

FIFTEENTH ANNUAL REPORT

—OF THE—

PROVINCIAL BOARD OF HEALTH

—FOR THE—

FISCAL YEAR ENDED 31ST MARCH, 1912



THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA.

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:

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1913.

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THE GOVERNMENT OF

MADRAS

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MADRAS

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SECRETARY TO THE GOVERNMENT

MADRAS

1915

To His Honour THOMAS WILSON PATERSON,
Lieutenant-Governor of the Province of British Columbia.

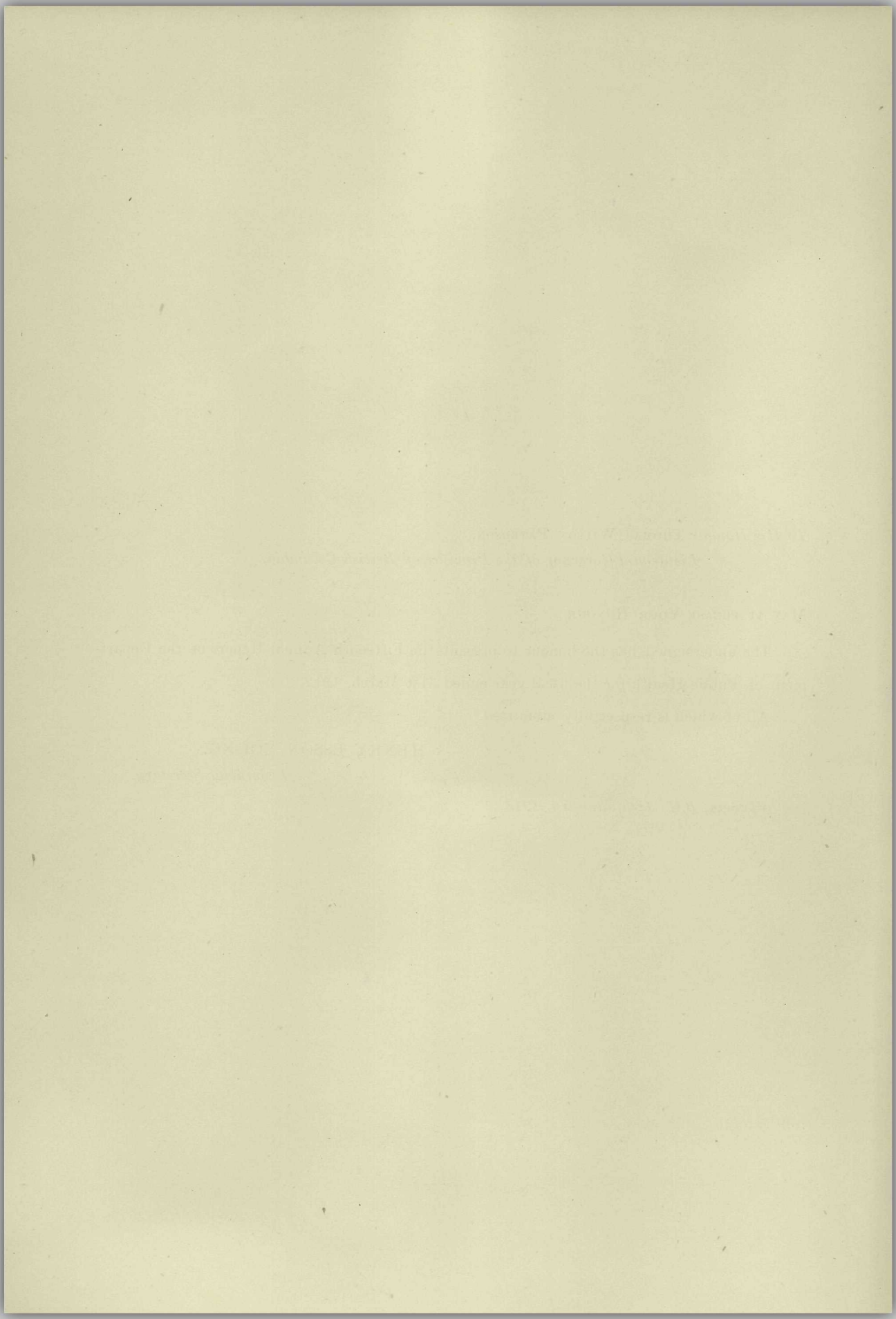
MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Fifteenth Annual Report of the Department of Public Health for the fiscal year ended 31st March, 1912.

