

Report of the Medical Officer of Health for the Colony on the public health ... / Cape of Good Hope.

Contributors

Cape of Good Hope (South Africa). Department of Public Health.

Publication/Creation

Cape Town : Government Printers, [1902]

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CAPE OF GOOD HOPE.

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REPORTS

ON THE

PUBLIC HEALTH

FOR THE YEAR 1902.

INCLUDING

REPORTS OF DISTRICT SURGEONS,
LOCAL AUTHORITIES AND MEDICAL INSPECTORS.

Presented to both Houses of Parliament by Command of His Excellency the Governor.
1903.

CAPE TOWN :
"CAPE TIMES," LIMITED, GOVERNMENT PRINTERS.

1903

[G. 66—1903.]

B 500.

PART I.

Reports of District Surgeons upon Public Health and Sanitation.

URGENT.

CIRCULAR No. 11, 1903.

Colonial Secretary's Office,

Local Government and Health Branch,

Cape Town, Cape of Good Hope,

11th February, 1903.

ANNUAL HEALTH REPORTS FROM DISTRICT SURGEONS.

SIR,

I am directed to request you to be good enough to call upon the District Surgeon and Additional District Surgeon (if any), to furnish his annual report and returns upon the state of the public health and sanitation in his district during the year ending on the 31st December, 1902.

The report and returns should be prepared and forwarded to this office *as soon as possible*. The report should deal with the general health and sanitation of the district, and the returns should furnish information upon the special subjects of Small-pox, Vaccination, the working of the Contagious Diseases Prevention Act, 1885, Leprosy, and Persons in receipt of Pauper Relief from Government.

While the report, which should be as complete as possible, should be drawn up under the several headings, and in the order herein indicated, so as to enable combination and comparison with other districts and with previous years to be made, the District Surgeon is invited to deal as fully as he may deem necessary, with any matter which he considers deserving of special attention.

Should the District Surgeon not have at his disposal the information necessary to enable him to deal properly with a subject under any of the headings, and if you can ascertain the required particulars by correspondence with local or other authorities, or can in any other way assist him, I am to request that you will do so. In every case in which no information can be supplied under a heading, sub-heading, or return, "nil" should be written against it.

The object aimed at in asking for these reports is to obtain as far as possible a complete, comprehensive, and connected year's history of the health and sanitary condition of the Colony as a whole, as well as information particular to each district, especially in respect of any deficiency in sanitary control, or the existence of conditions inimical to health.

The following are the matters which, *inter alia*, the District Surgeon should treat of, viz.:—

The existence of sanitary defects and their remedy, stating the length of time they have continued, and the steps, if any, taken by the Local Authority concerned to remove them, having particular regard to any defects in connection with the following subjects:—

(a) The condition of the water supplies, especially as regards their purity both at source and on delivery, their sufficiency, *the existence of any*

causes likely to lead to pollution, either at source or during transit, and the steps which should be taken for bringing about improvement.

(b) Sewerage and drainage.

(c) The disposal of night-soil, slop-water, and household and other refuse.

(d) Overcrowded dwellings and dwellings unfit for human habitation.

(e) The management of slaughter-houses, butcheries, bakeries, dairies, and other trades affecting health.

(f) The keeping of cattle, swine, and other animals.

(g) The good order, cleanliness, and general sanitation of any Native Location or camp of Natives under the control of any Local or other Authority within the district.

(h) Cemeteries or burial grounds.

(i) The abatement of nuisances generally.

(k) The presence or spread of infectious disease, especially Typhoid Fever, Diphtheria, and Small-pox. The account of any outbreak of such disease that has occurred in your district during the year should include information as to its situation; dates of commencement, and of the discovery and discharge of the last case; source of infection, and how conveyed; number of persons attacked, with the number of deaths (distinguishing, as far as possible, between European and coloured, adults and children, and—in the case of Small-pox—classifying the cases into *pre-vaccinated* and *unvaccinated*, with the number of deaths in each class. Where vaccinated cases have occurred, it will be well to state whether the operation was done *prior* to the exposure to infection or not, and also, if possible, the degree of success accompanying the operation); the steps taken, with their effect, to suppress the disease, especially as regards the carrying out of vaccination and re-vaccination, the isolation of the sick, the surveillance of those exposed to the infection, and under whose authority the steps were taken, *i.e.*, the Divisional Council, Municipality, Village Board, Resident Magistrate, Special Justice of the Peace, or by any of these combined.

In this connection it should be particularly stated whether the "Local Authority" has in the District Surgeon's opinion done all things necessary or possible for preventing or dealing with such outbreaks, and if not, in what respects omissions have occurred.

With regard to vaccination, you are particularly requested to give the fullest possible account of the amount of success you have obtained, stating where the lymph was procured and the number of the calf which furnished it.

Also the total cost *incurred* in dealing with the outbreak, distinguishing between that incurred directly by the Local Authority and that incurred directly by the Government, should be given.

If there is reason to believe that the state of war has affected the Public Health during the early part of the year, some account of these effects should be given.

Returns.—The annexed forms should be filled in as completely as possible:—Those marked B, D, and E by the District Surgeon with your assistance, and those marked A, C, F and G by yourself.

You will be good enough, before forwarding these returns, to cause them to be carefully audited, in order to ascertain if they balance properly; that where figures are carried over from the previous year they are correct and agree with the returns of the *preceding* year; that all the figures are correctly entered in their proper columns, and that all additions, whether up-casts or cross-casts, are accurate, inasmuch as the omission of these apparently trifling precautions in regard to similar returns in previous years

has entailed a large amount of subsequent trouble on both Resident Magistrates and District Surgeons, as well as causing great delay in dealing with the returns by this Department.

The Colonial Secretary wishes me to request you to give this matter your personal attention, in order that the information furnished may be as accurate and complete as possible, and that it may be returned to this Office at the earliest possible moment, so that the Annual Report on the Public Health of the Colony may not be unnecessarily delayed.

I have the honour to be,

Sir,

Your obedient Servant,

NOEL JANISCH,

Under Colonial Secretary.

To each Resident Magistrate.

A.—Return of Persons in Receipt of Pauper Relief in the District ofduring the Year ended 31st December, 1902.

Name of Person.	Able-bodied or Infirm.	European.		Coloured.		Lepers.	Lunatic.	Syphilitic.	Ordinary.	Form of Relief.		Number of days in receipt of relief.
		Approximate Age.								Indoor.	Outdoor.	
		M.	F.	M.	F.							
Total ...	...											

Dated at.....

.....1903.

Resident Magistrate.

NOTE.—All Lepers, Lunatics and Syphilitics figuring on this Return should appear also on Return "G," the "Lunatic" Return and "E" respectively. If they do not, please explain to avoid querying.

N.B.—Before forwarding this Return kindly verify all the entries therein, and ascertain that all additions, both up-casts and cross-casts, are correct, in order to avoid querying.

B.—Return of Outbreaks and Cases of Small-pox also called Amaas occurring in the District of.....during the Year ending 31st December, 1902.

Locality of Outbreak.	Date of first Discovery.	Supposed Source of Infection and manner of Introduction.	Total No. of Cases Discovered.								Total No. of Deaths.								Total number of persons (healthy) kept under surveillance or quarantined.	No. of Guards employed.	State whether outbreak still in progress, or, if suppressed, give date of discharge of the last case.	Name of Local Authority having charge of the Outbreak.	Remarks.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Dated at.....

.....1903.

District Surgeon.

N.B.—Before forwarding this Return kindly verify all the entries therein, and ascertain that all additions, both upcasts and crosscasts, are correct to avoid querying.

C.—Return of Expenditure incurred for the suppression of Small-pox in
The District of.....during the Year ending the 31st
December, 1902.

SERVICE.	Expenditure incurred from 1st January to 31st December, 1902.			
	Directly by Government.		*Directly by Local Authority.	
Special Allowances or Payments to District Surgeon (exclu- sive of Vaccination)				
Travelling Allowances to District Surgeon do.				
Payments to Private Practitioners				
Travelling Allowances to District Surgeon, Vaccinating ...				
Special Allowance (if any) to District Surgeon for Vaccinating				
Payments to Lay Vaccinators				
Payments to Nurses, Guards, Police, &c.				
Cost of Provisions and Supplies				
Cost of Construction, Purchase or Rent of Hospital, Buildings, Huts, Tents, &c.				
Cost of Bedding, Clothing, Furniture, Utensils and Equipment				
Cost of Medicines				
Transport of Patients, Supplies, &c.				
Payments made in respect of Compensation for Infected Private Property destroyed				
Miscellaneous Expenses... ..				
Total				

* Including any share of expenditure that may be claimed from Government under the provisions of
Act No. 23 of 1897.

Dated at.....

1903.

Resident Magistrate.

D.—Return of Public Vaccination performed in the District of.....
.....during the Year ending 31st December, 1902.

Names of Centres at which Public Vaccination has been performed.	Number of Persons Vaccina- ted by the District Surgeon.	Number of Persons Vaccine- ted by laymen under the in- struction of the Dis. Surgeon.	Total Number of Persons Vaccinated.	Age.		Believed to be successful.				Unsuccessful.				Number of Primary Vaccinations.	Number of Re-vaccinations.
				Persons over 10 years of age.	Children under 10 years of age.	Males.		Females.		Males.		Females.			
						E.	C.	E.	C.	E.	C.	E.	C.		
Total ..															

NOTE.—Also please state the number of arm to arm Vaccination performed.
Also approximately the number of Vaccinations performed by Private Practitioners in the District.

Dated at.....

1903.

District Surgeon.

N.B.—Before forwarding this Return, kindly VERIFY all the entries therein, and ascertain that all
additions, both up-casts and cross-casts, are correct in order to avoid querying.

E.—Return of Cases under Medical Treatment under Part II. of the Contagious Diseases Prevention Act in the District of..... During the Year ending 31st December, 1902.

NAME OF PATIENT.	Manner of Treating.		Sex and Race.				Age.		Number of days (if any) under treatment during 1901 (in the case of each patient).	Number of days under treatment during 1902 (in the case of each patient).	SYPHILIS. Condition of the Disease on coming under treatment.				Other Venereal Diseases.	** Seat of primary inoculation or sore.	Discharged Cured.	RESULT.		
	In Hospital.	Outdoor.	Male.		Female.		Over 14 years of age.	Under 14 years of age.			Acquired.							Died.	Lapsed from Treatment uncured.	Remaining un- der treatment on 31st Dec., 1902.
			E.	C.	E.	C.					Primary.	Secondary.	Tertiary.	Hereditary.						
Total																				

* The name of each individual patient is to be filled in here, and the required particulars corresponding to it inserted in the proper columns opposite to it.

† The patients entered in this column should agree with those returned last year as still remaining under treatment on the 31st December, 1901.

** The object in asking for this information is to ascertain as far as possible to what extent the disease is innocently acquired.

NOTE.—In filling in this return, the District Surgeon should first enter all the indoor patients and then all the outdoor patients. This will greatly facilitate the work of abstracting the Return at this Office.

N.B.—Before forwarding this Return kindly verify all the entries therein, and ascertain that all additions, both up-casts and cross-casts, are correct in order to avoid querying.

Dated at.....

1903.

District Surgeon.

F.—Return of EXPENDITURE incurred during the Year ending 31st December, 1902, in connection with Part II. of the Contagious Diseases Prevention Act, in the District of.....

SERVICE.	EXPENDITURE.		
	Incurred from 1st January to 31st December, 1902.		
1. District Surgeon's Expenses.—			
(a) Travelling Expenses			
(b) Fixed Commuted Allowance (if any)			
(c) Fees for Medical Attendance and Medicines			
(d) Other Charges (if any)			
2. Cost of Buildings, Construction and Repairs			
3. Rent of Buildings... ..			
4. Cost of Furniture, Utensils and Fittings			
5. Cost of Bedding and Clothing			
6. Cost of Provisions, Medical Comforts, Fuel, Light, Soap, Lime and other Supplies or Services			
7. Salaries and Allowances of Nurses, Attendants, Guards, &c.			
8. Payments made to Managers of General Hospitals for Treatment and Maintenance of C.D. cases			
9. Miscellaneous or Special Expenses			
Total			

Dated at.....

1903.

Resident Magistrate.

G.—Return of Lepers dealt with or living in the District of.....
during the Year ending 31st December, 1902.

	Number living in the District and on the Register on the 31st Dec., 1901.		Number of fresh cases registered during the year ending 31st Dec., 1902.		Total number of cases on the Register during the year ending 31st Dec., 1902.		Number removed from the Register during the year ending 31st December, 1902.										Number remaining on the Register and being still in the District on the 31st Dec., 1902.
							Sent to Asylum.		Died.		Disappeared or absconded.		Disease arrested or in abeyance.		Found not to be suffering from Leprosy.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Europeans—																	
Tubercular Leprosy ...																	
Anæsthetic Leprosy ...																	
Mixed Leprosy ...																	
Coloured—																	
Tubercular Leprosy ...																	
Anæsthetic Leprosy ...																	
Mixed Leprosy ...																	
Total ...																	

Dated at.....

1903.

Resident Magistrate.

* It is requested that all persons whose names are on the Register be kept under observation, so that any removals from these causes may be immediately entered on the Register. This is especially desirable in the case of those suspected persons, in regard to whom the District Surgeon may have become satisfied that they are not suffering from Leprosy.

N.B.—Before forwarding this Return kindly VERIFY all entries therein and ascertain that all additions, both up-casts and cross-casts, are correct, in order to avoid querying.

I.—REPORTS OF DISTRICT SURGEONS.

1. ABERDEEN.

DR. H. C. BEDFORD, DISTRICT SURGEON.

(a) As regards the water-supply, I have nothing to add to what I have said in my previous reports.

(b) Sewerage and drainage.—See last year's report.

(c) The Municipality are endeavouring gradually to introduce the tub system. At the present, they have made no provision for the proper cleansing and disinfecting of the tubs.

(d) A number of dwellings were overcrowded, but that was due to the number of coloured people who flocked to town, on account of the disturbed state of the country.

(e) Under Martial Law Regulations, shambles were erected outside of the town. Since then things have been allowed to drift back to the old style, all slaughtering being done, as formerly, in the town.

(f), (g), (h) and (i).—Same as last report.

(k) The number of births registered during the year was 240—118 Europeans and 122 Coloured. The deaths registered numbered 139, viz., 42 Europeans and 97 Coloured.

During the last quarter of the year two cases of Amaas were reported in town, both being Europeans. The source of infection was traced to a coloured boy, who came to town and stayed at one of the houses for the day, and at the time was suffering from an eruption similar to that the first patient subsequently developed.

On the 16th November I saw two cases of Amaas at Marais' Siding, one being a coloured woman, unvaccinated, and the other a coloured child, pre-vaccinated. Both persons contracted the disease whilst on a visit to Graaff-Reinet. As the house was some distance from the station, the Station-master undertook to see that the place was isolated, and subsequently to disinfect the same.

A week later I visited the farm Rooiberg, to inquire into an outbreak of Amaas. It appeared that some time previously, a coloured woman with her family, on their return from a visit to Graaff-Reinet, took ill, and reported to the owner of the farm that they were suffering from Measles, and it was some considerable time afterwards (when it had spread to all the homesteads of the servants), that he only discovered the true nature of the disease. Previous to my visit, one coloured child, aged fifteen years, unvaccinated, had succumbed to the disease. Twenty-one cases came under my notice—who were or had been ill. All were coloured. Eight had been pre-vaccinated, two had been unsuccessfully vaccinated, and eleven unvaccinated. During my visit I also saw a case on the adjoining farm, Karreestomp—a coloured boy, unvaccinated. On my reporting the matter to the Magistrate, he immediately sent out several of the mounted police, as lay vaccinators, to vaccinate all the coloured people, and all the Europeans that were willing, in the ward where the disease had broken out. Police were also stationed in the vicinity of the farms, to warn people who might be travelling in that direction.

Several cases of Typhoid and Scarlet Fever were reported, but only one case of Diphtheria occurred. Whooping Cough was also prevalent, although only one death was registered as due to that disease.

I vaccinated a large number of coloured people during the year. The Commandant having given the police instructions to order the whole col-

oured population to put in an appearance at the Court Room on certain dates, I was thus enabled to vaccinate over 1,300, besides a few hundred Europeans.

Towards the close of the year a lay vaccinator was appointed to pay a farm-to-farm visit, and at the same time to call at all out-stations. In this way he was able to vaccinate 1,900 odd, the total number vaccinated for the year being 3,502.

2. ALBANY.

DR. J. B. GREATHEAD, DISTRICT SURGEON.

(a) Since the completion of the Slaai Kraal (Milner Reservoir) Scheme in 1898, the town has been fairly supplied with good water, but at present a *constant supply* is quite impossible. In good seasons three services per week have been permitted, but as a rule only two services per week are allowed. It is in contemplation to build another large reservoir at Slaai Kraal, which will greatly improve matters, and I believe the cost is likely to be about £6,000. A large number of new service pipes have been laid, and our water service in Grahamstown is now better than ever before. The quality of the water may be considered good.

The Native Locations are still sadly in want of water, as no service pipes have as yet reached that quarter of the town.

(b) There is no system of sewerage, and the only drainage is by means of the storm-water gutters at the sides of the streets, and the so-called river beds.

(c) For the disposal of nightsoil, tubs must be provided by the tenants, and these are emptied by licensed nightsoil men or scavengers. The attempt to enforce a regular system under the control of the Municipality has again fallen through. Practically, therefore, private individuals decide when their tubs shall be emptied. A Sanitary Inspector has been appointed, and some improvement has resulted.

There is no system for the carting away of slops and dish-water, and, as hitherto, most of this offensive matter finds its way into the open streets or back yards. There is much need for improvement in this direction.

(d) There is not much overcrowding, and I am not aware of the existence of any uninhabitable dwellings.

(e) Slaughter-houses, butcheries and bakeries are under the supervision of the Health Officer, and are well-conducted. The Dairy Act is not in force, but where infectious diseases have occurred in the neighbourhood of sellers of milk, the sale of this article has been prohibited.

(f) The keeping of cattle within the town is under the supervision of the Sanitary Inspector, and as a rule the regulations are not infringed.

(g) The Locations require stricter supervision in sanitary matters, and a better water-supply.

(h) Cemeteries and burial grounds are not a source of danger as at present managed.

(i) More interest is taken in the abatement of nuisances generally.

(k) During the year the following infectious diseases have been notified.

Enteric.—Forty-four cases, of which seven came from the Locations, two from Fort England, three from Alicedale, two from Clumber, one from Highlands, and one (a traveller), source unknown.

Of the total cases, seven were fatal.

Scarlatina.—Thirty-three cases, of which only two came from the country.

Diphtheria.—Eighteen cases, of which three came from outlying places.

Leprosy.—Four cases, all from the country.

Small-pox.—Seven cases. The first patient came from Bedford, and was discovered at the Drostdy Barracks, where all precautions were immediately taken. This case occurred on the 12th of June, and on the 18th of June a second case occurred at the Drostdy. Both cases were removed to the Lazaretto at Gooseberry Farm immediately on discovery. The third, fourth, and fifth cases came from the Native Location, and were discovered and removed to the Lazaretto on the 22nd, 23rd, and 26th of June respectively. The sixth and seventh cases occurred at the Lazaretto on the 7th and 18th of July, after which date no further cases occurred. A special Medical Officer was in charge of Small-pox, so that I am unable to give further particulars, though I believe all precautions were promptly and thoroughly carried out.

A considerable number of persons, particularly at the Locations, were vaccinated by the Small-pox officer.

In my own department 5,129 persons were vaccinated (292 in Grahamstown and 4,837 in the District). I believe a large number of these were successful, but it has been impossible to obtain reliable statistics. In the town, about 60 per cent. were successful, whilst more than 60 per cent. were re-vaccinations.

Tuberculosis.—Of the total deaths notified, viz., 730, Phthisis and Tubercle were responsible for fifty deaths (thirteen Europeans and thirty-seven coloured persons).

Since it is now accepted as a fact that tuberculous diseases are conveyed from one human being to another by means of dried pulverised sputum of Phthisis, there should be no delay on the part of the Government in proclaiming Phthisis a notifiable disease under the Infectious Diseases Act; a step which I believe is in contemplation. The person notified as tuberculous should have put into his hands a clear and concise leaflet, giving instructions as to his best mode of living, and setting forth necessary precautions to be taken by him.

3. ALBERT.

(i) ALBERT.

DR. JAMES T. BOLGER, DISTRICT SURGEON.

(a) The water-supply, of good quality as usual, has been very deficient in quantity, and the hours of supply have been reduced to four daily. This scarcity has not, as is well known, been a local affair only. The Municipality have taken expert advice as to the steps most likely to give an increased supply, but I do not know when any boring is to commence.

(b) Sewerage and drainage is, as I have each year pointed out, a department that looks after itself. This year having been so very dry, the fact that water will not run up hill has not been so apparent, and consequently the street furrows not so offensive.

(c) The disposal of night-soil has in the past year been conducted during one of its stages in a most objectionable way, the tubs being emptied into a tank cart as the latter goes its rounds at night. Who on earth devised such a system I do not know, and it is a matter for wonder that any Municipality in the world could be got to adopt it. The explanation of why the plan has not been sooner abolished is probably that

most or all of the Councillors are in the happy position of being able to spend each and every night in comfortable beds, and therefore their nostrils are not assailed by the horrible odour that sickens one, at any rate, of their less fortunate townsmen whose duty frequently takes him abroad when he would much rather be at home.

There has been another grave defect too, viz., the shortage of tubs, which has entailed the use of old leaky ones, with most objectionable results. I believe a fresh supply has now arrived; all that one can say is, that in this, as in some other cases, late is better than never.

Slop-water is, generally speaking, not removed at all, but thrown into the streets or back yards. The Council talk about enforcing the regulations, and have instructed the Sanitary Inspector to prosecute offenders. Needless to say, no one is a penny the worse or the better for this Municipal thunder. Nothing could well be more ineffective than such a position. Some thirty odd householders pay privately for having their slop-water removed, but thirty odd swallows make no summer in Burghersdorp.

Household refuse is removed by the Municipality; their cart coming round at long intervals, the explanation given being that there is so much work to be done. From personal observations I should substitute the word "talking" for the word "work," and then I think the explanation would be accurate, if not adequate. The two gentlemen in charge of the rubbish cart seem to have a great deal to say to their lady friends (in the shape of the servants of the Dorp), and I can testify that sometimes, at any rate, they spend a great deal longer over this than over their proper and less agreeable occupation. I do not, however, blame the Council for this, for they have selected a couple of mature age, who ought to know better; but if the Sanitary Inspector were to keep an eye on them, doubtless there would be great improvement. There is much room for it.

(d) Overcrowding is less marked than in 1901.

(e) The only remark I have to make under this heading is not a flattering one to the Council. One bakery here, owing to an inadequate smoke stack, was a decided nuisance, and I was informed that the Council stated they were powerless in the matter. Naturally one wonders what they exist for—a wonder in no way decreased by the fact that one of their bye-laws is framed so as to exactly meet such a case.

(f) As far as I know, no nuisance has been noticed.

(g) The Location is cleaner than it was, and I understand—but do not vouch for it—that the latrine system commenced during Martial Law is still continued. If this is so, it is of course a great improvement.

(h) Nothing to be added to my last report.

(i) The foregoing paragraphs will show that, as regards the abatement of nuisances generally, it is not the opportunity that is wanting.

(k) There was one outbreak of Small-pox during the year, which was satisfactorily dealt with, as the single case reported was promptly isolated, and the usual precautions taken, with complete success. The lymph supplied during the year was quite satisfactory, but owing to the impossibility of always inspecting the results, I cannot give the percentage of success. I am satisfied it was high.

The births numbered 347, and the deaths 245. The following are the principal causes of certified death:—Pneumonia, 14 cases; Diarrhoea, 8; Phthisis, 8; Bronchitis, 7; Typhoid, 7; Whooping Cough, 5; Enteritis, 3; Measles, 3; Dysentery, 3; Poisoning, 2; Syphilis, 1; Murdered, 1; Influenza, 1; Puerperal Fever, 1; Injuries accidentally received, 1; Lightning stroke, 1. There is a group of cases directly connected with the late war, viz., Injuries received in the collision between two armoured trains, 6; Accidentally shot, 2; Gunshot wound, 2; and "Gunshot wound by Enemy," 1.

(ii) SUB-DISTRICT OF VENTERSTAD.

DR. ALBERT P. COATES, ADDITIONAL DISTRICT SURGEON.

(a) There has been no change during the year in the condition of the water-supply, as to its purity, etc., but towards the end of the year it became somewhat scanty, owing, no doubt, to the severe drought.

(b) As in other years there is neither sewerage nor drainage.

(c) There has been no improvement in the methods of the disposal of nightsoil, etc.

(d) There was very little overcrowding of dwellings during the year, and the habitations unfit for human use are becoming steadily fewer, owing to collapse, and not being renewed.

(e) The slaughter-houses, etc., are now clean and well-managed.

(f) There are practically no animals kept in the village.

(g) The Native Locations are gradually assuming a more orderly appearance. During the year one whole Location has been removed from a site which was too close to the village, to one a little farther away, and more suitable in every way.

(h) The Cemeteries have undergone no change.

(i) The same may be said of nuisances.

(k) There was not much infectious disease during the year. There were about six or seven cases of Typhoid Fever scattered throughout the town and district. It was impossible to trace the source of infection in any case; they ran a normal course, and, with the exception of one adult European male, all recovered favourably.

There was no Diphtheria or Small-pox.

With regard to vaccination, it is beyond all question that the public are far too careless in this respect. The number of children who are vaccinated within the prescribed time are the exception and not the rule. It is, furthermore, a great drawback, that no inspection is possible in cases where vaccination has been performed at rural centres, no second visit being ordered in these cases; under these circumstances, it is impossible to give any adequate information as to the success or otherwise of the operation. As far as I have been able to inspect cases, the lymph supplied by the Bacteriological Institute at Grahamstown, has been of excellent quality. I have not seen a single failure in a case of primary vaccination. I should suggest that in Form "D" it would be very advisable to have a column inserted, "No information obtained," in addition to "Believed to be successful," and "Unsuccessful." I have been compelled to place every case but one in the column headed "Believed to be Successful," though this is hardly likely to be the case. It would be pure guesswork, were I to place any further cases in the "Unsuccessful" column.

As to the effect that the state of war may have had on the public health, it is almost impossible to give an unprejudiced opinion. There seems to be more Enteric in the Cape Colony now than there was five years ago, but it is an undoubted fact, that just before the war, cases were breaking out in very unexpected places, and where it was quite impossible to trace the source of infection. During the war, and since, the annual number of cases has gone on increasing in this District, but whether this would have occurred without a state of war, it is obviously impossible to say. Dysentery is not so uncommon as it was a few years ago. In 1901 and 1902 there was a good deal of Dysentery among the troops here, and I am of opinion the disinfection of excreta, etc., was not properly carried out.

4. ALEXANDRIA.

DR. G. E. DOUGLAS, DISTRICT SURGEON.

The health of the District during the past year was good. The sanitary defects are the same as reported in past years. A Village Management Board has at last been inaugurated, by whom, it is hoped, the old insanitary defects and nuisances in the village will soon be remedied.

(a) The water-supply of the inhabitants is chiefly dependent on the rain for drinking purposes. The dams are in an unsatisfactory condition, and cattle wallow in them and pollute the supply of water. With the aid of the Government bore water was found in the Gaol premises. There is a good supply, and the water is pure, but slightly brack.

(b) There is no system of sewerage or drainage.

(c) The inhabitants dispose of it as they please.

(d) None to my knowledge.

(e) I will again suggest that some spot further away from the village should be used for slaughtering, that cattle should not be allowed to be slaughtered within the village precincts.

(f) Cattle and other animals still roam about the village. No doubt this will be attended to when the Board of Management comes into existence.

(g) There are no Native Locations under local control.

(h) The cemetery is suitably situated.

(i) With regard to the abatement of nuisances generally, I presume these will be in the hands of the newly constituted Board.

(k) There have been no cases whatever of infectious or contagious diseases that have come within knowledge.

A vaccination tour was made through the district, and some hundreds of natives vaccinated. Unless, as stated in former years, another visit is made to each centre, it is impossible even approximately to give the result of the success or non-success of the operation.

I have no reason to believe that the state of war has in any way affected the health of the district.

As I have before pointed out, there is no suitable building for the reception of infectious or contagious diseases, and in the event of a case occurring suddenly, there would be no accommodation available for the purpose. I would strongly urge that some suitable building be at once erected.

5. ALIWAL NORTH.

(i) ALIWAL NORTH.

DR. F. FULSS, DISTRICT SURGEON.

(a) Arrangements for a pure water-supply have now been fully completed. The water is to be drawn from the Orange River, and pumped into a Reservoir above the town, and then led in by means of pipes. At present the inhabitants have to depend mostly on tank water.

(b) There is no sewerage system.

(c) The night soil is well disposed of, as stated in my last report, but the Local Authority ought without delay to start a system for the removal of slop-water and refuse. Such a system is urgently required.

(d) There is not much overcrowding, except at the Location.

(e) The slaughter-houses, butcheries, and bakeries are clean and well-managed. There are no dairies.

- (f) The cattle kraals and stables are kept fairly clean.
- (g) I often visit both Locations, and always find them very clean, particularly since the Town Council have appointed a Sanitary Inspector.
- (h) The cemeteries are well kept, but the Dutch Cemetery will eventually have to be closed, and another site chosen, as it is too much in the town.

(i) Nothing under this heading.

(k) On the 18th September a case of Small-pox was discovered in the yard of a local hotel. This man had just arrived by train from Graaff-Reinet, and there is no doubt that he contracted the disease there. The Town Council immediately had the case quarantined, and he was discharged cured on the 17th October.

On the 28th November another native was discovered in a local restaurant, suffering from what appeared to be Small-pox. There was some doubt at the time as to whether the disease was really Small-pox or not, but in the light of subsequent events, there is no doubt that it was.

Three other cases were traced about Christmas time, but these had already recovered when found. There is no doubt that in December there were already numerous cases of Small-pox hidden away in the Location, as from January, 1903, up to the 15th of April, forty cases occurred, with four deaths. The man mentioned above was immediately isolated and properly treated.

During the month of October, and the first few days of November, I carried out vaccination extensively in the town and district. Aliwal North, from its situation, is a great highway for the passing to and fro of natives, and all those that developed the disease were found to be fresh arrivals from other parts after I had vaccinated. I vaccinated and re-vaccinated in October and November altogether 2,296 people.

As most of this vaccination was done in the two Locations, and in the country, and as it was done on such a large scale, it was impossible for me to see all these people again, to find out the success of the operation. I took the trouble, though, to see as many of the primary vaccinations as was possible under the circumstances, and found very few failures indeed. The lymph was excellent, and procured from the Bacteriological Institute at Graham's Town.

There were a good many cases of Typhoid Fever at the commencement of the year, but as the Military were withdrawn they became gradually less and less. There were altogether thirty-three deaths from Typhoid Fever, that is, including those that died at the local Military Hospital. There were a few cases of Whooping Cough, and five deaths were registered from this cause. There were two deaths from Croup and one from Diphtheria, but these diseases never became really an epidemic.

The military, while here, always kept their camps scrupulously clean, and did their utmost to improve the sanitary condition of the town.

Typhoid Fever is the only disease that increased during their stay here, but this can easily be accounted for as this was a big military base, and columns from elsewhere were constantly passing through.

(ii) SUB-DISTRICT OF LADY GREY.

DR. H. R. FORSTER TOWNE, ADDITIONAL DISTRICT SURGEON.

The most important epidemics during the year have been as follows:

1. During the months of February, March, April, May and June there was a severe outbreak of Diphtheria on the farms Woolvepoorte and Rietfontein; four children succumbed to the disease. In Lady Grey there were a few mild cases.

2. There is an epidemic of epidemic Gastro-enteritis now prevalent which started in the middle of November. The disease is severe, though fortunately the mortality has not been serious so far. This epidemic is not confined to children, as many adults have been affected.

3. Whooping Cough was prevalent early in the year. There are no cases now in Lady Grey, though several cases are reported in the district.

4. There have been a few mild cases of Scarlet Fever, German Measles, and Chicken-pox.

The carelessness displayed by parents and others as regards infection accounts for the fact that this town and district is hardly ever entirely free from one or other of the infectious diseases. It is the custom in these parts, whenever there is any serious illness, whether the case be infectious or not, for everybody to come and visit the patient under the pretence of helping or nursing without even the most elementary precautions being taken. Both the orders of and advice by the medical practitioner are totally disregarded in this matter.

There have been a few sporadic cases of Enteric Fever in the town, but no epidemic.

(a) The water-supply has been sufficient this year. The private wells would be improved if they were brought above the level of the ground at the top, so as to avoid contamination by surface water. The furrows leading to the dams should be repaired, cleaned out, and deepened, as at the present time there is a great waste of water.

The irrigation dams are not large enough to cope with the increased size of the town. A new dam should be built, or the existing ones should be enlarged.

(b) The street furrows should be stone lined, so that they can be the more easily cleaned.

(c) The arrangements of the Municipality as regards the removal and disposal of night soil are satisfactory.

There are no cesspits in town.

Householders are very careless about keeping their tubs and privies clean. The existence of disinfectants and deodorants is apparently unknown. As regards slop-water, this is usually thrown into the garden, as there is no other method of getting it removed.

During the earlier part of the year, household refuse was removed weekly by the Municipality. For what reason they have stopped their good work I do not know.

(d) There is no overcrowding, and no dwellings unfit for habitation in the town. There has been a decided improvement in the houses during the year, both mud floors and canvas ceilings being superseded by wood.

(e) Slaughtering is now performed outside the town, the slaughter-houses are clean, and satisfactory.

The butcheries and bakeries are clean and well conducted.

There is no dairy in town. The inhabitants obtain their milk either from their own cows or from a farmer who lives near the town.

(f) A few cattle are kept in town. There has been no cause for complaint from this cause.

Swine are not allowed in the town.

(g) The location is not a model of cleanliness. There is a latrine at the location, but I doubt if it is used as much as it should be. Household refuse is scattered all over the ground. There is no system for the removal of refuse, and the natives certainly do not remove it themselves.

The location is situated at a most undesirable spot, as the drainage is towards the town; a suitable place would be on the further side of the Nek.

(h) The cemetery is suitably situated, and is conducted in a most satisfactory manner.

(i) It is gratifying to note the energy displayed by the members of the Municipal Board as regards the abatement of nuisances. Steady progress is being made. There are now no cesspits in town, and the town is certainly cleaner and healthier than it has ever been before.

There is a so-called Hospital about a mile from town; whom it belongs to and what it is meant for I do not know. It is a ruinous structure, consisting of four walls and part of a roof. With this exception, there is no Hospital for the purpose of isolation.

(k) There has been no case of Small-pox in this district, notwithstanding outbreaks of that disease on our borders.

Vaccination was thoroughly performed this year, a total of 1,551 being vaccinated by me and 175 by my colleague. The lymph was obtained from the Grahamstown Bacteriological Institute, and the results were extremely satisfactory, very few failures being reported.

6. BARKLY EAST.

DR. A. R. WILHELM, DISTRICT SURGEON.

(a) The water-supply of the town is the same as in previous years; no alteration whatever has taken place. The chief spring that supplies the town does not come direct from the rock into the piece of piping, from which it flows into the buckets, as was fondly supposed by the Town Council, but I discovered about three years ago that nine-tenths of the water is conveyed in a furrow made of loose stones, covered by ground and growing grass. About a hundred yards of this furrow we know, but where this stone furrow commences nobody knows. It is certain, though, that it comes out of private ground, and that the Council possesses no judicial declaration of rights with regard to this furrow and water. On this furrow being discovered, its defects and its liability to contamination were pointed out at once to the Mayor, and several times to his successors, but until now, with no apparent effect. Luckily for the town, it is a rapid-flowing water, which purifies itself.

(b) Nil.

(c) There is no alteration under this heading, except that the old wooden night-cart, during the last two months of 1902, was replaced by an iron one—a great improvement on the old, filthy, stinking, travelling, wooden cesspool. The system (they possess no bye-laws on this matter) employed by the Municipality is a weekly removal, by tilting the open tubs into the night cart. No bye-laws or regulations exist with regard to the size, shape, etc., of these tubs, and naturally some of these utensils become very filthy, and are very difficult to handle. Being fully aware of the monetary difficulties a small community like Barkly East has to contend with, I am of opinion that the double-pail system, with a tightly-fitting lid to the pail, and a van for the bringing and removal of the empty and full pail respectively, is the only proper one, the other system being likely and actually creating public nuisance.

(d) No alterations.

(e) No alterations, except that shambles for slaughtering stock have been erected outside the town.

(f), (g), (h), and (i) No alterations.

(k) The Acting District Surgeon being ill for three months with Typhoid at the height of the epidemic, no detailed description of the epidemic of Typhoid can be given, as the Military medical men who then looked after the civilian practice at the time have left the country. The troops brought Typhoid with them to Barkly East in about October, 1901.

In the civilian population the first case occurred in February, 1902, and the epidemic was at its height in March, and the last case had recovered in June. In about thirty-six cases in the town of Barkly East, four died. In former years Barkly East has had only single imported cases of Typhoid, but never such a large epidemic. The only reason I can give for this epidemic was the presence of the troops, and the Typhoid cases of the military being nursed right in the centre of the town, and the excreta in these cases not being dealt with properly, but I think also that there was a great likelihood of the water-furrow mentioned under (a) having become infected by latent cases of Typhoid. "Tommy Atkins" will avoid using a field latrine if he can, and the furrow is in a fairly convenient situation for his purposes. Furthermore, the British soldier is afraid to go into hospital, and, in consequence, afraid to report himself sick, and walks about in the early stages of Typhoid as long as he can, and is then a danger to the public. The sanitary measures introduced by the military to cope with the epidemic look very well on paper, but when looked at in the manner they were carried out, they were simply abominable.

Small-pox was first discovered on the farm Douglas on the 11th September, the source of infection being unknown. The first case when seen was dead, and was a coloured unvaccinated adult female. Altogether three persons were attacked, one European female and two coloured, all unvaccinated. The next outbreak was in a road party at Kromdraai on the 17th September, and the men were probably infected at Douglas. Two cases occurred, one prevaccinated, the other unvaccinated—both natives. On the 19th September a single case was discovered at Broadlands in an unvaccinated native male; it is likely that this case was infected at Douglas. At Sandham, on the 26th September, a case of modified Small-pox was seen in a pre-vaccinated native male, who came infected from the Quiting. On the 12th of December a case of modified Small-pox was found in the town of Barkly East in a pre-vaccinated native male, the source of infection being unknown. On the 26th December a native male was found just convalescent from the disease at Lower Drumbo, and the man's whole family, with the exception of an infant four days old, consisting of a wife and three other children, were suffering at the time from the premonitory symptoms of the disease, which developed a few days later. All were unvaccinated. The only case that ended fatally was the first one discovered, when dead, at Douglas. Within a month after the discovery of the first case at each single outbreak, the last patient was discharged, and the disease stamped out, by isolation of the sick, and by vaccinating and re-vaccinating of the contacts, and of the people on the infected farm and neighbouring farms. On the farms the necessary steps were taken by the Magistrate, as Chairman of the Divisional Council, and in the town of Barkly East by the Municipality. It is impossible for me to give the total amount of expenditure. I am of opinion that with regard to Small-pox the Local Authorities have undertaken all reasonable measures to prevent the spread of the disease.

It is sad to record that in 1902 another European has been found infected with Leprosy, the third in this District. The delay in receiving the Governor's Warrant in these cases is very unsatisfactory. In the case mentioned it is six months that he was certified, and the Governor's Warrant has not appeared yet, nor has it been decided if the man has to be locally segregated or not. This delay is great cruelty to all parties concerned. Another point that is very unsatisfactory is that the Magistrate is not empowered by the Act to issue a kind of "Interim Warrant," by which the leper can be detained, and locally segregated until the Governor's Warrant appears.

As I have frequently seen dangerous symptoms produced in infants by opiates, I wish to point out the indiscriminate sale of opiates under the

name of Dutch medicines. The chief being Kramp and Enteress Drop-pels; it is an improvement that they are labelled "Poison," though in minute letters, but I contend that the sale of all opiates or the sale of any active alkaloid by any Apothecary without a prescription, and still more so by any shopkeeper, should be stopped.

7. BARKLY WEST.

(i) BARKLY WEST.

DR. G. A. HEBERDEN, DISTRICT SURGEON.

During the past year the District has been wonderfully free from epidemics. With the exception of the case of Enteric, of which the source could not be traced, I am able practically to return a clean bill of health.

I made a vaccination tour during December, visiting all the chief centres of the District and the chief locations, vaccinating 2,224 Europeans and natives. It is impossible to say if it was successful or not, as a second journey was not allowed to verify results. In the District the majority of the farmers have not yet returned, and the few that have are in such a poverty-stricken state that they can neither work their lands, having no animals, nor can they bring their children to the vaccinating centre for the same reason.

The native population have still many cases of Syphilis and occasional cases of Scurvy, but the latter complaint is almost confined to Klipdam.

I am glad to be able to report that Government are having the Hospital furnished and put into thorough repair, and I trust before long to have the institution in working order, which will be a great boon to the District.

(ii) SUB-DISTRICT OF KLIPDAM.

DR. T. L. SHIELDS, ADDITIONAL DISTRICT SURGEON.

There is no Local Authority at Klipdam or Windsorton, the Diggers' Committee, which ceased with the commencement of the war, not having been re-established.

There is therefore no control over the sanitation of the District, which is in anything but a satisfactory condition.

(a) The water-supply in Klipdam is derived from wells, and the water is distributed by means of barrels. The wells are in the midst of the claims, and as the empty claims are used as depositing places for all refuse and rubbish, besides being the feeding ground of horses, cattle, and pigs, the liability to pollution of the wells during the rainy season is very great.

The barrels also in which the water is conveyed are seldom or never cleaned out, and are therefore a source of danger in transit of the water.

The water as delivered contains straws, leaves, and berries, and the only wonder is that more cases of sickness do not occur from this cause.

The water-supply in Windsorton is derived from the Vaal River, and is also conveyed in barrels; in times of flood the water is more mud than water, and all the impurities on the river bank are washed down with the stream.

I have not seen a filter in the district.

If the neighbourhood of the wells were kept free from stock, the barrels thoroughly cleaned at intervals, and filters used, the liability to diseases arising from polluted water would be much lessened.

(b) Sewerage and drainage. Nil. Everything is deposited in the empty claims, and those nearest the houses being the most convenient, generally receive the most. No attempt is made to cover the deposited matter with earth, and in the summer season the effluvia from some of the claims is very marked.

Fortunately, the wells are at some distance from the houses, and the claims surrounding them are therefore cleaner than those surrounding the houses. Were it not so, the risk of water pollution would be much greater.

(c) Night-soil, slop water, household, and all other refuse is disposed of as remarked under (b). Some houses have cess-pits which have existed for years, and are a source of danger in themselves; others have no convenience at all, except the surrounding claims. The establishment of a general pail-system would be a great improvement.

(d) There are no cases of overcrowding of dwellings or dwellings unfit for human habitation, except it be in the native location.

(e) The slaughter pole is at a good distance from the village, and the butchery, bakery, and dairies are well managed. The spreading of fresh skins behind the butchery in summer to dry in the sun is not the most sanitary arrangement, but there is so far no power to prevent it. This might be done at a distance.

(f) The keeping of cattle, swine, and other animals is in the hands of the owners, and many of them seem to think that the healthiest place to kraal them is adjoining and close up to the walls of their dwelling houses. These kraals should be at the outskirts of the dwelling part of the village, and at least seventy yards from the nearest dwelling house.

(g) The native locations are under no sanitary control, and are in a dirty condition. Some of the huts are unfit for human habitation.

(h) The Klipdam Cemetery is not under the control of any responsible Board, but recently a self-elected Committee has taken in hand the matter of having it put into a satisfactory condition, and having a substantial fence erected to prevent cattle straying through it. A bazaar will shortly be held to raise funds for this purpose. At Windsorton the Cemetery is under good control.

(i) It is impossible under existing conditions to take any steps for the abatement of nuisances. The majority of the people are apathetic in all matters affecting the public or even their own private welfare.

The only method by which the existing nuisances could be adequately dealt with would be, the formation of a Village Management Board vested with powers to act in the interest of the public health.

(k) There have been four cases of Typhoid Fever during the year, two of which proved fatal. All the cases are traceable to the water supply, and occurred after the first heavy rains, with the exception of one of the fatal cases, which occurred in a digger who had just arrived, and had evidently contracted the disease in Bulawayo. Another case, also occurring in a man just arrived from Bulawayo, I have not included, as he was only in camp one day, and was removed to Kimberley Hospital, so the termination of his case we have no record of.

All these cases of Typhoid occurred in adult Europeans.

They commenced after the rains in November, and the last case was discharged in February.

Diphtheria (pure), there were no cases, but three cases of drain throat occurred, and led to the closing of a cess-pit, which had foolishly been made in the midst of a row of bedrooms, and under the same roof.

There were no cases of Small-pox, several cases which were reported as such turning out on examination to be Chicken-pox only.

There was an outbreak during the early part of the year of Measles and Whooping Cough amongst the native population, but was of a mild form, with very few deaths, those occurring being mainly due to Bronchitis, following on Measles, such being in many cases unavoidable on account of the flimsy nature of the huts in which the floating native population resides.

During the latter part of the year there was a severe outbreak of Scurvy both at Klipdam and Windsorton. This, I believe, was largely due to the fact that the supply of milk for the natives was cut off by Rinderpest and the War.

There were about 400 people affected at the commencement of the outbreak; they were fed by Government on Scurvy rations, and treated with lime juice and iron, with the very satisfactory result that the outbreak has now been stamped out, with only seven deaths since the commencement of treatment.

8. BATHURST.

DR. CECIL E. JONES, DISTRICT SURGEON.

There are few sanitary defects. The houses are very scattered. No drainage system exists.

(a) The water-supply is derived from the rainfall. Boring operations are at present going on, but owing to a mishap to the bore, no definite results have at present been made known. It is believed that a plentiful supply will be obtained.

(b) and (c) Refuse is buried. Night-soil is removed by a contractor and buried in suitable places.

(d) Several buildings have been removed during the year. No overcrowded dwellings exist.

(f) Cattle, etc., few in number, are permitted to roam about the Municipality. Swine have been prohibited from so doing.

(g) Well kept; under the supervision of a Ranger and Inspector of Locations.

(h) Cemeteries as before.

(i) Attended to by the Municipal Authorities, Medical Officer of Health, and Ranger, as they arise.

(k) One case of Enteric Fever occurred within the Municipal area. This originated on active service. In the District I saw four cases of Scarlet Fever. The source of infection was probably due to the want of disinfection of a school at "Scots Bottom," where an outbreak occurred exactly a year previously. I have recommended that the school be thoroughly disinfected.

Small-pox.—A case was notified by the Medical Officer of Health for Grahamstown—as having originated in this District—on Mr. J. Richardson's farm. The native man was removed to the Lazaretto at Grahamstown. I visited the farm, and found out from the natives that the native man had been kept in a hut for some ten days or more—he had arrived during the night and left again at night. There were no other cases on the farm. The natives were all vaccinated and re-vaccinated by me, and all huts inspected. Time occupied was eleven and a half hours, and the expense incurred, £4 6s. 3d. The source of infection was not discovered. The outbreak occurred in July.

Over 1,000 persons were vaccinated by me during the year. The Lymph was of very good quality, and all primary cases, I believe, were successful.

There were no epidemics during the year.

Three persons were examined as supposed Lepers. Two of these had the disease well marked.

Two or three cases of Syphilis were treated under "The Contagious Diseases Prevention Act."

No Isolation Hospital exists.

Report by Dr. PASCOE B. GRENFELL, Acting District Surgeon, during the Absence of District Surgeon.

(a) The water-supply is chiefly obtained by means of rain water collected in tanks. Boring has been carried out in two places on the East Bank, but the water obtained was not satisfactory for drinking purposes.

(b) No system for sewerage and drainage.

(c) Night soil is either disposed of by the bucket-system, cess-pits, or earth closets. All refuse is burnt.

(d) No over-crowding exists in dwelling-houses, and there are no houses unfit for human habitation.

(e) Slaughter-houses are visited periodically. Butcheries, as well as bakeries, are well managed. Milk is distributed by the bottle system.

(f) Cattle and swine are not allowed to be kept inside the Municipal areas.

(g) The Locations are in good order and well inspected.

(h) The Cemeteries are well away from the town.

(i) Fisheries.—Fish are not allowed to be cleaned and gutted on the banks of the River, except just at the mouth of the River.

During my stay here I have been struck with the singularly healthiness of the place.

Vaccination was well carried out last year all over the district.

9. BEAUFORT WEST.

Dr. A. J. WESTBY, District Surgeon.

(a) The drink water, which is conveyed in pipes from a covered spring under the Molteno Pass, about seven miles distant, is very good, and has proved a great blessing to the inhabitants of the town. During the time the military were here, there was a great drain on the supply, a deal of it wasted, and our daily supply curtailed for a time; since then the supply has proved ample for domestic purposes.

The water for irrigation purposes is derived from three sources, viz., the fountain under the dam, the dam itself, and fountain in Gamka River. The water, though fairly pure at its source, with the exception of that derived from the Gamka, is conveyed through the streets in open furrows, and, no doubt, is greatly polluted during its course. Many of the coloured people prefer to drink this water instead of the pipe water. Owing to the drought, and the dam being empty, there has been a great scarcity of this supply, and, in consequence, the gardens, and especially the reservoir erven, have suffered greatly.

(b) Same as last year.

(c) The night soil is conveyed away in an open wagon to some distance outside the town. The system is not carried out properly. The buckets are leaky, and not properly cleaned and disinfected; after the buckets are placed on the wagon, as often as not, there are no lids placed on them or most probably misfits, which are worse than useless. The

buckets themselves are of different diameter, thereby causing great inconvenience and messing in the closets. The stench from the wagon as it wends its way through the streets at night is abominable.

(d) There are undoubtedly many houses inhabited by the coloured people unfit for human habitation. Over-crowding exists.

(e) All clean and well managed.

(f) Same as last year.

(g) The Location, which is under the control of the Municipality, has been improved as regards the building of more rooms, but the unsightly and unhealthy bag and wattle huts are still to be seen. Considering the large income derived from the Location, I think more money might be spent on its general sanitation and water-supply and keeping the streets clean. The dog tax might, with advantage, be better enforced in the Location and throughout the town generally.

(h) The cemeteries are well kept in the town; I have not heard of any complaints about those in the district.

(i) Same as last year.

(k) Small-pox occurred in the town on the 3rd March. The first case was discovered at or near the Railway Locomotive Sheds; the patient had come from the district of Adelaide. The disease spread to the Location, and there were fifty-one cases in all. Martial Law being in force at the time, I took advantage of the double scare, and vaccinated and re-vaccinated between four and five thousand persons, white and coloured. The spread of the disease was almost immediately stopped by this wholesale vaccination.

The patients were isolated some distance from the town, and were under the control of the Municipality as Local Authority, who, I am satisfied, took every precaution.

As there is no inspection after vaccination, I cannot tell officially if it were successful or not, but I have reason to believe that, on the whole, it was very satisfactory. In connection with vaccination, I would like to draw the attention of the authorities to the present system. As now carried out, it is simply a farce, and nobody thinks of coming to be vaccinated until Small-pox is in our midst, and even then they are very reluctant to be vaccinated themselves, or have their children vaccinated.

There ought to be a system of granting certificates of successful vaccination, duplicates of such being sent in to the Registrar of Births, which can be compared from time to time with the number of births registered in that district or ward, when those who have not been vaccinated can be easily got at. To carry out a thorough system of vaccination, more money will have to be spent on it, and when compared with the amount which each small outbreak costs, one would think that the old proverb, "A stitch in time, etc.," would be applicable in this case. Large sums of money are expended annually on Glanders, Scab, and Rinderpest, but human disease is let run its course.

In the Municipal area:—

Enteric or Typhoid fever has made a most remarkable bound from last year. There were eighty-six cases reported against twenty-seven for the previous year. I am unable to account for this serious increase.

Diphtheria has decreased by seventeen, being still at the high figure of ninety-five. There were sixteen cases of Scarlatina, against thirty-eight last year. In the rural area there were seven cases of Diphtheria, and one of Scarlatina. No case of Enteric was reported from the district. This does not in any way represent the correct number. Syphilis still continues, and I would again urge more stringent means to be taken for its detection and suppression.

The Contagious Diseases Hospital still exists.

During the year there were many Committee Meetings to devise the

best means of erecting a general Hospital for the town. The Government and Railway authorities were approached on the subject, and both have promised grants which are to be submitted to Parliament for its sanction and approval. The response in promises on the part of the general public has been, I regret to say, very disappointing, but perhaps when the building is begun, their purse strings may be loosed.

The Municipality have granted a sum of money for erecting and up-keep, and have also given a site. The Divisional Council have also given a grant for building and up-keep. There has been no vaccination in the District.

10. BEDFORD.

DR. A. ROSS, ACTING DISTRICT SURGEON.

The public health duties performed during the year consisted principally of vaccination, and other means to cope with a serious outbreak of Small-pox in the town and district (and *infra*). Two cases of Leprosy reported, one of which absconded, and the other was sent to the Asylum. One doubtful case proved not to be one of Leprosy. About half a dozen cases of corporal punishment were attended, as well as assault cases and accidents, and the usual daily visit to the gaol was made. Seven post-mortems were made.

There were 2,402 vaccinations made, 1,209 in rural areas, and 1,193 in urban areas. The lymph used was calf lymph from the Bacteriological Institute in Graham's Town, and in all cases in which I was able to follow up the results, I found to be good and efficient. I may point out, though, that as a second visit eight days after in the case of townspeople, or a second visit into the country, was not required or made, it is quite impossible to give any idea of the ratio of successful or unsuccessful cases of vaccination. But from what the farmers and native employers have told me, I have every reason to believe that the vaccination was, on the whole, very satisfactory.

(a) The water-supply of the town is partly stored in tanks from rain water, and partly from a mountain spring, which is pure at its origin, but gets polluted in its passage through the furrows, owing to the fact that pigs can wallow in them, as well as horses, cattle, etc., drink out of them. Part of the main furrow has been enclosed by a wire fence, but this is only for part of the way, and that only imperfectly. The only other way of preventing pollution is to erect a reservoir above the town, and to get the water laid on by a proper system of pipes.

(b) Up to recently cesspits were largely in vogue, but the Municipal Authority has ordered the closing of these, and the introduction of the bucket-system. Proper water-closets have to be made, according to certain Municipal regulations. A sanitary inspector is employed by the Council to inspect the town generally.

(c) The night soil is removed by a contractor appointed by the Municipal Council, at a fixed tariff. The contractor is paid by the householder, who also warns him when it is necessary to remove the night-soil. The household refuse is removed at the expense of the householder to certain specified parts for the deposition of rubbish.

(d) As far as can be ascertained, there is no overcrowding, nor are there any houses unfit for human habitation. The Municipal authority exercises a wise control over the erection of any new premises.

(e) The butcheries, dairies, and bakeries are kept in a satisfactory manner.

(f) Cows are kept in kraals at night, and are supposed to be driven to the commonage during the day, although too often they are seen wandering about the town both by night and by day.

Swine are seldom kept, but they also are seen wandering about occasionally. Sheep and goats are kept in proper kraals.

(g) The town is badly supplied with regard to locations, as there are far too many natives interspersed throughout the town on special erven. They are very insanitary in their habits, and there can be little doubt that a good deal of the Enteric that is prevalent in the town is due to the fact that when any natives suffer from Typhoid, there is no disinfection of the stools, these being merely mixed with soil, and thrown outside the hut. In this way the infection is carried by dust. In my opinion Enteric here is as much a *dust-borne* as a water-borne disease. If the natives were all congregated in a large location at the south side of the town, and this were properly inspected, the condition of affairs could be much improved.

