

# SEVENTH ANNUAL REPORT

OF THE

## MINISTER OF MINES,

FOR THE

YEAR ENDING 31ST DECEMBER,

1880,

BEING AN ACCOUNT OF

MINING OPERATIONS FOR GOLD, COAL, &C.

IN THE PROVINCE OF

BRITISH COLUMBIA.

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1881.

REPORT  
OF THE  
MINISTER OF MINES  
FOR THE YEAR 1880.

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 Seventh 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. B. HUMPHREYS,  
*Provincial Secretary and Minister of Mines.*

REPORT.

GOLD.

The amounts actually exported by the Banks during 1880 are as follow:—

Bank of British Columbia.....	\$340,741 09
Bank of British North America.....	256,860 30
Garesche, Green & Co.....	247,255 05
Total.....	\$844,856 44

It is most difficult to estimate the sum which should be added to this in order to cover private export. Retaining one-fifth, as in the Mining Reports for 1878-79, gives the total of \$1,013,827 as the probable gold yield for 1880.

CARIBOO.

This remarkable district, which—so far as the production of gold is concerned—has been the main-stay of the Province for twenty years, shows no signs of exhaustion; on the contrary, the yield for the last three years has steadily increased, and the Government Agent anticipates “a much larger return for next year's work.” In all probability he will be justified by the result.

The return for the past season, estimated—including Omineca—at \$600,000, is the more satisfactory inasmuch as it has been gained in spite of the temporary failure of two most important enterprises, probably the two most important yet started in the District. The Waverley Hydraulic Mining Company, after going to great expense in bringing the necessary water upon their ground, unfortunately commenced operations in the wrong place, and failing to find the outlet of the deep channel, the work of the past season, other of course than the bringing on the water, was thrown away. This however has not in any way lessened the great confidence which is felt, particularly by miners who have worked on Grouse Creek, in the ultimate success of the Waverley Company. The other enterprise referred to—The Cariboo Lake Ditch and Mining Company—has been practically in abeyance. More extended surveys demonstrated that water could not be taken from Cariboo Lake and down the North Fork of Quesnelle except at an enormous cost, and that scheme was therefore abandoned. An easier line at a lower level, taking the water out of the river, has now been found, and work on the ditch will be vigorously prosecuted next season. In this undertaking the ditch itself is almost the only element of uncertainty,—breaks, repairs, &c.—the ground which it will cover having been known to be rich for many years, in fact ever since its first discovery in 1861.

An era of hydraulic mining has now fairly commenced in Cariboo, and will probably extend to other districts. Every successful “wash-up” is a stimulus to engage in fresh ventures of this nature, and it may be predicted with some confidence that many of the benches of the Fraser between the mouth of Cottonwood and Lytton, a distance of over 250 miles, will be worked by hydraulic power at no distant date.

The discovery of comparatively rich ground on the upper benches of the Fraser and Quesnelle Rivers, in the vicinity of their junction, indicates the immense area of ground not yet thoroughly tested, and will greatly encourage bench-prospecting.

In the Keithley division the return from Snowshoe Creek is again “especially favourable.” The yield for the past three seasons has been estimated as follows:—1878, \$9,000; 1879, \$25,000; 1880, \$44,000. Considering that this creek has been known, prospected, and more or less worked, for twenty years, it furnishes a wonderful example of the care with which Nature hides her riches, and a hint to the miner not to be easily discouraged in the pursuit of them.

Nothing worth speaking of has been attempted during the past year towards the development of the quartz resources of the district, but notwithstanding this the future looks bright, a feeling of confidence prevails, and Cariboo may well feel proud of its speedy recovery from the depression, and decreased yield, caused by the undue quartz excitement of 1877-78.

“RICHFIELD, 23rd November, 1880.

“SIR,—I have the honour to enclose tabular forms showing approximately the result of mining operations in this district for the past season.

“I am pleased to be enabled to report an increase of gold over the preceding year. This is especially gratifying, considering that a number of our producers have been engaged the whole season preparing claims for working by hydraulic process.

“These, in the near future, are certain to add their quota to the general output, and bring renewed prosperity to the district. I speak thus confidently, having the assurance that all these claims have been thoroughly prospected before their owners would expend large sums bringing in long ditches, purchasing costly iron pipe and other material necessary for the successful working of such claims.

“The season has not been without its complement of drawbacks. A number of companies which expected to have taken out pay were prevented from various causes.

“The Central Company of Jack of Clubs Creek had expensive machinery to put in position. The Waverley Hydraulic Company, of Grouse Creek, failed to find the outlet of their ground. The Hardscrabble Hydraulic Company have not yet reached bed-rock, consequently did not get much pay. A Hydraulic Company was organized to operate on Sugar Creek, and a ditch made preparatory to commencing active operations next spring. The North Fork Company of the North Fork of Quesnelle River, after spending a considerable sum on surveys, were obliged to abandon the original plan of diverting the water from the lake in consequence of the difficulties to be overcome, consisting of rocky points and precipitous bluffs, around which a flume would have to be suspended for several miles in length. Subsequently a more feasible route was found at a lower

elevation, by which the water from the river can be made available, and which will materially lessen the estimated cost. This discovery, however, was made too late to commence the construction of the ditch during the present season, therefore but little progress has been made in this promising undertaking.

"Many other companies in different parts of the district might be mentioned as having been engaged during the season in what is known as "dead work."

"It will, therefore, be readily seen that a much less number than in former years were actual producers, as there has not been any material increase in our population.

"Scarcity of water will be the only drawback to successful hydraulic mining on many of the old creeks.

"Willow River and its tributaries offer special inducements for this kind of mining, on account of its lower altitude, its immense gravel banks, and the facilities for getting water upon them.

"As an illustration of the advantages of hydraulic mining, when possible, over the old way of drifting, an instance occurred this season. Mr. I. B. Nason purchased the Boneta claim, where the owner had drifted about for years, barely making wages. This season, under hydraulic pressure, five men working the claim cleaned up \$7,000 in about three months.