All of which is respectfully submitted.

HENRY ESSON YOUNG,
Provincial Secretary.

Victoria, B.C., 12th January, 1913.



REPORT OF THE PROVINCIAL BOARD OF HEALTH.

PROVINCIAL BOARD OF HEALTH,
VICTORIA, B.C., April 30th, 1912.

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

SIR,—I have the honour to submit the Fifteenth Annual Report of the Provincial Board of Health for the fiscal year ended March 31st, 1912.

I am pleased to state that no serious epidemics have occurred during the past year. The occurrence of infantile paralysis (acute anterior poliomyelitis), so prevalent throughout the whole continent two years ago, has gradually subsided, and during the past few months no very acute cases have been reported.

The returns of all infectious diseases are greater than the returns for the previous year. This is in keeping with increase of population and probably, also, more complete returns.

SMALL-POX.

While 309 cases of this disease occurred in the Province for the year, very fortunately it gave rise to no deaths. All cases were of the non-virulent type which has been so widespread over America during the past ten years. This mild form of small-pox was introduced into this continent from Cuba by the American forces returning to their homes after the Spanish-American War. Of so mild a nature as to require no special medical attention in many cases, it has maintained a firm foothold in this country ever since. However, we must not lose sight of the fact that it may some time regain its former virulence, with disastrous consequences. Strict quarantine and proper vaccination effectually prevent it.

DIPHTHERIA AND SCARLET FEVER.

Of diphtheria, 294 cases were reported, with a mortality of 14.3 per cent. ; and of scarlet fever, 607 cases, with a mortality of 3.8 per cent. Nearly all cases of diphtheria can be cured if treated early enough with sufficiently large doses of antitoxin ; therefore it is to be regretted that such a high death-rate has to be recorded.

I can only urge again that diphtheria antitoxin should be so placed as to be within the reach of all free of cost. This would ensure its early use in doubtful cases, so as to arrest the disease in its earliest stages.

The Provincial Board of Health has for two years offered antitoxin to municipalities at cost price, and so placed it that it might be administered free in Government districts to patients unable to pay. At present all antitoxin used in Canada is produced in England and foreign countries, consequently we have no supervision over its manufacture or direct guarantee of its potency.

The production and distribution of diphtheria antitoxin by the Dominion Government has for years past been advocated by this Department ; therefore I beg to recommend that this matter be again brought to the attention of the Federal Government.

Diphtheria and scarlet fever are essentially diseases of childhood. Some children are affected with such mild forms that the parents in many cases do not call in the services of a doctor. It is the occurrence of such cases that keeps these diseases in our midst. As it has

been expressed by Dr. Hill, of the Sanitary Institute, London, Ont., each case of contagious disease gives rise, on an average, to one fresh case. Strict quarantine of all acute cases effectually prevents more arising from them; consequently, it is only by these mild ambulatory forms that these diseases are spread.

Effectual medical inspection of schools where the school nurse can visit each school daily and take note of all such conditions as sore throats, from which she prepares cultures to be examined in a laboratory for the presence of diphtheria bacilli, and the visiting of the houses of pupils who are absent without known cause, should do much to reduce the incidence of these two diseases.

The general improvement in the health of the pupils by the correction of defects pointed out by the school doctor should materially assist children to withstand all disease.

