interesting stream with a beautiful pebbly bottom, coursing its way through a gentle elevation of undulating slope of table lands, inclining eastward generally. It abounds with fine trout. The banks of the river are pretty heavily timbered, but without those tangled masses of undergrowth which make travelling so tedious to the prospector. The inevitable, never-ceasing supply of moss, so characteristic of British Columbia, is, however, in abundance.

"My trip to the head-waters of the Skagit was made in the month of September in company with three others. Leaving the Lake House on the Similkameen road in the morning, we reached the head-waters of the Skagit the same day. The stream is fed by a glacier, and rises in a range of needle-shaped mountains in the form of the letter C. In travelling over the extensive valley already mentioned, we crossed numerous creeks with very striking appearances for yielding gold, which I pointed out to my fellow travellers, but as we had no appliances for prospecting we could not practically test them. I was strongly impressed, however, from the interesting appearances of the wash deposits, composed of granite, micaceous slate, and quartz, strongly coated and stained with the oxydes of iron, that auriferous deposits exist in these creeks, and that gold in paying quantities will be found in the valley between the Lake House and the head-waters of the Skagit."

\* \* \* \* \*

"I have, &c.,

"WM. TEAGUE,

"Government Agent.

"To the Hon. the Minister of Mines."

#### OMINECA.

This district, almost deserted after the Cassiar excitement, still continues to yield its share of the precious metal. During last summer mining was prosecuted on five creeks, viz.: Vital, Germansen, Manson, Black Jack (a tributary of Manson), Slate, and Lost. Mr. Kenney, the Mining Recorder, estimates the total yield of the district to have been \$36,000 at the very lowest computation. In the first mining report, 1874, the estimate was \$38,000. During that year 74 white men were engaged in mining, as against 57 white men and 20 Chinese during the past season. The number of miners and the result of their labours are, curiously enough, almost identical for the two summers referred to.

#### SKAGIT.

Although Ruby Creek falls into the Skagit south of the boundary line, the river itself flows for many miles through British territory, and it may therefore be considered not inappropriate to make some mention of the new gold discovery of last year,—the more so as many of our miners will be attracted thither, and many men from the United States will probably reach Ruby Creek via Hope or Chilliwack.



There can be no question that there is good paying ground on Ruby Creek, but there are no data on which to express an opinion as to its extent.

It will have been noticed that Mr. Teague mentions in his report the discovery of gold, in apparently paying quantities, on two small tributaries of the Coquihalla, about 12 miles distant from the town of Hope on the Similkameen waggon road, and that these tributaries are but eight miles distant from the head-waters of the Skagit. This is interesting as showing that the gold in this range is not confined to Ruby Creek, and it increases the probability of paying ground being found to the north of the boundary line.

An exploration road party to these mines, in charge of Mr. W. B. Robinson, was organized by the Lands and Works Department last autumn, and the Government contemplate making a pack-trail from the waggon road to the boundary line, a distance of about 23 miles.

Mr. Robinson, in his report, says that "the whole distance is easy of construction for trail or waggon-road."

## SILVER.

Nothing was done in this direction during the past season except by the Queen Silver Mining Company on Yale Creek, and their efforts appear to have been rendered nugatory for the present on account of a bend or fault in the lead.

Mr. Teague's reports, together with the results obtained by dry silver assay from some specimens sent to England, will be found below.

"YALE, B.C., Nov. 29, 1879.

\* \* \* \* \*

"The Queen Silver Mining Company on Yale Creek are still pushing on the development of their mine. They have driven a tunnel since May through blasting rock 107 feet, and a cross-cut  $34\frac{1}{2}$  feet, partly on the course of the lode, but as distance was gained it was proved the lode was not true to the course, therefore the vein had twisted and ran blind and flat at a different point of the compass,—a freak in mining so often puzzling to the experienced miner as well as proving a problem to scientists. The miner's pick is the pulse of the country, and it was hopefully expected that something good would have been struck before this to restore and raise the barometer of our quartz mining resources, which is unhappily at present at a very low reading. Unfortunately, however, that anticipation has not been realized; but I think the day is not far distant when, from the present favourable indications of the Yale Creek mine, a brilliant future will be reported if operations are judiciously pushed forward. The vein is four feet wide, producing some good-looking ore.

"The following extract from a letter received by me from my brother in Cornwall, under date of 11th July, 1879, may be of interest. The samples of rock were from the out-crop of the Yale Creek vein, and were assayed by J. H. Collins, Esq., F.G.S., Royal Institution of Cornwall, England:—

"The stones you sent me are decidedly the best I have seen as yet from your friend. They consist of quartz, galena, blende, iron pyrites, and copper pyrites. By taking the darker portions, such as would be got out by dressing, I have obtained

Silver .....	17 oz. per ton.
Gold .....	$1\frac{1}{2}$ dwts.

This would pay to work in England very handsomely. Whether it will pay abroad or not I am not prepared to say.

"Following are the results of subsequent assays made at San Francisco by Mr. Henry G. Hanks:—

Certificate No. 4611.	Result (all Silver),	\$24 81 per ton.
" No. 4676.	" "	38 26 "
" No. 4637.	" "	59 48 "
" No. 4721.	" "	"8 01 "

Certificate of assay made by Thomas Price. Result (all Silver), \$17 19-10 per ton.

"I have not yet heard the result of subsequent assays sent to Cornwall, but of all the samples sent by me Mr. Collins pronounces the Yale Creek quartz the best.

"I have, &c.,

"WM. TEAGUE,

"Government Agent.

"The Hon. the Minister of Mines."

YALE, 9th February, 1880.

"SIR,—I have the honour to transmit herewith Certificates of Assays giving the results made in Cornwall by Mr. Collins, F.G.S., of samples of ore from the Yale Creek mine, which you will be good enough to append to my mining report and return the certificate to me.

"From samples of ore recently sent to Cornwall the highest assays are expected.

"I have, &c.,

"WM. TEAGUE,

"Government Agent.

"To the Hon. the Minister of Mines."

TRURO, Cornwall, Dec. 16, 1879.

"Report on ores from Mr. Michell, British Columbia. These consist of iron pyrites and blende, with a very little copper pyrites. The following results were obtained by dry silver assay:—

	1. Quartzose Ore.	2. Smalls.	3. Fine Ore.
Silver, oz. per ton .....	70	13	13½
Gold .....	Traces.	Traces.	Traces.

"I believe most of the silver occurs in the pyrites, but am not sure. The bright crystal with striated surface is iron-pyrites. Copper pyrites cuts readily with a knife.

(Signed,) "J. H. COLLINS,

"Public Analyst."

## COAL.

The exhaustive report of the Inspector of Mines will be read with interest, and will cause a feeling of satisfaction at the continued increase of the output, but of regret at the terrible disadvantages under which our producers labour. Were it not for the superior quality of the Nanaimo coal over that obtained on the Sound, our coal proprietors would practically be shut out of the San Francisco market. The remarkable increase in home consumption must to a great extent be attributed to an increased number of vessels entering our ports and requiring the services of a tow-boat.