(h) The cemetery in the town is well kept, and private burial places in the country have never been complained of.

(i) The abolition of the cesspits has been a great improvement; also the appointment of a Sanitary Inspector.

(k) Typhoid Fever has been more or less prevalent during the whole year. Most of the cases have been of a mild type, and only a few cases have terminated fatally.

There have only been two cases of Diphtheria, one of which was fatal, and the other imported from Port Elizabeth. There have been a few sporadic cases of Scarlet Fever, but no epidemic. There have been slight epidemics of German Measles, and Whooping Cough. There have been several fatal cases of Puerperal Fever during the year in the village and country.

Small-pox.—At the beginning of 1902 there was more or less of the so-called "Amaas" throughout the district, and had been for months previous to that. The District Surgeon was called out to a number of cases at the farm Kliphoek, Kaga Ward, at the end of January (27th), and two adults and five children were found with the disease. The adults showed vaccination marks, the children none. On the 5th February I inspected an outbreak at Esterhuis Poort (Grand Junction Railway Camp), and found two adults and five children suffering from the disease—no vaccination marks. On the 7th February it was reported on the farm Newlings, Kaga Ward, one severe case in an adult, and one slight one in a boy of twelve at an outstation. On the 18th a visit was made to Prospect—Kaga Ward, two cases, adults; and on the 20th another visit to Koks-kraal, Bavians River Ward, was made, where a Kafir child, unvaccinated, was found to be suffering from Small-pox. On 5th March an outbreak occurred at the Farm Doorndraai, Kaga Ward. One case was found with Small-pox—a child, unvaccinated. In this case the infection came from the previous outbreak at the farm Kliphoek (*vide antea*). On the same date a visit was made to Blackhill, Manczana Ward, and it was found that Mr. Geo. Knight and son (Europeans) had Small-pox. Neither of them had been recently vaccinated. Mr. Knight kept a Kafir store, and in all probability he was infected from the natives who had come to deal at the store. On the 8th March a visit was made to inspect an outbreak at Donkerhoek, Cowie Ward, and here five cases of Small-pox—one adult and four children—were found. No marks on adult, and children unvaccinated. One child had died of the disease, and just been buried. On the 9th March a visit was again made to the farm Spring Grove, Cowie Ward. There two children (natives) were found suffering from Small-pox—both unvaccinated. On the 26th March a visit was made to the farm Bellevue, where two cases were found suffering from Small-pox—natives—while there I saw the dead body of a native child, who had died from the

disease. On the 27th a visit was made to the farm Glengregor, Cowie Ward, and Mrs. Barnes (European—a native storekeeper by trade) was found to be suffering from Small-pox; she had not been recently vaccinated. She also probably was infected by natives who had come to deal at her store. On the 12th April an outbreak was inspected on the farm Glencullen, Baviaans River Ward. A native woman was found to be suffering from a mild attack of Small-pox,—cause untraceable. On 14th May an inspection of cases of Small-pox was made at the farm Julasa's Kraal, Mancazana Ward. One native child was found to be suffering from an attack of Small-pox. On the 7th June a visit was made to Highland Home, oCwie Ward, and a well-marked case of Small-pox in a native adult was found. On 12th June a second visit was made to the Railway Camp at Esterhuis Poort, but no fresh cases were found.

On 27th July a third visit was made to the Railway Camp at Esterhuis Poort, and six cases of Small-pox were discovered—one native man with the disease in a severe semi-confluent form, and five children (natives), all of whom were unvaccinated. On the 6th of August a visit was made to a supposed case of Small-pox at Cullrose, which, however, proved to be a case of Pneumonia.

By this it will be seen that no ward in the district was free from the disease, but that the outbreak was more serious in the Kaga and Cowie, and the lower parts of the Mancazana and Baviaan's River Wards than elsewhere. As far as I could gather, the first case occurred some sixteen or eighteen months before the beginning of 1902, on the farm Anstrey (see previous reports), and that the disease had been more or less epidemic ever since. I may add that as far as the quarantine on the farms is concerned, the provisions are very inadequate. In no case was it possible to get proper guards over the infected huts, and, as a rule, the disease was allowed to die a natural death; nor was burning of the infected huts practised in any case. Only once were guards employed, and that was in the case of the last outbreak at Esterhuis Poort. In every case, as far as possible, vaccination of the contacts was performed.

During this epidemic in the District there were only three Europeans attacked—a man and his child and a woman. Both kept native stores. It was noticed that all who showed signs of previous vaccination always had the disease in a much milder form, although it should be mentioned that even amongst unvaccinated children there was a fair proportion of mild varioloid cases. I should strongly recommend that in the event of any future outbreak proper Isolation Hospitals or Camps be formed, and the disease checked, and not allowed to go on and flourish, as it has in the past. In all, seventeen visits were made to the country in connection with Small-pox outbreaks, at a total cost of £64 14s.. The visits were as follows:—Four in February, seven in March, one in April, one in May, two in June, one in July, and one (the last) in August.

There was also an outbreak in the village of Bedford, but it was only in February that the Municipal Council took energetic action to suppress the disease. This was done by a house to house visitation by an Inspector, and when any cases of suspicious disease was discovered by him the Medical Officer of Health was directed to go and report on the same; and by the formation of a Lazaretto, with proper guards (native) and nurses (native), all cases amongst natives were able to be removed at once. This was formed on the 28th of February, 1902, and the first cases moved to it were three native women (no vaccination marks), on the 22nd February. In all, thirty-six cases were treated in the Lazaretto, and the last was discharged on the 15th of April, 1902.

STATISTICS OF LAZARETTO CASES.

NAME.	Age.	Sex.	Race.	By whom reported	Date.	Vaccinated or not.	Action taken and Date.	Date of Release.	Remarks
Sannah Klaas ...	27	F	K	Dr. Ross	19.2.02	No vaccination marks	Isolated 22.2.02	Cured 15.3.02	Bad case
Annah Umbral ...	22	F	H	"	"	"	22.2.02	" 6.3.02	"
Antji Gunza ...	25	F	H	"	22.2.02	"	22.2.02	" 15.3.02	"
Jacob Zelana ...	56	M	K	"	22.2.02	"	23.2.02	" 4.3.02	"
Lala Zelana ...	11	M	K	"	22.2.02	"	23.2.02	" 4.3.02	Mild case
Samuel Booi ...	8	M	K	"	22.2.02	"	23.2.02	" 23.3.02	"
Esther Jan ...	7	F	K	"	22.2.02	"	23.2.02	" 23.3.02	"
Knor Dial ...	10	M	K	"	22.2.02	"	23.2.02	" 23.3.02	"
Edward Tempest ...	8	M	K	"	23.2.02	"	23.2.02	" 18.3.02	"
Charlie Nquali ...	16	M	K	"	23.2.02	"	23.2.02	" 7.4.02	"
Sophie Benjamin ...	8	F	B	"	23.2.02	"	23.2.02	" 23.3.02	"
Wm. Williams ...	51	M	H	"	24.2.02	"	24.2.02	" 9.3.02	"
Willie Nini ...	1	M	K	"	1.3.02	"	1.3.02	" 23.3.02	"
Zwela Nini ...	5	F	K	"	1.3.02	"	1.3.02	" 23.3.02	"
Zwembi Nini ...	9	M	K	"	2.3.02	"	2.3.02	" 23.3.02	"
Tooto Nini ...	10	F	K	"	2.3.02	"	2.3.02	" 23.3.02	"
Notsinga Nini ...	8	F	K	"	2.3.02	"	2.3.02	" 18.3.02	"
Annie Nini ...	4m.	F	K	"	2.3.02	"	2.3.02	Died 4.3.02	"
Swaartbooi ...	50	M	K	"	2.3.02	"	2.3.02	Cured 7.4.02	"
" (baby) 6m.	6m.	M	K	"	2.3.02	"	2.3.02	" 31.3.02	"
Guleka Swaartbooi ...	2	M	K	"	2.3.02	"	2.3.02	" 31.3.02	"
Maggie Swaartbooi ...	22	F	K	"	10.3.02	"	10.3.02	" 31.3.02	"
Alfred Zelani ...	6m.	M	K	"	4.3.02	Vaccinated	5.3.02	" 18.3.02	Very mild case
Regwa Zelani ...	2	F	K	"	4.3.02	Vaccinated	5.3.02	" 18.3.02	"
Jacob Zelani ...	5m.	M	K	"	4.3.02	Not vaccinated	5.3.02	" 15.4.02	severe case
Lali Zelani ...	3	F	K	"	4.3.02	"	5.3.02	" 15.4.02	severe case
Cornelius Oudandal ...	78	M	H	"	3.3.02	No marks	Isolated at home Died	" 10.3.02	severe case
Kani Malani ...	5	M	K	"	4.3.02	Not vaccinated	Isolated 4.3.02	" 7.4.02	"
Chindwe Malani ...	8	F	K	"	4.3.02	"	4.3.02	" 7.4.02	"
Jan Zwaartbooi ...	4	M	K	"	6.3.02	No vaccination marks	6.3.02	" 7.4.02	"
Hans de Beer ...	2	M	K	"	7.3.02	"	7.3.02	" 31.3.02	"
Leah de Beer ...	4	F	K	"	7.3.02	"	7.3.02	" 31.3.02	"
Leah Witbooi ...	4	F	H	"	8.3.02	Vacc. 4.3.02	9.3.02	" 5.4.02	"
Jan Zelani ...	39	M	K	"	12.3.02	Not vaccinated	13.3.02	" 7.4.02	"
Alf Knight ...	32	M	C	"	25.3.02	Vacc. 8 yrs. ago	25.3.02	" 31.3.02	"
Edward Stephens ...	39	M	H	"	25.3.02	Not vaccinated	25.3.02	" 15.4.02	"
Amelia Piet ...	1½	F	K	"	25.3.02	Not successfully vaccinated	25.3.02	" 15.4.02	"

A native man, W. Utshudu, 46 years, male, Kafir, developed a very serious form of Small-pox, and was isolated in his own hut and erf, as he could not be removed (25—3—02), and died (31—3—02).

There were three cases amongst whites in the town.

1. Baby of Mr. R. J. Maguire; varioloid case; not vaccinated; isolation at home. Recovered.

2. Master Douglas Fisher, 18, male. Well marked case. Not vaccinated. Isolation at home. Recovered.

3. Miss Gladys Gunn, 16, female. Severe semi-confluent case. Not vaccinated. Isolated at home. Recovered.

With regard to the management by the Municipal Council of the outbreak, I have to report that everything was well done once it had been commenced, and this, with frequent vaccinations at the Court House, succeeded in stamping the disease out in the town.

The total medical cost of the outbreak to the Municipality of Bedford was £100 16s. 6d.

The outbreak of Small-pox, both in town and country, was at its worst during the autumn months, February, March, and April, and had practically ceased by August, and no further cases occurred from then on to the end of the year.

Before closing, I should like to add my testimony that this is certainly a form of Small-pox (in many cases certainly a mild form), but nevertheless, true Small-pox.

11. BREDASDORP.

DR. S. R. HAWORTH, DISTRICT SURGEON.

(a) The condition of the water supplies:—The drinking water is still conveyed in an open furrow, liable to pollution, as reported in previous years. Nothing further has been done during the year as regards the scheme for conveying the water in pipes from the intake to the village, and the task of bringing home to the ruling powers the serious danger of the present system appears to be hopeless.

(b) Sewerage and drainage are still unknown.

(c) The disposal of night-soil, &c., leaves much to be desired; as there is no organised collection, the householders have to get rid of it as best they can.

(d) Overcrowded dwellings and dwellings unfit for human habitation are both to be found.

(e) Management of slaughter-houses, &c., is, on the whole, satisfactory.

(f) The keeping of cattle, swine, and other animals.—A goodly number of these are kept in the village. Horses, mules, &c., wander about the village streets under no restrictions.

(g) No native location exists.

(h) Cemeteries and burial grounds as before reported.

(i) The abatement of nuisances generally.—The contamination of the water-supply is the most important question, and can only be met by carrying out the scheme for conveying the water in pipes to several points in the village.

The village generally is badly kept, and the streets and gutters greatly in need of regular cleansing.

(k) Typhoid Fever.—A few cases occurred during the year. Diphtheria.—Three cases, from an outlying farm, were treated in the village. All recovered. Small-pox.—Nil.

Vaccination was extensively carried out during the year, 1,031 persons being operated on. A few of the cases, in Bredasdorp, that were afterwards inspected, were found to have been successfully vaccinated, but in the majority of cases I am, of course, quite unable to say what amount of success was obtained.

In every case lymph from the Grahamstown Bacteriological Institute was used.

The general health of the District was good.

Births, 250 (European 120, Coloured 130).

Deaths, 108 (Europeans 39, Coloured 69).

One *post mortem* was made.

12. BRITSTOWN.

(i) BRITSTOWN.

DR. A. H. HOPKINS, DISTRICT SURGEON.

The general health of the Village and District of Britstown during the year was decidedly above the average. There were a few cases of Typhoid in the early months of the year, and a few cases of Diphtheria later on; but no serious epidemic of any kind. The mortality from Pulmonary and Gastric trouble was also much lower than usual. During the year I treated thirty-one cases of Syphilis in the Contagious Diseases Hospital. Seventeen were discharged cured, twelve remained under treatment, and two died.

Owing to the outbreak of Small-pox at De Aar, the number of persons presenting themselves for vaccination was much more satisfactory than in former years. In all, I vaccinated 1,410 persons in Britstown and 352 at centres throughout the District. So far as I have been able to ascertain, the results have been very good, about 85 per cent. of primary vaccinations having proved successful.

Amongst other duties, I have performed five *post-mortem* examinations, and attended a like number of inquests. The chief causes of death in the Village and District were as follows:—

Pneumonia and Bronchitis, twenty-two deaths.

Diarrhoea and Enteritis, fifteen deaths.

Heart Disease, thirteen deaths.

Five deaths were registered as due to Typhoid Fever, and three to Syphilis.

(a), (b), (c), (d), (e), (f), (g), (h), and (i):—As formerly reported.

(k) With regard to the few cases of Diphtheria, the patients and other inmates of the affected houses were isolated as far as possible, without enforcing a strict quarantine, and in no instance was there any further spread of the disease from the house first affected.

(ii) SUB-DISTRICT OF DE AAR.

DR. N. C. FITZ-GERALD, ADDITIONAL DISTRICT SURGEON.

(a) Water Supply.—This is a very serious matter in De Aar at present, both in the Railway Camp of De Aar and also in the township of "Friedlander." For two reasons, viz., as to quantity and quality. During the past year De Aar has experienced a very serious drought, which has not yet passed away, and consequently the wells, which are the only source of supply, show signs of exhaustion. Strict economy has to be practised by the Railway to maintain a sufficient quantity of water for engines. No water is allowed for gardening or irrigation purposes, but a sufficient quantity still remains for domestic purposes.

The water-supply of the township of Friedlander, particularly of the native erven, is a very serious matter, as no water is provided, and the natives are now sinking wells, which, unless carefully conserved, are bound to become polluted, owing to the insanitary habits of the natives.

A certain quantity of water is obtainable at every boring, but this is limited. I had samples of water taken from the well known as Friedlander's, and this was found to contain *Bacillus Coli, Communis*. I suspected enteric germs, and have no doubt this was the cause of the epidemic of Diarrhoea we have had. The quality of the rest of the water in De Aar has been found to be open to grave suspicion. In one case the Analyst reported it to be so filthy as to be positively disgusting. This well was closed, and every effort to cleanse the catchment area is being made. Steps are being taken at my suggestion to cover in and hermetically seal all old and new wells.

The question of the purity of the water cannot be properly dealt with until a Local Authority or Village Board or Municipality is formed, the preliminary steps to obtain which have been taken. The sooner this matter is taken in hand the better for the whole community.

(b) Sewerage and Drainage.—There are no sewers in De Aar, and there is only one drain leading from the Locomotive Department, which is an open sluit, and is kept clean.

(c) All night-soil is removed nightly, and carted away to a depositing site over a mile from town, and buried; slop water is removed daily, as is also all household refuse, ashes, &c.

(d) There are no overcrowded dwellings, and all are fit for human habitation.

(e) The slaughter-houses, butcheries, bakeries, &c., are all in good condition, and not in any way injurious to health.

(f) Horses are the only animals kept largely in De Aar; they are well stabled, and are not in any way injurious to health. A kraal of pigs is kept near the edge of the town, and steps are being taken to remove it further out.

(g) No good can be said about the native locations or collection of huts on Messrs. Friedlander's ground; no sanitary accommodation of any kind is provided, the natives squatting all over the place, urinating and defaecating round their huts. Wells are being sunk close to these huts, and I tremble to think what the result will be when the usual rainy season comes. I have on several occasions pointed this out to the Assistant Resident Magistrate by letter, as I think he is the only Local Authority. A Board of Management or Municipality ought to be at once appointed to deal with these matters. The same applies to the white population in the township of Friedlander, but with this exception, that the emptying of night-soil is regularly carried out, as is also the removal of slops.

(h) The Cemetery is under the direct control and management of the Railway Department, and is kept in good order.

(i) The abatement of nuisances generally is dealt with by the Assistant Resident Magistrate, on my bringing them to his notice, but this matter cannot be satisfactorily dealt with until a proper Local Authority is constituted.

(k) Twenty cases of Enteric Fever came under my direct observation in the De Aar District during the year, four of whom died, two under the age of twelve years. The disease was of the usual type, and was probably due to the conditions of life prevailing in De Aar during war time. I have no doubt it was introduced into De Aar three years ago by the Military, and has not yet been eradicated. The number of cases so far this year has not been many.

An epidemic of Diphtheria broke out amongst the natives in the Military Location on the 4th of February. There were in all seventeen cases, with five deaths. One child, age twelve, died two hours after admission; one child, age nine, day after admission; one woman, age twenty-three, died from Inflammation of Lungs, and two others from Heart Failure.

Antitoxin was freely and successfully used; no trouble was had in getting it. The epidemic was taken in hand promptly, an isolation camp formed, and the last case discharged on the 21st of March, 1902. I have no doubt that the above outbreak was due to the close confinement in which natives had to live, owing to De Aar having to be enclosed by a barbed wire fence for Military purposes.

The outbreak was dealt with locally by the Assistant Resident Magistrate and by the Divisional Council of Britstown.

An outbreak of Small-pox of some severity broke out on the 8th of August at De Aar, in the Military Hospital, where the case was imperfectly isolated, so much so, that the inhabitants (natives) of a house across the road, about twenty yards away, contracted the disease, and conveyed it to the store alongside, where other cases occurred, and from this focus was spread all over the Camp of De Aar. The very first case arose in De Aar in a soldier who left Bloemfontein four days previously, and must have contracted the disease there. He, with some Military natives, spread the disease all over De Aar before the Military Authorities would admit their responsibility or remove their so-called isolated patients. Steps were then taken by the Assistant Resident Magistrate for the Divisional Council. An Isolation Camp was established one mile north of De Aar. One hundred and forty-one cases occurred with eight

deaths, all in coloured people. One hundred and seven cases occurred in unvaccinated people. Thirty-four cases occurred in vaccinated people. No deaths amongst unvaccinated people. Eight deaths amongst pre-vaccinated, principally from old age and complication, such as Pneumonia.

Vaccination was in a few cases carried out prior to the attack, but did not modify the disease.

Re-vaccination was thoroughly performed in the whole of De Aar, I myself vaccinating 3,390, and local practitioners another 700. Inspectors were appointed to bring cases to light early, and early removal to isolation hospital was carried out. A Contact Camp was also established, where contacts were detained three weeks before discharge.

The clothes of patients were in some cases destroyed, and in all other cases were thoroughly fumigated and washed with solution of hydrarg. perchloride. No case was allowed out until peeling had finished.

With regard to vaccination and re-vaccination, I claim a good result for this, with about 95 per cent. of successes. The lymph in my opinion was very good, and in only two cases were there any ill-effects, such as inflamed arms, which, I think, was due to neglect, dirt, or injury.

An ample supply of lymph was obtained from the Bacteriological Institute, Grahamstown, the numbers of the calves being 3191, 3177, 3179, 3170, 3172, 3073, 3084, 3031, 3021, 3088, 3168, 3169, 3167, 3192, 3194, 3196, and 3221.

The total cost of dealing with the outbreak of Small-pox came to £863 6s. 9d.

The state of war having ceased during the year, a large number of troops left this place. All restrictions as to freedom were removed, and the health of the Camp benefited thereby.

In conclusion, I would add that the most urgent need now is the formation of some Local Authority or Board of Health to deal with sanitation in De Aar, otherwise a very serious state of affairs is bound to crop up.

13. CALEDON.

DR. A. J. ALBERTYN, DISTRICT SURGEON.

(a) Caledon obtains its water from several springs in the Swarteberg Mountains. The water is good, being pure, clean, and palatable. The water is brought down to the village from its source in pipes, and given to the public by means of pumps distributed in various parts of the village. There is virtually nothing tending to cause its pollution at its origin or during transit, but, as has so often been reported on previous occasions, the pump system is a dangerous and highly undesirable one. The matter of leading water into the houses has had the attention of the Local Authorities, and there is every possibility of the abolition of the pump system at no very distant date. For irrigation purposes a large reservoir, containing some 5,000,000 gallons of water, is a very great boon indeed to Caledon, and much appreciated by the public. Water is brought from the reservoir in open furrows, and given to the public.

The sanitary defects of the village are indeed very apparent, none of the furrows of the lanes and main streets being flushed.

(b) The sewerage and drainage of the town are in a few instances removed by means of patent pipes, but the method generally adopted is that of removal by carts, a system which is to be deprecated. The Municipality have been approached in order to put an end to the over-filling of the carts, and as the work of removal is undertaken in the day time, the

objection is all the more obnoxious. I have every hope that continual reminders on this point may result in some satisfactory alteration.

(c) Night-soil is disposed of by means of carts, which call at the various houses, and empty buckets, in place of full ones, are left. It is a matter of regret, however, that the removal vans are permitted to commence operations at 10.30 p.m. This is a great source of annoyance to the community generally, and frequent are the complaints which have reached me on that point. The Corporation have, however, long ago been approached with a view to ensuring sterco operations to take place only after 11.30 p.m. or 12 midnight, and I have every reason to believe that this present universal grievance will be guarded against in the future.

As regards the removal of slop water and household, as well as other refuse, my remarks contained in paragraph (b) apply. Suffice to say that refuse generally is removed in carts, which call and empty the bins at the various houses, the contents being subsequently deposited at some considerable distance from the town.

(d) There is not much overcrowding of dwellings, nor any dwellings unfit for human habitation. Occasionally crowds of Malays visit Caledon, and remain on for some two or three days. During their stay a great deal of overcrowding has taken place, resulting in numerous complaints from inhabitants. The fact that the influx cannot be prevented is obvious, but steps will be taken to obtain prosecutions in cases where overcrowding is permitted. The matter has already been brought to the notice of the Municipal Authorities by the Resident Magistrate and Assistant Resident Magistrate.

(e) The management of butcheries, bakeries, dairies, and other trades affecting health is very satisfactory. I have no reason to take any exception whatever to the ways in which these institutions are conducted. An improvement has taken place with regard to slaughter-houses. There are two, which are located some distance from the town, in a healthy area.

(f) The keeping of cattle, swine, and other animals is very systematic. Occasionally they stray about the town, but recent exemplary prosecutions have had a very beneficial effect indeed. The condition of affairs at present in that respect is highly satisfactory.

(g) Genadendal and Berea are the only native locations in this District. They are about twenty miles distant. The Moravian Mission Society controls these, and has already attained a high state of efficiency in regulating cleanliness and general sanitation. The visits every month of the Resident Magistrate, who proceeds thither to preside at the Periodical Court, has a very marked influence over the community generally. The inhabitants number over 3,000. The houses and huts are cleanliness itself. The water supply is excellent. The system of removal of night-soil, refuse, &c., is improving, and good order prevails.

(h) Two cemeteries exist at Caledon, being well below the town. The soil is sandy and the drainage excellent.

(i) Nuisances generally are abated by means of prompt action on the part of the Police, who are always on the look out for any contravention of the Municipal and other regulations. The greatest nuisance in the town is that of the removal of night-soil at such an early hour.

(k) Isolated cases of Typhoid Fever and Diphtheria have come under my notice, but the diseases have very considerably abated both in the town and District.

No epidemics of Small-pox were prevalent, or are in existence.

Vaccine lymph is obtained from the Institute at Grahamstown. As, however, I have only been District Surgeon for a short period, I am not in a position at this stage to state with what success the result of vaccinating some 400 persons has been met.

In my opinion, I do not consider that the state of the war has affected the public health during the early or latter part of the year. I am, in conclusion, pleased to say that the inmates of the Syphilitic Hospital are but few. Syphilis is not very prevalent, and every effort is made to trace instances where patients evade the necessary treatment in Hospital.

14. CALVINIA.

DR. J. SMUTS, DISTRICT SURGEON.

(a) There is nothing to add to the reports of previous years. There is no improvement in the water supplies, and no prospect of any improvement.

(b) Nil.

(c) Satisfactory in the village; very unsatisfactory on most of the farms.

(d) The village was overcrowded with natives during the early part of the year.

(e), (f), (g), (h), and (i):—I have nothing to add to my reports of former years.

(k) On account of the war and the absence, for several months, of the Civil Authorities, the death returns are very incomplete.

This District has not been free from Typhoid Fever for the last eight years. The eighteen deaths recorded give no idea of the prevalence of Enteric Fever in this District, as the returns are incomplete.

Six deaths from Diphtheria are recorded. When or where this disease commenced I am unable to say.

Measles were very prevalent, thirty deaths being recorded.

The Local Authority does what it can, but as there is no hospital, and as every house and hut is fully occupied, isolation of cases of infectious diseases is almost impossible.

A hospital for infectious diseases is urgently required.

The subject of vaccination also requires very serious consideration. The District is so large that vaccinating at four or five centres is almost useless. More than half the population has not been vaccinated.

The state of war during the early part of the year caused nearly all the natives in the District to come into the village for protection. Measles and Diarrhoea were very prevalent, and caused the death of a very large number of coloured children.

15. CAPE TOWN.

(i) CAPE TOWN.

There is no District Surgeon for Cape Town. The reports of the Medical Officers of Health for the Municipalities of Cape Town and Green Point and Sea Point will be found under Part II., among the reports of Local Authorities.

(ii) D'URBANVILLE.

DR. L. F. BICCARD, ADDITIONAL DISTRICT SURGEON.

(a) The village has a plentiful supply of pure fresh water, which is derived from two springs, situated within the Municipal area, but on a higher level than the village itself; these springs are well covered in, so that there is no risk of pollution at the source of supply. From the springs the water is led away in iron pipes and distributed to every house within the area. There is, therefore, no risk of pollution either at the source of supply or during transit.

(b) There is as yet no system of drainage and sewerage, but the village lying on a slope and having a hard gravel bed, the surface water readily flows away.

(c) Night-soil is at present still buried in back gardens, but the Municipality, I hope, will soon arrange for its removal at regular intervals, since people with small plots of ground must feel the want of some means for its disposal.

Household and other refuse are removed by the Municipal carts and deposited on the commonage outside the village.

(d) There are no instances of overcrowding or dwellings unfit for human habitation.

(e) Slaughtering is done outside the village. The butcheries are well kept, with the exception of one where the Local Authority had to warn the owner, the place being insufficiently ventilated. There is one bakery, which is well kept.

(f) Cattle, swine, and other animals are not allowed to roam about the streets.

(g) Nil.

(h) Up to the present the dead are still interred immediately outside the walls of the Dutch Reformed Church and therefore a source of danger to the health of that community. Government has, however, granted a suitable plot of ground for a new cemetery for both the Episcopal and Dutch Reformed Churches, so that the defect, I hope, will soon be remedied. Both the burial grounds are well away from the source of the water-supply.

(i) The public outspan, which has, up to two months ago, been in the centre of the village, has fortunately now been removed to its outskirts. This has always been a nuisance to the inhabitants living in its near vicinity, and a source of danger to the public health.

(k) During my period of office no cases of Typhoid or Diphtheria were reported within the Municipal area. Only three cases of Typhoid came under my treatment on one of the Koeberg farms, and here the source of infection was traced to the well from which the water-supply is drawn. There were no deaths.

During the latter part of the year we had to deal with a mild epidemic of Small-pox. Since the middle of October six cases came under my observation, these being two young coloured males and four coloured females (mother and three children); there were no deaths. All the above cases were removed to Rentzkie's Farm, and thorough disinfection done at home. In one case the patient got the disease through his mother, who contracted it while on a visit to Cape Town; in the other five cases infection was traced to the farm Oak Dale, near D'Urban Road. All the cases were unvaccinated.

I may state that in no instance where the disease broke out did the Local Authority (Cape Divisional Council) think it necessary to quarantine the contacts, who were thus allowed to move about as they pleased, and it is surprising that, under the circumstances, the disease did not spread much more.

(iii) WOODSTOCK.

DR. JOHN HEWAT, DISTRICT SURGEON.

1. *Water Supply*.—This is deficient in quantity, although pure in quality.

Woodstock derives its present supply mostly from Newlands by the Suburban Waterworks Mains, the same being partly direct from the Springs and partly from Springs stored in a Mountain Reservoir, and distributed by cast iron pipes and galvanized or lead leadings to the several houses.

Some portions of Woodstock towards Cape Town Boundary obtain their supply from Cape Town sources, which is Table Mountain Catchment. A few obtain their supply, being unable to get any other supply, on account of the scarcity of supply from other sources, from deep borings.

The water-supply amongst such a large community is during the summer months a great source of worry and anxiety, as not only has it to be intermittent, but the supply itself is poor and insufficient, many of the inhabitants in the higher levels having to get their water conveyed by Municipal carts from the lower levels daily, and distributed to their several houses by buckets, &c.

5. *System of Scavenging and disposal of Excrement*.—Scavenging is well attended to by a Special Department of the Council, who have a staff of men constantly at work. Collection of excrement has been carried out until now by the Contract System, which has been very unsatisfactory and irregular. The Council are about to undertake this departmentally, having obtained a Depositing Site near Durban Road Sand Hills.

3. *Household and other Refuse*.—This is collected daily by Municipal carts, and deposited on a site near Salt River Mouth and the sea, portion being burnt and the remainder covered regularly with sand, resulting in much valuable land being reclaimed.

4. Infectious Diseases have not been prevalent, when compared with the number of inhabitants.

A few cases of Small-pox occurred, but the precautions taken in each case were so efficacious that not one case could be traced as due to infection from any other case reported to the Municipality. All infectious diseases are notified, and every precaution taken by an efficient Sanitary Department, whose Inspectors visit and report on any Sanitary defects, which are remedied at once.

5. Much has been done by the Woodstock Council to deal with all sanitary defects by means of an efficient and well worked Sanitary Department. Many prosecutions have been undertaken by the Council where disregard has been given to the usual notices of insanitation or overcrowding requiring remedy.

6. Woodstock, like most of the Suburban Municipalities suffers greatly from deficient and intermittent water-supply, which requires immediate supplementing by a full and good supply.

An efficient and full Drainage Scheme is much required, and requires immediate consideration, as its absence will be felt more and more as time rolls on and leaking gutters, etc., pollute the soil and soak under dwellings.

16. CARNARVON.

DR. LEOPOLD KATZ, DISTRICT SURGEON.

The general state of health of the Municipality of Carnarvon, as well as of the Division, throughout the year has been affected by severe epidemics, viz.:—Diphtheria, Measles, German Measles, Chicken-pox, Typhoid Fever, and a certain class of contagious skin diseases, caused by different forms of microbes, amongst men and animals; so that the morbidity of serious illnesses shows a higher rate than usual, and the mortality has been increased considerably, viz.:—1901, 114 cases; 1902, 230 cases.

During the first half of the year the unsatisfactory state of health was due to the overcrowding of dwelling-houses, caused by the influx of people into the village, thus spreading infectious diseases. During the latter period of the year the bad state of health was due to the heavy drought, which caused certain classes of people to be underfed, owing to the poor condition of cattle, &c.

(a) *Condition of Water Supplies.*—The general water-supply of the village, and on every farm, is open to suspicious contamination. The greatly prolonged drought has, of course, badly affected the quality and quantity of the water. A few private wells were failing, and both our dams dried up. A great source of inconvenience is the furrow in the village, running alongside the park. It is never drained or cleaned out. Animals go to drink there and contaminate the stagnant water. It has come under my observation that some of the coloured people use this water, thereby contracting all kinds of ailments of the digestive organs. I have seen dead animals lying close to the furrow, when decomposed, issuing a bad and offensive smell. I strongly recommend that this furrow be closed. It is possible that most of the Typhoid cases arose from this particular nuisance, as several fatal cases of Typhoid Fever have occurred in all houses not far from the furrow during the last few years.

Van Wyk's Vlei Dam.—An offensive smell has also arisen from this dam. I reported this to the Resident Magistrate in December last. Several farms have been affected by Enteric Fever, Diarrhoea, Dysentery, &c., caused by polluted water. I have recommended that all the water for drinking purposes should be boiled and filtered, and the Municipality have also advised the inhabitants to do so. The prisoners in the Gaol only use boiled water for drinking purposes. The water-bag system is very bad, owing to the germs sticking in the fibres of the canvas, thereby causing many severe cases of Diarrhoea and Indigestion.

(b) *Sewerage and Drainage.*—There is no system.

(c) *Night-soil, etc.*—The carrying away of this has improved, in so far that twice a week the Municipal Contractor takes the tubs way, but too early in the evening; this should be done after 10 p.m. There is no service for the removal of the slop-water. Household refuse is removed by the Sanitary Contractor in a very small and open wagon. The streets are cleaned by prisoners, and the refuse carried away and burnt a good distance from the village.

(d) *Overcrowded Dwellings.*—There were a good many overcrowded dwellings in the Native Location, but this has been improved since.

(e) *Slaughter-houses, etc.*—I have to repeat from my last annual Health Report that no improvement or alteration can be hoped for while the present arrangements are allowed to continue.

(f) *Keeping of Cattle, etc.*—No nuisances worth mentioning.

(g) The Native Location is under Municipal control, the huts are clean, and most of them in good order.

(h) Both cemeteries are in good order and satisfactorily managed.

(i) More might be done in paving the sluits and mending the roads; they are really in a very bad and dangerous state, and sometimes cause premature child-birth and miscarriage.

(k) *Infectious Diseases*.—There were no cases of Small-pox or Leprosy in town or District.

The first case of Diphtheria amongst the population occurred in February, 1902, when a young coloured washerwoman became suddenly affected. It cannot be doubted that the girl had to clean some infectious linen, brought into Carnarvon by the Military. The epidemic in this District came from a certain farm, called "Droogeputs," in the Division of Fraserburg. On this particular farm five children died within ten days from a most infectious disease of the throat. An adjoining farm took the Diphtheria, and it then travelled along the block-house line, infecting every farm. The germs were then brought into the village, whence the illness was naturally spread, as an air-borne infectious disease, all over the District, by the continual storms of wind, clouds of dust, and flies.

During the past twelve months the following cases of Diphtheria occurred in the village :

	European.	Coloured.	All Races.
January... ..	0	0	0
February	0	9	9
March	14	16	30
April... ..	6	6	12
May... ..	12	3	15
June	7	6	13
July	9	1	10
August	15	1	16
September	3	4	7
October... ..	7	4	11
November	1	2	3
December	0	0	0
	—	—	—
	74	52	126

These 126 cases were only in the village. In the District there occurred during the same period many cases, and I regret not being able to give the exact number. The Death Registration Book shows seventy-two cases due to Diphtheria and infectious diseases of the upper air passages. The sickness at Van Wyk's Vlei was brought in by a coloured servant, hired by a storekeeper; his house became infected, and a clerk employed in the same store brought Diphtheria into his family, and the epidemic rapidly spread. The same thing happened at the farm "Rhenosterpoort," where Diphtheria was brought in by a coloured shepherd and his family. These poor natives live in small huts, sleep on infected sheepskins, trek from one farm to the other in the same clothes. On one farm, for instance—Brakgat—I had sixteen cases; at another—Scorpioensdrift—fifteen cases; at yet another—Blaauwcypher—ten cases.

The Municipal Council of Carnarvon did their best to prevent the outbreak and spreading of this most infectious disease. They supplied the poor class gratis with antitoxin and disinfectants; they isolated the patients, placed a red flag on every infected house, and supplied the poor patients with food. The Resident Magistrate and the Municipal Council have my heartiest thanks for assisting me in suppressing Diphtheria.

Typhoid Fever was also one of the prevalent infectious diseases. I am unable to give the exact number of cases, as the Military had a great many cases in their Hospitals. The number of deaths during the year caused by Typhoid Fever were fourteen, eight of which occurred in the

Military Hospital. The other infectious diseases—Measles, German Measles, Chicken Pox, etc.—were of a very mild character.

Vaccination could not be carried out as properly as in previous years. During the first half of the past year war was still going on, and during the latter half, Diphtheria was prevalent. I vaccinated 396 people during the year.

Twenty-three persons were treated under Part II. of the Contagious Diseases Prevention Act.

Births during the year : 203.

European.				Coloured.			
Legitimate.		Illegitimate.		Legitimate.		Illegitimate.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
29	36	1	2	30	35	40	30

Deaths during 1901, 114; during 1902, 230.

European.		Coloured.		Military Hospital.
Male.	Female.	Male.	Female.	
32	24	78	79	17

whereof the following were children under one year :—European, 10 (18 per cent.); Coloured, 48 (30 per cent.).

Post-mortem examinations performed : 12.

European.		Coloured.	
Male.	Female.	Male.	Female.
2	0	9	1

There were no criminal cases. Three deaths were caused by accidents, and in the remaining nine cases death was due to natural causes.

In the Gaol Hospital thirty-nine cases were treated, viz. :—Europeans, 27; Coloured, 12.

Out of this number thirty-eight recovered and one (European) died.

Amongst the Government officials no serious illness occurred, and in only twenty-two cases was the District Surgeon's advice required.

17. CATHCART.

DR. W. M. BORCHERDS, DISTRICT SURGEON.

(a) *Water Supply*.—The reservoir to hold 3,000,000 gallons, mentioned in my last report, has been completed, and with the daily supply of 60,000 gallons from springs, precludes all danger of a shortage in time of drought for a period of about nine months.

During January the Railway Department procured the water rights from Bartlett Bros. for £2,000, with conditions most favourable to the township of Cathcart, to include the construction by the Cape Government Railways higher up the kloof of a reservoir to hold from nine to thirteen million gallons, according to the height of the embankment.

I would suggest that in the smaller reservoir a reserve of only one million gallons be stored, so that at the time of storms two million gallons may be stored from its catchment area; otherwise, if kept at full pressure, this amount would run to waste, the reservoir to be regulated by the output from the larger reservoir, which at any time may be difficult to control, because its embankment is placed on the bed of an old river,

The quality of the water supply is very good, as shown by repeated analyses.

Pollution of Supply.—There is the remotest possibility of pollution from dead stock in the kloof, but as there is a considerable amount of undergrowth in the watercourse, it would, if high up, soon become purified. It is only when occurring low down that any danger is to be anticipated.

I would suggest that the water from the upper to the lower reservoir, and thence to the intake, be led down in 6-inch pipes, and that the present intake be excavated for the distance of about 200 yards, and filled with gravel to serve as a filter bed, which would act for about three years without attention. This would do away with the necessity of constructing new filter beds, at a cost of about £600, which is now contemplated by the Municipality.

(b) *Sewerage and Drainage.*—Sewerage, conveniently classified, will be dealt with thus:—

- (1) Dust, ashes, kitchen waste, and solid matter generally, other than solid excreta.
- (2) Urine and faecus.
- (3) Slop waters.
- (4) Surface or storm waters.

(1) These are removed weekly in a dust cart—really Scotch cart, open—and cast on the southern slope of the town. A properly constructed dust cart ought to be purchased by the Municipality, and owned as their property, and everyone compelled to be served by it. At present some private people dispose of all under this heading by loading it in an old hand cart without sides, and dragged by their own children and their companions as a mere sport, depositing most of the contents of the cart in the centre of the street, until, on their arrival at the outskirts of the village, they find there is no more to drag away, whence they return in great glee. This ought most certainly to be stopped; but to appeal to the City Fathers, who are of the proverbial intelligence and enterprise, and with a Sanitary Inspector with one eye and no sense of smell, the matter is hopeless, unless pressure is brought to bear upon them from higher authority, which authority, it is needless to point out, is the Government with the Health Act in its hand, acting as a “mailed fist.” Nothing short of this will mend matters in our village, which might become the health resort of South Africa with a little enterprise and intelligence.

(2) *Urine and Faecus.*—This is removed weekly in a cart, lined with tin or iron, the pails used being immediately replaced without any cleansing to await the arrival of the cart next week, or to accompany their contents when they have corroded and leaked for some weeks, and, like sick people, unable to contain their contents any longer, for which £2 2s. per annum is charged.

The present cost is £325 per annum, and with the increase to the town now taking place, may rise to £400 shortly, with a population of about 800 people, working out at 10s. per head per annum.

I shall further deal with this under slop waters.

(3) *Slop Waters.*—Half a dozen, at most, people have arranged with the Sanitary Contractor for the removal of their slop waters at a special private rate, otherwise there is no provision for same.

The fault in the Public Health Act in this particular is that it says *may* instead of *must* make arrangements for the disposal of slop waters.

What usually obtains here is that about 10 a.m. one may see a boy with a paraffin tin in a wheelbarrow parading the street and spilling the slops on his way, till he gets to some convenient spot at a distance from the nearest house on the outskirts, where he tips it all out. This takes him about half an hour to cover 200

yards, as timed by me a few days ago. In some cases slop waters are run out of the premises by a well paved gutter into the pathway or street, which is immaterial, and there it lies to stagnate and be an annoyance to passers-by, until the welcome rain by storm waters clears the gutter in that particular region, when one again for a short time breathes pure air. This also requires immediate attention.

Under (2) and (3) I would make the following suggestions:—

That a proper sewerage system be laid down, with the bacterial treatment of same at the outfall, for which Cathcart is peculiarly well-suited, both as regards fall, water, and available Crown land for the necessary tanks. Taking the Scott-Moncrieff system laid down at Matjesfontein at £400 per 100 A.P., it would work out here at £3,200 for 800 A.P., which at 6 per cent. (4 per cent. interest and 2 per cent. Sinking Fund), equals £192 per annum as against £325 at present paid, without provision for slop-waters and a weekly system. What ought to be done is obvious.

(4) *Storm-waters*.—These are provided for by a system of furrows peculiar in their design and arrangement to the village of Cathcart, and are nothing more nor less than man-traps to those called out at night. Fortunately for them the Councillors are not required to go out at night, and some do not venture out even to Council Meetings except on moon-light nights.

(c.) This is included under (2).

(d.) *Overcrowded dwellings and dwellings unfit for human habitation*.—Of this there are a few, chiefly among the Hottentots and other natives, and a few poor whites. The remedy is obvious; but as these may be offended by such action as may be necessary, the Local Authority take no steps in the matter.

(e.) *The management of Slaughter-houses, Butcheries, Bakeries, Dairies, and other trades affecting Health*.—There is no management whatever under this heading, and the reasons for same are as under (d)—sheep, fowls and pigs are slaughtered before an admiring crowd at leisure.

(f.) *Keeping of Cattle, Swine, and other animals*.—Unless a nuisance to their neighbours, nothing is done in the matter. Stables, etc., are cleared when it is found that the animals are getting too near the roof, or might by means of their own excreta, get into the garden.

(g.) *Good order, cleanliness of Native Locations, etc.*—The Location is well situated, and well kept.

Except that they have to walk half a mile to the nearest tap for water, and defaecate where they please in town and elsewhere, they are healthy and well looked after.

(h.) *Burial Grounds*.—This is the subject of a separate report to the Colonial Secretary's Department, and is being dealt with.

(i.) *The abatement of Nuisances generally*.—Nuisances generally, above what are enumerated above, may be put down as bad roads, bad side paths, bad drains, rubbish deposited in the streets, cattle roaming at large destroying trees and hedges, fowls and ducks at large, pigs grazing placidly in the streets.

To abate these the Municipality to the best of their ability struggle fortnightly manfully, with the net result that a considerable amount is paid out in wages and salaries, but no improvement in the local conditions.

The general health of the district, as distinct from the town, has, on the whole, been good, with the exception of the outbreak of Typhoid Fever at Lower Chilton and Small-pox in various centres in this district as well as the town.

Farmers' houses, with the increase of wealth, have vastly improved in many cases, new ones have been built, much to the improvement of the health of the occupants.

The state of war in no way affected the health of this district, except in so far as the outbreak of Typhoid, which I ascribe to the advent of children, recently recovered from Typhoid, from Bloemfontein, and the spread of Small-pox to the unrestricted movement of Natives without passes, whereas the white man does not move without a district or local pass.

As regards the spread of Small-pox, which was with one exception solely among the native population, this will always exist unless annual compulsory vaccinations are carried out in every district. The last vaccination in this district took place some six years ago.

On my appointment as District Surgeon in 1901, I recommended that this should be done, but for reasons unknown to me it was not authorised. Now that the epidemic is practically over, it probably will be ordered.

Of Diphtheria we have not had a case, nor am I aware of any since 1896, when it was stamped out by inoculating all the contacts with anti-toxin, as well as the affected child, resulting in no deaths.

With regard to the action of the Local Authority on the spread of infectious diseases, I may here state that no expense or trouble has been spared to cope with same except in the instance referred to above, and I must here protest that had my suggestion in 1901 been carried out, the spread of Small-pox would have been prevented, and cost much less than it did. Hence my suggestion that vaccination be done annually. On the outbreak of Plague at Imvani, all contacts, with myself, in town, were inoculated with Thompson Yates' serum, as well as the whole of the Railway staff, on my section from Toise River to Queenstown.

As regards vaccination, I obtained all I required from Graham's Town, and was well pleased with the results, as no untoward complications arose, except when filth in the person predisposed to same, as in some places I was far removed from water to cleanse the parts inoculated.

I may here remark, as regards total cost, that the Municipality, on my recommendation to vaccinate all in town, applied to the Magistrate to obtain my services as District Surgeon to vaccinate, thus getting it done "on the cheap," during an outbreak, whereas in Queenstown the Town Council paid 1s. 6d. per head for all vaccinated, whether done by District Surgeon or not, and where a number of medical men were engaged, myself amongst them. This I consider a grievance, and not fair.

18. CERES.

DR. G. MUNNIK, DISTRICT SURGEON.

The health of the two villages, Ceres and Prince Alfred, has not been so satisfactory as in previous years, for reasons stated below. That of the farm population was very good.

(a) The water-supply of Ceres is excellent and lavish, and of great purity at the source. The much-desired pipe system of delivery is near completion, thus doing away with the evils of the open furrow method of supply.

(b) We have no sewerage. Scavenging is carried on by means of the river.

(c) The repulsive practice of burying the night-soil in the garden has at last been done away with. It is now systematically removed outside the town.

The dumping ground for this purpose has been chosen in a suitable locality, far from human habitation, and in a porous soil.

(d) Amongst the Coloured population a few overcrowded huts will be found, and their unfitness as human habitations has rendered them healthy dwellings, in virtue of their bad construction, which affords free ventilation.

(e) and (f) Satisfactory.

(g) Under Martial Law there was a great influx of Natives to the town. No housing was provided by the Military, who ordered them in, which led to overcrowding and privation, and resulted in a heavy mortality from respiratory affections, and an unusual number of Typhoid cases, in this otherwise immune town.

(h) No comment.

(i) Satisfactory.

(k) As regards infectious diseases:—

Small-pox—Nil.

Diphtheria—Nil.

Typhoid Fever (Enteric)—was rife amongst the Coloured population. The number attacked, and of deaths, was not ascertained. About six whites were recorded, of whom one died.

In the hamlet of Prince Alfred, the disease and other obscure abdominal troubles were almost epidemic. They were distinctly water-borne.

Many Influenza cases, accompanied by fatal Pneumonia, must be recorded. 312 vaccinations were performed in the village, with over 90 per cent. successful cases. Lymph from calf 3054.

19. CLANWILLIAM.

DR. ALFRED A. HAYES, DISTRICT SURGEON.

During the year there has been a great deal of sickness, and an unusually high death-rate, the principal diseases being Whooping Cough, Measles, Croupous-pneumonia, Broncho-pneumonia, and a long-continued Fever, which presented all the characteristics of that known as Malta Fever.

Enteric Fever was undoubtedly disseminated by the troops, while the numerous dead horses and other animals which indicated the track of the columns, as well as the large quantity of manure which lay exposed, formed an ideal breeding-ground for the germs, which consequently flourished vigorously. When the year ended, the signs of diminution in the epidemics had not begun to appear, and the Military Hospital, which had been continued for the use of the Cape Police, was crowded with Enteric cases, none of which, however, terminated fatally.

Throughout the district results were not so favourable, many cases having succumbed to the severity of the disease, while the adverse conditions under which many of the country people had to cope with disease, no doubt contributed largely to the fatal results, which occurred too frequently.

Naturally, Local Authorities were powerless to stay the disease, and under Martial Law sanitation was at a standstill. Thousands of refugees were crowded in a location consisting of huts formed by covering a framework of willow twigs with coarse sacks, which, though insufficient to keep out cold or wet, insured free ventilation and the occurrence of much Pneumonia.

The death-rate from Measles was also very high on account of its being frequently followed by Broncho-pneumonia, due, no doubt, to the previously-mentioned unfavourable conditions.

Under the various headings I may mention :—

(a) The water-furrow which conveys drinking-water to the village, gives an abundant supply, and is pure at its source, which is three miles above the village, being taken from the Jan Dissel's River.

Additional improvement has been made during the last year by fencing in a considerable portion of it, thus protecting it from the inroads of cattle.

There are several minor defects in the construction of the furrow, but the principal one, which is doubtless the chief cause of pollution, lies in its position, which is below the level of the street, consequently every heavy rain causes a deluge of water impregnated with street refuse to pour into it, rendering it for some time unfit for drinking purposes.

It is remarkable, though, how little actual disease can be traced to it, and I believe this is due to the velocity of the stream rapidly removing the deposited impurities.

As a remedy for this undesirable state of affairs, I would suggest either making a new furrow in a better position, or by the placing of suitable drains, which would remove the foul water into places where it can do no harm.

(b) Practically none.

(c) This is all removed by the Town Council to a safe distance.

At present the removal of night-soil by the Council is optional; it should be made compulsory.

(d) I know of none.

(e) Generally good; there are no complaints.

(f) Too much freedom is allowed, swine being frequently at large in the streets.

(g) There are two Native Locations within the municipal area, one of which is a cause of pollution to the water, as it lies above the furrow. The other, which is a new one, is in a safe position, and innocuous to general health.

In the district there are two, one at Elandskloof and another at Wupperthal, both under control of their respective Missionaries, and in good order.

(h) Same as last year.

(i) Not satisfactory, but Martial Law sufficiently accounts for it.

(k) Small-pox has not occurred here.

Typhoid Fever has been previously referred to. It was not confined to any particular locality, but was fairly well distributed. Perhaps the farms along the Oliphant's River suffered most severely.

A few mild cases of Diphtheria occurred at Boschkloof, near Clanwilliam, about September, but it did not spread beyond the farm where it occurred.

With regard to vaccination, it is impossible to give any information, even approximately accurate, as to results, as there are no means of checking work done.

During last year vaccination was not proceeded with vigorously, as after a good deal of correspondence, the Colonial Office did not see its way clear to authorising a tour of the district.

All the lymph used was calf lymph obtained from the Bacteriological Institute at Graham's Town, and as far as I can gather, was uniformly successful.

Four insertions were made in each case, except in re-vaccinations, showing satisfactory marks, or in delicate children, when the number of insertions were in some cases diminished.

District Surgeons are, perhaps, looked upon as a grumbling class of mortals, but there are, perhaps, a few genuine grievances which they may be entitled to air at times, and I think vaccination, as at present paid by Government, may be placed among the genuine grievances. Owing to the enormous influx of population into Clanwilliam under the Martial Law regime, vaccination in the villages assumed unprecedentedly large proportions, no less than 752 persons being vaccinated locally within a period of about ten days. It can be readily understood that such an amount of compulsory work disorganizes the possibility of private practice. In fact, patients are loth to come when they perceive a tumultuous crowd of coloured people surrounding the doctor's surgery, and this vaccination, which is done locally, is unpaid for by Government. Under the circumstances, I think it is only fair that some recognition of the very heavy work that has been done should be obtained.

There was also a great increase in pauperism at the same time, and the unfortunate District Surgeon had to supply attendance and medicines to abnormally large numbers of helpless individuals from various districts, which, under normal conditions, he had nothing to do with.

Further, the entire camp of nearly 1,000 surrendered Boers, was in the hands of the District Surgeon, and no recognition was in any way offered by the Government. He is expected to do it all on £6 5s. per month.

The payment of 7s. 6d. per hour is also quite insufficient for travelling, when the increased price of forage is taken into account, and as in Clanwilliam, on account of the nature of the district, it is necessary to keep at least four horses to do the Government work, the rate of pay can hardly be said to be liberal. It perhaps was liberal twenty years ago, but not to-day.

We can only trust that Government will impartially examine and adjudicate upon our grievances, and I believe that on so doing, they will discover that they are not imaginary, and agree that we are a most underpaid class of men, who have had to bear a considerable amount of responsibility.

20. COLESBERG.

DR. R. K. TAIT, DISTRICT SURGEON.

- (a) The supply of water is abundant and pure.
- (b) Colesberg is built on a hill-side, and a large sluic runs from top to bottom of the town, which drains off the surplus water after rain.
- (c) Night-soil, slop-water, and household and other refuse is removed by proper carts for the purpose, and taken away a considerable distance from town.
- (d) None.
- (e) The Slaughter-houses are all at the lower end of the town, and away from any houses.
- The Butcheries and Bakeries are clean.
- (f) Cattle are kept in kraals out of town.
- (g) The Native Location is at the bottom end of the town, about 500 yards away, and is very clean and well-built, the houses being chiefly built of stone and mud.
- (h) The Cemeteries are well-kept.
- (k) No cases of Typhoid or Diphtheria were reported during the year.

An epidemic of Small-pox broke out in the "Native Railway Camp" at Naauwpoort on the 31st October. The infection was supposed to be

brought by a native who had been working at Middelburg, Cape Colony. He came home to Norval's Pont and brought his wife and children to Naauwpoort to visit some friends. They all took the disease on the second day after arrival.

Thirty-four people were attacked. Twenty-one were pre-vaccinated, amongst whom no deaths occurred, and thirteen were unvaccinated, three of whom died. Those who were well marked contracted the disease in a mild form, whilst those who were unsatisfactorily vaccinated were severely attacked. A camp was formed nearly a mile from the Location. The patients were put in tents. The suspects were in another camp 500 yards away from the Small-pox cases. The Railway Medical Officer made a hut to hut inspection, and vaccinated and re-vaccinated all whom he thought required doing. Those in charge had to stay in camp, and food and water was brought to within 200 yards of camps, where flags were set up. The Divisional Council had the management. I consider the Local Authority are doing their best to stamp out the epidemic.

21. CRADOCK.

(i) CRADOCK.

DR. P. C. DE WET, DISTRICT SURGEON.

(a) Water-supply.—Holstuisbaaken Springs; pure at source and delivery.

(b) Sewerage and Drainage.—As repeatedly pointed out, the leadings from yards into the storm drains are a danger to public health. A markedly offensive smell is noticeable at several of the gratings.

(c) Disposal of Night-soil.—Dual system of sanitary tubs. Slop-water and household refuse removed by carts under the control of the Town Council.

(d) Overcrowded Dwellings.—Cottages and rooms let to Natives and Indians in the precincts of the town are often overcrowded, and in some instances insanitary.