During the occurrence of epidemics where efficient medical school inspection exists, it is now our custom to keep the schools open so as to detect the occurrence of fresh cases in their earliest stages.

TYPHOID FEVER.

The presence of typhoid fever in epidemic form is a blot to the name of any civilized country. We have to confess to 403 cases, with a mortality of 18 per cent.—44 deaths—surely a high price to pay for neglect of the laws of sanitation. Contaminated drinking-water still remains as the great cause of typhoid fever; that is, the typhoid germs so plentiful in the dejecta of one ill with the disease pass more or less directly into the mouths of others, so reaching their intestines and giving rise to fresh cases in epidemic form.

Sporadic cases may be caused by flies carrying the germs from carelessly disposed-of typhoid excreta to food, and by typhoid "carriers." A typhoid "carrier" is a person in whose intestine typhoid bacilli grow and flourish without giving rise to any symptoms in the "carrier" himself, but he may give the disease to others. He is a menace to others if his habits are uncleanly, particularly if he is engaged in occupations where he has to do with the handling of food. Cases are on record of cooks who were typhoid "carriers" having worked in several houses, in each of which they gave rise to cases of typhoid fever.

After the greater problems of pure-water supplies and proper sewerage systems, with scientific sewage disposal, have been solved, it will be necessary to pay more attention to the typhoid "carriers," placing them in hospitals when necessary, constantly instructing them in care and cleanliness, and keeping local health authorities informed as to their movements.

Examination of the yearly returns forces one to the conclusion that many cases of infectious disease are not reported to this office.

According to the "Health Act" (sections 83 and 86), all cases, or suspected cases, of scarlet fever, small-pox, diphtheria, cholera, typhus or typhoid fever, whooping-cough, mumps, or other contagious disease are to be reported to the Medical Health Officer of the municipality or district by the attending physician and the head of the household in which the disease occurs. A penalty is attached for the neglect of these duties, but seldom has action been taken for their non-observance.

In many countries fees are paid to the medical practitioners for the reporting of certain infections, and it has been found that this has made the returns much more complete than they ever were previously.

I beg to recommend, therefore, that a fee of 50 cents be paid to medical practitioners for the reporting of each case of small-pox, scarlet fever, diphtheria, typhoid fever, and tuberculosis (in active stages in which tubercle bacilli are found in sputum or urine); such

fee to be paid by the Local Board of Health when certified to by the Local Medical Health Officer, and when notification is made upon a form supplied or approved by this Department.

During the year sewerage plans have been examined and approved for the Municipalities of Cranbrook, Chilliwack, Victoria (extension), Victoria (Berwick Street), and Oak Bay (trunk sewer).

Appended are copies of special reports.

I have the honour to be,

Sir,

Your obedient servant,

C. J. FAGAN,

Secretary.

LABORATORY REPORT.

PROVINCIAL BOARD OF HEALTH,

VICTORIA, B.C., April 30th, 1912.

C. J. Fagan, Esq., M.D.,

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

SIR,—I beg to report on the work of the Laboratory for the year ended March 31st, 1912.

During the months of September, October, November, and December, 1911, and January, 1912, on account of building operations the Laboratory was closed.

During this period my energies were directed to work in your office, and necessary bacteriological work was done in a city laboratory. This consequently considerably reduced the work accomplished for the year.

Of forty-three samples of sputum examined for tubercle bacilli, twenty-one were found positive.

Of 163 cultures from throats, diphtheria bacilli were found in twenty-four. A large number of these were from the Protestant Orphanage, Victoria, where the Department was instrumental in suppressing a long-continued epidemic of diphtheria.

Two out of six samples of blood-serum tested for the agglutination reaction of typhoid fever proved positive.

The Laboratory has kept supplies of diphtheria antitoxin at the Provincial Board of Health, Victoria, and the Government Agent's Offices at New Westminster, Nanaimo, Revelstoke, Vernon, Cranbrook, Nelson, Greenwood, Golden, Nicola, Princeton, Prince Rupert, and Grand Forks.