The following table shows the output of each year from 1874 to 1879 inclusive:—

Year.	No. of Tons.
1874.....	81,000
1875.. ..	110,000
1876.....	139,000
1877.....	154,000
1878.....	171,000
1879.....	241,000



"INSPECTOR OF MINES' OFFICE,

"Nanaimo, 13th February, 1880.

"SIR,—In presenting this my third annual report as Inspector of Coal Mines for British Columbia, it is with great satisfaction that I have the honour to inform you that the coal trade of this Province is steadily and perceptibly increasing.

"In my last report, it will be remembered, I was obliged to state that this trade during the year 1878 had passed through 'a period of unprecedented discouragement.' I am sorry to say that I am not able to give a much better account of the past year, for although far more coal has been won and sold, yet the prices obtainable have been undeniably lower.

"The output of coal for the past year reached the total of over 241,000 tons, against 171,000 tons in 1878, thus showing an increase of some 70,000 tons over 1878, and being also 87,000 tons in excess of the output for the year 1877.

"The shipments to foreign ports during 1879 were more than 27,000 tons in excess of those of 1878, and the sales for home consumption during the same period exceeded those of 1878 by over 14,000 tons.

"On looking over the returns annexed to this report you will observe that at the end of the past year some 15,000 tons of coal were on hand.

"This state of affairs is owing to the prices in San Francisco being very weak; for the managers of the different companies, knowing the prices are bound to keep down if the market is overstocked, do not ship more coal to that port than there is a good prospect of at once selling.

"Only one new market has been supplied during 1879, viz., Callao, the remainder of the coal being sent to the usual ports.

"Great energy and business tact has to be displayed by the managers of these mines, for they are heavily weighted in the race against American competitors.

"As you no doubt are aware San Francisco is their chief market.

"During the past year the Seattle mines in Washington Territory shipped over 132,000 tons of coal, of which quantity more than 120,000 tons found its way into the San Francisco market. Although that coal is without doubt much inferior in quality to the coal shipped from our own mines, still the advantages they work under are enormous. To illustrate my meaning I will enumerate some of these advantages. Every ton of British Columbia coal going into San Francisco has to pay a duty of 75 cents. Seattle coal of course escapes this. Freights are higher from Nanaimo to San Francisco than from Seattle to the same port. Ships coming to Nanaimo are compelled to pay pilotage dues; whereas, according to the Rules and Regulations of the Puget Sound Pilots, 'all vessels sailing under the flag of the United States from or to any port of the United States or the Territories thereof shall be exempt' from this compulsory system. Then, again, the tools and colliery supplies used at the Seattle mines are obtained duty free, being supplied by home markets, whereas the mine owners of this Province not being able to obtain such materials at home, they not being manufactured here, have to buy from foreign markets and pay enormous duties.

"I would here beg to draw your attention to the manner in which the new Canadian tariff is oppressing the largest and most valuable industry of this Province—viz., the coal trade.

"Nearly every one of the principal articles used at a colliery have had an extra duty imposed on them. For instance, blasting powder, of which there is an immense quantity used, has been raised from 17½ per cent. ad valorem to 3 cents per pound—an increase equal to 50 cents per keg. Picks and shovels from 17½ per cent. to 30 per cent. Nails, both cut and wrought, from 17½ per cent. ad valorem to ½ and ¾ cents per pound specific duty and 10 per cent. ad valorem. Steam engines, boilers, &c., from 17½ to 20 per cent. Rails from 10 per cent. to 15 per cent. Car wheels from 17½ to 25 per cent., and fish plates and frogs from 10 per cent. to 17½ per cent.

"Representations by telegram have been made to the member for this district by the manager of one of the coal companies here, requesting him to urge upon the authorities at Ottawa the necessity of a drawback being allowed on all materials used for tools and general colliery supplies, as the present rate of duty almost compels them to give up the competition, but I am sorry to say that up to the present time no notice has been taken of this appeal.



"It not only cripples the proprietors but also presses very heavily on the miners, for as stated in an article on the same subject in the *Free Press*, 'Not only are the miners indirectly taxed by the high price of machinery, but they are directly taxed \$1 to \$1 50 each per month for the powder they use. An increase in the cost of the means of procuring coal naturally tends to a depreciation of wages, especially where the margin of profit, if any profit at all, is very small.'

"Under these circumstances you will not, I hope, consider it ill-timed on my part to add one more voice to the general cry for help.

"The collieries which have been putting out coal during the past year are the Nanaimo collieries, viz.: Chase River and Douglas Pits; the Wellington Colliery, and the South Wellington Colliery.

"These pits I have inspected several times during the year, and I can confidently state that the requirements of the Mining Act, as regards safe working, are now being carried out in all instances to my satisfaction.

"A certain degree of laxity was shown at first in conforming to the requirements of the Act in the matter of the posting up the rules and the giving notice of accidents to the Inspector, but I am happy to say that now all this has disappeared and the managers seem determined to comply with the Act in every manner possible. I have several times had to request sundry alterations so as to comply with the Act, but in no instances have my requests been definitely refused.

### NANAIMO COLLIERIES.

#### CHASE RIVER MINE.

"This mine has been almost entirely free from fire-damp, there being only two or three entries in the fireman's report book which show that this gas was met with, and then only in very small quantities indeed.

"During my inspections I was never able to find the slightest traces of it. As my inspections of all the mines are not made at stated periods and always without the managers or other officials being notified before hand, I obtain very good evidence of the usual state of the mine. I found the average quantity of air circulating in this mine to be 35,100 cubic feet per minute, which amount is abundance for the number of men employed and the extent of the workings at present. The "separate split" system of ventilation is still carried on here, and is in a very satisfactory state. All the timbering is of a substantial nature and there is plenty of it.

"In this mine, as in the others, I sometimes found the bratticing was too far behind, but on several occasions I found it had been put up to the proper distance and then blown down by a shot.

"The distance between the end of the brattice and the face, as specified by the Mining Act—viz., nine feet—is ridiculously short for these mines.

"The miners, as a rule, after 'holing' their coal, bring it down by means of a shot. These shots, in very many instances, are very heavy ones, being as much as 1 lb. to 1½ lbs. of gunpowder. This, especially in steep workings, scatters the large coal around and destroys the brattice completely if it comes in contact with it. I think double the distance—viz., six yards—would give satisfaction to all parties concerned.

"Since my last report the workings in this mine have been extended under the sea at the head of Nanaimo harbour. The thickness of strata intervening between the salt water and the underground workings is about 350 feet of sandstone and conglomerate rock. This is quite sufficient cover for safety in even less solid strata than the one in question. The water which in places percolates through the roof is found to be free from salt.

#### DOUGLAS MINE.

"The ventilation in this mine has, on the whole, been better than during the previous year. The reason of this is that the working places are not so scattered as formerly, but even now it is with difficulty that a good steady current of air is kept circulating owing to the large extent of old works it has to travel round before reaching the men. During my inspections I have never found the total circulation of air to be as little as the minimum quantity allowed by law.



"As this mine will be connected with the lower workings in the Chase River mine in some three or four months, I did not press the manager to go to any great expense in augmenting the quantity of air, for I was informed that as soon as the above-mentioned connection was made it was his intention to discontinue work in the Douglas mine. This being the case, I did not think it right to try and enforce alterations which would have cost a large sum and would have been useless in four or five months, especially as there was sufficient air for safety and as no complaints were made to me by the miners working there.