(e) Slaughter-houses, etc.—The local abattoir has no proper water-supply. Certain portions of the building are used by Hottentots as a domicile.

Butcheries and Bakeries are fairly well conducted.

Dairies.—No epidemic has as yet been traced to the milk supply, yet I am strongly of opinion that all Dairies should be licensed, and in this way brought under direct control of the Municipal Authorities.

(f) Keeping of Cattle, etc.—A few householders keep their own cow. Pig-styes are rare.

(g) Native Location.—The town Location is kept fairly clean. The huts are too close together, and there are not sufficient roads and open spaces. The railway natives are living in tents. The huts were burnt down during the last epidemic of Small-pox, and have not yet been rebuilt. The site of the Location was undesirable for several reasons.

(h) Cemeteries.—The new Cemeteries, in the north end of the town, cannot endanger the public health, but I am of opinion that the old Episcopalian graveyard, surrounding the church, should be permanently closed.

(f) Abatement of Nuisances, etc.—The suppression of Nuisances, is under the control of the Sanitary Inspector. I have not as yet been referred to as Health Officer to consider any question in this department.

(k) Infectious Diseases.—During the year the number of deaths from Enteric shows a marked diminution to that of the preceding year, the total for the twelve months being only twenty-five as compared to a total of forty-one for the previous year.

An epidemic of Measles occurred in the early and middle months of the year. This disease is responsible for four European and twenty-four Native deaths.

Among children the chief causes of death are Chest and Intestinal diseases. The death rate of the Native Infants is, as usual, a high one.

Small-pox.—The first case was discovered on March 14th, and the last case was discharged on the 31st of July. During these three and a half months two hundred and four Natives were treated in the local Lazaretto, and six Europeans were quarantined in their houses in the town.

In the district sixteen Natives were discovered to be suffering from Variola.

Eighteen deaths were recorded.

The total cost to the Town Council of this epidemic amounts to £852 6s. The Divisional Council cost was comparatively small. I have not been able to ascertain the exact amount, owing to the absence of the Secretary.

(ii) SUB-DISTRICT OF MARAISBURG.

DR. N. POLLOCK, ADDITIONAL DISTRICT SURGEON.

The Public Health of this Sub-District has been very good during the year, and I do not think it has been materially affected by the state of war.

(a) The conditions of the water-supplies are unchanged, except that the fence enclosing the fountain and the deep cutting leading from it has been destroyed, but I have no doubt it will be replaced as soon as compensation claims are settled.

(b) There is no alteration.

(c) Night-soil, slop-water and household refuse are removed by the Municipality by open wagon. A proper covered sanitary wagon for the removal of night-soil is much to be desired, especially in summer.

(d) No overcrowding, or occupation of dwelling-houses unfit for human habitation has come under my notice.

(e) There are no public slaughterhouses. All slaughtering is done at a spot on the commonage, and all offal buried. There is one butchery and one bakery in the town, and upon visiting them I found in the room where meat and bread were kept a number of miscellaneous articles which were to be immediately removed.

It would be desirable that the Model Regulations recommended to Local Authorities were adopted by the Municipality.

(f) No material alteration. I only saw two swine in the town during the year.

(g) The Native Location is under the control of the Municipality, who had pits dug, which were ordered to be used for sanitary purposes. There is, however, no responsible supervision, with the result that the surrounding veldt is liberally studded with stercus.

(h) The fence surrounding the Cemetery has in part got broken down, but steps are about to be taken to have it repaired.

(i) No remarks.

(k) There have been very few cases of infectious diseases brought to my notice during the year, which would include two cases of Scarlatina, four of Typhoid Fever, some cases of Influenza, and two cases of Small-pox.

The Small-pox cases were left in my charge, and were accommodated in a temporary Military Hospital in the town, and as soon as Small-pox was diagnosed the patients were taken charge of by the Municipality, and removed to the Lazaretto and the Hospital disinfected. All contacts other than Military were vaccinated and kept under observation. Daily vaccination was performed in the Court-house. Upon the discharge of patients new clothes were supplied, and the old clothes and bedding were burned. The precautions taken resulted in the stamping out of the disease. The Municipality did all they could to arrive at this result.

The lymph was obtained from Cape Town, and though a large number of those vaccinated did not return for inspection, I am glad to be able to report that the lymph used acted very satisfactorily.

Of the primary cases of vaccination inspected, almost without exception they all took well.

I understand that the total cost of dealing with the Small-pox cases is £88 9s. 1d., but I am sorry to report that though the Assistant Resident Magistrate has been in communication with the Government with reference to this matter, none of the accounts have been paid up to date.

22. EAST LONDON.

(i) EAST LONDON.

DR. J. BARCROFT ANDERSON, DISTRICT SURGEON.

Having entered into the details of the condition of East London, in last year's report, as fully as my opportunity for observation permitted, I now confine myself to such changes as have since taken place.

Population.—In view of the approaching Census, I have obtained no fresh estimate of the population.

The number of the inhabited houses in the urban areas has considerably increased; while on the other hand the European troops have all left.

The total deaths for the year were 804, or 78 less than in 1901.

The total births were 1,368, being 41 less than in 1901, but 48 more than in 1900.

During the year, the Village Management area of Cambridge was divided into the Municipality of Cambridge, and the Village Management area of Amalinda. The white population of Cambridge is probably quite as great as was that of the undivided area twelve months ago.

(a) Water-supply.—Since my last report, a sample of water which I took from the site of the proposed dam on the Buffalo, one week after the beginning of a flood, was sent to the Medical Officer of Health for the Colony, who reported that it contained bacilli of the Coli group. For my part I do not see the object of testing water which is known to contain the sewage of so near and so large a town as King William's Town.

On March 2nd, 1903, the ratepayers were polled on the subject, and again rejected any Buffalo water-supply, by a majority of over two to one.

An engineer has been engaged to report on the various possible sources of supply. The two present alternatives to the Buffalo appear to be the Keiskamma and the Kabusie. The Kabusie scheme would probably involve a special Act of Parliament to indemnify the Municipality against legal claims for water rights.

It is represented that one Kabusie water user within its own watershed, has already got a statutory right to a certain constant supply.

As far as my information goes, either Kabusie or Keiskamma water would be excellent.

During a conflagration in the town on November 9th, the lack of an abundant supply of water in the hydrants at a high pressure was much felt.

(b) Sewers.—I am not aware of any permanent improvement that has been made in the sewers or sewage disposal during the year. The Municipality obtained pipes, for the purpose of piping the sewage through the Queen's Park, and emptying it unchanged into the first creek tributary of the Buffalo. I am of opinion that it would be more economical and more sanitary to treat the sewage biologically where it enters the Park.

Sites.—Twice during the year, the Municipality advertised for sale as building sites, Municipal commonage which would have been distinctly dangerous to the Public health, if used for that purpose under present conditions.

Streets.—Some improvement has taken place in the nature of the surface of the streets, whereby dust has been decreased.

Owing to the fact that the Municipal Amendment Act is only "optional," and requires certain forms to be gone through before it can be enforced, the Cambridge Municipal Council has not yet utilised the powers conferred by this Act, which it would otherwise have done, for there has been much laying out of new streets on private property within its area.

(e) Slaughter-houses.—Some improvement has been made at the slaughter houses.

1. The sand waste adjoining has been partly fenced in and manured, thus forming green veld.

2. The slaughter chambers are kept rather cleaner.

3. There has been no attempt made to catch the blood in separate vessels.

4. There has been no provision made to fasten the heads of the oxen during slaughter, for the purpose of preventing needless pain.

5. Dogs still have free access to the chambers.

(g) Native Location.—There has been little change here during the year. The number of huts made of refuse tin is increasing, giving the place a very patchwork appearance.

In January, 1903, part of what was the Boer Refugee Camp, mentioned in my last report, was purchased from the Military Authorities as an Asiatic Location, at a price which allows the Municipality to charge the very small rent of one and one-third of a penny per person per day, and at the same time to recoup itself for the capital expenditure in sixteen months.

These buildings are infinitely more healthy than any which these persons could obtain elsewhere in town.

I can see no reason why the Europeans should not themselves receive the benefit of a racial reserve location. At present persons of other race can live in the European quarters if possessing property above a certain amount. It appears to me anomalous, and hygienically undesirable, while Europeans are excluded from Native and Asiatic quarters, that the Asiatics should be suffered to reside in the European quarter. And this while neither race professes to desire fusion with the other.

(k) Vaccination.—On April 18th, 1902, application was made for sanction to resume the vaccination of the Natives by the Location Inspectors. On May 6th this was approved of, and over 8,500 were vaccinated.

in the rural area, and about 2,500 in the urban, while the total vaccination recorded as performed by myself and others was 13,177.

This means that at least one-third of the Natives were vaccinated or re-vaccinated within the year. I may add that the total special expenditure on this, excluding vaccine, was under £60.

Small-pox.—To this extensive vaccination, and to the isolation and disinfection in connection with Small-pox cases, I attribute the fact that there were only five cases of Small-pox in the District during the year. In no instance, after the discovery of a case, was the disease known to have spread to another.

Plague.—Precautions against plague were continued as in the preceding year, and were successful until Natal became infected, when the disease was introduced into this town either by cargo or rats.

Inoculation.—All Asiatic Immigrants were inoculated with Haffkine's prophylactic before landing, and all Natives leaving the port for Cape Town or Port Elizabeth were also inoculated. The total so treated was 8,679.

There have been sporadic cases of Enteric and Diphtheria as hitherto.

(ii) SUB-DISTRICT OF MACLEAN TOWN.

DR. T. STEWART CHAMBERS, ADDITIONAL DISTRICT SURGEON.

Maclean Town is situated north-east of East London, from which it is thirty-seven miles distant, at an elevation of 1,200 feet above sea level. The District has suffered severely from drought during the past three years, which has been considerably relieved by fairly good rains this last month (March, 1903).

(a) The Town is dependent on its water for drinking purposes, mainly from rain water tanks; some few residents take it from springs, which are considerably polluted, the ravines in which they flow being used as cesspools. A better water-supply could be secured by boring, as there are evident signs of water about the neighbourhood.

(b) Nil.

(c) Cesspools are used by several inhabitants, while others use the surrounding ravines. Household and other refuse is thrown broadcast.

(d) Many of the dwellings are unfit for human habitation, and are frequently overcrowded.

(e) There are not any slaughter-houses; the animals are killed on the open veld. Butcheries, bakeries, etc., are fairly clean.

(f) The cattle and sheep kraals are too close to the dwellings for the health of the inhabitants.

(g) The Native Location is very small, and is in good order, clean, and general sanitation fairly good.

(h) There are two Cemeteries, one for the Europeans, about a mile from the Town, and is fairly looked after; the other for Natives, which is not enclosed, but very few are buried there.

(i) Nil.

(k) There has been no case of Typhoid Fever, Diphtheria, or Small-pox during the year. There have been a few cases of Influenza, but nothing of a serious nature, and Diarrhoea among children and infants, due to indiscretion in diet. The health of the District has been exceptionally good, which, in a way, is surprising, considering the bad water-supply during the drought and the many unsanitary surroundings.

With regard to public vaccination, during the spring of the year I vaccinated 492 adults and children. The Lymph was obtained from the

Grahamstown Institution, and proved most satisfactory, the failures being almost nil, and these re-vaccinations. The numbers of the Calves were, 3034, 3054, 3067, 3079.

I understand several laymen were vaccinating Natives in the early part of the year, with what success I do not know.

23. FORT BEAUFORT.

(i) FORT BEAUFORT.

DR. W. DUNCAN MILLER, DISTRICT SURGEON.

In submitting a report on the Health of this District it may fairly be said that there is little to be added to the report for the previous year. The health of the District—especially among the European population—is very good, the death-rate is a low one, and we have been fortunate in escaping any severe or serious outbreak of infectious disease.

(a) Since the improvements carried out two years ago, and mentioned in the last report, the town of Fort Beaufort has been undoubtedly better served with water, but is yet far from being lifted above possible water famine in times of severe drought. The pipe water seemed as yet to be very imperfectly filtered by the new filter beds, and more attention should be paid to this matter. The defects of the system of conveying water for miles by open furrow and through commonage well stocked with horses, cattle, and ostriches have been dwelt upon in previous reports.

(b) There is nothing to be further remarked upon under this head.

(c) Some improvement can be reported in the matter of the removal of night-soil within the urban area, but the Local Authority should take up this matter and deal with it in the public interest, insisting upon the closing up of all old cess-pits, and organising a regular system of removing night-soil.

Slop water and household and other refuse are disposed of in the way most convenient to the house occupier, but, with few exceptions, this has been done in a way satisfactory to the Sanitary Inspector.

(d) In one or two cases only has it been necessary to interfere under this head during the past year, but there are still premises existing in the Town and District which should either be pulled down or put into a proper state of repair.

(e) A thorough inspection of butcher shops was undertaken last year, and on the report of the Medical Officer of Health for the Town, the butchers were compelled to carry out improvements in their shops and premises, with a view to the better preservation of fresh meat from possible contamination. Bakeries and dairies are carried on in a satisfactory manner.

(f) The enforcement of the Municipal Regulations under this head is much to be desired.

(g) The Native Locations, both urban and rural, are in good condition, and healthy.

(h) The cemetery is a mile from the Town, and is well kept, and in good order. The question of Native burial grounds, however, is one that ought to be inquired into. In one or two instances at least in this District the burial ground of a Native Location is situated on ground not far from and sloping down towards the water-supply for the Location. In one case I pointed this out to the Local Authority—a Village Management Board—but nothing was done to rectify the matter.

(i) The efforts which were made during 1900 and 1901 to exterminate the large patches of prickly pears which defaced the Town and Commonage, and which were an undoubted source of danger to the public health, have only been partially successful, and it is to be regretted that the task partially accomplished should be now abandoned.

(k) There has only been one outbreak of serious infectious disease—Small-pox—during the year, brought under my notice. This occurred at Healdtown Fingo Location. The contagion was brought from an infected hut in the Middledrift District, and as soon as the first case was discovered a rigid quarantine was imposed on the hut where the sick person was lying, and also upon the neighbouring huts, which, fortunately, formed a small block apart from the general Location. Only two other cases developed, and there were no deaths. The first case was discovered on 22nd July, 1902, and quarantine was not removed till the 4th October following. The Local Authority carried out all instructions and suggestions very thoroughly. The Local Authority in this case was the Healdtown Village Board. With regard to vaccination, it is quite impossible to furnish accurate information as to results, because ninety-nine per cent. of those vaccinated are not seen again by the District Surgeon, and where large numbers of Natives have to be vaccinated at one centre by the District Surgeon, the keeping of complete lists of names, with number of calf lymph, etc., has been found to be practically impossible. The lymph which in the past year has been used in this District has come from the Grahamstown Bacteriological Institute, and in most cases has seemed to me to be fairly reliable.

(ii) SUB-DISTRICT OF ADELAIDE.

DR. WILLIAM DAVIDSON, ADDITIONAL DISTRICT SURGEON.

(a) Water-supply.—There is no water-supply for the Village of Adelaide, the inhabitants depending on the rainfall, which is conserved in tanks, and when this fails they have to fall back on the river water, which in dry seasons is not fit for human consumption. During the past year the river ceased to flow for weeks on end, water only being found in large holes in the river, and in these the water in dry seasons is both stagnant and stinking. During the year 1901 water was obtained at the Gaol by boring, but no further boring operations have been attempted since then. Several of the inhabitants signed a petition, which was sent to Government, in order to have the Government drill sent here, but, as far as I am aware, nothing further was heard of the petition.

(b) No drainage system exists, cess-pools receive and conserve excrement and sewerage, and when these cess-pools are full they are in most cases filled in, and fresh ones made.

(c) Night-soil and slop water are in most cases thrown into cess-pools. Household and other refuse is in most cases placed in a heap in a corner of the yard, and when this accumulates, it is then taken out of the Village and deposited at a place set apart for the purpose.

(d) There are no dwellings actually overcrowded or unfit for human habitation.

(e) The slaughter-houses are out of town, and can in no way affect the health of the place. The bakeries are conducted in a proper manner, and the milk supply comes from the neighbouring farms.

(f) Very few cattle or swine are now kept in the village, and those kept do not affect the health of the community.

- (g) The Native Location is kept fairly clean, and in good order.
- (h) The cemeteries are outside the village, and can in no way affect it.
- (i) The Local Authority has seen that yards are kept clear of refuse.
- (k) During the year several cases of Scarlet Fever occurred in the village, but most of the cases were of a mild nature. Whooping Cough was rather prevalent amongst the Natives, and a few deaths occurred from Catarrhal Pneumonia, as a complication of Whooping Cough. A couple of cases of Enteric Fever came under my notice during the year.

During the year thirty-eight cases of Small-pox occurred in the village and country. The first outbreak in the village commenced on the 24th December, 1901, and ended on the 17th February, 1902, when five Europeans and three Natives were affected, five of whom were unvaccinated. The next outbreak in the village commenced on the 4th May, and ended on the 26th July, when ten Natives were affected, nine of whom were unvaccinated. The third outbreak in the village commenced on the 21st November, and ended on the 29th December, when one Native only was affected; this case was pre-vaccinated.

In the country during the month of March Small-pox broke out on adjoining farms, viz., Rietfontein, Baviaan's Krantz, Tambookies Fontein, and Glen Stuart, commencing on 8th March and ending on the 19th May, when sixteen Natives were affected, all unvaccinated.

On the farm Thorn Hill, Small-pox broke out on the 9th June, and ended on the 19th August, when three Natives, unvaccinated, were affected.

In the village all Native cases were removed to the Lazaretto, and in the country the farms were placed in quarantine, but as no guards were placed over the Natives on the farms, I believe many of the Natives visited the neighbouring farms and spread the disease.

Owing to the outbreak of Small-pox, the population of both town and country were vaccinated or re-vaccinated, 1,050 being vaccinated in all, the majority of which I believe were successful.

The Adelaide Municipality supervised the cases in town and the Divisional Council, Fort Beaufort, those in the country.

24. FRASERBURG.

DR. P. J. MADER, DISTRICT SURGEON.

(a) As stated in reports of previous years, the water-supply for the town is ample, pure, and uncontaminated. It is derived from a fountain and several bore-holes. A force-pump in one of the bore-holes supplies drinking water to the town; but many of the poor and Coloured classes prefer to drink the water out of the furrow which runs down the main street, and is easier of access. The dam at the south-east end of the town has been dry for nearly twelve months. There are, however, fountains on the Commonage, which supply drinking water to cattle. The Municipality contemplate making further borings, and laying pipes along the main streets. When carried out it will be a great improvement and saving of labour. The drought was very severe, and at the time of writing still continues.

(b) See previous reports.

(c) The disposal of night-soil and household refuse is carried on in a more systematic manner than before, the same being under the control of the Local Authority, and supervised by a Sanitary Inspector. The only fault lies in the carelessness of some of the inhabitants in not giving proper notice to have their closets and yards cleaned.

(d) Most of the undesirable huts and dwellings unfit for habitation, on which I have reported unsuccessfully for several years, have now been closed up by the Local Authority. But there are still some few remaining, which remind us of the past.

(e) The shambles, which were commandeered by the Military, have been put into proper repair, and are being used by the butchers. Sheep are kept outside the precincts of the town. In previous years, the hoarding of sheep in kraals, adjacent to dwelling-houses, was very objectionable.

Bakeries are, as far as I know, well conducted, but I have no authority to inspect them. Dairies there are none. The present price of milk is 9d. per bottle, and can scarcely be obtained at that price—a much-felt want in time of sickness.

(f) See previous reports.

(g) The Native Location is under the control of the Local Authority, and is kept fairly clean. Suitable rooms for the use of Coloured people are much required. In some cases, huts, made of paraffine tins, twigs and sacking, supply the wants of some of our Native inhabitants.

(h) and (i) See previous reports.

(k) Enteric Fever was prevalent in the town during the first half of the year. It occurred chiefly amongst the troops stationed here. Thirty-seven cases were notified to the Local Authorities by different medical practitioners, and five deaths from this source registered.

In the country several outbreaks of Diphtheria occurred on different farms; one especially serious outbreak occurred on the farm De Dam, in the Williston District. The disease was spread in the following manner. A man, named Jooste, was hawking goods about the district, and passed through this town. He had a ten-year-old son with him, suffering from a very serious and infectious attack. I advised him to place his son under treatment without delay, but he refused to do so. He was then cautioned not to visit any farms on his way home. This he evidently did not observe, for three cases occurred at Blaauwcijfer, a neighbouring farm where he had touched, and three more cases at De Dam, making seven cases, all of which proved fatal. There are twenty deaths registered from this source, and only eighteen notifications by medical practitioners were given to the Local Authorities of persons suffering from this disease. From this it will be seen that Section 28 of the Public Health Act is not properly observed, for not a single notification was given to the Local Authorities or Resident Magistrate by persons in charge of those suffering from infectious diseases. I believe the reason for this to be that the Act on this point is not sufficiently known and understood, and has never been enforced in this District.

There were no cases of Small-pox during the year.

The vaccination returns show that seventy-nine persons were vaccinated during the year in the town. The lymph was obtained from the Grahamstown Bacteriological Institute, and as far as can be ascertained, they were mostly successful. The district was last vaccinated in 1900.

Of persons killed in the war in this District, with the exception of a Native, who was shot on the Commonage whilst herding sheep, on whose death an inquest was held, no other deaths were registered. Personally, I know of eight such cases.

The following are the number of deaths registered and their causes :—

Diphtheria	20	Rheumatic Arthritis... ..	1
Pneumonia	17	Aneurism	1
Convulsions... ..	15	Hepatic Cirrhosis	1
Dysentery	12	Erysipelas	1
Croup... ..	10	Post partem hæmorrhage ...	1
Gastro-Enteritis	7	Abscess	1
Enteric Fever	5	Diabetes... ..	1
Infantile Debility	7	Bright's	1
Tuberculosis	6	Ulcer Ventriculi	1
Old Age	4	Burns... ..	1
Measles	3	Cancer	1
Apoplexy	3	Suicide	1
Influenza	3	Premature Birth	1
Gunshot... ..	2	Drowned... ..	1
Diarrhœa... ..	2	Syphilis	1
Scarlet Fever	2	Doubtful Causes	4
Bronchitis	2		
Heart Disease	2	Total	141

25. GEORGE.

DR. C. OWEN SNOW, DISTRICT SURGEON.

The health of the town and district of George, as judged by the absence of any epidemic of zymotic disease, has been satisfactory during the year.

During the early part of the year all persons coming from Mossel Bay were medically examined, owing to the existence of Plague in that town.

Tents, etc., were also obtained from Cape Town in order to be prepared with a Hospital and Isolation Camp if necessary.

Fortunately, no cases of Plague occurred in the district.

(a) The water-supply is as described in previous reports. It did not fail during the year. The water furrows are not kept as clean as they ought to be.

The rainfall for the year was 44.50 inches.

(b) There is no sanitary system in the town.

(c) Tub or pail closets are in almost universal use in the town. Each householder has the night-soil from his house buried in his garden or plot of ground. This primitive method ought, in my opinion, to be changed for a tub system under Municipal control, more especially in view of the fact that a large number of the inhabitants obtain their drinking water from the open water furrows in the streets, and that the number of cases of Enteric Fever, though happily still few, have been slightly on the increase in the town during the last two years. The cess-pits in existence in the town ought to be abolished without further delay.

The disposal of household and other refuse ought also, in my opinion, to be dealt with by the Municipal Authorities.

I recently reported to the Divisional Council that the water furrows at Blanco are in a dirty and unsanitary condition.

I understand that many of the inhabitants of Blanco wish for the establishment of a Village Board, which appears to me to be a progressive movement.

(d) Overcrowding naturally exists amongst the poorer classes—White and Coloured—but not to any alarming extent.

(e) Slaughter-houses, bakeries, etc., are kept in a fairly satisfactory manner.

Cattle are, however, slaughtered at private dwellings, and the carcasses hung in the public streets, a pleasing and sanitary measure.

(f) Cattle and horses roam about the streets and in the water furrows, apparently unchecked. Even pigs and ducks disport themselves in the water furrows. I regret again having to point out that the Municipal Authorities do not abolish this nuisance, as they easily could, and undoubtedly ought to.

Cattle kraals, stables, and pigstyes are not kept in as clean a condition as they should be.

(g) There are no Native Locations.

(h) The cemeteries are in a fairly satisfactory condition.

(i) No further remarks.

(k) There were a few isolated cases of Enteric Fever and Diphtheria in the town and district, but nothing in the nature of an epidemic. There were no cases of Small-pox.

There are, to my knowledge, six lepers in the district.

It is impossible to give any vaccination returns, as a second visit was not made to the different centres. There were good attendances at the rural centres, but the people in the urban centres were extremely lax in their attendance. 1,007 persons were vaccinated during the year.

There were 156 prisoners in the prison during the year. Only two were on the sick list. The state in which the Gaol is kept leaves nothing to be desired.

There were twenty-eight paupers on the roll during 1902.

Nine syphilitics were under treatment during the year.

26. GLEN GREY.

DR. W. S. PARK, DISTRICT SURGEON.

The general health of the district during the year, apart from the outbreaks of Small-pox, was good.

(a), (b), (c), (d), (e), (f), (g), (h) and (i) With reference to matters mentioned under these headings, I have nothing to add to my remarks in previous reports.

(k) Typhoid Fever was reported as being prevalent among the Natives during the early part of the year. During the month of December there were several very severe European cases.

There were many outbreaks of Small-pox during the year, more especially during the winter and spring months. Altogether 443 cases were discovered, there being 32 deaths. All the larger outbreaks were due to the early cases not being reported to the Local Authority. The larger outbreak at Matyutya was afterwards found to have originated at a kraal where a large beer drink was held when the first cases were sick. About four or six weeks after that, when the first notification was made, we found the disease at sixteen kraals. The large outbreak at Macubeni existed for three months before it was notified to the Local Authority by a policeman who, when passing a beer drink, observed several men there who were in the convalescent stage. During the next two weeks we found the disease at twenty-four kraals. In several instances the disease was introduced by men working on the railway returning home ill. Most of the outbreaks during the first half-year were due to people returning ill from Queenstown Location.

3,349 persons were vaccinated or re-vaccinated by myself and laymen engaged on Small-pox duty. Generally the lymph was very satisfactory.

The total cost of dealing with the outbreaks was £684, incurred by the Rural Authority, and about £15 by the Urban Authority. All the vaccination performed was done in connection with Small-pox outbreaks, except at Lady Frere, Driver's Drift, Zingqutu, Agnes and Qoqodala, to which special tours were made.

I think everything that could be done in a densely-populated native district was done by the Local Authorities to suppress the disease.

Leprosy.—Fresh cases are always appearing, and there is no doubt the disease is spreading.

Syphilis.—Only five cases were treated during the year.

27. GORDONIA.

DR. EDWARD H. PHILLIPS, DISTRICT SURGEON.

The report upon the state of health and sanitation for the year, of the District of Gordonia, with but slight exception, resolves itself into a report on the township of Upington, with a word here and there about the state of the back-country, the reason lying in the fact that I have had no opportunity given me of going round the district, which, although very extensive, could, as I have indicated in a special report, be easily covered by wagon in a two months' tour.

I regret to have to report that Venereal disease is said, by competent observers, to be greatly on the increase in this district, many sufferers in indigent circumstances are reported to be roaming about the back-country spreading the disease from farm to farm, and one feels that, unless some decided steps are taken in the near future, such as a visitation of the district by the District Surgeon, and the erection of a Lock Hospital in Upington, the state of things will go from bad to worse. Besides this, may not Leprosy be easily mistaken by a layman for the tertiary manifestations of Syphilis, and thus the graver disease if the two be allowed to spread unchecked? Situated as the District Surgeon is at present, with patients many scores of miles away, he feels powerless to check the spread of contagious diseases, or better the working of the Contagious Diseases Act. Even pauper cases of Syphilis in the locations attached to this village are hard to deal with, as little or no check can be brought to bear on outpatients. A visit to one of the Upington locations recently revealed the fact that one-fourth (five out of twenty) of the occupants of the huts had Syphilis in some form or other. What is to prevent the spread of the disease from Coloured to White, by simple contact, in people of their nomadic habits?

In view of the fact of the projected railway extension from De Aar in this direction, one cannot but think that this will lead to a great increase in the fixed population of the district, and consequent increase in the danger of a spread of contagious diseases; the time is, therefore, now ripe for immediate steps to be taken in the direction indicated.

Very little vaccination has been done during the year in the village, except at the Gaol, and none at all in the district, owing to the unsettled state of the country and some difficulties in postal arrangements. The few operations carried out in the village and at Keidebees were not successful, and the subjects had all to be re-vaccinated. The lymph used was No. 3,159 (19/7/02), Graham's Town.

As it has been suggested that lay vaccinators be appointed to carry out the operations in the back-country, I would point out that, judging by the poor results obtained in the first vaccinations alluded to above, carried out with all due precautions by myself, unskilled hands will produce no results at all, and the act of vaccination will fall into disrepute in the country districts, a contretemps to be avoided, if possible, where compulsory vaccination is non-existent.

(a) The source, transit and condition of our water-supply remain the same as when I wrote my reports for 1900 and 1901.

(b) No system of sewerage and drainage obtains in this township, and as much refuse and filth has been, and still is, deposited round the houses in the village; it only requires a good rainfall to carry a large quantity of bacilli-bearing rubbish into the water-furrow.

(c) This could be avoided to a great extent by the Municipality enforcing a rule to the effect that all household and other refuse be stored in zinc-lined boxes placed in the back-yards of houses, the said boxes to be emptied once a week into carts paid for, and sent round, by their authority.

(d) Most of the smaller dwellings in the village, and all those comprising the village of Keidebees, are overcrowded, and therefore unfit for human habitation. Although I am sure this leads to a great deal of immorality and diseases such as Diphtheria, Sore Throat, etc., are certainly fostered by overcrowding, yet it is difficult to say how this state of things can be obviated.

(e) There is one butchery and one bakery in the township, both of which are kept thoroughly clean, inside and outside; the slaughter poles attached to the former are situate half-a-mile from the village, and are kept in excellent order.

(f) Nil.

(g) There are no native locations in this district. The location attached to this township, as well as a smaller one at Keidebees, are kept in a disgusting state; large heaps of rubbish accumulate around the huts, and are never removed, or, if ever, then at very irregular intervals. The huts themselves are filthy to a degree. The water-closets erected, as I suggested in my report for 1900, by the Municipality for the convenience of the Coloured people, are still kept in a very dirty condition, and, to quote my report, are "liable at any time to become foci of disease."

If any serious epidemic of infectious disease occurs in Upiington, the condition of these locations will greatly hinder the stamping out of the outbreak.

(h) Public feeling is dead on the subject of erecting a wall round the cemetery.

(i) The Police have been very successful in keeping down nuisances in general, and are of greater assistance now than formerly. Open drunkenness is decreasing markedly.

(k) There have been no epidemics of infectious disease during the year, probably owing to an almost unprecedented lack of rain; a few cases of Typhoid and Diphtheria have come under treatment; one of the former disease died.

28. GRAAFF-REINET.

(i) GRAAFF-REINET.

DR. H. C. HUDSON, DISTRICT SURGEON.

Having been absent on leave I am unable to give as full a report as I should like this year.

(a) The condition of our water-supply is still in the same deplorable state, and there seems to be no probability of pipes being laid down in the near future. It seems criminal—when one considers our terrible death-rate—that for the last twenty years a pure supply of water should, after having been brought over two miles, in cement pipes, to the entrance of the town, be allowed to run into open furrows for distribution to the houses. Pollution occurs in many ways, *e.g.*, animals can drink at the furrows; dogs bathe in the water; people have been seen to wash their faces in the stream; the dust, etc., off the stoeps is in many cases swept into the furrows.

(b) Nil.

(c) I understand that the Municipality is gradually introducing the pail system for the removal of night soil, and that no new cesspits are allowed to be made.

(d) Overcrowded Dwellings.—The hire-rooms are with few exceptions overcrowded, and numbers of them are unfit for human habitation owing to want of ventilation.

(e) There is not sufficient supervision of slaughter-houses, bakeries, and dairies.

(f) The keeping of cattle, swine, etc., in the town is still a source of offence and a danger to the health of the community.

(g) The enormous death-rate amongst coloured children is due to the bad sanitation and water-supply in the Location. There is no system for the removal of night-soil, matters being carried on in a primitive fashion. The Town Council is building blocks of rooms which are a great advance on the shanties hitherto used by the coloured people.

(k) Cases of Enteric and Remittent Fevers and Dysenteric Diarrhoea have not been so numerous nor so severe as in other years. Scarlet Fever, Measles, and Whooping Cough were also of a mild type.

There was an epidemic of Amaas or Small-pox, the majority of cases occurring amongst the coloured people, and a very small percentage in poor whites. The disease was of a very mild type, no healthy adult dying of the disease. The cases were attended by the local Medical Officer of Health, at the Lazaretto, who has reported on the outbreak.

Vaccination was carried on extensively in the town and district, about 9,000 person being vaccinated in all. The lymph was uniformly good, and the results satisfactory. The coloured people in the district were vaccinated by the Special Police.

The following observation is made by the Resident Magistrate:—

With regard to vaccination, it has been performed gratuitously during the past year by the District Surgeon, assisted by the Police, in Graaff-Reinet, and by the Additional District Surgeon at New Bethesda. In the country the Police vaccinated 3,800 persons, mostly coloured. No expenditure was incurred in the latter service, as advantage was taken of the disbandment of the Special Police, who received a month's pay in lieu of notice, to utilise their services for the month on vaccination.

The lymph supplied was very fresh, and came from the Bacteriological Institute, Graham's Town. No record was kept of the number and names of the persons vaccinated with lymph from each calf, so that I am unable to supply this information.

As the people vaccinated never return, it is impossible to say with certainty what measure of success has attended the operation; but from enquiries I have made I have no doubt that a very large number of the cases have been successful.

To the 30th April, 1903, when the outbreak ceased, the Local Authority had incurred an expenditure of £931 12s. 4d., of which a refund of four-fifths will have to be made.

(ii) SUB-DISTRICT OF NEW BETHESDA.

DR. P. A. HOOLE, ADDITIONAL DISTRICT SURGEON.

Gaoler and Family.—Two of the Gaoler's children suffered from Whooping Cough, of whom one died (infant); otherwise the health of Gaol officials has been satisfactory.

The Whooping Cough did not spread.

Prisoners.—There have been but few, and their health has been uniformly good.

Village and vicinity.—The general health of this village has been good—only one case of Enteric Fever, with recovery.

At the request of the Municipality I made a thorough inspection of the Location, and found everything satisfactory, except in very minor details, and not one case of sickness.

On one farm in this vicinity I found cases of "Amaas," but prompt measures being taken, it was prevented from spreading.

Vaccination and re-vaccination has been performed on nearly all the inhabitants of this village, with remarkably good results.

Our water-supply I consider the purest and most abundant in this district, which, I think, goes far to account for the small amount of sickness prevailing.

29. HANOVER.

DR. JAMES WILSON, DISTRICT SURGEON.

(a) The township of Hanover is especially fortunate as Karoë villages go, in the matter of water-supply. The spring supplying the village is about half a mile away, and the water, though rather hard, is at its source good and plentiful. It is conducted to the upper end of the village in a covered furrow, at the outlet of which, in my opinion, pollution commences. The water rushes from the covered furrow into a small basin, in which buckets are dipped for the drinking water-supply of the village. Unfortunately, buckets are not always clean, and the wash of one may easily be carried off for the consumption of the next bucket-owner, and trouble may ensue. To overcome this danger, I suggested to the Mayor and several leading people in the town the plan of having the drinking-water conducted in pipes from the spring or covered furrow, to taps throughout the village. The objection to this scheme is that every individual erf-holder's sanction must be first obtained, and at present steps are being taken to attain this, with fairly good prospects of ultimate success.

The plan is hoped to commend itself to even the most conservative, from the fact that it will keep the coloured people more confined to the Location, and that the chances of pollution would be lessened when the distance the water has to be conveyed is shortened.

(b) There is no system of sewerage in the village. The surface drainage is defective in parts, but as the village lies on a gentle slope, this difficulty generally solves itself.

(c) The bucket system is employed for night-soil, and steps are being taken by the Municipality to enforce more stringent rules. It is hoped that we may be able to have every bucket emptied once a week. The night-soil is now taken to a place over a mile below the village. Some few householders have their slop-water taken daily out of the village, but we trust some general reform may be carried out also in this respect. Household and other refuse is carted well off the village twice a week. Each householder has a box which a Municipal cart, hired by contract, has to empty.

(d) Only a few cases of overcrowding exist among the white population, and this evil has decreased among the coloured people to a very great extent since Martial Law came to an end.

(e) The slaughtering is conducted outside the village. The butcheries and bakeries are fairly satisfactory. Milk is retailed privately.

(f) Each erf-holder has the right to kraal a fixed number of cows in the village. Goats and swine are not allowed.

(g) The natives' quarter is on the whole well-kept. The Location proper is under the supervision of one of the Municipal Councillors, and its general cleanliness does him credit. Any system of sanitation as regards refuse generally is not attempted there.

(h) Both the cemeteries for white and coloured people are well out of town. A small disused cemetery is inside the village, but it gives no trouble.

(i) The tendency among the more enlightened members of the community is towards improvement, but the methods to attain this are always, and perhaps necessarily, slow.

(k) A few cases of Typhoid occurred during the year, but no general outbreak. Scarlet Fever was also in the district. Owing to the rumours of Small-pox at various places in the Colony, vaccination was practised very extensively in the town and district. I operated on over 2,000 cases during the year, and in many cases, especially in the district, the subjects were unvaccinated adults. I was supplied with very good lymph from the Bacteriological Institute at Graham's Town.

30. HAY.

DR. A. C. BENNETT, DISTRICT SURGEON.

The general health of the District for the year has been far from good, Influenza, principally of a Gastro-Enteric type, being very prevalent. No cases of Small-pox were reported during the year, and public vaccination has been absolutely at a stand-still, owing no doubt in a great measure to the disturbed state of the country. Malarial diseases, fortunately of a mild type, are endemic here. Nine cases were treated under "The Contagious Diseases Prevention Act," and one case of Leprosy—Anæsthetic.

Fifty-seven paupers were on the roll during the year, viz., thirty Europeans and twenty-seven Natives. Some of these were "Special Paupers," who were temporarily destitute owing to the war, and received rations by order of the Magistrate, they having elected to pay when in a position to do so.

With these exceptions, the majority were placed on the roll owing to "old age and general infirmity."

The water-supply of the town has considerably fallen off during the year, the "lower fountain" having become absolutely dry, and the "upper fountain" much weaker. The supply, however, from the private wells, while being quite sufficient for domestic purposes, leaves nothing for irrigation.

The supply from the "upper fountain" is undoubtedly pure at its source, but being conveyed to the town in open furrows and channels, it reaches the different points of delivery in a very impure state, more especially as regards the lower portion of the town, and therefore needless to say, totally unfit for use from a domestic point of view. The remedy is simple enough. Enclose the fountain and convey the water in suitable piping to three or four different points of delivery convenient to the public. This would not cost very much, and would undoubtedly be a great boon to the inhabitants, especially to those living at the lower end of the township.

As regards the wells, every one of them are surface wells. All that can be recommended is that they be cleaned out regularly, and that all sources of contamination be carefully guarded against. But, even with these precautions, a pure supply of water from such a description of well can scarcely ever be expected, especially as numbers of cesspits still exist.

The sanitary arrangements of the town leave much to be desired. Night-soil and general refuse is either buried a few feet under the surface in gardens at the back of the dwelling-houses, or carried a short distance into the veld and there deposited.

- (a) Pollution of water already referred to.
- (b) Sewerage and drainage are unknown quantities.
- (c) As stated above, night-soil is either buried in private gardens or deposited in the veld, on the outskirts of the town.
- (d) Overcrowding undoubtedly exists, the erection of suitable buildings not having kept pace with the increase of population.
- (e) Slaughtering is to a very great extent carried on within the limits of the town. Many of the inhabitants slaughter their own stock, and the slaughter poles of some are within a stone's throw of dwelling-houses. Home baking is largely carried on. There are no dairies "under the Act." but many farmers make butter and bring it into the town for sale.
- (f) A few of the inhabitants have stables for their horses, but stock generally are kraaled in bush enclosures on the outskirts of the town.
- (g) The general cleanliness and sanitation of the Native Location was fairly good, and showed a marked improvement on previous years.
- (h) The new cemetery, which is situated at the south end of the town, consists of a piece of vlei ground, a portion of which is enclosed with a good substantial wall, and a portion recently added, with a barbed-wire fence. Position and site are as good as can be procured at a suitable distance from the town. The soil is sandy on the surface, with a chalky subsoil lying on a bedrock of ordinary limestone. Being in a hollow, its drainage can scarcely be said to be satisfactory. It is vested in a Board of Trustees, approved by the Government, and was opened in 1892. The regulations in force as regards the granting of authority for, and the manner of carrying out burials, are as follows: Notice must be given to the Superintendent or Secretary of an interment as early as possible, and not later than six o'clock of the day immediately preceding the day fixed for such interment. Such notice shall be given by filling in and subscribing a form to be obtained at the office of the Superintendent or Secretary, stating name, age, residence, trade or occupation, if any, of the deceased, and date of death, as also the day and hour fixed for interment. No grave shall be less than six feet in depth, and no coffin shall be nearer the surface of the

ground than four feet, and no grave in which a coffin has been laid shall be allowed to be opened within ten years of the last interment therein, without the especial authority of the Board of Trustees. No more than two full-sized coffins shall be allowed to be placed in one grave, unless at the first opening the grave shall have been made at a depth of eight feet. Nor shall any coffin be permitted to be removed from any grave with a view of making room for another interment without the consent of the Trustees." (*Vide* "Government Gazette," of May 6th, 1892.) I have no fault to find with the Cemetery except, perhaps, under the head of drainage. The old graveyard at the north end of the town, which has been closed since 1892, is in a sad state of disrepair; the wire fence exists no longer, it having been removed, I believe, by the Military, during the war, for purposes of defence.

(i) Abatement of Nuisances generally.—Much has been done during the twelve months, but much is still to be desired in this direction.

(k) Influenza, as before remarked, has been prevalent throughout the year. During the first six months Catarrhal Ophthalmia was also very prevalent. In the month of August one case of Anthrax came under observation. During the months of September and October Chicken-pox, followed by Ecthymatous-looking sores of a very indolent character was epidemic, and in November and December cases of Lichen Thropicus were very numerous.

No cases of Typhoid Fever, Small-pox, or Diphtheria came under my notice during the twelve months, but five deaths due to "White Sore Throat" have been registered.

As regards the town, I have no reason to believe that the state of war affected the public health to any noticeable extent; but as far as the district generally was concerned, can say nothing, as we were closely invested; but understand that "White Sore Throat" and Catarrhal Ophthalmia were very prevalent.

Area of District, 6,526 square miles; Population, 3,526 Europeans, 4,974 Natives.

	European.	Coloured.
Number of Births	72	27
Do. Still-births	—	—
Do. Deaths	41	42
Do. Deaths under one year ...	11	21

Main causes of death: Influenza, 17; Convulsions, 12; Croup, 11; "White Sore Throat," 5; Inflammation of Stomach, 4.

31. HERBERT.

DR. GEORGE O'TOOLE, DISTRICT SURGEON.

The general health of the district has been very good. There was no outbreak of infectious disease.

In the Concentration Camp during the first half of the year there was a good deal of sickness, especially amongst the children, due to living in tents, want of milk, and general hardships of war-time. There were, however, no deaths in the camp.

The Contagious Diseases Hospital is in a very bad state of repair, and is scarcely fit for habitation. The roof is broken, and looks as if a storm would blow it off. The walls are cracked; and the floor is composed of soft incohesive sand that blows about the room when the door is opened.

Altogether the building should be condemned and another built.

The Hospital would require more rooms (there are only two), as it is not right that lepers should be placed with syphilitics.

(a) There has been a well sunk on the market square which produces plenty of pure clear water. The well is worked by a pump, and is well covered in.

(b), (c), (d), (e), (f), (g), (h) and (i) Same as last year.

(k) There has been no outbreak of infectious disease during the year.

With regard to the vaccination carried on in the district during the year, it is impossible for me to say what success I had, as when I travelled to vaccinate at outlying centres I did not make a second journey to examine the results.

From what I have observed, the lymph was generally good. The lymph was always got from Graham's Town.

32. HERSCHEL.

DR. THOS. D. McLAREN, DISTRICT SURGEON.

My appointment to this District Surgeoncy dates only from 18th December, 1902, and for five months previous to that the post was vacant. I have therefore drawn up a report in accordance with the instructions, as far as I was able to gather the information.

(a) The town of Herschel is dependent entirely for the supply of drinking water on a single spring, situated in the bed of a spruit liable to be flooded occasionally, and quite open to pollution by Natives, as the foot-path leads close past it. I am of opinion that good drinking-water can be obtained in quantity by sinking wells in the neighbourhood of the outcrop of ironstone close by.

(b) Owing to the scattered nature of the houses in the district, no system seems called for other than that of the earth-closet, which at present obtains. I strongly recommend the closing of any cesspits still remaining in the town.

(c) From the earth-closets this is removed by hand labour, and buried on the veld, where there is no chance of contaminating the water-supply.

(d) and (e) Nil.

(f) Nothing injurious to public health.

(g) The Native Locations are under excellent management of Inspectors.

(h) There is no public cemetery.

(i) Nil.

(k) Small-pox.—With regard to the five outbreaks, these have been caused by the entrance into the district of infected persons. The first three outbreaks, in December, at Mloyi's, Hermanus's, and Skit's Locations, were caused by a woman who came from the Orange River Colony, and travelled through these Locations, giving rise to seven, seven, and two cases respectively. The fourth and fifth outbreaks were due to the arrival of two infected persons from Barkly East and Basutoland respectively.

I may state that every necessary precaution for the prevention and arrest of such outbreaks has been taken by the Local Authority, in this case the Inspector of Native Locations, acting under the direction of the Resident Magistrate. The promptitude and efficiency of these measures has prevented any case arising in the district from the spread of the disease from the original cases.

That Basutoland is likely to be the cause of repeated outbreaks I have good occasion to believe, as at the time of writing this report (May 6th, 1903), the tenth outbreak of Small-pox introduced from Basutoland in five months is now in progress.

With regard to vaccination, I have to report that the late District Surgeon (who left in July, 1902), made an extended tour in the Eastern part of the district shortly before his departure. At the same time I found many of the contacts in the Locations where outbreaks have recently occurred to show no marks of successful vaccination, and many of them appear never to have undergone the operation at all. The Inspector of Native Locations informs me that a large proportion of the population are still unvaccinated.

In regard to vaccine, I have used lymph from calves Nos. 3244 and 3245 only, obtained from the Bacteriological Institute, Graham's Town; and have found it moderately successful.

Typhoid and Diphtheria.—Nil.

Leprosy.—The number of names on the leper register for 1901 was fifty-seven; for 1902, this number has increased to eighty-seven. Thirty-five out of these eighty-seven are certified lepers, and warrants for their removal to Emjanyana have been issued over four years ago. The increase on the register from forty-seven to eighty-seven in one year points conclusively to the incomplete registration in previous years. I have good reason to believe that the number of lepers living in the district is even greater than the present number registered, and I desire to impress most strongly the desirability of clearing the district of this disease. While the natural aversion to banishment would lead the leper to conceal his condition if he recognised it, the unobtrusive way in which the disease commences renders its detection at an early stage improbable, except by a medical man. I should like therefore to receive instructions definitely to make a search for lepers in those vicinities where cases have already occurred, or are at present residing, with a view to the certification and registration of every case, and in the hope that by their removal the disease would in all probability be completely eradicated in the next few years.

Syphilis.—I have seen only two cases of this disease during the year, both instances of advanced tertiary ulceration.

33. HOPE TOWN.

(i) HOPE TOWN.

DR. J. J. O'REILLY, DISTRICT SURGEON.

(a) The water-supply is very good, and is obtained from fountains. It cannot be polluted, as it is caught as it comes through pipes from the fountain head.

(b) Nil.

(c) Night-soil is removed by buckets twice weekly. This system was introduced about twelve months ago, and has proved a great success.

(d) There are no overcrowded dwellings, or dwellings unfit for habitation.

(e) Cattle are slaughtered outside the town. Hence no unpleasant smells, etc., arise.

I know nothing of the butcheries, bakeries, and dairies, etc., there being no one appointed as Medical Officer of Health to this town.

(f) No swine are allowed to be kept in town, and only a few cows are kept during the winter months.

(g) I know nothing about the Locations, as no one is detailed to look after them.

(h) Clean and well-kept.

(i) Dead horses and cattle are removed by the Municipality well out of reach of town.

(k) Small-pox broke out at Orange River Station on 3rd September, 1902.

These people came from De Aar on the 17th of August, and a child died at Orange River Station. They were at once isolated and vaccinated by the Military.

The disease did not break out until December 3rd.

There were twelve people in camp, seven of whom developed Small-pox. None of these had been successfully vaccinated before.

Of the five that remained free, three had Small-pox before; the other two had been recently vaccinated at De Aar.

The above were all Natives. I tried to vaccinate these people afterwards, with lymph with which I had been most successful with, but not a single one took.

One child died from the disease in the camp.

No cases of Diphtheria or Typhoid Fever came under my notice.

The Small-pox was under the control of the Divisional Council. They let me have everything that was required.

The lymph supplied from Graham's Town was most successful.

Out of some 963 Natives vaccinated, some 34 were unsuccessful.

My bill for attendance on Small-pox cases from September 3rd till November 3rd, at Orange River Station, was £101 5s.

The general health of the district has been good. Measles were very prevalent during the months of September, October, and November.

Two cases of Amaas occurred here in October. The first case came from De Aar some ten days previously. It lasted from 24th October till 15th November, 1902. One case was in the isolation camp. The disease did not spread, as every Native had been vaccinated a short time before by me.

This outbreak was under the control of the Municipality. They did everything that was required by me. My charges were £15 15s., at the rate of £1 1s. per diem for each visit.

I consider that the Municipality should have a Medical Officer of Health. They always want the District Surgeon to do odd jobs for them.

(ii) SUB-DISTRICT OF STRYDENBURG.

DR. JOHN MUIR, ADDITIONAL DISTRICT SURGEON.

During the past year the health of the village and district has been good. Cases of Typhoid have been few, when compared with previous years. This improvement is, however, probably accidental, and due more to the absence of rain than to any alteration in the sanitary arrangements existing here. One cannot see that the recommendations of the District Surgeon are acted upon by those in authority.

(a) The water-supply is in all respects unsatisfactory. It is pumped from shallow wells by windmills, is brack and often unpleasant to the taste, due to the presence of magnesium and calcium salts. New-comers, unaccustomed to the water, often have colic or temporary diarrhoea. The quantity varies much, and depends on the rainfall and the quantity of water in the pan. During the past summer the supply has been scanty, so that the greatest economy was necessary. Trees have died, gardens have dried up, and even the daily bath was a difficulty. There are thirty windmills in

Strydenburg, all working within a very limited area, so that it is not surprising that many of the wells here dry up completely during the summer months.

The other source of our drinking water is rain, which is collected in tanks. Very little rain has fallen during the last year.

Owing to the want of a proper sanitary system the well water is liable to pollution.

A good supply of water could in all probability be obtained by boring at the higher or west end of the village, the water so got being led in pipes to such points as might be found convenient. This matter has been informally discussed by the leading inhabitants for some time past, which may yet lead to something being done. Provision could also be made for the collection of rain water in dams, as suggested in a previous report.

(b) No system of sewerage and drainage is possible here. When rain falls such refuse as has not been removed outside the town is washed into the sluits and the neighbouring pan.

(c) The night soil is removed twice weekly by a Sanitary Contractor to a point a mile outside the village, where it is deposited on the veld. It is not buried. Household and other refuse is as far as possible removed at the same time. No proper bucket or earth system is in existence, much being left to the taste of the individual. As far as I know there is only one earth-closet here. Slop-water is thrown usually into the yards or streets.

(d) There are no overcrowded dwellings and no houses unfit for human habitation.

(e) There are two slaughter-houses, both outside the town, two butcheries, and two bakeries, all conducted in a satisfactory manner. There are no dairies.

(f) There is nothing to report under this head.

(g) There is a small Native Location outside the village, under the control of the Village Board. The houses are made of sacking and paraffine oil cans. None are properly built. A number of Natives live in the village, having bought erven in the early days. No erven can, however, now be bought by Natives.

(h) The cemeteries are under the control of the Dutch Reformed Church. They are managed satisfactorily.

(i) Much could be done to render Strydenburg a more pleasant and healthy place to live in. A better water-supply could easily be got, and more trees and gardens would follow. There is no reason why a comprehensive and thorough system of sanitation should not be introduced, the use of proper buckets and the earth system being made compulsory. Aboriginal natives should also, as far as possible, be removed to a special location. It would, however, entail considerable expense to buy them out.

(k) From the Register of Births I find forty-one of the former and twelve of the latter. The causes of death were according to the Register:—

Convulsions, 3; Influenza, 1; Dropsy, 1; Inflammation of the Stomach, 3; Pneumonia, 1; Puerperal Fever, 1; Apoplexy, 1; Phthisis, 1.

During part of the year there was no doctor here, and the above diagnoses were mostly made by the people themselves.

There were, as far as I know, no cases of Diphtheria or Small-pox in Strydenburg, and very few cases of Typhoid.

34. HUMANSDORP.

DR. JOHN J. COULTON, DISTRICT SURGEON.

(a) The water-supply for the village of Humansdorp is a good, strong and never failing spring situated about four miles from and about 150 feet above the village; this is led through an open furrow across the commonage into the village, and then in open furrows along the streets. There is little chance of its being polluted on its way across the common, and the sluits in the village itself are kept as clean as possible. I do not think any improvement could be made without a much greater expense being incurred than the village could bear.

(b) Sewage and drainage none. Waste water is generally thrown on the land behind the houses, which in most instances is used as garden ground.

(c) At the beginning of the year a good pail system was established by the Municipality; this has worked well so far, and is a great improvement on the old state of things. The excreta is buried about one mile from the town on the common.

(d) None. Some few of the houses are old, but none are unfit for habitation.

(e) No slaughtering is allowed in the village. All the meat sold is either killed on outside farms or at a slaughter-house on the common, which is kept reasonably clean.

Bakeries are kept clean and in good order. No dairies.

(f) No more than six head of cattle are allowed to be kept on any one erf in the village, and wherever this number has proved a nuisance the Municipality has compelled its abatement. But few pigs are kept in the village.

(g) A new location was laid out last year. The houses are well built and in a regular row, with a fair-sized garden to each. There are a few straw huts, but these are only allowed temporarily till the owners have time to build houses. The farm Kruisfontein, belonging to the London Missionary Society, however, adjoins the village on the west side, the boundary being only some 300 yards from the houses of the village. On this farm there are a large number of natives, the bulk of whom are well and respectably lodged, the houses having large gardens attached to them. But there is no authority of any sort over the place, and since the Municipality cleared their old location away there has been a great increase in disreputable huts, many of the "Hartebeest" kind (just a straw roof on the ground without any walls), not so much in the so-called "village" as on the outskirts of the farm. This place should be under some authority, either as a location or as a village, as all of the Humansdorp washing is done there, and a great part of our domestic and other servants live there, many going home every night.

(h) The cemetery is well kept, and is situated as to render it impossible that it should ever become a nuisance to the present town.

(i) The Municipality look well after this, and take prompt action where one is brought to their notice.

(k) Typhoid Fever.—As in last year, Hankey is again the only offender. One death of a native was certified by a medical man as occurring

there, and one European female was moved to her home in the country from Hankey suffering from Typhoid. Her brother also contracted it from her. They both recovered.