"Very important discoveries were made during the season on the high benches along the Fraser and Quesnelle rivers. Heretofore mining operations on these streams have been entirely carried on by Chinese, who principally restricted their operations to rocking on the bars during low water. In consequence of the recent discoveries of richer ground on the higher benches, quite an impetus has been given to this kind of mining in that portion of the district. Some fifty claims, including a half-dozen of white companies, have been recorded, and it is reported that some of the Chinese are taking out as much as \$50 per day with a rocker. Similar discoveries were made on Quesnelle river, and I firmly believe that a thousand Chinamen and a good many white men will find profitable employment there during the coming season.

"Messrs. Barlow, Dubig & Co. located a claim about six miles above the mouth of Quesnelle, and diverted the water from Four-Mile Creek, using it to ground-slucice with. The frost prevented their cleaning up their ground-slucice, but they got sufficient out of their slucice-boxes to justify the belief that they have a valuable claim.

"Quartz mining has been entirely suspended, with the exception of a small amount of work done by the Enterprise Company upon their Island Mountain location.

"Mr. James Reid, of Quesnellemouth, has purchased the Beedy Quartz Mine on Burns' Mountain, and has advertised for tenders for running a tunnel to tap the ledge at a greater depth than heretofore reached.

"The following statement from the Government Assayer at Barkerville gives the relative amounts melted for the years 1879 and 1880.

"It is gratifying to note that the amount assayed in 1880 reaches nearly \$40,000 over the preceding year.

For six months ending June 30th, 1879.....	\$ 58,295 81
For six months ending December 31st, 1879.....	143,919 55
	\$202,215 36
1880—For six months ending June 30th .....	\$51,141 13
„ —To period ending November 15th .....	170,412 93
Estimate for remainder of year based on corresponding period, 1879.	18,000 00
	\$239,554 06
1879.....	202,215 36
	\$37,338 70
1880—Increase .....	

"I have not been able to obtain reliable information as to the mining results in Omineca, but learn that the amount realized will fully equal that of last year. Including Omineca, I place the total yield for the year 1880 at \$600,000, or \$60,000 over that of last year, which I account for as follows:—

Barkerville Polling Division .....	\$219,061
Lightning Polling Division .....	79,400
Quesnellemouth Polling Division .....	68,000
Keithley Creek, including Fraser as far as Soda Creek (approx.)....	100,000
Omineca (approximate) .....	36,000
Estimated yield from date of calculation to 31st December through- out whole district.....	50,000
Probable amount taken out throughout the district of which no return was made to collectors.....	47,539
	\$600,000

"I anticipate a much larger return from next year's work.

"I have the honour to be, Sir,  
"Your obedient servant,

"JOHN BOWBON,  
"Government Agent.

"To the Hon. the Minister of Mines."

"FORKS QUESNELLE, B. C.,  
"November 9th, 1880.

"SIR,—I have the honour to enclose herewith the Mining Statistics for Keithley Polling Division, Cariboo District. The amount of gold obtained this season is a slight increase over the amount of last year, and is satisfactory as showing that for the past few years the yield of gold is steadily on the increase in this section.

"It is very difficult to get at a correct report of the amount of gold obtained from the various rivers and creeks in the Keithley Division, owing to the greater part of the mining being done by Chinese, and they are scattered over a large extent of country and generally working in pairs without any recording of claims, mining licences, or any thing else they can avoid paying, and as they are continually on the move from one place to another during the mining season, it is difficult to keep the run of them; but when they are working in the same section where white men are located, then they work in organized companies, and there is little or no trouble with them. But then it must be admitted that as a general thing they (the Chinese) work ground that under existing circumstances could not be remuneratively worked by white men.

"Owing to the severity of the weather last Winter there was no river mining done, but the heavy snow-fall and cold backward Spring kept up the supply of water in the small streams well into the Summer, quite making up for any shortness on account of no river mining.

"I have no new strikes to report this year from this section, although taking into consideration the small number of white men located upon Snowshoe, Keithley, and Harvey Creeks, there is a considerable amount of prospecting being done by them.

"The yield of gold from Snowshoe Creek this year has been better than any former season, while Keithley Creek still holds out, although showing a falling off from other years. Harvey Creek has not realized the hopes we had of it at one time during the season, yet the companies located on the creek are still hard at work prospecting.

"Quesnelle River, with South and North Forks, has contributed fairly to the season's work.

"The Cariboo Lake Ditch and Mining Company during the greater part of the season were trying to find the most practicable route for their ditch from Cariboo Lake down the North Fork of Quesnelle River. In this enterprise there are considerable difficulties to be overcome, and a heavy outlay of money incurred before any returns can be received; but with the ditch once completed, and a sufficient supply of water obtained, it will, I think, open one of the best hydraulic mining sections in Cariboo.

"I have the honour to be,

"Sir,

"Your most obedient servant,

"W. STEPHENSON.

"The Honourable the Minister of Mines."

"Government Agent.

## CASSIAR.

It must be admitted that the result of last year's work in this district has been unsatisfactory. In the first place the pretended discovery by Dan "Bowen" or "Boen," in the Autumn of 1879, of a creek "the richest and most extensive yet discovered in Cassiar," turned out to be a pure fabrication; in the second place the prospecting of the past season has been barren of any good result. It is, however, doubtless true that the ground travelled over has been very imperfectly tested, and creeks hitherto only "scratched," may yet be proved rich. The hills and benches of the old paying creeks will in future attract more attention, and it is probable that the yield for 1881 will not show a further decrease.

"LAKETON, Cassiar, B.C., 20th October 1880.

"SIR,—I have the honour to forward herewith the Mining Statistics for 1880, and beg to submit the following particulars in reference to the past season at Cassiar.

"Exclusive of Indians, there have been about 800 men, miners and others, in the district. Of these some 350 were Chinese.

"Several prospecting parties have been out in different directions, but nothing worth recording has been discovered.

"As far as has come to my knowledge, very few of the prospecting parties that have been out in this district have had an opportunity of testing satisfactorily the many creeks and rivers met with in their travels, the great object of each being apparently to get over as much ground as possible, and to discover what, in miners' phraseology, are designated "sack of flour" diggings,—meaning mines that prove remunerative without any outlay of either money or labour.

"It having now been ascertained that within a radius of 100 miles or more from the present central creeks no such mines exist, it is to be hoped that some effort may be made to work those benches, etc., in the immediate vicinity which, with the expenditure of not a very large amount of capital or labour in constructing ditches, etc., for the purpose of bringing on water, might be made highly remunerative, affording profitable employment to many.

