

# THIRTEENTH ANNUAL REPORT

—OF THE—

# PROVINCIAL BOARD OF HEALTH

—FOR THE—

FISCAL YEAR ENDED 31st MARCH, 1910.



THE GOVERNMENT OF  
THE PROVINCE OF BRITISH COLUMBIA

*PRINTED BY AUTHORITY OF  
THE LEGISLATIVE ASSEMBLY OF BRITISH COLUMBIA.*

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VICTORIA, B. C. :

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1911.

THIRTEENTH ANNUAL REPORT

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THE GOVERNMENT OF MADRAS  
THE LEGISLATIVE ASSEMBLY OF MADRAS

Printed by the Government of Madras, at the Government Press, Madras.  
1910.

*To His Honour the Honourable Thomas Wilson Paterson,  
Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR :

The undersigned has the honour to present the Thirteenth Annual Report of the Department of Public Health for the fiscal year ended 31st March, 1910.

All of which is respectfully submitted.

HENRY ESSON YOUNG,  
*Provincial Secretary.*

*Victoria, B. C., 12th January, 1911.*

To His Honor the Honorable John W. Johnson  
Governor of the State of New York

May 1, 1913

The undersigned has the honor to present the Thirtieth Annual Report of the Department of Public Health for the fiscal year ended 31st March 1913. All of which is respectfully submitted.

HENRY HASKIN YOUNG

Commissioner

Albany, N. Y., 1st January 1913

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## REPORT OF THE PROVINCIAL BOARD OF HEALTH.

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PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., July 11th, 1910.

*To the Honourable Dr. Young,*

*Provincial Secretary, Victoria, B. C.*

SIR,—I have the honour to submit the Thirteenth Annual Report of the Provincial Board of Health, being for the year 1909.

The infectious disease returns do not in the main indicate much improvement over last year. Diphtheria returns for last year show 235 cases, with a death rate of 12.3 per cent. This year shows diphtheria reduced to 130 cases and a death-rate of 10.7 per cent. This is a distinct advance and strong evidence of the care and energy of our medical men. If parents and guardians took more interest and did not delay in getting professional assistance, the fatal results would be still more reduced. With our present day knowledge and power, it is certain that the diphtheria death-rate could be reduced to 1 or 2 per cent., or still lower.

In the year 1890 Behring advanced the use of antitoxin. Since that date the methods of its preparation have been improved, and larger and more concentrated doses are now being used. Prior to the use of antitoxin, even under the best medical supervision, the death-rate from diphtheria varied from over 40 to 50 per cent., while under its use the death-rate varies from 4 to 16 per cent.

In the Boston City Hospital, before antitoxin was used, the death-rate from diphtheria varied around 48 per cent. At the present date the death-rate varies from 11 to 9.5 per cent. This is strong evidence, and the consequent duty of responsible authorities is plain.

At the present day antitoxin is a commercial article, and naturally the producers, agents, and sub-agents look for their percentage of profits. Such conditions are to be regretted, the article being too essential to the community to be made a means of money-making.

Experience has shown that small doses of antitoxin are ineffective as a curative. The successful rule is—large doses repeated. The cost of such treatment is heavy, and doctors hesitate to press for it, because of expense.

The antitoxin used in Canada comes from England, France, and the United States. In England and France the authorities doubtless have regulations governing the production of this article; in the United States, from where we get most of our antitoxin, it is examined as to purity and potency. Whether this examination extends to that imported into Canada, I do not know; but I do know that there is no medical inspection or examination made by the Canadian authorities.

The instability of antitoxin is one of its characteristics, and to maintain its purity and potency, great care must be exercised in its keeping. The passing of such an article from producer to agent, and from agent to sub-agent carries its risk, and on account of its use being of such overwhelming importance, chances should not be taken.

The length of time antitoxin keeps pure and potent largely depends on how it is kept, and when it is remembered that diphtheria appears at such irregular intervals, it will be apparent how difficult it becomes to successfully handle it from a commercial aspect. I am sure that druggists, as a class, do their best, but, on the other hand, I have personal knowledge of the sale to the public of antitoxin below standard.

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From above stated facts I beg to advance the suggestion that antitoxin be manufactured in this country. By such action, this essential curative agent would be cheaper, our knowledge of date of production would be absolute, and purity and potency would be guaranteed. One producing laboratory could supply all Canada, and the various Provinces would, I have little doubt, be willing to meet expenses for material supplied.

I therefore beg to recommend that the Dominion Government be petitioned to establish a laboratory for the manufacture of sera, especially diphtheria antitoxin.

Last year our Government issued orders for the establishment of stations throughout the Province for the upkeep and distribution of antitoxin at cost to municipalities, and free to people outside municipalities unable to pay. This action has been successful and useful. The serum is bought from one of the best firms in the States, but what guarantee have we as to purity and potency?

#### SCARLET FEVER.

During the year scarlatinal infection was widespread, and 318 cases were reported. This compared unfavorably with last year, when 120 cases were reported. The death-rate for the year is 5.01 per cent., as against 6.6 per cent. last year.