Diphtheria.—In the early part of the year there was a small outbreak in Gamtoos River Ward. I saw eight cases in two houses; three in one house certainly Diphtheria, five in the other doubtful cases; all Europeans. There was also said to have been one death in a house near the others (European) from it; but the patient was not seen by a medical man. One coloured death is also registered as due to Diphtheria; of this case I know nothing. At the same time there were five cases in a house (Europeans) in Hankey Ward, with one death certified by a medical man. No connection between the two outbreaks could be traced.

Small-pox.—On December 10th the Chairman of Hankey Village Management Board notified that there was a suspicious case in that village in the person of a native man brought from Wittklip, where he had been working on the Government Railway in a construction gang, and who was supposed to have Measles. On examination he proved to have a severe attack of confluent Small-pox. He was in a house in Centerton, one of the five separate villages which together form the villages of Hankey, and consisting of some twenty or twenty-five houses or huts situated about one mile from the other villages. There were three adults and eight children in the house besides the patient, all of whom showed good vaccination marks. The house with all its inhabitants were at once placed under strict quarantine, the house being about 100 yards distant from any other, and all the inhabitants re-vaccinated, and to the end of the year there was no further case. There was also a house to house inspection made in Centerton, and every man, woman and child vaccinated in that village, also about 300 others in the other villages of Hankey. Graham's Town Lymph from calves 3141, 3237 and 3243 was used, and the results were very satisfactory, all the lymph proving good.

As the man was still in quarantine at the end of the year, no account of the expense incurred can be given in this report. I can only say that the Village Management Board have done everything possible to combat the spread of the disease, and worked loyally with me in every way.

I append a classified statement of the causes of death in the District, but as less than 10 per cent. are certified by a medical man it can only be considered approximately correct. The only thing calling for remark is that in Hankey out of a total number of deaths of fifty-six, twenty-seven are of infants under eighteen months, twenty-five of whom died of "Convulsions" or "Teething," whilst twenty of the other deaths were due to Consumption or other diseases of the chest, leaving only eleven deaths from all other causes.

There can be little doubt that the same state of morality in Hankey which causes twenty out of a total of sixty-seven Births to be illegitimate also accounts for the fact that whilst 48 per cent. of the Deaths in Hankey are infants, only 33 per cent. of deaths of coloured people in the whole of the rest of the district are infants. Or to put it another way, the percentage of Infant Deaths to Births in Hankey is 48 per cent.; in the whole of the rest of the District it is only 17 per cent., or just one-third of the Hankey rate.

DEATHS.

				District.		Humans- dorp.		Hankey.		Kruis- fontein.		Clarkson.	
				E.	C.	E.	C.	E.	C.	E.	C.	E.	C.
Croup	...	...	...	2	1	...	...	...	1	...	...	...	...
Consumption	...	...	...	7	33	1	2	...	15	...	9	...	11
Disease of Lungs	...	...	...	8	14	...	4	...	5	...	...	...	1
" " Bowels	...	...	...	2	8	1	...	...	...	...	4	...	2
" " Heart	...	...	...	5	...	...	...	...	1	...	...	...	...
" " Brain and Nerves	...	...	...	1	1	...	...	...	...	...	1	...	2
Teething and Convulsions	...	...	...	11	37	...	1	...	25	...	6	...	1
Rheumatism	...	...	...	1	1	...	...	...	1	...	...	...	...
Cancer	...	...	...	2	2	1	...	...	...	...	...	...	...
Accidental	...	...	...	1	3	...	...	...	...	...	...	...	1
Snake Bite	...	...	...	...	2	...	...	...	...	...	...	...	...
Child Birth	...	...	...	1	1	...	...	...	1	...	1	...	...
Disease of Kidneys	...	...	...	...	2	...	...	...	...	...	...	...	...
Diphtheria	...	...	...	1	1	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	1	...	...	1	1	...	...	...	...
Old Age	...	...	...	3	1	1	...	...	2	...	1	...	2
Other causes	...	...	...	3	...	...	...	...	...	...	...	...	2
Totals	...	...	...	48	108	4	7	1	52	...	22	...	22
BIRTHS.													
Legitimate	...	...	...	150	199	15	13	4	47	...	28	...	8
Illegitimate	...	...	...	1	48	...	4	...	20	...	2	...	1

35. JANSENVILLE.

DR. P. J. HENDERSON, DISTRICT SURGEON.

(a) The water-supply is carried out as before by well-water pumped along the main street and tapped at several points, and by rain water caught in tanks from the roofs of the houses. The well-water is of little use for washing purposes, and if used for drinking purposes should be sterilised, as should the rain water, which is liable to pollution from dust, birds, etc.; the addition of filtering is almost necessary. Pigeons in this dorp, if at large, should be done away with by the Council, as they sit more on the roofs of houses, are larger, more domesticated, and, therefore, more dangerous than other birds about.

One small windmill, such as one might find at any private house or farm, supplies the whole of this dorp, and consequently there is a general and natural cry for a more plentiful water-supply.

Sometimes certain taps are shut off and the windmill breaks down, and for want of spare fittings cannot be put right for some time.

The native locations have no water-supply laid on to them, and consequently they—the natives—are to be seen bathing sometimes and drinking at pools or scooped out holes in the bed of the river. The average idea here is that, if the native scoops out a hole the water comes into it from the next polluted one quite free from all contamination, and that though the

water stands there sometimes for months, and is used daily by natives and animals alike and for all purposes, he—the native—is imbibing an excellent and health giving *aqua pura*.

Such a system of water-supply as the natives here employ is one liable to pollution from sources above us, and to pollute districts below us.

(b) Nil.

(c) Carried out by the pail system, a cart visiting each house every Friday night. This is carried out very well as regards faeces and urine, but "the ordinary household and other refuse" is not so carefully attended to. It would be well if on hot nights the smell of the refuse cart could be kept down a bit. The site chosen for the reception of the weekly contents of the sanitary tubs is a good one as regards distance from the dorp and softness of soil, but is too near the bed of the Sunday River, and ought to be changed to avoid its contamination. The Council should instruct that the weekly deposit of refuse be covered with a layer of chloride of lime, and householders should be told that the faeces, urine, and sputa of infectious cases cannot be disinfected by merely adding some disinfectant fluid to the chamber utensil before emptying it, but should be allowed to stand at least one hour before being emptied into the household pail.

(d) There is overcrowding in the locations, and some of the houses are not above suspicion as regards cleanliness and smell, though on the whole they are not so bad here as in most places.

(e) Natives milking cows should be instructed to wash their hands before doing so, and not, as I have seen them do, dip their fingers every now and then into—that dirtiest of human food—the milk. The cows, bottles, corks, pails, as well as the water used in cleaning them, should be kept scrupulously clean. All milk should be sterilised, especially in hot weather and where infants are to be fed.

(f) Cattle, etc., are, I believe, kept in back-yards, which is not as it should be.

(g) and (h) Nil.

(i) The Contagious Disease Hospital is a sorry place, and situated where it is, I consider, a nuisance to the Location built round it.

(k) There have been a few cases here and there of Typhoid and Diphtheria, but, as far as I can learn, no real epidemic.

An outbreak of Small-pox started in this village in December, 1902, and rapidly spread in spite of the cases being isolated in a wood and canvas building about a mile from the dorp, vaccination of all natives who could be rounded up, and disinfection of infected houses.

The epidemic is still going on, though it is not so bad. There have been no deaths in the Isolation Hospital, and the half-dozen or so that have occurred have been due to complications or neglect. As far as I can learn all the cases that died were unvaccinated, and many of the patients who recovered were those who had been recently vaccinated by me or the District Surgeon before me.

The Municipal Council, considering their means, have done all in their power to put down the epidemic, but until lately I could not say the same honestly of the Divisional Council.

As regards vaccination I hold that it is dangerous, and of no use when done by unprofessional hands and when no inspection is carried out.

I have no real idea as to whether the lymph I used took well or not, because I was never allowed to inspect the cases I did; but from what I have been told the result was, as a rule, satisfactory.

Efficient vaccination no doubt, in my mind, lessens the severity of the attack, and in some measure the liability to take the disease.

There seems to be an impression about in some of the Divisional Council authorities that this disease is not Small-pox, that it is not fatal, that it is always amongst the blacks, and that, therefore, it is useless to spend money on the services of a medical man or vaccination.

I believe that here the disease existed long before it was discovered, and that it was first in the rural districts.

In my opinion, whenever an outbreak is reported a medical man should be sent out to vaccinate, treat and generally instruct the people how to cope with the disease; and again when the disease is reported to be abating he ought to visit the place, instruct as to disinfection and re-vaccinate all unsuccessful cases.

All the cases about here have been coloured people except two or three.

36. KENHARDT.

DR. A. F. MEIER, DISTRICT SURGEON.

The principal sanitary defect of the town is the want of good water for domestic purposes. The water-supply is conveyed by barrels and buckets from the wells, and is during the summer months wholly insufficient for local requirements. All the water sources of Kenhardt are polluted, and a constant danger to the health of the population, as there is no regular flush.

To remedy this sad state of affairs, I have recommended for the last eight years that water should be obtained from the adjacent mountains at the Cypher, about three-quarters of an hour distant from the village, through pipes under proper supervision; but I am well informed that the costs are beyond the means of the inhabitants.

The whole town is cleaned bi-weekly by order of the Village Management Board, and excrements as well as household and other refuse are disposed of one mile beyond the village. In the former case it is buried.

Typhoid Fever has been prevalent, the cause of which is undoubtedly due to contaminated water.

To remedy the sanitary defects the Village Management Board ordered all refuse to be buried or burnt, the premises to be kept clean, the houses to be provided with closets, prohibited bathing and washing above the village, and established slaughtering place one and a half miles beyond the village.

It has been strenuously advocated that the water should be boiled before using it.

An improvement was the removal of the Location from above to beyond the village, whereby the danger of polluting the drinking water is diminished.

A great offence to the public is the Contagious Diseases Hospital, situated on the hill above the village, allowing the inmates to come in contact with their friends.

During the year 1902 the following deaths occurred, taken from the Death Register:—

DISEASES.	European.	Coloured.	Total.
Croup and Bronchitis	3	5	8
Inflammation of bowels	5	10	15
Atrophia infant	...	2	2
Premature birth	...	2	2
Pneumonia	4	9	13
Dysentery	...	1	1
Cancer of the stomach	1	...	1
Dropsy	1	2	3
Ulcus pylori (anaemia pernicious)	2	...	2
Convulsions	...	6	6
Diphtheria	10	1	11
Heart disease	...	1	1
Noma	...	1	1
Diarrhoea	1	5	6
Marasmus	1	...	1
Typhoid fever	1	2	3
Gun-shot	...	1	1
Influenza	1	2	3
Broncho-pneumonia	1	...	1
Typho-malarial fever	1	...	1
Puerperal fever	...	1	1
Killed in battle	1	...	1
Asthma	1	...	1
Emphysema pulm.	...	1	1
Total	34	52	86

37. KIMBERLEY.

DR. WILLIAM W. STONEY, DISTRICT SURGEON.

Matters relating purely to sanitation and public health are under the supervision of the Medical Officer to the Board of Health for this District, who devotes the whole of his time to these matters, and reports upon them in an extensive Annual Report. I shall, therefore, mention these matters briefly, but shall deal more extensively with those subjects which come more particularly under the observation of the District Surgeon.

(a) The water-supply is drawn from the Vaal River, seventeen miles away; it passes through settling tanks at the River, and is then pumped to the storage reservoir on the rise south-west of the town; it passes through sand filters to the service reservoir and then on to the distributing pipes. I have before had occasion to point out that the service reservoir in which the water is stored after filtration should be covered; at present it is quite open. In addition to this supply some houses have wells and others have well-water supplied to them by water carts.

There has been a large increase in the number of Berkefeld and Pasteur—Chamberland filters used in public institutions and private houses during the last three or four years.

(b) There is only one sewer, about a mile long, which carries slop-water from a central intake to the outskirts of the town, receiving the waste water from the public wash-houses en route. A scheme for extending

this system by radiating tributaries from other parts of the town is under consideration. Household slop-water is at present removed to this central intake in slop-water carts by a contractor, but no small portion is distributed over back-yards and neighbouring streets.

(c) The removal of night-soil is by the pail system, which of necessity causes some fouling of the soil.

Household refuse is removed by carts to a central collecting station, thence by trucks, per rail, to a depositing site some few miles north of the town. There is no destructor.

(e) There is no public abattoir, but slaughtering is performed at several slaughter-houses on the outskirts of the town. A large cold storage erected by the De Beers Company has lessened the demand for, and supply of, freshly-killed meat.

(g) Within the last three years there has been a general centralisation of the Native Locations. There is now one on the outskirts, south of Beaconsfield, for the Natives of that township, but not a few still occupy rooms in the town; and another large one north-west of Kimberley, which is the only location for the town except a small one known as Location III., in the proximity of the Waterworks Reservoir, which should likewise be removed, a step I strongly advocate, especially considering as I have already mentioned the uncovered service reservoir. The general tendency is for the new portion of the location to be laid out on a more definite plan than the old one, and therefore kept more easily in a cleanly condition.

The Refugee Camp, which has added largely to the Infectious Diseases—and mortality—rates during the last two years, and which was placed in the proximity of our reservoir (a step I strongly condemned at the time of its formation) has almost disappeared.

The various military camps on the outskirts of the town and the 11th General Hospital are rapidly disappearing—being transferred to Modder River (still within this District), which site has been selected by the military authorities.

For almost two months there was a camp for untried rebels on the debris heaps in the vicinity of the Kimberley Mine. This I visited daily; it was abolished in August last.

(k) The following table gives the number of cases notified to the Medical Officer of Health during the year:—

	Europeans.	Coloured.	Total.
Enteric Fever—			
(a) Township ...	68	84	} 268
(b) Refugee Camp ...	116	...	
Diphtheria ...	15	5	20
Small-pox ...	...	1	1

The large number of cases of Enteric Fever in the Refugee Camp will be noticed. Excluding these the number of cases of this disease in 1902 compares very favourably with previous years, as the following table shows:—

Year.	European.	Coloured.	Total.
1898 (from February 19th) ...	67	49	116
1899 ...	112	60	172
1900 ...	552	164	716
1901 (excluding Refugee Camp)	84	87	171
1902 " " "	68	84	152

The number of cases of diphtheria also compared favourably with the previous years, since compulsory notification of infectious diseases was introduced.

Year.	Europeans.	Coloured.	Total.
1898	21	6	27
1899	34	17	52
1900	27	5	32
1901 (excluding Refugee Camp)	16	2	18
1902	15	5	20

The diminution in these Infectious Diseases points, I think, to a general improvement in the sanitary condition and other matters affecting the public health of the district.

Small-pox.—There was one case of Small-pox under the care of the Medical Officer of Health during the year. The case was in a native male, and admitted to the Lazaretto from Otto's Kopje.

Vaccination.—Vaccination has been fairly thoroughly carried out by me in this district during the year. Almost 6,500 vaccinations were performed during the year, and the greater number were done during the cool winter months.

The vaccine lymph was obtained from the Bacteriological Institute, Grahamstown. Of course, it is impossible to examine every person one vaccinates, especially in the country districts, but I adopt the principle of using about a dozen tubes of each specimen of lymph on persons whom I am able to observe on the eighth day, and I found that every specimen so tested was uniformly successful on previously unvaccinated cases. I made general inspections of the locations, and was exceedingly pleased with the results observed. In the few cases which were not successful, I invariably found fairly good marks of previous vaccination. When at Windsorton on July 8th I spent between two and three hours inspecting some 300 children whom I had vaccinated the week before. There were only twenty cases of failure, and in every one of these there were marks of previous vaccination.

Contagious Diseases.—The prevalence of Contagious Diseases amongst both European and the coloured races in this district is a matter for my serious consideration, as the following table shows:—

C.D. Wards—Kimberley Hospital.	Europeans.		Coloured.		Total.
	Males.	Females.	Males.	Females.	
Remaining under treatment, Dec. 31/01	2	...	28	6	36
Admitted 1902	27	2	251	75	355
Remaining under treatment, Dec. 31/02	6	...	32	10	49

It will be seen from this that the admission roll for 1902 averaged nearly thirty cases a month. Almost all these cases are certified by myself, after which the order for their admission to Hospital is given by the Magistrate. These cases are entirely civilian; but matters became so serious at the Military Hospital regarding these diseases, that the authorities had to take stringent measures. The prevalence of these diseases has become so serious that the advisability of putting Part I. of the Contagious Disease Act into force in this district should be considered, especially if

this measure has proved practically useful in diminishing the disease in other towns of the Colony where it has been enforced.

I was particularly struck when vaccinating by the large number of native children, especially in Beaconsfield, who showed marked signs of congenital Syphilis, which necessitated the most scrupulous care in sterilising the instrument used, between the inoculations. I would here add that the present accommodation in the Contagious Diseases Ward at the Hospital is altogether inadequate.

Lunacy.—There has been an unusually large number of lunatics certified in this district during the past year, as the following table shows:—

	Europeans.		Coloured.		Total.
	Males.	Females	Males.	Females.	
1902	13	5	20	15	53

In addition to the above, twelve persons were lodged in the Gaol for observation regarding their mental condition, but no evidence of insanity was found.

Of the above number of certified lunatics no less than fifty-three or 70 per cent. of the cases have been lodged in the Gaol for periods varying from a few days to between two and three months, and I would here point out, as I have done on more than one occasion during the year, that the Gaol is a most unsuitable place in which to place persons suffering from any mental disorder; there is neither proper accommodation nor adequate attendance provided, and when there is more than one case, as not infrequently happens, they cannot be isolated, and consequently irritate each other, and, what is most important of all, the general surroundings of a patient in Gaol are not such as to ensure mental calmness and quietude, which are most important, and especially in the early stages of an acute mental disorder, when recovery can be most hopefully expected, and not a few cases are of this nature. I therefore repeat that it is wrong administration to allow such cases to spend this period of their mental disease under the most disadvantageous surroundings of ordinary prison régime.

Leprosy.—During the year seven cases have been certified (all coloured, six males and one female). Of these three have not yet been removed, though certified several weeks ago. This delay in removal is a matter calling for attention and consideration. Some provision should be made for the isolation of these cases until the Governor's warrant for their removal arrives; the Gaol is not the place for these cases when awaiting removal, and I think this matter should be undertaken by the local health authorities with the assistance of the Government, as provided for in Colonial Office Circular, No. 34 of 1898.

38. KING WILLIAM'S TOWN.

(i) KING WILLIAM'S TOWN.

DR. HENRY M. CHUTE, DISTRICT SURGEON.

(a) The rainfall during the year has been 27.90 inches, which is the average. The number of days upon which rain fell was 93.

The water-supply of the town will be in a few months materially increased, as at the present time the scheme of laying pipes to the storage dam at Balussi is now in progress, and in a few months will be completed.

This will considerably increase the daily supply to the town, and obviate the need that now sometimes occurs of placing the town upon a limited service of a few hours daily, when, in times of drought, the head springs of the Buffalo become weak.

No steps have been taken to supply filter-beds, a much-needed want. The water at all times, as proved by analysis on several occasions, holds in solution a large quantity of the products of vegetable decay, and this will always be a factor in predisposing to attacks of Dysentery and Diarrhœa.

An examination of the Mortality Returns year by year demonstrates how many lives are sacrificed yearly to these complaints, particularly among children.

The figures for the year 1902 are:—

	Europeans.	Natives.
Typhoid or Enteric Fever	3	11
Diarrhœa	18	35
Dysentery	1	4
Enteritis	3	6
	—	—
	25	56
	—	—
Total		81

It would be of great advantage if the Native Locations of Tsolo and Ginsberg were supplied with tap-water from the service mains. The only present source of supply is from the river, or from an open furrow.

(b) It is with much pleasure that I am able to report on a steady progress having this year been made in the drainage scheme, whereby cement channels and stone drains are being laid in all the streets of the town. By these means storm water and washing and bath water are effectively dealt with.

Another sanitary scheme has been during the past year completed which will prove a great gain to the sanitation and health of the town. The Fleet Ditch, which was a large open sewer running through a portion of the town, and which for many years has been a nuisance and danger to the public health, has now been converted into a good concrete channelled drain constructed with proper fall, and conveys all drainage into the river. It is working admirably, there is no nuisance, and a great and ever present danger to the public has been abolished.

The cost has been great. Over £10,000 has been spent on this work.

It is still, in my opinion, necessary that a system of removal of urine and kitchen slops should be undertaken by the Council. The new drains with cement channels will deal with bath and washing water, but it is not safe that these drains should be considered a proper and efficient method of rendering these dangerous organic slops harmless. There is not at present a sufficient water-supply to ensure a daily free flushing, and a system of removal should be organised. The adoption by the Council of the principle of filtration of urine through dry pine-wood sawdust in the new pattern of urinal, which is gradually becoming extended, is found to work well, as it effectually renders the urine filtered through the sawdust free from all smell, and renders the need for daily removal unnecessary.

(c) The system of night-soil removal works admirably, and is, I think, as good as can be. I believe it to be the best method of the dry removal pail systems. There is no nuisance; the service is regular and sufficient.

The plantation of timber trees at the sanitary trenches, where the night-soil is deposited, continues to thrive. It is now an object of great

beauty to see this large and flourishing plantation of vigorous trees, numbering 25,000, and year by year growing and becoming what will soon prove a most valuable asset.

(d) The problem of how to deal with overcrowding is one of the most difficult that the sanitary authorities have to deal with. A very large number of natives and coloured people live in the town. By a careful house-to-house census, taken by the Sanitary Inspector, the number has been found to be about 700. And among this class of resident overcrowding does undoubtedly exist. It is very difficult to prove; the only way is by surprise night inspections and measurement of cubical space, when, if it is found to be less than 400 cubic feet per head, a prosecution can be obtained.

It would be better, I think, to prevent all coloured people sleeping in town, excepting only domestic servants and registered voters, and to compel all others to sleep in locations.

(e) No alteration or improvement has taken place in the condition of the slaughter-houses. Each butcher is allowed to have his own, which is a tin shed of the smallest dimensions necessary for his work. Some have badly paved floors, some only an earth floor; there is no water laid on, and what is used has to be hand-carried from the river. It is not difficult to realise that the amount of water used is the minimum quantity, and is inadequate for a proper degree of cleanliness.

Dogs and pigs are allowed to roam about, and Kafirs live and sleep upon the premises. No improvement or alteration can be hoped for while the present arrangements are allowed to continue.

These varying slaughtering places should be abolished, and one central abattoir erected with cement or tile floor. An unlimited supply of water for cleansing and flushing should be provided, and the abattoir should be under Municipal control.

(f) Many animals, horses and cows are kept in town, and, as a general rule, stables and cow-sheds are kept in a fairly satisfactory condition. The back-yards of butchers' premises need stricter inspection and control. There is little doubt that pigs, and sometimes sheep, are kept and on emergency slaughtered there. It is impossible under these circumstances for the standard of cleanliness to be satisfactory.

(g) There are three Locations under Municipal control; the oldest, Brownlee Location needs much reform. The huts and houses are overcrowded and too close together; the Location is not laid out in streets with open spaces, but the huts are built here and there irregularly. The difficulties of keeping the ground clean and free from rubbish are thereby much increased and in many respects sanitation is defective.

The new Location—an offshoot of Tsolo Location—which has been named Ginsberg Location, is a very great improvement. Thirty new huts have been built this year, making the number now eighty in all. They are eagerly sought for, and occupied as soon as completed. The huts are the property of the Council, and are leased at a monthly rental to occupants. They are built upon an authorised plan. The location being laid out in sections, with streets, and regular intervals between each hut, the space of ground allotted for each hut being 40 x 60 feet. Each hut is large and roomy, is fitted with doors and windows, and is of 17 feet interior diameter.

(h) There is one Cemetery, common to all classes, creeds, and colour. It is situated favourably, so that no drainage can affect river water, and is admirably managed by a Burial Board.

(i) The abatement of nuisances is dealt with by the frequent inspection of the town by a Sanitary Inspector, who is zealous and efficient. Prosecutions of flagrant breaches of the sanitary bye-laws are often undertaken.

(k) The total number of Infectious diseases notified during the year 1902 was ninety-one. They were :—

	Europeans. Coloured.	
Leprosy	0	1
Enteric Fever	42	9
Scarlet Fever	27	0
Diphtheria	2	0
Puerperal Fever	3	0
Small Pox	5	2
	79	12 Total 91

The outbreak of Small-pox occurred in the town Location of Brownlee Station. It was introduced from without. Vaccination was generally adopted, and the outbreak was soon under control.

Appended is a mortality table of causes of all deaths of both Europeans and Coloured. The mortality per 1,000 is :—

Europeans	15.33
Natives	50.32

A table is also appended of notification of infectious diseases, classified into monthly periods and race.

TABLE OF MORTALITY OF KING WILLIAM'S TOWN, JANUARY TO DECEMBER, 1902.

Including Europeans from Town and Hospital. Natives from Town, Hospital, Brownlee Station, Tsolo, Ginsberg, and Bidhli Locations, compiled from Registers of Deputy Registrar of Births and Deaths and Burial Board.

	EUROPEAN—TOWN AND HOSPITAL.											NATIVES. TOWN.—Brownlee Station: Tsolo and Bidhli Locations.				SUMMARY FOR 1902.		
	Numbers at Different Ages.											Numbers at Different Ages.						
	Infancy.	1 to 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	Over 70.	Total.	Infancy.	Childhood.	Adults.	Total.	Grand Total.		
CLASS I.—DISEASES DUE TO SPECIFIC ORGANISMS.																		
SUB-CLASS—Zymotic Diseases.																		
Measles				1						1				0	1			
Influenza							1			1	1	1	2	3				
Whooping Cough	2									2	4	4	8	10				
Diphtheria and Membranous Croup	4									4				0	4			
Typhoid or Enteric Fever	2	1								3	1	7	8	11				
Diarrhoea	13	1		1	1			1	1	18	12	4	1	17	33			
Dysentery										1	1	1	1	3	4			
Tuberculosis		1							1	2	1	4	5	7				
a Phthisis (Pulmonary Consumption)							1			1		11	11	12				
b Tubercular Meningitis										0				0				
c Tabes Mesenterica										0				0				
Leprosy										0		1	1	1				
Syphilis										0	1		1	1				
Pyæmia								1		1				0	1			
Tetanus										0	1		1	1				
CLASS II.—Dietetic Diseases and Chronic Poisons.											34			57	91			
CLASS III.—Constitutional Diseases.																		
Acute Rheumatism										1		1	1	2				
Cancer							2	1	1	4		2	2	6				
CLASS IV.—Developmental Defects and Degeneration.											4			3	7			
Premature Birth										0	2		2	2				
Congenital Debility	7									7	3		3	10				
Atresia Ani										0	1		1	1				
Old Age (Senile Decay)									3	3		1	1	4				
CLASS V.—LOCAL DISEASES.											10			7	17			
SUB-CLASS I.—Diseases of Nervous System.																		
Acute Inflammation of Brain or its Membranes	1		2						2	5	1		1	6				
Apoplexy									1	1			0	1				
Progressive Paralysis						1				1			0	1				
Convulsions	1									1	23		23	24				
Diseases of Circulatory System—											8			24	32			
Heart Disease					2	2	1			2	7	1	3	4	11			
Diseases of Respiratory System—											1			4	11			
Bronchitis	3							1		1	5	10	13	4	27	32		
Pneumonia	1			1	1		1		1	6	8		7	15	21			
Pleurisy										0		1	1	1				
Diseases of Alimentary Canal—											11			43	54			
Enteritis	1	1							1	3	2		1	3	6			
Colic								1		1				0	1			
Intestinal Stricture									1	1				0	1			
Peritonitis						1				1				0	1			
Diseases of Liver—											6			3	9			
Cirrhosis of Liver					2					2		2	2	4				
Diseases of Urinary System and Organs of Generation—											2			2	4			
Bright's Disease						1			1	2		1	1	3				
Ovarian Cyst									1	1			0	1				
Diseases of Parturition—											3			1	4			
Placenta Prævia						1				1				0	1			
Pelvic Cellulitis							1			1				0	1			
Diseases of Bones and Joints—											2			2	4			
Caries										0	1		1	1				
Violence—														1	1			
Fracture Skull					1					1				0	1			
Dislocation Neck										1				0	1			
Burns	1									1	2		2	3				
Drowning								1		1			1	1	2			
Suicide—											4			3	7			
Hanging										0		1	1	1				
Homicide—														1	1			
Murder										0		1	1	1				
Undefined—														1	1			
Dropsy										0			1	1				
Cause not recorded										0	1		1	1				
TOTAL	29	9	1	5	9	7	9	3	8	12	92	72	27	54	153	245		

During the Year—		
Burials in Public Cemetery	} 245	
In Cemeteries of Tsolo, Bidhli's and Ginsberg Locations		
Total	92	153
Of these—	Europeans.	Natives.
	92	153
At various ages, Europeans.	Natives.	
Infancy 1 & under 29	72	
1 to 5	9	27
5 to 10	1	
10 to 20	5	
20 to 30	9	
30 to 40	7	
40 to 50	9	54
50 to 60	3	
60 to 70	8	
Over 70	12	
	92	153
	245	
Causes of Death.		
Class I—Zymotic Diseases	34	57
Class II—Dietetic Diseases & Chronic Poisons	1	1
Class III—Constitutional Diseases	4	3
Class IV—Developmental Defects and Degeneration	10	7
Class V—Local Diseases—		
Diseases of—		
Nervous System	8	24
Circulatory System	7	4
Respiratory	11	43
Alimentary Canal	6	3
Liver	2	2
Urinary System and Organs of Generation	3	1
Parturition	2	0
Bones and Joints	0	1
Violence	4	3
Suicide	0	1
Homicide	0	1
Undefined	0	2
	92	153
POPULATION.		
European Returns by Census, April 5, 1891	4,870	
Estimate of Approximate Increase	1,130	6,000
Natives and Coloured—		
In Town	700	
In Brownlee, Reddel, Tsolo, Ginsberg and Bidhli's Locations	2,340	3,040
		9,040
DEATH RATE PER 1,000.		
	1902.	1901.
Europeans	15.33	24.36
Natives	50.32	70.84

**TABLE OF MORTALITY OF KING WILLIAM'S TOWN, JANUARY TO
DECEMBER, 1902—Continued.**

NO. OF DEATHS PER MONTH.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.		
Europeans	5	7	5	4	5	5	8	4	11	11	17	10	92	Total.
Natives	9	8	8	15	16	15	11	15	13	19	11	13	153	Total.
Total	14	15	13	19	21	20	19	19	24	30	28	23	245	Total.

**NOTIFICATIONS OF INFECTIOUS DISEASES, 1902, CLASSIFIED INTO
MONTHLY PERIODS AND RACE.**

DISEASE.	JAN.		FEB.		MAR.		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEP.		OCT.		NOV.		DEC.		TOTAL.	
	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.	White.	Coloured.
Leprosy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Enteric Fever	...	...	2	3	1	1	...	2	1	1	...	2	1	2	...	1	1	2	1	1	...	...	3	...	24	8
Scarlet Fever	...	...	...	...	...	1	...	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...
Scarlatina	...	...	...	...	...	1	...	...	...	...	...	...	1	...	5	...	6	...	4	...	2	...	...	...	19	...
Diphtheria	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Typhoid Fever	...	2	...	1	...	3	...	1	...	1	1	...	5	...	2	...	...	...	1	...	1	...	1	...	18	1
Puerperal Fever	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	3	...	
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	3	...	...	...	...	2	5	2
	4	2	5	1	6	0	4	1	6	1	2	1	9	0	9	1	17	1	9	1	3	...	5	3	79	12

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**METEOROLOGICAL OBSERVATIONS TAKEN BY DR. C. J. EGAN,
KING WILLIAM'S TOWN.**

Lat. 32° 52' S. Long. 27° 23' E. Height above Sea, 1,300 feet. Distance from Sea, 30 miles.

1902.	JAN.	FEB.	MAR.	APRIL	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.		
BAROMETER.														
Highest	28.95	29.00	29.00	29.00	29.07	29.13	29.15	29.20	29.25	29.27	28.99	28.94		
Lowest	28.44	28.57	28.47	28.59	28.45	28.47	28.62	28.37	28.37	28.48	28.47	28.60		
THERMOMETER.														
Maximum	103	10.8	105	93	92	87	84	90	92	98	105	101		
Minimum	50	51.5	51	41	40	35	33	32	34	34	42	50		
Mean	71	77	71.5	63.3	61.7	60	58.2	56.5	64.5	64.6	64.5	72.2		
Greatest Range	40	42	50	35	45	47	43	47.5	41	44	43	38		
Least Range	11	16.5	10	11	9.5	6	15	11	17	12	12	8		
Mean Range	27.5	28.8	29.3	27	36	27	35	24.5	26.7	29	29	25		
RAINFALL.														
Amount in inches	2.21	1.50	2.62	2.59	0.88	6.26	0.52	0.83	5.31	0.79	1.12	2.62	27.90	Total Rainfall.
Days of Rain	9	10	12	8	5	5	2	10	9	10	5	7	93	Days rain fell.

(ii) SUB-DISTRICT OF KEISKAMA HOEK.

DR. D. C. McARTHUR, ADDITIONAL DISTRICT SURGEON.

Having taken over my duties here as late as September, I cannot give a full report for the year, but a certain amount of information can be supplied under the various headings.

(a) The district as a whole is, of course, known to be exceptionally favoured by the number of rivers running through it, comprising as they do the sources of the Keiskama, and its tributaries, and though there has been a diminished rainfall during the latter part of the year, the supply remains adequate. The natural purity cannot be challenged, but with so many native locations, whose inmates are so much scattered in every valley, a high standard of pollution is more likely to be found and maintained. I would commend this fact to the attention of interested authorities, for these higher valleys, especially the Cata and Wolf Rivers, lend themselves admirably to the formation of reservoirs, such as many of the mountain valleys of England have now been turned into. Already towns like East London are casting about for a pure and constant water-supply. Is it therefore wise to leave these spots to accumulate pollution at the hands of a very small portion of the native population? Why not depopulate these higher valleys, and protect them similarly to the forests which surround them? The possession of pure water, and unlimited supply to the increasing population of towns, is surely as important to this country as is the conservation of forests. The village of Keiskama Hoek is supplied from a stream above the village, by an open furrow running in various sections through the place. As drinking-water, it need not be considered; it is open to any pollution. Cow-sheds exist near its banks, it runs in front of canteens and stores, and people wash clothes near its banks, using any receptacle that they may be washing in to dip the water with. It is under the protection of the Village Management Board, who, I believe, clean it once a year, levying a rate on the land-owners and householders for expenses of up-keep, etc. Of course a system of pipes would be the proper arrangement, but I presume the expense could not be borne initially by such a small community. The mission station of St. Matthews, about four miles from here, is supplied with water in a similar manner, and the same remarks as to pollution apply. I received a complaint as to washing by natives in the river, between the village and St. Matthews. I forwarded the complaint, but do not know what action has been taken.

(b) Nil.

(c) Cesspools are in use, and the cleansing is a matter of individual attention. Slop-water, household and other refuse, is deposited in gardens, or on the veld, as it suits people. At present the houses are not very adjacent, but should habitations at any time become more dense, with the small size of building lots, this cesspool system will become a grave nuisance, especially as many old ones will be brought to light.

(d) None have come to my notice.

(e) Slaughtering is done in the open, with no precautions as to cleanliness, and, of course, no proper water-supply. The butcheries and bakeries appear to be kept fairly clean.

(f) Cattle and horses roam at will. Pig styes, where kept, are a nuisance, and the smell from them very decided.

(g) There are nineteen native locations in this district, and no system is adopted in their arrangement, many of them cover large areas, by the scattering of the huts. The majority that I have visited are in good order, but their arrangement tends to pollution of large areas of soil and water. The location at Baru's Hill is, however, in a decidedly insanitary

condition. The huts are far too crowded, with cattle kraals amongst them, and it is thoroughly dirty and offensive. I am told that there have been numerous cases of typhoid here, which I can quite believe.

(h) The cemetery in this village appears to be in a dilapidated and uncared-for condition. Its position is good.

(i) If what I have pointed out above are regarded as nuisances (I consider them such being prejudicial to public health), they have existed for years, and I cannot hear of any steps having been taken to abate them. The Public Health Amendment Act, as a guide to health in these country districts, appears somewhat difficult of assimilation by the powers which govern us. They seem to say, "as their fathers lived, so can we," but apparently they forget how they died.

(k) With regard to infectious diseases, shortly after my arrival here, I heard that the natives in a certain part of this district had been dying rapidly of some disease, which had the appearance of Typhoid. As many natives had returned from the front, it was probable, and I was sent out to investigate. I examined about twenty cases, and found it was a severe form of Influenza, and apparently usually complicated within a few days by Pneumonia, and death in from fourteen to twenty-one days. I saw cases in various stages, and noticed a marked absence of gastric complications. I gathered that the mortality had been very high, and was told of instances in which practically the whole family had succumbed. I have since learnt that in other parts of the district a similar mortality amongst the natives has occurred. It is certainly regrettable that steps were not taken earlier to investigate the epidemic. That it was generally known can be vouched for, but at the same time I can find that no excessive death registration has been recorded. The epidemic soon lost its virulence when the people found medicine was effectual, and early treatment essentially successful. I have not actually come across any cases of Typhoid during the short time I have been here, but from the statements of natives coming for medicine, I should say it is constantly amongst them.

Diphtheria.—I have not heard of or seen any cases.

Small-pox.—The first reported case is on the 8th July, but from information I have received it was without doubt prevalent before that date. The cases were four in number, but successive outbreaks occurred, and when I arrived here in September there were eighteen cases under observation. Of these, sixteen were natives, comprising three different outbreaks, in adjacent localities. The remaining two were Europeans. All these were supposed to be isolated on their various premises, and visited by police. The natives were all convalescent, and discharged the first week in October. The authority in these cases was the Divisional Council. The Europeans were a farmer and infant, both unvaccinated, living within the Village Management Board area, and I found that the members of the family were in the habit of visiting the village regularly, and receiving visitors. The infant succumbed during convalescence. About the middle of October a further outbreak occurred on the adjacent farm, also within the Village Management Board area. The cases were three European children, the disease being about a fortnight old, the parents having tried to suppress information. Two of the children were unvaccinated, and the third said to have been done in infancy, though there were no marks visible. The infection was from the adjacent farm, as they admitted having visited there. All the inmates were isolated on the premises, and a guard placed there. Re-vaccination was performed, but with no result, and no new cases occurred. The next outbreak took place amongst some Hottentots in the Pirie Bush, about the first week in November. Three cases were first discovered, all unvaccinated. These, and thirteen contacts, seven of whom were unvaccinated were isolated in a couple of huts and a permanent guard placed there. Two fresh cases occurred amongst contacts I had vaccin-

ated. This appeared to have modified the attack as both cases were very mild. Another case, that of a woman with the disease about a month old on her, was found a few miles away. She was removed with contacts to be isolated with the others. The woman was apparently the source of infection, as the three first cases discovered stopped at her house whilst she was ill, and I gathered that an old man had died at her place of a disease which appears to have been Small-pox. Police surveillance was also carried out here to see that the guard was doing his duty. This area was under the authority of the Divisional Council.

The total number of cases reported in these various outbreaks were thirty-five: unvaccinated, eighteen; vaccinated, seventeen. There were five Europeans amongst the former, and one amongst the latter. The deaths were two unvaccinated children, one European and one native. The disease was mostly of a mild type. In the management of the epidemic, there being no District Surgeon, the want of professional opinion is apparent. This undoubtedly delayed the earlier recognition of the disease, and it was only by the District Surgeon of King William's Town visiting the suspected cases that a correct diagnosis was obtained. Before this, police had been sent to investigate suspicious cases, then again the attempted isolation and quarantining of infected areas such as native locations, without special guards, was of very little use. It would have been wiser where outbreaks were adjacent to have formed one camp for cases and contacts, with proper guards. The Village Management Board took no precautions of isolation, and quarantining in the first outbreak within their area, thus infecting the next farm, whose inmates, as well as those of adjacent farms, should have been protected by vaccination. The great safeguard to the District was the prompt organisation and carrying out of vaccination and re-vaccination throughout the whole sub-district. Lay-vaccinators were employed, but their work was incomplete, for in the subsequent outbreaks I found many unvaccinated persons, and the European population was not collectively dealt with, nor has it been up to date. A certain number have come to me voluntarily, but beyond this the only public vaccination I have performed has been in connection with the various outbreaks, and a few infants, brought for vaccination monthly. The lymph used was from Graham's Town, and two supplies, Nos. 3,185 and 3,221, were good.

Contagious Diseases Prevention Act.—A number of cases of infantile syphilis have come under my notice, and I have duly reported them, all being amongst natives; but nothing has been done to bring these cases under treatment, and they are left to spread the disease in the various locations. It is impossible to force these people to come for medical attendance privately, nor do they realise the necessity for it, when the primary symptoms have abated. I have always understood that under Circular Letter of 1st June, 1898, these cases amongst natives are intended to be dealt with at Government expense.

Leprosy.—Two cases have been observed; one, I believe, died before removal; the other is under observation.

With regard to the health of the natives in this Sub-district, I do not think it is at all good. From a short experience I find that Phthisis is common amongst them, and improper feeding causes a large amount of sickness amongst the infants. I have endeavoured to form some statistics as to causes of death, but I was faced by a return of thirty-six deaths (births being only forty-four), including all classes, in a population estimated at from ten to fifteen thousand. These figures are, of course, utterly misleading, for the testimony of European traders, and others, living amongst the natives, shows the high mortality which has occurred in such epidemics as I have described, without touching on ordinary causes. It is, therefore, impossible for me to attempt to assign the chief causes of deaths, amongst the population of this Sub-district for the year.

(iii) SUB-DISTRICT OF MIDDLEDRIFT.

DR. D. C. McARTHUR, ADDITIONAL DISTRICT SURGEON.

My acquaintance with this District only dating from September, I cannot give very full particulars.

(a) The chief water-supply is from Keiskama, but it only serves a small portion of the District, having fewer tributaries here. Other water supplies used by the natives are vleis and springs. They are all of course unprotected, and open to any kind of pollution. At Middledrift there are the remains of a water-furrow which originated from the Keiskama, some four miles above the place. It has been out of use for the last fifteen years, and it seems a great pity that it should not be repaired, and brought again into use, as it would add much to the prosperity of the place. The rainfall for the latter part of the year has been scarce, and this has had a serious effect on the crops and veldt.

(b) Nil.

(c) Cesspool system is in use, and household refuse, etc., is deposited anywhere on the veldt.

(d) Nil.

(e) There is one slaughter-house, kept in good order, as are also the butchery and bakery.

(f) The few cattle kraals are much too near the houses.

(g) There are forty native locations in this Sub-district, and those that I have visited are in good order, and kept cleanly. They are of course much scattered in their hut arrangements, which leads to pollution of large veldt areas, and the often limited water supplies of the inhabitants.

(h) The Cemetery here is in good order.

(i) I received a complaint as to the nearness of a cattle kraal to the Post Office, and this has now been removed.

(k) There have been no cases of Typhoid Fever reported for the year, but in looking through the death registrations I find ninety-one deaths returned from Dysentery and other bowel complaints; this is out of a total of 334 deaths for the year. This is too high a proportion for ordinary ailments, and presumably many of these cases would on investigation prove to be Typhoid.

No Diphtheria has been reported.

Small-pox.—On my arrival I found fifteen cases in two infected Locations. The disease had been prevalent since May in the District, successive outbreaks having occurred, and in all there had been seven infected areas up to September. There were two further outbreaks in October, but by the end of the year the District was clear. Investigation of the two last outbreaks proved infection to have been brought by Natives returning from Port Elizabeth, where Small-pox was prevalent at the time. The total number of cases reported was fifty-two, including one European. Thirty-four of these were unvaccinated. The deaths were six, all unvaccinated. The whole of these outbreaks were under the authority of the Divisional Council, and in dealing with them it meant the quarantining of the whole of the infected Locations as contacts, so that vaccination and revaccination had to be thoroughly carried out in these infected areas. No District Surgeon being available, it was done by Lay-vaccinators, but the success is unknown. 13,655 persons were thus treated; but the last outbreak occurred in a Location which had been omitted with two adjoining ones from the tour, owing to their being considered protected from a recent visit of the then District Surgeon. I vaccinated 272 persons in these locations, but had to complain of the delay in receiving instructions after the report of the outbreak had been sent. I also complained of Lay-vaccination still being authorised, whilst I had been sent to investigate the out-

break. Without desiring to minimise the value of Lay-vaccination, I do not consider it is fair to a District Surgeon, who has to take the responsibility and direction as to management of an outbreak, besides which it is not to be expected that discrimination can always be shown by lay persons as to the exemption of syphilitics, persons suffering from skin affections, lepers, etc. I do not think that any District Surgeon can be expected to have a proper control of his District in matters of Small-pox if the all-important protection by vaccination and revaccination is to be taken out of his hands.

No cases have come under treatment under the Contagious Diseases Act.

Three Lepers have been certified by me since September. One of these died before removal.

39. KNYSNA.

DR. GEORGE MARR, DISTRICT SURGEON.

Under heads (*a, b, c, d, e, f, g, h, and i*) there is nothing to report in addition to what was said last year and the year previous to that. Our water-supply is almost entirely collected in tanks from rainfall, and a proper water-supply, which could easily be obtained from a pure source, is a desideratum that seems to be about as far off as ever. Except for a somewhat undesirable proximity of pig-styes and stables to dwelling-houses in a few instances, the sanitary condition of the town is entirely satisfactory. Since the end of the war there has been considerable improvement in this respect, as we have now no Military stables in the town.

(*k*) There was one case of Enteric Fever in the District, and one in the town early in the year. Sources of infection are unknown, and both recovered. In addition to these a coloured man in the employment of the military arrived here ill with Enteric, contracted in another part of the Colony, and died. There have been a few very mild cases of Diphtheria in the town. Scarlet Fever in a very mild form spread through the children of the lower classes before it came under medical observation, after which such isolation as is possible was enforced. A very severe epidemic of Measles attacked practically everyone in the town and district who was not immune, and accounted directly and indirectly for a good many deaths. It was introduced from Port Elizabeth, and might have been checked early had Measles been a notifiable disease. I would suggest that it be made so, as here at least it was a very much more serious one than Scarlet Fever. The epidemic has now worked itself out.

A case suspected of being Small-pox occurred in a woman who arrived by sea from Woodstock; and was isolated and treated as such, the three principal contacts being quarantined for twelve days after the death of the patient. Although I was personally convinced that the case was not one of Small-pox, acting under instructions from the Medical Officer of Health for the Colony I dealt with it as such. All contacts were vaccinated, and over three hundred people in the town and neighbourhood. This occurred in June, but no other suspicious case followed. In the town 388 persons were vaccinated in 1902, and 314 during the rural vaccination-tour. All the lymph supplied was excellent, and, as far as I could discover, every vaccination was successful. The lymph was obtained from Graham's Town, calves Nos. 3078, 13/5/02; 3122. 14/6/02; 3168, 20/8/02.

Four cases of Leprosy were discovered in the district, and have been sent to Robben Island.

With regard to the prevalence of Syphilis, I should like to call attention to the unsatisfactory state of the law dealing with Contagious Diseases. It appears to be the case that the Act confers no power on the Resident Magistrates to compel syphilitics to go into a Contagious Diseases Hospital; and, unless such power is given, the Hospital here at least might as well be closed, as patients will not submit to the restriction of their liberty, that life there entails, of their own free will. Part II. of the Contagious Diseases Act appears to me to be too weak to deal with the matter in a satisfactory way. The District Surgeon, whose "duty" it is to report such cases, has often little opportunity of seeing them, as patients of the class who require compulsion to be brought to bear on them generally avoid him, and either treat themselves with home remedies, or go to a private practitioner. In either case the disease does not get cured, as they are unable or unwilling, as a rule, to pay for treatment for a sufficient length of time to get it eradicated; and so the disease is spread. I would suggest that the law be altered so that a patient suffering from Syphilis (or other contagious disease) be compelled, under a heavy penalty for non-compliance, to report to a medical man. Further that the medical attendant be required similarly to report the case to the Resident Magistrate in the event of treatment not being continuously carried on until he is satisfied that there is a fair prospect of the disease having been eradicated. Where compulsory treatment at the instance of the Magistrate is ordered, should the patient elect to be treated by a private practitioner, failure to continue the treatment would then have to be reported by such practitioner; at present it is difficult to see what authority the Magistrate would have in such a case, as he cannot call for a report from such practitioner.

40. KOMGHA.

DR. WILLIAM BICKFORD, DISTRICT SURGEON.

(a) The water-supply is good, both at source and delivery. There is no chance of pollution, as it is well looked after.

(b) The drainage is good.

(c) The cesspool system is adopted. Dirty water is thrown in the gardens, and household refuse deposited at appointed spots.

(d) Nil.

(e) Good.

(f) Kept in fair order.

(g) Good.

(h) Kept in good order.

(i) Nil.

(k) The only contagious disease we have suffered from is Small-pox, which broke out at the Kei Hills and Komgha Police Camp.

The local authority has done all in its power to compete with any outbreak, and has been greatly assisted by the Civil Commissioner and Resident Magistrate.

With regard to vaccination the lymph was obtained from Grahams-town from calf No. 3113.

I do not consider the war has had any bad effect upon the district.

Report of Dr. A. Carrington Seale, Acting District Surgeon, for the first half of the year, during the absence of the District Surgeon.

During the first half of year ending 30th June, 1902, I acted as District Surgeon.

While in office the only "Public Health" duties I performed were: (1) Post mortem examinations; (2) Report on one case of Leprosy; (3) Treatment of two cases of Syphilis at the Isolation Hospital, and (4) Public Vaccination.

I vaccinated 1,043 native females, 715 males, 3 European females, and 3 European males.

The lymph I received from Grahamstown, and was very satisfactory, few vaccinations failing, I believe.

(b) and (d) Nil.

(e) (1) All animals slaughtered are killed in the open air, and in an enclosed ground, which is disinfected every day by using a strong solution of sheep-dip.

(2) The butcheries and bakeries are in a satisfactory condition.

(3) There are no dairies in the village.

I have nothing further to add to last year's report.

41. KURUMAN.

DR. GEORGE BEARE, DISTRICT SURGEON.

(a) Owing to the severe drought which prevailed in the district during the past year, the water-supply is not nearly so plentiful as in previous years. The same sources of pollution that I have mentioned in previous reports still exist, the principal one being, that the water of the Kuruman River is used for purposes of irrigation all along its banks, and in the case of an outbreak of such a disease as Typhoid Fever it would be almost impossible to prevent the disease from spreading among the residents along the banks of the river.

Of the Fountains outside the Crown Reserve only very few can now be used for irrigation, in consequence of the small rainfall during the past five years.

(b) There is no system of sewerage or drainage at Kuruman.

(c) Night-soil and other refuse are either buried, used for manure, or scattered on the veld.

(d) There are no overcrowded dwellings among the whites; but many native huts are constantly overcrowded, and some—principally those of the Bechuana slaves—utterly unfit for human use.

(e) The management of slaughter-houses, butcheries, bakeries, and dairies is satisfactory, and I am not aware of any diseases that could have been traced to this source.

(f) Cattle, swine, etc., are kept in open kraals and styes, and have not, to my knowledge, been injurious to the public health.

(g) The good order of the native locations is very fair, but with regard to cleanliness and general sanitation, there is room for much improvement.

(h) There is only one enclosed cemetery in the Kuruman District—that of the London Missionary Society—and it seems to be well managed.

(k) There has been no outbreak of either Typhoid Fever, Diphtheria, or Small-pox in the district during the past year.

I am not aware that the war, in the early part of the year, in any way affected the health of this district.

42. LADISMITH.

DR. R. W. WATSON, DISTRICT SURGEON.

(a) The water-supply is good and abundant; it is taken from the mountains in an open furrow to a point above the village, and then in iron pipes through the town, as there are no houses above the furrow. There is very little risk of pollution.

(b) Nil.

(c) For the first half-year, under Martial Law regulations, all night-soil was removed from the village by a contractor regularly. Lately only a few people have availed themselves of this convenience, many people burying night-soil as before.

Slop-water is emptied in the gardens and sometimes into the irrigation furrows; household refuse is either buried in the gardens or carted away to the veldt.

(d) The dwellings of many poor whites and most coloured people are generally overcrowded and unfit for human habitation, whole families of whites living and sleeping in one room, and as many as twenty-seven natives were found sleeping in one small hut.

(e) Slaughtering is now for the first time done outside the village. Butcheries and bakeries are well kept. Dairies do not exist.

(f) I do not think health is injured from the few animals kept in the village.

(g) There are no native locations, but a part of the commonage some distance from the village has been set apart for native huts, to which they will shortly be removed.

(h) The Dutch Reformed Church Cemetery is in the village. The Berlin Mission Cemetery is on the commonage, on ground sloping away from the village. Near it a plot of ground has been granted to the English Church. As I have repeatedly pointed out, a piece of ground should be enclosed for the burial of paupers and other people not admitted into the cemeteries of the various churches. At present they are buried anywhere on the commonage.

(i) The removal of night-soil and the provision of closets should be made compulsory.

(k) An epidemic of Whooping-cough occurred in the winter. I think infection was brought from Oudtshoorn. About 150 cases occurred, with fourteen deaths.

Isolated cases of Enteric Fever occurred; about thirty cases, with five deaths. At Opsoet four cases, with two deaths, occurred in houses near together. The rest were widely scattered, and no common cause of infection could be traced. I am certain that directions as to disinfecting and burying excreta are not carried out properly, and that the disease in this district is often spread by germs from desiccated excreta being carried about by the wind.

Diphtheria, which was unusually prevalent last year, continued this year. About fifty cases, with eight deaths, occurred; many cases of sore throat, without membrane, were, I think, diphtheritic. Diphtheria was very prevalent at Calitzdorp, on our Eastern border; but, with the exception of three cases (one fatal) at the crowded Mission Station, the Eastern side of the district was free. The disease was widely scattered through the rest of the district, and was often spread by friends visiting patients. Two cases (one fatal) of Diphtheritic Paralysis occurred. During the year an epidemic of Pneumonia occurred. In some cases it was certainly infectious, five cases occurring in one house. About fifty cases occurred altogether.

No vaccinations having taken place for two years, on account of the war, 1,523 persons were vaccinated this year from calf lymph at fifteen centres, which were carefully selected at the most thickly populated points in the district. As no second visits were permitted, I am unable to give results, but from reports I received I believe most cases were successful.

Forty cases of Syphilis were treated last year as paupers, besides some others that came under my care. This increase was due to the crowding of natives into the village through the war. Great difficulty is sometimes experienced in getting patients to attend for treatment long enough, and to take their medicine regularly.

The death-rate for the year—about 26.60—was very heavy, and the overcrowding and difficulty in getting food, due to the war, may partly account for this.

43. MAFEKING.

DR. T. W. P. HAYES, DISTRICT SURGEON.

(a) Water-supply.—This is conveyed from lime pits about two miles outside town, and is pure at the source. It is conveyed along an open furrow to three reservoirs, and thence by pipes to the town, where it is distributed.

During its course along the open furrow it is liable to contamination by dogs or natives. A fence of wire strands has been erected, which is sufficient to keep out cattle and sheep, but of no use against smaller animals. The supply is totally inadequate to give the population of Mafeking the requisite amount. The Railway Camp has been cut off for a considerable time, and depends on water drawn from a borehole a mile north of the town. Water was found at a depth of thirty feet, and furnishes a pure and fairly abundant supply for all purposes.

I suggest that more boreholes be sunk, as the experiments of the Railway and also of private individuals show that there is plenty of water at no great distance from the surface. The borehole north of the town is fifty-nine feet deep, and water was found at thirty feet. The supply equals about 30,000 gallons per day.

(b) Sewerage and Drainage.—Provided for by closets having a bucket, the contents of which are removed nightly to a distance of a mile and a half outside town and deposited in pits.

(c) Slop-water, etc.—This is collected in metal drums and removed same as in paragraph (b).

