SUPPLEMENTARY REPORT

OF THE

PROVINCIAL BOARD OF HEALTH,

BEING

ANNUAL REPORTS OF MEDICAL HEALTH OFFICERS AND LOCAL BOARDS OF HEALTH

FOR YEAR 1896.

VICTORIA, B. C.:
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REPORTS OF LOCAL BOARDS OF HEALTH.

Burnaby Municipality.

NEW WESTMINSTER, B.C., Dec. 4th, 1896.

To the Local Board of Health,
Burnaby Municipality.

GENTLEMEN,—I have the honour to submit to you my report as Medical Health Officer for the past year. I am glad to be able to report that no cases of infectious disease has been reported to me during the past year. One case of a Chinaman reported proved on inspection to be non-infectious. The general sanitary condition of the municipality is good. I would advise, however, that a simple form of dry earth closet be substituted for the ordinary privy pit at present in use. These earth closets are inexpensive and easily constructed.

The water supply is in many cases unsatisfactory. Householders should be advised to dig their wells of sufficient depth, and at a sufficient distance from their privies, outhouses or dwelling houses.

During the past year the slaughter house question has required a good deal of attention. I have paid a number of visits of inspection with regard to LaPoint's slaughter-house on the Vancouver road. I have to report that there is much improvement in the condition of this place. The slaughter-house itself is now in a satisfactory condition. I have had the well water analysed, and find it is pure. The stock yards are now satisfactory. The chief trouble with this establishment is that the offal and refuse is not removed often enough in the summer months, but is allowed to accumulate; frequent inspection by a Sanitary Inspector is the only remedy for this. Reichenbach's slaughter-house, which has been constructed in accordance with the rules and regulations drawn out by myself, is a satisfactory establishment. The buildings and yards are well constructed and well drained. The offal and refuse has so far been removed completely once every twenty-four hours. This is as it should be, and so long as the complete removal is carried out the slaughter-house will not prove a nuisance. At present the refuse is being removed by Chinamen to their ranch. These men will require watching to see that they do not create a nuisance by the improper use of the refuse thus obtained. The well at this slaughter-house is well situated and full of water. The only fault with this place is that the pig pens are too near the killing room. Extra attention to cleanliness may overcome this.

I paid a visit of inspection to the Public School. The building was clean, warm and well ventilated. The upper part of the windows are made to open for ventilation. The catches, however, for opening these windows are too high. This may lead to the windows not being opened when they should. This fault should be remedied. The teacher also informed me that a draught is often felt from the ventilator in the roof. This should also be remedied. The school closets are the ordinary privy pits. I would strongly recommend that these be filled in and dry earth closets substituted.

I would also recommend that the boys' and girls' closets be in buildings detached from each other. I have no means at my disposal by which to form any estimate of the mortality or birth rate in the municipality.

R. EDEN WALKER,
Medical Health Officer.

Coquitlam Municipality.

NEW WESTMINSTER, B. C., December 9th, 1896.

To the Local Board of Health,
Coquitlam Municipality.

GENTLEMEN,—I beg to submit to you my report as Medical Health Officer for the past year.

During that time the general health of the district has been good. No cases of infectious or contagious disease have been reported to me. No nuisances have been reported. I would, however, suggest that section 28 of the Sanitary Regulations of the Provincial Board of Health be carried out, and that dry earth closets be substituted for the privies now in use. These dry earth closets cost no more to construct than the ordinary privy pits, and are much more healthy.

I would also draw the attention of the Board to sections 22 and 23 of the Sanitary Regulations, whereby all wells must be at a sufficient distance (at least 100 feet) from any dwelling-house, out-house or privy. This is too often neglected, and the water in wells becomes polluted, thereby causing typhoid fever, dysentry and other illness. Section 22 also provides that all wells be cleaned out twice a year; this should also be enforced. I have visited and inspected the various dairies in the district and found them in a fairly satisfactory condition. The floors of the stables are not always properly constructed, and much excreta is allowed to collect beneath the floor. The manure is allowed to accumulate in too large quantities near the cattle sheds and dairies. It should be frequently removed to a proper distance.

I would suggest that the Council empower me to frame a set of regulations for the guidance of persons who propose building and operating dairies in the district. I visited and inspected the school-house and premises. The school-house was clean, but not well ventilated. The water-closets are the ordinary privy pits. They should be filled up and dry earth closets substituted.

The well was closed up and the pump did not work. This should be seen to, as children are liable to drink foul water out of the ditch or any other convenient place.

All of which is respectfully submitted.

R. EDEN WALKER, M. D.

Adopted by the Local Board of Health.

R. D. IRVINE, *Secretary.*

Delta Municipality.

LADNER, 4th January, 1896.

Dr. Watt, Secretary Provincial Board of Health:

DEAR SIR,—I am instructed by the Delta Council to forward you the report of the Medical Health Officer, Dr. Kerr Wilson, of Delta Municipality.

I have, etc.,
C. F. GREEN,
Clerk Municipal Council.

LADNER, B. C., December 31st, 1896.

To the Local Board of Health, Delta Municipality:

GENTLEMEN,—In accordance with the requirements of the "Public Health Act," I beg to submit my report on the state of the health throughout the Municipality for the year ending December 31st, 1896.

At the outset I am glad to be able to say that this year has been unusually free from epidemics of infectious and contagious diseases, with the exception of a few cases of typhoid fever and influenza or "lagrippe," we have been free.

I must not, however, forget to mention the prevalence of scabies, or itch, in the schools. Three out of four schools visited were infected, and the Ladner school to such an extent that it was necessary to close the school two weeks before the Christmas holidays.

Notwithstanding our immunity from zymotic or preventable diseases, I would call the attention of the Board to the stern necessity for improved sanitation in the village of Ladner. A point demanding attention is the existence of foul closets, and the necessity of enforcing the establishment of a system of "dry earth-closets" instead.

Privy-pits are the rule; these are rarely emptied. When necessity demands a fresh pit is sometimes dug. The soil is porous, through which the water freely percolates, thus the ground becomes polluted in all directions.

The streets are covered year after year with sawdust; the drains in some instances are filled with the same. This sawdust, heating and rotting, generates gases deleterious to public health.

The saw dust is washed off the streets into the drains—here it gravitates to the bottom, forming a grumous mass, which prevents the emptying of the drains.

These drains do duty as cesspools, into which kitchen sinks and privy pits are discharged.

Sanitation being a social reform, and the education of the public necessary to make progress, I would therefore respectfully suggest that the attention of the Board be given to the dissemination of more knowledge throughout the Municipality regarding the use of "dry earth closets."

Although we have to congratulate ourselves on the healthfulness of the place, and its freedom from infectious diseases, we must not forget that in matters of sanitation, eternal vigilance is the price of liberty and freedom from disease.

They who pay no attention to these facts, which common sense, daily experience and science demonstrate, slumber over a veritable volcano, which is liable to break out and overcome them with disease and death.

I would state that a few complaints have been made to me which have been attended to, and in most cases matters have been easily adjusted to the satisfaction of all parties concerned.

J. KERR WILSON, M. D.,
Medical Health Officer.

Municipality of Maple Ridge.

HANEY, December 15th, 1896.

To the Prov. Board of Health, Victoria, B. C.:

GENTLEMEN,—The Maple Ridge Board of Health met four times during the year, with the Reeve as Chairman. The Municipality was inspected by the Board and myself as Health Inspector, and found in a satisfactory condition, with very few exceptions, and these were attended to at once.

There has been no sickness of a contagious description in the Municipality, with the exception of Mrs. Jenkins, who contracted her sickness elsewhere.

We found the greatest trouble was to make the owners of property drain their houses properly.

Enclosed you will please find the report of Dr. Drew, M. H. O.

Hoping this is satisfactory to your Board,

I am, etc.,
E. W. BECKETT,
Secretary.

[ENCLOSURE.]

NEW WESTMINSTER, B.C.,
December 14th, 1896.

To the Chairman and Members of the Local Board of Health,
Municipality of Maple Ridge, B.C.

GENTLEMEN.—In accordance with the regulations of the Provincial Board of Health, I have the honour to present to you the first annual report as Medical Health Officer for the year ending December 31st, 1896.

During the past season, while professionally visiting the various parts of your Municipality, I took occasion to note the general sanitary condition, and am pleased to report it satisfactory.

There having been no contagious disease within your limits, I have had no occasion to officially inspect private premises, yet often observe most uncleanly premises, and regret that many persons lack the characteristics of tidiness, which is one of the elements of sanitation.

Not being aware of the Provincial Board having made provision for Municipal registration of "births and deaths," I cannot offer complete statistics (for which I think provision should be made), but upon reliable information can state that there have been only three (3) deaths in the Municipality, viz.:—

1 case of Typhoid fever—contracted elsewhere.
" Some growth or abscess of bladder.
" Consumption (pulmonary).

All of which is respectfully submitted.

GEO. E. DREW, M. D.,
M. H. O."

Matsqui Municipality.