To date, a satisfactory specific for scarlet fever has not been found. Experience, however, tells us that careful treatment is demanded, not only to save life, but to prevent complications which, during this disease, cause a majority of the deaths, or may permanently interfere with health during lifetime. The virulence of the disease varies and is sometimes so light that parents neglect to get professional assistance. This is a terrible mistake, not only for the child's sake, but because of want of consideration to neighbours. The mild disease may, and too often does, leave lasting impairments, and when not rigidly handled spreads the infection. Such action is unjust and an appeal is now made to parents to act as they themselves would naturally feel others should act.

The duty, then, of parents is plain—When in doubt, get professional assistance and report to local authorities.

#### TYPHOID FEVER.

Typhoid fever returns show fifty six deaths during the year. This is too high, and when we know the disease results from carelessness, it is deplorable to see such disastrous loss among our people. The typhoid germ was discovered and isolated by Eberth, who proved:—

- 1st. That it is the one and only cause of the fever.
- 2nd. That it cannot develop spontaneously.
- 3rd. That its propagation and multiplication are practically confined to the intestines and bladder.

Years of experience have confirmed Eberth's announcement, and although we have such a clear and definite exposition placed before us, yet we fail to deal with prevention in accordance with the demand of such plain facts.

Everyone now knows that the great channel of conveyance of the germ to man is water and milk; yet Dr. William Osler tells us that "Typhoid bacilli do not naturally inhabit water or milk"; and it is now accepted that the propagation and multiplication of the typhoid fever germs are confined to the system of persons ill with typhoid fever. Is it not, then, painful to note the indifference of the public in neglecting to demand efficient handling of typhoid fever cases?

A person suffering from typhoid fever should, when possible, be confined to hospital, or be cared for by a trained nurse. Failing this, an attendant should be selected who does not

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assist in preparing food for the rest of the household, or assist in any of the common household work outside of the sickroom. The attendant should wear a light over-dress which can be changed and washed frequently. Remembering that the infection may be conveyed by the hands, she should wash her hands carefully before leaving the sickroom or after handling the patient or bedding.

The typhoid germs are conveyed chiefly by the bowel and bladder discharges; consequently, these must be carefully disinfected. This is quite efficiently done by mixing the discharge with a large quantity of common slaked lime or with three times its bulk of 1 in 20 carbolic acid solution. Bedding and clothing should be soaked in carbolic acid solution, 1 in 20, for two hours, or bichloride of mercury, 1 in 1,000 solution, and then boiled. Bedpans and urinals should be washed with a similar disinfecting solution and a little of the solution left in them when not in use.

*Flies.*—Every effort should be made to keep away flies from the patient's room. They light on faecal material and on urine. Thus their many legs become contaminated, and when they alight on milk and other foods infection follows, and what the results may be no one can foretell. If possible, the windows should be screened, but if flies do get into the room every effort should be made to destroy them.

Above suggestions strictly carried out will prevent the germ from entering the system and starting the disease, either by direct entry or through the medium of water. Is it not, then, a reasonable demand that all persons in charge of typhoid fever cases act strictly in accordance with rules laid down?

#### SMALL-POX.

The great Sydenham states that "Small-pox has its peculiar kinds, which take one form during one series of years, and another during another." This view is strikingly illustrated in the epidemics now prevailing in the United States and Canada. The disease is mild and the death-rate light.

It is a question whether or not we should be thankful for such epidemics. Unfortunately, we know that the public fail in their duty to themselves and to the community by their carelessness or opposition to vaccination. A mild attack of small-pox is a good vaccination, and but for the danger of severe developments we would be almost justified in thus assisting people who refuse to protect themselves.

When in the beginning of the nineteenth century Dr. Jenner discovered and brought forward to public notice the protective power of vaccination, the death-rate from small-pox was appalling. At the present day the small-pox death-rate is a mere fraction of what it was before vaccination became general. Vaccination and revaccination by every member of the community would mean the entire abolishment of small-pox. This would be an ideal condition which I fear will not come in our time.

Last year we had 75 cases of small-pox in the Province; this year there were 180 cases. Such a large increase was, to an extent, placed beyond our power because of an epidemic among the Indians in the Nanaimo and Cowichan Agencies. There were at least 80 cases in these Agencies.

In January I visited a city on Vancouver Island to advise *re* small-pox conditions among its people. In the usual effort to trace the source, it became apparent that the trouble came from the Indians. I immediately made strong demands for action to the local Indian Department, and not receiving satisfactory assurance that the needed action would be taken, I visited Duncan on January 31st. In my report to you on the following day may be found:—

"I find that small-pox is present at the Koksilah Reserve and also at the Westholme Reserve. The disease is present at two centres on the Koksilah Reserve with five cases, and in one family at the Westholme, five members being affected."

"Regarding the action adopted by the Indian Department, I am sorry to have to report that same is most unsatisfactory. I have made certain recommendations to the Indian Agent at Duncan and to the Department at Victoria, and expect to get an answer to-day as to whether my recommendations will be carried into effect or not."

Above were my views. They were represented to the Indian Department, as were also recommendations, among which may be seen the following :—

"1st. That all the Indians be vaccinated.

"2nd. That strict quarantine be established on houses in which the disease is present.

"3rd. That quarantine of all reserves be established.

"4th. That all gatherings, religious, social, or otherwise, be prohibited.

"In order to carry out the above effectually, I am satisfied that at least eight or ten men will have to be sworn in as special constables, who would report to you any infringement of regulations. I trust you will be able to see your way to carry all these matters into effect, and I would like to have a statement from you as to what is being done in the matter."