#### WELLINGTON COLLIERY.

"During the first three months of the past year I made two inspections of this pit. I found a good quantity of air travelling on both occasions, 43,225 cubic feet per minute being the average amount in the main return. This was divided into separate splits for the several levels. My second inspection was on 13th March, when I found all in good order with the exception of more brattice being wanted in several places. This I was informed was not owing to negligence, but to the fact that no lumber could be obtained at the mill as the supply of logs had run short. This I found on further inquiry to be a fact. Although the brattice was not kept up as it should have been, I found plenty of air travelling round the end of it, and I was unable to find enough fire-damp anywhere to show in my lamp. The amount of air passing the face of No. 10 Level was 5,425 cubic feet per minute.

"On April 17th an explosion of carburetted hydrogen gas occurred in No. 10 Level, an account of which will be found subsequently in this report.

"Since this explosion No. 10 Level has not been working owing to its being filled with water.

"I have made four thorough inspections of the rest of these workings since the 21st April.

"On one occasion I noticed a little gas in a 'pot-hole' at the face of No. 7 Level, but only just enough to flash in my lamp. This was the only time I discovered any, although the firemen on going their rounds before the miners commence work frequently encounter it in small quantities as shown by their report books. At my last visit I found 8,241 cubic feet per minute circulating round No. 9 Level, and 5,577 cubic feet per minute going around No. 7 Level. As there were 42 men and three mules in each of these levels, and as a mule requires at least as much air as three men, it allowed the respective quantities of 161 and 111 cubic feet per man per minute.

"This I considered was not sufficient air in such a mine, and I therefore notified the manager that 200 cubic feet per minute per man was the least amount of air I could sanction in these levels. As there was plenty of air in the mine it only needed more equally distributing to obtain the wished-for result. The reason of the paucity of air in the above-mentioned levels was owing to the fact that more than a fair share was being taken to No. 10 Level, where men were re-opening the works that had been flooded since the explosion. Steps were, however, being taken to remedy this defect when I made my inspection, so that at the present time I believe the whole of the mine is in a good safe condition.

"A great improvement has been made in the means of ventilating this colliery by the sinking of a shaft to the dip of the present workings. This shaft is now connected with No. 10 Level—the lowest level—so that the air instead of having to travel all the way down the slope and back again to the ventilating furnace has only half that distance to go. This, owing to the decrease in friction, ought to greatly increase the quantity of air in the mine, provided the upcast has sufficient capacity.

#### SOUTH WELLINGTON COLLIERY.

"At the first inspection I made of this mine, and before it came into the hands of the present proprietors, I found that the Mining Act was being totally disregarded. As the Manager was new to the country and as the pit had only just commenced to be opened out, I deemed it sufficient on this my first inspection to administer a caution, and to extract a promise that in future the Act should be respected.

"I wrote to him stating the alterations and additions that were needed, and I am able to say that at my next inspection I found my requests had as far as possible been complied with.

"Since my last report the two shafts have been connected, so that now there are two



outlets in case of accident. The workings have also been greatly extended, there being now room for some 80 or 90 men employed underground on one shift.

"Since the present proprietors took the works in hand the system of ventilation has been changed. Formerly one current of air passed all round the mine, whereas now it is split into two distinct currents, thereby giving a larger quantity, and also in some of the places a better quality.

"This was rendered necessary in order to comply with the Mining Act, and also on account of the enlarged workings.

"At my last visit I found 12,500 cubic feet of air per minute circulating. Taking the extent of the workings and the number of men into consideration, I deemed this quantity sufficient. A few matters needed the attention of the manager, of which I at once notified him.

"The ventilating current in this mine is at present produced by a jet of steam.

"Fire-damp is often met with, but as yet only in small quantities. The worst feature in this pit is the roof, which is very bad and treacherous. The amount of timber which the men are obliged to set in order to keep themselves safe is very large.

"During the past year the Vancouver Coal Company have put down two bores by means of their splendid diamond drill to the respective depths of 730 feet and 582 feet, both of which gave excellent results.

"Messrs. Dunsmuir, Diggle & Co. have, as mentioned previously in this report, sunk a shaft 162 feet deep, which struck the coal to the dip of their Wellington mine. They also have sunk their shaft near Departure Bay 119 feet deeper, making a total depth of 315 feet. This sinking was through remarkably hard metals. The reason they did not sink any lower was on account of their striking a heavy feeder of water, which, as their pumps were not large enough to command it, drowned them out. This work will be resumed, so I am informed, when heavier pumps and machinery have been obtained, as the manager feels confident that he is within a very short distance of the seam of coal for which he is searching.

"Two bores were put down by Mr. Wingate, the manager for Mr. R. Chandler, the former proprietor of the South Wellington colliery. The first one went down 200 feet and was abandoned. The second was put down to a depth of 365 feet, at which distance it pierced the well-known Wellington seam.

"The bore on the Westwood estate, which was stopped at the end of 1878, has again been continued, and is now down 400 feet.

"A first-class seam of coal has also been found under the estate of Messrs. Sabiston and Horne by Mr. John Dick, who has been prospecting some time for it and at last has been well rewarded for his labour, for the seam is six feet thick of fine hard coal. This is a very valuable property, as it is within less than two miles of Nanaimo harbour and very easy of access.

"The Harewood colliery and Baynes' Sound colliery are still laid idle, nor do I hear of there being any immediate likelihood of either of them resuming operations.

"The Fitzwilliam mine has been kept free from water, and now I understand there is a chance of its being worked again.

"The South Wellington colliery changed hands during the year, being purchased by Messrs. Dunsmuir, Diggle & Co. from Mr. R. Chandler.

#### THE ACCIDENT IN THE WELLINGTON COLLIERY.

"It now becomes my painful duty to acquaint you with the fact that the year 1879 was visited by the heaviest calamity that has ever overtaken the mining community of this Province.

"Only two separate fatal accidents occurred during the year, but twelve lives were lost by these two catastrophes.

"No. 1.—This accident occurred in the Wellington colliery on the 17th April, 1879, by which seven white men—viz, John Dixon, William Rennie, John Hoskins, Reuben Gough, Edward Campbell, Apollis Damey, and Louis Prelee, together with four Chinamen—lost their lives by an explosion of fire-damp in No. 10 Level.

"On the night of the 15th April, 1879, the coal in Horne's heading, off No. 10 Level, was discovered to be on fire. Strenuous efforts were made during that night and the day following to put it out.



"At 3 p.m. on Wednesday, the 16th, the men seemed to have got control of the fire, as no flame was visible, but still water was kept playing on the coal and debris for fear there might be fire lurking underneath.

"Men were down working at it all that night, and at 6 o'clock on Thursday morning the change of shifts took place. Certain white men were told off to take the places of those who had been working all night at the fire, and no other men except officials had any business down in that level.

"At about 7 o'clock the explosion occurred.

"Owing to the fire in Horne's heading the course usually taken by the air had been changed on the Wednesday morning.

"No. 10 Level is a double level, with one heading and nine stalls driven upbrow. The stalls are inside the heading.