ALDERGROVE, December 23rd, 1896.

We beg to report that from the reports laid before the Board, it is gathered that all parts of the Municipality are in a good sanitary condition, and the public health excellent.

During the year only two deaths have occurred; both however, accidental and instantaneous; one by the discharge of a gun, and the other by a falling tree.

I remain, etc.,
JOHN LE FEUVRE, *Secretary.*

To A. T. Watt, Esq., Prov. Board of Health, Victoria.

Nanaimo Municipality.

NANAIMO, B. C., December 31st, 1896.

SIR,—The Local Board of Health of the City of Nanaimo beg leave to report regarding the sanitary condition of the city as follows:—

During the past year the Municipal Council has expended a considerable sum of money in the improvement of the drains in the city by placing vitrified pipe drains in several of the principal streets. The open drain from the hospital, on Franklyn, which has been referred to on several occasions, is one of the above improvements, the open drain having been taken up and a vitrified pipe drain laid in its stead. It is the intention of the Council to carry on this plan of improvement, and it is hoped that in the near future there will not be any cause for complaint regarding the drainage of the city.

The water supply has engaged the attention of the authorities during the past summer, and while the quality and supply has been fairly good, yet the attention of the Water Works Company has been drawn to the necessity for an increased supply and the cleansing of the reservoirs, and the Company has done considerable work in that direction.

The provisions of the "Milk Inspection By-Law" have been enforced during the year with very satisfactory results.

As referred to in the report of the Board of last year, the garbage and night soil is disposed of by a duly licensed scavenger, who performs his work under the direction and supervision of the Municipal Council, and it is deemed satisfactory.

The Medical Officer of Health has made report to the Board as follows:—

To the Local Board of Health of Nanaimo City:

"GENTLEMEN,—I herewith submit my yearly report for transmission along with the report of your Board to the Provincial Health Department at Victoria, as required by law.

"During the past year the city has been singularly free from infectious and contagious diseases, there having been but one case of scarlet fever, a few isolated cases of whooping-cough and chicken-pox, a small epidemic of mumps and about a dozen cases of typhoid fever, all of a mild type and with only one death to their account, and that due to a case of typhoid of exceptional severity. During the hot and dry weather of the past summer there were far more cases of summer diarrhœa than in any previous year within my knowledge. Owing to dull

times and the consequent scarcity of money, far less fruit was consumed than in previous years, so that the cause of this diarrhœa must be looked for elsewhere. The proportion of adults who thus suffered, was also much greater than usual, hence a cause common to both adults and children must be sought for. In my opinion two causes were at work, namely, the noxious influence of the open sewers with their contained filth so common in this city, and the scanty supply of water derived from reservoirs which are far from being as clean as they should be. Both these evils urgently demand treatment, the former by a sewerage system, the latter by the Water Works Company being compelled to properly clean out their dams, and provide an abundant supply of water. In my report of last year, dated December 8th, 1895, I drew your attention to both these evils, and again in a special report dated September 6th, 1896, I drew your attention especially to the inadequate and impure water supply. This last report was referred to the Water Works Company who met it with a denial, as I learned from the newspapers of the day, but as your Board filed these papers without further reference to your Health Officer, the subject dropped. But the question as to whether your Health Officer's contention was right, or the interested denial of the Water Works Company, is still unsettled. I would respectfully recommend that a competent and disinterested person be appointed to investigate and decide the point at issue. The importance of an abundant and wholesome water supply to our citizens cannot be overestimated, nor should the question be dropped without thorough investigation.

"My report of December 18th, 1895, also called attention to the presence of a large number of privy pits in the city in direct contravention of the Health By-Laws. This state still exists and should be remedied, and in this connection I would again ask that a Sanitary Inspector be appointed, whose sole duties shall be in connection with the Health Department. There is plenty of work to keep one man busy, and it cannot be expected that the work will be well done when the duties are added to those of an officer who already has sufficient to keep him busy. The physical health of the town is equally important with the moral health, and hence a Sanitary Inspector is as much needed as a Police Officer. At present your Health Officer performs duties which should be done by an Inspector—such as inspecting and reporting nuisances, milk testing, quarantining, etc., services often demanding more time than should be expected from one who performs his duties gratuitously.

"I also during the year called the attention of your Board to the wording of the Health By-Law relating to pig stys, and asked to have it amended so it would be workable. I have not learned that any steps have been taken in this direction beyond referring it to a committee.

"Your Board kindly furnished me, as requested, with a Babcock milk testing apparatus. Its use has proved of benefit in raising the standard of milk supplied by milk dealers, as the following figures will show:—During the summer 220 samples were tested. The first lot tested averaged 3.6% butter fat; the first 50 samples averaged 3.82%; the next 54 samples averaged 4.42%; the next 59 samples averaged 4.31%; the last 57 samples averaged 4.11%. The general average for the season was 4.18%, which is a much higher average than it is usual to find supplied by milk dealers. While the percentage increased from 3.82% in the first 50 samples to an average of 4.18% for the season, shows that the testing generated a rivalry among the dealers, which resulted in a benefit to the community.

"There have been fifty-one deaths during the year, tabulated as follows:—

Diarrhœa	8	Brights' disease	2	Epilepsy	1
Consumption	5	Cancer	2	Inanition	1
Convulsions	5	Old age	1	Perforation of bowels	1
Heart disease	5	Drowning	1	Puerperal hemorrhage	1
Pneumonia	3	Burn	1	Cerebral abcess	1
Premature births	3	Suicide	1	Peritonitis	1
Meningitis	2	Typhoid	1	Atelectasis	1
Accidental	3	Erysipelas	1		

"All of which is respectfully submitted.

"Yours, etc.,

"ROBT. E. MCKECHNIE, M. D.,

"*Medical Health Officer.*"

Nanaimo, B. C., December 28th, 1896.

I have, etc.,

ADAM THOMPSON, *City Clerk.*

North Cowichan Municipality.

SOMENOS, B.C., December 26th, 1896.

Dr. A. T. Watt.

DEAR SIR,—I enclose report of our Sanitary Inspector, which I beg leave to supplement.

The Local Board of Health, consisting of the whole of the Municipal Council (Councillor W. C. Duncan, Chairman), has met sixteen times during the year.

January 20th and February 15th.—List of questions from Provincial Board of Health were considered and answered. Inspector instructed to examine and report upon closets of public schools.

February 22nd.—Proposed regulations of Local Board of Health discussed; many of them were considered unnecessary and too costly for rural districts.

March 21st.—Letters from Secretary of Provincial Board of Health *re* creamery were read. Secretary instructed to request Trustees of public schools to put closets in satisfactory condition; also to write to Secretary of Provincial Board of Health respecting powers for suppression of public wash-houses. Each householder in Duncan required to supply closet with box or bucket; scavenger appointed to remove contents of same fortnightly. Secretary directed to send sample of Duncan water for analysis.

April 18th.—The Board being advised that they could not enforce the closing of wash-houses, Secretary instructed to lay the matter before the Provincial Board of Health.

May 23rd.—Letters from Secretary Provincial Board of Health dealing with the laundry question; Sanitary Inspector's report.

June 10th.—Final notice given to several householders to supply boxes to closets. Sanitary Inspector having left neighbourhood, a request was made to the Council to appoint another.

July 4th.—Chairman reported that he had not succeeded in filling the Office of Sanitary Inspector.

August 1st.—Mr. C. J. Eaton appointed Sanitary Inspector. Inspector instructed to inspect certain premises; also to visit Chemainus townsite and report on sanitary condition and character of water supply.

August 15th.—The Reeve and Councillor Bonsall appointed a deputation to meet the inhabitants of Chemainus and consult with them on the institution of more satisfactory sanitary arrangements.

August 29th.—Sanitary Inspector read a detailed report on Chemainus townsite; report of deputation to Chemainus; Inspector instructed to see that Chinese washermen dispose of liquid waste in accordance with regulations.

September 9th.—Inspector's report favourable, except with regard to waste water from wash-houses; instructed to enforce regulations. No one having tendered for work of scavenging Chemainus, Mr. Bonsall was asked to try to get someone to do the work.

October 3rd.—Trustees of Quamichan School declined to carry out instructions of Board *re* closets; Secretary requested to write Education Department. Inspector's report more satisfactory regarding wash-houses.

October 24th.—Mr. Bonsall reported having secured scavenger for Chemainus. Secretary directed to put up notices in each Ward, calling public attention to regulations of Provincial Board of Health respecting wells and privies. Inspector's report satisfactory.

November 21st.—Scavenger reported buckets of closets at Duncan School to be too small; Secretary instructed to write Trustees.

December 19th.—The levying of a rate on Duncan to cover cost of scavenging was considered. Secretary instructed to forward report to Provincial Board of Health, enclosing that of the Inspector.

I have, etc.,

JAS. NORCROSS,

Sec. L. B. of H.

[ENCLOSURE.]

DUNCAN'S, E. & N. RY.,
17th December, 1896.