As a result of subsequent interviews, I concluded that my view of the conditions was not accepted, and therefore recommended that Provincial guards be placed in charge of the reserves. This was accordingly done. From this date to clearing of epidemic, painful difference of view as to action was in evidence. The Provincial Board of Health acted under pressure. The need was apparent and neglect would have developed serious consequences, not only to the Indians, but to the white population.

The cost of this action was over \$2,000. A small proportion of this has been met by the Indian Department, but over \$1,800 still remains due.

#### INSPECTION OF LUMBER CAMPS.

The order issued for the sanitary inspection of lumber camps has been acted on, and 224 reports have been submitted. Provincial constables are the Inspectors, and it is pleasing to report that care and intelligence are strongly in evidence in their work. One visit was made to each camp. After inspection, orders were given when conditions so demanded, and recommendations were made whenever it appeared that certain changes would assist in obtaining better health conditions.

Every year it is becoming more evident that camps are centres needing great attention. Owners, recognizing the impermanency of such places, hesitate to spend more money than what is absolutely demanded. As a result, there are many camps not in a fit condition for man's living-quarters.

As is already reported, the police officers have acted well and to the best of their ability, but one visit a year is not enough, nor are the constables possessed of the knowledge needed for the work. I, therefore, beg to recommend that a special Inspector be appointed who may devote his entire time to health matters. Such an Inspector, by remaining in a camp as long as may be needed, can assist owners by pointing out certain requisites and their advantages, announcing that frequent visits will be made, and that neglect to carry out the regulations will be met by legal proceedings.

#### PRINCE RUPERT.

Prince Rupert was selected as the terminus of the Grand Trunk Pacific Railway in 1905. As a result, a gathering of people "squatted" on the island. The number of squatters increased each year, and when in 1909 the railway construction camps started, the increase in population became active. Complaints as to sanitary arrangements were submitted, and as a

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result I was instructed to visit Prince Rupert and adopt such action as might be considered advisable. I arrived in Prince Rupert on April 11th, and accompanied by the Government Agent, Mr. Manson, Dr. Ewing, Health Officer, Mr. Fred Ritchie, Engineer, and Constable Vickers, a thorough inspection was made.

The population was 1,500 or more, who lived in rough lumber shacks or tents quickly constructed on peaty and wet soil. The lands on which these constructions were placed were not owned or even rented by the owners of the buildings. Naturally, such persons did not take interest in temporary quarters, and as a result the sanitary arrangements were found to be of a most primitive order. Were such conditions permitted to extend over the summer months, the results might be serious.

In consultation with Mr. Manson, I acted on instructions and placed an Inspector in charge of sanitary conditions. Special regulations were adopted, printed and published, and our Inspector, Henry Avison, gave his entire time to carrying them into effect.

Mr. Avison was appointed on May 10th and submitted twenty-five formal reports to this Office. Three cases of typhoid fever represented the infectious disease present from May to December 31st. Such freedom from any serious disease is due to the activity and intelligence of our Inspector, and therefore, with confidence, I beg to recommend that his Office be continued.

Appended are Dr. Bapty's report on laboratory work and distribution of antitoxin; also Dr. Bapty's and my own reports to you as our Minister.

I have the honour to be,

Sir,

Your obedient servant,

C. J. FAGAN, *Secretary.*

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ANTITOXIN AND LABORATORY REPORTS.

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PROVINCIAL BOARD OF HEALTH,  
VICTORIA, B. C., January 1st, 1910.

*Dr. C. J. Fagan,*  
*Secretary, Provincial Board of Health, Victoria, B. C.*

SIR,—The value of antidiphtheric serum in the treatment and prevention of diphtheria is no longer questioned; but owing to its excessive cost, its use is at times delayed with dangerous risk. Bearing in mind the disadvantages under which many might suffer on this account, the Provincial Board of Health arranged to procure large amounts of antitoxin at very low cost, and supply it to municipalities at the same rate.

In April, 1909, an agreement was made with Messrs. Parke Davis & Co., of Detroit, Michigan, for the supply of diphtheria antitoxin for a period of five years. The following was the cost specified:—

For 1,000 unit packages .....	\$ 60
" 2,000       " .....	1 00
" 4,000       " .....	1 80
" 5,000       " .....	2 20

Compared with this the usual retail price is:—

For 1,000 unit packages .....	\$2 00
" 2,000       " .....	3 50
" 4,000       " .....	6 50
" 5,000       " .....	7 50

In May a supply of antitoxin was placed at the following stations:—

Provincial Board of Health Office, Victoria; City Health Officer, Vancouver; and the Government Agent's Office, at New Westminster, Revelstoke, Greenwood, Cranbrook, Nelson, and Vernon. In December a supply was also placed in Nanaimo.

From these points municipalities may obtain antidiphtheric serum at the rates above mentioned, and where necessary Provincial Health Officers may be supplied.

So far, this plan of district supply appears to have worked very well; but I regret to report that many municipalities have not yet availed themselves of its advantages.

In Victoria the supply is kept at a low temperature in an ice-chest, under which conditions it maintains its potency for a very long time.