"When the pit was in proper working order the air was conducted down the slope past the mouth of the upper and taken along the lower to No. 10 Level to the face, after which it was guided round the faces of the stalls and Horne's heading, from where it had a straight run into the main return air-course.

"As the men could not get near the fire on account of the thick smoke which backed down the heading, the course of the air was changed so that the greater part of it went from the slope along the upper level and straight up the heading without going into the end of the level or the stalls at all.

"To stop it going any further than the heading a curtain was placed across the level.

"This curtain did not shut the entire air off, for a quantity which was supposed would be sufficient to keep the level clear of gas was allowed to go straight on. This curtain was placed in position some time about 6 o'clock on the Wednesday morning. Dixon, the overman (one of the men killed) went into the level some five or six times between the time the curtain was put up and 2 p.m. the same day to examine if any gas was accumulating there. Each time he reported all clear. The curtain was marked in chalk, 'No one allowed to pass here—Fire!' Dixon was left in charge of the mine, and was cautioned several times by the manager not to allow any one to pass through this curtain. On the Thursday morning, between 2 and 3 o'clock, Churchill, the fireman, whilst going his round of inspection, went into Horne's heading and the two next stalls inside, but did not go any further into the level on account of, as he stated, seeing the caution on the curtain.

"About 7 o'clock the explosion took place, and Dixon and three Chinamen were found killed a long way inside this curtain. The rest of the white men who were killed were all outside the curtain, some being in the heading and level and some in the slope.

"On being apprised of the disaster, I at once went out to Wellington, and after examining the plan went down the pit.

"We were not able to penetrate far into the 10th Level at first on account of the after-damp, but in the afternoon we were successful in getting a little way up Horne's heading, where we found the body of Campbell. As we could not get any further for after-damp, we carried the body out to the slope.

"It was very evident, from the direction in which the stoppings were blown, &c., &c., that the gas had not ignited at the fire in the heading, but had come from inside the level. It would be tedious and I think unnecessary for me to further describe the work of recovering the bodies, than to state that everything was done that could be done compatible with safety to complete the dangerous and mournful task.

"Finding, on the 19th April, that the fire in Horne's heading was not yet out (for although there were no actual flame visible, yet the water which was being played on the mass of coal and rock came away nearly boiling,) it was decided that the best plan was to withdraw the men and flood this part of the mine. This was done. At that time all the bodies had been recovered with the exception of one Chinaman.

"In order to give a fair idea of how matters stood, I am obliged to give here somewhat lengthy extracts from the evidence which was elicited from the several witnesses at the inquest that was held on the bodies:—

"James Dunsmuir, sworn,—I am manager of the Wellington Mine; have been so for some time—about three or four years; have made a survey of the mine; have made a plan of the workings; produce plan showing a portion of the slope and No. 10 level; it is correct to the best of my knowledge; produce plan showing the whole working of the mine; \* \* \* was in town at the time of the alarm of fire; on coming out my father took charge; it was then Wednesday at 3 a.m.; my father and I came out to the



mine together; we went down the mine immediately and into Horne's heading where the fire was; then my father took the management of the mine; \* \* \* \* on Thursday, at 6:30, while in bed, heard the whistle blowing, and immediately got up and on looking out of the window saw a person standing on the steps; he told me there had been an explosion in the mine; hurried over and went down the slope; when I got down to the 8th level saw Rennie lying dead; got some of the men to put brattice across the upper levels so as to take the air down to the 10th level; they would thus carry the full force of the air as they went down; \* \* \* \* have seen gas before in the mine; have seen it before in tenth level; the tenth level has been working about 18 months; at first frequently saw gas, but not so much latterly; Mr. Prior several times drew my attention to the gas in that level; he said there was a good deal of gas in No. 10 level, but we had a good supply of air; once or twice Mr. Prior spoke to me about No. 10 level; he used to be telling me of accidents and cautioned me; seen gas explode in No. 10 when first started; saw it afterwards; saw it when Linn and Gardner drove the level; the explosions were trifling; they have lit the gas and burned themselves; Banka was burned on the hand when the crosscut was put through; this was March 22nd; no serious accident ever happened from gas before; the accidents have been slight; I don't remember any others being burned in No. 10; we found more gas in the tenth level than in any other portion of the mine; \* \* \* \* Chinamen worked in all the levels; they worked in the tenth level running and loading; the Chinamen worked with naked lights; it was not dangerous on account of full supply of air, the overcast showing 5,600 cubic feet per minute going to the tenth level; \* \* \* \* the third curtain did not divert the whole air from level, but some went to the fire and the other portion to keep the level free from gas; Dixon went in once to test the level for gas; it was two or three hours after the curtain was put up; did not hear his report; had he found gas, it was Dixon's duty to report to me as manager; \* \* \* \* it is my opinion that the steps taken to extinguish the fire were proper steps with due regard to the safety of men and preservation of property; Dixon was fireman for at least a year, he was an experienced man; the tenth level was commenced while Dixon was fireman.

"John Dick, sworn,—Went down the mine on Tuesday night at 11 o'clock; \* \* \* \* Dunsmuir thought it would be advisable to start the steam pump, and asked me to give the men a hand to change the pipes so that the water could be got on the fire; at the time the pipes were being got ready they had put the curtain up across the level; when I saw the curtain up I thought that gas would accumulate inside; got Dixon then to go inside this curtain and see if there was any gas accumulating in the faces in the level; this was about 7 o'clock that Dixon went in; when Dixon came back he reported the level all clear, and that there was no gas; sent him in several times during Wednesday morning up to 12 o'clock, and on each occasion he reported it clear of gas; corroborate the evidence of James Dunsmuir; am a certificated manager; have worked all my life about mines; had I been there working I should have considered the steps taken by Mr. Dunsmuir as the right ones to save life and property; \* \* \* \* there were parties to hear that Dixon told me there was no gas; the fire was burning brightly at this time; it would not have been better to brattice it and cut off all the air; they perhaps had not time to get the necessary timber; it is hard to tell whether if a brattice had been placed there instead of a curtain that the accident would not have happened; \* \* \* \* under ordinary circumstances it is perfectly safe to have a Chinaman working in Horne's heading at loading and running; considered it unsafe while the fire prevailed; did not see a Chinaman in the mine while the fire prevailed \* \* \* \* the curtain was put up for the purpose of clearing away the smoke, and it did so; under the circumstances, putting up the curtain instead of brattice was the best that could have been done; Dixon seemed annoyed at my asking him to go in; had no authority to send him in, but asked him to go in for my own sake.

"Robert Wingate, sworn,—Am a mining engineer; am manager of the South Wellington Colliery; have had seventeen years experience in managing mines; have managed mines on this coast for ten years; have seen the plan of Wellington Colliery; have heard the evidence of James Dunsmuir and J. Dick, and consider the steps taken (as given in their evidence) for putting out the fire, were wise and proper; \* \* \* \* if there was gas in the level, it would have been well to have had bratticing; seeing that the firemen reported no gas, I would not have taken all the precautions against gas; should not have taken any other precautions under the circumstances.