To the Provincial Board of Health.

GENTLEMEN,—According to instructions, I beg to hand you a summary of the reports on the sanitary arrangements of this district, comprising the Townships of Chemainus and Duncan's, and the schools within the jurisdiction of the Local Board of Health.

On the 26th August I visited Chemainus, which I found to be in a deplorable condition, both as regards their sanitary arrangements and scarcity of good water. The former has to some extent been rectified; with regard to water, this I understand rests with the inhabitants, and I believe something is being done to ensure a purer and more abundant supply of water.

The schools are, almost without exception, in a fine sanitary condition, but are, with one exception, without any water supply.

The sanitary condition of Duncan's is very satisfactory, and the supply of water good, wholesome, and abundant.

The general health of the whole district has been very good; there have been no epidemics of any kind, or illness in any way attributable to defective sanitary arrangements.

I am, etc.,
CHAS. JAS. EATON,
Sanitary Officer.

Richmond Municipality.

To the Reeve and Council.

GENTLEMEN,—We, your Board of Health, beg to submit our annual report as follows:—

That the health of the inhabitants during the past year has, as shown by the report of the Health Officer, Dr. Robinson, been exceptionally free from infectious and contagious diseases, and that the sanitary conditions of the municipality are such that no outlay was required, except in the townsite of Steveston, and there, as you are aware, very little was expended specially for that purpose.

We are in hopes that when the proposed flood-gates are put in (for which you made provision by a resolution on the 6th inst.), with a little additional work in the drains in the townsite, thereby making it possible to flush the same, it will put Steveston in a fairly good sanitary condition.

We beg to incorporate the report of Dr. Robinson, M.D., Health Officer, as part of this report, and to most respectfully submit the same.

THOMAS KIDD,
Secretary.

DR. ROBINSON'S REPORT.

In making out a report of the sanitary condition of the municipality for the year ending 1896, I have to state that the municipality has been exceptionally free fron infectious and contagious diseases.

There was a fever, of typho-malarial type, which ran a typhoid course in twenty-six cases among Japanese, twelve cases among Indians, and eighteen cases among whites. Officer Calbick and myself visited the shacks and out-house conveniences twice weekly, and saw that the place was kept as clean as possible in each case. We had more trouble with the white fishermen than with the Indians and foreigners.

In each case of fever, I disinfected the stool and ordered the excretions of the body buried, and gave instructions how to carry out disinfection.

In closing I would recommend that some means be taken to drain the dyke from Costello's Cannery to Garry Point; that the managers of the canneries be made to supply tins to hold the slops and refuse which is usually thrown in front of the shacks; and that in any cannery using jars or open vessels containing acids be made to have a notice labelled "poison" on such jars, as there have been some accidents to fishermen drinking, mistaking the acid for water.

R. ROBINSON, M.D.

January 30th, 1897.

South Vancouver Municipality.

VANCOUVER, B. C., 24th December, 1896.

Dr. A. T. Watt, Secy. Provincial Board of Health, Victoria:

DEAR SIR,—At a meeting of the Board of Health held on Thursday, 24th December, 1896, I was directed to report to you that the sanitary conditions of this Municipality are good. We have had no epidemics of any kind. We have done considerable road making and ditching, which will no doubt be conducive to the general health of the District.

I herewith enclose report of the Medical Health Officer, Dr. Thomas.

I have, etc.,

GEORGE MARTIN,
C. M. C., and Secy. to the Board.

[ENCLOSURE.]

To the Reeve and Council of the Municipality of South Vancouver:

GENTLEMEN,—I have the honour to report that during the year there have been no cases of infectious disease amongst the residents of the Municipality. I have, from time to time, inspected the various parts of the district, and have found that the provisions of the Sanitary Regulations, 1896, were, as regards the most important of its clauses, carried out efficiently. I would, however, beg to recommend the carrying out of clause 16 of those regulations, which directs that the proprietors of dairies and cow-byres, and of all places where milk is kept for sale, shall obtain permission in writing of the Local Board of Health, to keep such places where milch cows are kept, or milk is sold.

I am, etc.,

A. HARRISON THOMAS, M. D., B. Sc. Edin.,
Medical Health Officer.

Vancouver, 30th November, 1896.

Spallumcheen Municipality.

ARMSTRONG, B. C., December 19th, 1896.

To the Secretary of the Provincial Board of Health.

DEAR SIR,—I beg to inform you that the sanitary condition of Spallumcheen Municipality, in accordance with sanitary regulations of your Board, is in fairly good condition at the end of the present year.

Our general report of work performed for the present year is as follows:—

Local Board of Health and Dr. Offerhaus, M. H. O., held special meeting 17th day of October, 1896. Purpose—to arrange about sanitary inspection within Municipality, 20th day of October, 1896. Board of Health and Offerhaus, M. H. O., made examination or inspection of a number of farm premises, including the slaughter-house and a number of yards.

Notice was given in three instances to abate nuisance caused by hogs, and slaughter-house was ordered removed.

Posted up notices at Armstrong, warning residents to act in accordance with sanitary regulations.

Number of deaths four, as follows:—

1 from Brights disease.	1 from Liver complaint.
1 " Typhoid fever.	1 " Hemorrhage of lungs.

A. SCHUBERT,
Secretary Board of Health.

[ENCLOSURE.]

SPALLUMCHEEN, B. C., December 16th, 1896.

To the Chairman and Members of the Local Board of Health.

GENTLEMEN,—I beg to inform you that the public health during the present year has been fairly good, only a few cases of typhoid fever, one of which was fatal, have come to my notice.

Three more deaths occurred, which were due to other causes.

An inspection held at Cummings Creek, made it necessary to notify some parties to move pig pens and other nuisances farther from the creek, and the local butcher at Armstrong was notified not to kill any more at Wood, Cargill & Co.'s pig pens.

Notices were put up at the town of Armstrong, notifying the householders of that place to build the privy closets on their premises according to the regulations of the Provincial Board of Health.

I am, etc.,

E. J. OFFERHAUS,
M. H. O.

Sumas Municipality.

UPPER SUMAS, B.C., December 1st, 1896.

To A. T. Watt,
Secretary of the Provincial Board of Health, Victoria.

DEAR SIR,—The Municipal Council of the Corporation of the District of Sumas has not been organised as a Local Board of Health. No work has therefore been done during the year to conserve the health of the district. The sanitary condition of the district has, however, been good, and no deaths have occurred from contagious or any other diseases. A few cases of measles occurred in one family during November, which have thus far spread no farther. No Health Officer or Sanitary Inspector has been appointed.

Respectfully yours,

A. C. BOWMAN,
Clerk.

Surrey Municipality.

CLOVERDALE, B.C., 1896.

To Provincial Board of Health, Victoria, B.C.

GENTLEMEN,—In making this, my first annual report to you, I must say that on account of there having been no diseases of a contagious character, and being a new departure in the health laws of this Province, less interest has been taken by the Board than otherwise would have been, but had necessity required it there is no doubt that both interest and action would have been forthcoming. The Board appointed A. A. Sutherland, M.D., Medical Health Officer, and also have attended to whatever else came under their notice, although of a trivial nature, such as the burying of dead animals, removing of nuisances, &c., &c. The Health Officer's report which I enclose shows, however, more clearly what has been done throughout the year.

The above I most respectfully submit.

A. A. RICHMOND,
C. M. C

[ENCLOSURE.]

CLOVERDALE, December 1st, 1896.

To Board of Health of Municipality of Surrey.

GENTLEMEN,—In making this first annual report, I desire to call your attention to the fact that owing to this being a new departure in the laws of British Columbia, and also that no diseases of a contagious character have been epidemic in the municipality, not as much interest has been taken or required by the Board as would have been the case otherwise.

The sanitary state of the district is fairly satisfactory, its proximity to the sea and the numerous streams within its boundaries affording good drainage, except in the winter season, when the abundant rainfall overflows the low-lying lands, but at this season produce no ill results.

Since my appointment as Medical Health Officer, I have visited the various schools in the district and found in almost every instance total lack of proper ventilation, uncomfortable seats, no wells or poor water in some schools, and outhouses in an unsanitary state. In every instance I have left instructions with trustees as to what should be done, and am pleased to say that in several instances my suggestions have been partially or wholly carried out.

In regard to schools, I would recommend that all pupils be vaccinated, and that the Board pass an order to that effect.

During the year there have been no cases of infectious diseases in the district, except a few cases of measles, which occurred before I took office, and none of which proved fatal.

Should any infectious disease break out, we are without a hospital or suitable place for isolation, and some means should be taken to provide such should occasion arise.

All of which is respectfully submitted.

A. A. SUTHERLAND, M.D., C.M.
Med. Health Officer.

Vancouver Municipality.

VANCOUVER, B. C., January 12th, 1897.

Dr. A. T. Watt, Secretary of Provincial Board of Health, Victoria, B. C.

SIR,—I herewith send you copies of the annual report of our Health Officer and Health Inspector as requested by you, which I trust will prove satisfactory to you.