Besides antidiphtheric serum, the Laboratory has on hand Flexner's antimeningococcic serum, antitetanic serum, and antistreptococcic serum.

A small supply of fresh vaccine is also kept.

I have, etc.,  
(Signed)       WALTER BAPTY.

## LABORATORY OF THE PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., January 1st, 1910.

*Dr. C. J. Fagan, Secretary,**Provincial Board of Health, Victoria, B. C.*

SIR,—I beg to report on the work of the Laboratory for the year 1910. The amount of matter sent in for examination, while not great, is in proportion to the amount sent to Government Laboratories in provinces with larger populations.

In the past year the most valuable addition to the Laboratory has been a complete post mortem set. The general equipment also has been added to, so that at all times we are prepared to investigate any local epidemic of disease.

In February an examination of various antitoxins was made, a report of which was submitted. In February I made journeys to Duncan, Nanaimo, and Port Neville, in connection with small outbreaks of small-pox; reports on all of these have been submitted.

Of sixty-seven sputa sent here for examination, tubercle bacilli were found in twenty-three. Nineteen throat-swabs were examined for diphtheria bacilli, and of these only three were positive. The small number of swabs sent into the Laboratory for diagnosis would point to bacteriological examination being requested only in some cases when the presence of diphtheria is questioned, and no doubt many mild or atypical diphtheria cases pass unnoticed.

Only one blood serum was found positive to the agglutination reaction for typhoid fever of five sera examined.

I have, etc.,

(Signed) WALTER BAPT. Y.

## SMALL-POX.

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Reports re Epidemic of Small-pox among Indians of the  
Nanaimo and Cowichan Reserves.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., February 1st, 1909.

*To the Honourable Dr. Young,**Provincial Secretary, Victoria, B. C.*

SIR,—Acting under your instructions, I visited Duncan on January 31st, in order to inquire into the small-pox conditions reported to be existing among the Indians.

I find that small-pox is present at the Koksilah Reserve, and also at the Westholme Reserve. The disease is present at two centres on the Koksilah Reserve, with five cases, and in one family at the Westholme, five members being affected.

From the history I have been able to obtain, I am satisfied that small-pox has been present among these Indians for some time, and although it is believed by the Indian Agent that the trouble originally came from Vancouver, yet I cannot accept this, in view of the fact that there was one case of small-pox reported from the Nanaimo Indians on January 16th, and that the intercourse was constant.

I inquired into this particular case at Nanaimo, and find it was typical in character. I also find that there were a number of cases of chicken-pox reported, which affected adults as well as children. The opinion of the medical men in charge of these cases was that it was chicken-pox; yet it must be remembered that certain cases of the present type of small-pox are difficult to differentiate from chicken-pox; and when it is further remembered that chicken-pox is not a disease of adult life, and that many adults were affected, it is but reasonable to draw the conclusion that a mistake was made.

I will report to you later *re* this, also as to further development regarding the present situation.

I have, etc.,

(Signed)

C. J. FAGAN,

*Secretary.*

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., February 11th, 1909.

*Dr. C. J. Fagan,*

*Secretary Provincial Board of Health, Victoria, B. C.*

REPORT *re* SMALL-POX AT NANAIMO.

DEAR DOCTOR,—Acting upon your instructions of February the 3rd, I proceeded to Nanaimo, arriving there the evening of the same day.

On February 4th, the day following, through the kindness of Dr. Drysdale, the Indian Medical Officer, I was shown over the greater part of the Nanaimo Indian Reservation. Ten cases of small-pox, in active stages, were shown to me, some of them quite mild, but five quite severe. I was also shown several cases which had recovered, many of them showing the purplish pock-marks always present after a well-marked case of small-pox. I was informed that forty cases had occurred on this reservation. Quarantine was partially attempted, only in the houses where the severe cases had occurred. Notices were placed on the houses, but no guards were placed to strictly carry out isolation. Many of the milder cases have occurred in the large lodge-houses, or “rancheros,” and contacts have been into town, and to all the neighboring reservations.

No vaccination has been carried out, except in the case of one family, I believe, and as you know, sir, not one of these cases has been reported to the Provincial Board of Health.

It will be seen from this that immediate and vigorous measures are imperative to prevent a general epidemic over the whole Province.

I instructed Mr. Marshall Bray, the Government Agent at Nanaimo, to enforce quarantine on the reserves at Nanaimo, Nanaimo River, Nanoose, and Ladysmith.

In Nanaimo, several cases of so-called “chicken-pox” have occurred, many of these occurring in adults. As I was unable to secure an appointment with one of the medical practitioners, I was not able to see one of these cases. You, sir, however, have since seen a case, and passed your opinion as to the real identity of the disease.

I cannot assert as to the extent to which vaccination has been carried out in the Nanaimo District, but it would be well could general vaccination be enforced. I would also suggest, sir, that the Dominion authorities be urgently requested to vaccinate all Indians once in every three years.

Dr. Drysdale informed me that he believes the original case was contracted from an Indian woman from Comox, who visited the Nanaimo Reserve in January. A telegram from the doctor at Comox denies the existence there of small-pox.

While all these cases have been comparatively mild, only one death having occurred, to my knowledge, the true identity of the disease must be remembered. It is impossible for us to state when the mild forms may give rise to the virulent, with results more or less disastrous to our growth of population and commerce.