"John Bryden, sworn,—Am manager of the Vancouver Collieries; have heard Mr. Wingate's evidence, and agree with him generally; under the circumstances the precautions taken, as given in evidence, were right and proper; it would depend on circumstances as to putting up curtain; it is the usual way; the curtain was only to turn a portion of the air; if bratticed up it could not be examined; considering it was not a fiery mine, would consider the curtain sufficient; if Dixon had wanted to go in he would have taken down the brattice; under the same circumstances would have done the same; lots of white miners cannot read any more than foreigners; if the level had been reported safe, would have had no fear to work in the heading; would not have expected Dixon, as overman, to note the absence of gas, as he was not the fireman; under all the circumstances it would not have been wise to have bratticed it up; the curtain was the best at the time; it was necessary to act promptly; the fireman is the proper man to report gas in the mine; the overman inspects the fireman's report; the overman is a kind of general superintendent.

"Robert Dunsmuir, sworn,—Am managing partner of the Wellington Mine; concur in the evidence given by Jas. Dunsmuir and J. Dick as to the steps taken to put out the fire; they were done under my orders and directions; worked about and in the mine from 3:30 Wednesday morning till Wednesday afternoon at 3 o'clock; out of that time spent 20 minutes between 8 and 9 o'clock in getting breakfast; the steps taken were wise and proper under the circumstances; put the curtain across the 10th level before 7 a.m. Wednesday; had two objects in putting up the curtain—1st, to take the air off the fire in the heading, as I was afraid if the whole of the air was allowed to take its proper course the fire would spread, and 2nd to give men air to be able to play water on the fire; my object in not making the curtain tight was to



allow sufficient air to go along the level to clear away any gas that might accumulate there; allowing the fresh air into the level would prevent an explosion in case there was any gas there; it was a matter of judgment how much of the brattice should have been left open; Dixon went into the level, and on his return to me reported there was no gas there; this would be about 9:30 a.m.; knew that Dixon had been in once before; the report was satisfactory as far as it went; told Dixon when he reported that gas might accumulate in the level, owing to a portion of the air being taken off, that he was to watch particularly, and allow no one to go through the curtain; think some men heard me tell him; believe I cautioned Dixon three times about the level; some time before 12 o'clock Dixon passed me in the level and was grumbling about John Dick being scared about the gas; told him John Dick was a stranger in the mine and did not know it as well as he (Dixon) did, and that he was to go in and examine it for the satisfaction of any of the men who wanted it; Dixon left me and went in through the curtain; saw him come back again; sang out 'is that you, Dixon?'; he answered 'yes'; asked him if all was right; he replied it was all right, and he knew it before he went in; saw him again a little before 2 o'clock, and had a conversation with him; told him to pay attention that no one passed the tenth level curtain; he said there was no fear for there was no gas there; told him that was all right in the meantime, but gas had been seen there before, but not to hurt; told him we had got the hose playing on the fire, but until we were sure that the fire was entirely out we would keep the curtain there; he said that was the best thing we could do; considered that everything was safe when I left the mine, or I would not have gone home; before I left the forenoon shift came out, and the afternoon shift came down; spoke to the men that came down, and told them not to go through the curtain or to the workings to the left of Horne's stall; did not visit the mine till I heard of the explosion; \* \* \* \* about 8 o'clock on Wednesday morning met some Chinamen in slope and ordered them up, and did not see Chinamen there afterwards; don't know how the four Chinamen who were killed came to be in the mine at the time of the explosion; cannot suggest any reason why Dixon went through the curtain on Thursday morning; believe the tools were taken up the day before; he could not have gone in to get brattice; could not say that he went in to get a spare box; Dixon's duty took him all over the mine below ground; \* \* \* \* the curtain shut off only a portion of air; no gas accumulated for eight hours.

"William Horne, sworn.—Worked in the heading; \* \* \* \* heard R. Dunsmuir tell Dixon on Wednesday to be sure and allow no person beyond the curtain; could not say the exact time; the last time I saw Dixon was when Dunsmuir cautioned him; the men were all working with naked lights at the fire up to 6 o'clock on Thursday morning; saw Churchill, the fireman making his usual rounds on Thursday morning; spoke to him and him to me; I said, 'George, we have got her all right.'

"George Churchill, sworn.—Was all through the mine on Wednesday as fireman; my duty is to inspect every working part of the mine; went through a certain portion of the tenth level on the morning of the explosion at 2:30 o'clock; found Horne's heading clear with the exception of a little steam; did not examine the portion of the level barred off; my duty is to inspect all places both safe and dangerous; my reason for not going into the level was because it was barred; if gas is found I report it to the man in whose place it is found, and put it in the book; if the chalk mark had not been there I would have gone in; it was not my duty to go in until the bar had been removed, or until ordered by the manager; in cases of that nature they do not depend upon my report; if I had gone up the level and found it unsafe would have reported it; saw Dixon on the morning of the explosion, and told him I had examined Scott's and Martin's places and found all satisfactory in the vicinity of the fire; said nothing to Dixon about anything beyond the curtain; Dixon knew of the bar being up; Dixon was my superior in the mine; did not notice if a current of air was coming from the inside; very little gas accumulated in Martin's place; saw Dixon going down in the morning; he had a Clanny safety lamp and an open one; did not see any Chinamen that I knew going to tenth level; saw Roberts at my station; he looks after the Chinamen; heard Roberts send two of the Chinamen to a level, but do not know which; Dixon could have heard Roberts speaking to the Chinamen; Dixon and the Chinamen then disappeared down the slope; there were two Chinamen; Scott went down with Dixon; this was about 6:30 a.m.; all work was suspended in the mine with the exception of five men at the fire—J. Price, Walker, Horne, and two Italians, who were working at the fire; the air in the mine is generally good; the night-watchman looks after the furnace in the night; never saw an explosion before in the mine.

"William Roberts, sworn.—My duty is to look after the Chinamen, the signal bell, and the hoisting of the coal; there were quite a number of men at the station; did not notice Dixon; told two Chinamen to go to 83; this was on Thursday morning; to the best of my belief, one of the men sent by me is the Chinaman that has not yet been found; told two others to go to 18 in tenth level; the Chinamen knew Horne's place to be 18; a dozen of them passed to the work in the upper levels; Horne was coming out from the night's shift; he was growling about having had no boxes and no Chinamen to run them; that is the reason I told those two to go; if the Chinamen did not understand me they would have asked a Chinaman who understands English; Banka's number is 82: the missing Chinaman is Banka's Chinaman while the pit's working; took this Chinaman myself to 83 in the seventh level the day previous; do not see how the Chinamen could have made a mistake in the levels; they know the place by the men's numbers; the Chinaman worked at 83 the day previous; there were not many Chinamen present; the two Chinamen sent down to clear the rubbish from the fire, worked regularly in the heading; both the Chinamen that I ordered to Horne's heading knew it; one of them had worked there all the time, and the other in Price's stall; to the best of my belief they never worked in any other part of the tenth level; these men understood on former occasions, and observed my directions; believe that they understood my instructions.

"William Hinkman, sworn.—Am a roadman in Wellington Mine; know the curtain was put up, for I assisted to put it up in tenth level; R. Dunsmuir instructed me to mark it 'No one allowed to pass here—Fire'; it was written in large letters; the letters were distinct enough to be easily seen; the word 'fire' was written very large and underlined.