(d) Overcrowded Dwellings, etc.—A large number were demolished by shell-fire during siege, and more commodious and better houses erected in their stead. The compensation paid by Government materially aided in this.

(e) Nothing further of interest has occurred since writing my last report.

(f) Keeping of Cattle, Swine, etc.—These are effectually dealt with by the local authorities.

(g) The Native Location has been greatly improved since the war, as any undesirable dwellings left standing were condemned, and suitable ones erected. The whole camp has been almost rebuilt, as, standing in an exposed situation, it was almost wholly destroyed by the enemy.

(h) Cemeteries.—This has been fenced in and considerably enlarged. An old well, a dangerous source of pollution, has been closed in.

(i) The abatement of nuisances still continues. Owing to the scarcity of water, the trees which were planted about the town at no small cost have suffered greatly, and have not flourished as much as in former years.

(k) Typhoid Fever still continues, but, owing to the excellent methods adopted by the Field Hospital for destroying the excreta, and disinfecting linen, etc., the cases have not been excessive. Few cases originate in the town itself, but come from outlying districts.

Diphtheria.—Nil.

Small-pox.—Nil.

Vaccination.—The results of this year's vaccination were very gratifying, as I obtained excellent results in a high percentage of those who presented themselves, the lymph being very superior to that supplied me formerly. Unfortunately, I am not in a position to state the actual number of successful vaccinations, as I made no second tour through the district to obtain this information; but, from the reports I heard, I feel justified in drawing the conclusion that the percentage of successful cases was high.

Contagious Diseases.—A large number of cases presented themselves for treatment, sixty-one remaining at the end of the year. Most of the cases are of the secondary and tertiary variety, as the natives, through ignorance, seldom come for treatment while the disease is still in the primary stage. The natives prove very amenable, and return regularly as long as any symptoms of the disease are manifest. I find that the secondary and tertiary varieties are best treated as out-patients, as natives become very discontented and restless if confined for any length of time in the compound at the Gaol. Occasionally relapses occur after cessation of treatment, but the benefit of the latter is so apparent, that they immediately return at the first sign of the onset of the disease.

Paupers have been on the increase, owing to the cessation of hostilities, so many persons being thrown out of employment who were formerly employed by Government.

Leprosy.—Nil.

State of War Affecting Public Health.—The immediate result of this was to increase the sick-rate, such diseases as Typhoid Fever and Dysentery being much more numerous than in time of peace.

The ultimate result, as far as this town is concerned, has been distinctly beneficial, the destruction of unsanitary and overcrowded dwellings materially contributing to the welfare and improved health of the inhabitants.

44. MALMESBURY.

(i) MALMESBURY.

DR. A. J. T. ROUX, DISTRICT SURGEON.

General Statement.—The town has suffered from an outbreak of Typhoid Fever, which did not extend to the country generally, though it was severe on isolated farms. Tuberculosis of the Lungs is still very prevalent, and an outbreak of Small-pox took place in December.

(a) Water-supply.—The sources are insufficient for the wants of the inhabitants of this town, and those wells which are under the control of the Municipality are not sufficiently safeguarded against direct and indirect contamination, and those which are on private ground do not always receive the attention they need to keep their contents pure.

The authorities should be warned that with the increase of the population the need will become greater, and other means will have to be devised by them to increase a pure supply for local consumption, and a greatly in-

creased supply to suppress the pulverised material on the streets from being blown about, as I fear that with it the germs of disease may be distributed broadcast.

The villages of Darling, Moorreesburg, and Riebeek Kasteel are growing rapidly, the water-supply is also small, and the above remarks are also applicable to them.

On many farms the open reservoir is the only supply of water, a fact that needs mentioning alone to be strongly deprecated.

(b) We have no drains of any length; the surface drains are, however, too shallow, and filth and sand are thrown on to the streets when storm-water comes down rapidly.

(c) Night-soil is in this town and the neighbouring villages removed by bucket.

In this town the hour of collection is unpleasantly early, and greater care should be taken in the act of removal; and, as there is not a second relay of buckets, too great care cannot be exercised in carefully washing and disinfecting them before they are replaced, thus the danger of carrying the infection of Typhoid Fever from one house to the other may be minimised.

The expense of removing slop-water has been the bar to its introduction locally.

In the villages it has not yet been thought of.

Household and other rubbish are regularly removed in this town and neighbouring villages.

(d) Overcrowding exists to a limited extent.

(e) and (f) Slaughter-houses are not allowed near to any human habitations; pigs have likewise been banished from this Municipality, though the villages have not yet followed this example. Butcheries and bakeries are kept clean.

(g) During the year a number of Hottentots from the neighbourhood of Garies have settled in various parts of this district.

They are a dirty, uncleanly lot of men, women and children, who herd together in several parts of the district, and whose locations cannot be too stringently inspected.

(h) The cemetery at Riebeek Kasteel remains a source of danger to the people who live there. All burial should be publicly forbidden in it.

(i) There is no special nuisance locally or in the district.

(k) More particularly referring to the outbreak of Typhoid Fever, in my last year's report the thought was expressed that the number of men who were directly or indirectly connected with troops contaminated our sanitary pails, but from what I have gathered by careful examination and reflection I do not consider that troops by being stationed here actually left the germs of Typhoid, but am firmly convinced that if proper provision is made in disinfecting the sanitary pails before they are put back for use, the epidemic will cease altogether, my contention being that the infection is spread by flies, they contaminating the local (household) water or milk supply. Of course, this does not exclude other sources, where infection is spread by a patient directly in the house, or the carriage of the germ by flood-water into the water-supply, or bringing it into proximity of a well, etc. (See Annexure A.)

I have arranged the number of cases of Typhoid Fever according to separate groups of streets, with particulars of their water-supply, but this cannot be given with any degree of exactness, as frequently the families go a long way for water, as the wells cannot supply the demand in the dry season of the year.

I have also annexed B, a list of the preventable diseases from which death took place.

It has been said that Scarlet Fever was present during the past year. I have my doubts, and do not mention it specially.

The cases of Small-pox that occurred at Groenrivier (one) and Riverlands or Klein Groenrivier was of the "Amaas" variety.

The origin cannot be traced with certainty. The nearest guess that can be made is that two cases from Rentzkie's Farm returned to Riverlands about three months before the outbreak, but no intermediary case could be discovered.

The cases were duly segregated; the neighbouring families vaccinated and re-vaccinated, and no spread of the disease could be traced to this outbreak six months after, though another outbreak did take place in that neighbourhood.

The number of unprotected cases in an area which is thought perfectly protected is surprisingly large. This is accounted for by numbers being absent, especially the labouring classes, who are away at work. Many particularly among the Europeans, think they do the Public Vaccinator a favour by presenting their children for vaccination.

ANNEXURE A.

Typhoid Fever Patients arranged in streets, occurring at Malmesbury during 1902:—

			WATER-SUPPLY.
A.	Eksteen's Lower Cottages	2	Water got from washhouse and outspan wells.
	Keerom Street	8	
	Municipal Street	4	
B.	Railway Street	1	Various wells on private property.
	Upper High Street	4	
	High Street	5	
	Industry Street	2	
	St. Francis Street	3	
	† St. John's Street	6	
C.	Arcadia Street	0	Various wells in private property. Cement tank water clean and pure.
	Mount Pleasant Street	3	
	Ford Street	2	
	Duthie Street	2	
	Piquetberg Road	9	
	† Rose Street	3	
D.	Riebeek Street	10	Private wells and public well. From water supplied from Mineral Baths.
	Rood Street	2	
	† Hill Street	2	
	† Plein Street	1	
	† Market Street	1	
E.	Smuts Street	3	Private well.
	Ebeneser Street	2	Private well.
F.	Rainier Street	3	Public well.
	Lodolf Street	2	Public well, not the same.
	River Street	2	Private well.

† Cross streets.

Milk Supply.—Most of the families affected did not use milk, and, if so, used condensed milk, or those who used milk did not get a constant supplied from any particular dairy.

ANNEXURE B.—CAUSES OF DEATH—MALMESBURY, 1902.

	URBAN.				RURAL.				TOTAL
	MALE.		FEMALE.		MALE.		FEMALE.		
	Europ.	Mixed.	Europ.	Mixed.	Europ.	Mixed.	Europ.	Mixed.	
Pleurisy ...	0	1	1	1	0	0	1	0	4
Bronchitis ...	2	3	3	5	0	5	1	1	20
Pneumonia ...	4	8	2	10	3	14	4	13	58
Consumption ...	4	12	3	9	4	23	6	30	91
Diarrhoea and Vomiting	5	5	1	16	3	7	3	7	47
Typhoid Fever ...	4	7	2	4	1	2	1	3	24
Convulsions ...	2	4	2	6	8	16	4	20	62
Marasmus ...	1	3	3	2	0	2	1	1	13
Influenza ...	1	0	0	2	1	2	1	6	13
Measles ...	0	1	0	0	1	2	0	1	5
Whooping Cough ...	0	1	2	0	0	2	1	5	11
Croup ...	0	0	0	0	1	2	1	0	4
Diphtheria ...	0	1	0	0	2	2	1	1	7
Total ...	23	46	19	55	24	79	25	88	359
Deaths from other causes	18	14	16	9	19	27	14	20	137
Grand Total ...	41	60	35	64	43	106	39	108	496

(ii) SUB-DISTRICT OF HOPEFIELD.

DR. JOHN CHARLES PALMER, ADDITIONAL DISTRICT SURGEON.

Having been appointed District Surgeon for the above District in June, 1902, I can only report upon events from that period.

On my taking up the appointment, the District was under Martial Law. Previous records had been destroyed by the enemy on their occupying the Dorp in November, 1901.

There has lately (March, 1903), been formed a Village Management Board, who have now the sanitary supervision of the Dorp entrusted to them, and to whom all sanitary defects and complaints are referred. The District Surgeon is not officially connected with the above body, whilst outbreaks of infectious disease are still reported to the Divisional Council at Malmesbury.

(a) The water-supply is obtained from the river, from springs, and from wells and underground cisterns. It is ample in normal times, in quantity, and of sufficient purity for all practical purposes. Certainly no outbreak of disease has been traced to a polluted supply.

(b) Non-existent. Sewerage disposed of anyhow, but in part buried. There is no drainage.

(c) For the most part thrown on the veld.

(d) None exist, and no overcrowding.

(e) All well-managed, with the conditions in hand. No case of disease has been brought to my notice from defects in management.

(f) There being plenty of commonage available, animals are kept in as good order as possible.

(g) There is no native location, though there are numerous colonies of Coloured people, chiefly along the coast line and on the banks of the Berg River.

(h) The Cemetery here is well ordered, and in a good position.

(i) No nuisances have been brought to my notice.

(k) With regard to infectious disease, those occurring throughout the District are not brought officially to my notice. I can only report those occurring in my own practice. Cases are all reported to the Divisional Council, Malmesbury. There has been no Small-pox—two or three cases of Diphtheria, and about seven or eight cases of Typhoid Fever in this immediate neighbourhood. About five European adults were affected, and there were also several cases among the children in the Public School. No cases of Bubonic Plague were observed, but the Government established a Quarantine Station in charge of a Doctor at Saldanha Bay, where there were several cases isolated.

Leprosy.—There were eight cases of supposed Leprosy examined. Four cases were so affected, and removed or awaiting removal to Robben Island, and four were not so affected. All were coloured, three males, one female, and were resident among the fishing population around the coast.

Vaccination has been done throughout the District, and in all over 1200 persons were vaccinated, the greater number being primary, and chiefly among the Native population. In view of the fact, however, that no vaccination had been done for five years previous to my appointment, I regard this number as distinctly far below the normal number requiring vaccination. There seems great apathy and neglect of this precaution in the District.

On the other hand, those done were almost uniformly successful, the lymph being excellent, and particularly active. The Nos. of the lymph supplied to me were 3208 and 3286. On the whole, the sanitary aspect of the Village and District is as favourable as obtains in most dorps of its size and situation.

45. MIDDELBURG.

DR. H. HOLZMANN, DISTRICT SURGEON.

An important meeting has been held by the ratepayers, which has practically decided the water question, viz., adoption of the pipe system, thereby securing a pure water-supply.

In reply to the report signed by Lieut.-Col. W. J. Peard, R.A.M.C., and S.M.O., I beg to state as follows:—

1. General death-rate high.—Total number of deaths, taken from records in the Resident Magistrate's office, for the year 1902, was 215. Of these forty-eight were European and 167 Coloured. (I have attached a list showing causes of death under the various classes as specified on list used by Registrar of Births and Deaths). 215 deaths, on a population which was estimated at about 3,500 for 1902, gives a death-rate of about $6\frac{1}{2}$ per cent. From January 1st to May 2nd, 1903, ninety-three deaths were recorded in the Registrar's Office as having taken place in Middelburg. As the population (owing to a large garrison stationed here, which has brought a large number of European and native civilians to the town), may be estimated at almost another 1,000, the above statistics compare very favourably with any other town in South Africa, as out of the European death-rate (forty-eight on a population estimated at 1,700) for 1902, twenty were infants under two years.

II. Zymotic mortality high.—The number of deaths recorded under this head for 1902 was sixty-two (eighteen Europeans and forty-four

Coloured), about 2 per cent. Eight of the European and twenty-six of the Coloured deaths were infants under two years, so that infantile deaths contribute more than half to the death-rate under this heading.

III. Huge Mortality from Enteric, Dysentery, and Diarrhœa.—For 1902 the deaths recorded as Enteric were: European adults two and Coloured, one child. Total, three.

Up to the 2nd May, from January 1st, 1903, there has not been a single death from Enteric recorded during this period.

Dysentery.—The total number of deaths certified as Dysentery for 1902 was three (two Europeans, one infant and one adult, and one Coloured infant). 1903 gives one European adult up to the 2nd May.

Diarrhœa.—In 1902 twenty-five deaths were recorded under this head, six European and nineteen Coloured, all infants under two years. 1903 shows thirteen deaths, all Coloured infants.

Up to the 2nd May, 1903, twenty-nine cases of Enteric have been notified to the Town Clerk, but all cases have recovered from it. Infection was generally traced to patients having drunk water from the open furrow which runs through the town.

IV.—Uncertified deaths.—The meaning of this question is not quite clear to me as to what is meant by it.

There are, however, a number of cases where a native child, or generally infant, has not been under treatment immediately before death by a doctor, but from the symptoms described by the parents, a certificate is given stating that in the opinion of the medical man death was due to the cause mentioned.

V.—Considerable mortality from Tubercular Disease.—The number of deaths recorded under this heading for 1902 are: Europeans, three, and coloured, seven, making a total of ten, and in 1903 two Europeans and five coloured to May 2nd.

The European cases, without exception, were all imported, and patients generally arrived in a hopeless condition. The origin of the disease among the coloured classes cannot be traced, as the patients do not seem to be aware how long they generally have been ill. Death in these cases is nearly always due to lack of medical treatment and proper food, etc.

General death-rate for 1900,	221; population, 2,000.
Do.	1901, 192; population, 3,620.
Do.	1902, 215; population, 3,500.
Do.	5 months, 1903, 93; population, 4,500.

Absence of pure water-supply.—This is a grievance which I have been protesting against ever since my appointment as District Surgeon. A meeting was called by the ratepayers of Middelburg for the purpose of considering the advisability of undertaking, carrying out, and effecting a scheme for the supply of good water to the inhabitants of Middelburg, with power—

- (a) To appoint a committee of householders to work jointly with the Commissioners to carry out and effect the said scheme.
- (b) To take or authorise to be taken counsel's opinion as to the rights of the Municipal Council to divert a part of the existing water-supply in pipes for household purposes.
- (c) To authorise a loan from the Colonial Government for the purpose, the maximum amount thereof to be fixed by the meeting, but in no case to exceed £3,000.

Mr. N. F. de Waal, M.L.A., was appointed chairman, and pointed out in a very able manner the great advantages which the pipe system would have over the present one, with the result that when the above resolutions (a), (b), and (c) were put to the audience, they were carried unanimously.

In my opinion, as these resolutions have been accepted so favourably by the ratepayers, a water-supply in pipes is a thing of the near future.

II.—Imperfect system of night-soil removal.—The bucket system, as conducted in this town, for the removal of night-soil, compares in my opinion very favourably with other towns. Buckets are removed at least once and in many cases twice weekly, according to the number of occupants, and I have not heard of any case where stercus matter has been allowed to escape through buckets being over filled. Buckets are made of zinc, and after being emptied, are disinfected thoroughly and tarred each time. I have suggested to the Municipality that they should purchase chloride of lime or other cheap disinfectant for use during hot weather, this disinfectant to be sold to the householders at cost price, and the Sanitary Inspector to go round and see that it is used regularly.

III.—Absence of Scavenging.—The Municipal Authorities provide carts for the removal of refuse, but owing to the rapid growth of the town (estimated population now 4,500), the present staff is totally inadequate to remove this refuse at regular stated intervals. I am informed, however, by the Sanitary Inspector, that this matter has been taken in hand by the Municipality, and additional carts ordered to meet the increased demand.

IV.—Absence of surface drainage.—There is not any surface drainage system in use here, but slop-water, etc., is removed in tanks or carts, and taken to a depositing ground outside the town. The same grievance as in No. 3 applies to this heading, though I am informed that the Municipality have taken this matter in hand also.

V.—Overcrowding.—During Martial Law there certainly was a certain amount of overcrowding, as whole families of suspected farmers were brought in daily by the Military Authorities without there being any accommodation for them. These people had accordingly to crowd into houses of friends, which were already only large enough for the regular occupants. Now, however, the Sanitary Inspector informs me that visits have been paid to suspected houses and huts after 9 p.m. (when all natives must be indoors), but without finding a single instance of overcrowding according to the Municipal Regulations.

VI.—Sanitary arrangements for Natives in Location and Town inadequate.—Latrines have been built for the natives in the Location, one for Kafirs and one for Hottentots, each provided with six buckets, which are removed bi-weekly.

A Location Inspector is now installed to see that all the regulations are adhered to, and in my opinion the Location is conducted much more satisfactorily than ever before. It certainly compares very favourably with many of the native houses in town, which are badly built, and in some cases can only be classed as hovels. All the houses of coloured people in town are provided with buckets for stercus matter, and the inhabitants compelled to use them.

On the whole, Middelburg has never been in a better sanitary condition than at present, and although there are still many defects to be remedied, I think that the end of the year 1903 will show a still greater improvement in the sanitation of the town.

DEATHS FOR 1902 IN MIDDELBURG.

				European.				Coloured.			
				Adult.	Child.	Infant.	TOTAL.	Adult.	Child.	Infant.	TOTAL.
<i>Class 1.</i>											
Phthisis	...	...	...	3	0	0	3	7	0	0	7
Diarrhoea	...	...	...	0	0	6	6	0	0	19	19
Small-pox	...	...	...	0	0	0	0	2	0	0	2
Measles	...	...	...	3	1	0	4	0	2	4	6
Whooping Cough	...	...	...	0	0	0	0	0	1	0	1
Dysentery	...	...	...	1	0	1	2	0	0	1	1
Enteric	...	...	...	2	0	0	2	0	1	0	1
Syphilis	...	...	...	0	0	0	0	1	0	0	1
Gonorrhoea	...	...	...	0	0	0	0	1	0	0	1
Croup	...	...	...	0	0	1	1	1	0	0	1
Puerperal Fever	...	...	...	0	0	0	0	1	0	0	1
Meningitis	...	...	...	0	0	0	0	0	1	1	2
Stomatitis	...	...	...	0	0	0	0	0	0	1	1
Total	...	...	...	9	1	8	18	13	5	26	44
<i>Class 2.</i>											
Marasmus	...	...	...	1	0	0	1	0	0	1	1
<i>Class 3.</i>											
...	...	...	...	0	0	0	0	0	0	1	1
<i>Class 4.</i>											
Senile Decay	...	...	...	2	0	0	2	3	0	0	3
Premature Birth	...	...	...	0	0	2	2	0	0	7	7
Hydrocephalus	...	...	...	0	0	0	0	0	1	0	1
Total	...	...	...	2	0	2	4	3	1	7	11
<i>Class 5.</i>											
Convulsions	...	...	...	0	0	2	2	0	0	9	9
Heart Disease	...	...	...	3	0	0	3	6	1	0	7
Pneumonia	...	...	...	3	0	0	3	10	0	5	15
Pleurisy	...	...	...	0	0	0	0	1	0	0	1
Peritonitis	...	...	...	0	1	0	1	2	1	0	3
Broncho Pneumonia	...	...	...	0	0	5	5	3	3	8	14
Bronchitis	...	...	...	1	0	1	2	0	4	19	23
Gastro-Enteritis	...	...	...	0	0	2	2	3	1	17	21
Dyspepsia	...	...	...	0	0	0	0	0	0	1	1
Intestinal Obstruction	...	...	...	1	0	0	1	1	0	0	1
Dropsy	...	...	...	1	0	0	1	1	0	1	2
Gastritis	...	...	...	0	0	0	0	4	0	1	5
Nephritis	...	...	...	1	0	0	1	1	0	1	2
Bright's Disease	...	...	...	1	0	0	1	0	0	0	0
Pemphigus	...	...	...	0	0	0	0	0	0	1	1
Abscess of Lung	...	...	...	0	0	0	0	1	0	0	1
Tumour of Liver	...	...	...	0	0	0	0	1	0	0	1
Laryngitis	...	...	...	0	0	0	0	0	1	1	2
Apoplexy	...	...	...	1	0	0	1	0	0	0	0
Senile Hyper Test...	...	...	...	1	0	0	1	0	0	0	0
Total	...	...	...	13	1	10	24	34	11	64	109
<i>Class 6.</i>											
Suicide	...	...	...	1	0	0	1	0	0	0	0
Accident	...	...	...	0	0	0	0	0	0	2	2
Total	...	...	...	1	0	0	1	0	0	2	2

DEATHS IN MIDDELBURG DURING 1903.

From 1st January to 2nd May.

				European.				Coloured.			
				Adult.	Child.	Infant.	TOTAL.	Adult.	Child.	Infant.	TOTAL.
<i>Class 1.</i>											
Small-pox	...	...	...	0	0	0	0	3	1	2	6
Inf. Diarrhœa	...	...	...	0	0	0	0	0	0	13	13
Measles	...	...	...	0	0	0	0	0	0	1	1
Whooping Cough	...	...	...	0	0	0	0	0	1	1	2
Dysentery	...	...	...	1	0	0	1	0	0	0	0
Phthisis	...	...	...	2	0	0	2	3	2	0	5
Congenital Syphilis	...	...	...	0	0	0	0	0	0	2	2
Meningitis	...	...	...	0	0	0	0	0	0	1	1
Total	...	...	...	3	0	0	3	6	4	20	30
<i>Class 2.</i>											
Marasmus	...	...	...	0	0	0	0	0	0	3	3
<i>Class 3.</i>											
Cancer	...	...	...	1	0	0	1	0	0	0	0
<i>Class 4.</i>											
...	...	...	...	0	0	0	0	0	0	0	0
<i>Class 5.</i>											
Chorea	...	...	...	0	0	0	0	1	0	0	1
Convulsions	...	...	...	0	0	1	1	0	0	3	3
Cardiac Failure	...	...	...	0	0	0	0	2	0	1	3
Heart Disease	...	...	...	0	0	0	0	2	0	1	3
Fatty Degeneration	...	...	...	0	0	0	0	1	0	0	1
Broncho Pneumonia	...	...	...	0	0	0	0	0	0	6	6
Inflammation of Lungs	...	...	...	0	0	0	0	0	0	1	1
Premature Birth	...	...	...	0	0	0	0	0	0	1	1
Gastro-Enteritis	...	...	...	0	1	1	2	4	1	6	11
Enteritis	...	...	...	0	1	0	1	0	0	2	2
Gastritis	...	...	...	0	0	0	0	1	1	1	3
Gastric Catarrh	...	...	...	0	0	0	0	0	1	1	2
Bronchitis	...	...	...	1	0	0	1	1	0	3	4
Pneumonia	...	...	...	1	0	0	1	3	0	1	4
Peritonitis	...	...	...	0	0	0	0	2	0	0	2
Nephritis	...	...	...	0	0	1	1	0	0	0	0
Postpartum Hæmorrhage	...	...	...	1	0	0	1	0	0	0	0
Total	...	...	...	7	2	3	12	23	7	50	80
<i>Class 6.</i>											
Drowning	...	...	...	0	0	0	0	0	1	0	1
Accidental Death	...	...	...	0	0	0	0	1	0	1	2
Total	...	...	...	0	0	0	0	1	1	1	3

46. MOLTENO.

DR. H. V. PECHELL, ACTING DISTRICT SURGEON.

(a) The water-supply is still too much dependent upon individual effort, and hence the recent drought (December, 1902, to April, 1903, time of writing), has caused great inconvenience.

The public water-supply entirely ceased from December to April, and when at length it was resumed, a single tap was provided in the market place! The quality at present is fair, but such a mass of distribution is unsuited to the wants of a young and growing community. There is no public supply to any private houses, although taps are fitted. An intermittent daily supply is, however, in contemplation.

(b) As before.

(c) Pail system now adopted. The removal of excreta and slops is more systematic than formerly.

(d) Has been attended to. Fairly satisfactory.

(e) and (f) Satisfactory.

(g) and (h) The same as last year.

(i) See remarks on (c). The process of removing slops and excreta is always a possible and frequently an actual nuisance.

(k) Enteric has been prevalent during the year; up to time of writing the most remarkable outbreak was at Randfontein—Mr. Cloete—where eight natives were ill at one time. The natives on the farm had a different water-supply from the Europeans, and one liable to pollution. When this was remedied, the disease disappeared.

There have been a few cases of Diphtheria.

The Local Authority has done its best to prevent the further spread of notified disease, but our embryonic water and drainage systems make the prevention of the occurrence of disease almost hopeless.

The Local Authority ought to have some form of hospital for the reception of destitute natives, either as a temporary or permanent measure. At present they are accommodated, when necessary, in the Gaol, where there is an apartment labelled "Hospital." It is unfurnished, and has no attendant in any way qualified to administer to the sick.

With regard to vaccination, the lymph was usually fairly good. Calf No. 3244, Grahamstown, gave very disappointing results.

There is no reason to think that the state of war prejudicially affected the public health.

I would specially direct attention to the non-payment of natives employed as guards at Lazarettos. It is becoming increasingly difficult to get natives to undertake these duties. Europeans are not the only people who like to be paid with reasonable promptitude for work done.

47. MONTAGU.

DR. JOSEPH W. CASTLES, DISTRICT SURGEON.

The public health duties performed by me during the year have been vaccinating and advising in sanitary matters.

(a) The water-supplies of the outlying farms are principally derived from mountain springs, pure at their source but liable to contamination on the way down to the farms, which in the majority of cases lie some distance from the fountain head, and in many cases run past several houses in succession.

In the town of Montagu the supply for household purposes is pure and abundant, and is brought from its source in the mountains, some 3½ miles distant, in pipes, and distributed to the town, each house having its own connection.

For the use of the coloured classes tanks have been erected, and water supplied abundantly to them free of charge.

(b) There is no system of sewerage or drainage.

(c) The pail system obtains in the town, and night-soil is removed and buried outside by contract.

Household refuse is also removed by the Municipal Authorities.

(d) There is no overcrowding, but the dwellings of many of the coloured classes are simply sufficient and nothing more.

(e) Slaughtering takes place outside the town itself, and the butcheries are in good order.

Bakeries are well-kept.

Dairies do not exist.

(f) Cattle and other animals are cleanly kept.

(g) There is no Location, but a portion of the commonage is set apart for the coloured classes, and regularly inspected, and no nuisances have arisen. The night-soil is removed by the Municipal Authorities.

(h) Cemeteries are outside the town in dry soil, and are in good order.

(i) Everything possible is being done by the Local Authority to prevent any nuisance arising.

(k) There have been no cases of Diphtheria or Small-pox in the district.

Measles and Whooping Cough have been prevalent.

One case of Typhoid Fever occurred in the town in a European child, in November, which proved fatal; no cause could be assigned, and no further cases followed.

In March two European children, aged eleven and nine years, suffered from Typhoid at the farm of Baden, six miles north of Montagu. One died. No further cases.

In the beginning of October one case of Typhoid, a European child, aged twelve years, occurred at Quariga, eighteen miles east of Montagu, with fatal result.

No further cases occurred.

On the 19th October a case was seen at Rietvlei, eight miles east of Montagu, which terminated fatally. On the following day, a further case was discovered in an European child, aged thirteen years. This case arrived sick from the town of Robertson, ten days previously, and was the cause of infection in a coloured female servant, aged thirty-four years, who recovered.

No further cases occurred.

In beginning of December a case was discovered at Kruispad, nineteen miles east of Montagu, in an adult European aged twenty-four years, who recovered.

In my opinion the majority of cases arose from drinking contaminated water standing in pools in water-furrows.

Nothing was done by the Local Authority in any of these cases.

With regard to vaccination, I vaccinated in town and district 886.

Re-vaccinations	381
Primary	505

From calf 3000, Graham's Town, Out-centres	147
Do. 3026, do. do.	26
Do. 3026, do. Montagu	17
Do. 3042, do. do.	204
Do. 3066, do. do.	145
Do. 3094, do. do.	80
Do. 3208, do. do.	90
Arm to arm	177
	886

As no second visit was made to outside stations, I do not know exactly what success has been obtained, but from enquiries made and from the result in the urban district, all primary vaccinations were successful, and about 30 per cent. of re-vaccinations.

48. MOSSEL BAY.

DR. J. KITCHING, DISTRICT SURGEON.

(a) The water-supply is ample for domestic purposes, but not sufficient for frequent flushings of the drains. The water is brought from a mountain stream by means of pipes, into a reservoir situated near the town. From there it is distributed through the place by pipes. So far, as I can see, there is no danger of pollution from its source to its delivery. The water is of good quality.

(b) There are no sewers. Most of the streets are supplied with drains, which are open. Some of them are very good, but some are defective, as the fall is insufficient, and consequently becomes collectors of filth, instead of the means of removal of it. This evil can only be remedied by daily cleaning as well as daily flushing, and this cannot be done with our present supply of water.

(c) The disposal of night-soil is on the pail system. The removal of slop-water used to be done by having it carried away in tanks, but this has been abandoned, so that most of it travels through the open drains to the sea. Household and other refuse is collected together by each householder, and carted away to the place set apart for the rubbish.

(d) There are very few cases of overcrowding, and I do not know of any unfit for human habitation.

(e) Slaughtering is done outside the town. Butcheries, bakeries, and dairies are satisfactory.

(f) No pigs are allowed in the town. Cows are in the place during the night, but during the day are in the veld.

(g) There are two locations—one a quarter of a mile from the town, the other about a mile. It is exceedingly difficult to get these people to be as orderly or cleanly as one could wish, although there are places set apart for special use; many will not use them, but will go to the open veld. Instructions have been given for filth and rubbish to be collected, to be taken to a specified spot, and have it burnt weekly.

(h) I have nothing to report upon as to the cemeteries.

(i) The Local Authority employs a Sanitary Inspector, an intelligent and energetic man, one who takes great interest in his work, and does his best towards the abatement of nuisances.

(k) Whooping Cough was very general both in town and country. There was one case of Diphtheria. Enteric has been very prevalent both in town and country. In the town there were 106 cases during the year, with thirty-four deaths. Adult Europeans eight, European children two. Coloured adults fourteen, children fourteen. I am not able to give statistics as regards the country, as notification only applies to the town. I am not able to trace the cause of this disease. In my opinion it cannot be traced to the water or milk supply. Most of the cases have been amongst the lower classes, amongst which there is great carelessness in the disposal of excrement. Although buckets are provided, they in many cases follow their old habits of using any open ground that may be in their neighbourhood, particularly after dark. These deposits dry up, and mixing up with dust, are carried about with the wind, and infect any open vessels of water that it may come across; and I quite think that this is largely the cause of the continuance of the epidemic, which has now become almost endemic. Most of the better class people keep their water in closed tanks, but the poorer keep it in tubs or buckets, which are open. At the time of my writing this (18th April, 1903), I am glad to say there are favourable signs that the disease is disappearing, as it is now at least a month since the last case appeared. I think another cause of the continuance is the pail system, which may be theoretically good, but I am convinced that practically it fails; it is almost impossible to prevent some spilling of the contents in carrying, and in other cases overflowing takes place, and from these two causes the soil becomes impregnated with the Enteric poison. I think a very instructive case against the pail system is given in the case of Nottingham in England. In the town (Nottingham) part of it has a sewer system, but the other part has the pail system. In the latter case Enteric is very prevalent, whereas in the other Enteric is rare; and experts state the cause to be the pail system.

I have strongly advised the Municipality to adopt the underground drainage, or if not able to do that, to arrange for at least a daily flushing and cleaning of drains by the use of sea-water. As I said before, there is not sufficient for that purpose in our supply of fresh water. The Municipality took steps to find out what the cost of a sewer system would be, and an engineer came round from Cape Town, and gave a plan and an estimate, but I believe the Local Authority do not yet feel justified at the present time in going in for the expenditure, so for a time I suppose this important matter will be shelved.

With reference to vaccination and results, I can give no statistics, as only one visit is made to each centre; but from inquiry, I think it has been fairly successful. From a few cases in the town that have come under my own observation, they have all been successful. The question of vaccination is most unsatisfactory, as people will not bring their children, and unless the law is enforced, will continue to be unsatisfactory. A considerable amount of the District Surgeon's time is taken up yearly, and practically wasted; money is spent, and no satisfactory return. During the year twenty-nine centres were visited, giving 440 vaccinated. In the town itself notice has been given in the local paper of quarterly vaccinations at my house for two days weekly, for three weeks in the quarter, and the number vaccinated during the year in answer to this notice was nine. These facts speak for themselves. I think it is quite time that the question be reconsidered. As things are now, and as they have been for some time, the Act as regards its compulsory clauses is a farce. If it is intended to allow its compulsory power to lapse, then there should be no time lost in getting it modified.

49. MURRAYSBURG.

DR. WALTER WATKINS, DISTRICT SURGEON.

As District Surgeon I have been called upon to perform public vaccination both in the town and district, and as Medical Officer of Health to examine the natives at the location from time to time, and also to examine and vaccinate where necessary all incoming natives. This step was advised and taken as a preventative against Small-pox, which was reported prevalent in towns near. The result was that Murraysburg has been free from the disease.

I commenced the vaccination tour late in the year, so that at the close of the year the tour was not completed. The number vaccinated was 607, of which 208 were European and 399 natives. Government calf lymph was used, and the result was highly satisfactory.

The Contagious Diseases Prevention Act works fairly well here, there being little trouble in persuading patients to undergo treatment. The Contagious Diseases Hospital, which consists of a two-roomed hut, is in a dilapidated state, and owing to the dangerous condition of its roof, is not safe for habitation. It has been repeatedly promised attention for years back, but nothing has been done.

(a) The water-supply is of bad quality, and also deficient in quantity.

There are two sources of supply—one from the river, which is brought to the town by a long circular unenclosed furrow, and the other from two wells situate in the town. The former source is very poor, especially in drought, as its supply is practically dependent upon the rain-fall in the Sneeuwbergen. The new furrow reported upon previously is not yet in working order.

The well water is not fit for domestic purposes.

(b) The drainage water is allowed to run off into the water-furrows.

(c) The cesspool system is in vogue. The night-soil is deposited into the cesspools. Household slops and refuse matter are deposited at random about the houses or gardens. In few instances the refuse is carted away outside of the town.

(d) Owing to the ravages of war at the Location, many huts were wrecked, consequently several cases of overcrowding came to my notice; but later in the year this state of things was rectified.

(e) The slaughter-houses, of which there are three in number, are very primitive.

(f) The few cows, which are kept for dairy purposes, run in the veld during the day, and are kraaled at night in the owners' yards. Swine are scarce in the town.

(g) The Native Location is unfortunately situated on a rise to the south of the town. Consequently the pervading wind, which is the south-east, sweeps over it to the town. The rainfall too is from the Location to the town. The Location is not well attended to, filth and rubbish abounding on every hand.

(k) Murraysburg has been free from most infectious diseases. There have been a few cases (six in number) of Diphtheria, mostly traceable to infection from Richmond. One case of Typhoid. There has been no case of Small-pox or Leprosy.

For the year fifty-nine births were registered and nineteen deaths.

The causes of death were as follows:—

Heart Disease (valvular)	3
Thrombosis and Phlebitis	1
Syncope from exposure	1
Bronchitis	1
Pneumonia	1
Dropsy (general)	1
Gastro-enteritis	1
Intestinal Catarrh	1
Diarrhoea	1
Marasmus	2
Diphtheria	2
Rheumatism, acute	1
Cerebral softening	1
Convulsions	1
Old age (senile decay)	1
Total	19

50. NAMAQUALAND.

(i) NAMAQUALAND.

DR. M. W. COWAN, DISTRICT SURGEON.

(a) The water supplied to the village of Springbokfontein from the Springbok fountain proper is good water, and soft and pure. I have never known a case of disease traceable to it. The case is otherwise as regards the other sources of supply, surface and deep wells in the village, but these are not, as a rule, used for drinking purposes.

The water from the fountain is supplied by a water-cart dragged by convict labour.

The water-cart is kept clean, and the fountain under lock and key.

During the invasion of the Boers, April, 1901, and a few weeks afterwards, there was an epidemic of Typhoid. This I entirely put down to the necessary use by the inhabitants of impure well water. The fountain water was not used in those days, as there was no means of conveying it to the village.

The drinking-water at O'okiep is well-water, conveyed by pipes to the village. It is pure, and well looked after by the Cape Copper Company's officials. The water for washing and other purposes is supplied from the mine. The water at Concordia, used for drinking, comes from a well kept under lock and key. It is conveyed to houses partly by pipes and partly by buckets. It is pure, good water, slightly brackish.

The water at Steinkopf is got from casual wells. I have reason to believe there is a good deal of endemic Typhoid there.

(b) and (c) The system of sewerage in all the three larger villages is the same. A night-cart gathers the excreta in buckets, and these are removed to a suitable spot on the veld, especially chosen so that the water-supply be not contaminated, and there all excreta are buried. After the removal of the Boers from Springbokfontein, all the bedding of the Typhoid cases was burned, and the excreta especially treated by disinfectants before being buried.

(d) There are no dwellings in the district that can be described as unfit for human habitation. The native huts even cannot be described as

unhealthy, although perhaps occasionally too thoroughly ventilated. None of the European houses are overcrowded, and I have only noticed native overcrowding at special times when a crowd has casually got together.

(e) The management of slaughter-houses, butcheries, bakeries, etc.—There is nothing to complain of on the above subjects.

(f) Animals such as cattle and swine do not come into the villages as a rule. Goats, when they stray into the villages are a nuisance, but cannot be described as a sanitary nuisance.

(g) There are no such locations.

(h) Cemeteries are well-situated and managed.

(k) The only epidemic proper was that noted above, of Typhoid, in the village of Springbok. It occurred during the occupation by the Boers, April, 1902. Six cases broke out among the enemy's burghers. The disease was in all probability contracted on their journey here, as the first case broke out on the first day of their arrival. Among the enemy there was one death. There were about ten cases among the villagers, with two deaths. I am strongly of opinion that the villagers got it from drinking contaminated water, for the disease absolutely stopped on our return to fountain water proper.

I am, however, of belief that Typhoid is almost endemic at Steinkopf. There is none at Concordia, and there have only been a few casual cases at O'okiep.

The war did affect public health to the following extent:—

1. It brought a certain amount of Typhoid into the district. These cases largely occurred among the soldiers, but also among the general public. There were many medical men in the district belonging to the Military staff, and cases were not reported to the civil authorities.

2. Cases of Contagious Disease increased, and a few cases lapsed from treatment for a few months, owing to their flight from the enemy.

3. In consequence of the war, the number of cases vaccinated this year was very few in number. It was only possible to vaccinate at centres close around Springbok, and from a number of causes directly and indirectly due to the war, the attendance at these centres was much smaller than is generally the case.

(ii) SUB-DISTRICT OF GARIES.

DR. R. VERNON, ADDITIONAL DISTRICT SURGEON.

During the short time I have been stationed here in 1902, the general health of the district has been good. Public vaccination was, as far as I could hear, successful. All cases were done with lymph supplied from the Bacteriological Institute, Graham's Town.

(a) The water-supply of the village is derived from wells dug in the river bed. Some of these run considerable risk of being polluted.

(b) Nil.

(c) The different inhabitants make their own arrangements for the disposal of night-soil.

(d) and (e) Nil.

(f) Cattle kept by inhabitants are, as far as I am aware, well looked after.

(g) Native huts are more or less scattered. No proper location exists.

(h) Private burial grounds are suitably situated. No cemetery exists.

(i) There is an effort being made by inhabitants to improve sanitation in village.

(k) During 1902 I have attended no cases of Enteric Fever amongst the white population. Amongst the native refugees who remained after the declaration of peace, there was a slight outbreak, but it did not spread to any extent. The natives are very free from Syphilis. Leprosy, as far as I am aware, does not exist. No cases of Diphtheria occurred to my knowledge. There has been no outbreak of Small-pox.

51. OUDTSHOORN.

(i) OUDTSHOORN.

DR. GEORGE RUSSELL, DISTRICT SURGEON.

In presenting the report for 1902, and commenting upon the effects of the war upon public health, there can be no reason to suppose that it acted in any other way but for the benefit of the whole community. The Town Council was destitute of any sanitary regulations, due to the negligence of the central authorities, until Martial Law took the matter up, and framed a very complete set of rules and regulations, and it can only be added that the sanitation and general cleanliness of the town was never in such a perfect condition as it was during the period of Martial Law. These rules and regulations extended to the country, as well as to the various Boards of Management in the district, and one has only to look around the village of Dysseldorp and compare it now to what it was during Martial Law. The sanitation and general arrangements of the place are fast assuming that primitive order which was the general condition prior to Martial Law; and water-closets, which were erected according to Martial Law regulations, are fast becoming dilapidated, whilst pools and ponds, etc., are being formed in all directions. There can be no hesitation in stating that certain cases of sickness could not receive that attention which such ailments required, due to the rules and regulations of Martial Law, which prevented the free passage of messengers to and from the town. In this way certain cases of sickness must have suffered, but it can only be added that free liberty at all times was granted to the doctors to attend sickness, on the condition that they conformed with such regulations as were in force upon the date on which they wanted to leave the town. In cases of attendance at vaccination centres, and this also applies to syphilitic paupers, the extension of passes gave them excuses for being absent, and such troubles were freely made use of as a cause of their non-attendance, which at all times is exceedingly erratic, and only carried out with the dread that they will be prosecuted if they fail to put in an appearance.

(a) The water scheme, which has been in course of construction for several years past, has been nearly completed. The system of supply is deficient, but there can be no doubt but that this will receive the consideration of the Town Council shortly. The stands are too far distant from certain populous quarters, whilst at other parts the service scheme should be so extended as to allow holders in these quarters the advantage of having a water leading. In the district the water-supply for drinking and household purposes is becoming a matter for serious consideration. The number of farmhouses along the river banks are increasing in number, and as these streams are not only channels for all water-supply, but are also the receptacles for all kinds of filth, the small stream of water which reaches certain farmhouses is so loaded with decomposing matter, as to render it utterly unfit for household or other purposes. In certain sec-

tions of the district arrangements have been made to allow water to flow in the river periodically, but this can only be looked upon as a make-shift, and that in the near future drinking-water will have to be brought to the various farms in pipes, from the upper reaches of the stream. It may be a matter surrounded with many difficulties, yet if the population on the various rivers in the district increase in a like proportion in the following twenty years as has taken place in the past, then such a scheme will become an absolute necessity. In many farms tanks have been erected for the rain-water, and thus water for household purposes has been stored for use during the summer months. Perhaps the water-courts, which are being formed in the various districts, will assist the inhabitants out of the difficult question of household water-supply.

(b) The sewerage and drainage of the town has not improved. In fact, the general condition of the main water furrow with its branches, since the introduction of the Rust-en-Vreede Water Scheme, has not improved, either as to general order of cleanliness or sanitation. In certain parts of the town the main water furrow seems to be considered the proper place for receiving all overflow water, from the supply standards, as well as other objectionable matters, and ducks, etc., may be seen sporting on its contents. As the main water furrow is required for irrigating the water erven, it is to be hoped that the Council will insist, with the co-operation of such inhabitants as receive benefits from the water-supply, that the various water-courses be paved out, which will greatly assist, not only in keeping the water clean, but also add to the general sanitation of the town.

(c) There is a vast improvement in the disposal of the night-soil, slop-water, and household refuse during the last year, but it is to be hoped that the time is not far distant when the entire working of this department will be taken over by the Authorities, and that private and licensed removers will become a thing of the past. It would greatly facilitate the working of the system if the Council would cause to be attached to every building a standard water-closet. This might vary as to cost of erection according to the locality in which they were to be erected; but the dimensions and general plan of cleansing would be the same generally.

(e) The general condition of the slaughter-houses, butcheries, bakeries and dairies, and other trades affecting health, are improving, yet public slaughter-houses for the community ought to be erected as soon as possible, and thus do away with those isolated slaughter-houses which, on account of their position as regards water-supply, renders it impossible for them to be kept in perfect order, especially during the hot season. The Dairy Act is in force, but the objectionable system of allowing milk to be supplied in bottles still remains as the general custom.

(g) The Native Location ought to receive the immediate attention of the authorities, not only as regards its sanitation, but also on account of its being a certain source from which disease is spread. The revenue drawn by the Council from the rent of these huts, averages about £12 a month, yet there is not a single water-closet in the whole Location, nor any attempt to meet the requirements of the population, which must average nearly 150 people. It cannot be questioned that if such a place was owned by a private party, or parties, the sanitation of the community would have been in a very different condition; and for the Town Council to force its laws upon others, and they themselves break them, is obnoxious in the extreme. Sometimes an inmate of one of these huts dies; it may be from Typhoid Fever or Consumption, and on the hut becoming empty it is immediately re-let to another, without any attempt being made by the authorities either to disinfect or to supply the new occupant with the necessary instructions, or materials, to protect him and his from contracting a similar disease.

(k) During the last quarter of 1901 Diphtheria originated in the town. About fifty cases occurred. But it was during 1902 that the disease took on an epidemic form. The number of cases reported for the whole district numbered 454, and of these 341 occurred in the town. The total number of deaths from this disease was eighty, or 17.6 per 100. The spread of the disease may be said to be due to the following defects:—

The defect of notification.—As in many cases no doctor was called in, or if so he only saw the patient once, and was not in a position to have formed a perfect diagnosis.

Isolation.—This is impossible amongst the poorer classes, but in the other sections of the community visiting is freely carried out, as it is the custom here to consider it neighbourly to visit all houses where sickness may be present.

Disinfecting.—This is lax in the extreme, as the manner of disinfecting houses, etc., is primitive, and frequently carried out by the occupants of the building, but as regards bedding and clothing, these are either put out to the sun's rays or left alone. It may not have received any attention from the Council, but the sooner a standard disinfectant is obtained for the thorough disinfecting of clothes the better, and it might be added that its absence from part of the hospital equipment is an unpardonable neglect. It is absolutely necessary that all bedding, no matter what the patient was suffering from, ought to be disinfected thoroughly before being issued to any other for similar purposes.

Schools.—The free intercourse the children had at the various schools, both daily and Sunday.

Library.—The houses infected should not have been allowed the use of books, and anyone assisting such a household should have been punished.

Milk.—The general system of supplying milk in bottles, as well as aerated waters, is a fruitful source of spreading disease. It is quite apparent that no system or arrangement was made to keep such bottles used at infected houses separate from others, nor can it be ascertained that such bottles were thoroughly disinfected before being put into circulation again.

Washing.—The general custom is that all soiled clothing is removed from the house weekly, the washing taking place either by the river or in the yard of the house, where the clothing is also ironed. In many cases it has been noticed that washing and ironing have taken place in a house wherein the disease Diphtheria was prevalent. In fact, in one case, a child almost dying from this disease was lying on a bed alongside some linen, which in a few hours would be removed to the owner's premises.

Servants.—The general system is that which may be called sleeping-out. The servant after the day's work is finished returning home, and occupying rooms or part of a dwelling in which disease may be present. In many cases the servants are mothers of children, who, when suffering from disease, are nursed nightly, the mother returning to her work next morning as if nothing was the matter.

During the past year 774 deaths occurred, and allowing 35,000 inhabitants for the district, this allows 22.2 per 1,000—a higher death-rate than ought to be amongst such a community, but if we take into consideration certain diseases such as Consumption, we find that during the year fifty-three died from this complaint, whilst only thirty died from Typhoid Fever. We all know that when one gets over Typhoid Fever, he may regain his general health, but it is quite another matter with Consumption, which, when once caught, comes to remain. There can be no question but that it is on the increase amongst the coloured people, and if it be on the increase amongst them, the class from which we obtain our servants and nurses, it is simply a matter of time to find its ravages

amongst the white population. There is a strong suspicion that Cancer in all its forms is also on the increase, and although only three deaths were recorded as due to that disease, yet there can be no hesitation in adding that it is the general opinion that this disease in all its varieties is gradually increasing, due no doubt to the free use of tobacco, and last, that loss of tone which is acknowledged to arise from intermarriage with closely-related families.

Vaccination.—There have been 1,464 cases vaccinated at the various centres, and the actual cost of same has been about £39 18s. If we deduct from this the cost of cartage, *i.e.*, £25 10s., we get £14 8s. as the actual payment received for the vaccination of the district. If we take the full amount, that is personal expenses, detention and cartage (£39 18s.), and divide it by the number vaccinated, we get less than 6½d. per case; but if we take £14 8s., which was the amount received for the services for free vaccination for this district during the year, and divide it by the number vaccinated, *i.e.*, 1,464, we get less than 2½d. per case, or about five a shilling.

A case of Small-pox occurred amongst the railway employees. This was isolated, and treated by the Railway Medical Officer, the whole camp vaccinated, and no other case followed during the year. The case no doubt was one of contact, and was introduced from the Willowmore district.

(ii) SUB-DISTRICT OF CALITZDORP.

DR. LAURENCE F. McDOWELL, ADDITIONAL DISTRICT SURGEON.

As my appointment only dates from September, my report cannot be as satisfactory as I should wish.

The public health of this portion of the district has not been good during the year. There have been epidemics of Typhoid Fever, Scarlatina, Diphtheria, and Influenza, and I have had twenty-four cases of Pneumonia. Most of these latter followed on Influenza. Pertussis has also been very prevalent. The sanitation of the village has improved, and the bucket system is compulsory.

(a) The water-supply is obtained from a furrow in the village, or from the river, or in a few instances from tanks. As the main furrow during times of drought is dry, it is a constant cause of danger, owing to its becoming contaminated.

(b) There is no system of sewerage or drainage.

(c) The night-soil bucket is in general use, and house refuse is regularly removed outside the village. Slop-water, etc., as a rule, is thrown out.

(d) There is no marked overcrowding.

(e) There is no complaint to be made about slaughter-houses. Dairies as such do not exist.

(f) This is improving.

(g) There is no location.

(h) The burial grounds are properly looked after.

(i) The Village Management Board are doing their best to improve the village and minimise nuisances.

(k) There has been no Small-pox. During the last few months of the year there were several cases of Enteric in Buffelsvlei, and a few cases in the village and in Ghamka. These cases can all be traced to polluted water in the furrows.

Scarlatina was very prevalent during September, October, and November in the village and at Buffelsvlei.

Whooping Cough was to be found in nearly every house at Nooitgedacht and Buffelsjagfontein, during the early part of the year.

During December a very severe epidemic of Diphtheria began at Buffelsjagsfontein, and quickly spread to the neighbouring parts, viz., Langverwacht, Nooitgedacht, Rietfontein, and Andrias's Kraal. The epidemic was the severest I have ever seen, and owing to the smallness of the houses and small number of rooms and general crowding, and the utter impossibility of isolating patients, every child in a family as a rule contracted the disease. The death-rate was high amongst the poorer classes owing to their being unable to get a doctor, and I know of three or four cases amongst well-to-do people who, after treatment with anti-diphtheritic serum did well, even when apparently hopeless, and who died suddenly in the third or fourth week from heart failure, when throat symptoms had been perfectly well for a fortnight or more.

52. PAARL.

(i) PAARL.

DR. A. KRAKOWSKY, DISTRICT SURGEON.

The general health of the town and district of Paarl during the year was fair.

A good many cases of Typhoid Fever have occurred in the town since last I reported.

Diphtheria occurs almost constantly, most of the cases in Lower Paarl and Old Gardens, though occasionally a case takes place in the centre of the town.

Eight vaccination trips were undertaken during the year, seven divisions being visited in succession, the eighth, to Languedoc, only recently having been attended. Altogether 1,053 persons presented themselves for vaccination, and the results were highly satisfactory. (Graham's Town lymph was used.)

The sanitary defects of the town are numerous, and of a very serious character. The attention of the authorities has been repeatedly drawn to them by myself and others, without any apparent improvement. Great outlay would be necessary to introduce a proper sanitary system, unless the Government itself takes the matter in hand and puts the town into perfect sanitary condition, and subsequently hands it over to the Municipality, otherwise we may expect to see little improvement for a long time to come.

The bucket system for the removal of night-soil is most important, and should immediately be introduced. If a charge of two shillings and sixpence a month per bucket was made working expense would be easily covered.

The dirty water from the houses is thrown upon the ground. The refuse water, consisting of bath water, chamber water and kitchen water, is thrown down the drains (open ones) of the street, causing in many cases a serious nuisance. Therefore I would strongly recommend that the system of daily removal of refuse water by means of cartage should be introduced immediately.

The household rubbish and all sorts of refuse are accumulating in the yards of the houses, and are decidedly a nuisance. In a few instances only private arrangements are made for carting away the rubbish, and this is placed in shallow spots within the Municipal area, consequently the atmosphere is likely to become polluted.

Premises, from which infectious diseases have been notified, are not inspected by the Municipal authorities; they do not try to detect the sanitary defects, and no disinfection is done by them, even in the poorest houses.

- (c) There is no public provision for the removal of night-soil.
- (d) The dwelling-houses inhabited by the coloured people are overcrowded.
- (e) Slaughtering takes place outside the town, and the butchers' shops are kept fairly clean. Bakeries are well-kept. Dairies do not exist.
- (f) Cattle and other animals are well stabled.
- (g) No such places.
- (h) Cemeteries are in good order.
- (i) Nothing to report.
- (k) On the 16th of January a single case of Small-pox occurred at Waterval Groot Drakenstein, the subject being a coloured boy of about sixteen years of age. No cause of infection could be traced. On the 22nd of January five European cases occurred on Mr. Beyer's farm at Matjeskuil. It is supposed that the persons in question had received some blankets from the Stellenbosch Remount Camp. All the cases were cured.

The Resident Magistrate and the officers of the Divisional Council did their utmost to prevent the spreading of the outbreak, and assisted me in every respect.

(ii) SUB-DISTRICT OF WELLINGTON.

DR. G. D. MALAN, ADDITIONAL DISTRICT SURGEON.

During 1902, the health of Wellington and district has been fairly satisfactory, and the number of deaths has not been above the average.

(a) The water supplying the village is derived from a river rising in the Drakenstein Mountains. It is brought in pipes to the reservoir, and is thence distributed throughout Wellington. It is very pure both at its source and on delivery, no cases of illness being attributed to it. Owing to the large number of new houses which are continually being built, it would be hardly sufficient to supply the whole place in a dry season, but I understand that the Municipality intends building a second reservoir.

(b) There is no system of sewerage in Wellington, and no drainage worth speaking of; the consequence being that many houses are very damp during winter.

(c) The bucket system is in vogue here, and the night-soil is removed efficiently and well by Municipal carts. Slop-water and urine are generally thrown into the yards, gardens, or river, a system which ought certainly to be changed as early as possible.