I have, etc.,

WALTER BAPT.

GENERAL REPORTS.

REPORT ON JOINT SEWAGE SCHEME FOR THE MUNICIPALITIES OF
POINT GREY, SOUTH VANCOUVER, VANCOUVER CITY.PROVINCIAL BOARD OF HEALTH,
March 23rd, 1911.*The Honourable Dr. Young,*
Provincial Secretary, Victoria, B.C.

DEAR SIR,—Acting on your instructions, I attended on the 20th instant a joint conference of representatives from the Municipalities of South Vancouver, Point Grey, and Vancouver City.

The object of the meeting was for the purpose of discussing the question of providing a sewage scheme to meet the requirements of the above-named municipalities.

The question was discussed at length, and after most of the representatives had advanced their views, the following resolution was carried unanimously:—

“That this meeting ask the Councils represented and Burnaby to endorse the following points:—

- “(1.) That each district will co-operate in the idea of a general sewage scheme for the entire district:
- “(2.) That the topographical surveys of the various districts be made to provide data for working out the general scheme:
- “(3.) That at a proper time an expert sanitary engineer be engaged to advise as to the best methods of dealing with the subject:
- “(4.) That each Council appoint a committee of two who shall act in connection with the Councils on the matter.”

I have, etc.,
C. J. FAGAN,
Secretary.

REPORT ON A SMALL OUTBREAK OF SMALL-POX AT NEW WESTMINSTER,
APRIL, 1911.

VICTORIA, B.C., April 10th, 1911.

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

DEAR SIR,—I beg to report that on April 4th I left for New Westminster to investigate certain conditions reported by the Local Medical Health Officer, Dr. J. H. Jones.

On arrival in New Westminster, I met Dr. Jones, and together we visited the Royal Columbian Hospital, where we saw three patients reported as being “suspicious cases.” These cases were in the Isolation Hospital, attended by a nurse, who also attended four children with measles in another ward in the same building. In consultation with Drs. Hall, Walker, Drew, and Jones, I agreed with the finding that the three “suspicious cases” were small-pox, and accordingly an order was issued for their removal to the New Westminster Pest-house.

The history of these cases is as follows: One came from Surrey, being sent to the Hospital as suffering from typhoid fever. The second was the male nurse of the Hospital. The third case came from the Windsor Hotel, New Westminster, sent as a suspicious case

by Dr. T. S. Hall on Sunday, April 2nd. Dr. Hall stated that the case was "suspicious"; nevertheless he did not again visit the patient until he saw him with me on Thursday, April 6th. This action appeared to me to be painfully indifferent as to consequences, and I beg to recommend that the Board consider whether it would not be advisable to prosecute Dr. Hall for the negligence displayed.

I also saw two patients in a room in the General Hospital. These cases were in this room for three weeks, and although an attempt was made to keep them separate, it being considered that their rash was of a suspicious nature, yet they were not rigidly isolated. These two cases were unquestionably small-pox, and orders were issued for their removal to the Pest-house.

Together with Drs. Kenny and Jones, I visited two patients in the City of Westminster, and found both to be cases of small-pox. The conditions existing at the Windsor Hotel were examined into and the necessary orders were issued.

With the Medical Health Officer, I met the Mayor and Chairman of the Health Department of Westminster, and reported fully the conditions above described. The quarantine of the Royal Columbian Hospital was recommended, but the Board was reminded that the responsibility for action was on their shoulders, and that since they knew the conditions it was felt all necessary action would be taken.

With Dr. Drew I visited a patient in the Municipality of Surrey. Dr. Drew and I agreed that the patient was suffering from small-pox. The house was placed in quarantine, and the Surrey authorities were notified as to the conditions and were instructed to adopt the usual precautions.