"As I have previously reported, the beds of the old creeks are almost worked out, the returns for this year being very light. The hills and benches, however, are not so, and doubtless when the fact is realized that *easier* diggings are not to be had, the latter will become of more interest to the mining community than they have hitherto been.

"Very fair prospects were taken late this season from some of the few hill claims being worked on Dease and Thibert creeks. In some instances a different lead of gold, seemingly of a richer quality than that taken from the channel of these creeks, has been found.

"The great fraud practiced by Mr. "Dan Boen" upon the people of Cassiar, etc., last fall, caused much disappointment and loss, as numbers not only neglected less promising speculations but expended much labour and money in getting out lumber and in building scows and boats for "Boen's Creek,"—it having been fully believed, to the last moment, by the expectant many that "Boen" would "yet arrive" and pilot them to the promised Eldorado.

"The past mining season having been nearly a month shorter than usual, and the severe frosts of last winter having penetrated to a great depth in the mining ground of many companies, materially affected the output of gold for 1880.

The returns, as closely as can with any accuracy be obtained, are as follow:—

Dease, Thibert, and Defot Creeks, &c.....	\$133,850
McDames Creek section, including Walker's Creek.....	120,000
Liard and Stickoen Rivers.....	10,000
	\$263,850
Unaccounted for.....	35,000
	\$298,850
Total estimated yield for 1880 .....	\$298,850

"It becomes more difficult each succeeding year to obtain a correct account from claim owners of the amount of gold coming out, the tendency being in all cases to under-rate the respective yields, etc. Next year it is generally expected that our population

will be about the same as it was during this, and the returns, it is confidently believed, cannot be less than the figures given above exhibit.

\* \* \* \* \*

"I have, &c.,

"A. W. VOWELL,

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

"The Honourable the Minister of Mines."

### LILLOOET.

The report from this district includes the bars and benches of the Fraser from Foster's Bar, 25 miles below Lillooet, to the mouth of the Chilcotin River, a distance of over 100 miles, and also Bridge River. The estimate of the total yield made by the Government Agent appears high, and it is possible that he is in error; but the great extent of auriferous ground covered by the report must not be lost sight of, and to the labour of the Chinese scattered up and down Fraser River, must be added that of nearly 300 Indians during the stages of low water in the Spring and Autumn.

A creek emptying into Anderson Lake on its west bank, about eighteen miles from its head, has been found to yield coarse gold in paying quantity. The discovery has not so far proved of much importance, but the country lying between this lake and Bridge River has been known for many years to be gold-bearing, and the finding of coarse gold on this creek may induce further prospecting with more important results.

It is most gratifying that the ditch constructed by Ah Sam & Co., at the great cost of \$31,500, should be considered a good investment. There is room on the Fraser for many such undertakings. It is to be hoped that our own people will realize this fact, and not allow the best locations to be monopolized by Chinese.

"LILLOOET, 23rd November, 1880.

"SIR,—I have the honour to transmit the annual mining statistics for the district of Lillooet for the year 1880. Heretofore mining statistics were only made for the Lillooet section of the district, this year I have included Clinton and Dog Creek.

"Since my last report a discovery of gold diggings has been made by a company from New Westminster District, on a creek which empties into Anderson Lake. The gold taken out is coarse, and sells here at \$16.50 per oz., while Fraser River gold sells at \$16. The discovery was made near the mouth of the creek, and the upper part of it, strange to say, remains still unprospected. Three men went from here last Spring to prospect it, but then the snow was too deep, and they postponed the work for a future occasion, which has not yet arrived. Five men also came from New Westminster District to prospect, but they remained only a short time. The creek consists chiefly of a very rough cañon as far as the prospectors ascended it; veins of quartz were visible. On the portage, between Seaton and Anderson Lakes, Indians are making small wages.

"The water ditch constructed by Ah Sam & Co., is a success. It has cost a considerable outlay to complete it, but it was a good investment. The benches and flats from opposite Bridge River to Horse-Beef Bar will pay good wages for many years to come, many parts of which have already paid them \$6 to the hand.

"The Indians still continue to work the bars of Fraser and Bridge Rivers in their usual primitive mode. The Chinese use sluices when possible. It is astonishing what quantities of gold are taken out of the bars of those rivers.

"Although the mining in this district is chiefly desultory, the total yield is very good, namely, \$81,500. It is impossible to obtain the accurate amount, as some is carried away or remains in private hands. It would be safe to add \$1,000 to the above, making the total amount then \$82,500.

"I have the honour to be,

"Sir,

"Your obedient servant,

"C. PHAIR,

"Government Agent."

"The Honourable the Minister of Mines."

### KOOTENAY.

The only subject of interest in this report is contained in the last paragraph, and since its receipt newspapers have reported of the success of the party mentioned as prospecting on the north end of the Kootenay Lake.

" KOOTENAY, Oct. 4th, 1880.

" SIR,—I have the honour to forward herewith the mining statistics for the Kootenay District for the season of 1880.

" On Wild Horse Creek the hydraulic mining claims have as a whole paid better than in former years, with every prospect of their continuing to pay for the future. There has been no new development on this creek.

" There is at present only one company at work on Perry Creek, who are taking good pay out of the creek bed below the falls. The upper portion of this creek is supposed to be rich, and good prospects have been obtained there at different times, but the difficulty of opening up the ground has hitherto prevented it from being worked.

" I hear there is a probability of a company being formed to try and open up this portion of the creek.

" There are a few men mining on some of the tributaries of the Mooyea River making small wages.

" There has been scarcely any prospecting done in this district this season, although at present there is a party out on the north end of the Kootenay Lake who are very sanguine of success.

" I have the honour to be,

" Sir,

" Your obedient servant,

" WILLIAM FERNIE,

" Government Agent, Kootenay District.

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

### YALE.

No return has been received from the Okanagan Division.

### KAMLOOPS DIVISION.

Mining in this division is confined to a few Chinamen working on the Tranquille River.

" KAMLOOPS, Nov. 26th, 1880.