Yours truly,
THOS. F. MCGUIGAN, *City Clerk.*

To the Mayor and Council.

GENTLEMEN,—During the year 1896, the total number of deaths occurring within the city was 192, and it is with great satisfaction that I am able to report that during the year there was not a single case of infectious disease notified to me except one case of chicken-pox. There were, however, 14 deaths from typhoid fever, but of these many were brought from outside the city boundaries. The origin of this disease is frequently involved in much obscurity, but it is well known that contaminated food or water is practically the only means by which it originates ; as an instance of an unexpected cause of the disease, I may mention that in England recent investigations have shown that many cases have arisen from eating oysters that have been cultivated in or gathered from sewage contaminated waters. Hence, it being possible to carry the germs of the disease from a far distant source, and to spread them amongst a community, we may always expect to meet with cases however perfect the sanitary conditions may be.

In my reports I have for years remarked upon the necessity of cleansing and purifying the Chinese quarters of the city, and it is therefore with much pleasure that I am now able to report that something has been done to that end. I may mention that it is largely through the energy and perseverence of the Chairman of the Board of Health, Capt. McPhayden, that this has been accomplished, and I trust this important work will be carried on to completion. A number of delapidated cottages, supported upon piles over the foreshore and occupied by Chinese, have been pulled down, and the site filled in with sand up to the street level. There being now a sewer in the street, it is very necessary, in order that the new sand may be kept free from contamination, that all the stores and dwellings on the south side of Dupont Street be promptly connected with the sewer. Under the City By-Laws a certain period of time is allowed owners in which to do this work, but that period has now elapsed, and there being many houses not yet connected, I would advise that they be compulsorily closed and vacated until after such connection has been made.

I regret that the Council have not yet put in force a regulation that no dwelling shall be erected without the owner having first deposited with the Board of Health a plan of the building, showing the sanitary arrangements, and having obtained permission from the Board to carry out the work according to the accepted plans.

Last summer there was much complaint regarding the absence of proper sanitary appliances amongst the campers-out at English Bay, and as their number tends to increase from year to year, it will be necessary in the future to require that arrangements of a less primitive character are provided.

In my previous reports I have alluded to the importance of the Milk By-Law, and to the inefficient way in which it is carried out, showing what a small degree of protection is given to the public by the present method of working it as compared with the cost thereof.

During the year a Public Analyst has been appointed by the Dominion Government, so that in the future it will be possible to have a real and skilled analysis made of all suspected milk, and at no greater expense than that of the present useless system. I therefore trust that some plan will now be adopted which will be of real service to the community.

The Isolation Hospital has not been occupied by patients during the year, but the buildings show signs of delapidation as regards the outside painting, and require attention. Owing to the circumstances that the ground in the neighbourhood is being taken up for building upon, I would recommend that the hospital grounds be fenced in.

This year the sanitary regulations made by the Provincial Board of Health were issued, and on the recommendation of your Health Committee, steps have been taken to put them in force in this city ; their adoption will materially strengthen our Health By-Laws.

I am, etc.,

A. HARRISON THOMAS, M. D., B. SC.,
Medical Health Officer.

REPORT OF THE HEALTH AND PLUMBING INSPECTOR FOR THE YEAR 1896.

To the Chairman of the Board of Health.

SIR,—I beg to report as to the sanitary work done during the year 1896, also as to the sanitary condition of the City of Vancouver. In the first place, acting under the direction of the Board of Health and the Medical Health Officer, a visit was made to Chinatown early in the year, and from the inspection then made a report was given revealing the unsanitary conditions existing there, which report was verified and strengthened by an official visit from the Secretary of the Provincial Board of Health, which resulted in the condemning and destroying by fire of four rows of filthy shacks, also a single one, the whole of which were built over the deposited filth and mud of False Creek. At the same time, notices were given the owners to have these unsanitary places filled up, and the whole of the present buildings connected to the public sewer, which sewer has been laid this year for this purpose, by which means the sanitary condition of this portion of the city will be much improved.

The water supply to the city during the year has been constant, as far as the area connected with the sewerage system is concerned, but, owing to the large increase of consumers, the higher elevated portions of the city at certain periods have had a poor pressure of water, which will soon be rectified now that a large main is to be added to the present supply. The 22 miles of sewers have been kept in an exceptionally good condition during the year, the 66 automatic flushing tanks distributed at the heads of the various branch sewers keeping the sewers entirely free from sediment or deposit, which, in conjunction with the sanitary measures carried out during the year, must have gone far towards the healthy condition this city has enjoyed, there having been no case of infectious disease reported to me during the year.

The crematory has given great satisfaction, there having been no cause of complaint in any particular. The slaughter-houses have been kept in good order and invariably clean, the refuse being burnt at the crematory. Owing to the passing of a wash-house by-law, the unsanitary conditions of a large number of Chinese wash-houses have been removed, but constant supervision is required over the same. Thirty-six prosecutions for infraction of the Health By-Law have been made, most of which have been withdrawn upon the offenders complying with the By-Law. In connection with the sewers, 100 plans were left over last year, being under various stages of completion, for the plumbing of various premises ; 277 permits were granted and plans deposited during the present year, making a total of 377, of which 310 have been completed and connected to the public sewers, as required by the By-Laws of this city, making a total of 1,674 premises connected to the public sewers up to date.

Trusting this report will prove satisfactory,

I remain, etc.,

ROBERT MARRION.

Vernon Municipality.

VERNON LOCAL BOARD OF HEALTH.

I have to report that this Board has held fifteen meetings during the year.

Dr. Watt, Secretary of the Provincial Board, visited Vernon on the 20th July, and inspected site of proposed dumping ground, and also sources of water supply and butcher's slaughter-house.

The owner of the proposed dumping ground stated that there were several legal and other objections to the land in question being so used, and offered in place thereof to sell the land previously used as a dumping ground. As the site was suitable the offer was accepted, and the ground has been secured by the city and fenced in.

With regard to water works I have to report that on receipt of Dr. Watt s exhaustive letter on the subject, the Council had the original plans of the Long Lake scheme overhauled by the Surveyor with a view to reduce the original cost of same, which was considerable greater than they considered the city could possibly at the present time by any means raise. They also had the Deep Creek scheme thoroughly gone into, plans made for the construction of several retaining dams and reservoirs, and the pipe line surveyed. The Surveyor's report as to the practicability of the scheme and adequacy of the supply being perfectly satisfactory, the Council were in favour of this scheme being adopted, and would probably have brought forward a By-Law on the subject, had not financial considerations made it advisable to defer further action.

I forward herewith report from Dr. Williams, the Medical Health Officer, which deals with all cases of infectious diseases, and the sanitary condition of the town generally.

R. J. DAVIS,
Secretary.

Vernon, B. C., 15th December, 1896.

[ENCLOSURE.]

"VERNON, B. C., December 8th, 1896.

"*To the Mayor and City Council, Municipality of Vernon, B. C.*

"YOUR WORSHIP AND GENTLEMEN,—During the year the following cases of infectious diseases have been reported to me, or have otherwise come to my notice:—

Enteric fever 5 cases, 2 deaths. As far as I know there were only 8 deaths in this city during the year, of these 3 were infants, and one accidental.

Although the death rate is barely one per cent., I consider that the city is in anything but good sanitary condition, and very little can be done to improve its condition until we get water works.

The dumping ground is now provided, and every citizen should see that proper use is made of it, but I am afraid very few do so, as I notice still a great number of privy pits in existence, and as long as they exist, so also will enteric fever exist in its most virulent form. The few cases of typhoid we had here this autumn were of especially grave type, much more so than last year.

During the year many nuisances have been removed, especially in connection with the Schubert Street Creek, and Mr. Knight's slaughter-house.

In all cases of infectious diseases reported to me, every measure has been taken to prevent spread of same, and rooms thoroughly disinfected after death or recovery.

I have attended such cases as have been reported to me sick and destitute.

In my mind the most important step to take in order to prevent disease in this city, is to bring in the water works as soon as possible, and so secure proper means of draining the town.

GERALD WILLIAMS, M. D., C. M.,
Health Officer."

Victoria Municipality.

VICTORIA, B. C., January 19th, 1897.

Dr. A. T. Watt, Secretary Provincial Board of Health, Victoria, B. C.

SIR,—I have the honour to forward herewith for the information of the Provincial Board of Health, the reports required by section 45 of the "Public Health Act, 1893," upon sanitary matters in connection with the City of Victoria, being for the year 1896.

I have, etc.,

W. J. DOWLER,

Secretary Board of Health.

[ENCLOSURE.]

"VICTORIA, B. C., January 8th, 1897.

To His Worship the Mayor and Board of Health.