(d) In Front Street, Rooikamp—the native quarter—there are several dwellings which are overcrowded, but as yet no steps have been taken by the Local Authority to remedy this evil.

As far as I am aware there are no dwellings unfit for human habitation in Wellington.

(e) Slaughter-houses, butcheries, bakeries, and dairies are clean and well-managed, but there was considerable trouble during the year with a jam factory in Church Street, which was badly managed and kept in such a dirty state as to endanger health. It is now, however, closed.

(f) Cattle, swine, and other animals are generally kept in a clean state, but pigs ought certainly to be kept away from houses and not be allowed to roam about the streets and water-courses.

(g) There is no Native Location if one excepts Hermon, near Hermon Station. This is, however, kept clean, and the general sanitation of the place is good.

(h) Cemeteries and burial grounds are properly kept.

(i) A great nuisance in Wellington during summer is the dust in our streets, and this can only be remedied by the Municipality employing water-carts. Owing to the increase in size and population, traffic in the streets has increased enormously, causing the dust to lie inches thick, and I am convinced that many pulmonary complaints can be traced to the inhalation of dust particles. During last year a great many Indians have settled in Wellington, chiefly engaged in hawking fruit about the streets. This trade ought to be watched carefully, and the dwellings of these people inspected regularly, as I am told that in many cases they keep the fruit in their bedrooms, allowing it to ripen there.

(k) During the year we had a few cases of Typhoid, but it did not assume an epidemic form. Two of the cases I know of personally were contracted elsewhere. There were also a few cases of Diphtheria, but only one was severe, and so far as I am aware there were no deaths caused by it. We had two outbreaks of Small-pox during the year, one in April and the other in December. The first occurred on the farm Olijvenhout, near Wellington Railway Station, and was undoubtedly introduced by an old coloured woman who had visited her son at Rentzkie's farm, near Cape Town. She had come here by rail, covered with the eruption. Prompt measures were taken for the isolation and disinfection of the patient, and all contacts were at once vaccinated. The disease was in a mild form, and whilst two others subsequently developed the symptoms, no deaths occurred, and I was able to break up the isolation camp and discharge the patients at the end of April. The Divisional Council, Paarl, was the Local Authority concerned in the suppression of this outbreak, and rendered loyal assistance. A general vaccination and re-vaccination was instituted by me, and during the year I have vaccinated 2,254 persons.

The second outbreak occurred on December 8th, on the farm Versailles and was still in progress at the end of the year. This farm is also situated near the railway station, the probable source of infection being some blankets given to some coloured women by passing troops. The same measures for isolation in tents and disinfection were taken as in the previous case, all contacts were vaccinated, and I am in hopes that it will be as easily suppressed. At present there are five cases, all coloured, one male and four females, and all have it in a light form. The Divisional Council—the Local Authority—has again rendered efficient assistance.

The lymph used for vaccination was supplied by the Bacteriological Institute, Graham's Town, and was very good—practically all vaccinations being successful.

53. PEDDIE.

DR. TEMPLE SMYTH, DISTRICT SURGEON.

The sanitary defects noted in previous annual reports are in *statu quo*, or at any rate very little improvement is in evidence.

(a) The rainfall for the district for the year was 13.95 inches.

The drink-water supply depends, in cases of Europeans, upon over-ground metal tanks, and cement-lined brick or rock underground reservoirs. The supply is derived from roofs of buildings, and the water so caught is fairly pure.

The tanks are seldom cleaned out.

The native still drinks the vlei and river water, which is very often impure, and leads to water-borne disease amongst the coloured population.

A very fatal epidemic of Acute Dysentery resulted during a long drought experienced here in the summer of 1901-2, as an outcome of the above-mentioned natural water-supply. To this I shall refer later.

(b) Neither sewers or drains are in use, the rocky and hilly nature of the country minimises the dangers connected with stagnant or impure water-supplies.

(c) The bucket system of closets is carried on satisfactorily by a small proportion of European inhabitants; the vast majority, however, use the cess-pool system, which is not to be recommended, owing to the difficulty of digging deep enough in the rocky soil. If blasting could be safely carried out, and with some expenditure, this system, which at best is not good, would, I believe, be better than it is at present. Disinfectants are little used.

Slop-water is by most of the village inhabitants thrown out either through doors or windows, or in very close proximity to the houses. The village streets are badly kept, and very dirty, and rubbish heaps are numerous, and often too close to the dwellings.

(d) There is no European overcrowding, but some of the poorer natives overcrowd in their huts.

(e) Slaughter stock is killed in kraals, situated in the village, but at about one hundred yards from the nearest dwellings.

These slaughter-yards are well-kept.

The butcheries are not inspected often by the medical adviser to the Village Board.

Bakeries are satisfactorily carried on.

Produce buyers dry their raw hides in the most crowded parts of the villages, and the consequent number of flies attracted and the offensive odour make things unpleasant, if not dangerous to the community.

(f) Cattle are kept in kraals, in close vicinity in many cases to the houses; the same applies to smaller stock.

I know of no actual disease attributed to this cause having occurred here.

(g) The native locations, whose population is about 20,000, are in good order, and the dwellings, speaking generally, are tidy and clean.

(h) Cemeteries are well-kept. The natives bury their dead chiefly close to the cattle kraals, and the graves are sufficiently deep for sanitary purposes.

(i) No remarks.

(k) A few scattered cases of Enteric occurred, one of which, an European Cape Police trooper, arrived from Maitland Camp suffering from the disease in November.

I have no doubt that I do not see or hear of half the cases, as the population is so largely composed of natives.

I saw one case of Diphtheria. The diagnosis was not confirmed by microscopic examination, and ended in recovery. The patient was a native child, and the case occurred in August.

No variola appeared, and I vaccinated 2,149 persons, but large numbers of natives neglect the opportunities offered to them for vaccination.

The epidemic before referred to, of Acute Dysentery, confirmed in one case by *post mortem* examination, was serious, and of extremely high mortality.

This epidemic commenced in November, 1901, and continued, as far as I could ascertain, for four months at least.

I proceeded to the infected area (Kaulela's Location), on the 18th November, and investigated the outbreak; gave directions concerning boiling of milk and water, the disinfection and burial of excreta, etc. I got permission to treat one or two cases at the public expense, and treated several privately, but had no opportunity of visiting these latter cases.

The allowances for investigation, detention, and drugs was disallowed, so I had not sufficient opportunity to deal with the outbreak as I should have liked.

From information gathered, and from cases privately treated, I estimated the numbers of those infected at about 100, or rather more; and the deaths amongst these cases was certainly not less than 40 per cent.

Five children died, and one adult in one kraal alone. The disease was mainly confined to natives, and affected young children and aged people of both sexes mostly.

I attributed the high mortality to the obstinacy of parents regarding administration of solid food in the acute stages of the malady, and also the neglect in boiling the water and milk used by the sick and their contacts.

The ages of the patients also predisposed to the high death-rate.

This epidemic was confined to an area of three miles by one, practically, and all the huts were on one ridge—the water-supply being obtained from three common centres—pools in a small river, which was not flowing at the time, and a vlei.

One European child died on an adjoining ridge, of the same disease.

Other sporadic cases were distributed over the entire district, but the disease did not assume such grave proportions, nor so malignant a type.

The only cost incurred was in connection with a single visit on the part of the District Surgeon, when only travelling allowance was paid, and a visit to the area to hold a *post mortem* examination, already referred to, the usual tariff rate being charged.

The state of war in the country may have affected the public health, by the incoming of native wagon-drivers suffering from Enteric or Dysentery.

54. PHILIPSTOWN.

(i) PHILIPSTOWN.

DR. W. H. T. HUTHWAITE, DISTRICT SURGEON.

The general health of the district has been very favourable during the year, and there have been no epidemics of infectious or contagious disease.

(a) The water-supply of the town is in the same unsatisfactory state as reported last year. The pump which supplies the town with water taps only the subsoil water, and there is consequently a great liability to pollution.

There are numerous springs in the surrounding hills which would give a perennial supply of good, pure water, if properly conserved and conveyed into the town, but in the present apathetic condition of the Local Authority regarding sanitary matters, I fear that nothing will be done to improve our water-supply.

(b) There is still no system of sewerage or drainage in the town.

The night-soil is disposed of by the bucket system, the removals taking place twice a week, though there are not many of the inhabitants who avail themselves of this, many allowing their pails to remain two or three weeks without removal. Though the street keeper has reported this matter, I have never heard of the Municipality prosecuting the offenders.

The contractor charges one shilling for the emptying of each pail, and it is this charge which deters a good many people from having their sanitary pails emptied once or twice a week, as they certainly should be.

If the Municipality would undertake the removal of the night-soil, and levy a small rate to pay for cost of same, a far more regular service would be obtainable.

(c) The ashes and house-refuse are collected by the Municipality twice a week, and disposed of in a satisfactory manner.

There is no provision made for the disposal of slop-water, most of the inhabitants throwing it either into the street or their back yards. This nuisance could easily be obviated by the Local Authority having a large tub constructed on wheels and going round from house to house every day collecting all slop-water and emptying it out on the veld a few miles from the town.

(d) Though there are many old houses where sanitary conditions are not all that could be desired, there are none that can be condemned as unfit for habitation.

There is no overcrowding among the white population, except where the people from the district come in for "Nachtmaal," and as this is only for a few days in the year, no great harm is done.

(e) There is only one slaughter-house, situated on the outskirts of the town. This is not kept in a very satisfactory condition, owing to want of water for cleansing purposes.

(f) The stables are kept in a very unsatisfactory condition. The owners appear seldom or never to take the trouble to cleanse them, and allow large accumulations of manure to remain for a long time without removal.

(g) With regard to the Native Location, I would point out that there is an entire absence of latrine accommodation, consequently the environs of the camp are in anything but a sanitary condition. I would suggest that the Municipality erect a few latrines suitable for native use, and make a small charge for the cleansing of same.

(k) Two cases of Small-pox occurred during the year, both being railway employees, and living in huts on the railway line. They were attended by the Railway Medical Officer. A few sporadic cases of Enteric Fever and Diphtheria have also occurred, the origin of which could not be traced.

Vaccination has been performed in the town only, as, owing to the exigencies of Martial Law during the greater part of the year, it was impossible for people in the district to congregate at any special centres. The number of people vaccinated were.—

Over 10 years.	Under 10 years.	Total.
444	178	622

The lymph appeared to be of good quality, the reaction obtained was very good, and there were only two cases whose arms gave me any trouble; these two contracted Erysipelas, from which they subsequently made good recoveries.

As at present performed, it is impossible to obtain reliable vaccination statistics, as so many people fail to present themselves the second time to have their arms inspected, as will be seen from the following:—

Total Number Vaccinated.	No. presenting them- selves second time.	No. known to be unsuccessful.
622	252	17

I would beg to point out that we are urgently in need of a mortuary, as at present there is no place for the performance of *post mortem* examinations. In the old Gaol, which is disused, there is a room which could be utilised as a mortuary, and all that is needed is a properly-constructed table. I pointed this out to the Inspector of the Public Works Department last year, who agreed with me as to the suitability of the place.

(ii) SUB-DISTRICT OF PETRUSVILLE.

DR. D'ARCY WILLIAMS, ADDITIONAL DISTRICT SURGEON.

(a) The water-supply is good, and as the water for drinking purposes has to be taken absolutely from the source, there is no chance of its becoming polluted, the spring being in every way protected from contamination.

(c) The disposal of night-soil, etc., is satisfactory, and the village is free from any obnoxious odours, as the night-soil is deposited at a proper distance from any habitation.

(e) The slaughter-houses, butcheries, bakeries, dairies, etc., are worked in a cleanly way.

(f) The animals which are kept in the village are well looked after, and cause no nuisance.

(g) The Native Location is clean.

(k) The health of the village during the year 1902 has been excellent, and there has been no outbreak of any contagious or infectious disease. The vaccinations performed by me have been very successful, the lymph being good. The lymph was obtained from the Bacteriological Institute, Grahamstown, and the numbers were 3045, 3161 and 3162.

The water-supply of the gaol might, in my opinion, be greatly improved at a slight cost. The present well is not deep enough, and has now run dry. If it was sunk a little deeper, I think that a permanent supply might be obtained.

55. PIQUETBERG.

(i) PIQUETBERG.

DR. FRED. H. DOMMISSE, DISTRICT SURGEON.

The state of health for the district of Piquetberg during the year has been satisfactory on the whole, and very favourable as compared with that of the year 1901. There was a general epidemic of Measles throughout the whole district during the months of April, May, June, and July, and individual cases occurring until the end of the year. The great majority of these cases were followed after about ten to fourteen days by a severe Dysenteric Diarrhœa, which proved fatal in several cases.

(a) The water-supply has been greatly improved since last year by the Village Management Board, and great credit is due to them for the way in which they did it. All the water from the mountain has been collected into a couple of reservoirs from which pipes lead to the different houses. It is impossible for the water to become polluted now, and there is a sufficient supply for a village three times the size of this.

(b) Sewerage and drainage still the same as last year.

(c) Also the same, although arrangements are now being made for the proper disposal of night-soil, etc.

(d) Very little overcrowding now.

(e) Slaughter-houses, etc., are being kept in good condition. There are no dairies in the town.

(f) Cattle are kept in kraals in the town, and pigs run about *ad lib.*

(g) There is as yet no proper native location, although most of the huts are built below the town now. The Village Management Board have approached the Kerkraad about a proper site for the location; the result I do not know.

(h) Cemeteries are kept in good order.

(i) Nuisances are much less after the stringent law passed by the Licensing Board as regards the sale of liquor to natives.

(k) Typhoid Fever has been much less than last year. There was an outbreak in the village during the months of June and July, one case, or at most two cases occurring in one house. As regards the causes I cannot say anything else but that it was due to dust and flies, as so many *single* cases occurred in most of the houses. I am positive that neither the water nor the milk can be blamed for it.

A few cases of Diphtheria also occurred on a few farms, which could be traced to nothing else but overcrowding and filthy surroundings.

There were no cases of Small-pox. Vaccination was very thoroughly done this year, and very successfully. The number of calf was 3167, and lymph was procured from Grahamstown. About 90 per cent. of the cases were successful.

(ii) SUB-DISTRICT OF PORTERVILLE.

DR. FRANK P. BESTER, ADDITIONAL DISTRICT SURGEON.

(a) As reported in the Health Reports of previous years, the water-supply leaves much to be desired. As at present arranged the water runs in open furrows through the village, and gets polluted by pigs, fowls and general refuse as it goes along. The Municipal authorities have been repeatedly approached upon this matter, but up to the present time have not given it the slightest attention.

By collecting the water at its source in the mountain and bringing it to the village in pipes a splendid and never-failing supply could be guaranteed.

(b) Nil.

(c) Night-soil is disposed of here not by the order of the Municipality, but by the owners themselves. Water-closets—with the dry bucket system—are usually kept clean, but the night-soil itself is buried in the gardens, and often merely covered up with loose earth. On several properties no water-closets exist.

Slop-water and household refuse are deposited in gardens.

(d) Nil.

(e) Slaughter-houses and bakeries are fairly well kept. Butchers, however, are allowed to slaughter on their premises, and this certainly ought to be abandoned in favour of a slaughtering booth outside the town.

(f) Cattle are kept, and in most cases are well looked after, and the stables kept clean.

(g) The Native Location is under control of the Municipality, and kept fairly clean.

(h) The cemeteries are well kept.

(i) Nil.

(k) During the year there have been sporadic cases of Typhoid and Diphtheria.

In one case of Diphtheria the cause was undoubtedly ascribed to the dirty state of the water furrow in front of the house. The authorities were warned, and the furrow was kept clean for a time.

There has been an epidemic of Measles round the district and in the village. Although notice of such cases are given to the Municipality, "Isolation" is never brought into force.

During the year I had a vaccination tour through my district. The lymph supplied was from the Bacteriological Institute, Grahamstown, and was very good. Hardly any failures were reported.

Only one visit for vaccination is allowed, consequently the percentage of successful cases can hardly be stated, but I ascertained through private channels that the failures were very few.

56. PORT ELIZABETH.

DR. JOHN GEORGE UPPLEBY, DISTRICT SURGEON.

(a) The water-supply of Port Elizabeth is procured from a service of storage reservoirs and pumping stations supplied by the Van Staadens River.

The purity of the water of Port Elizabeth is satisfactory, and every precaution is taken to prevent pollution. The quality is good, confirmed by repeated analytical examinations; but the quantity is insufficient. The growth of the town necessitates a more ample supply of water, the Municipal area of Port Elizabeth only receiving the benefit of the Van Staadens water-supply. An extensive water scheme has been entered into by the Municipal authorities to tap the Bulk, Palmiet, and Sand Rivers, whereby it is hoped Port Elizabeth will be guarded against a shortage of water for many years to come, and by which also the comprehensive Municipal drainage scheme can be successfully carried out. The population of the outside suburbs—Korsten, Walmer, Fair View, Humewood and others—is increasing rapidly. The Municipality of Port Elizabeth will be compelled to consider the question of supplying these outside suburbs with pure water. Walmer depends on the rainfall and springs. These supplies are subject to pollution, and are not above suspicion. Some very severe cases of Enteric Fever, as well as mild ones, developed during the year, due to impure water.

(b) Sewerage and drainage conditions are in the same condition as previously reported on.

An elaborate and complete water carriage system of drainage has been decided upon by the Town Council, and approved of and supported by the ratepayers. This, however, will take some time to complete, and its success will depend on the increased water-supply mentioned above.

(c) The tub system is in vogue. Pits are dug on the outskirts of the town in which the night-soil is buried and covered over with sand and earth. The fullness of the tubs or otherwise, and the necessity of their removal should not be left to the householder. This matter should be dealt with by the Municipal Authorities. The town should be mapped out into smaller districts than at present exist, for sanitary purposes, and the tubs collected at more frequent intervals. The collecting should be carried on at night, and a depositing station should be established in the Drift Sands. There would be no difficulty in extending the present Drift Sands line of railing, say, to Burchell's old homestead.

Where no drainage exists slop-water is thrown into the street, this being one of the factors by which Enteric Fever is endemic in this town.

Household and other refuse is used up in the reclamation of the Drift Sands.

(d) Overcrowding is still a serious element of danger to the health of the community of Port Elizabeth.

Overcrowding exists in all towns.

Several causes may be adduced for overcrowding in Port Elizabeth, viz.: Insufficient number of tenements; high rentals; natural tendency of certain races, Asiatics, etc., to herd together; no law-abiding natives who in the mass can indulge in illicit brandy selling and drinking, and so forth. The greater portion of wages earned in Port Elizabeth is on the jetties,

the Harbor Board, and mercantile stores; the result being that a somewhat large population are crowded into a small portion of the town for living purposes, in order to be near their work.

This could be remedied by extending the present excellent service of tram cars to the outlying districts—Walmer, Korsten, and Fairview.

Land is still fairly cheap at Korsten, and a large population of the small wage earning class could be established there provided the means of conveyance to their work was speedy, cheap and convenient. The question of housing the working class will have to be faced. The expenses of the working man at present for the bare necessities of life are heavy, leaving him but little opportunity to save for a rainy day, and the house rent is one of his heavy expenses, the result being that two or three families share one domicile in order to economise in the rent.

Eighty-three dwellings unfit for human habitation, and unfit to be rendered habitable, were brought to the notice of the Town Council, in order that the power invested in that body should be exercised to cause these dwellings to be demolished. Seventy-two of these houses were pulled to the ground; in eleven cases no order was granted, and the houses are still unfit for human habitation. The influence of the slum landlord in the Council was too strong.

(e) No public abattoirs under proper supervision exist. Every report from every Medical Officer condemns the existing slaughter-houses as a disgrace to the community. The condition of the dairies still remains unsatisfactory. Milk is dear, and its purity doubtful.

The small bakeries are not what they should be, being small and cramped.

(f) The keeping of swine in Port Elizabeth is forbidden by the health regulations.

Some dairies still exist in the town, but the majority are outside. The Indian Coolie is responsible in many instances for the keeping of various animals in his small back-yard.

(g) Gubbs Location is a private location, the other locations being under Municipal control, where such locations are within the Municipal boundaries.

Unfortunately a number of small scattered locations have sprung up just outside the town. These are under no supervision.

(h) The various cemeteries in the town are gradually being closed. All burials will eventually take place at the North and South end cemeteries.

(k) Typhoid Fever.—During the year 213 cases were notified. Of these 136 were European and 77 Coloured. Sex: Males, 146; females, 67.

I am afraid 213 cases do not represent the actual number of cases of Typhoid Fever occurring during the year, as many cases of so-called Gastric Fever, Influenza, Teething, and Worm Fever are not notified; probably no medical aid called in, or may be only one or two visits paid by a doctor.

The Municipal Authorities supply a special pail for the excrement of Enteric cases. An inspector also personally interviews the householder, and gives instructions as to the disinfection of stools and precautions to be taken. It is no credit, however, to the sanitary condition of Port Elizabeth to have 213 cases of Enteric Fever during the year, and our number should be materially reduced, and ought to be reduced.

Diphtheria.—During the year forty-nine cases were notified; Europeans, thirty-five, and Coloured, fourteen; males, twenty-four, and females, twenty-five; deaths, eleven.

Small-pox.—On the 21st May the first case of the year occurred. It was that of an engine-driver on the Cape Government Railways.

The infection was acquired at Cookhouse.

Fifty-three cases were notified during the year, and have been under treatment at the Lazaretto.

I presume a special report will be issued by the Medical Officer in charge of the cases.

Bubonic Plague.—I regret to say this disease still exists in Port Elizabeth. A most serious element of danger is due to the apathy and scepticism of all classes, ignorant and educated, as to the existence of Bubonic Plague in our midst. The people not only fail to assist the authorities in the stamping out of the disease, but I am afraid, where possible, thwart them in their efforts.

Pthisis.—This is not a notifiable disease, but should be. Malays suffer severely from tubercular disease; also the bastard children of the half-caste families. The general public are not sufficiently alive to the fact that Consumption is an infectious disease, and can be markedly kept in check by suitable precautions. Indiscriminate spitting in the streets, trams, and other public vehicles should be a punishable offence.

Measles during the year claimed eighty-eight deaths.

Sixty-one cases of Scarlet Fever were notified; of these fifty-seven were Europeans and four were Coloured; twenty-eight were males, and thirty-three females.

Erysipelas.—Twelve cases were notified; of these nine were Europeans and three Coloured; four were males, and eight were females.

Leprosy.—Three cases. Two males and one female.

Puerperal Fever.—Two Coloured females.

Deaths.—During the year 1,454 deaths were registered; besides these, as District Surgeon, I also visited 223 bodies. Of the registered deaths 1,062 were Coloured.

Births.—During the year 1,739 births were registered; European, 693; Coloured, 1,046; males, 880; females, 859. Of the Europeans twenty cases were illegitimate, and of the Coloured, 276 cases were illegitimate.

The high death-rate of the Coloured classes was caused by the mortality amongst the children. Illegitimacy is a factor, combined with improper feeding and unhealthy surroundings of life.

Most of these children have died during the first eighteen months of life, and have almost invariably been bottle-fed children.

Vaccination.—The usual tours were made during the year throughout the district. 603 individuals were vaccinated during the year, 188 at the Gaol, and 316 on board ship, being natives and Asiatics landing at the Port, and the remaining ninety-nine at the various centres in the district. The above figures—ninety-nine only of the residential population—indicated the carelessness of the community as regards availing themselves of the protection afforded by vaccination against Small-pox. The regulations in regard to vaccination should be rigorously insisted on, as at present they are practically a dead letter. A few prosecutions of those failing to comply with the law would have a wholesome effect.

Hospitals.—Port Elizabeth is well equipped with hospitals of various kinds, private and otherwise, but there is a crying and urgent need for one other, and that is an isolation hospital. Ships continually arrive at Algoa Bay with obscure and other cases of disease, and no isolation hospital exists for the treatment of the crews. Sailors and others suffering from Beri-Beri, for instance, are refused admittance to the Provincial Hospital, a resolution to that effect being on the Minutes. This is one group of cases that an isolation hospital would meet. A small building could be erected in the Lazaretto grounds, or a few wards for isolation purposes added to the Provincial Hospital.

Morgue.—I would once again call attention to the absolute necessity for a Public Morgue, the only Morgue for all cases of death necessitating an inquest is the one at the gaol. I need hardly say the removal of a corpse to the gaol is in many instances most repugnant to the feelings of relatives and friends.

57. PORT NOLLOTH.

DR. NEVILL G. THOMAS, DISTRICT SURGEON.

From April 10th until August 31st a Military Hospital was established, and troops were constantly passing through the village.

At the Military Hospital there were numerous cases of Enteric Fever, and one of Scarlet Fever; but fortunately not a single case of either disease occurred amongst the civil population, and this in spite of the fact that contemporaneously with the military occupation some thousand odd refugees from all parts of the surrounding country were encamped inside the entrenchments, and close to the village and the hospital. The number of persons treated under the Contagious Diseases Act was larger than usual, but with fairly satisfactory results.

A site has been selected for a new Gaol, which is very urgently required, as the present one has no accommodation whatever for either those on the sick list or for persons of unsound mind, who have at present to be confined in an ordinary cell.

(a) The water-supply consists of an unlimited supply of brack water from the five mile station, and of rain water collected in the tanks.

(b) None.

(c) Night soil, slop water, etc., is emptied nightly into the sea by the bucket and pail system.

(d) Many of the native huts are badly overcrowded, but it is a fault that it is almost impossible to remedy.

(e) All slaughtering is now done about one and a half miles outside the village.

(f) As before.

(g) The native location is filthy in the extreme, as are also the Hottentots and Bastards who inhabit it.

(h) The present cemetery is to be closed, and a new site has been selected about three-quarters of a mile outside the village.

(i) Nothing to report.

(k) There has been no case of infectious disease during the year amongst the civil population.

Two hundred and eighty-three vaccinations have been performed (seventy-three were re-vaccinations), of which 236 proved successful. This, I consider, shows that the lymph supplied was of excellent quality. Of this large number a large proportion were refugees.

58. PRIESKA.

DR. J. S. GIBBONS, DISTRICT SURGEON.

During the first half of the year the village was virtually in a state of siege, all ordinary intercourse with the country being cut off. The population of the village was considerably increased by refugees, country people detained, and troops, with resulting overcrowding. In addition food supplies failed, and during most of the time the inhabitants had to live on meat

only. Under Martial Law regulations the sanitary condition of the village was excellent; and as, fortunately, no epidemic of any kind occurred, the death-rate was not greatly affected. Some eighteen deaths, however, of old people and young children—registered as due to Diarrhœa—were mostly attributable to improper diet.

After the withdrawal of Martial Law, there was some difficulty in getting the Municipality in working order again, and sanitary affairs were unsatisfactory, but at the end of the year matters began to improve again.

(a) The water-supply is abundant in quantity and good in quality, and readily accessible. A grave defect, however, exists at its source, where immediately above the collecting reservoir a pool is situated, lined with filthy mud, the water from which percolates into the reservoir, and mixes with the drinking water. In addition, the catchment area above the source of the water is polluted by goats, donkeys, etc., that drink at the above-mentioned pool, and there are carcasses of dead goats a little higher up the water run. The remedy is easy, and not expensive. The present fencing requires repairing, so that cattle can be kept away, and the pool cleaning and filling up with gravel flush with the reservoir wall.

(b) None.

(c) Dry earth closet system; the removal latterly well-managed.

(d) Almost none.

(e) Fairly satisfactory.

(f) Outside the village.

(g), (h), and (i) Satisfactory on the whole.

(k) In January one death from Measles was registered, but that marked the end of the previous year's epidemic. In the later months Diphtheria was prevalent in all directions, except in the village, but in consequence of the scarcity of horses, information was late in coming to hand, and wanting in details. The epidemic seems to have been introduced from the eastward, and was undoubtedly spread by the wholesale visiting that took place among the country people when Martial Law restrictions were removed.

Registration was necessarily imperfect. Of ninety-eight deaths registered, thirty were European. The more noticeable causes of death were Pneumonia, seven, and five uncertificated; Syphilis, three; Puerperal and Simple Continued Fevers, one of each; and one violent death (gun shot). Probably a considerable number of deaths were either not registered or not recorded until the present year.

Births registered numbered 141, eighty-seven being Europeans.

59. PRINCE ALBERT.

(i) PRINCE ALBERT.

DR. R. STEVENSON, District Surgeon.

Since my last report a Municipality has been proclaimed, and I was in hopes that the water question would be at once solved, but up to the present no attempt has been made to put the drinking water into pipes, and consequently the inhabitants have still to drink the filthy water which flows through the village in an open furrow.

(a) The water-supply is derived from springs at the top of the Swartberg, and at its source is plentiful and of excellent quality. In its passage to and through the village it is so polluted as to be absolutely unfit for drinking purposes, unless previously boiled. From its source in the mountains it runs in an open furrow to and through the village, and it is an everyday occurrence to see animals of all kinds grazing on the banks of and in

the furrow. There is an outspan at the first drift beyond the village, and although its use has been prohibited, the regulation is not carried into effect, consequently the water is here much polluted by donkeys, oxen, goats, and sheep. From this point the furrow runs alongside and below the level of the road, and whenever it rains, large quantities of filth-laden matter are washed into it, and this is the chief cause of pollution. The remedy is simple. The drinking water should be brought into and through the village in a pipe, running from a point above the village where its purity is certain. At a public meeting held some time ago, it was resolved to carry this into effect, and there the matter has ended. It seems to be the desire of certain members of the Municipality to have more water to irrigate their lands, a pure supply of drinking water being altogether a secondary consideration. Many of the native huts are situated along and above the water furrow, and as most of the washing is done here, the water is still further polluted.

(b) There is no system of sewerage and drainage carried out.

(c) The night-soil is carted away once a week, and deposited about two miles beyond the limits of the village. The bucket system is in vogue, and is carried out by a contractor. Most of the houses have now closets attached to them. The formation of cesspools has been prohibited, and the use of existing ones discouraged. The slop-water is not dealt with, and is thrown into back yards. The disposal of household refuse is also most unsatisfactory, it being left to each individual to make his own arrangements. It would be much better if the Municipality dealt with this in the same way as the night-soil, and had it regularly carted away beyond the limits of the village.

(d) There are many overcrowded dwellings, especially amongst the natives, and also many unfit for human habitation.

(e) The slaughter-houses are beyond the limits of the village, and are kept in good order. The butcheries and bakeries are also clean and well kept. There are no dairies in the village, but many people keep cows and sell milk. In one case at least the kraal is too near the dwelling-house.

(f) The manner in which these animals are kept is disgraceful. The kraals are, as a rule, filthy, and far too near the dwelling-houses. In summer, the stench is unbearable.

(g) There is no native location, the natives being scattered over the village, the largest number being above and close to the water furrow. They ought to be removed to a location below the village.

(h) The burial grounds are kept in good order, and there is no reason to think they are a cause of ill-health.

(i) Since the Municipality has been formed, there has been no great improvement in the sanitary state of the village. There is a sanitary inspector, who is empowered to take action to stop any nuisances when complaints are lodged. At the last Licensing Court the sale of liquor to natives was prohibited, and I anticipate that this will have a beneficial effect on their health.

(k) There were six cases of Typhoid Fever in the village. The cases were not confined to any particular part, and the origin is doubtful. No deaths occurred. There were also several cases of Measles of a mild type. There were also a number of cases of Typhoid in the district, but as many of these had no medical attendance, I am unable to state the exact number. Phthisis is very prevalent, and there are at present several cases of active disease amongst both white and black people.

Natives seldom recover from this disease, and during the year more than one death occurred in the same house. The inmates were warned of the danger of infection from sputum, etc., and were supplied with disinfectants. The clothes of diseased persons were ordered to be burned. It would have been much better if the huts had been burned.

Several cases of Small-pox occurred in a military convoy at Fraserburg Road. I cannot supply any details, as the cases were attended to by the civil surgeon in charge. I know they were isolated, and no further cases occurred. No deaths were reported, and only coloured people were affected. The Railway Medical Officer and myself vaccinated all the civil population round about. Vaccination was carried out in the village and district during the year, the number vaccinated being 1,944. I do not know the number of successful cases, as the District Surgeon is not given an opportunity of revisiting the centres where vaccination was performed.

There was an epidemic of Whooping Cough during the year, many cases occurring in both village and country. There were several deaths, mostly from Broncho-Pneumonia and Bronchitis, all the fatal cases being young children.

I am not aware that the state of war affected the health of the district in any way.

(ii) SUB-DISTRICT OF LAINGSBURG.

DR. H. W. STEPHENS, ADDITIONAL DISTRICT SURGEON.

The general health of the village during the year was not good. In the early part of the year Enteric Fever was very prevalent; later, Pneumonia of an epidemic type, as many as four cases being found in one house, and in the early part of the summer, Diarrhoea, and a form of Dysenteric Diarrhoea, which always appears here in the summer, were prevalent.

Of these, the Enteric Fever, Diarrhoea, and Dysenteric Diarrhoea are undoubtedly due to the water, since in a sandy soil like this, the water drawn from shallow wells must always be liable to organic pollution, and that taken from the open sluic which runs through the village, even more so.

The number of deaths registered from the village during the year was sixty—twelve European and forty-eight coloured.

Of the Europeans, children under one year made 25 per cent. of the deaths; whilst of the coloured people's deaths, the percentage of children under one year was 42.5. The causes leading to such mortality among the young coloured children are, I think, drink, bad housing, and illegitimacy.

Of the eighteen deaths of coloured children under one year, nine were due to Respiratory Diseases, three were due to Diarrhoea or Vomiting, four were due to convulsions (in one case I saw these were due to Tetanus Neonatorum), two were due to general congenital weakness. Of the three European children, two deaths were due to Diarrhoea, and one death was due to Meningitis.

The coloured people who do not live in houses stay in the location in huts made of sticks and sacks in most instances, and these make very poor shelter against the sudden changes of weather experienced here.

The men earn usually from 1s. to 2s. 6d. per diem, and in many cases the majority of this is spent in drink, and the family, if there is one, has to be kept alive by the wife earning money by washing.

This cause cannot be eliminated so long as drink is allowed to coloured people of any description. The housing, however, can easily be improved, and at very little cost, if the local authority is instructed to do away with the present hovels, which are unsightly, and act as collecting places for all sorts of filth, and to erect wood and iron buildings, the rent of which would soon repay the outlay. Illegitimacy would remedy itself if the conditions under which married people could live were improved.

Sanitation of the Village.—The plan at present in force for the removal of night-soil and rubbish is undoubtedly the best, if not the only one for a village of this description; but the method of carrying it into effect

might be improved. Now, a waggon goes round the village at night with two tubs on it, into which the night-soil is emptied from the closet pails. The consequence is a horrible smell follows the waggon, and this blowing into open windows or doors is, to say the least, unpleasant, and the sanitary, or usually very unsanitary pails of the closets never get thoroughly cleaned. All they have is a rinse with a little water. What I would propose is, that the Local Authority should provide each house or each closet with two sanitary buckets with lids, like those now used in the lock-ups, and costing about 2s. 6d. apiece; these could be removed with their lids on to the depositing ground, and there cleaned and brought back and changed for the full buckets at the next time of removing, the cost to be borne by the owners. There should also be thorough cleaning of the streets. I think, in this respect, each householder should be made responsible for the street in front of his holding, kitchen refuse, paper, etc., being removed daily instead of twice a week as at present.

And further, although it may be thought to be adding unnecessarily to expense, I think it would conduce to health if the streets were watered, the dust at present blowing about with the slightest wind, being charged with decaying organic matter.

Infectious Diseases.—Enteric Fever, fifteen cases; Measles, three; Diphtheria, eight; Varicella four.

These cases of Enteric, all except two, occurred in the early part of the year, and I am hoping that the effect of removing the location from its old site above the village to the commonage on the other side of the river is now beginning to tell, as this summer there have only been four cases so far. The remedy for this is really the provision of water from a source where it cannot be polluted either at the source itself, or in its transit to the village, and this can be secured by the sinking of a well and making a dam above the village on the eastern side of the railway line, whence the water can be brought to the village in pipes and distributed by pipes to the houses where the owners are willing to pay for these, or by hydrants in the streets. But as a scheme of this sort will want an outlay of about two thousand pounds, it is out of the question so long as there is only a Village Management Board with no power to borrow money.

There are three requisites for the maintenance of health which are of the first importance in this country, with its warm climate, sandy soil and mixed population. They are:—

- 1st. A water-supply free from organic pollution.
- 2nd. The greatest cleanliness possible to be obtained by good sanitary arrangements and constant supervision of them by a reliable inspector.
- 3rd. Protection from dust, by trees and watering streets.

60. QUEENSTOWN.

(i) QUEENSTOWN.

DR. J. VICTOR HARTLEY, ACTING DISTRICT SURGEON.

(a) The water-supply is obtained from the Komani River, which drains the Bongolo basin, being carried by furrow to the Berry Reservoir, and distributed to the town by pipes. During the prolonged drought of 1902 the water-supply became a very serious question for the Local Authorities. Regulations were enforced limiting the supply of water for domestic uses to certain hours daily. For some considerable time garden irrigation was strictly prohibited. The Komani River is liable to be-

come polluted by decaying animal and vegetable matter during heavy rains. Steps are taken to prevent this by allowing only clear water to enter the furrow. The latter is now closed by pipes.

The ratepayers, recognising the necessity for providing a water-supply commensurate with the rapid increase of Queenstown, have recently (May, 1903) consented to the Bongolo scheme, and have authorised the Town Council to take all steps, Parliamentary and otherwise, to bring it to a successful issue. The scheme is to build a wall seventy-five feet high across the poort, a narrow opening adapted by nature for such a scheme. A large lake will thus be formed, having a collecting area of forty-two square miles in the Bongolo basin. It will be remarkably free from any sources of contamination. The rainfall in this area is an average of twenty-four inches per annum. It will give Queenstown a water-supply unrivalled in the Colony, and capable of supporting a population of 100,000 inhabitants, with all factories and other industries incident to such a town. The scheme has been carefully examined and favourably reported on by the Government engineer.

During the prolonged drought the water in the Berry Reservoir was further increased by pumping water from the river about two miles below the entrance of the furrow. The river is fed by springs throughout its course.

The majority of houses in town possess one or more tanks to conserve rain water, which is chiefly used for domestic purposes.

(b) There is no system of sewage treatment; drainage is simply surface, and carried away in gutters in the streets. A few of these gutters have been piped and covered in.

(c) This is by private contract or arrangement between the individual ratepayer and the contractor. This is not satisfactory, and is expensive. The alternate disposal of the night-soil and refuse by the contractor is satisfactory.

(e) The slaughter-houses belong to the Municipality, and are situated about one and three-quarter miles from the town. They are kept in good order. These, together with the bakeries and dairies, are under strict and regular supervision by the Sanitary Inspector. The present arrangement for disposal of the blood and washings from the slaughter-houses is not satisfactory. Some scheme of settling and filtration should be introduced before the effluent is discharged into the river.

(d) There are no overcrowded dwellings, unless at the location. Huts unfit for human habitation are destroyed.

(f) These are under town regulations, and are not allowed to become a nuisance.

(g) A superintendent, who is responsible to the Town Council, supervises the cleanliness and general sanitation of the location.

A water-supply from the Berry Reservoir is provided. Sanitary conveniences are erected at proper distances, and are inspected and cleaned daily. There are upwards of 6,000 natives in the location, and many pass through on their way from the territories to the Rand. A system of passes is in force, and works well. The location is constantly enlarged, and the more recent extensions show the very great advance the native has made in sanitary matters, etc., by the better style of dwellings, greater care of cleanliness, etc. In the old location the difficult question of overcrowding arises. The superintendent has insisted on cleanliness, but the overcrowding is a question which will be dealt with shortly, I hope. The severe Small-pox epidemics which arose here I will deal with under its paragraph.

(h) The cemeteries constitute no danger to public health, and steps are being taken to hand the management over to a central committee on which all the churches will be represented. A suitable burying place has been provided at Tylden.

(i) The Sanitary Inspector is empowered to take action whenever he deems it necessary to stop nuisances of any kind.

(k) The notifications of infectious diseases to the town office for the year 1902 total 162. There were no cases of Diphtheria.

The following shows the rapid decrease in these diseases during the past three years:—

Year.	Typhoid.	Small-pox.	Diphtheria.	Scarlet Fever.
1900	110	?	—	74
1901	104	4	5	65
1902	43	110	0	9

There is a rapid decrease in number of Typhoid or Enteric cases, and the deaths were ten.

The year 1902 was remarkable for the Small-pox epidemic which arose in the Native Location on the 3rd of March, the first two patients having arrived from Cradock three days previously. It reached a climax in June, fifty-seven cases being notified, spreading across the river to the town, where eight Europeans and two Coloured people were attacked. The total number of deaths were eight, all natives. Owing to the rapid spread of the disease the Municipal Authorities asked all medical practitioners in the town to assist in vaccinating and re-vaccinating the natives. About 3,835 vaccinations were done at this time (June), and in July only five cases occurred; August, three cases; September, one case; and we have been free of the disease since. This shows the wisdom and efficiency of wholesale vaccination during such an epidemic. Including district surgeons' vaccinations, etc., the total number performed by medical men in the district in 1902 was over 4,277. During Martial Law one native at Carl's Rest, and one at Bowker Park, in military employ, contracted the disease. No further cases. The health of Queenstown in regard to infectious disease is rapidly and steadily improving, as shown by the figures quoted. With the advent of the new water-supply it should be a town noted for its freedom from these diseases. We have no means of battling with Phthisis, our nearest hospital being Kimberley. The deaths from this disease are twenty-two males and eight females during the year. This disease is not admitted to the Frontier Hospital. It forms a very difficult problem, as many people suffering from it are shop assistants, etc., who cannot afford to neglect their work, having no financial resources, living generally in boarding houses. It would be a great boon to many if some hospital or sanatoria accommodation was provided here. Phthisis is steadily increasing amongst the natives, in my opinion greatly due to their adopting European dress, without the usual hygienic precautions, and so becoming rapid victims to chest diseases.

(ii) STERKSTROOM.

DR. J. B. CUMMING, ADDITIONAL DISTRICT SURGEON.

Very little that is new can be added to this year's report.

(a) The long-desired improvement in the water-supply of the village is still in the clouds. Nothing definite has been done in the matter. The water still runs in the old original open furrows along the sides of the streets, and is consequently liable to pollution of every kind in the whole of its course. Not many weeks ago I found an old filthy chamber utensil in the furrow.

If the water were properly collected and distributed in pipes the supply would be ample for the present requirements of the place, and the quality would be nearly perfect, as it is at its source.

Whereas now there are frequent complaints of insufficiency and impurity.

Every year more tanks are imported, and many wells have been dug also. By these means the supply of water has been augmented for all purposes, and better drinking water is obtained.

I understand steps are shortly to be taken to have piping laid down, but up to the time of writing no visible progress has been made.

(b) Sewerage and drainage are left almost entirely to nature.

(c) Night-soil is removed in a covered cart once a week and deposited in covered trenches about half a mile from the village.

Slop-water is thrown out in the streets or back-yards. Many of the latter are so small that they are quite sodden, and smell very sour.

Household refuse is collected in boxes and removed once a week.

(d) No dwellings which are overcrowded or unfit for human habitation have come to my notice.

(e) Slaughter-houses, butcheries, bakeries, and dairies are cleanly kept. There are no other trades or manufactories affecting health.

(f) Cattle and sheep are still kraaled in the village, in some cases in large numbers. The kraals mostly abut on the streets, and are sometimes far from aromatic. Storm-water and wind carry their contents to the water furrows, and the wind lifts the dust to the roofs of houses, whence it finds its way into the tanks.

(g) The Native Location is not a model of good order, cleanliness and sanitation.

(h) The three cemeteries are sufficient.

(i) Abattoirs have been built for the use of natives in the location, but the bed of the river and the dongas above the railway line are their favourite haunts. These places after a few weeks of dry weather are very disagreeable to pass.

(k) One case of Small-pox occurred within the Municipal area during the year. The patient, a native man in the employ of the Government Railway, states he was called upon to assist a sick native in moving from one truck to another, and concludes the man had Small-pox, and that he got the infection in that way.

He was discovered to be affected with the disease on 23rd December. He made a good recovery, and was discharged from the Lazaretto on the 23rd January. Immediately on the case being recognised as one of Small-pox the man was removed to the Lazaretto, where he was fed, treated and guarded carefully until discharged. All contacts were isolated in their huts at the Railway Station. They were vaccinated and guarded night and day for fourteen days. These steps were taken by the Medical Officer of Health under instruction of the Town Council. All that was possible was done to prevent the disease spreading.

The cost incurred in dealing with this outbreak was defrayed by the Government. It amounted to £69 6s. 9d.

There were about twenty cases of Typhoid during the year. There was no Diphtheria. It cannot be said that the state of war affected the public health of this place during the year.

(iii) SUB-DISTRICT OF WHITTLESEA.

DR. JOHN K. MURRAY, ADDITIONAL DISTRICT SURGEON.

I have had no work as a public health officer during 1902 in either Small-pox or vaccination. There has been no Small-pox during the year in the village itself, and no public vaccination. At Shilloh, a Moravian Mission Station two miles off, there was an outbreak last June which, so far as I am aware, was looked after by no medical man. Vaccination under the Public Health Act, is to be carried out at least once a quarter in Whittlesea, Hackney and Kamastone, of which geographically this Additional District Surgeoncy would be the centre. I understood since the receipt of the circular from the Health Branch, dated 28th March, 1899, that this was to be rigorously carried out. During the year a vaccination tour was carried out by Dr. Batchelor, who visited the places around Whittlesea. He did this under orders from the Magistrate after he (Dr. Batchelor) had pointed out that the *tour* embraced places geographically out of his district, and in mine.

There has been no treatment of Syphilitics by me as District Surgeon during the year. From my experience of the natives who come to my surgery, I am not surprised to hear that Syphilis is on the increase. I had formed the same opinion independently of Circular No. 48. I was stopped in the treatment of Syphilitics by the Resident Magistrate on December 22nd, 1898, who informed me if I treated a native it must be as a private patient. I have presumed that locally the plan is to get the Syphilitics into the Queenstown Hospital for treatment. This, of course, is a praiseworthy idea. The hospital, although it has failed to become a centre of important medical and surgical work, has rendered the rather mediocre but very useful service of housing the Typhoids, Consumptives, and Syphilitics of this area. Unfortunately few natives care to go to a hospital, especially for Syphilis. Effective treatment of the disease would, in my opinion, be carried out by allowing them to use the medicines in their kraals, as many would then take treatment who would elude the officers and never enter a hospital.

I have neither examined nor treated any lepers during the year.

In the village of Whittlesea itself there have been fifteen births and six deaths. Of the deaths three were infants under the age of twelve months.

(a) During the year the question of a water-supply for the village has been considered, and is, I believe, still engaging the attention of the authorities. The only water-supply obtainable is from the Ox-kraal River, which has been described in previous reports. Its course traverses along a native location, which might easily be subject to an epidemic of Typhoid or Dysentery, and so the water become polluted. The schemes which are now before the public are:—

(1) Enlarging the present reservoir by strengthening its embankments, by paving its sides, and puddling its bottom. By these means a reservoir would be obtained which would also serve as a filter to store irrigation water, and could be used as a supply for drinking water. A sluice gate on the furrow of the top dam could be used to shut off the water from the reservoir when the latter was full, and to stop the entry of silt into the reservoir. If the reservoir water were brought into the houses and gardens of the village by pipes, contamination of the water-supply by ducks, cattle, foot-passengers, etc., would be avoided, and loss of water from evaporation in transit from the reservoir to the houses would be nil—not by any means a small item in dry seasons.

(2) Boring on commonage. This raises the whole question of dykes

and water-finding. Sufficient to say, there are some likely sites, and money spent on boring would not be wasted.

(3) Sinking wells in the village and boring by private individuals or by the Government bore. The sites would require careful selection, as the village contains cattle kraals, pigstyes and cess-pits not perhaps as ancient as the Augean stable, but as thickly spread and as filthy. I fear that nitrites would soon appear in most wells here.

(4) A modest scheme of utilising the fountain in the river as a draw well by cleaning it out and building it round with substantial mason-work.

Scheme (1) means a large outlay of money considering the small purse of the village, and would require expert advice from an engineer. The capital necessary would probably be about £1,000, which could be borrowed from a large number of quarters under the Public Works Act. The population of the village is being increased by the addition of half-castes and brown persons who live in the poorer class of house, and who in dry weather are forced to use the river or the open furrows for drinking water. As these are frequently polluted by ducks, geese and crossing traffic the water might easily convey disease to these people, and be the cause of a serious epidemic. Before any large scheme is undertaken one or two boreholes or wells sunk in suitable localities and masoned would be of great benefit to the poorer section of the community, and safeguard public health.

(b) The same defects exist as in previous years. The bad places in the streets are no worse and no better.

(c) No regular method has been adopted; each householder pleases himself in this matter. To judge from the stench from some of the privies, they must be full. Some of the proprietors should be enforced under the regulations to cleanse the pits. The public latrine by the river was not well cleaned in the last dry season, and has, in consequence, retained more filth than usual.

(d) Some of the poorer dwellings inhabited by the brown population are rather densely peopled, but are on a par with similar dwellings for a similar class anywhere else.

(e) There are three butcheries now in the village, but I am not aware whether they are supervised by the Board or not. There is a series of regulations in existence for the guidance of the Board, which provides for slaughter-houses, but I see no slaughter-houses, consequently it is fair to conclude the law is in abeyance.

(f) There are still some swine kept in the village. This should be stopped. The cattle kraals are not so near the dwellings as to be a nuisance.

(g) Whittlesea location consists of some nine huts on the hillside above the village. The location is under the Village Board. The place is fairly clean. There is no public latrine which the natives can use, and no water-supply nearer than the Ox-kraal River. The site is not a very suitable one, as the natives are too far from the water-supply. In view of the possibility of plague, loose rags and rubbish on the location might be burnt with advantage.

Shilloh.—The number of deaths during the year was eighteen, of which twelve were infants under the age of one year. The number of births during the year was fifty.

The population is estimated at 732. This indicates a fairly healthy location, and the place itself is clean. There were some cases of Small-pox last year in Shilloh, but I was not asked to visit them.

(h) Whittlesea Cemetery is now in good order, and provision has been made for natives. No instances of irregular burials have come to my notice. Such burials should be reported by the headmen or Cape Police, as the indiscriminate choice of burial resorts by natives may lead to a nuisance.

(i) I am not aware of any nuisances which have been abated during the year. The native residents by the river-side in the village are now all provided with w.c. accommodation. Whether they all use them is another matter. This is a nuisance which requires the consideration of the Village Board.

(k) During the year in this district there have been seven cases of Typhoid Fever, ten of Scarlet Fever, eighteen of R  theln and Measles, two of Diphtheria, and over fifty cases of Whooping Cough. Small-pox existed at Shilloh as stated above. My impression is that such an outbreak is better under medical supervision, but the Divisional Council think not. The remuneration is so scanty as not to pay for one's forage, so my criticism may be taken as disinterested at least. Vaccination, to be efficient, has to be systematically carried out and checked. A fixed standard of result should be layed down, such as that the English Local Government Board has adopted, and each child, when it is three months old, vaccinated and registered as vaccinated. Ample facilities should be provided for the vaccination of children by public vaccinators, and in the case of natives supervision that the arms are cleaned and prepared by the removal of red clay and that the lymph is allowed to dry thoroughly on the arm. Compulsory attendance on the eighth day to exhibit the result should also be enforced. This carried out for three years would produce such a highly vaccinated community that Small-pox would never gain a footing.

As long as the present silly system is adopted it may afford a few pounds to the friends of Divisional Councillors, but it is useless so far as yielding efficient vaccination is concerned. Even the provisions of the Health Act as to vaccination quarterly in urban areas, such as Whittlesea, Hackney, and Kamastone, are a dead letter.

61. RICHMOND.

DR. DAVID TRAILL, DISTRICT SURGEON.

(a) The water-supply continues the same as formerly. The main supply is drawn from a spring opening at the side of the river bed at the upper end of the village. This supply is not available when the river is in flood: a contingency that did not occur during the year.

I have to repeat my remark in last year's report that I have had no reason to suspect that the health of the public has been in any one case injuriously affected by the water-supply.

(b) Nil.

(c) Night-soil.—As a result of new regulations adopted by the Municipality, all cess-pits were ordered to be closed, and all houses to be supplied with buckets not later than the 1st November. Householders have to pay 1s. 6d. a month for the emptying of these buckets by the Local Authority's Contractor. Buckets are supposed to be emptied once a week.

Slop-water.—There is no regulated system of removal of slop-water. It is left to the ingenuity and idiosyncrasy of the individual householder. A few have invested in private tanks on wheels. Those who have gardens behind their houses find there a suitable outlet for its disposal. Others dispose of it as best and easiest they can: now that the convenient and capacious maw of the cess-pit has been closed, it is to be feared that they sometimes take advantage of the furrows running past their doors. At any rate it has been noted that the water furrows have had specially obnoxious odours during the past summer.

Household and other refuse.—Its disposal is fairly satisfactory.

Before leaving this section (c) I must remark that the introduction of the bucket system of disposal of night-soil has not proved an unmixed blessing. Theoretically this system is better than the cess-pit system; but, from my experience in Richmond and elsewhere, I have come to the conclusion that unless it is carefully supervised and carried out, it is a more fruitful source of danger than the old-fashioned cess-pit arrangement. In a cess-pit, with a porous bottom, the liquid soon drains away and the solids, in the dry air of the Karoo, so become desiccated and deodorised. It is amazing the way in which a not overtaxed cess-pit can away with its contents. The great advantage of the cess-pit, especially in villages where little interest in, or oversight of, sanitary matters is taken, is that it practically requires no supervision. The bucket system on the other hand requires constant supervision in all its details.

The following are some of the defects that have already been forcibly brought to notice during the six months the bucket system has been in vogue here.

I. The buckets are not properly cleaned and deodorised before being returned. At present "the returned empty" is a nuisance. They should be thoroughly tarred inside after being thoroughly washed.

II. The irregularity in some cases in the emptying of the buckets. They should be emptied at least once a week. Some householders complain that they have to wait much longer. Indeed one had to wait so long, about three weeks, even after sending repeated notices, that, at last, he gave notice to the Municipality that he was going to reopen his cess-pit.

III. In the case of hotels especially, complaints are made about the state of the buckets. All hotels, boarding houses, and schools should have their pails emptied nightly.

IV. The dumping ground is too near the village, only a few hundred yards from the nearest houses. For ease in digging, it is in the centre of an old ash heap. The stercus is left exposed and when the wind blows from that quarter, the smell, especially in the warm summer evenings, was very obnoxious to, and was complained of by, those dwelling in that part of the town. Some months ago I wrote to the Municipality advising that the night soil be deposited further from the town beyond the river, and that daily a covering of earth be spread over it. I consider that most of the above defects are partly due to the fact that the Municipality are trying to run the system on too cheap lines: 1/6 per month per household is too small a charge. Even before the system was rendered compulsory by the new Bye-laws, a few householders had got pails and had them emptied weekly at the cost of 1/ per week. If the charge were raised to say 2/6 per month, the Contractor could be paid almost twice as much for his work, and should then do it much more efficiently.

(d) and (e) Same at last year.

(f) In many cases, cattle, especially horses, are kept in too close proximity to dwelling houses.

(g) The Native Location is in a fairly good sanitary condition. The class of hut is gradually improving, though many of them are still very dilapidated, too small, and badly ventilated.

(h) Same as last year.

(i) Nil.

(k) Birth Rate.—There were 172 births during the year; 48 European and 124 coloured.

Death Rate.—During the year there were 196 deaths registered, thirty six of these occurring in the Military Hospital at Deelfontein. Among the civil population there were thus 160 deaths: thirty three whites and 127 coloured. Thus among the whites the births exceeded the deaths by fifteen; but among the coloured the deaths are in excess by three.