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

" Tranquille River, the only stream on which mining operations are prosecuted, still attracts a small number of Chinese, the majority of whom secure but a scanty remuneration for their labour. This is partly caused by being compelled to shovel the dirt into boxes from a depth of five or six feet, there not being sufficient fall in that portion of the river remaining unworked to admit of ground-slucing.

" The yield of gold for the season, as near as can be estimated, is about \$2,000.

" I have the honour to be,

" Sir,

" Your obedient servant,

" G. C. TUNSTALL,

" Government Agent.

" *The Honourable the Minister of Mines.*"

### YALE AND HOPE DIVISIONS.

The report from these divisions is without interest.

" YALE, 22nd November, 1880.

" SIR,—In pursuance with the request mentioned in your circular of the 29th July last, I beg to submit herewith my mining report for the Hope and Yale Divisions for the year 1880.



"I regret to say that the yield of gold for these divisions has not been so great as heretofore, and also that the season throughout the year has not been a favourable one for mining. The unusual quantities of snow which fell during the winter months, together with the lateness of the spring season, were much against mining development.

"The discovery of gold last Autumn on the tributaries flowing into the 'Quo-que-halla,' about twelve miles distant from the town of Hope, gave fair promise of opening out remunerative diggings, but unfortunately the season has not been a favourable one for the prospectors. Although a considerable number of miners had located claims thereon they were prevented from thoroughly prospecting them on account of the continually high stage of the water during the year. Therefore many have returned here and settled into winter quarters,—gone to work in the tunnels of the railway construction, with the intention of again returning to their claims next Spring.

\* \* \* \* \*

"I have the honour to be

"Sir,

"Your obedient servant,

"WILLIAM TEAGUE,

"Government Agent.

"The Honourable the Minister of Mines."

#### OMINECA.

This district is increasing in importance, and would seem destined to emerge from the obscurity which has hung over it since the discovery of Cassiar. The thoroughly reliable estimate of Mr. Kenney, the Mining Recorder, places the yield at \$45,800, as against \$36,000 last year; the number of workers remaining the same, viz.: 80 all told.

### SILVER.

#### YALE.

A well defined lead of silver and gold-bearing rock has been discovered at this place, and a certain amount of work has been done with a view to testing its richness. So far as it goes this is satisfactory, but until more is known it is impossible to give any opinion as to the economic value of this discovery. If it be proved that the ore can be worked at a profit, however small, its importance, not only to Yale, but the Province at large, can hardly be over-estimated.

"YALE, November 22nd, 1880.

\* \* \* \* \*

"Although the events of the past year have not been characterised by any great activity in our quartz lodes, nevertheless the opinion regarding our silver-bearing lodes is gaining more confidence by the recent discoveries, and fine specimens of ore taken from the Queen Silver Mine on Yale Creek are indeed of a very promising character. Every effort has been made by this company, struggling by dint of perseverance, to prove the solution of the silver-bearing deposits abounding in the neighbourhood. Blow by blow the drill penetrates the rock, inch by inch is gained, thereby, slow as the progress is by limited capital accomplished, the day will come and dawn upon us with more cheering rays of success; and as certain as the railroad is preparing the way, so sure will the mineral resources of the Province follow progressively in remunerative enterprise.

"Great importance attaches to the recent discovery of a well and truly defined lode of silver and gold-bearing quartz which shows a quality of ore that is indeed worthy of attention, and may possibly lead to the key of our great storehouse of mineral wealth. The ledge can be traced by compass south of Yale Creek for miles, and the character of the ore found on surface is identical. The lode has not been cut through. The hanging wall has not been seen below surface, but the foot wall so far seen is smooth and has a most favourable appearance, carrying a beautiful gangue with its course; the vein has a uniform appearance and is about 28 feet wide. A short surface tunnel has

been driven to penetrate the lode on Cemetery Creek, about 400 yards distant behind the Cemetery, by Donald McLean, M.D., who has been most energetic in bringing the ore to the notice of San Francisco capitalists. Two assays of this ore made by Mr. Thomas Price of that city resulted as follows:

First croppings, silver.....	\$11.54 to 2,000lb	
Second, six feet deeper, silver.....	16.60	} \$26 to 2,000lb
Gold.....	9.45	

"Two claims are located by representatives of San Francisco capitalists. No doubt this organization is the signal for the resumption of work upon our mineral resources, and that the lode will be developed upon a scale which it justly merits.

"It is understood the parties interested in the 'Mount Hope' and 'Fannie Miller' Companies are establishing a powder factory, about a mile distant from their locations, for the manufacture of explosives, gunpowder, dynamite, glycerine, &c., which will soon be obtained at considerably lower rates than heretofore paid. A saving at least of 35 per cent on this item alone will be a boon in assisting small capitalists in future developments of our mineral resources.

"I have the honour to be,

"Sir,

"Your obedient servant,

"WILLIAM TEAGUE,

"Government Agent.

"The Honourable the Minister of Mines."

#### COWICHAN.

The "Sterling Mine" is situated on the Koquesaila River in this district, and is about twelve miles from navigation on Saanich Inlet. The lode, which is 9 feet wide, runs east and west, dipping to south at an angle of 63°; it is clearly defined between hanging and foot walls and consists of a series of veins, the matter in these veins and in the quartz between them appearing to be of very different quality. A tunnel, level free, 9 feet wide and 8 feet high, has been run along the vein a distance of 36 feet; as the tunnel advanced, the body of ore—*i. e.* the number of veins—increased. Various assays have been made from the ore taken out of the tunnel and returns made varying from \$10 to nearly \$100 a ton in gold, silver and lead. One sample, assayed in the United States Assay Office, New York, yielded gold \$6.20 and silver \$69.43 per ton, besides 28½ per cent of lead. Five samples sent to San Francisco averaged \$23 to the ton in gold and silver. It is the intention of the owners to resume prospecting on this mine in the Spring. They do not claim that the ore is of a high grade, but have strong faith in being able, by working large quantities, to make it pay.

The country in the vicinity of the mine has every appearance of containing minerals, but being almost inaccessible has not yet been prospected to any extent. A line for a road has been explored and blazed from the old Victoria-Cowichan road to the mine, a distance of nine miles, which passes through some good agricultural land.

#### COAL.

It is most gratifying to be again able to report a substantial increase in the output and sales of coal during the past year.