I am, etc.,

(Signed) WALTER BAPTY.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., February 20th, 1909

*The Honourable Dr. Young,*

*Provincial Secretary, Victoria, B. C.*

SIR,—On February 1st I submitted to you a statement of the conditions existing among the Indians on the reserves near Duncan. Among other points I reported that there was grave suspicion that the disease alleged to be chicken-pox, existing among the Indians at Nanaimo, was small-pox. Since the date mentioned I have made many reports to you verbally as to the existing state of affairs, and I now beg to submit a general statement as to conditions governing the period February 1st to date.

With your concurrence, I sent Dr. Bapty, of this Department, to visit Nanaimo and inquire into the conditions among the Indians there. His report confirmed the suspicion as to the presence of small-pox; and among other matters he states as follows:—

“Ten cases of small-pox in active stages were shown to me, some of them quite mild, but five quite severe. I was also shown several cases which had recovered, many of them showing the purplish pock-marks always present after a well-marked case of small-pox. I was informed that forty cases had occurred on this reservation. Quarantine was partially attempted only in the houses where the severe cases had occurred. Notices as to the presence of small-pox were placed on the houses, but no guards were placed to strictly carry out isolation. Many of the milder cases have occurred in the large lodge-houses or ‘rancheros,’ and contacts have been into town and to all the neighbouring reservations.

“No vaccination has been carried out except in the case of one family, and as you know, sir, not one of these cases has been reported to the Provincial Board of Health.”

“It will be seen from this that immediate and vigorous measures are imperative to prevent a general epidemic over the whole Province.”

In view of the serious statements contained in this report, I visited Nanaimo on February 6th, and from personal observations beg to confirm Dr. Bapty’s opinion, that small-pox was present among the Indians.

I had many personal interviews with the Indian Department in Victoria, and represented as strongly as was in my power that the action taken was not satisfactory to the Provincial Board of Health. I made certain suggestions that would be acceptable to the Board, but it was evident that my suggestions were not in harmony with the ideas of the Superintendent, although I told him that his own Medical attendants at the different agencies now fully realized the conditions.

In view of the Department’s stand, I asked that Dr. O. M. Jones be sent to visit the different Indian Reserves and report. In the meantime, with your concurrence, I placed guards on the different reserves, supplied vaccine, and sent Dr. Symmes to assist wherever he was most needed.

On February 5th I put my suggestions and requests in writing as follows:—

- 1st. That all cases of small-pox be rigidly quarantined.
- 2nd. That all Indians on the different Reserves be instructed to remain on these reserves and be placed under quarantine, and that they be so informed; and, further, that guards, sufficient in number, be employed to see that this quarantine be observed.

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3rd. That all requirements needed by Indians be supplied to them so that they will not become restive.

4th. That all Indians be vaccinated at the earliest possible date.

5th. That a medical man be placed in charge of the general conditions as existing, who will supervise the work done by the doctors in charge of the local reserves.

6th. That a report in full be submitted to this office as to the measures adopted and the conditions existing.

On February 11th I received a copy of Dr. Jones' report, according to which it is stated that he visited Duncan on February 7th, and among other matters the following appears:—

“Referring to Indians, they were suffering from unmistakable small-pox.”

Again he says, in referring to Westholme Reserve:—

“In one house we found five inmates suffering from the disease—father, three sons and one daughter—and in another house two children and one grown up girl, all out in a full rash.”

Regarding the Nanaimo Reserve, Dr. Jones reports in part, as follows:—

“In two of the houses we found three cases in an early stage of the disease, but doing well, and in another house a convalescent patient who showed very marked signs of having had a copious rash. Other cases that had been affected had thoroughly recovered.”

In another part of his report the following occurs:—

“From Nanaimo we visited the Nanoose Reserve and found five Indians had been affected.”

In view of Dr. Jones' report, I assumed that his recommendations would be actively carried into effect, but from information received I considered it again advisable to visit Nanaimo on February 13th. I found that the Indian Reserve was still unguarded by the Indian department. Three guards placed by your Department were on duty, but I found their efforts were not sufficient for the carrying out of the regulations recommended by Dr. Jones. In proof of which I beg to submit the following telegram sent to me by Provincial Constable Stephenson as follows:—

“Find that three or four Indians have been off reserve, leaving by way of back trail. Have placed one of the watchmen on this trail. Will keep close watch.”

While in Nanaimo I met the Indian Superintendent and personally requested that Dr. Jones' recommendations be carried into effect, and that a sufficient number of guards be placed on the reserve. The Superintendent refused to put on any guards, stating that Mr. O'Connell, the Indian Agent at Nanaimo, was quite sufficient for that purpose. In view of this statement, I ordered that the Provincial Government guards remain in charge, and so reported to you and received your approval.

Dr. Symmes returned from Duncan yesterday and to-day submitted his report, a copy of which is appended. It will be seen from this report how serious the situation is among the Indians, and how inadequate is the action of the Indian Department to handle the existing conditions. Dr. Symmes states that he made a house-to-house inspection and discovered four cases of small-pox, which had been concealed for terms varying up to eleven days. Truly this shows painful carelessness or lack of intelligence, and justifies me in characterizing the general action regarding the present condition as being trifled with. I was told, yesterday, that the Indian Department had placed guards on the reserves, near Duncan. I hope this is correct.