GENTLEMEN,—As by section 45 of the "Health Act, 1893," and by the "Sanitary Regulations" published by the Provincial Board of Health, the duty is imposed upon your secretary to lay before you a report upon the sanitary work done during the year and upon the sanitary condition of the city, I have the honour to submit for your information and consideration the following brief summary relating to this important subject, and, in accordance with the provisions of the said section, the report of the Medical Health Officer as well. This latter report you will find to be made up of two parts, the first part being contributed by Dr. George H. Duncan, who filled that position for the first nine months of the year 1896, and the second by Dr. R. L. Fraser, the present Medical Health Officer, for the remainder of the year.

The report for the year 1895 having traced minutely and at length the successive stages of improvement made in the sanitary condition of the city up to the year 1896, it will only be necessary for me at this time to mention briefly a few facts bearing on the subject, which may have escaped attention in the other reports herewith submitted.

As is well known, the sanitary work of the city is for the most part comprehended within the active operations of two departments of civic service, namely, that of the Medical Health Officer (which includes the Sanitary Officer's work), and that of the City Engineer, which includes the work of the Street Superintendent and the Plumbing Inspector.

To form an adequate idea of the work done last year in connection with the Engineer's department, it will be necessary to consult his report for the past year, in which all work done relating to streets, sewers and surface drains which are set out in detail. As to the Sanitary Inspector, he reports the abatement to his satisfaction of certain notorious nuisances, which had for some time past given great offence to large sections of the city, viz.—Cadboro Bay drain, the St. Charles Street drain, and the Chemical Works nuisance on Erie Street.

By the abatement of the two first named, a large and important portion of the city has been greatly benefited.

He also reports that by personal visitation a large number of lesser nuisances have been abated. He further reports that the garbage scow method of disposing of refuse, &c., has been most effective, and has been operated without complaint.

Before closing this introductory report I would suggest to the Board the advisability of having schedules prepared for use of the Caretaker of the Isolation Hospital and the Sanitary Officer.

These forms would enable the Caretaker to record the number of patients admitted to the hospital during the year, date of admission, personal description, nature of disease, development and result, time in hospital, discharge of nurses, time employed, number of suspects, &c., and any information of public interest relating to the hospital. The Sanitary Officer could keep a daily record in tabulated form of complaints received, visits made, notices served, description of nuisances, date of abatement, houses fumigated, and all matters relating to his work. Such records embodied in a report of this kind would present in a most succinct and yet complete form, the principal part of the work in connection with the health department proper.

As to the other facts appertaining to the report coming within the purview of the Medical Health Officer, I beg to refer the Board to the reports of Dr. Duncan and Dr. Fraser herein contained.

I have, etc.,

W. J. DOWLER,

Secretary of Board of Health of the City of Victoria.

VICTORIA, B.C., 7th January, 1897.

To His Worship the Mayor and Board of Health:

GENTLEMEN,—In undertaking once more the duty imposed upon the Local Medical Health Officer by the provisions of section 45 of the "Health Act, 1893," I would in the first place premise that as my incumbence of the office ceased a little over three months ago, the report which I have the honour now to lay before you will have reference only to facts relating to city health matters which had their origin and development prior to that time.

It occurs to me also, that in view of the discontinuance of my connection with the office which I filled for nearly four years, it would be only natural and proper for me to make a brief and cursory review of the work done during that period.

I was appoininted Medical Health Officer for the city on the 16th day of November, 1892, and held office until the 28th day of September last, when I resigned, having previously been placed in charge of the Dominion Quarantine Station at William Head.

At the time of my appointment the city was suffering most accutely from the effects of the small-pox epidemic of that year. My endeavours were immediately directed towords stamping out the last remnant of the disease and towards securing the adoption of such measures as would safeguard the public health from further inroads from this cause. These desired ends I conceived were to be reached only by ceaseless watchfulness and patient and unremitting effort.

Besides the adoption of the most approved and efficient methods of dealing with cases affected or likely to be affected with the malady, it was necessary that I should become acquainted with the system in vogue and means used for preventing the introduction of the disease at its point of entry into this country.

With this object in view I accordingly visited at an early date the Dominion Quarantine Station (then at Albert Head) and found the appliances there for handling passengers infected, or supposed to be infected, in a very imperfect condition. Moreover, from information received, I had every reason to believe that even these appliances were not used as effectively as they might have been.

I reported these facts to the Board of Health and urged them to make provision for properly disinfecting the ninety-one suspects then confined in the station, together with their baggage at the Ross Bay suspect station before they were allowed free access to the city. This was done, but in view of the unsatisfactory condition of arrangements at Albert Head it required the utmost vigilance at that time to prevent a second formidable outbreak of the disease. It was during this period of surveillance over vessels from the Orient that on the steamship "Flintsure," after having been officially detained for seventeen days at Albert Head and after having touched at the outer wharf on her way to Tacoma, a case of small-pox broke out among the crew at that point, showing that even the commonly accepted time for the development of the disease, namely fourteen days, is not to be relied upon absolutely in all cases.

With the object of familiarising myself particularly with the sources of danger themselves, in the month of August, 1893, I crossed the Pacific, without cost to the city, and visited China, Japan and Australia as well. I inquired minutely into the conditions existing especially in Hong-kong, Canton and Yokohama, and obtained from official medical men in these cities exact and valuable information which I was able afterwards to use to advantage in the performance of my duties as Medical Health Officer.

From what I saw myself and from information gathered from the trustworthy sources referred to, I laid before the Board of Health, upon my return, a lengthy report upon the nature and extent of the diseases, and of the sanitary conditions continuously prevailing in the native quarters in Hong Kong, Shanghai and Canton. From the facts set out in that report only one conclusion could be drawn, namely, that to protect the inhabitants of this country from imported infection the most complete appliances and the most stringent quarantine regulations were imperatively necessary.

The abandonment of the old Quarantine Station at Albert Head, and the establishment of the new station at William Head, well equipped, with a resident Quarantine Officer and with modern apparatus, marked, as did the establishment of the Isolation Hospital in Victoria, the beginning of a new period of advancement towards the desired end. Urgent representations were made to the Dominion authorities at Ottawa, and to Sir McKenzie Bowell (then Premier) and the Honourable Mr. Daly while here, in order to secure the efficient utilisation of the

appliances at William Head, and the active enforcement of adequate quarantine regulations in respect to all vessels coming from the Orient. These representations were not without results, for, before long, I had the satisfaction of knowing that such measures were put into operation at William Head, and as would effectually safe-guard the public health from a foreign invasion of infectious disease.

At the same time that efforts were put forth looking to the enforcement of approved quarantine regulations at William Head, my attention was directed as well to perfecting the system of treating cases of infectious disease discovered in the city from time to time. In fact, in 1893, it was found that a considerable residue of the epidemic of the previous year still lingered and a number of cases developed, but so quietly were they handled, and so carefully were they isolated and treated, that no alarm was created. Outside of the circle of health officials, no one was aware of their existence.

Action was taken, upon my recommendation, to provide an Isolation Hospital for the special treatment of infectious disease patients, together with a quarantine station for suspects. Appliances were also furnished the sanitary office, whereby the officers of the health department and physicians in attendance upon infectious cases could be readily disinfected. Upon my recommendation also a set of approved rules and regulations for general use in the event of any infectious disease occurring anywhere in the city, was adopted by the Board, and they were distributed so that every one might be informed of the steps to be taken in such a case. These rules are still operative, and I am fully convinced that to their observance, and to watchfulness and promptness on the part of the officials of the health department in dealing with such cases, either by quarantining them in their homes, or removing them at once to the Isolation Hospital for treatment there, the present comparative freedom from infectious disease enjoyed by the city is largely due.

The system of treatment in the houses of patients of course differs to some extent from that in the Isolation Hospital. At first people were indisposed to leave their homes when the disease appeared, as they looked upon removal to such a place as an infectious diseases hospital, with a certain degree of apprehension. But a trial or two soon convinced even the most fastidious that the proper place for the treatment of persons so afflicted was the hospital, and not the home. In the former place everything was prepared for effectively combatting the disease without fear of further infection, and with every hope of ultimate success, but in the latter a multitude of precautions were necessary, involving fumigation eventually, with possible loss, and even under the most carefully followed rules and regulations, a certain degree of liability to infection, not to speak of inconvenience to other members of the household.

In fact the system of treatment followed at the hospital has been so successful that of all the patients treated there for infectious diseases, only a single death has occurred. It has to be regretted, however, that the waggon which did duty for some time as an ambulance was not suitable for the purpose, but that defect has been remedied this year—a proper ambulance is now in service. In reviewing the measures adopted and carried out by the Dominion Government at William Head, by the Provincial Board of Health, and by the city authorities, respecting infectious diseases, all of which have been instituted within the past three or four years, I think the city has reason to be congratulated upon its present condition as compared with its defenceless condition when visited by the small-pox epidemic in 1892. I do not think the city need now fear another such epidemic. This change however, so far as the city is concerned, has not been effected without a liberal expenditure of time and energy, a careful study of the subject in all its details, nor without promptitude and unceasing vigilance and activity.