The disadvantages under which our Collieries labour, in exporting coal, are so serious that it is natural and proper for the Government Inspector to follow the example of his predecessor in bringing them to the notice of the public. The Provincial Government are powerless to help, but the Dominion Government have already made one concession in sanctioning a drawback of half the duty on blasting powder. Further appeals to the same quarter are sure to be listened to and carefully considered, and may be successful in obtaining the great boon of other reductions in the tariff on articles used in the working of coal mines and not manufactured in the Province. Every legiti-

mate effort should be used to induce the Dominion Government to lighten as much as possible the great weight which, in competition with American mines, now oppresses this most valuable industry.

The satisfactory report of the Government Inspector, will well repay perusal. The increased sales for "home consumption" is a significant fact worth pondering over by British Columbians.

The following table shows the output of each year from 1874 to 1880 inclusive:—

Year.	No. of Tons.
1874.....	81,000
1875.....	110,000
1876.....	139,000
1877.....	154,000
1878.....	171,000
1879.....	241,000
1880.....	268,000

"INSPECTOR OF MINES' OFFICE,

"Nanaimo, 20th January, 1881.

"SIR,—I have the honour to submit this, my first annual report, as the Inspector of Coal Mines for British Columbia, being the third under the 'Coal Mines Regulation Act.'

"On comparing returns for the year ending 31st December, 1880, with those for 1879, it is gratifying to notice that the coal trade in this Province is steadily increasing.

"At the close of the year 1879 there were about 15,000 tons of coal on hand, and the output of the year 1880 amounted to 267,595 tons, making available total of coal for export and sale of 282,596 tons, the produce of the mines of the Vancouver Coal Company at Nanaimo and Chase River Mines, and of the Wellington Collieries.

"Of the above quantities 225,849 tons were disposed of by shipment to San Francisco, and other ports in California; Portland, Oregon; Seattle, Washington Territory; Ounalaska, Alaska; Acapulco, Mexico; and the Hawaiian Islands; and by fuel supplies for the mail steamships, and calling steamers, being an increase of 34,764 tons over the shipments of 1879.

"Sales for Provincial consumption nett 46,513 tons, being an advance of 6,223 tons upon last year's sales. Thus there is left an aggregate of 10,476 tons to be carried forward to the year 1881.

"I beg to draw attention to the gratifying fact that the quantity of coal raised in 1880, as compared with previous years, fully maintains the progressive character of the coal mining industry of Vancouver Island.

"A glance at the totals for the three years since the introduction of the 'Coal Mines Regulation Act,' will confirm this view. The total output for the year 1878, was 170,000 tons; that for the year 1879, 241,000 tons; and the total output for the year 1880 was 268,000 tons.

"But, while the increased production is satisfactory, it is a matter of serious regret that the disadvantages under which the mine-owners of this Province labour in their competition with American producers still continue. These are (1) the imposition of 75 cents per ton at the United States ports of discharge, and which form the chief branch of the foreign market; (2) compulsory pilotage in this Province; and (3) the heavy duties payable under the Dominion Tariff upon colliery supplies.

"I feel it to be my duty, in the interests of all, to confirm the accurate representation of my predecessor in his last report as to the oppressive bearing of the Dominion Tariff upon the coal industry of this Province, which has to submit to a deduction from earnings of a large sum for Dominion duties upon the artisans' and miners' tools, and miscellaneous articles in every day use at the Collieries, besides which, there are the duties on mining machinery and plant.

"I am able, however, to report a slight diminution of the Tariff, for which the Dominion Government is entitled to credit. Through the exertions of the Hon. A. Bunster, M.P. for Vancouver District, a concession was made in favour of the miner, of a drawback of half the duty payable under the Tariff upon blasting powder actually used by the miners in this Province since the 1st of April, 1880. This concession, small as it is in comparison with what is actually needed, is a boon to the coal miner, who is relieved thereby from what had been virtually a tax of \$1 to \$1.50 per month on his wages.

"In this connection I trust I may be pardoned noticing, on behalf of employers and workmen engaged in the coal enterprise in my district, that the rates of freight preclude the manufacturers of the Eastern Provinces from furnishing our Collieries with supplies, and, there being no immediate prospect of manufactories being established in this Province, it appears manifestly unjust to continue the application of the Tariff, in its entirety, to the coal trade. I would therefore suggest that the Dominion Government should be asked to grant a total drawback of the duties on all articles thus not obtainable either in this or the Eastern Provinces, to such extent as to make their importation as favourable as if they were purchased in Eastern Canada, and said drawback to be applied to such articles as are actually used in the Collieries of British Columbia. Such concession might, in my opinion, be wisely and gracefully made, so as to foster, aid, and encourage our coal industries, which would even then be heavily weighted in the race against American competition by the pilotage dues and the impost on coal entering into the United States of 75 cents per ton.

"The coal mines not in operation during the past year are the Union (which can hardly be called a mine, seeing that very little coal has been taken out), Baynes Sound, and Harewood Company. The machinery is all taken away from Baynes Sound Mine.

"Since 12th June, the other mines have been inspected as follows: Nanaimo Collieries, Chase River Mine, and other mines belonging to the Vancouver Coal Company.

"I have inspected these on ten different occasions, besides four or five times which I did not record when I was looking at the machinery and other works above ground. I always found those mines in good order, and safe to work. Sometimes the brattice was behind a little, but where there is no gas to contend with, instead of nine feet, as in the 'Coal Mining Act,' in my opinion, eighteen feet would be a safe distance to have it from the face; if closer than that, it is always liable to be broken down when blasting. On my inspection of Chase River Mine, there were 42,710 cubic feet of air per minute circulating for the consumption of (51) fifty-one men and three mules, which is an abundant supply. Reporting more fully, I may state in reference to Chase River Mine, that it has been almost entirely free from fire-damp; nevertheless, there are two firemen who examine all the workings, morning and noon of each day. It is very seldom that they ever discover any gas, and, if so, only in small quantities.