I regret to report that small-pox is now present in the City of Nanaimo among the white population. All are quarantined, and the regulations are being actively carried out. I have no doubt but that the infection in these cases came from the Indians.

I have, etc.,

(Signed)

C. J. FAGAN, *Secretary.*

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Small-pox at a Logging Camp on Port Neville Inlet.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., February 11th, 1909.

*Dr. C. J. Fagan,*

*Secretary, Provincial Board of Health, Victoria, B. C.*

DEAR SIR,—On your advice, I proceeded to Port Neville Inlet on the steamer "Cassiar," arriving at Port Neville Post-office at 8 P.M., February 6th. Early next morning, after a row of nine miles up the inlet, I landed at the camp where the suspected case was employed. The camp in question is owned by the Patterson Lumber Co., and it is to their foreman, Mr. Jamieson, that we are indebted for the prompt reporting of the case. The man affected had a mild, though distinct, attack of the small-pox, and was isolated in a separate bunk-house, with his own bedding, dishes, etc.

The mission ship "Columbia" had visited the camp on February 1st and instructed them as to the disinfection of the bunk previously occupied by the affected man, and also as to his isolation. A supply of antiseptic was left at the camp, but the true nature of the disease was at that time questioned. Many of the camps of our coast owe a debt of gratitude to the pioneer work of this floating medical mission.

I vaccinated the rest of the crew, eleven in number, left further instructions as to the disinfection of the quarters now occupied by the case of small-pox, and quarantined the camp for two weeks. This quarantine will not be difficult to enforce, as neighbouring camps are very much afraid, and the captain of the only steamer calling near there has been cautioned as to existing conditions.

I wish to thank the Provincial Police for sending Constable North with me as escort. While we encountered no trouble and met with nothing but the greatest courtesy from all, yet in some cases where quarantine is enforced antagonism is aroused, and nothing but firm measures can preserve the health of the community.

I have, etc.,

(Signed) WALTER BAPT. Y.

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CITY OF PRINCE RUPERT.

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PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., April 16th, 1909.

*The Honourable Dr. Young,*

*Provincial Secretary, Victoria, B. C.*

SIR,—Acting on your instructions, I left Victoria on April 7th and arrived in Prince Rupert on April 11th.

Accompanied by Mr. Manson, Dr. Ewing, and Constable Vickers, I made a thorough inspection of the inhabited portion of Prince Rupert. With a few exceptions, the buildings are rough lumber shacks resting on posts set on peaty and wet soil. The lands on which these constructions are placed are not owned by the owner of the buildings.

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#### SANITARY CONDITIONS.

The sanitary arrangements are, as is to be expected, of a primitive order. The difficulties are great, but, judging from conversation with many householders, I am satisfied all are willing to keep fairly clean surroundings, provided the action is general. In order to carry this general action into effect, I instructed Mr. Manson to appoint an officer who would devote his whole time to the supervision of sanitary matters. With your concurrence, I propose to draw up a set of regulations to apply to the peculiar conditions existing at Prince Rupert. If these regulations are rigidly carried into effect, I am hopeful that no serious results will follow the rapid congregation of persons on unprepared and limited space.

#### WATER SUPPLY.

The town is well supplied with water, which is taken from a mountain stream and stored in a 50,000-gallon tank. This water is good, but too highly charged with vegetable matter. The supply is sufficient for the present population of 1,000 persons, but cannot meet further demands. It is owned by the Grand Trunk Pacific Railway Company.

#### SCHOOLS.

There is but one school in Prince Rupert. It is well constructed and I understand is amply sufficient for present requirements. In view of the likely rapid increase in population, the School Board has selected a site for another school. The appended map shows the exact location. The advantages of this site are that it is near the present townsite and has a water supply. Whether it will be centrally located for the majority of families in the new townsite is doubtful and requires careful consideration. Looking at this site from a health point, I have no hesitation in condemning it, for it lies on low ground surrounded by hills, and must be deficient in good light and sun.

#### HOSPITAL.

The hospital is situated about one and a half miles to the east of the town, near a little inlet from the harbour. It was built by Dr. Ewing, who is in medical charge of the men working on the construction of the Grand Trunk Pacific Railway. The building is a wooden structure and consists of one large ward, two smaller wards, and a surgery. The surroundings are well kept and the wards are well lighted, clean and comfortable.

#### CEMETERY.

The present cemetery site is on an island across the harbour, about four miles distant from the town. Permission has not been granted for the use of this island as a cemetery.

Mr. Ritchie took me over a tract of land on the west end of the town and near the entrance to the harbour. This land can easily be drained and will then be suitable for the purposes of burial. It is conveniently and well situated, and I would recommend that it be selected as a cemetery site.

I have, etc.,

(Signed) C. J. FAGAN,  
*Secretary.*

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## PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., September 1st, 1909.

*The Honourable Dr. Young,**Provincial Secretary, Victoria, B. C.*

DEAR SIR,—I beg to acknowledge the receipt of your memorandum referring to the question as to whether the sewerage system of Prince Rupert should be so constructed as to make provision for the sewerage of basements. To provide sewerage for basements is, of course, the most complete method, but it is very much more expensive. Many authorities question the utility of low level sewerage, for the reason that wash-houses or water-closets should not be placed in basements or at low levels.