The condition of the water supplied to the city in 1894 being such as to excite alarm, I visited, in company with the then Mayor, Elk and Beaver lakes, with the object of examining the sources of the city's water supply, to ascertain the local causes of deterioration. Following this visit I presented a report to the city Council upon the sources of water supply view from a sanitary standpoint, particularly dwelling upon the subject of providing a proper system of filtration. The suggestions made by me with reference to the improvement of the water supply are contained in my report of last year, so that I need not repeat them here.

As is well known, the city Council was supplied by the ratepayers with the necessary funds for the purpose of laying down a modern system of filter beds and the work commenced in 1895, has all but been completed. For some reason however, the actual utalisation of the filter bed constructed has been delayed, but there can be no doubt that when operated the water consumed in the city will be a wholesome article, clean and pure, and the sooner this is the case the better.

Darcy Island Leper Station has also received particular care and attention, including periodical visitation during the entire term I have acted as Medical Health Officer. The policy

pursued with reference to the poor unfortunates there exiled, has been to provide them with facilities for the employment of their time profitably to the extent of their ability, and to supply them with such necessaries as they might not be able to procure for themselves.

To these such comforts have been added as would tend to relieve and soften the asperities of the fate to which they are irrevocably doomed.

Shortly after my appointment I paid a visit to the Chinese hospital in Chinatown and found it, upon inspection, to be in a most deplorable condition. Upon the Chinese merchants, however, agreeing to undertake to keep the building and surroundings in a condition satisfactory to the health authorities, the building was not condemned as a nuisance dangerous to public health. Since then it has been kept under constant supervision and has consequently improved.

The morgue also received attention and the Council made arrangements by which it was kept clean and properly cared for.

The work done last year in connection with the Health Department has been simply for the main part a repetition, only on a less extensive scale, of that of previous years and has comprised the treatment of infectious cases which have occurred, keeping a wrtchful eye upon vessels touching at this port, visiting periodically the Old Men's Home, the Isolation Hospital and the leper station, Darcy Island, looking after the medical wants of the residents of these places respectively, directing the Sanitary Inspector in his duties respecting the removal, &c., of patients, the fumigation of dwellings, and the enforcement of rules and regulations of a sanitary kind, and keeping cognizant of all matters relating in any way to the public health of the city. So far this year a number of scarlet fever and diphtheria patients have been treated successfully in the Isolation Hospital, one case of chicken-pox, and one of erysipelas. Four cases of infectious disease were isolated at home, of whom one died. Twenty-one suspects in all have been quarantined from time to time at the hospital.

The papers received by me from which a classification may be made of the several diseases from which persons have died in the city during the year, have been handed to my successor, Dr. R. L. Fraser, in order that the tabulated statement for the year may be complete, and not divided into two parts.

I have, etc.,

G. H. DUNCAN, M. D.

To His Worship the Mayor and Board of Aldermen:—

GENTLEMEN,—My report must necessarily be a short one, since I have been in office only two months and it has taken some time to become conversant with my duties.

The past two months have been busy ones for the Health Department. The Isolation Hospital has been constantly occupied during this time.

There were four cases of scarlet fever and three of diphtheria treated at the hospital, all of which made good recoveries.

I am pleased to state that so far as the two diseases mentioned are concerned, the city is now free from infection.

The only other infectious disease reported to me was whooping cough, of which there is at present a mild epidemic in the city.

The city is to be congratulated on the possession of an Isolation Hospital for infectious diseases, but excellent though it is, it is still inadequate for the city's wants. Should we now have at one time, a number of different contageous diseases and a number of suspects we we would not be able to find room for them, especially if such a condition occurred during cold weather when tents could not be used.

In view of the above I would recommend that three additional wooden cottages be built.

I paid one visit, with the Sanitary Inspector, to Darcy Island leper colony in November. We found that there had been no deaths since the previous visit. There are seven lepers, all Chinese, on the island. One of them is very feeble and not likely to live long. The others are as well as I would expect to find leprous patients. They are well supplied wth food, clothing, utensils and tools. They have no complaints to make and seem as well satisfied and as comfortable as men can be in their wretched condition.

The recommendation made in previous annual reports, namely, compulsory conneetion with sewers, the prevention of sewerage matter entering box or surface drains, the inspection of the milk sold in the city, etc., I heartily indorse.

One other subject I wish to call attention to, namely, vaccination. The recent epidemic of small-pox in Gloucester, England, has taught the world a valuable lesson regarding the value of vaccination. It is time that some action should be taken in this city and Province to render vaccination compulsory.

I am fortunate in having as my assistant so efficient a man as Sanitary Officer Chipchase. He is thoroughly conversant with the detail work of the Health and Sanitary Department. I have found him energetic, zealous, and possessing the necessary tact to perform his duties satisfactorily.

Appended is a statement of the number of deaths and their cause. This statement is as nearly correct as the data at my command will allow.

I have, etc.,
R. L. FRASER, M. D.,
Medical Health Officer.

NUMBER OF DEATHS AND CAUSE.

Zymotic Diseases.		*Nervous Diseases.*	
Typhoid fever	1	Eclampsia	1
Cholera Infantum and Eateritis	25	Apoplexy	6
Diphtheria	1	Cerebral abscess	2
Septicaemia	1	Cerebral softening	2
Influenza	1	Meningitis	3
		Locomotor Ataxia	1
Circulatory Diseases.		*Hepatic Diseases.*	
Aneurism	1	Abscess of gall bladder	1
Embolus	2	Abscess of Liver	2
Heart disease, organic functional	24	Cirrhosis of liver	2
Hemorrhage	2		
Kidney Diseases.		*Respiratory Diseases.*	
Nephritis	11	Bronchitis	3
Diabetis	1	Pneumonia	23
		Tuberculosis	28
Other Causes.			
Appendicitis	1	Hernia	1
Cancer	22	Inanition	2
Senility	13	Chinese (not certified)	21
Still-born	23	Accident	2
Peritonitis	10	Suicide	2

Total 240. Estimating the population at 20,000, the death rate for 1896 has been 12 per 1,000.

Cariboo District.

QUESNELLE FORKS, B.C, December 24th, 1896.

The Secretary Provincial Board of Health, Victoria, B.C.:

SIR,—In submitting my annual report *re* the sanitary condition of this section of Cariboo District, I beg to state the condition is good. There has been no need of any sanitary work during the past year that has come under my notice; the abatement of a nuisance occasionally is about the extent of duty to be performed. A rough country and clear running streams make the duty of the Health Officer about as light as his pay.

I have, etc.,
W. STEPHERSON.

Cowichan-Alberni District.

DUNCAN, B.C., 29th December, 1896.

SIR,—I have the honour to enclose herewith my report as a Local Board of Health for the Cowichan Division of Cowichan-Alberni District for the past year.

I am, etc.,

H. O. WELLRURN,
Government Agent.

A. T. Watt, Esq.,
Secretary Provincial Board of Health, Victoria, B.C.

"SANITARY REPORT FOR THE YEAR ENDING 30TH NOVEMBER, 1896, FOR THE COWICHAN DIVISION OF COWICHAN-ALBERNI DISTRICT (EXCLUSIVE OF THE MUNICIPALITY OF NORTH COWICHAN.

"SIR,—As the Local Board of Health for the above-named Division, I have the honour to report that during the year just ended, there has been no case therein of death from contagious or infectious disease, nor has there been any outbreak of an epidemic character. It is, however, advisable that the wells used by settlers as their main water-supply, should, in some instances, be removed to a further distance from possible sources of pollution, and this more especially where the subsoil is gravelly or porous. The almost universal use of privy pits is also objectionable, although the scattered population affords a great offset to this defect. There are no offensive trades or those injurious to health carried on in this District.

In conclusion, I venture to point out the necessity existing for the appointment of a Medical Officer of Health for this District.

I have, etc.,

H. O. WELLBURN,
Government Agent."

A. T. Watt, Esq.,
Secretary Provincial Board of Health, Victoria, B.C.

Kamloops District.

GOVERNMENT OFFICE, KAMLOOPS, December 28th, 1896.

A. T. Watt, Esq., M.D.,
Secretary Provincial Board of Health, Victoria:

SIR,—I have the honour to inform you that the health of the district over which I have jurisdiction, has enjoyed during the present year a comparative immunity from diseases of a contagious or infectious character.

Two cases of scarlet fever were reported at Salmon Arm last autumn. The two patients were children belonging to the same family, who recovered from their sickness. The premises were thoroughly disinfected, in accordance with the directions of the medical attendant, Dr. Lambert, and every means taken to prevent the spread of the disease.

Lagrippe of a mild character has prevailed in some parts of the district along the line of railway.

I have, etc.,

G. C. TUNSTALL,
Govt. Agent North Riding of Yale.

Kettle River Health District.

GOVERNMENT OFFICE, MIDWAY, December 17th, 1896.

A. T. Watt, Esq.,
Provincial Board of Health, Victoria, B.C.:

SIR,—I beg to acknowledge the receipt of your letter of the 7th inst., *re* my appointment to act as Local Board of Health for the Kettle River Mining Division, also copy of the "Health Act, 1893," and Sanitary Regulations thereunder.