"During my personal inspection of this mine, at no time was I able to find any gas; and since my inspections were not confined to any particular times, the manager or other officials did not know I was about to make an inspection until they saw me at the mine. Sometimes I went through the greater portion of the mine, left, and did not see any of them, so that thus I obtained very good evidence of the general condition and usual state of the works. From my own measurements, I found the coal to vary in thickness from four to seventeen feet. This coal is worked out from a slope about 1,700 feet long, with levels to both sides. Those at present working are known as No. 3 and No. 4 levels. On the north side this mine is connected with the Douglas Pit workings, at a point where formerly coal was taken out, but it was found much cheaper to bring it out here. The ventilation of this mine is caused by a large furnace at the bottom of the upcast shaft; the air is conducted on the separate split system. There are four main divisions from the slope, two to each side, or one for each level, where the air is then conducted to and around the face of the workings, and back again to the furnace, where it forms one current. At no time did I find less than 35,000, or from that to 44,000 cubic feet of air per minute circulating in the mine.

"I always found plenty of timber on hand, and with but few exceptions, the timbering is of a substantial nature and executed in a workmanlike manner, and, as far as I could see, it is a safe mine to work in. In these works they are greatly obstructed by 'faults' and 'wants' in the coal, which make the product of this mine less than it would otherwise be.

*"Fitzwilliam Mine*

"Is being reopened, but there is not much doing at present. The coal which is being worked is close to the slope, and about 1,200 feet from the entrance of the mine; the coal here is two feet six-inches, and of a good quality. This mine is well ventilated by a furnace, and as there are only six miners working here at present, they have plenty of air; but more men from time to time may be employed.

*"Douglas Pit.*

"At present there is no coal being taken out of this mine, but there are good prospects of finding coal in a rock tunnel which is being drifted out from the bottom of the shaft. The coal from the lower workings goes to the Chase River Mine.

"The Vancouver Land & Mining Co. have conducted extensive explorations throughout their west and south coal fields, and in the Douglas seam, during the year 1880. In the west field a shaft was sunk 114 feet through to the rock, and the Company's valuable diamond drilling machine is now boring through the measures; and a hand-bore, which is down about 370 feet, is also at work at the western part of the field. In both the diamond drill and hand-bores, the prospects are so far encouraging. In the south field, a large area of coal land has been proved by diamond drill boring in different places. South of Chase River a prospecting shaft has been sunk, from which a drift has been carried to the face of the coal, and a slope is now being driven in order to thoroughly test the seam. Steam winding machinery and pit headworks have been erected at the shaft mouth, and there is reason to believe that a large and important coal mine will be developed by the Vancouver Coal Mining Company upon this portion of their property. This Company, I believe, also contemplate opening an extensive mine near the town. The Douglas seam has been explored some distance below the "great pitch" by the diamond drill, and these efforts have been rewarded by the discovery of a ten-foot seam of coal.

*"Wellington Colliery.*

"In this mine they have been working steadily the greater part of the year. Everything connected with this Colliery is in first class order. The mine is ventilated by a large furnace at the bottom of the upcast shaft; the air is conducted on the separate split system, with the divisions in the slope; the air after being conducted through the airways and round all the workings, returns to the furnace. On my last inspection there were 44,000 cubic feet of air per minute in circulation. This mine being connected with South Wellington Mine, a section of it is aired from that place, and now that it is extensively opened and well ventilated, there is very little gas met with. Since the 10th June I have inspected this mine seven times, but never met with any gas, although in some of the stalls the firemen frequently see a little of it when they are going their rounds of examination previous to the miners going to work. The coal in this place varies in thickness from six to ten feet, and although there have been several accidents during the year, I consider this a safe mine to work in; there is always plenty of timber on hand and lying conveniently for the use of the miners.

*"South Wellington.*

"Since July last I have examined this mine seven times. The entrance is by a shaft 140 feet deep. The coal is hoisted by two powerful engines which take 25 cwt. of coal at one time. In this mine everything is in the best of order. Travelling roads and airways are alike perfectly safe, and of large dimensions. I endeavoured to find if there was anything to complain of, but there was nothing. This mine is ventilated by a fan erected on the upcast shaft. The fan is 30 feet in diameter, and 8 feet wide, worked by two powerful engines, one at each side, and if anything should go wrong with one, the other would work the fan, and thus there would be very little stoppage in the ventilation.

"On the 5th October, while I was there, the fan was making 39 revolutions per minute, and at that time the quantity of air travelling in the mine was 72,000 cubic feet per minute to supply 90 men and 3 mules. At this time a 'fault' was got in No. 2 level, which was giving off much gas, but now there is very little gas to be found at any time in the mine. The runners who take the coal to the bottom of the shaft, found it very disagreeable because the air was so strong that it put their lights out. They therefore reduced the motion of the fan, and, on my last inspection, it was making about 17 revolutions per minute, and the air circulating in the mine was 42,000 cubic feet per minute, which is ample for all the men employed in the mine. This is the first ventilating fan, on a large scale, in the Province, and is a great benefit to the proprietors in working their coal, and also to the miners, as they get a constant supply of fresh air. Great praise is due to the managing partner for expending so much in the erection of such a machine, and I hope soon to see more of them in use in this Province for the ventilation of the coal mines.

"At present another shaft is being sunk, size 17 feet by 7 feet, in the valley of the Millstone River, where it is anticipated coal will be got early in summer, and when in full operation it will add greatly to the product of this Colliery.

"In the report of my predecessor for the year 1879, mention is made of the discovery of a first-class seam of coal under the estate of Messrs. Sabiston and Horne. This discovery was made by Messrs. John Dick and Jacob Blessing. After going to a large expense they have been rewarded by finding coal in a shaft 40 feet deep. The upper ply of this is five feet thick, and of a first-class quality. There is an in-drift in from the bottom of the shaft 280 feet, which proves the coal to be of a uniform thickness; it is to be hoped that the bottom ply will turn out as good. Some of the coal was sent to San Francisco for trial, and the report from that place says it is as good as any coal which comes from British Columbia. There were about 200 tons brought to Nanaimo for domestic use, which gave general satisfaction. The said coal proves to be the famed Wellington seam, which must extend all down the valley of the Millstone River from the Wellington Mine. This discovery is within two miles of Nanaimo Harbour, with a very easy access thereto, and is a valuable acquisition to the coal fields of Nanaimo.