"Henry Westfield, sworn,—Went down the mine; \* \* \* \* heard Dick ask Dixon if the level was clear; some time after that Dixon reported to R. Dunsmuir that there was no gas; \* \* \* \* after Dixon reported to Mr. Dunsmuir that it was clear of gas inside the curtain, Dunsmuir then said 'Dixon, be sure and let no one go inside that curtain'; two or three others were present; when the shift was relieved, at 2 o'clock, Wednesday, R. Dunsmuir told every man as they came along 'not to go through that curtain'; thought Banka did not understand Dunsmuir, so I translated it to him in German.

"E. G. Prior, sworn,—Am Government Inspector of Mines; \* \* \* \* have inspected the Wellington Mine since my appointment in September, 1877; when I inspected the mine there was a good deal of explosive gas being given off in the tenth level; have many times warned James Dunsmuir of it; from the evidence I have heard, and taking into consideration the circumstances, the curtain was the right and proper precaution; the object of the curtain was to get the air up to Horne's heading, and drive away the smoke; to have put a regular stopping would have taken more time, and the fire might have gained headway; my opinion is that it is a fireman's duty to inspect every place a miner is liable to go into, besides the air courses; \* \* \* \* the Wellington Mine is not, on the whole, a fiery mine; gas is not found in all mines; \* \* \* \* the main things to be observed after gas has been found are the air courses, and frequent inspection for gas; the ventilation during the past year was very good; have never known a mine better ventilated for the number of men; have inspected this mine at least once in three months: the last inspection was on March 13th: found the ventilation generally good except in five or six places where the men wanted brattice, and so notified the manager; concur with the opinion advanced by Scott that the explosion came from the inside of the level; think there can be no doubt about it.

"**VERDICT**.—We find from the evidence before us that John Dixon, E. Campbell, A. Damey, R. Gough, W. Rennie, J. Hoskins, L. Prelee, and three Chinamen, came to their death from the effects of an explosion of gas in the tenth level of the Wellington Coal Mine, on Thursday, the 17th day of April, 1879;

"And we further find that the said explosion was caused by a Chinaman passing towards the face of No. 10 level;

"And we further find that greater precautions should have been taken to prevent inexperienced persons from passing through curtain No. 3 into the face of the tenth level.

"JOHN WILLIAMS, *Foreman.*"

"From the above evidence, and also from what I myself saw, I have formed the following opinion in regard to this explosion:—

"*First*.—I do not consider that it was wrong to put a curtain instead of brattice across No. 10 level, at the foot of the heading, for when it was put up there was great need of the utmost dispatch being used; neither was it supposed that it would be needed for any length of time. When it was found that the fire could not be conquered as soon as expected, it is only reasonable to suppose that a proper brattice would have been erected in place of the curtain. But this was deemed wholly unnecessary from the fact of Dixon examining the level so many times after the curtain was up, and each time reporting all clear. According to his reports no gas had accumulated eight hours after the curtain was put up.

"*Second*.—It was proved by corroborative evidence that when the manager left the mine, Dixon was left in charge, and was cautioned several times to be sure and not allow any one to go through this curtain. If he left the curtain, he ought, in my opinion, by all means, to have deputed some one to stay there in his place.

"*Third*.—When Churchill, the fireman, was on his round of inspection, on the morning of the explosion, he went into the heading and two next stalls, but did not go into the level on account of the caution which was chalked on the curtain. In his evidence, you will perceive that he stated he did not consider that he had any right to go through this curtain, although he also stated that it was his duty to inspect 'all places both safe and dangerous.' I maintain that, as fireman, he ought to have gone in and ascertained the amount of danger. He was provided with a safety lamp, so that if he had known gas was there he could have examined it with impunity. However, I am not sure he did not omit examining this portion of the mine through any negligence or carelessness, but merely through having an erroneous idea of what his duty was in a case of this kind.

"*Fourth*.—On perusing the evidence of William Roberts, you will notice that he states he told two Chinamen to go to work in No. 83. This place was in No. 7 level. When the pit was in proper working order one of these Chinamen was in the habit of working in No. 82, this being the face of No. 10 level, and the point at which the explosion took place. This man had worked the previous day in No. 83, having been taken there by Roberts. After the explosion, all the bodies were recovered with the exception of this man, who could not be found anywhere. As I have before mentioned, the mine was flooded, and it was not until the 9th January, 1880, that the water was pumped out sufficiently to allow men to get into No. 10 level. On going in they found the body of the missing Chinaman laid within some fifty feet of the face of the level, and terribly



burnt. I went down and saw him before he was moved. To my mind this, in connection with the state of the level, is conclusive proof that he was the man who fired the gas. The only reason I can give for his going there is that he understood Roberts to tell him to go to No. 82, and not, as really was the case, to No. 83. No. 82 being his usual working place, and the two numbers being somewhat similar in sound to the ears of a Chinaman, it may easily be seen how the unfortunate mistake happened.

"*Fifth*.—The only reasonable conclusion I can come to in regard to Dixon and the other two Chinamen being found inside the curtain is that when Dixon got down to No. 10 level, in company with the two Chinamen who are said to have gone down with him, they were met by one of the two Chinamen who were *supposed* to have gone down to No. 7 level, who told them that his partner had gone inside the curtain. Thereupon Dixon, suspecting the danger, rushed in with his two Chinamen in order to overtake him and bring him back, but before they could get within shouting distance, the flame of his lamp had ignited the gas which must have been lying there.

"*Sixth*.—It is mere conjecture as to how the gas came to be there. In a general way, if a place stands idle some eight hours without gas accumulating, as in the case in question, there is a great probability of its being free many hours afterward if the same amount of air is kept running and no falls occur. This accumulation may be accounted for in two or three different ways. For instance, if the furnace was allowed to get low the night before the explosion, the total quantity of air circulating would be greatly diminished, and thus the amount allowed to go round No. 10 might not be sufficient to keep it clear. Again, a fall of roof might have occurred in the No. 10 level air course, thereby shutting off the ventilating current from the face of the level; or a fall of coal from the roof or sides may have opened up a 'blower' of gas. But, as I before said, it is only surmise.

"No. 2.—On the 8th July, a Chinaman, named Ah Yung, was killed in the Wellington Mine by a fall of rock from the roof. The deceased was standing between two timbers filling a box of coal when a small piece of rock fell, and, striking him on the head, killed him. The roof, to all appearances, was sound, and was well timbered, but the piece dropped out of a 'pot-hole,' the existence of which was not known.

"As many as 18 non-fatal accidents have been reported to me during the course of the past year, the injuries being received in the following manner, viz.: 3 scorched by small quantities of fire-damp, 4 by falls of rock and coal, 5 by 'shots' exploding close to them, 3 by being jammed between boxes, etc., 1 by force of explosion of fire-damp, 1 from a kick by a mule, and one by being run over by a locomotive on the surface.

"The number hurt by 'shots' is very large. Although every precaution is taken in regard to the tools used for this work, yet accidents happen. This is one of the most dangerous parts of a miner's work. I believe none of the above accidents were occasioned by any rules being broken, but were purely accidental.