I have, etc.,

C. J. FAGAN,

Secretary.

REPORT ON THE SANITARY CONDITIONS OF THE MCGILL UNIVERSITY COLLEGE, VANCOUVER.

VICTORIA, B.C., May 15th, 1911.

The Honourable Dr. Young,

Provincial Secretary, Victoria, B.C.

DEAR SIR,—Acting on your instructions, I visited the McGill University College, Vancouver, on May 6th, for the purpose of examining and reporting on the condition of the building.

The building faces on Cambie Street; the western half is of brick and stone, and the eastern portion is a wooden structure. The rooms in the western wing could, with certain improvements as to light, etc., be made acceptable, but the rooms in the eastern half are not suitable. They are dimly lighted and the wood is in a state of decay. I could not recommend the continuance of the use of these rooms.

I visited each room. Some of these in the basement of the western building are distinctly unhealthy. They are not properly ventilated and the plumbing is defective. In some places the flooring is practically on the earth, and the retaining-walls are not as dry as they should be. The light in these rooms is not equal to the demands. The conditions here could be remedied.

The place is heated by a hot-air furnace, and the air comes from a room in the rear of the basement. This room is dark and dirty, and I cannot too strongly condemn the present heating arrangements.

The number of pupils at present attending the college is 174 ; this number is entirely too great for the size of the rooms, so that practically every room is overcrowded.

I beg to recommend as follows : That the eastern portion of the building be taken down and that the western part be surveyed by an architect, and estimates taken of changes needed. The particulars of these changes I will not now submit, but will be pleased to give advice on them when the architect's estimates are submitted. The number of pupils in this building is, as I said above, entirely too high, and I beg to recommend that a limit be placed on the attendance of pupils in the different rooms.

To take the place of the eastern wing, I understand the Board of Education will be willing to grant the right to the rooms in the upper part of their building. I did not see these rooms, but I understand the building is a new one, and well constructed.

I have, etc.,

C. J. FAGAN,

Secretary.

REPORT ON SEWAGE DISPOSAL AT CHILLIWACK AND HOPE.

VICTORIA, B.C., June 7th, 1911.

The Honourable Dr. Young,

Provincial Secretary, Victoria, B.C.

DEAR SIR,—I am in receipt of applications from the Municipality of Chilliwack and the Town of Hope for permission to run their sewage directly into the Fraser River. I have visited both of these places, and the difficulties to be met by them are very perplexing and serious.

In Chilliwack the land in and around the town is level, there being in one direction a fall of about 2 feet to the river. In Hope the fall to the river is considerable. In both of these places the difficulties of handling a septic tank are so heavy that I could not advise their construction as a solution of the difficulty.

I therefore beg to recommend that the sewage from Hope be allowed to be dumped into the Fraser River, under regulations ; and that Chilliwack be permitted to run their sewage directly into the Fraser River.

I beg to further recommend that the above permission be granted on the following conditions:—(1.) That the sewage be discharged into deep water. (2.) That whenever the Provincial Board of Health consider a change advisable, and so notify the authorities at the above-named places, they immediately comply with the request.

I have, etc.,

C. J. FAGAN,

Secretary.

REPORT ON NUISANCE AT FALSE CREEK, VANCOUVER.

VICTORIA, B.C., June 30th, 1911.

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

SIR,—In accordance with your instructions I visited Vancouver on the 26th instant, and examined into the complaint submitted through a petition, signed by E. G. Sentill and others, and forwarded by Mr. A. H. Macgowan.

The complaint is that the Vancouver authorities have permitted filth, rubbish, garbage, and manure to be dumped in the tide-waters of False Creek and on vacant lots and sides of Jackson Avenue and other places.

Together with the City Engineer, Mr. Fellows, and an officer of the Health Department, I visited the places complained of.

For the present, I will not describe conditions found, but must say the petitioners have good reason to object to present conditions.