In view of these few general facts, I beg to recommend that the system of sewerage for Prince Rupert be so constructed as to provide for sewerage at the ordinary level.

I would further recommend that this fact be made known to authorities at Prince Rupert, so that in the construction of all public buildings arrangements will be so made that sewer connections will not be faulty.

I have, etc.,

(Signed)

C. J. FAGAN,

*Secretary.*

## PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., December 21st, 1909.

*The Honourable Dr. Young,**Provincial Secretary, Victoria, B. C.*

DEAR SIR,—I have examined the plans for the proposed hospital for Prince Rupert and beg to offer the following criticism:—

The water closets should be placed in the outer angle and the bathrooms in the inner. This applies to the first and second floors. I note the operating room is on the first floor. Would it not be better to have this room on the second floor? Were it located on the second floor, there is less likelihood of its being used for any other purpose, the danger being that certain dirty cases admitted to the hospital might be taken there. To avoid any such danger, I would recommend that a small dressing-room be established on the first floor. Again, operating rooms need light from above, and this could easily be provided for on the second floor. Further, the number of patients on the second floor is largely in excess of those on the first; consequently, the movements of patients both before and after operation is more easily accomplished.

The plan, on the whole, is good, but it does not seem to me that this one is such to which additions could easily be made.

I have, etc.,

(Signed)

C. J. FAGAN,

*Secretary.*

## TYPHOID FEVER AT LILLOOET.

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PROVINCIAL BOARD OF HEALTH,  
VICTORIA, B. C., May 27th, 1909.

*The Honourable Dr. Young,  
Provincial Secretary, Victoria, B. C.*

SIR,—Acting on your instructions, I left Victoria for Lillooet on the 9th instant, arriving there on the 12th.

Typhoid fever has been present in and around Lillooet for the past three years, and it was reported that during the present year there were six cases and one death. Six cases of a disease does not sound excessive, but when it is remembered that typhoid fever results from a definite and preventable cause, and that the population of Lillooet is about 200, it is evident that some principle is at fault.

Dr. Christie gave me a full history of the cases he attended, and I visited and inspected every locality where the disease appeared. I also made a close inspection of the sanitary arrangements in and around the village of Lillooet, the water-works, the water reservoir, and the source of the supply. The water-works system of Lillooet is owned by a private citizen, who charges one dollar a month to every householder using the water. The settling tank is a wooden structure. Wood structures holding water for domestic purposes are, as a rule, dangerous; but in this instance the tank is well looked after, and kept clean and in good condition.

The supply comes from a height of some 700 or 800 feet, and passes over a great mass of fallen and decaying wood. I suggested to the owner that it would be advisable to have the stream-bed cleared of objectionable matter. This he declined to do, because of the expense. I quite agree with him that the rate of one dollar per month from about twenty-five or thirty subscribers would not financially justify him in incurring the further expense of some \$300. I was therefore asked to recommend to the Government that an adequate sum be granted for the purpose of substituting a concrete tank for the present one, and clearing the bed of the supply stream to prevent contamination. This proposal I promised to submit to you on return.

A sample of water taken from a tap in the village and analyzed proves that the water is not contaminated, but contains too high a percentage of albuminoid ammonia. This condition indicates the presence of an excess of vegetable matter, and, while not sufficient to condemn it, certainly places it within the danger zone.

The examination of the sanitary conditions in the village revealed a deplorable state of things. The present system is this: The privies are located at the back of the houses and hotels, and are placed over pits from 4 to 10 feet deep. These holes, when filled, are merely covered with earth, and the privy moved to another site. This primitive method is, of course, wrong, and would under no circumstances be permitted by sanitary authorities. The ground in this manner becomes poisoned, and if infected matter is present, it may remain there for an indefinite period.

The case under report simply proved, therefore, upon investigation, to be one of the households using spring water from the source indicated above. In one of these households there were two cases of typhoid fever, which there is little doubt were caused by using the said water.

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Both privately and in public meeting I warned the inhabitants as to their methods, and I further instructed the Government Agent to see that the sanitary regulations are properly carried into effect. I made certain suggestions as to what should be done under the circumstances, and, with your concurrence, will insist on the regulations being adhered to.

The above described conditions, I have no doubt, are responsible for a considerable percentage of the typhoid cases at Lillooet.

Dr. Christie reported that typhoid fever was present in some of the Indian villages. He also told me that he did not personally attend these cases, but prescribed on the mere description of the symptoms. I asked why personal attendance was not given, and was told that the fees allowed were not sufficient.

This condition of things is not only lamentable, but very serious, not only as regards the Indians themselves, but in due consideration of the health of the white population.

It is a well known fact that the Indians are careless and dirty in their habits, and when disease, especially such a disease as typhoid fever, occurs, the need of active and correct handling is very urgent.

At least four cases of typhoid fever developed along Long Creek. I could see no reason why it should develop here, but on further inquiry I found that there was an Indian suffering from typhoid in a shack at the outlet of the lake into Lake Creek. I visited this shack, which is on the Indian Reserve, and found that, as usual, it was without any sanitary arrangements, and I have no hesitation in saying that Lake Creek was constantly infected during the continuance of the case in the shack.