"I cannot leave this subject without saying a few words in regard to the use of naked lights in these collieries. Till within the last four or five years it was very rarely that fire-damp was encountered in these mines, even in the minutest quantities; but latterly, in some mines especially, it is of almost daily occurrence, although still the quantities are small. Owing to the good ventilation which is usually found in these pits, these small quantities of gas are rendered harmless, but circumstances may at any time arise when a large body of gas may be suddenly encountered, at which time the ordinary amount of air circulating becomes totally inadequate for the purpose it is intended for. Then, disaster is sure to follow if naked lights are around. It is only a few months since a case of this sort occurred at the Denaby Main Colliery in England. The pit was found to be all clear when the men went to work in the morning, but in the middle of the shift a sudden outburst of gas took place which filled the whole of the workings with an explosive mixture. There were some four hundred men in the pit at the time, but as they all had the Stephenson safety lamp (which dies out when placed in an explosive atmosphere,) they all got out safe. If there had been one naked light or one defective safety lamp, the result can be imagined. This is by no means the only instance of the kind which has been brought to our knowledge within the last year or so. Now, I do not say that such a state of things is probable here, but I do say it is quite possible. Mr. Hall, one of Her Majesty's Inspectors of Mines, in one of his annual reports, says: 'I cannot close this report without expressing to you my strong conviction that open lights as a means of lighting, should be strictly forbidden by law in all mines in which



'fire-damp has ever been seen.' His colleagues concur with him in this opinion,—and what better opinions can be had? It is always urged by those who are opposed to the use of safety lamps, that owing to the small amount of light emitted from them, the miners are more liable to accidents from falls of roof. Also that where they are used the ventilation is neglected. I must confess that there is some truth in the former statement, but still not sufficient to counterbalance the good they do by preventing explosions. In regard to the latter, I may state that the frequent inspection which is made here would effectually prevent that being the case.

"Although I am aware that where safety lamps are necessary, it is impolitic to use gunpowder, and also know that in these mines gunpowder could not possibly be dispensed with, still, if section 9 (1) 'Coal Mines Regulation Act, 1877,' by which a competent person fires the shots, were rigidly enforced, I do not think this shot-firing would be dangerous, and the safety lamps would be at least an extra safeguard. It is very difficult to draw the line between what are fiery and what are non-fiery mines; and although explosions are liable to occur even where safety lamps are solely used, still the probability is greatly lessened by their general use.

"I do not expect for one moment that what I say here will have any effect on either managers or miners in regard to the introduction of safety lamps, but I consider it my duty to let you know what my own opinion is on the matter. I think the terrific effects of an explosion of fire-damp cannot be too often described to those connected with coal mines,—especially those who have never had to deal with it, and therefore cannot have the same dread of it. I therefore give a short example, in the hope that it may be the means of making some one or another more careful when brought in contact with it: Supposing a single level to be 8 feet high and 12 feet wide, and full of an explosive mixture for 20 feet back from the face, this mixture being composed of 10 parts of pure air and 1 part of fire-damp. Immediately on a naked light being applied to it, it would become a mass of flame, the heat of which flame would reach 4,880 degrees Fahrenheit. Supposing the normal temperature of the level to have been 60 degrees, one result of the explosion would be to raise the heat of this space to 4,940 degrees. When it is remembered that a common fire is only about 790 degrees, and that wrought iron melts at 3,980 degrees, the fearful consequences become apparent. Besides this heat being evolved, the gases expand enormously with the speed of lightning, thus displacing the pure air in the other part of the level with great force, and thereby smashing and overturning every object that lays in its way, and leaving an atmosphere so vitiated as to be totally unfit for respiration.

"I am sorry to say that the miners do not avail themselves of the privileges given them by Section 31 of the Mining Act, whereby they may appoint two of their number to examine the mine at least once a month. If they could only be prevailed on to take advantage of this, at least sometimes, it would be, I am sure, highly satisfactory to themselves and also to the owners; for if any danger exists, it is manifestly to the advantage of the manager that such should become known, in order that it may be removed, and if all is found safe, it is still more satisfactory to all concerned. The principal reason, I believe, why these inspections are not made, is the fact that there is no pay attached to the work. I would, therefore, beg to be allowed to submit the proposition that the Government allow a small sum to the men making these examinations to partly pay them for their loss of time.

"On the 29th August last, I instituted legal proceedings against the certificated manager of the Wellington Colliery for contravention of Section 34, 'Coal Mines Regulation Act, 1877,' in failing to send me notice of an accident that had occurred to a man in the Wellington Colliery by the premature discharge of a shot.

"I submitted a full report of the proceedings to you at the time, so that I think it unnecessary to say anything more about it here, but I would remark that although I failed to get a conviction, on account of the absence of a witness to prove the man was hurt in that pit (although it was well known he was hurt there), still this action had a good effect on both managers and men, in that it shewed the penal clauses would be enforced if the Act was not complied with.

"On the 6th of this month (February, 1880) I received a letter from Messrs. Duns-muir, Diggle, & Co., a copy of which I give below:—



“‘WELLINGTON COLLIERY, DEPARTURE BAY.  
“‘5th February, 1880.

“‘SIR,—We have the honour to forward you our annual returns shewing the amount of coal mined, &c., &c., during the past year. At the same time we beg to draw your attention to the fact that at the present time a liquor saloon, owned by Mr. J. Quagliotti, is situated within two hundred and forty feet of our South Wellington Mine, and within forty feet of the office in which we pay our workmen.

“‘We, therefore, earnestly protest against the said saloon being allowed to continue the sale of liquors in such close proximity to our works, for we consider that it is highly dangerous, and likely to lead, in an indirect manner, to some great disaster. It is a continual temptation placed in the way of some of our men; and as the mine is known to give off explosive gas, you will at once see the necessity of every man who descends into the workings being perfectly sober. It is impossible to keep some men away from drink when it is so easy of access, and, as you must be aware, a very little taken on surface will make a man intoxicated when he gets below.

“‘According to Section 11, ‘Coal Mines Regulation Act, 1877,’ ‘No wages shall be paid to any person employed in or about any mine to which this Act applies at or within any public house \* \* \* or place belonging or contiguous thereto.’ This saloon, we claim, is contiguous to our pay office and therefore ought to receive your attention; but the chief danger is in its being so near the pit mouth.

“‘You may, perhaps, say that we ought to change the position of our pay office; this we would gladly do if it would mend the matter so far as danger is concerned; and while we consider that the most desirable place for such office is near the works, we are at a loss to understand how the sale of liquor so close to a pit is allowed, and consequently so near to our present office.

“‘Hoping you will give this matter your grave consideration, and, if necessary, make representations to head quarters.

“‘We have, &c.,  
(Signed) “‘DUNSMUIR, DIGGLE, & Co.

“‘E. G. Prior, Esq.,

“‘Government Inspector of Mines, Nanaimo.’