The engineer had already recognized the objectionable condition and had started to remedy same, and the Health Department will order the cleaning-up of vacant lots and foreshore.

I told the engineer that another inspection visit would be made in a month.

I have, etc.,
C. J. FAGAN,
Secretary.

REPORT ON DIPHTHERIA IN NANAIMO DISTRICT.

VICTORIA, B.C., July 27th, 1911.

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

DEAR SIR,—On July 26th I proceeded to Nanaimo to look into certain charges made by Constable George Hannay in his letter of the 18th instant.

One of the earliest cases of diphtheria in the Chase River District occurred in the house of Mat Lomas, June 23rd. Two families live in this house, and Dr. Smith, after declaring the case diphtheria, told the other family to move into the next house. Dr. Smith, in explanation, stated to me that as "it was an early case just starting he offered no objection to any one leaving immediately before quarantine was enforced."

On July 7th another case occurred at Hendrickson's, in the same neighbourhood. A girl in this household died, and also another girl who had been stopping at the Hendrickson's previous to the development of diphtheria. According to the statement of Mr. Hendrickson, Dr. Smith told him that any boarders in the house who did not wish to be quarantined could leave the house within six hours. This is denied by Dr. Smith.

Dr. Smith also claims that in every case he notified the Provincial police as soon as possible of the occurrence of diphtheria, and rather objected that certain houses had been quarantined before cases were notified by him.

I have, etc.,
WALTER BAPT. Y.

REPORT ON EPIDEMIC OF TYPHOID FEVER AT SAVONA AND DISTRICT.

VICTORIA, B.C., October 5th, 1911.

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

DEAR SIR,—On September 25th I received notice of the presence of typhoid fever in the Canadian Northern Railway Hospital at Savona.

On September 26th I left Victoria for Savona. I asked the Government Agent, Mr. Pearse, to accompany me, and together we visited the Savona Hospital and the railway camps between Savona and Tranquille.

The first place visited was the Savona Hospital. Thirteen patients, suffering from typhoid fever, were in this Hospital.

The building is a new wooden structure consisting of three rooms. One room, containing ten patients, is 30 by 18 by 10 feet, which gives 540 cubic feet to each patient. The ventilation of the room practically depends on the opening of the door. A smaller room, occupied by three patients, gives 400 cubic feet to each patient. There are two windows in this room. The heating of the building is carried out by a stove in the larger room.

When I visited the Hospital there was but one attendant for the thirteen patients. This attendant did night and day work, and acted as cook.

The general arrangements in the Hospital were distinctly unsatisfactory, there being no place for the clothing of the patients, except the room where the refuse was handled.

The water-supply was taken from the lake. The food-supply was good, with the exception of the article most needed—milk. All the Hospital received every day was one gallon, and if more was needed the canned article was supplied.

The outside arrangements were of the most primitive order—a closet leading to a hole in the ground. However, I was told, and there was evidence to confirm this, that the ejecta from the patients was disinfected before being deposited in the closet.

From the history received, the thirteen typhoid cases in the Hospital came from one camp—namely, Camp 11. On our way to this camp we visited three others. There was no sickness found except in above-named Camp 11.

In Camp 11 forty-five men were working. As before stated, thirteen cases of typhoid fever were in the Hospital from this camp, and we found five cases in the camp. These cases were lying or sitting around in the bunk-house, and had no special attention. I asked what food these cases were receiving, and was told that they got what they asked for. One case specially questioned as to what food he got told me between 4 and 5 in the afternoon that all he took on that particular day was water.

In connection with these five cases the doctor in charge told me that arrangements were being made to take them to the Hospital that same afternoon. Whether or not this was done I do not yet know.

Camp 11 is situated on the north side of Kamloops Lake, about fourteen miles from Savona. It is built on dry ground, and consists of kitchen, dining-room, and two bunk-houses. The bunk-houses are overcrowded, and are not supplied with means of ventilation. The dining-room is clean, but we found food articles exposed between meals.