In regard to the health and sanitary conditions in this district, so far there has been very little sickness which could be attributed to neglect of proper sanitary precautions, the only serious illness have been a few cases of typhoid fever; yet there are many things and conditions existing in this district which may and probably will, as locations become more thickly populated, endanger the public health, unless the proper steps are taken to prevent it. I might mention, first, the present general system of using privy-pits which are never emptied, and seldom any provision made for even daily admixtures of dry earth; second, the close proximity of these pits to the various water supplies; third, the accumulation of manure, etc., too near to the dwelling houses of the people; fourth, the strongly mineralized condition of drinking water, carrying large percentages of copper, arsenic, etc., used by many prospectors in the mountains; fifth, improper ventilation of mining shafts and tunnels.

So far no proceedings have been taken for violations of the "Health Act" in this district, but inquiries have been made by the different officers, and where nuisances have been found those responsible have been asked to move the same, and generally have seemed ready and willing to improve the present conditions. Of course, in a great many cases it will be necessary to use much stronger measures to enforce the requirements of the Act and Regulations.

I have, etc.,

WM. G. MCMYNN,

Local Board of Health Kettle River Mining Division.

Lillooet District.

GOVERNMENT OFFICE,

CLINTON, B.C., December 25th, 1896.

SIR,—I have the honour to acknowledge the receipt of your letter of the 15th inst. informing me that an annual report regarding the sanitary matters in my District, should be at once prepared and forwarded to you.

I am at loss to know what sort of a report I can make in such matters for my District. My time is more than occupied with the multifarious duties of a District Government Agent, without any assistance, and I have not been over half a dozen miles from my office for upwards of two years.

So far as district sanitary matters are concerned, I know absolutely nothing beyond this little mountain village.

With regard to public health in the District, I have no reason to believe that it is anything else than excellent.

There have been no endemic diseases to my knowledge other than an attack of pneumonia amongst a band of Indians some forty miles from here, and there have been no epidemic diseases.

I have, etc.,

F. SOUES,

Government Agent.

A. T. Watt, Esq., M.D.,

Secretary Provincial Board of Health, Victoria.

Nicola District.

To John Clapperton, Esq., Government Agent, Nicola, B. C.

SIR,—I herewith beg to submit to you the first annual report upon sanitary matters in the Nicola District. This report is necessarily an incomplete one inasmuch as the application of the Regulations of the Provincial Board of Health, and my own appointment as Medical Officer of Health are of very recent date, and the machinery of the Local Authorities is hardly yet in working order.

As regards a systematic inspection of the whole district, I regret to say that so far I have not been able to make one. Such an inspection, including Upper and Lower Nicola in the valley itself, and the outlying sections of North Nicola, South Nicola, Granite Creek and

Princeton, would occupy about thirteen days in summer, and during the months since my appointment considerably longer, and as an honorary officer I have not felt able to give so much time, trouble and expense, as would be incurred to the service of the Board. An inspection of the above centres of settlement would necessitate over 300 miles of travel, and as I have received no instructions to incur any expenses, or to perform services for which I am entitled to charge fees, I have not yet undertaken the task. I would suggest that during 1897 I should be authorised to make a complete inspection, which is doubtless very necessary. This report deals principally with sanitary matters in the portions of the district lying around Nicola Lake, in the valley of the Nicola River itself.

The general health of the district has been very good. Cases of sickness have been below the average, and of the six deaths which have occurred, three were due to accident, one from phthisis, one from mountain fever, and one from cancer.

There has been no case of infectious disease in the district to my knowledge.

As regards the general sanitary condition of the district, looked at in the light of the Regulations of the Provincial Board, I think it is not altogether so satisfactory as it might be, and if we are not subject to attacks of epidemic disease, it is not because of the excellence of our sanitary precautions, but rather in spite of the want of them. I am of opinion that the new Local Board which has been nominated by public meeting and now awaits appointment by the Provincial Board, will find many matters demanding their attention, the chief among these being the disposal of house-refuse, the proper regulation (or preferably, abolition) of privies, the proximity of hog-pens, &c., to dwellings and wells, and the efficient supervision of China houses.

There are two or three matters in particular to which I wish to draw attention as requiring the early consideration of the Board.

I am informed that on the occasion of putting a new bath into the Driard Hotel, the drain-pipe from the bath was laid so as directly or indirectly to discharge into a small creek contiguous, which for the greater part of the year is dry. This in itself is in contravention of section 45, and apart from that constitutes a real danger, inasmuch as the water-supply of a family living near is a spring of otherwise pure water, actually in the bed of the same creek within 100 yards of the hotel.

Another matter demanding immediate remedy is the condition of the Provincial Government buildings. There are two privies attached to the Court House, which actually adjoin the police-cells, so that an occupant of one of the cells is only separated from the two privies by a wooden partition. This state of things requires no further comment, but requires alteration without delay.

Vaccination is in rather a poor way amongst the children. At fully half the births in the district, there is no accoucheur. Whether these births are ever registered I cannot say. I look after the registration in cases where I attend, but I seldom get on the track of the others, as it is no part of my duty to hunt them up. The point I wish to suggest is that compulsory registration should be made an actual fact, not a mere theory; that every person registering a birth should be furnished with a blank vaccination certificate, returnable within a certain time, and that it should be somebody's business to see that this is done.

The condition of the Public School will compare favourably with that of most rural schools. The school-room is large, well-lighted, efficiently warmed, and capable of ventilation. The necessary conveniences are at a proper distance, and are apparently well looked after.

If any real attempt is to be made to carry out the Regulations of the Provincial Board in so far as they are appliceble to a rural district, there is one absulutely necessary thing to be done, and that is the appointment of an efficient Sanitary Inspector, and I beg to commend this to the earnest consideration of the Local Board. In our case, as in most, the duties could be well filled by the Provincial Constable, of course with the concurrence of the Provincial Government. But I would suggest that it be represented to the Provincial Board of Health, that it is idle to expect the Provincial Constable to add to his duties those of Sanitary Inspector, without a corresponding remuneration. The post of Sanitary Inspector is not a very grateful one at best, and requires payment to ensure good service.

There are doubtless many little things requiring attention in other parts of the district, but they have not as yet come within my personal knowledge, as I do not happen to have been called away from the valley for some time. I wish the Local Board to understand that my appointment as Health Officer by the Provincial Board is mainly an honorary one, and that I take in as much sanitary work as I can along with my ordinary duties, whenever I have the

opportunity. It so happens that during the last three months I have been very little out of the village, and consequently my report only takes in a small area.

After the Local Board of Health has got settled down to its work, I hope we shall be able to effect many improvements throughout the district. The task in a new and sparsely settled country is by no means an easy one, and is likely at first to give rise to a little trouble and friction here and there. At the same time in a community like this, where the prospects are that within a short time we shall have new developments and a rapid increase of population, it is of the utmost importance that we begin as we mean to go on. If we get our rural district into good sanitary condition now, our task will be the easier when, as we hope, our villages grow into cities, and our country fills with population. The trouble with all new cities on this continent is that preventible diseases, such as typhoid and diphtheria, are endemic not epidemic. Had the Regulations of 1896 been in force years ago, when the cities of to-day were as we are now, that reproach would not be heard in the land. Let us then take full advantage of our start in life, and sooner or later we shall see our reward.

I am, etc.,

A. W. SUTTON, *H. O.*

North and South Nanaimo Districts.

NANAIMO, B.C., December 31st, 1896.

A. T. Watt, Esq.,
Secretary of Provincial Board of Health, Victoria, B.C.:

SIR,—I have the honour to submit the following as my annual report concerning sanitary matters in South and North Nanaimo Districts.

I had a few complaints during the year on the condition of some of the slaughter-houses and cattle pens, and I inspected them and gave strict orders to the owners that they must clean them and keep them clean. They did so, and I have instructed the constables to drop around occasionally and see that they are kept clean, and they report that they are all fairly clean. Wellington, old and new townsites, have been kept fairly clean, but their water supply is bad, being only well water, and the surface drainage finds its way into the wells, and many of them run dry during the summer months. No doubt the few cases of typhoid fever in the old townsite have been caused by the poor water supply.

The farming district north of Wellington is not in a first-class sanitary condition, as they still use the old-fashioned water-closet and pit; but the settlers are isolated (being not less on an average of one mile apart) and the water is good and pure. No infectious diseases have been reported during the year.

The sanitary condition of South Nanaimo is also not in a first-class condition, as the farmers are also using the privy-pit; but they are also isolated. This district has been remarkably free from sickness during the year.

The Nanaimo Water Co. did some work last fall in cleaning out their reservoirs, but I think they could do a great deal more to put their reservoirs in a first-class condition.

The few cases of typhoid and scarlet fever in North and South Nanaimo Districts were reported to me at the time by the Medical Health Officers, and they were instructed to take precautions in accordance with the Act to prevent spreading of same, which was found effectual.