Causes of Death:—Of the 160 deaths, twelve were due to violence: two, both coloured, from intentional violence, and ten (four white and six coloured) from accidental violence on the railway.

We are now left with 148 (29 whites and 119 coloured) as the number of deaths registered as due to natural causes.

In the previous year the numbers were 147 (26 whites and 121 coloured): a very slight variation.

The number of deaths this year in Deelfontein Hospital was thirty six, last year twenty eight. This increase is all the more wonderful from the fact that during the whole year and especially at the end of the year, the numbers were very much reduced. The increase is wholly due to Enteric Fever and Pneumonia. In 1902 there were sixteen deaths from Enteric, and in 1901 fourteen; from Pneumonia in 1902 there were nine and 1901 only two. Last year the proportion of deaths from Pneumonia was one in every four. In the civil population, again there is a marked difference, among the white and coloured, in their death rates from chest diseases, though not so marked as last year. This year's return gives:—

	White.	Coloured.
Bronchitis	1	14
Pneumonia	2	12
Consumption	2	17

And yet the coloured population cannot be more than double that of the white. I gave it as my opinion, in last year's report, that the extremely high coloured death rate, especially from chest diseases, was partly due to the special privations they were liable to during the war. But there must be other reasons. In the middle of winter last year, owing to the number of deaths occurring at Richmond Road Station Location, I was asked to inspect the Location there. At the time there was small pox at De Aar. I found no case of infectious disease. But in some of the huts, I found paraffin tins, with holes pierced all round their sides, filled with glowing red hot coals with the characteristic blue flame of carbonic oxide gas. These coals had doubtless been "commandeered" from passing trains. I may remark in passing that, though the number of deaths occurring in this Location was the cause of my visit, I find in going over the list of deaths registered during the year, that no death from this Location is registered. The explanation is that when a death occurred in the Location, it was reported to the Commandant at Richmond Road Station. He, when asked what further had to be done, used to reply. "Go and bury it." The Field-cornet is at least fifteen miles distant. There is another much larger Location at Deelfontein siding. But here the deaths were evidently all duly registered; even a medical certificate in most cases being forthcoming owing to the proximity of the Location to Deelfontein Hospital. In going over the Register of Deaths for 1901 and 1902, I have been struck by the large number of deaths from Bronchitis, Pneumonia and Tuberculosis in this Location. I cannot help thinking that all along the railway line, these coal fires with their charcoal fumes are the cause in many cases of lowered vitality and a predisposing cause to chest diseases. The usual open structure of the huts along the line in this District, prevents the more immediate result of death from suffocation.

Typhoid Fever.—Among the civil population two deaths are registered due to Typhoid Fever: one coloured from the Location at Deelfontein; and one white in Richmond. The last case was brought into town sick from a farm. Richmond itself has thus, for another year, a clean bill of health so far as Typhoid is concerned. This is probably due to the plentiful supply, even in a dry year, of good water. If so, this circumstance favours the theory that Typhoid is mainly water-borne. Richmond has, during the past

two years, had its fair share of bad smells and dust and yet it has been free of Typhoid.

Vaccination.—Besides gratuitous vaccination in the village, twice a week for some months, a rural tour of vaccination was made when 257 were vaccinated at a cost of £34 2s. 6d. Besides, a special vaccinator was appointed at Deelfontein. In all, over 1000 vaccinations were performed during the year. Yet, in connection with outbreaks of suspected Small-pox, I have since come across many unvaccinated, among both coloured and white. Indeed, on one farm, among fourteen coloured, at the homestead only one had been previously vaccinated.

Small-pox.—There was an outbreak of small-pox at Deelfontein Location. This was put under the charge of one of the Civil Surgeons of Deelfontein Hospital and was soon stamped out. Doubtless it has been elsewhere reported on.

In Richmond, at the end of the year and during the beginning of 1903, there has been a number of cases among the coloured population of a "disease resembling Small-pox." The following are some of the points of resemblance:—

I. The incubation period. In one case this was at least eleven days.

II. Nature of eruption. It runs through the three stages of papule, vesicle and papule. In the last two forms it is umbilicated. Later the crusts drop off and in some cases pitting results. The differences in the eruptions are (a) the vesicles vary more in size, and (b) even when the eruption is extensive, the lesions are not so deep seated; and (c) after the crust drops off there is usually no scarring: only a white patch of skin with a dark point in the centre due to the umbilication: later the pale patch becomes darker than the unaffected skin around.

III. Distribution.—The favourite spots are the brow, face, body, arms, especially about the wrist. Probably one point of difference is that the eruption in Small-pox is more profuse on the extremities than on the trunk; while in this disease the reverse is the case.

In this disease it also occurs on the mucous membrane of the mouth and tongue.

IV. Susceptibility.—Here also the unvaccinated seem to be specially liable. Out of fourteen cases, ages varying from two months to sixty five years, only two had been previously vaccinated; and even these two had not been recently vaccinated.

V. General Symptoms.—The constitutional disturbance, in some cases, was considerable, such as pains in the back and head, loss of appetite, vomiting, fever etc. No case proved fatal.

The test I relied on for distinguishing between the two diseases was the vaccination test; and even it, in some cases, almost proved fallacious, due to the quality of the lymph used. My first experience was with a family of four, ages ranging from six to fourteen, all unvaccinated. They had had the disease about a month previous to vaccination. I vaccinated with two marks on one arm with lymph issued less than three weeks previously, and on the other arm, two marks with lymph issued less than four weeks previously. After seven days, in two of the cases, there was no reaction. In the other two, in each case, one small vesicle was beginning to form. I got a supply of fresh lymph and revaccinated the four with the result that the marks on the two, not susceptible first time, all "took" typically; while the other two on this occasion did not react.

Take another case, that of two brothers, both also unvaccinated. I saw the first on the 8th of March when the eruption was about four days old. I vaccinated him with lymph No. 3258 issued 3rd March, only five days previously. All four marks took well. I saw his brother eleven days later in about the same stage as his brother had been (his brother meantime

had been in Hospital), I vaccinated him with the same lymph, now eleven days older, with no result. He "took" later with fresh lymph.

The result of my experience is, as we should expect from its evident preference for the unvaccinated, that this disease has a decided inhibitory action on the "taking" of the calf lymph. In such cases it is no use vaccinating for diagnostic purposes, especially during the eruptive stage, except with quite fresh lymph.

Some people here call the disease "Amaas"; but if, as I have heard stated, Amaas is Small-pox modified by vaccination, then this disease is not Amaas.

Diphtheria.—The most important event of the year, so far as the public health of Richmond was concerned, has been an outbreak of Diphtheria towards the end of the year, or, in other words, at the beginning of the summer. Previously, there had been sporadic cases. Thus two deaths are registered on 23rd and 25th April as due to Croup; one in April from Diphtheria; one in June from Croup; two whites in one house on 15th and 16th July from Membranous Croup.

But the start of the epidemic I date from 23rd November, when a white child from a house in Paul-street took ill. She died on 29th November. It is but right to state that the other medical practitioner here, who was in attendance at the end, certified the death as due to Membranous Croup. Thirteen days after the death another member of the family took ill, and was notified by me as suffering from Diphtheria. Three days later—13th December—I notified another case from a house two doors removed on the same side of Paul-street. This case died on the 18th. In the meantime another case next door was notified on 13th, and two further cases, in the house where the fatal case occurred, were notified on 17th and 19th December.

Since the beginning of the epidemic I have notified in all forty-four cases of Diphtheria (seventeen white and twenty-seven coloured). Of these fourteen have died (five white and nine coloured). All the notifications of, and certification of death from Diphtheria have been made by me. During this period there have also been four deaths (all white) certified by the other medical practitioner as due to Membranous Croup. Also during the same period I have seen many suspicious but doubtful cases of Sore Throat, in some of which I have injected anti-toxine, but which I have not notified as Diphtheria. It will thus be seen that the epidemic has been one of considerable severity. There was one peculiarity about the beginning of the epidemic, and that was that at first the white population alone were affected. The first severe cases were whites; the first coloured case was the maid in one of the affected houses in Paul-street. Then more white cases occurred before any other coloured case. Later the disease spread among the coloured; and at one time there were five houses in the location affected. At present there is still one white and one coloured case. Among the white population all the cases occurred either in Paul-street or its continuation, Graaff-Reinet-road, or in a side street off Paul-street. In other words all cases occurred on the south side of the river, though more than three-fourths of the white population reside on the other side. The four fatal cases of Membranous Croup have also all to be placed to the credit (or discredit?) of Paul-street.

The Probable Origin of the Disease.—In trying to find the cause, one has to bear in mind the two peculiarities of the outbreak. 1st. The first nine cases all occurred in one block of buildings on the south side of Paul-street. 2nd. The first cases occurred among the white population. We should, therefore, expect to find the cause near this centre in Paul-street, and to find that it operated specially at night, when the coloured servants are removed from its local influence and asleep in the location.

I consider that the cause is to be found in the large dumping ground for household and other refuse lying at the back of Paul-street, on the side of a hill sloping down towards the houses where the main outbreak occurred. During the still warm nights in summer the air on the hillside cools sooner than in the town; the warmer air from the houses, therefore, rises, and its place is taken by the colder polluted air of the hillside flowing downwards and flooding the houses. People in these houses complained of the foul odours at night, especially at the back parts of the premises. This ash-heap is of large extent, at least 100 by 150 yards in area. All sorts of rubbish is deposited here. All the sheep and goat kraals are at this end of the town, and on this ash-heap all the dead goats and sheep, and some of the cattle and horses, etc., seem to be deposited, often without any attempt at burial. On the occasion of my first visit to this heap I found, besides other obnoxious refuse, the bodies of three goats and a horse lying exposed within less than 200 yards of the nearest houses. I then wrote to the Municipality stating that I considered this state of things responsible for the outbreak, and advised that all the decaying and decayed animal and vegetable matter be carted away and buried; and that in future no more household refuse be deposited on this commanding situation. I visited the spot again, and found it somewhat improved, though there was the body of a dead goat, in process of decomposition, lying scattered about; and some pigs were revelling in the garbage around. The Municipal ash-cart is still adding to the already too large accumulation of ashes and other refuse. This state of affairs should be stopped at once, the place cleaned up, and a new spot, at some distance removed from, and lower than any of the houses, be chosen for the depositing of the household refuse.

Certain Other Features of the Epidemic:—

(1) One peculiarity of the epidemic was that it was confined to the town, except in one instance, mentioned later. In one epidemic some years ago the farms mainly suffered.

(2) None under the age of two years were affected.

(3) The first half of the cases were all of one type. The membrane formed first on the left tonsil, then the pharynx, right tonsil; the disease then spread upwards into the nose. There were later only three cases of Laryngeal Diphtheria, and all after the cold weather set in.

The Serum Treatment.—The serum I used was Burroughs and Wellcome's. There were five deaths among the seventeen white cases. In one of the fatal cases I tried giving it by the mouth, and in another I tried it by the mouth and also *per rectum*; but in neither, subcutaneously. In a third case, by the time I was certain of the diagnosis the case was hopeless, and anti-toxine was not used in any form. Among the remaining fourteen cases in which the serum was used hypodermically, two died. One of these fatal cases was moribund before I saw it, with profuse bleeding from both nostrils. There is thus only one case in which the new remedy, when it got a fair chance, did not effect a complete cure. Even in this case, one might almost claim for it a cure of the Diphtheria; for before death, which occurred from debility mainly due to Diarrhoea, the throat and mouth (which was also affected) was quite free from membrane for some days.

I have had, therefore, every reason to be satisfied with the results of the new treatment. I began with at least 2,000 units in all cases, sometimes more in young children. In twelve hours, in serious cases, I gave another 2,000 units, and in a few instances, after twenty-four hours, another dose was given. The only after effect of the serum was a rash in one case, after the patient was well and going about.

Sequelae of the Disease.—The usual forms of post Diphtheritic Paralysis occurred in a number of cases. The muscles of the throat, eyes and legs were mainly affected. In one case only, that of a laryngeal type,

the voice was affected. In a number of cases discharge from the nose persisted for months; there is also one case of ozaena.

Causes of Continuance of Outbreak.—It is now about five months since the beginning of the outbreak.

(1) The original cause of the outbreak is probably still at work, and thus may be responsible for some of the fresh cases.

(2) Infection from previous cases doubtless causes some of the new cases. Thus when one child in a family becomes affected some of the other members usually get the infection. In four cases, too, have the mothers or nurses been infected.

In one case, a child who had had sore throat about a month previously in town, and who still had a sanious discharge from the nose, was removed home to a farm. Three days later a sister sickened and died. Five days after her arrival another sister took ill, and later two brothers were infected.

An experience like this shows the danger of discharging cases before the risk of infection is past, and points to the need of isolation for a long time even after what may be looked upon as recovery from the disease. Now, this leads us to what has been the most serious obstacle all along in dealing with this outbreak, namely:—

(3) **The Want of Hospital Accommodation.**—At the beginning of the epidemic I verbally, and in writing, urged upon the Municipality the urgent need of hospital accommodation, especially for coloured patients; but also for whites. I assured them that Government would be willing to assist them on the £ for £ principle in building an isolation hospital. So far as I am aware, Government has not yet been approached on the subject. I have later twice written to the Municipality on the subject.

Under the circumstances, I would advise that Government approach the Municipality, advise them of the necessity of hospital accommodation for dealing with Diphtheria patients, and assure them of their assistance on the £ for £ system.

62. RIVERSDALE.

DR. J. W. DE VOS, DISTRICT SURGEON.

(a) Our water-supply has been fairly constant during the past year. As regards the condition of our water, I should recommend our reservoir being covered over, seeing that the village is extending in that direction, and the Railway Station has been built quite close to it. If this is not attended to the water might become contaminated.

(b) We have an open system of drainage; these drains are properly cleaned and regularly flushed. There is only one bad drain which has not a sufficient fall, consequently the water is allowed to stagnate and soak away. The Municipality has promised to attend to this, however.

(c) These are disposed of properly, being carted away to a suitable distance from the village, the plague regulations being in force still.

(d) We cannot complain of overcrowded dwellings, neither of any unfit for human habitation.

(e) These are kept in good order, and are inspected occasionally by our sanitary inspector.

(f) Pigs, which were banished from the village when plague regulations were in force, during Martial Law, are allowed to be kept in the village again under strict surveillance. Domestic animals, which were a nuisance in the village streets formerly, are hardly ever seen there now.

(g) There is no native location in our district.

(h) These are kept in good order, and from the nature of the soil will never prove dangerous.

(i) Generally speaking, our village has made great strides as regards cleanliness; the streets are swept, and if the water had been more plentiful during the dry season, the village would have been a model of cleanliness. All this I attribute to the thoroughness of the sanitary inspector, who even goes so far sometimes as to prosecute offending householders.

(k) Isolated cases of Typhoid Fever occurred throughout the district; several cases were infected at Mossel Bay. Nowhere was it in epidemic form, nor could any direct cause be found.

Diphtheria was very prevalent; in many cases all the children in a home being attacked. It was met with all over the town and district, attacking all classes of the community. I attribute it to the great flood in the beginning of the year, stirring up old accumulations of dirt, and to the climatic condition at the time.

Over 2,000 people were vaccinated during the year. The lymph was obtained from Grahamstown, the numbers of calves being 3227, 3216, 3034, 3079. On investigation and personal observation it proved highly successful, the lymph being of a superior quality throughout.

63. ROBERTSON.

DR. LEWIS WM. STEVENS, DISTRICT SURGEON.

(a) The water-supply of the town of Robertson is pure at the source, quite sufficient for the present domestic needs, and being brought to the town in iron pipes from a distance of about five miles, would be of excellent quality if it were not that the intakes are situated below such drainage area that the water may become, at any time, a source of great danger to the inhabitants.

The surrounding ground above the intake is manured, and, I am of opinion that much of this manurial water from irrigation finds its way into the water-supply above the intakes.

This matter was reported to the Town Council some months ago, during an outbreak of Typhoid, and the influentially signed notice then presented to them has had their attention, and the matter is being investigated. In the village of Lady Grey the same unsatisfactory condition continues. The drinking water runs in open furrows, which serve as drains to the surrounding ground. Nothing whatever has been done, in this direction, by the Village Management Board, although the assistant Medical Officer of Health for the Colony, in a recent report on the sanitary condition of Lady Grey, urged the necessity for obtaining a pure water-supply, by getting the water brought to the village in pipes.

(b) There is no system of sewerage or drainage. The furrows on each side of the street carry away the water when it rains.

(c) No advance in this direction has been made for years. The duplicate pail system should be insisted upon, and the Municipal Council should enforce their regulations dealing with the disposal of night-soil. At Lady Grey there was no system whatever for the disposal of night-soil, and it is almost impossible to have a more unsanitary condition than at present prevails.

(d) There is a tendency to overcrowding, especially among the coloured people, and there are a few dwellings which are barely fit for human habitation.

(e) All slaughtering is done outside the town; the carcasses are brought into the shops, which are fairly clean. The bakeries are, as far as I know, well conducted, but, as I have no authority to inspect the same, I cannot speak definitely. There are no dairies.

(f) Cattle, swine, and other animals are kept in the yards of several properties, and are kept under the supervision of the local authorities.

(g) There are no native locations.

(h) The cemeteries are situated some little distance from the town, the site being very suitable.

(i) The contamination of the water-supply is the principal nuisance which should be abated. There is also great fear that the discharge of hundreds of tons of refuse from a distillery in the town to open pits in close proximity to dwellings is calculated to constitute a menace to the health and lives of the inhabitants.

(k) There have been a few cases of Typhoid, and there was an epidemic of Measles, mostly among the coloured children.

Vaccination has been successfully carried out, with exceptionally good results, the lymph being very satisfactory.

Estimated population, 8,000.

Births: White, 157; coloured, 176; total, 333. Deaths: White, 71; coloured, 172; total, 243. Deaths under 1 year: White, 15; coloured, 62; total, 77.

Main Causes of Death.

	White.	Coloured.	Total.
Convulsions	3	27	30
Measles	2	23	25
Pneumonia	9	38	47
Bronchitis	8	27	35
Phthisis	3	12	15
Enteric Fever	1	2	3
Diphtheria	6	7	13

64. SIMON'S TOWN.

DR. H. CLARKE, DISTRICT SURGEON.

During the year the public health of this division was fairly good, the great improvements that have been made in sanitation of late years by the Local Authority in Simon's Town having a beneficial effect. Undoubtedly, much remains to be done, but, with its limited income, the Municipal Council has worked wonders in a few years.

(a) Condition of Water-supply.—Satisfactory at present, but, owing to the increasing population, it is rapidly becoming inadequate. The water is pure, but I should like, as suggested in former reports, to see the springs fenced in. This, however, like other matters requiring attention, is one of money. The whole question of the water-supply of the town, in order to make it equal to future development, will have to be shortly considered, and, with the small income at the disposal of the Council, it is likely to prove a difficult one. Mr. Runciman (the Mayor) in his evidence before the Peninsula Commission, has given an excellent account of the matter in all its bearings. About five miles of water-pipes of various sizes have been laid by the Council, and every part of the town is supplied. It is to be regretted that, owing to the comparative scarcity of water, the tank system must for the present be continued.

(b) The surface drains are kept in good order, and about twelve thousand feet of earthenware pipes, principally 9-inch, have been laid within the last few years. The areas of Seaforth, Forest Hill, Paradise, and the lower part of the Kloof, are undrained, but a contract has been signed for draining Forest Hill and the lower Kloof, and the plans are being prepared by the Town Engineer for laying pipes at Seaforth.

(c) Night-soil.—Collected by Municipal carts and thrown into the sea. Household and other refuse also collected by the Council and burnt.

(d) Some overcrowding exists, which is difficult to prevent, and there are a few dwellings unfit for human habitation, but the houses are known to the Council, and it is under consideration to prohibit their use.

(e) Slaughter-houses, butcheries, bakeries, and dairies are clean, and subject to inspection.

(f) Few cattle, and no swine, are kept within the town.

(g) The Native Location is not all I should wish, but it is in charge of a headman employed by the Municipality. Want of a suitable site for this location is a great drawback, for it is now situated on the mountain-side, and is difficult of access. Considering the habits of its occupants, it is fairly clean.

(h) Cemeteries are clean and in very good order.

(i) All nuisances reported by private individuals, or the sanitary inspectors, are promptly dealt with by the Council.

(k) Five cases of Typhoid and one of Diphtheria occurred during the year; one of the former was contracted when nursing a patient. The case of Diphtheria was possibly due to absence of drainage at Forest Hill, a recently occupied locality. The four cases of Enteric were in different parts of the town, and as I was not in Simon's Town at the time, I cannot say how or where they originated.

The Local Authority do all in their power to carry out the Health Acts and improve the condition generally of the town. I do not think any omissions have occurred.

65. SOMERSET EAST.

(i) SOMERSET EAST.

DR. GEORGE A. LEGGE, ACTING DISTRICT SURGEON.

(a) The town water-supply is obtained from springs in the lower reaches of the Boschberg. Recently, a reservoir was made on the top of the mountain, to provide for emergencies; and there is an additional scheme for further development shortly to be commenced. The quality of the water is excellent. To ensure the natural purity at the source being preserved, a very considerable area of ground is enclosed around the main fountains with barbed wire, to keep away stock. The water is brought into the town in pipes. For the most part of the year the supply is abundant. It is only after prolonged drought, followed by heavy and continuous rains, that it becomes, or may become, polluted through the washing of decaying vegetable matter from the surface into the river-bed, between the springs and intake.

(b) Sewerage and drainage carried out only by means of open above-ground water-furrows.

(c) After agitating for a long time to induce the Municipality to undertake the responsible duty, I am at last in the position to report that, whereas the removal of night-soil was effected by a private contractor, this work is entirely now under the control of the Town Council. And further, the Council have set in working order a proper dust-cart, which goes round the different streets during the daytime collecting all the dry refuse from the yards. The cost of all this is met by a levied inappreciable tax.

(d) There were several overcrowded dwellings let, and again sub-let, last year; but I made a raid of inquiry through the town, taking names of owners and occupants, and, sending in my official report to the Council thereupon, so that now there are no overcrowded dwellings here.

(e) Slaughter-houses are under Municipal control, are outside the town, are well supplied with water through taps from the main, are constantly inspected, and are clean and satisfactory.

(f) I am glad to state that, owing to my previous reports, kraals for small stock in the middle of the town have been done away with.

(g) The Native Location is under the control of the Town Council, one of whose officers includes in his duties its inspection at irregular intervals. He has a responsible native headman under him. It is, on the whole, after various inspections, fairly clean and orderly. Very seldom, indeed, any Kafir beer orgies occur.

A large number of coloured people are scattered about the town, mostly at the lower ends of the erven. The Council has tried its best to get rid of this incubus, but so far, I am given to understand, has failed.

I regret this from a professional point of view, as well as otherwise, because I regard these huts and their occupants as a constant and insistent menace to the health of the town.

(h) There are three cemeteries in connection with the town. Two of them are ideally situated, but the third is just above the Native Residential Location; and after prolonged rains nothing is more probable than that germs of disease should be carried down from the dead to the living.

(i) Nuisances are abated as much as possible.

(k) Reported cases of infectious diseases:

Enteric Fever	16
Leprosy	1
Scarlatina	Nil.
Diphtheria.....	Nil.
Small-pox... " Amaas "	77

(ii) SUB-DISTRICT OF PEARSTON.

DR. R. BROWN, ADDITIONAL DISTRICT SURGEON.

During the year Pearston district has, on the whole, been singularly healthy. With the exception of the small outbreak of Small-pox referred to below, there have been no epidemics of any importance.

The sanitary condition of the town and district are almost precisely similar to what they were last year.

(a) The water-supply in the town is from wells, springs, tanks, and the river. This last year, owing to better levelling of the sluic, water has been running in the streets to a greater extent than during the last three years. As this street water is used by the coloured population to some extent for washing, etc., it would be a source of some little danger were Typhoid prevalent, but so far I have not seen any bad effects.

(b) Sewerage and drainage are left to nature, with fairly satisfactory results.

(c) Night-soil is received for the most part in cess-pits. Household and other refuse are usually thrown into river or one of the deeper sluic, to be washed away by the floods.

(d) Under ordinary circumstances there is no overcrowding.

(e) There are no slaughter-houses, butcheries, etc., in the town or district affecting health.

(f) There is no danger to health from the keeping of cattle, etc., about town.

(g) The condition of the Location is fairly satisfactory.

(h) The cemeteries are in a good condition.

(i) No serious nuisances.

(k) The only epidemic diseases occurring in the district during the year were Scarlet Fever, Typhoid, Diphtheria, and Small-pox.

Scarlet Fever occurred as a few cases in the district. All the cases were mild, and as each case was strictly isolated, only about eight or ten cases altogether occurred.

Typhoid Fever, which in some recent years has been very prevalent, was during last year almost absent, only two cases being met with, one of which died.

Only one case of Diphtheria was seen.

Eleven cases of Small-pox or Amaas occurred during the year. The first case occurred on Vlakfontein Farm, fifteen miles from town, and the farmer when he saw it ordered the man off his farm into town! The patient must have been ill about ten days before seen by the farmer, as when he arrived in town he was covered literally from head to foot with scabs. He was strictly isolated, and a companion who had walked into town with him was commandeered to attend him. He ultimately made a good recovery, and no other cases arose from this one. I went out to Vlakfontein, and by investigation found the case had originally come from an adjoining farm, Sunday's River. On this farm I found a native had been similarly ill about a month before, but the case had not been reported. There were also three other cases on the farm. I isolated the affected huts, and vaccinated all the other natives. Only one other case occurred on the farm. Nearly two months after this a lady came from Graaff-Reinet with a child two years old to stay for a short time with her relatives on this farm. Shortly after arriving the child turned sick, and the mother brought it into Pearston. As soon as the case was diagnosed, both child and mother were isolated in Pearston. The child made a good recovery, and no other cases occurred in town. About the end of October three natives became ill on Blyde Rivier farm—a young woman and two children. The young woman had been staying on Sundays River farm, and had doubtless got the infection there. The cases were isolated, and all the other natives vaccinated. No further cases occurred.

With regard to the Small-pox cases, it is interesting to note that all the cases were in unvaccinated patients. The young woman on Blyde Rivier was said to have been vaccinated, but no marks were visible. The case was one of typical confluent Small-pox. All the other cases were mild. In the European child the temperature never rose above 102 degrees, and the child never was in any danger, few of the pustules being more than 5 mm. across. The eruption appeared on the third day of illness. The cost to the Government in dealing with the outbreak of Small-pox was only the cost of the vaccination tours.

66. STELLENBOSCH.

(i) STELLENBOSCH.

DR. J. H. NEETHLING, DISTRICT SURGEON.

The general health of the town and district has been very good during the past year.

1. The water-supply for the town is obtained from the Eerste River. It is drawn from the river at a point about twelve miles from its furthest source, about one and a half miles from the centre of the town, and half a mile from its nearest municipal boundary. The water is led from the main stream through a settling pond, thence with pipes to a receiving reservoir, and from there distributed by means of iron main pipes along each street.

From these mains there are lead pipe leadings to each self-contained house, and in cases of rows of cottages or rooms for the coloured people, not less than one separate leading for every two cottages or rooms. The supply has always been ample and cheap. The natural quality of the water is of the best. This year, owing to plentiful rains during the winter season, the supply has been larger than usual. The regulation of the supply should in my opinion be under stricter supervision. There is at present too much waste, with its consequence—standing pools of dirty water in the back yards, and a constant dribble of water from these to the water furrows along the streets. Unfortunately, as I have pointed out in my previous reports, between the source of the river and the intake to the settling pond there are eight farms at no great distance from the river, also many workmen's cottages. The natural drainage from all these is into the river. Manure from the village is carried to these farms, and with heavy rains and summer irrigation much of this manurial matter is carried back into the river. In many instances, too, household refuse, urine, and excrement are thrown out into small streams, which lead directly into the river. The danger of this, especially if cases of an infectious nature should occur on any of these farms, to the township and the populous district along the course of the Eerste River is apparent. Plans are maturing, albeit very slowly, for a water-supply above suspicion.

2. With the exception of a very few water-closets, properly constructed, and without the possibility of becoming a source of danger to the community, the double bucket system has been made compulsory. The change has been generally acquiesced in. The removal is effected during the night, efficiently and without discomfort or nuisance to the community. The excrement is buried properly, and at sufficient distance from any centre of population. Whenever cases of infectious disease occur, the proper means of disinfection of faeces and buckets is attended to. There has not been anything approaching an epidemic of Typhoid Fever since the adoption of the above system.

3. The Disposal of Household and other Refuse.—These are much used, where the gardens are large enough, for manuring purposes. For the rest the refuse is put out along the streets in suitable boxes or other receptacles, whence they are conveyed away every morning by means of carts kept for the purpose. The Sanitary Inspectors pay regular visits to the yards and back premises, so that any accumulation of dirt is impossible.

4. The Extent to which Infectious Diseases have prevailed.—For the town there have been notified the following:—

Small-pox	10 cases.
Scarlet Fever	2 "
Scarlatina	2 "
Typhoid Fever	2 "
Enteric	3 "
Diphtheria	12 "

For the district, *i.e.*, that portion under my supervision, with the exception of Small-pox, infectious diseases are practically nil. There has been an epidemic of Small-pox, which spread practically throughout the whole district, and is reported on below.

As far as the township is concerned, the only list which shows largely is the twelve cases of Diphtheria. In my reports of former years I referred to certain marshy areas, and pointed out the urgent necessity of their thorough drainage. I am sorry to say that nothing whatsoever has been done in the matter. I reported fully on the matter to the Municipality, where a copy can be obtained. In my opinion, there would have been no cases of Diphtheria, and perhaps none of Typhoid Fever, if these very neces-

sary repairs had been effected. The local public authorities are a law unto themselves, and it is a hopeless matter for the Health Officer to urge such improvements. I would, therefore, urgently, but respectfully, bring to the notice of Government the necessity of appointing sanitary or health inspectors, who, working independently of the local authorities, could report direct to the Public Health Department, and thus ensure the bringing into effect of such measures as may be required for the health of the community.

5. The Remedy of Sanitary Defects, etc.—Instructed by the Municipality, I inspected all the water-closets, cesspools, and backyards in the township, and reported fully thereon. Acting upon that report, the Council perfected the present system of sewage removal which I have described above, under No. 2.

The improvement of the furrows along the streets is being slowly, but steadily carried out. The old furrows, with the usual pebble pavement, are being replaced by new ones, lined with hard bricks and cement.

6. Other Matters.—Butcheries, Bakeries, and Dairies are under strict supervision, and are regularly inspected, and the owners made to observe the regulations. In no instance have any infectious disease been attributable to the above.

I must again draw attention to the dangerous extent to which washing in backyards is carried on.

The washing in the river should also be stopped. It is both a dangerous and a dirty practice. The leaves and mud on the streets during the autumn and winter months are not removed promptly and sufficiently.

If the improvements which I have referred to, and again and again drawn the attention of the local authorities to, were carried out, Stellenbosch would be one of the healthiest, as well as one of the prettiest towns in South Africa.

REPORT ON AN EPIDEMIC OF AMAAS, OR SMALL-POX, IN THE DISTRICT OF STELLENBOSCH.

In the month of September, 1902, a suspicious case was reported by Dr. Versfeld, on the farm Valley Lustery, about four miles from the town of Stellenbosch. I was sent to inspect, and reported to the Resident Magistrate that it was a case closely resembling Small-pox, but the exact nature was unknown to me. The case was at once put under strict quarantine.

Another case occurred in my private practice, on the farm of the late Mr. H. Bosman, Bottelary. A third suspicious case was reported from the farm of Mr. J. Bredell, Ward Helderberg. Recognising that these were cases of some serious epidemic, I obtained, through the Resident Magistrate, the advice of Dr. Mitchell, the Assistant Medical Officer of Health for the Colony.

Meanwhile the epidemic had spread rapidly throughout the district. Dr. Mitchell and myself visited all the infected farms, and came to the conclusion that it was an epidemic of Small-pox. With the exception of the first case, it could all be traced to one that had brought it from Maitland, to the farm of Mr. Morkel, Bottelary.

Meanwhile there had occurred several cases in the township of Stellenbosch. These were all segregated, and the epidemic in the town was thereby soon suppressed.

In the town, there were in all ten cases.

In the District there were in all about 100 cases; the last occurred in February, 1903.

In the town, segregation was easy, and very soon stamped out the disease.

In the district, what segregation was possible was enforced, but there were many cases which eluded the inspectors and the farmers. These last

named aided in every possible way the restriction of the moving about of the coloured people from one farm to another.

Before the epidemic was discovered, I had already arranged a vaccination tour, and had visited four centres. The attendance at these was, as is usually the case in ordinary circumstances, very poor. I was of opinion that to stamp out the disease, everyone in the district and town should be vaccinated or re-vaccinated. With the consent of the Resident Magistrate, and without waiting for authority from Government, an extraordinary tour was arranged.

In the town, a bi-weekly free vaccination was held. In the district, sixteen centres were visited. The people were warned specially by the police, and the attendance was very good.

In the town, upwards of 2,000 persons were vaccinated by me and assistants. In the district, over 3,500.

As may be conceived, this threw a very great amount of extra work and strain upon me. It was impossible to give accurate numbers as to race, sex, and ages of those vaccinated. It was also impossible to arrive at any exact estimate of successful and unsuccessful vaccination.

The nature of the epidemic is too well known to need description. In this instance, there was no fatal case. As long as it remained amongst the coloured people, it was of a mild description.

Those of a lighter colour were more seriously affected than the darker. Europeans suffered more severely than those of mixed or dark blood. Again, it was distinctly noticeable that, as it progressed from one European to another, the symptoms increased in gravity. To illustrate this, I may be allowed to trace the course of the disease in one family.

Mrs. Greeff, on boundary of Paarl district, took the infection from coloured people in the Bottelary district. She and her child had it so lightly that it was passed over as a light form of Chicken-pox, and a medical man was not consulted.

I visited the farm on the 19th January, 1903, and found Mrs. Greeff's sister and two children seriously ill with Small-pox. Mrs. Greeff and her child had then one or two marks of newly-healed pox on their bodies. The sister and her children, besides being very feverish, were covered all over their bodies with the eruption. In February, 1903, Mrs. Greeff's brother who lives in Bottelary, took ill, having been infected from the above-mentioned cases. He, again, was still more seriously affected, and the rash was more of a typical Small-pox. In March, Mr. Mostert, an old man, in whose house Mrs. Greeff's brother lives, took the disease. Here the variola was practically confluent over the whole of the body, and the patient was seriously ill.

Wherever the disease was taken by a European directly from a coloured person, the disease was not severe; but directly it passed from one European to another, it increased in danger, and I have not the least doubt that it was only by prompt vaccination of everybody that this transmission was stopped, and a very fatal epidemic amongst Europeans averted.

Pitting occurred according to the degree of severity of the Small-pox.

I make no apology for having started the extraordinary vaccination before authority was obtained. There was no time to lose, and the fact that, although the epidemic had gained a complete hold of the district, it was stamped out within six months, is a complete vindication for any means adopted.

Segregation was enforced, as far as possible. There were, however, many cases who never came under the notice of the authorities, and which, naturally, could not be segregated, because not known. Such were the cases concerning which the Health Authorities of Cape Town complained that those of Stellenbosch were guilty of gross carelessness.

Vaccination is a sure preventive against the disease. Of all those who had it, there were only two who had vaccination marks, and in one the marks were doubtful.

Up to two days before the eruption occurs, vaccination has had a decided effect, both in limiting the disease, and in causing a much quicker cure and convalescence. I have vaccinated four who had had the disease, and in one the vaccination was successful.

In my opinion, the disease is certainly Small-pox, but modified by having been transmitted through many generations of people of coloured skin. It, however, as above demonstrated, quickly regains its full activity if transmitted from one European to another.

The calf lymph has given me the greatest satisfaction. In no case where ordinary care was taken were there any unpleasant after-effects.

Of the 5,500 vaccinations more than half the number were unvaccinated. Of these I could not discover ten unsuccessful. Of the previously vaccinated cases, the unsuccessful vaccinations do not exceed 10 per cent.

In conclusion I would urge stricter laws on vaccination, and the stricter enforcement of such laws.

(ii) SUB-DISTRICT OF SOMERSET WEST.

DR. WILLIAM HEWAT, ADDITIONAL DISTRICT SURGEON.

SOMERSET WEST.

During the year, on account of no Municipality in Somerset West, the sanitary condition was most unsatisfactory. The duty of street and water-furrow cleaning was still carried out by the hard labour prisoners. Beyond this labour no free labour was employed.

(a) The condition of the water-supply remains the same, water only being obtained from the river and water-furrows.

(b) None.

(c) The disposal of night-soil etc., is left to each separate individual, and, of course, is in a very unsatisfactory condition.

(d) I know of no case of overcrowding.

(e) All slaughtering is carried on outside the village. Butcheries, dairies and bakeries are carried on in a satisfactory manner.

(f) Each individual in the place is responsible for the cleanliness of their pigstyes, stables, etc., and sometimes these are not kept particularly clean.

(g) There are no native locations.

(h) All cemeteries have now been removed to an approved site on the outskirts of the village, and are well kept in order.

(i) The increased number of police we have in the place, and the rigid enforcement of the Police Offences Act, have greatly tended to the abatement of nuisances.

(k) The district for the year was very clear of infectious disease. But I think, seeing that the population is such a large one, that a lazaretto should certainly be built at Hottentots Holland, as at any time an epidemic may take place, and it would be difficult to make proper arrangements for quarantining.

SOMERSET WEST, STRAND.

The Municipality here are certainly working very hard to get their sanitary condition in good order.

(a) The water-supply is now obtained from the Laurens River, some distance above the main road, and carried by pipes to a reservoir a short distance below the main road, and from there to the different houses in the Municipality by means of pipes.

(b) None.

(c) The night-soil, slop-water, etc., are being regularly removed.

(d) There is very little overcrowding except in the Malay quarter. The limits of this Municipality have been very much enlarged, and a very large number of houses have been put up. I am glad to say that the officials of the Municipality are endeavouring to cope with the extra work in a satisfactory manner.

(e) There are no complaints regarding slaughtering-houses, butcheries, dairies or other trades affecting public health.

(f) The Municipal regulations are strictly enforced with regard to cattle, horses and pigs.

(g) There are no native locations.

(h) All cemeteries have been removed to a satisfactory site within the Municipality, but away from the village and from any chance of contaminating the water-supply.

(i) Nuisances are promptly dealt with.

(k) There have been very few cases of infectious disease throughout the year.

GORDON'S BAY.

Gordon's Bay is rapidly increasing in size, and the water-supply is one of the best in South Africa for the size of the place; and, as they now have a Village Management Board, the sanitary conditions, I hope, will be well looked after.

SIR LOWRY'S PASS.

Now that the construction of the Caledon Railway is finished, this place does not contain many inhabitants, and the health of the place is satisfactory.

67. STEYNSBURG.

DR. HENRY JONES, DISTRICT SURGEON.

The state of the public health does not, in my opinion, vary much from that of the previous year. The usual diseases have been prevalent.

Enteric and Diphtheria.—A few cases occurred in the town and district, but the origin of the former is unknown.

The general state of the public health of the town has been satisfactory, and this is a source of congratulation, as the sanitary arrangements leave very little to be desired since the adoption of the Health Act, and the commissioners of the Municipality deserve great credit for the energetic manner in which the systems under the Act and Municipal Regulations are carried out.

Leprosy.—Only one case, I think, of a suspicious nature was brought to my notice by the authorities, and while the case was under my observation the native, who received outdoor pauper rations, disappeared without leaving his "card."

Syphilis.—During the past year some sixty cases have been treated with success under the provisions of "The Contagious Diseases Prevention Act."

Location.—An excellent inspector under the Municipality has full powers, and is doing good work and preventing overcrowding, and I have advised the Commissioner to attend to sanitary arrangements there.

Vaccination.—No vaccination tour has been undertaken for the past three years, on account of the existence of the terrors of Martial Law.

Water.—In my opinion, and I am sorry to state the fact, a quantity of the water-supply, for many inhabitants, especially natives, for drinking and cooking purposes, is derived from open furrows, and after rains quantities of polluted water containing organic matter finds its way into the furrows which run through almost every street.

The supply of drinking water is totally inadequate for the present requirements of the public, owing to the increased population, although there are three wells with pumps in different parts of the town, from which pure water is obtainable, and the better class of houses are provided with tanks.

Midwifery.—A few cases of women who have lost their lives by Post Partum Haemorrhage and other causes occurred during the year, who were attended by unqualified midwives, and I am of opinion that some steps should now be taken by the Colonial Medical Council to prevent uncertificated women from practising this branch of the profession, as most of them are full to the saturation point of ignorance, and, I believe, often turn a natural labour into an unnatural one, and on account of their conceit, invariably wait too long before calling in qualified medical assistance; and when they do, the doctor arrives upon the scene either too late to save, or when life has fled.

68. STEYTLERVILLE.

DR. JOHN DON, DISTRICT SURGEON.

The health report for Steytlerville may be briefly stated to be simply that of the previous years, as there is little alteration to be noted from year to year. Taking the different points strictly as noted in the circular calling for this report, the notes briefly are:—

(a) Water-supply for drinking purposes is supplied by rain tanks as far as the white population is concerned. The coloured people depend mainly upon wells, which are not too well protected from contamination, but which nevertheless seem to produce little effect on their health.

(b) There is no provision at all made for sewerage or drainage, except in so far that the slight fall in the town's level carries away the rainfall. This, however, is not sufficient, as after a heavy rain the water stands about in pools until it gets dried up or absorbed by the soil. All sewerage is practically deposited upon the erven, but as the erven are large, and the town a good deal scattered, this leads to no bad effects.

(c) The night-soil is treated by the bucket principle, and is removed once a fortnight by the Municipality to a stercus hole a good distance out of the town. The slop and other refuse is referred to under (b).

(d) The dwellings as a rule are sufficient, considering it is a country district.

(e) There are now three butcheries in town, and one of these at least slaughters on the back premises, in defiance of the Municipal regulations to the contrary. I believe this matter has been reported to the Municipal office, but so far no steps have been taken.

(f) There are a few cattle and swine kept in town, but these are not kraaled, and so far cause no nuisance.

(g) The Native Locations are only moderately clean, as refuse of all descriptions and empty tins lie about, but as rain is conspicuous by its absence, as a rule these do not lead to any other disagreeable consequences beyond that of offending the eye.

(h) Cemeteries, both white and coloured, are some distance out of town, and cannot be detrimental to the health of the town.

(i) There has been an attempt on the part of the Municipality to enforce cleanliness of the town even by ordering all house refuse, ashes, etc., to be removed once a fortnight, accompanied by an offer to do so with the Municipal cart at a small charge. This, however, was only done for a month or two, and then allowed to lapse.

(k) Scarlet Fever was somewhat prevalent during the year, one case being traced to infection from Port Elizabeth, and others I am certain from the district itself. In the district sporadic cases crop up every now and then, but these are not taken notice of by the people, who do not call in medical advice unless some complication arises, and consequently one only knows the infection has not died out by seeing an occasional case of kidney trouble, etc., which on inquiry turns out to have been preceded by a Scarlatina rash.

There has been no Small-pox, Typhoid, or Diphtheria in the district during the year.

Vaccination was very extensively done in the town last year, over 500 cases being vaccinated. The people do not report the results, so the comparative success cannot be stated, but I think as a rule they were very successful.

Martial Law had little if any effect on the public health. The effect, if anything, was beneficial, as there was distinctly less sickness during the period of Martial Law.

There are a few persons under treatment under the provisions of the Contagious Diseases Prevention Act, and these are all coloured.

There is no Leprosy in the district.

69. STOCKENSTROM.

No report could be furnished, owing to the death of the District Surgeon.

70. STUTTERHEIM.

DR. S. J. O'LOUGHLIN GRINSELL, DISTRICT SURGEON.

(a) 1. District.—The supply throughout the whole of the division was ample. The district is intersected by numerous streams, the quality of the water being good.

2. Village of Stutterheim.—As previously stated, the village is supplied by two unprotected furrows, an upper and lower. The former, the more useful of the two, is usually dry at that season of the year when it is most required by the inhabitants. At the source of the furrows in the Amatola Range, about six miles distant from the village, the water is of great purity. It is, of course, however, open to constant pollution in its conduction to the township. It is only fair, however, to state that very little disease has been traced to the water. The majority of the inhabitants depend, except during the dry season, for their drinking and cooking supply upon rain-water stored in overground tanks. I am glad to say that the Municipal Authorities are moving in the matter of a pipe

supply. The proceeds of a recent land sale have been placed as the basis of a fund for securing this great boon to the community.

(b) Nil.

(c) The bucket system is now in general use, and the objectionable cesspool is now a thing of the past.

The disposal of slop-water is a very difficult problem. In a small village such as this, with limited Municipal income, I know of no scheme, nor can I invent one which would in actual practice be satisfactory. With the frequent washing rains with which we are blessed, little harm is, I think, likely to result if the slops are scattered over portions of ground not adjacent to the furrows. Household and stable refuse is removed by Municipal scotch cart as required.

(d) No overcrowding of dwellings has been brought to my notice.

(e) Killing takes place outside the village boundaries. Bakeries are well-managed. There are no recognised dairies.

(f) As mentioned in my previous reports, cattle, sheep, swine, etc., are kraaled within the village area. The close proximity of this herding to many of the houses constitute a great danger to the public health. I would urge, if this is to continue, frequent inspection of all yards, and rigid bye-laws in regard to cleanliness of all premises.

(g) There are six chief Locations in the district: Ceynu, Emgwali, Wartburg, Keilands, Kijbes, and Bull's Run, with an approximate total population of 3,300. The first three are under their own local authority, the last three mentioned being under the control of a specially-appointed Inspector. The order maintained is good. Under the recent restrictions of the Licensing Court less "drunks" are in evidence than formerly. The water-supply is good. Sanitation is represented by nil.

(h) The Cemetery is well situated, and suitable for its purpose. Its management is vested in the local Municipal Council.

(i) The kraaling of swine within the village should be regulated, and the pipe water-supply secured as soon as possible.

(k) If an exception be made of Small-pox, the district has well upheld its great reputation with regard to its excellence of public health. No district can boast of greater equality of climatic conditions. The mortality has not been great. No infectious disease, with the exception of Small-pox, has been present. No Typhoid Fever, Diphtheria, or Scarlet Fever. The district has, however, participated in the general outbreak of Small-pox in the Colony. Five distinct outbreaks were discovered. In each case the information obtainable regarding the supposed source of infection was unsatisfactory. I was, however, able to satisfy myself that cases had previously been present amongst the natives, particularly in the region of Isidenge. These had, however, been carefully hidden. Small-pox, if one excepts the rash, produces very few serious symptoms in the native, and they treat the disease with a good deal of contempt. In one of the outbreaks four Europeans were attacked, two adults and two children. It was extraordinary to note the marked difference in the severity of these cases compared with the natives. The total number of cases, nineteen, without a fatal result, demonstrates the mild course it runs under conditions of nursing, etc., which would drive the present hospital Aseptic Surgeon off his head. In each outbreak the authorities in charge did all in their power to assist me in suppressing the spread of the disease. Vaccination was widely carried on during the year, a total of 2,655 being vaccinated. The results were, as far as I could learn, fairly satisfactory.

71. SUTHERLAND.

DR. R. H. H. HAYDEN, DISTRICT SURGEON.

(a) The water-supply of this village is derived from several different sources, some of which are liable to much contamination, while others not so much. The principal sources of drinking-water are as follow:—1, deep wells; 2, shallow wells; 3, rain-water collected in tanks; 4, water which is brought from a spring about half a mile away.

With reference to the water from the above-mentioned sources, the following is a short account:—

1. The water on the deep wells comes from under a stratum of rock varying in thickness from twenty to one hundred feet in different parts of the village. This water smells strongly of sulphuretted hydrogen, which is supposed to be formed by a chemical change which takes place between iron pyrites and organic matter. This water when first pumped is unpleasant to drink, on account of the sulphuretted hydrogen, but after being exposed to a current of air for some hours it loses most of this taste, and is not unpleasant to drink. These wells are made by digging a hole through the ground to the rock, and then boring through the stratum of rock. They are very liable to contamination from soakage of dirty water, etc., into them from the surface, as they are only roughly built up from the rock to the surface, and not lined with cement. These wells are also liable to have foul matter blown into them in dust, as they are not very securely covered as a rule.

2. The shallow wells are liable to contamination from the same causes as the deep wells, and in fact I had considerable difficulty to get one resident who had a large hole dug within one yard from his well for his pigs to bathe in some dirty water, to have the hole filled up.

3. Rain-water is collected from roofs in iron tanks, and is preferred for drinking purposes, as it is softer and free from sulphur, which is present in some well-water, but of course it has the objection of being dirtied by dust of the roofs, as well as of large quantities of dust which collect in the shoots of the houses during the dry seasons, and which may swarm with all sorts of germs. There is also another objection, and that is, that these tanks are very seldom emptied for cleaning, as a proprietor does not wish to let any of the rain-water out. I know of one tank in which, when emptied, the skeletons of birds and rats were found in it.

4. The water from this spring may be said to come from a dam in the hill just above the spring, as the spring is nothing more than some water which has percolated through from the dam above. The water in this dam is much contaminated by sheep drinking there, and when small in quantity, actually stinks. The water is brought to the village in a two-inch iron pipe, which empties itself into a reservoir, where it is collected for garden purposes. Some people use this water for household and drinking purposes, partly because it is not so unpleasant to taste as the well-water, and partly because there is not a well convenient to that part of the village where the inhabitants who reside near the reservoir can get water.

All the water in the village, with the exception of the rain-water collected in tanks, is very hard.

(b) There is no system of sewerage or drainage in the village.

(c) The tub system is in use in this village, and there are very nice regulations framed for the carrying out of this system, but unfortunately they are not carried out, and the result is that things are done in a very slipshod manner by private individuals, as there are not sufficient privies,

and those that have them as a rule do not avail themselves of them on account of the expense of having the tubs emptied, and the result is that all quiet corners are used in which to answer the calls of nature. Again, there are many persons who keep their privies in a horrible condition.

Slop-water is thrown all over the place.

Household and other refuse is piled up here and there in yards until the owner, through shame, as a rule is compelled to have it taken away.

(d) There is no overcrowding in the village except at Nachtmaal, and other feast and election days. In the Location there are many huts which are more fit for pigs than human beings to live in, and were it not for the free ventilation, would be much overcrowded.

(e) Slaughtering was done at a kraal, which was in the beginning of the year situated too near to the village, but thanks to the Military, it has now been removed far enough away. The old slaughtering place was very objectionable when many sheep were being killed there for troops, as all the entrails and blood were left to rot there, and this caused unpleasant smells.

There have been two butcheries in existence during the year, both of which had Military contracts, and both of which had their places kept as clean as could be desired.

The bakeries of the village consisted of different private houses, who did baking for the troops, one person having the contract, and several other persons took on work from the contractor to make bread. So far as I know, these were well-managed and clean. In the house of the contractor a case of Enteric developed, and the contract was taken away until the patient was well.

Dairies there are none, as everyone who wishes can run a few cows on the village commonage, and those who have not cows buy an occasional bottle of milk from somebody else.

There are no trades injurious to the public health.

(f) There are a few pigs in the village, but are not sufficient to be a nuisance to anybody, and are a benefit more or less to the health of the place, as those persons who have them collect all the eatable parts of household refuse for them from other persons, and thus a considerable amount of matter which would otherwise decay and cause smells is eaten up.

With the exception of the milch cows referred to above, and a few trek oxen, there are very few cattle which come near the village.

The other animals consist of dogs, etc., and are not objectionable.

(g) There is good order as a rule maintained in the native location, but occasionally strong drink and vile temper overcomes some of the inhabitants, which usually ends in eight or fifteen days' sojourn for one or more of them in the local gaol.

Some huts are kept very clean, whereas some have plenty of room for improvement in that way.

The location being situated on the side of a steep hill, all rubbish tends and does roll down into the bed of a river below, where it remains until the next rain, when the river comes down and washes it all away.

In this way the sanitation is also accomplished, and were it not for the situation of the location, the health of its inhabitants would probably be much worse than it is. There are no other locations in the district.

(h) In every farm there is a burial ground, which is usually in the corner of the garden. There is one cemetery in the village, or at least a few minutes' walk distant from it. It is under the control of the Dutch Reformed Church, and at present is not in any way injurious to the health of the place.

(i) During the Military occupation of the village by the Colonial Forces, more especially Marshall's Horse, there were several attempts made by the Military to improve the condition as to cleanliness of the village, but this usually fell through in a few days.

(k) During the early part of the year, while the above force occupied the village, we had a considerable number of cases of Enteric Fever. This the troops attributed to want of cleanliness on the part of the public, and made many accusations against the Local Authority, while at the same time the latrines used by these troops were practically altogether neglected—scarcely ever dug more than a foot or two deep, and never fresh clay put in until they were full of excreta. When this defect was pointed out by me to one officer in charge, a lot of lame excuses were made, but little or no improvement. Again, we had any amount of dead horses near the village, which were deposited there by troops. After very much agitation, these were destroyed by fire, as it was unbearable to remain out of doors when the wind came from the direction of these carcasses. It is said that Enteric follows stationary camps, but it is impossible to expect otherwise in some camps, where, when officers neglect their duty and permit men, horses and arms to get into a filthy condition, it is not likely that the sanitary matters of such a camp will be properly attended to. It is easy to understand that in camps of several thousands of men that such epidemics may occur, while doing all possible under the circumstances in sanitary matters, but there appears to be no reason why a camp of from one to two hundred men could not be kept free of disease. Many private persons suffered from Enteric also, but this must have originated from the camp, as I have never in the past seven years had more than one or two cases a year in this village. Again, many camps were pitched in or very near the village, when there was no necessity for same, beyond that officers did not want the inconvenience of tent life when they could commandeer as many houses in the village as they wished for their private use, and for some of which they have never paid.

There has been no Small-pox in the village or district.

I have heard that during hostilities several children died on one farm, and although many names for the disease and cause of death are afloat, I am of opinion that the cause of death was Diphtheria, although I did not see the cases, being unable to leave the village on account of the occupation of the district by the enemy.

With reference to vaccination in this district, it appears to me that Parliament makes laws for the Government or some other persons to put them aside.

There were standing instructions for an annual vaccination tour, signed by the Governor of the Colony, and accordingly, as before hostilities, I provided myself, at considerable expense, with a conveyance for the tour, but had only made one detour when I was instructed by the Magistrate that owing to expense and the small number vaccinated in previous years, it was decided that I should not continue with the tour. Now it is certainly not my fault that persons will not turn up at centres for vaccination, as I have time after time recommended, in my report of the said tours, that a few persons should be prosecuted in each ward for not having their children vaccinated, but for some unaccountable reason nothing was done, with the result that now very few people trouble about availing themselves of vaccination.

Of the number vaccinated—123—about 98 per cent. were successful, so far as I can learn. The lymph was obtained from Graham's Town, calf No. 3168.

72. SWELLENDAM.

DR. GEO. JAS. CHADWICK, DISTRICT SURGEON.

(a) The water-supply remains the same as I have reported it to be for the last ten years.

A scheme for improvement was discussed during the period of Martial Law, but it has come to nothing as yet.

(b) There is an improvement in this direction. Each house has now a closet and a covered pail. No drainage.

(c) Night-soil is buried; slop-water, etc., thrown on the middens.

(d) There is very little overcrowding, and few dwellings unfit for human habitation.

(e) These are managed with due regard to the public health.

(f) Cattle are kept in sheds or paddocks, swine in styes or enclosures, and do not injuriously affect the health of the town.

(g) There are none.

(h) The cemeteries are well cared for, and are at least 500 yards from the village.

(i) There are no nuisances requiring abatement, except the system of supplying the drinking-water in open furrows, and now that a scheme is on foot for supplying it in pipes, I trust this will soon be remedied.