The sanitary arrangements are *nil*. Previous to my visit the closet was closed because of its wrong location and want of proper construction. As a result, the ground around was filthy, and the refuse from the kitchen and dining-room ran on the ground.

The water-supply came from the side of the little wharf. The conditions existing in this camp were quite ample proof that a case of typhoid fever, with an ambulatory case or recovering case, infected this camp and was responsible for the present conditions.

I dictated a letter to Mr. Pearce, Government Agent, addressed to the contractor in charge of these camps, with definite instructions as to what changes should be made, and I would recommend that some authority visit these camps and see that the regulations are rigidly carried into effect.

From the above description, it will, I think, be clear that the conditions existing in Camp 11, and indeed in other camps, are not satisfactory. That Kamloops Lake is now infected is beyond doubt, and what the ultimate result will be time alone will show. General instructions have been given, and I trust fair results will follow. I have seen the medical men in charge of this work and have spoken very plainly to them. They have promised energetic action, and I have reason to believe they are now doing their best.

I have, etc.,

C. J. FAGAN,

Secretary.

GENERAL REPORT ON THE CONDITION OF DAIRY FARMS.

VICTORIA, B.C., October 18th, 1911.

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

DEAR SIR,—In accordance with your instructions, I have commenced an inquiry into "milk conditions" in British Columbia.

During the months of July and August, I visited twenty-six dairies in and around Victoria and fifteen dairies in and around Vancouver. The number of cows supplying milk for these dairies was over 1,000.

Each dairy and cow-shed was closely examined and notes on conditions found are on hand, but will not be presented unless you specially so order.

The conditions observed in most of the dairy farms are—the cow-sheds are overcrowded, ill-ventilated, and badly lighted. The flooring is unsuitable and in many instances dirty. The water-supply in many instances is too limited and of doubtful purity. There are not milk-rooms in all dairies, and where they are, most of them are wrongly constructed and badly maintained. Cleanliness is a rarity, and in many instances I have seen dirty milk after straining. In one I came across six milk-cans in which there were a number of dead flies, and into which the fresh milk was being delivered.

Speaking generally, I have no hesitation in condemning the conditions found in our dairies. Reasonable efforts have been made by a few, especially by Mr. Steves, of Steveston, and Mr. Howell, of Eburne, but I trust the conditions existing in most of the dairies will not be permitted to continue.

I do not understand the action taken by the Agricultural Department through their Veterinary Inspectors. At every dairy I asked for certificates. Some of the owners said they had them but could not find them, and in one instance only did I see a certificate. This certificate stated that the dairy was in accordance with the regulations of the Provincial Board of Health, and was clean and sanitary. This particular dairy was one of the dirtiest I have seen.

The conditions existing in the districts through which I passed are peculiar. The dairy farms have developed into high value and the owners speak of retiring from the dairy business, especially if any drastic regulations are adopted. Possibly this may be so, but the dairyman's conception of drastic action conveys the idea of heavy expense to the owner. Heavy expense is not needed to conduct a properly constructed dairy. Where the expense will come in will be the changes from the present dirty houses to ones capable of being easily kept clean, well lighted, and well ventilated.

The opportunity is now good for arrangements as to new buildings. The cows are there, and whether they are kept on these particular dairy farms is not material. If they are moved somewhere else, an effort should be made to see that they are moved into properly constructed sheds.

The dairy-farmer is a difficult man to handle, but when things are put reasonably and plainly before him he will recognize the advantage of proper action. Regulations may be correct and simple, but the ordinary dairy-farmer will not recognize this, and will construe them as being something impossible for him to carry into effect.