The number of deaths recorded in this office for the year 1896 is 102, and this takes in North and South Nanaimo Districts, Nanaimo City and Alberni District, and a few patients who died in the hospital who came from outside districts. So you will perceive that the death rate for the year has been small considering the population, which will foot up to about 13,000 or 14,000 for above four named districts, all of which are embraced in this registry for births, marriages and deaths.

I beg to enclose herein the report of W. J. Wasson, M.D., Medical Health Officer for North Nanaimo District, and the report of R. E. McKecknie, M.D., Medical Health Officer for South Nanaimo District.

I have, etc.,

MARSHAL BRAY,
Govt. Agent and Local Health Board.

[ENCLOSURES.]

Marshal Bray, Esq., Rep. Local Health Board:

SIR,—I beg to submit to you the following Health Report for the District of Wellington:

A year ago the new townsite of Wellington was incorporated and since that time sanitary regulations have been enforced. Streets have been ditched, cleaned and graded, refuse removed, back yards cleaned, garbage removed as required and burried. The old ordinary privys have been cleaned and filled, and the dry earth system introduced. These are emptied and cleaned once a month, or twice in case of boarding-houses. Pigs and cows are still kept within the town limits, but pens and stables must be inspected and kept clean.

There have been two cases of typhoid fever, one fatal; and three of measles, one fatal, during the year, but no other infectious diseases.

The greatest danger is the water system, it being entirely surface wells, many of these dry up in summer filling with autumn rains.

The Council have at present under consideration a plan to pump water into reservoir tanks and from these supply the town. Lack of funds have rendered this impossible as yet.

Through the remainder of the district the sanitary regulations are not carried out, ordinary privys are in use, and surface wells.

There have been five cases of typhoid fever with one death on the old townsite of Wellington. No connection as to cause could be found between cases.

There were three cases of scarlet fever in Northfield, and one in East Wellington. They were isolated and the houses carefully disinfected. No other cases occured. The prevaling diseases are pneumonia principaly, and other forms of lung trouble, lagrippe, cholera infantum and summer diarrhœas in summer, a few cases of typhoid fever in the fall, and measles, whooping cough and erysipelas occasionally.

MORTALITY LIST.

Tubuculosis,	7 deaths	1 peritonitis, 1 meningitis, 5 of the lungs, one of these followed measles.
Pneumonia,	6 deaths	4 under six months, 1 seventeen months, 1 six years.
Meningitis,	3 "	2 idiophathic, 1 tubucular, included under tubucular.
Heart disease,	3 "	
Brights with cardiac compl.,	1 death.	
Maemia,	1 death.	
Cholera infantum,	3 deaths.	
Typhoid fever,	2 "	
Inanation,	4 "	2 at birth, 2 lived two weeks.
Convulsions,	2 "	
Purpura huemorhagica,	1 death.	
Amyloid, kidney and liver,	1 "	
Bronchitis,	1 "	
Measles,	1 "	included under tubuclosis.
Acute yellow atrophy,	1 "	
Disease of spinal cord,	1 "	
Syphilis infantile,	1 "	
Drowned,	1 "	

Mortality list represents fairly well prevalent diseases.

Sincerely yours,

H. J. WASSON,

Medical Health Officer for District of Wellington.

NANAIMO, B. C., December 27th, 1896.

M. Bray, Esq., Government Agent, Nanaimo:

DEAR SIR,—I herewith beg leave to submit to you, acting as the Local Board of Health for South Nanaimo District, the Annual Health Report for the said District.

Beyond a few isolated cases of whooping cough and chicken pox, three cases of scarlet fever at Northfield, and one case of typhoid on the Victoria Road, south of Chase River, the District has been very free from infectious diseases. No special precautions were taken

regarding the first two named diseases, but strict quarantine was enforced with the scarlet fever cases and proved effectual. The source of origin of the typhoid case could not be traced, but as several cases existed in Nanaimo at the same time I presume there must have been some connection.

There is no building or hospital within this District available in case of an epidemic, for isolation purposes, and as Nanaimo City itself does not possess an isolation hospital, which could be used by the District, I consider that some arrangement should be made by the Province whereby a suitable building could be procured and made servicable to the City and District generally.

During the past year there haue been nine (9) deaths recorded, tabulated as follows:—

Chronic hepatitis	1
Pneumonia	1
Congenital heart disease	1
Summer diarrhœa	2
Consumption	1
Aneurism	1
Pelvic peritonetis	1
Accident	1
Total	9

I would also draw the attention of your Board to the reservoirs of the Nanaimo Water Works Company which are situated in this District. As Health Officer for the City of Nanaimo I have the past two years drawn the attention of the proper authorities to the unclean state in which these reservoirs are kept, and to the fact that the supply of water furnished is inadequate, especially in the dry months, and have attributed the prevalence of an excessive number of diarrhœal cases to the impure water furnished. My report this year was answered by a denial of the facts by the Water Works Company. I would therefore suggest that a competent and disinterested person be sent out to report on their condition next summer when the water is low, or earlier if your Board think right, and that the Water Works Company be compelled to clean out their dams if my statements are proved true.

All of which is respectfully submitted.

Yours respectfully,
ROBT. E. MCKECHNIE, M.D.
Health Officer.

Revelstoke District.

PROVINCIAL GOVERNMENT OFFICE,
REVELSTOKE, B. C., December 22nd, 1896.

The Secretary Provincial Board of Health, Victoria.

SIR,—In accordance with paragraph 45 of the Health Regulations, 1893, and clauses 5K and 6K of the Sanitary Regulations, 1896, I have the honour to enclose my report for the year ending 31st December, 1896. I have, etc.,

J. D. GRAHAM,
Local Board of Health.

P. S.—I have asked Dr. McLean for his report, which I have not received to date.—J. D. G.

Habitations.

The dwelling houses in this district are all occupied by tenants, and more in demand.

Population in Revelstoke, Illecillewaet, Arrowhead and Trout Lake, is increasing rapidly.

This year there is a marked improvement in the houses, the occupants making much needed improvements, besides giving the exterior a coat or two of paint.

Population is constantly increasing in Illecillewaet, Revelstoke and Trout Lake, besides several small places have sprung up, viz.:—Arrowhead, Ferguson, and Galena Bay and Laurie, which next year will be very busy points.

Revelstoke is the principal point for parties going south, and at the lowest calculation 5,000 people must have passed through here this season.

The Lock-up was found too small this year to accommodate prisoners passing through from the lower country to Kamloops Gaol.

Water Supply.

Since last report water has been laid on to nearly all houses in the lower town.

The dam is about one mile from the lower town, and is free from any contaminating influence; the same is delivered by gravitation and through iron pipes; all joints are leaded and caulked.

The water supplied is the best in West Kootenay from practical experience—water is soft.

The parties in the upper town continue to draw their water from a small creek as before reported.

Drainage—no difference since last report.

Household refuse is all destroyed by fire.

Cemetery on side hill outside limit of town.

Public School sufficient for present requirements; consider that building should be raised above the ground at least two feet on account of depth of snow in winter.

Public Health.

One case of typhoid fever, which was a mild one, reported by Dr. McKechnie, who attended the case. The case was isolated as far as possible.

I would suggest that a resident Health Officer be appointed to attend to the Health Department. The Health Department is only one of the many offices I hold, and I am unable to give the time to it that it requires.

J. D. GRAHAM,
Local Board of Health.

Sandon District.

SANDON, B. C., January 17th, 1897.

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

DEAR SIR,—We are having very little trouble thus far in advancing Sandon to a condition of proper sanitation, and I think that by the time spring begins the town will have been rendered comparatively healthy. Some difficulty was experienced at first in having the dry earth closet boxes made, and even now their facture is rather tardy. The boxes are being introduced as rapidly as made. About thirty closets have been furnished in the heart of the town where they are most needed, and there still remain about double that number with which nothing has as yet been done. Most of these, however, are situated in outlying portions of the gulch. Of the twelve hotels here only two remain unattended to, and of these one will be supplied on Tuesday. There are at present no diseases of an infectious character in town. The Town of Cody, about one mile and a half up the gulch from Sandon, will be attended to as soon as possible.

One of the residents refuses to pay the scavenger for cleaning his closet, claiming that the monthly payment covers everything, including preparatory extracting and carting away of fecal matter which has been accumulating for a year or more. I think the charge, six dollars, a reasonable one, for the work. What can be done in this matter?

I would suggest that a small sum of money, say about $200, be appropriated by the Provincial Government for the purpose of clearing away the logs and rubbish from the creek to a distance of about a quarter of a mile below the town, so as to prevent the decomposition, at least in close proximity to the town, of material which has already lodged. This, I believe, would prove of great benefit to the community.

I desire to recommend highly the efforts of Constables Mountain and Lloyd. I do not know as yet the newly appointed Provincial Constable of Sandon.

If there is anything else concerning which the Board of Health may desire information please inform me.

I am, etc.,
WM. E. GOMM, M. D.

VICTORIA, B. C.:
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