Such conditions are gross, and should not be permitted to continue; and when infectious disease is present, it is simply criminal to permit what has actually happened on Lake Creek.

The Indian village, "Mission," is situated at the south side of Seton Lake, at about fourteen miles from the outlet. Together with Mr. Phair, Government Agent, and Dr. Christie, I visited the village and inspected the sanitary arrangements. As in all Indian villages, the sanitary arrangements are disgraceful, and there is little doubt but that the effect is serious on the general health of the Indians. Here, as in many other places, the village is on the shore of the lake, the waters of which must certainly be contaminated.

There is a distinct history of the presence of typhoid fever in this village, and although no white population is located in the immediate vicinity, the principal action is wrong, and the general results may be injurious.

I have, etc.,

(Signed) C. J. FAGAN,

*Secretary.*

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## COQUITLAM LAKE.

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PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., June 14th, 1909.

*The Honourable Dr. Young,**Provincial Secretary, Victoria, B. C.*

SIR,—Acting on your instructions, I visited Coquitlam Lake, for the purpose of examining and reporting on the question as to whether there would be any danger in permitting the erection and temporary operation of a sawmill above the intake pipe of the New Westminster water system.

Work has already been begun, and the foundation laid for the mill. The site is on sloping land, about one hundred and fifty yards above the intake pipe. The skidway leading from the water to the mill is about six hundred feet in length, and the nearest point to the water is about four hundred feet. The ground on which the mill is situated is dry, peaty soil, and likely to retain contamination.

I am of the opinion that if certain regulations are carried out rigidly, the danger of contamination would be reduced to a minimum. The regulations which I would recommend would be the construction of a system of dry earth closets placed well above the ground, and a system of tanks made of galvanized iron and suitable buckets. I would also recommend that special provision be made for urinals. If these closets and urinals are carefully and actively attended to, I cannot see any objection to granting permission for the construction and temporary operation of this mill.

In order to insure protection, I would further recommend that regulations governing the conditions and actions in and around the mill be printed and posted in prominent places.

I would also recommend that a sanitary officer be engaged for the sole purpose of seeing that the regulations are rigidly carried into effect.

Provided the above suggestions are carried out, I have no hesitation in recommending that the request of the engineer be granted.

I have, etc.,

(Signed)

C. J. FAGAN,

*Secretary.*

## CITY OF CUMBERLAND.

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PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., July 2nd, 1909.

*The Honourable Dr. Young,**Provincial Secretary, Victoria, B. C.*

SIR,—Acting on your instructions, I visited Cumberland on June 22nd in order to examine into the sanitary conditions in and around that town. Cumberland has a population of about 1,200, consisting of business men, coal-mine, and sawmill workers and their families.

Together with the Mayor and Medical Health Officer I visited and closely inspected every quarter of the town. The situation and plotting from a sanitary point of view is ideal. The ground, dry and fairly porous, slopes gradually to the north-east down to a small stream which runs through an uninhabited district to salt water, about nine miles distant. The main streets run north and south and are crossed by residential streets running east and west. Alley-ways run full length half a block back from the main street.

The engineer who laid out the town is worthy of congratulations and thanks. The plotting is simple, convenient for householders, and almost perfect from a sanitary point of view.

Box-drains were put down in the alley-ways and other places. In some instances the drains were not sunk deep enough to receive the refuse from the houses they were meant to accommodate. The drains were not water-tight, and the result was that both foul gases and sewage escaped into the surrounding soil.

The drains were put down almost seven years ago, and are now in a state of decay. The weight of the soil has in many instances pressed through the drains and blocks the flow, with the result that at several points there are large collections of sewage. The furthest point the drains led to is a swampy ground on the border-line of the town. In many instances they empty on to vacant lots.

As above stated, there are many houses unable to connect with the drains. These houses use pail closets, but in no instance was earth or dry ashes found to be in use. The City Council employ a scavenger, yet the conditions, as I saw them, were not acceptable or sanitary.

I visited the Government Office, jail, and hospital. The sewerage arrangements for these places are not in accordance with the sanitary regulations and I beg to recommend that action be taken.

In consultation with the Mayor and the Medical Officer, I gave my opinion as to the best action to be taken by the Cumberland Council. I was told that certain members of the Council think that cedar drains are suitable for sewerage purposes. I strongly advised against this, and I now recommend that the Provincial Board of Health do not permit such action.

Provided that the Cumberland authorities adopt a satisfactory sewage system, I beg to recommend that the Government join with them and so provide for the disposal of the sewage from the Government Office, jail, and hospital.

I have, etc.,

(Signed)

C. J. FAGAN,

*Secretary.*

## PROVINCIAL BOARD OF HEALTH,

VICTORIA, B. C., July 2nd, 1909.

*The Honourable Dr. Young,*  
*Provincial Secretary, Victoria, B. C.*

SIR,—While in Cumberland on June 22nd and following days, I visited and inspected the villages around Comox coal mines. These villages are three in number, in one of which live the families of about sixty white men working in the mines. The other two are the Chinese and Japanese villages. There are no sanitary arrangements in any of these villages and the conditions in the Chinese village are the worst I have yet seen.

I beg to recommend that the sanitary regulations be enforced in this district.

I have, etc.,

(Signed) C. J. FAGAN,

Secretary.

VICTORIA, B. C. :

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