“‘You will perceive from the above letter that the saloon mentioned is distant only 240 feet from the pit mouth. This I consider is most undesirable, and I must also concur in the opinion expressed by Messrs. Dunsmuir, Diggle, & Co., that it is highly dangerous. When this pit was in the hands of the former proprietor, I frequently called the attention of the manager to the close proximity of this saloon to his mine, but as he was so strongly in favour of it, I did not think it right to say much until I had seen how it worked. Since that I have ascertained at least one reason why that gentleman advocated so strongly the existence of this saloon so near the pit, viz.: that he had an interest in the concern. My own feelings are, and always have been, strongly against having any liquors sold near a pit, not only in this case, but in every other instance.

“‘I therefore beg to inform you that I consider it most desirable that the Government should insert a clause in the Licences Ordinance, or in any other way thought proper, making it impossible for a liquor licence to be granted to any house situate within 440 yards of a colliery.

“‘Many complaints have been made to me in regard to Section 5, ‘Coal Mines Regulation Act, 1877.’ It is felt to be a great hardship by many parents that boys of from 14 to 16 years of age cannot get work in these mines on account of this section. The fact is, that although this section allows them to work, yet it is only for 6 hours a day, and then only 5 days in the week; therefore the employers will not engage them at all, as they can get Chinamen to do the same work for the same price, and work the full shifts. I think it would be a great boon to many if this section was amended so that boys of 14 years of age were allowed to work the same hours as a man.

“‘No addition has been made to the list of Certificated Managers since my last report, which is, therefore, as follows:—J. Bryden; T. A. Bulkley; T. Cairns; A. Dick; J. Dick; J. Dunsmuir; J. Gillespie; E. G. Prior.

“‘Before closing this report I wish to correct an erroneous idea many persons have got as to the duties and authority of an Inspector. The best way I can do this is to give an extract or two from the instructions issued to the English Inspectors. The



English Mining Bill being nearly identical with our own, the same instructions ought to apply.

"In regard to the power of an Inspector to insist on anything in a mine being done this way or that way, it says:—'The notion that an Inspector should personally regulate, or even superintend the mining operations of the mines in his district is plainly impracticable, neither is it contemplated by the Statute. It is unnecessary to caution Inspectors against this extravagant conception as to the scope of their functions, but occasions may arise when it may be expedient for them to point out that any such claim on their part would be not only illusory but mischievous. For by seeming to relieve the owners and managers of mines from the responsibility properly belonging to them, it would impair the best security for the observance of the law without providing another in its stead, and it would also provoke the just resentment of owners and managers, as an unauthorized interference with their undertakings.'

"Again, under the heading of 'Dangerous Practices,' it says:—'The Inspector will bear in mind that it is no part of his duty to enforce any particular mode of ventilation or working, and that nothing short of a well-grounded fear that the practice threatens or tends to the bodily injury of some person, will justify any interference.'

"Thus it is plain that an Inspector has no right to interfere with a manager, unless he is acting in direct opposition to the Mining Act. If the manager does break the law, then the Inspector has power to summon him and have the case tried in a Court of Justice; and this is as far as his authority allows him to go.

"The following tabulated statement explains itself:—

Year.	Total number of tons raised.	Total Accidents.	Non-fatal Accidents.	Tons raised per life lost.
1876 .....	139,191	4	9	34,797
1877 .....	154,052	5	14	30,810
1878 .....	170,496	3	7	56,832
1879 .....	241,301	12	18	20,108

"Appended hereto are the annual colliery returns.

"I have, &c.,

"EDWD. GAWLER PRIOR,

"Government Inspector of Mines.

"The Hon. T. B. Humphreys,

"Minister of Mines, &c., Victoria."

#### NANAIMO COLLIERIES.

Output of Coal for 12 months ending 31st Dec., 1879.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1879	No. of tons unsold, including coal in stock 1st Jan. 1880	
104,288.	20,678.	78,187.	5,377.	10,800.	
No. of hands employed.			Wages per day.		
Whites. Men, 233. Boys, 17.	Chinese. 58.	Indians. 6.	Whites. \$2 to \$3 75.	Chinese. \$1 to \$1 25.	Indians. \$1 to \$1 50.
Total hands employed, 314.			Miners' earnings per day, \$2 50 to \$5.		

NOTE.—The number of hands employed does not include Indians or Chinamen working for Miners and paid by them.

Name of seams or pits ..... Chase River, Douglas and Fitzwilliam.

Value of plant..... \$112,000.



Description of seams, tunnels, levels, shafts, &c., and number of same.

*Douglas Mine*, Nanaimo, worked by slope, has been kept steadily in operation the present year, and continues to yield a first-class quality of gas making coal. *New Douglas Mine*, near Chase River, is also worked by slope. It has good producing capacity; the coal being generally thick and clean.

*Fitzwilliam Mine* is not producing coal. It is being kept free of water in view of an early re-opening.

(Signed.) M. BATE.

#### WELLINGTON COLLIERY.

Output of Coal for 12 months ending 31st Dec., 1879.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1880.	No. of tons unsold, including coal in stock Jan. 1, 1880.
113,787 tons, 2 cwt.	18,416 tons, 7 cwt.	91,908 tons.	935 tons, 14 cwt.	4,416 tons, 16 cwt.

Number of hands employed.			Wages per day.		
Whites.	Chinese.	Indians.	Whites.	Chinese.	Indians.
189.	123.	none.	\$2 to \$3 75.	\$1 to \$1 25.	—
Total hands employed, 312.			Miners' earnings per day, \$3 to \$4.		

Name of seams or pits ..... *Wellington*, No. 1 slope. 1 shaft not working 310 feet deep.

Value of plant..... \$145,000.

Description of seams, tunnels, levels, shafts, &c., and number of same. 8 to 10 feet thick; 5 levels in mine; 2 air shafts.

Description and length of tramway, plant, &c. 4½ miles of railway; 4 locomotives; over 100 waggons; 4 engines, and 2 steam pumps; 3 wharves for loading vessels, with bunkers, &c.

(Signed) R. DUNSMUIR,  
Managing Partner.

#### SOUTH WELLINGTON COLLIERY.

Output of Coal for 12 months ending 31st December, 1879.	No. of tons sold for home consumption.	No. of tons sold for exportation.	No. of tons on hand 1st January, 1879.	No. of tons unsold, including coal in stock Jan. 1, 1880
About 20,000 tons taken out by the previous proprietor, 3,226 tons, 14 cwt. mined by us—total, 23,226 tons, 14 cwt.	1,200.	3,201 and 18,800.	None.	26 tons, 14 cwt.

Number of hands employed.			Wages per day.		
Whites.	Chinese.	Indians.	Whites.	Chinese.	Indians.
81.	25.	None.	\$2 to \$3 75.	\$1 to \$1 25.	—
Total hands employed, 106.			Miners' earnings per day, \$3 to \$3 75.		



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Name of seams or pits..... No. 1 pit, South Wellington.  
Value of plant..... \$90,000.  
Description of seams, tunnels, Pit 160 feet deep ;  
levels, shafts, &c., and num- 1 shaft ;  
ber of same. Seam 7 to 8 feet thick.  
Description and length of tram- 4½ miles railway ; 1 locomotive ; over 50 waggons ; one  
way, plant, &c. steam pump ; 2 large winding engines ; 1 small engine.

(Signed) R. DUNSMUIR,  
*Managing Partner.*

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