*"Accidents in Nanaimo and Wellington Collieries for the year 1880.*

- January 17th.—D. Stantin; slightly burned by an explosion of gas in South Wellington Mine.  
 March 23rd.—Henry Westfield, miner, had his head injured by a piece of coal falling on him while at work in the Wellington Mine.  
 April 24th.—William Pelligrew, miner, had his arm broken by a piece of coal falling on him while at work in the South Wellington Mine.  
 April 26th.—Bonette Cæsar, miner, had his collar-bone broken by a piece of coal falling on him while at work in the South Wellington Mine.  
 May 4th.—James Williams and William Ferrday, miners, were slightly burned by an explosion of gas in the South Wellington Mine.  
 May 5th.—Henry Westfield, miner, was hurt by a piece of coal falling on him while at work in the Wellington Mine.  
 June 8th.—James Dolan, miner, and Ah Bow, (Chinaman) were killed by a fall of rock from the roof while at work in the Wellington Mine.—[See inquest.]  
 July 22nd.—John Gow, miner, was hurt by coals thrown from a shot or blast in the Wellington Mine.  
 August 12th.—Charlton Pearson, miner, was injured about the back and shoulders, by a piece of rock falling on him while at work in the new Douglas mine, (Chase River).  
 Sept. 18th.—Louis Corto, miner, was slightly burned by an explosion of gas in the Wellington Mine.  
 " " John Dickinson, and McGargal, miners, were burned about the face and hands by an explosion of gas in the South Wellington Mine.  
 Nov. 8th.—William Herman, Pithead-man, had one of his legs broken by falling from trestle-work at the new Douglas Mine.  
 Dec. 23rd.—Ah Frong (Chinaman), had his leg broken and was otherwise seriously injured by the running away of a car on a self-acting incline in the new Douglas Mine. This Chinaman died on 4th January, 1881.

"It will thus be seen that there have been three fatal accidents during the year, viz.: one miner and two Chinamen. Two of the three accidents happened while the men were at work in their stalls, through an error in taking out the props before other supports were put to the roof; hence a fall of rock 30 feet by 12 and 3 feet thick.

"Five serious accidents to miners occurred by the falling of the roof or coal on them while at work in their stall, and one by coals thrown from a shot or blast.

"From these facts, it becomes apparent that the class of accidents—both serious and fatal—resulting from the falling of the roof or coal in the stalls where the miners work, and which being within their control might be averted, is about equal in number to those which result from all other causes combined.

"The accidents of this class can only be lessened by more care and caution on the part of the miners themselves. The special rules under the Coal Mines Regulation Act certainly contain a provision subjecting the miners, while they are exercising their own skill and experience in doing their best to make their working place secure, to the general supervision of the Manager or some competent person acting for him, who, on finding the miners careless or incapable of keeping their stalls safe, can direct them to do what he thinks best for their safety, or he may cause them to leave their places until such time as they may be made safe by other workmen. These remarks apply to the danger of accidents arising from the falling of the roof, when not being properly timbered, or from the coal not being properly spragged where known to be loose; and it will only be through the exercise of care and caution on the part of the working miners

themselves that this class of accidents can be obviated. The Manager or his Superintendent cannot as a rule be more than a few minutes in each stall, but he may prolong his visit where he perceives he is most required; but as workmen are ever liable to danger, therefore more caution ought to be exercised.

"From personal observation, I have always seen plenty of timber put down at the mine for the use of the miners, so that each man can take what length his place requires, and by putting his number on the props the men who run out the coal will know where to take them.

"It will be observed in the list of accidents that there were six persons slightly burned by explosions of gas. Two of these happened about noon. The men went out from their stall for about an hour, and when they came back to work they did not take the precaution to search for gas in their place because they had not seen any for two months previously; and so, on this day, they went in with their naked lights as on former occasions. There was plenty of air going close to the face, but there was a large piece of coal which had been blasted out and where the air could not get behind. Here the gas had collected, and it ignited at the naked light, burning two men on the face and hands. As respects all these accidents, though slight, no blame was attributable to the Companies so far as I could find out.

"It shows that in all mines where gas is found there cannot be too much care exercised in having the place examined with a safety-lamp before any one goes back to his stall after being out for a time.

"I have frequently inspected all the mines, travelling ways, air ways, old waste workings, and all workings in this district, and only once did gas flash in my lamp. That happened in No. 2 level, South Wellington, where there was a 'fault' which was giving off a great quantity of gas. The miners were working by the light of the safety-lamp; the brattice was about two feet from the face, and there were 6840 cubic feet of air per minute going round the end of it; but with all that the gas would show itself in the safety lamp on being held close to the roof.

"The firemen frequently come in contact with a little gas when going their rounds of inspection in the Wellington and South Wellington mines, but previous to their notifying the miners that all is clear and safe for them to proceed to work. Where there is danger known to exist they notify the miners not to go to such places until they are made safe.

"The following is a statement showing the amount of coal raised and the number of fatal and non-fatal accidents that have occurred during the last three years:—

Year.	Tons raised.	Fatal Accidents.	Non-fatal Accidents	Tons raised per life lost.
1878 .....	170,496	3	7	56,832
1879 .....	241,301	12	18	20,108
1880 .....	267,595	3	13	89,198

"Appended hereto are the annual colliery returns.

"I have, &c.,

"ARCHIBALD DICK,

"Government Inspector of Mines.

"To the Hon. the Minister of Mines."

#### NANAING COLLIERIES.

Output of Coal for 12 months ending 31st December, 1880.	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. 1st, 1881.
77,734½ tons.	19,641½ tons.	63,181	10,800	5,712½

NO. OF HANDS EMPLOYED.			WAGES PER DAY.		
Whites.	Chinese.	Indians.	Whites.	Chinese.	Indians.
Men ..... 229	61	7	\$2 to \$3 75	\$1 to \$1 25	\$1 to \$1 50
Boys ..... 15					

Miners' earnings per day..... \$2 50 to \$5.

NOTE.—The number of hands returned 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:—\$110,000.

**DESCRIPTION OF SEAMS, TUNNELS, LEVELS, SHAFTS, &c., AND NUMBER OF SAME.**

Chase River Mine, called New Douglas, has been working steadily the whole year, excepting stoppage of six weeks during a strike. Hampered by faults, this mine is not producing as largely as heretofore.

Douglas Mine has not been in operation since July last. The coal remaining to the rise of the "great pitch" is being taken out by way of New Douglas Mine.