I therefore beg to recommend that the Government appoint a Commission, one member of which shall be a doctor interested in public-health questions, another a veterinary surgeon, and a third a farmer. This Commission should visit all the dairy centres in the Province, meet the different associations, and visit, as far as possible, every working dairy. They should call together the dairymen of the different localities, discuss dairy questions, and how best to handle milk. They should advance to the dairymen the needs and advances in the handling of milk at the present day, and further announce that it is their duty to present to the Government a set of regulations for the handling, transportation, and delivery of milk.

I have, etc.,

C. J. FAGAN,

Secretary.

REPORT ON WATER SYSTEM OF LADNER'S LANDING.

PROVINCIAL BOARD OF HEALTH,

November 21st, 1911.

The Honourable Dr. Young,

Provincial Secretary, Victoria, B.C.

SIR,—On November 17th I visited Ladner's Landing to investigate certain complaints submitted regarding the water-supply of that district.

Together with the Medical Health Officer, Dr. King, I visited the waterworks. The plant is situated on the high land running to the west of the Delta, about nine miles from the village of Ladner's Landing. The water comes from springs and is collected through open ditches into a tank, and put in mains by a pump. The supply is plentiful and, if properly handled, I believe excellent.

The ditches run through peaty soil into which there is a constant drain from this soil. The land belongs to the Ladner Council, and thus it cannot be contaminated in the ordinary way.

The water in the ditches and small reservoir is mixed with leaves and other refuse. This condition, while it may not be actually injurious, should, if possible, be prevented.

The worst feature of the supply is the fact that there is leakage from the peaty soil which enters the water. The effect of this may be serious, and from the history received from the users of this water, it is evident that a considerable amount of diarrhoea has resulted.

There is also evidence of the presence of typhoid fever. Whether this condition came from the water-supply I am not prepared to say, but it is evident that if there are any typhoid cases in or around the supply district, contamination would be quite easy.

In the camp for workers on the supply I found two closets, both being discharged into holes in the ground. I have no doubt that there was free connection between these holes and the water in the ditches.

I have, etc.,
C. J. FAGAN,
Secretary.

REPORT ON TYPHOID FEVER EPIDEMIC AT VERNON.

January 27th, 1912.

The Honourable H. E. Young,
Provincial Secretary, Victoria, B. C.

DEAR SIR,—By request of the City Council of Vernon, I visited that town on January 19th. The conditions existing there were certainly serious. Over twenty cases of typhoid were actually in the hospital.

Together with Dr. Morris, I examined closely into existing conditions, and, after consideration, came to the conclusion that the typhoid resulted from the sewage and septic tanks existing in the southern part of the town. The septic tanks were on the side of a hill and drained freely into the cellars and wells below them. The typhoid cases came from this district, and I have no hesitation in saying that the disease was caused by some infection in the tanks or from drainage.

I have recommended that septic tanks be cut out and that drainage be provided for this district. Until the drainage is supplied, I have recommended that dry-earth closets be used.

Many complaints have been received in my office regarding the state of the septic tank. This septic tank is situated to the west of Vernon, about a mile and a half from the outside of the town. The septic tank is excellently constructed and the effluent from it runs on to two filter-beds. The filter-beds are good, but are not large enough for the amount of effluent that is being discharged over them. The effluent from the filter-beds passes into a small stream which runs down through a valley for about a mile into Okanagan Lake.

The people of the valley complain of the conditions arising from the entry of the effluent into this stream. I have learned that certain people use this water for domestic purposes, and animals, such as dairy cows, use it as drink.

I have no hesitation in saying that the action adopted is wrong, and have recommended to the Vernon City Council that they duplicate their filter-beds, and have one filter-bed extra, so that without interfering with the works a filter-bed can be cleaned off at regular intervals. According to the present arrangement this cannot be done, and when I visited the works I found that the filter-beds were not in a proper condition, and were not kept sufficiently clean.

I have asked to have a sample of the effluent sent to me for analysis. When this is done I will be in a better position for giving further instructions.

I have, etc.,
C. J. FAGAN,
Secretary.

VICTORIA, B.C.:

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1913.