Fitzwilliam Mine is being re-opened, and is producing a small quantity of coal for shipment.

M. BATE.

**WELLINGTON COLLIERIES.**

Output of Coal for 12 months ending 31st December, 1880.	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. 1st, 1881.
189,861 13-20 tons.	26,872 tons.	162,668 tons.	4,442 10-20 tons.	4,764 3-20 tons.

NO. OF HANDS EMPLOYED.				WAGES PER DAY.		MINERS EARNINGS PER DAY.
Whites.	Chinese.	Indians.	Total.	Whites.	Chinese.	
Men.... 259	266	None.	525	\$2 to \$3 75	\$1 to \$1 25	\$3 to \$4 50
Boys ... ..						

Name of Seam or Pits:—Wellington.

Value of Plant:—\$245,000.

**DESCRIPTION OF SEAMS, TUNNELS, LEVELS, SHAFTS, &c., AND NUMBER OF SAME.**

Six to 10 feet thick; 7 levels working; 1 shaft working, 1 not working and 1 sinking. 1 slope working; 2 air shafts—1 of these large furnace at bottom, the other ventilating fan, 30 feet diameter, driven by pair of engines.

**DESCRIPTION AND LENGTH OF TRAMWAY, PLANT, &c.**

Ten miles of railway, 5 locomotives, 150 waggons, 5 stationary engines working, 2 engines not used at present, 4 steam pumps; 5 wharves for loading vessels, with bunkers, &c.

DUNSMUIR, DIGGLE & Co.



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"WELLINGTON COLLIERY, B.C.,  
"14th June, 1880.

"Inquest on the bodies of James Dolan and Ah Bow was resumed at Wellington before Coroner W. R. Spalding and a Jury.

"Archibald Dick, Inspector of Mines, appeared on behalf of the Government.

"Thomas Corlet, miner, having been duly sworn, stated:—I have seen the bodies of the deceased, and I identify them as those of James Dolan and Ah Bow, a Chinaman. On Tuesday, the 8th inst., I was at work in No. 7 Level, next place to where James Dolan and Ah Bow were at work, and at about a quarter to 8 o'clock a.m. James Dolan came to me and asked me to help him to put up a stringer, which I did. I then went back to work, but had not gone to my place when I heard a cave, and immediately returned to see what was the matter. I saw that the roof had fallen, and I could see the hand of the Chinaman, Ah Bow, sticking out from under the fallen timber and stone. Just at this time Mr. James Dunsmuir, the Manager, and Mr. Robert Scott, Foreman, arrived. I assisted to remove the rock, &c., from the body of the Chinaman, and on getting him out found he was dead. We continued removing the fallen matter until we came upon the body of James Dolan, who we also found was dead. We carried the bodies up to the surface, and the medical officer of the mines saw them at once. I consider the cause of the cave was owing to the men having the centre props from under the stringers, which they ought not to have done.

"Rees Evans, miner, having been duly sworn, stated:—I have seen the bodies of the deceased, and I identify them as those of James Dolan and Ah Bow. At about quarter-past 8 o'clock a.m. on the 8th instant I was working in my stall in No. 7 Level when James Dolan came to me and asked if I would help him to put up a stringer. I went as soon as I finished filling my box. James Corlet was there before me, and they had one end of the stringer up waiting for me to come. I assisted in putting it up, Dolan and myself holding it in position while Thomas Corlet fastened it with a wedge, when Dolan said, 'Thank you boys! I can get along now.' Corlet and I then started for our work, and had only got about 10 yards off when I heard the cave. We immediately turned back and called out but got no answer. We tried to go on the lower side of the cave but could not manage it, and at this time the Manager, Mr. James Dunsmuir, and Robert Scott, the Foreman, arrived. We then went to work on each side of the cave to move the rocks, and came upon the body of the Chinaman, Ah Bow, who was quite dead, and a little further on we found the body of James Dolan, also dead. I assisted to bring the bodies to the surface, and the medical officer of the mine, Dr. Jones, saw them at once.

"Robert Scott, Overman of the mine, having been duly sworn, stated:—It is customary in the starting of a heading like the one that the accident occurred in for miners to put their own stringers up, but in this case he (witness) had made arrangements with the deceased to pay him for putting the stringer up as one had broken before.

"After a few minutes' deliberation, the Jury returned a verdict of accidental death, caused by taking out the centre props from under the stringer."

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# PROVINCE OF BRITISH COLUMBIA.

## TABLE

Shewing the actually known and estimated yield of gold; the number of Miners employed; and their average earnings per man, per year, from 1858 to 1880.

Year.	Amount actually known to have been exported by Banks, &c.	Add one-third more, estimate of gold carried away in private hands.	Total.	Number of Miners employed.	Average yearly earnings per man.
1858 (6 months).	\$ 380,265	\$ 130,088	\$ 520,353	3,000	\$ 173
1859	1,211,304	403,768	1,615,072	4,000	403
1860	1,671,410	537,133	2,228,543	4,400	506
1861	1,999,589	666,529	2,666,118	4,200	634
1862	} 3,184,700	1,061,566	4,246,266	4,100	517
1863			} 4,400	482	
1864	2,801,888	933,962	3,735,850	4,400	849
1865	2,618,404	872,801	3,491,205	4,294	813
1866	1,996,580	665,526	2,662,106	2,982	893
1867	1,860,651	620,217	2,480,868	3,044	814
1868	1,779,729	593,243	2,372,972	2,390	992
1869	1,331,234	443,744	1,774,978	2,369	749
1870	1,002,717	334,239	1,336,956	2,348	569
1871	1,340,530	449,860	1,790,440	2,450	734
1872	1,208,229	402,743	1,610,972	2,400	671
1873	979,312	326,437	1,305,749	2,300	567
1874	1,383,464	461,154	1,844,618	2,868	643
1875	1,856,178	618,726	2,474,904	2,024	1,222
1876	1,339,986	446,662	1,786,648	2,282	783
1877	1,206,136	402,045	1,608,182	1,960	820
1878	1,062,670	1 fifth 212,534	1,275,204	1,883	677
1879	1,075,049	,, 215,009	1,290,058	2,124	607
1880	844,856	,, 168,971	1,013,827	1,955	518
			\$ 47,140,889		