(k) The state of the public health during the past year has been fairly good. There have been a few cases of Enteric, and two or three deaths from that cause. I have had a few cases of Venereal Disease under my treatment in the Contagious Diseases Hospital. There have been no cases of Leprosy or Small-pox. The prevailing diseases here were Pneumonia and Rheumatism. No cases of Diphtheria occurred.

73. TARKA.

DR. WILLIAM H. FERGUS, DISTRICT SURGEON.

(a), (b) and (c) As last year.

(d) There is no overcrowding by the European population, nor are there any dwellings unfit for human habitation. In the native location overcrowding, as measured by European standards, is not uncommon.

(e) The public slaughter-house is situated at a considerable distance from the village, and it suffers from a lack of water for cleansing and flushing purposes. Private slaughtering is carried on to a very small extent, and does not give rise to a nuisance. Butcheries are kept in better order than formerly, but require strict supervision by the authorities. Bakeries are kept in good order. There are no public dairies, nor other trades affecting health.

(f) Milch cows are kept by many of the householders. The keeping of swine is contrary to Municipal regulation, but the regulation is not as strictly enforced as it ought to be.

(g) Much might be done to promote cleanliness and general sanitation in the native location. The houses are kept in fairly good order by the inhabitants but the streets and dongas near the location are frequently in a filthy state, and there is not a sufficient supply of public latrines for the use of the natives, and the few existing ones are often in a dilapidated and dirty condition. I consider that the Municipal Authorities should do more for the general cleanliness and sanitation of the location than they have done in the past.

(h) The cemeteries and burial grounds are kept in good order, and are situated at a distance from the village.

(i) There are no crying nuisances, but more might be done by the Municipal Authorities in keeping the streets clean and free of loose rubbish, such as dirty paper, old tins, etc. The filthy state of the sluit adjoining the village constitutes a danger to the public health, as a great deal of the washing of the village is done there, and often the water used is in a most filthy state. The question of providing wash-houses and a supply of clean water for washing purposes is one that should at once engage the attention of the Municipal Authorities.

(k) The European population of the town and district were exempt from Typhoid Fever, Diphtheria, and Small-pox, but the native location was visited by a great epidemic of Typhoid during the winter months. There were 130 cases, with fifteen deaths. The disease was introduced into the location by natives who had been employed by the Military, and the causes which contributed to the continuance of the epidemic were the crowded state of the location, the careless and dirty habits of the natives, the want of suitable means for the disposal of the excretions of the patients, the promiscuous making and drinking of Kafir and hop beer, and the want of periodical inspection of the location by a properly-qualified sanitary officer. A few cases of Typhoid occurred on two farms in the district. There was one doubtful case of Small-pox treated in the Lazzaretto, but the disease did not spread. More might have been done by the Municipal Authority in carrying out the suggestions of the District Surgeon during the epidemic of Typhoid Fever in the native location.

Vaccination was performed in the town and district, but the number that presented themselves for vaccination was disappointingly small, though ample notice and time were given for attendance at the various centres. There was great indifference shown by the public as to the importance and necessity of vaccination. It is only during an actual outbreak of Small-pox that the inhabitants voluntarily come forward to be vaccinated. The numbers vaccinated were twenty in the urban area and eighty-nine in the rural centre. The lymph used was got from Graham's Town, and was obtained from calves 3,029 and 3,211. The lymph was of excellent quality, and the results very successful.

The public health was affected by the state of war to this extent, that the outbreak of Typhoid in the native location was traced to natives employed by the Military, and the epidemic was aggravated by the crowded state of the location during the war. Venereal Diseases were more prevalent during the Military occupation.

Speaking generally, the health of the town and district was good during the year, with the exception of the severe epidemic of Typhoid Fever in the native location above referred to. There were mild outbreaks of Scarlet Fever and Whooping Cough, and Rheumatism of a pretty severe type was prevalent during the winter and spring months.

74. TAUNG.

DR. CHAS. WM. BROWNE, DISTRICT SURGEON.

I fear that my report for this year can only be a repetition of what has been said in former years.

(a) First and foremost the great want here for the large native population in the native village known as Molala's Stad, is a pure water-supply. The fountains are year by year drying up, and for the greater portion of the year the river from which the natives obtain their water for all domestic purposes is stagnant. The dead are buried on the banks and almost in the bed of the river, which is terribly polluted.

(b) There is no sewerage or drainage.

(c) The pail system is adopted, night-soil being removed and buried in the earth, slop-water, household and other refuse are disposed of according to individual fancy.

(d), (e) and (f) Same as last report.

(g) I think the huts in the native location are too closely built together to be consistent with proper sanitation. There are no latrines. Stercus is deposited anywhere and everywhere, and when dry is blown into our portion of the village, and similarly washed down by rains, unless very heavy, and in this case, of course, is carried into the river away from us. The dead are buried amongst the people, on the banks of the river, and sometimes even in the huts. The water-supply is scanty and poisonous in the extreme. These facts, in addition to the filthy personal habits of the great majority of the natives, accounts for Dysentery being endemic, and that any epidemic carries off a large number of them every year.

This year there was a large mortality from what I imagine to be a highly infectious form of Pleuro-Pneumonia. Amongst the Batlapins I did not see any of these cases, though the Chief was requested to call me in to investigate the nature of the disease, but I was never once summoned, and this not because they have not confidence in me, but on account of their superstitious dread of the white man bringing the angel of death or disease with him. I prescribed for a large number, and I saw some cases amongst the Fingos which I was told were similar to the disease killing so many Batlapins. Cough, pain and Hæmoptysis, with liver complication, were the usual symptoms.

(h) As in previous reports.

(i) Nothing has been done, and, being a Native Reserve, it seems nothing can be done.

(k) Pleuro-Pneumonia, Dysentery and Rheumatism have been the most general diseases. But the one great disease is Syphilis, and the number of patients I see has increased year by year, and I hardly see a tithe of those diseased. Every year some epidemic or another carries off a number of people who are saturated with this disease. It is much to be desired that the Contagious Diseases Prevention Act could be carried out, as there are a large number of people in a condition to present themselves to a medical man, who, if neglected, become the almost helpless cases of the future. Many come and obtain medicine, get a little better, relapse and come again, who, if they were regularly treated for some considerable period, might be possibly cured. The great majority of these cases do not arise from actual venereal contact, but from utter disregard of the most ordinary precautions, which would be taken by white people; but I have reported elsewhere on this.

There has been no public vaccination here since October, 1900.

To recapitulate, it seems to me absolutely necessary that these poor natives, whom we took over to protect, should be protected from themselves by some plan of sanitation; a pure water-supply; latrines; a more sanitary way of burying their dead—they are most of them buried too close to the surface, as well as too near the living—their huts further set apart; the application of the Contagious Diseases Prevention Act—these seem to be the great wants for our native village, and what applies to the village here applies also to the village of Manthe, Kgantlapane's Stad, which has about 5,000 inhabitants. I have noticed on my visits there all the sanitary faults which obtain here.

75. TULBAGH.

DR. HENRY P. PAYNE, DISTRICT SURGEON.

The public health duties performed by me during the year were medico-legal duties, public vaccination, the treatment of contagious diseases, the examination of lunatics and alleged lunatics, and the performance of post-mortem examinations.

(a) The village is now well supplied with water for domestic purposes; ample in quantity, and of first-rate quality.

(b) There is no sewerage.

(c) For some years past no cesspools have been allowed in the village; the tub system is now in general use, the removal of night-soil being undertaken by the Municipality. A properly constructed waggon is used for conveyance of buckets, and, as far as I can judge, the service is efficient.

(d) There does not appear to be any overcrowding. The inhabitants are on the whole fairly well lodged, and actual pauperism is very rare indeed. The cottages inhabited by the coloured people are, as a rule, kept clean.

(e) No slaughtering is allowed within the village. The slaughter-houses used outside have always, when I have visited them, been in good order and cleanly.

(f) There is now no cause for complaint on this head; milch cows and other cattle graze within a properly fenced vlei, and pigs are kept within bounds.

(g) There is no native location attached to this village. Most of the coloured people employed about the village live together at Helpmakaar, which is to all intents and purposes a portion of the village.

(h) There are three burial grounds; none of these are, in my opinion, likely to be prejudicial to the health of the community.

(i) The sanitation generally of the village and district has improved considerably of late years. Since the introduction of a pure water-supply for domestic purposes in 1898, no epidemic of Enteric Fever has occurred within the Municipality; indeed, no cases of that disease have been reported which have originated within the village. Prior to 1898, epidemics of Enteric were nearly annual, and frequently very severe and disastrous.

(k) The only epidemic disease during the year has been Measles, attended by a smaller mortality than usual in that disease.

One case of Enteric Fever came under my notice, but the patient was suffering from the disease when she came here from Riebeek West.

76. UITENHAGE.

DR. R. G. LAMB, DISTRICT SURGEON.

(a) The water-supply at source and on delivery is good and sufficient, and I know nothing likely to lead to pollution.

(b) With regard to sewerage and drainage nothing has been as yet attempted in this direction. The Town Council are anxious to tackle this question, and, I believe, will do so in the near future.

(c) The disposal of night-soil, etc., is still carried out as in former years.

(d) Overcrowded dwellings, etc.—The Council is still working for an improvement in this direction.

(e) The slaughter-houses are situated outside the town. Butcheries, etc., are constantly supervised, with a view to cleanliness.

(f) The Keeping of Cattle, etc.—These are kept in town under certain conditions.

(g) Native locations are all under control of local authorities, and inspectors attend to their general sanitation and cleanliness.

(h) Cemetery and burial grounds are all well kept.

(i) The Council are doing all they can in this direction.

(k) Typhoid Fever.—There were twenty-one cases, an improvement on former years.

Diphtheria, one case, and Small-pox none.

The public did not avail themselves of vaccination to the extent that is desirable. I consider the regulations on the matter faulty; what was carried out was fairly successful.

Lymph was procured from Grahamstown, and must be classed as good.

Vaccination performed at nine centres in the country was satisfactory.

So far as I am able to judge, I do not consider that the war has affected the health of the town and district.

As I was incapacitated from work for four months, owing to ill-health, my report is not so extensive as in former years. I consider the health of the town and district is well maintained.

77. UNIONDALE.

DR. H. MUNRO MACKENZIE, DISTRICT SURGEON.

I regret that I am unable to give a very full report this year, as I have only been Acting District Surgeon since December 1st, and the last District Surgeon is since deceased, leaving no records, so I can only speak with certainty about one month of the year.

(a) The water-supply is very good. It comes about seven miles in an open stream, but there is very little stock on the hills through which it passes, and no houses, so that there is not much liability to contamination. From there it is brought in an open furrow to the entrance of the town, but again this furrow is not polluted, as it lies fairly high against the side of a steep hill. At the entrance of the town part of the water passes through a filter-bed, and is thus distributed by iron pipes through the whole town, with taps at convenient places. The rest of the water passes through the town in open furrows, and is used solely for irrigation. At present, owing to the severe drought, there is a scarcity of water for the latter purpose, but there is no lack of water for domestic purposes, nor is there likely to be.

(b) There is no sewerage. Drainage is carried on by the various open furrows, when there is sufficient rain to carry off the refuse, but as these furrows are only used for irrigation, this is of no consequence.

(c) The pail system is in use, and is well carried out by the Municipality, defaulters in this respect being prosecuted. Slop-water, household and other refuse are deposited in gardens and back-yards.

(d) I should think there must be some overcrowding in the part of the town occupied by coloured people and natives, but no cases have been brought to my notice, and, as there is no medical officer of health for the town, there is no way of obtaining information.

(e) There are two slaughter-houses, which are kept in good condition. There are two bakeries, also well kept. There are no dairies. Several people sell milk, but it is always taken away by the buyers at once.

(f) Cattle, swine, and other animals are allowed to be kept in the town, but are not a nuisance, except occasionally in the case of swine, the keeping of which in town I recommend should be prohibited.

(g) There is one native location, which is under the control of the Municipality, and is inspected periodically by the Sanitary Inspector, and is in fair order, but, as in the town, there are too many swine.

(h) There are three cemeteries, under the control of the English, Dutch Reformed, and Native Churches respectively. That of the English Church is in the centre of the town. The surface drainage would run towards the water-furrow. The dip of the strata slopes the other way, so that there is no risk of contamination from deep drainage. The Dutch Reformed Church cemetery is about a quarter of a mile outside the town, and is kept in good order. The native cemetery adjoins the latter, but is not enclosed, and is crowded, and I have been informed that several coffins have been exposed, owing to the soil being washed away by heavy rains.

(i) No information.

(k) I only know of one case of Typhoid Fever on a farm about ten miles away.

There have been no cases of Small-pox during the year. Owing to Martial Law in the early part of the year, no public vaccination has been performed. A tour was arranged by the late District Surgeon, but, owing to some delay in getting the authority, I was unable to commence it before the end of the year. The tour, as at present arranged, is, in my opinion, quite inadequate for the needs of the district. Only eight centres are allowed for an area of about 1,690 square miles. Owing to the late war, no vaccination has been performed for about three years, so there must be many children still unvaccinated. Also owing to the war, there is a great scarcity of horses, and people are quite unable to bring their children from any distance to the present centres.

Several cases have been treated under the Contagious Diseases Act, Part II., and I have no doubt that there are many more which ought to come under treatment, but it is very difficult to obtain information about them, as others will not recognise that it is their duty as well as to their benefit, to report these cases. The natives do not seem to realise the serious nature of the disease, and continue to spread it among themselves, as well as running the risk of contaminating innocent Europeans by means of clothes, etc. I had some difficulty at first in getting the syphilitic patients to present themselves regularly for inspection and treatment, but they are beginning to appear more frequently now. There seem to have been no cases of Gonorrhœa. Either this disease is remarkably rare here, or those affected do not consider it worthy of treatment.

78. VAN RHYNSDORP.

DR. F. J. C. BOTHA, DISTRICT SURGEON.

The annual health report for the village and district will unfortunately be a very incomplete one, as the district was occupied for almost six months during the year 1902 by the Boers, and also that I assumed office on the 1st August, 1902. We had a large number of paupers (mostly coloured refugees who were returning to their homes in Namaqualand). Vaccination was not a success, owing, no doubt, to the scarcity of animals and the want of water in some parts of this district.

(a) The water-supply is chiefly from wells; as a rule, the coloured people get their water from the river-bed, where they dig small holes called gorras. The supply is sufficient, but rather brackish.

(b) There is no regular drainage or sewerage.

(c) There has been no change during the last year. It would be decidedly better if certain spots were fixed where refuse could be deposited,

rather than that it be deposited all over the village. The bucket system is in vogue here. The night-soil is generally buried in gardens and other suitable spots.

(*d*) There is no overcrowding of houses. The Contagious Diseases Hospital does not, in my mind, appear suitable for human habitation.

(*e*) There is one butchery here, which is conducted in the proper way; and two bakeries, of which there has been no complaint.

(*f*) Most of the inhabitants keep cows during a certain time of the year, but they are not a source of annoyance. There are not so many pigs as formerly.

(*g*) There is no native location in the village or district.

(*h*) There are three burial grounds. They are in the most suitable positions, but I am afraid they are not kept in good order.

(*i*) There is no Village Management Board; if there were one, great improvements might be made in this village.

(*k*) There have been no cases of Small-pox in this district during the year, nor have there been any cases of Diphtheria. There have been several cases of Typhoid Fever in this village, and I am unable to say how they originated. It might be possible that it was more prevalent during this period owing to antiseptics and disinfectants being unable to be procured.

79. VICTORIA EAST.

DR. W. E. KELBE, DISTRICT SURGEON.

(*a*) The water-supply is the same as heretofore, namely, from the river by means of a furrow, and rain-water from tanks. The causes of pollution of both are many, as several roads cross the furrow, and cattle and horses often stand and drink in it, and in the case of tanks no method is adopted of turning aside the first water from the iron roof after a period of drought, when the roof is covered with dust and the excreta of birds (such as pigeons, which should not be allowed to be kept where tank-water is used for drinking purposes). It has been proposed for some years to bring the water in by pipes, and this should be carried out.

(*b*) The bucket sanitary system is now used; and there is a weekly service, which is not sufficient, and should be bi-weekly where required. There is no proper sewerage in town or country.

(*d*) and (*g*) I suggested some time back to the Town Council that they should insert in their regulations that no thatched or mud-walled buildings should be allowed to be put up, as they are a harbour of infection and vermin, and cannot be properly disinfected, but they did not adopt this. I think this might have been inserted in the Government Model Regulations. The overcrowding of huts in locations will in time have to be considered. In the urban area the Council have allowed the natives of the location to have a large extra piece of ground, on which they have erected numerous huts, and in time this bids fair to become simply another large location, and another source of pollution to the water and danger of infection to the European community.

In the rural area there is certainly overcrowding in the private native locations, there being in three of them fifty huts for 710 persons, an average of fourteen and one-fifth per hut, or probably more, counting store huts. In the Government locations the average appears to be much less, perhaps a third of this.

(*e*) The regulations adopted by the Town Council some time back remain for all practical purposes a dead letter, and sanitary matters are in much the same condition in the urban area as they were before the regula-

tions were passed. There seems to be no responsible person to see that the regulations are carried out. On this point I should like to remark that the present position of health officers (anyway in villages) is both undefinable and most unsatisfactory. He has no powers granted him, no duties defined, and his relation to the Local Authorities is not clearly stated. He is (where District Surgeons are Health Officers) appointed and practically paid for his work by the Government, but is at the beck and call of the Councils, and often wasting his breath and time giving them gratuitous advice which is not followed.

(f) Cattle are still kept in kraals in the village.

(h) Nothing has been done with regard to the oft repeated recommendation that the cemetery on the banks of the Gaga Stream should be closed.

(i) If the present regulations of the Town Council were carried out, most of the nuisances in the village would be abated.

(k) I had no cases of Enteric Fever among Europeans during the six months I was in the district, but among the native population there have undoubtedly been many cases; but it is impossible to state even approximately the number, because they are seldom visited, and, perhaps, only come to the surgery once or twice.

There have been two outbreaks of Small-pox during the year. In the first one it was impossible to trace the origin; the second one undoubtedly had its origin in King William's Town district. The quarantine, as carried out in this district, has not been satisfactory, as by the time the case has been reported or discovered (generally the latter) it is sufficiently advanced to have infected others who have probably left for another part of the district. The only practical way is to have a central infectious diseases hospital, and have all the cases brought there immediately on discovery of the disease. Vaccination should also be properly carried out, and some trouble should be taken to discover those who are unvaccinated, and to compel them to become so. I am at present engaged on a very unsatisfactory tour through the district, as no trouble has been taken to inform the people, and they were several times unaware of my visit.

After vaccination, I have several times tried to make the people report the result, but they seldom do so, and, as I am not authorised to pay a second visit, the result is unknown, except in a few cases.

80. VICTORIA WEST.

DR. THOMAS EDGAR JONES, DISTRICT SURGEON.

(a), (b) and (c) As reported last year.

(d) I know of no overcrowding, and of no house unfit for human habitation.

There might be some improvement effected in the accommodation and ventilation of the poor white school. At present seventy children sit in two rooms 17 x 18 feet and 17 x 12 feet respectively, which gives a floor space of 510 square feet, or 7.28 square feet per head, and 87.4 cubic feet per head, equivalent to less than $4\frac{1}{2}$ x $4\frac{1}{4}$ x $4\frac{1}{2}$ feet for each child. If nothing else is done, ventilators and window-shutters might be provided.

(e) The management of slaughter-houses is most objectionable; none should be allowed in the town; an abattoir under Municipal control should exist.

(f) The system of kraaling animals in the village and in close proximity to dwellings is a most offensive one.

(g) Great improvement in the condition of native location has been effected. The native location at Victoria Road, to which I called attention in my last year's report, has at last been done away with, not, however, before very severe epidemics of Small-pox and Diphtheria manifested themselves.

(h) Cemeteries and burial grounds are in good order and well taken care of.

(i) The Sanitary Inspector is supposed to take action whenever he thinks it necessary in order to stop nuisances.

(k) To my knowledge there have, comparatively, been a few cases of Enteric Fever during the year—some fifteen in all, I should say. Owing, however, to the total inefficiency of the supposed compulsory notification of infectious disease to the local authorities, I am unable to give any records.

A severe epidemic of Gastro-enteritis affecting children during November and December, resulted in a somewhat severe mortality. The great heat, want of sanitation, teething and bad feeding, each in turn or combined, claiming victims.

The death-rate from Pneumonia was enormously increased. During the earlier winter months it raged in epidemic form, the mortality being great among old people and young children, both European and coloured.

On the 8th September, on information conveyed by the Military Medical Officer at Victoria Road, I visited the large native location which had been called into existence at that place during the war; I gathered that deaths had been occurring there for some time from Sore Throat, and was informed that two deaths had occurred the day previous from the same cause. I saw eight cases of Diphtheria on the occasion of my first visit. These cases were immediately isolated, as were all subsequent cases at this location, as well as the contacts. Shanties in which cases of Diphtheria occurred were burnt. Steps were taken by the Divisional Council without delay, and everything possible was done by them.

I have tabulated the cases as follows:—

CASES OF DIPHTHERIA DURING MONTHS OF SEPTEMBER, OCTOBER,
NOVEMBER AND DECEMBER, 1902.

	Number of cases.	Inocu- lated.	Did not come under treat-ment. Not inoculated.	Died.	Cured.	Local Authority.
<i>Victoria West Road</i> <i>Location—</i>	All na- tives but one.					
September ...	20	16	4	4	16	Divisional Council.
October ...	7	6	1	2	5	"
November ...	2	2	...	...	2	"
December ...	2	2	...	...	2	"
Total ...	31	26	5	6	25	
<i>Pampoenpoort—</i> Europeans ...	8	5	3	4	4	Divisional Council.
<i>Victoria West—</i> One European } One Native }	2	2	...	...	2	{ The Municipal Council, Victoria West.
Total Cases in Village and District ...	41	33	8	10	31	

In my last annual report I drew particular attention to the condition of the location at Victoria West Road. The filth and squalor existing I considered to be a very serious menace to the health of the inhabitants. Diphtheria undoubtedly originated from the extremely unsanitary condition of this dumping ground for native families and rubbish. The boys were almost entirely in Military employ. On the 19th November I was called to see five children in the same location at Victoria Road. I found they were suffering from Small-pox, and had been ailing for some days, the rash having developed the day previous. In each case there was very considerable constitutional disturbance, high temperature, and their bodies being covered very thickly with a well-raised "shotty" rash of good size.

They were immediately quarantined in bell tents, the contacts vaccinated the same afternoon, and likewise isolated and their shanties burnt. I am not able to account for the origin of the outbreak directly, for these children had been in the location for some considerable time, and so had the parents, but cases of Small-pox were still occurring at De Aar about this time, and, as there were several natives in the location who had come from there, it is probable that they carried infection with them to the location at Victoria Road. Two cases occurred in the village of Victoria West during September; both boys were on transport work between the station and Victoria West, so it is natural to assume that they must have picked up infection from a similar source. The latter two cases were isolated by the Municipality, and discharged on 17th October. They were both pre-vaccinated, and contacts were immediately vaccinated and quarantined, but no more cases occurred.

I vaccinated 797 persons at Victoria West Road as soon as I could procure lymph from Grahamstown. I had occasion to re-vaccinate fifty-five of this number owing to failure of first impression.

I have tabulated a record of the Small-pox outbreak as follows:—

Locality.	Date of Discovery.	Total No. cases.	Prevaccinated.	Unvaccinated.	Total No. deaths, vaccinated and unvaccinated.	Local Authority.
Victoria West.	Sept. 16, '02	2	2	...	...	Municipality. Cases discharged Oct. 16th, 1902.
Victoria West Road.	Nov. 20, '02	26	7	19	2	Divisional Council. This outbreak was suppressed 2nd March, 1903.
Total Cases ...		28	9	19	2	

On the 10th December I held public vaccination for Europeans in the Court-room, Victoria West. Only six persons put in an appearance. On the 13th December I vaccinated 118 natives in the Mission Church. During the same month I visited nine district centres, and vaccinated 60 persons. As far as I was able to hear, the lymph, procured from Grahamstown, was successful in district vaccinations; all the village vaccinations were successful.

Causes of death in Victoria West and District during year ending December 31st, 1902:—

Measles, 4; Influenza, 2; Diphtheria and Membranous Croup, 9; Enteric Fever, 8; Diarrhoea, 13; Phthisis, 13; Tubercular Meningitis, 2; Septicaemia, 4; Chronic Alcoholism, 1; Sarcoma, 1; Carcinoma, 3; Premature Birth, 1; Accident during Child-birth, 1; Dentition, 6; Haemorrhage Diathesis, 1; Old Age and Senile Decay, 4; Acute Meningitis, 1;

Insanity, 1; Convulsions, 10; Heart Disease, 8; Syncope, 2; Apoplexy, 2; Bronchitis, 13; Pneumonia and Congestion of Lungs, 75; Asthma, 1; Laryngitis, 2; Gastritis, 5; Enteritis and Gastro-enteritis, 31; Strangulated, 1; Peritonitis, 4; Abscess of Liver, 1; Nephritis, 4; Diseases Uterus and Vagina, 2; Post Partum Hæmorrhage, 1; Accident, 8; Suicide, 1; Gumma of Liver, 1; Marasmus, 8; Gangrene, 1; Exposure, 1.

81. VRYBURG.

DR. WILSON M. NUGENT, DISTRICT SURGEON.

(a) The water-supply diminished owing to continuous drought. The main supply is from the fountain near the Gaol, and is of good quality.

(b) There is no system of sewerage or drainage. The furrows on each side of the streets are flushed by thunderstorms.

(c) Night-soil removal is of the dry-earth system, and answers well, and is deposited.

Slop-water, domestic and other refuse is cast away beyond the spruit, about half a mile from the town.

(d) Nil.

(e) Slaughter-houses are situated outside the town, and are kept in a sanitary condition. Butcheries and bakeries are also sanitary.

(f) Cattle, swine, etc., are kept on the commonage outside the town.

(g) The Native Location camp is much improved, owing to the laying out of streets, erecting new houses; and the sanitation is good.

(h) The new cemetery has been opened, and is on a good sanitary site.

(k) The general health of the community is good; no epidemics have occurred.

Leprosy is believed to be prevalent, but cases are extremely difficult to trace, as they are not reported, but, on the other hand, carefully concealed.

Scurvy at the Location Camp, Vryburg.—There has been a widespread occurrence of Scurvy among the natives at the above location camp, owing to the continued drought and failure of the mealie crop.

Nearly all the cases recover rapidly under the treatment.

The camp is visited every alternate day by the District Surgeon, and supplies of limejuice are dealt out.

Vaccination.—No vaccination (rural) has been carried out since 1899, owing to the hostilities, and it is advisable that a tour of vaccination should be instituted at an early date.

Great Increase of Syphilis at Vryburg and Surrounding District.—There is amongst the natives an abnormally high number of cases of Syphilis, both acquired and congenital. Of the acquired class many of the cases have reached a very advanced stage of Tertiary, the ulcerations being extensive and in some cases little influenced by treatment. There are also many cases of acquired Syphilis occurring in children under the age of fourteen. There is great difficulty in combating the spread of the contagion, and also in treating the individual cases of the disease, as it is impossible (there being no Act to authorise) to compel the cases to go to hospital. Even of those cases which are sent to hospital, many, when tired of restraint, leave hospital, and may be more or less lost sight of. The treatment is discontinued, and a source of contagion is again at large.

The attention of the Colonial Secretary should be drawn to this growing evil at the earliest opportunity, and advised that only by the erecting of a special hospital for the contagious diseases, and by the passing of an Act giving full power to the District Surgeons (per Magistrates) to compel

any known or suspected cases to go to hospital, there to be treated, and there compelled to remain at the discretion of the District Surgeon, can there be any prospect of a diminution of Syphilis in this district.

There is also a great spread of Soft Chancre. This, through the native servants, is a great source of danger to the white population, and cases of it occurring in white children are known at present.

82. WILLOWMORE.

DR. R. J. D'ARCY, DISTRICT SURGEON.

In presenting my health report for 1902 I wish to draw attention to the fact that for the past ten years I have again and again pointed out sanitary defects, insufficient and bad water, and other matters in the village calling for remedial measures. No notice has been taken, and in this report I can only repeat what I have before stated.

(a) There is no proper water-supply. Wells are surface, and unfit to drink. Tank water is not always above suspicion.

(b) Sewerage does not exist; drainage is natural.

(c) Night-soil is removed by bucket system. Slop-water is thrown out at the back door and household refuse removed once a week by cart.

(d) No complaint.

(e) Satisfactory.

(f) Most unsatisfactory; animals are kept in back-yards.

(g) I attached a copy of letter to my last report written to the Local Authority on the disgraceful condition of one of the locations. To this letter I again refer. No steps have been taken to remedy or ameliorate the condition described.

(h) Satisfactory.

(i) Vide report and letter referred to under (g).

(k) An outbreak of Small-pox was discovered in railway camp three miles from village on September 7th. The boy was a Kafir, unvaccinated; the disease confluent. There were four immediate contacts. They were at once isolated and vaccinated. One contact (a female) was discovered with Small-pox rash on September 22nd; the vaccination had been successful, and the two ran a concurrent course. Another case was discovered on the 26th in the same camp. This boy had also been successfully vaccinated. There were three fresh contacts. There was no further spread of the disease, and the last case was discharged on October 26th. The source of infection was Graaff-Reinet; the first boy had been living in a house where the disease occurred. The patients were all coloured adults; all recovered. Vaccination was performed after exposure to infection, with the result above stated. Vaccination was diligently carried out, 1,833 persons being operated on, of whom 1,456 were primary. The lymph was particularly active, taken from calves 3,183, 3,184, 3,189, Grahamstown.

The Local Authority in charge was the Divisional Council, who did all in their power to check the disease.

An outbreak of Scarlatina occurred in the village in September. The first case was in the school boarding-house. Six cases in all were treated. The schools and boarding-house were closed and disinfected. The type of disease was mild; all the children recovered. The Municipality took charge of the outbreak.

Typhoid.—I only know of one case during the year. It was in the military hospital, of which I had charge. The case was fatal.

The state of war had no effect on the public health.

83. WODEHOUSE.

(i) WODEHOUSE.

DR. E. R. ROWLAND, DISTRICT SURGEON.

The health of the town during the year was not satisfactory, owing to an outbreak of Enteric Fever, and compared unfavourably with preceding yearly health reports. This, I consider, due to the abnormally congested state of the town, owing to number of troops here stationed, and number of columns passing to and fro. Many cases of Enteric being treated in the military hospitals here, these are not included in this report. There were about sixty-four cases of Enteric Fever, out of which number eight terminated fatally. This includes cases that occurred in Gaol among the Boer prisoners.

The district itself was fairly free from disease.

(a) The water-supply of the town was good. The supply coming from the reservoir and springs during the latter part of the year, owing to scarcity of rain, the reservoir was empty, and the town was dependent upon the springs and various wells in the town. The spring water is now collected and laid on to the town in pipes, and cannot get polluted, either at its source or in transit.

(c) The night-soil is removed by carts; also slop-water and other refuse, and deposited in a spot some distance from the town.

(e) Slaughtering is done at a spot selected by the Municipal Authorities, and is in a sanitary condition.

(f) A limited number of cows are kept in the town for milking purposes.

(g) The Native Location is in a fairly cleanly condition, and is under the Municipal Authorities' charge.

(h) The burial grounds are in good condition.

(i) The pit system has been abolished, and tubs are now used, and every house is now obliged to have erected a sanitary latrine.

(k) There were a few cases of Small-pox in the district, which were isolated, and all the surrounding inhabitants vaccinated. The disease did not spread from its original locality. There were several case of Diphtheria, but no fatal cases. Also about eight cases of Scarlet Fever, and a few cases of Whooping Cough.

I consider the Local Authorities to have done everything in their power to prevent the spread of Enteric Fever and other infectious disease.

Vaccination was performed at several centres in the district, and, as far as one can ascertain, the results were satisfactory and successful. I found the lymph good.

(ii) SUB-DISTRICT OF INDWE.

DR. A. S. BARROW, ADDITIONAL DISTRICT SURGEON.

I. INDWE MUNICIPALITY AND NATIVE LOCATION

(a) The water-supply is obtained from the Indwe River, being pumped from a deep hole in the river to a small service reservoir situated on the Mine Hill, about sixty feet above the level of the town, whence it is delivered at a stand-pipe at the top of Tilney Street. A small private system of delivery pipes exists to about one-fourth of the houses of the town. The supply and control of the water is entirely in the hands of the Indwe Land, Railway and Collieries Company, Limited.

During 1902 the Indwe Company built two stone dams in the bed of the river, to create a reserve store of water, which dams proved of great benefit during the winter of 1902; also a stand-pipe was erected near the Municipal Native Location, for the use of the natives. The quality of the water is variable, but, so far, has been free from sewage pollution, and has contained very little indication of organic impurity. After rain the water is heavily loaded with inorganic matter (sand) in suspension. The river is open to pollution from the presence of human habitations (Kafirs chiefly) in the catchment area above the intake of the water.

The water-supply can hardly be regarded as adequate to meet the demands of the town, railway, and mines, but a water scheme has been drawn up and approved. An agreement between the Municipality and Company over details will be the signal for commencing the work.

(b) There is no system of sewerage *qua sewerage* for the town, the night-soil being deposited in pails which are removed at stated intervals weekly.

Drainage is limited to the removal of surface storm-water, for which purpose gutters are provided in the principal streets; but these gutters are not of any permanent character. A certain amount of household slop-water finds its way into the gutters; also the water from the Cape Government Railway engine-shed runs into a gutter in Tilney Street, and after rain the overflow from kraals. At the lower end of Station Street, owing to the formation of the ground, storm-water lodges in large quantity, and floods the houses there; this water remains for days after rain. I alluded to this matter in my report of 1901. The remedy is obvious, viz., a drain to carry off this water to the Doorn River, some 300 yards distant. This matter should have attention.

(c) Night-soil is removed twice weekly in a properly constructed cart, and deposited in pits dug some three miles below the town. During the year this work has been efficiently carried out.

Slop-water is removed three times weekly, but at an extra charge. Such removal has not been compulsory or general, the bulk of the slop-water being thrown into yards or gutters. The disposal of slop-water, to be efficient, should be a daily service, the expense of which in a small town-ship like Indwe being almost prohibitive.

Household and other refuse is removed twice weekly in a satisfactory manner, and deposited on the veld below the town adjacent to the night-soil dumping ground.

During 1902 the removal of night-soil, slop-water and household refuse has been effected in a far more efficient way than before.

(d) There is great improvement in both respects. The number of native coffee houses owned and managed by natives has diminished within the Municipality.

(e) The four butcheries at present carrying on business in the Municipality have from time to time slaughtered on their premises, but to a much less extent than in 1901. There is no properly constructed slaughter-house at any of the butcheries. A Municipal slaughter-house is about to be constructed in a suitable situation, which, with proper enforcement of the Municipal bye-laws, should put an end to all slaughtering at improper places.

The butchers' shops are all kept clean, but in matter of construction hardly come up to the standard laid down in the Model Regulations.

The bakeries are all well conducted and clean.

(f) I can only repeat my report for 1901, viz.: That cattle (chiefly milking cows) are kept in the town in open kraals, which, in many instances, are none too clean, and, after rain, smell. Milch cows should be kept in properly constructed stables when in towns. Sheep and pigs

are kraaled at night, the former in some numbers in open pens, which smell offensively after rains.

The Municipality have now limited the number of cattle to be kept in town to three per householder, and all above that number, together with sheep and pigs are to be herded in future in kraals built by the Council in a fitting situation.

(g) The good order, cleanliness and general sanitation of the native location has been greatly improved during 1902, the improvement being very apparent after the appointment of a Resident Magistrate at Indwe. The Municipal Council have done excellent work in providing more latrines, properly arranged sites for huts, and removal of ashes and other refuse, and the pulling down of huts badly constructed and unfit for habitation. The condition of the veld in the neighbourhood of the location is quite clean to what it was in 1901.

The erection of the stand-pipe for supply of water has proved a great benefit to the natives, who before had to walk half-a-mile to fetch water.

During the year I have not seen so many cases of Venereal Disease among the location natives, though I have reason to believe a number of cases of Syphilis exist.

(h) The cemetery is well situated below the town, at a sufficient distance, and is well fenced and planted.

(i) I am pleased to report that but few nuisances which call for abatement now exist, and it must be mentioned that each nuisance mentioned below is being dealt with by the Municipal Council, and the proposed steps, if properly carried out, will cause the nuisances to cease.

Nuisances.—(1) Inadequate and inefficient removal and disposal of slop-water. (2) Slaughtering in the town under insanitary conditions. (3) Existence of open kraals in town. (4) Nuisance of gutter in Tilney Street.

(k) Typhoid Fever.—Five cases of Typhoid Fever occurred in Indwe Municipality during the year. The first case on March 5th, which proved fatal, occurred in a European child living in a house at the lower end of Station Street; a definite source of infection was unobtainable. The second case, in a European child, was discovered on May 4th; this patient lived in Wodehouse Street; the child recovered. The source of infection could not be traced. May 24th: A European miner showed the disease; he recovered. I regard the mine water as the probable source of infection. June 21st: A European adult was discovered to be suffering from the disease; he resided in Fletcher street; the case was fatal; the most probable source of infection was water drunk at Dordrecht. On November 1st a European miner was found to be suffering from the disease, which proved fatal, infection most probably being through mine water. To summarise: Five cases occurred; three fatal; all were Europeans; two were children under fifteen years of age.

Diphtheria.—Four cases of Diphtheria occurred in European children, one only proving fatal. Three cases occurred on January 20th in a house in Xalanga Street, the infection probably coming from the filthy conditions under which they lived. The fourth case, discovered March 1st, in a child residing in Barkly Street, recovered. I could trace no source for the infection, the child living under the best hygienic conditions.

Four cases; one fatal; all Europeans; all children.

Small-pox.—Eight separate outbreaks occurred among natives during the year, and in no one of the outbreaks did the disease spread. One case proved fatal.

(1) Umhlanga Native Location: Discovered February 27th; two native infants and one native adult; the latter, who showed the disease first, had never been vaccinated; the infants, only after exposure to infection; all made a good recovery. Owing to the proximity of a camp of

native lines, a European, with three natives, was placed in charge of the group of three infected huts, which stood apart, and were strictly quarantined; all the contacts were vaccinated at once. The European in charge performed, under my supervision, vaccination and re-vaccination among the natives in this location with success, the total number so treated being 584, of which seventy-six cases only showed no local reaction, the lymph used being calf-lymph from the Bacteriological Institute, Grahamstown, the numbers being 2,971, 2,969, 4,971. This supply of lymph was very active. The quarantine was closed on 31st March.

(2) Indwe Municipal Native Location: Two adult natives were discovered suffering from Small-pox in the native location on June 24th. These cases, together with ten contacts, were at once removed to Municipal Lazaretto, and the contacts re-vaccinated. Four cases occurred among the twelve natives, three in pre-vaccinated individuals, who recovered; one in an infant only vaccinated after exposure to infection, who died. Police guards were employed, and the patients were discharged on July 31st. No spread of the disease occurred in the locations.

366 natives were vaccinated and re-vaccinated at the location, and Indwe Mines, of which ninety-six were primary; 270 re-vaccinations, of which success was obtained in 214. The lymph used was calf-lymph obtained from the Bacteriological Institute, Grahamstown, the numbers being 3,152, 3,155, 3,150, 3,227, 3,220. This lymph was very satisfactory, and gave good results.

(3) Dugmore Mine, Indwe: On July 12th a native was discovered to be suffering from Small-pox at the Dugmore Mine; some ten days before falling sick he acknowledged having visited a native hut in Cofimvaba, where there was Small-pox. This native had been vaccinated; by the courtesy of the Indwe Municipal Council he was isolated at the Lazaretto, and was discharged well on August 18th. No further cases occurred at the Mines, where the natives had been vaccinated or re-vaccinated shortly before, at the time when the Municipal Location was vaccinated.

(4) No. 17 Farm, Indwe Land, Railway and Collieries Company: On July 19th two natives (one adult and one child) were discovered to be suffering from Small-pox, residing on No. 17 Farm; both had been previously vaccinated. The hut occupied by the sick and the next adjoining were isolated; eleven natives (by police guards, two in number) and the contacts re-vaccinated. Both cases were mild, and recovered. There was no spread of the disease. I could not trace the source of the infection.

(5) N'Donga, Indwe Poort: On December 13th a native boy was found suffering from Small-pox, residing in a hut in a secluded kloof; when seen he was convalescent; he had been vaccinated. The other natives in the five adjoining huts were vaccinated or re-vaccinated, but no further steps for isolation were necessary. No spread of the disease occurred, and the source of infection was unobtainable.

As a general rule the various Local Authorities have acted promptly and efficiently in stamping out any outbreak of Small-pox.

The Local Authorities I had to consult were the Resident Magistrate, Dordrecht, Assistant Resident Magistrate, Indwe, Indwe Municipal Council, the Divisional Council of Woodhouse not being in working order during 1902, chiefly on account of the war.

The calf-lymph supplied to me during the year proved to be the most active I have yet had from the Cape Government Bacteriological Institute at Grahamstown.

Finally, with regard to such sporadic outbreaks of Small-pox in this district as above described, in my opinion, they will occur from time to time as long as the present circumstances of a large floating native population constantly moving exist. The existence of the Coal Mines, with natives coming from all parts to work there, and the large number of natives pass-

ing through Indwe to and from the chief labour centres of the country, affords every opportunity for chance infection. I further find it most difficult to obtain any information from natives as to probable source of infection.

(6) Indwe Municipal Native Location: On August 20th a native adult was found suffering from Small-pox, residing in Municipal Location; she had been vaccinated. The sick native, together with six contacts, were at once removed to Municipal Lazaretto, the contacts being at once re-vaccinated. The patient recovered. No spread of the disease occurred. The patient was discharged cured October 25th. I could trace no source for the infection.

(7) No. 19 Farm, Indwe Land, Railway and Collieries Company: On October 10th a native adult was discovered to be suffering from Small-pox, residing in hut on No. 19 Farm; she had been vaccinated. A native boy, living in same hut, contracted the disease, though pre-vaccinated; both cases recovered, and no spread of the disease occurred on the farm. No police guards were employed, the location headman being warned to keep the infected hut, with its occupants, from intercourse with the other natives. I could not trace source of infection.

(8) Dugmore Mine: On November 25th a Basuto recently engaged at the Dugmore Mine was found to be suffering from Small-pox; he had been vaccinated, and stated that ten days before becoming sick he had spent one day in the company of Basutos suffering from Small-pox in Basutoland. This native, with thirteen others who had travelled with him and been engaged at the Mine, were at once isolated in a suitable hut on the Mine area, the thirteen being re-vaccinated. The Indwe Company promptly found police guards, and bore all expenses. The man recovered, and was discharged cured December 30th. No further cases occurred at the Mine compounds.

II. INDWE LAND, RAILWAY AND COLLIERIES COMPANY, LIMITED.— MINING AREA.

During 1902 great development has taken place at the Dugmore Mine, situated some three miles from Indwe. Cottages built of brick have been erected for the European employees, and provided with a water-supply and satisfactory sanitary service. The Native Compound at the Dugmore Mine has also been greatly enlarged, and a supply of river water provided and satisfactory provision of latrines. On the whole the compound has been kept clean, while the sanitary service to all the Mine property has been efficiently carried out during the year 1902. The health of both European and native employees has been good. Two isolated cases of Typhoid Fever occurred in European miners, probably from drinking Mine water. This water was again treated with paraffin and tar, and rendered too nauseous to drink. No epidemic occurred, nor any cases among the natives.

Scurvy proved troublesome among the natives during the year, but the Company provided a cheap meat-supply, available for the natives, who at once took advantage of the opportunity, since when but few cases have occurred.

The cases of Small-pox occurring at the Mines have been dealt with under that heading of this report. The Managing Director and Mine Manager acted most promptly in dealing with the cases as advised, with the very satisfactory result of preventing a large outbreak of the disease in their compounds.

84. WORCESTER.

DR. D. HUGO, DISTRICT SURGEON.

(a) The water-supply throughout the year has been ample, notwithstanding the absence of rain during the summer months. I ascribe the small number of Typhoid cases (in the town at all events) to the fact that there have been no intermittent floodings of the Hex River proper, as a consequence of which circumstance the Worcester water-supply from the Landdrift Kloof has not been so markedly polluted. The question of improved water-supply is still under consideration, and the establishment of additional filtering beds still await the pleasure of the engineer, who has had the matter in hand for the past year and more.

(b) Nil.

(c) The dumping ground for night-soil has been too close to the town, and considerable nuisance was occasioned thereby. This has been remedied, and the arrangements generally now in force answer as satisfactorily as can be expected.

(d), (e), (f) and (g) Kept under constant inspection and supervision; but the best efforts to mitigate irregularities have not been altogether satisfactory. In this comment, "the keeping of cattle, swine and other animals" might truly be said to embrace the inhabitants of certain so-called "yards," which, as a rule, house the worst type of vagrant (leeg-looper).

(h) and (i) Nil.

(k) As above remarked, Typhoid Fever cases have been markedly diminished during the past year. Diphtheria, however, made its appearance, and Dysentery has been very prevalent. Neither of these diseases were prevalent in Worcester prior to the advent of the Military. Indeed, I may safely state that the former disease was an exceedingly rare occurrence, while the latter was unknown. Diphtheria was curiously consistent with the Catarrhal affection prevalent amongst Military horses at the Remount. On personal enquiry I was informed that much of this affection was not glanders, and as I was at the time aware that some thousands of horses were being shot, I attempted to discover whether the periodical outbreaks of Diphtheria could in any way be connected with the Catarrhal recrudescence among horses; (it may be remarked that Diphtheria may, in a modified form, attack horses as well as other animals). It is easy to understand how this non-volatile germ might have been carried to the town by the myriads of blue-bottles, which, after a gentle south-easter, invaded even hedge and tree. The connection could, however, not be established, and the cause of the epidemic remains unknown. The Dysentery epidemic has been very severe, and caused a heavy death-rate. Its appearance was co-incident with the arrival of the troops, and I account for the introduction of the disease to this medium. Some twenty miles of railway traverses the valley which carries our water-supply, and the condition of the permanent-way, as I have seen it after an ambulance train had passed through, satisfied me as to how the water-supply could have been contaminated abundantly from this source. I suggested at the time that receptacles should be swung below the lavatories of such ambulance carriages as a necessary precaution. It appears to me desirable, under this head, to draw attention to the unsatisfactory way in which notification of persons travelling from infected ports have been carried out in the past. When the Plague was at its height I frequently on the following morning received telegrams despatched the previous evening, informing me that certain named passengers had booked for the town. Such a telegram sometimes concluded: "and a hundred natives." By the time I received the information these

passengers had all distributed. I invariably found it impossible to trace a single individual. As most of this occurred during the administration of Martial Law, I took advantage of the Regulation which required all persons arriving in the town to register at the Commandant's office. I believe I am quite correct in saying that in no single instance could even the Provost-Marshal assist me in finding these persons. Many of these passengers I recognised by their names as likely to have booked on from here to Robertson onwards. A recent notification informed me of a family due to arrive at Worcester. Although about a fortnight has elapsed, the party have as yet not got further than Cape Town, where I doubt whether they are kept under surveillance. I have at the present time two patients who have come overland, both suffering from Fever, and I have had no notification of their arrival.

85. WYNBERG.

(i) WYNBERG.

DR. H. CLAUDE WRIGHT, DISTRICT SURGEON.

Owing to the enormously large increase in the number of dwellings in this district, the sanitary defects are bound to be many, the distances are so scattered in some parts, and crowded in others. This will continue until the completion of the drainage works now in process of construction.

(a) The water-supply is excellent both for purity and quantity. The Wynberg Council has largely increased the storage capacity, but if building increases at the same ratio as for the last few years, and with the addition of Diep River to the Municipality there is likely to be a shortage within a few years. It is pure and unpolluted both at source and during transit.

(b) Sewerage and drainage is still on the primitive system, but will shortly be superseded by the Bacteriological plan of disposal.

(c) This also applies to night-soil and slop-water, which at present is indifferently carried out.

(d) Dwellings of the Jewish community are much overcrowded and ill-ventilated. These people herd together and overcrowd to an alarming extent. They are exceedingly afraid of fresh air and ventilation, and close every aperture in their rooms, notably when they have any illness. Their mode of living is objectionable and dirty in the extreme. They seldom or ever bath, and their bodies are covered with vermin. They therefore remain a sickly crowd, entirely oblivious to decency and sanitation. Many of their habitations are unfit to be used as such, and as they are large vendors of food, some serious notice should be taken of their mode of life, and preparation and storage of articles of food. Some time ago I came across a manufacturer of casein or cream cheese at a Jewish milk vendor's place. It would baffle description to depict the filth of the place in which this trade was carried on. I cannot too strongly denounce this state of affairs, and express my emphatic opinion that strict supervision should be given this very undesirable class; look at him from any point of political or sanitary economy you like.

(e) Slaughter-houses do now comparatively little compared to former years. Some bakeries and dairies are conducted in an abominable manner. I have made a special report to the Medical Officer of Health for the Colony on the state of the largest dairy farm in this district. The condition of the cow-sheds and the manure accumulation, and total ab-

sence of drainage is indescribable. A short outbreak of Typhoid Fever has taken place amongst customers of this owner, which is more than probably due to infection through the milk supply. Whether that be so or not, the condition that exists there is an outrage on innocent folk who deal with the farmer.

(f) Beyond the above-mentioned case, there are no large number of cattle kept for domestic purposes in large herds that have come to my knowledge. Swine are not very numerous, but some of the stables kept by the Jewish horse-dealers and other horse-dealers are very unsanitary and objectionable. As many as 300 horses have been kept in an enclosure on the main road at Wynberg for several days. On the advent of rain the bacteriological action has taken place very rapidly, and the liberation of ammonia and other free gases has been very pungent and objectionable. Stables in particular of these people require more rigid supervision.

(h) Cemeteries are well-kept, but those at the bottom of the Wetton Road are water-logged in winter. I have previously, on several occasions, made special adverse reports on this matter. If I am correct in my statements, the place should be closed. If I am not correct I should be instructed to cease describing what is of no moment.

(i) The same remark applies to my constant reference in these reports to the large deposits of manure by the side of public roads which are placed there for the convenience of the few to the discomfort and danger to health of the many passers-by. I cannot see that anybody has the right, beyond that of custom, to tip dozens of cart-loads of manure on the public highway for their own convenience, and if Local or Central Authorities have any power in the matter, why do they not act on the reports I send in yearly on this matter, or tell me "henceforth to hold my peace"? Instead of which, the yearly stereotyped circular authorising these reports comes round year after year, and the compliments of the Under Colonial Secretary often accompany a mild reminder that the report is late in forthcoming, which, when it has forthcome, carries no effect with it.

(k) Local Authorities are alive to the necessity for dealing with infectious disease, and have the machinery necessary for prompt action.

In my opinion vaccination and re-vaccination are not thoroughly carried out, and house-to-house vaccination is the only method, by dividing the districts amongst local medical men, who should be accompanied by a police officer to enforce or prosecute objectors. To leave it to the voluntary desires of these people is hopeless.

The calf lymph supplied has been very efficacious of late.

(ii) SUB-DISTRICT OF RONDEBOSCH AND MOWBRAY.

DR. S. B. SYFRET, ADDITIONAL DISTRICT SURGEON.

I cannot chronicle any improvement in the sanitation or sanitary administration of this district.

(a) There has been no increase in the water-supply since last year. Nearly all the inhabitants obtain their supply from the Suburban Water-works. The water is pure, and there is practically no chance of pollution either at the source or during transit. The supply at present is barely sufficient; and although another large reservoir is being constructed on the slopes of the mountain, the population of the district is increasing so rapidly that a fresh supply will have to be obtained in the immediate future. Some of the poorer inhabitants still obtain their

water from wells and from the Liesbeek. This ought to be stopped, and every landlord compelled to supply his tenants with water from the water-works. In West London and on the flats water is obtained from shallow wells in the immediate vicinity of the houses, where the night-soil and house-refuse is deposited.

(b) There is no system of sewerage in this district. The drainage is mainly effected by surface drains, in some cases connected with underground drains which empty their contents into the Lisbeek. In Mowbray bath-water and in many cases, I am afraid, kitchen water is allowed to run into these surface drains. It is supposed to find its way into the underground drains, and be carried away, but in many cases owing both to absence of a proper fall and to unevenness in the surface of the gutter or drain, the water does not run away, but collects in pools which are eventually cleaned out by the Municipal staff. The stench from some of these surface drains on a calm summer evening is abominable. At some of the junctions of the surface with the underground drains the odour is at times terrific. Two instances I have noted especially, viz., at the Railway gates in Durban Road, Mowbray, and at the gates in Wrensch Road, Observatory.

(c) From Mowbray and Rondebosch the night-soil is removed in carts and deposited, in the case of Mowbray, on the Municipal Farm (Raapenberg), and in the case of Rondebosch just beyond, not far from the Klipfontein Road. It is a disgusting method, but in the absence of a proper sewerage system it is the most healthy and efficient. The odour that these carts leave in their tracks on a quiet hot night is quite unbearable.

Each householder is required to have his closet pail removed once a week. The charge varies according to the ratable value of the house, the maximum charge being one shilling per pail. In West London each householder disposes of his night-soil as he pleases, generally distributing it round his abode. To many of the houses in this village (West London) there are no closets attached.

In Mowbray and Rondebosch the slop-water is removed in Municipal carts from tubs supplied by the Municipality. Each house is allowed only one tub, which, of course, in large households, is quite insufficient. Consequently much of the slop-water must find its way into the drains in the public roads. These tubs ought to be emptied daily, but in Mowbray, at any rate, this seems to be impossible, and they are emptied only three times, or perhaps twice a week. This, of course, is highly detrimental to the health of the inhabitants.

Household refuse is removed by the Municipalities in carts to Raapenberg farm and its vicinity, not far from the Klipfontein road, where it is burnt. In summer there are myriads of flies in this neighbourhood, no doubt attracted by the refuse and other matter deposited. There have been three or four cases of Typhoid near the depositing sites, and as the population in this area is rapidly increasing, the Municipalities may have to go further afield for their depositing sites.

(d) Since the Plague epidemic the number of insanitary and overcrowded houses in the Municipalities has greatly diminished. The poorer inhabitants have departed in great numbers from the Municipalities to West London, where there is little or no supervision in this respect.

(e) The slaughter-houses in this district have been greatly improved within the year. There is a regular inspection of butcheries, bakeries and dairies by the Municipal Inspectors. Of course, this does not apply to dairies outside the Municipalities, from which, probably, most of the milk is supplied. I think there ought to be a much more rigid inspection of dairies than there is at present. The infantile mortality in the Peninsula from Diarrhoea and Marasmus is terrible—due, in many cases I am sure to use of tainted milk. In my private practice I have come across

numerous cases in which I have traced the illness to milk which was certainly quite unfit for human consumption. Every dairy ought to be registered, the premises frequently inspected, and the milk frequently analysed.

(f) Stables and sheds in which cows are kept are subject to Municipal inspection. Swine are not allowed to be kept within Municipal limits, but are numerous in West London.

(g) Nil.

(h) The three cemeteries in this district are kept in good order, and there have been no complaints against them so far as I know. The Rondebosch Cemetery was closed during the latter part of the year owing to the swampy condition of the ground.

(i) There are many nuisances which require abating in this district. The chief, I think, are the foul condition of the drains (in Mowbray especially), the filthy condition of the Liesbeek River, and the state of things in the village of West London on the Rondebosch Flats.

(k) There has been no outbreak of Typhoid Fever in an epidemic form. In fact, there have been fewer cases this year in the Municipalities than last year (Mowbray thirteen cases against sixteen in 1901; Rondebosch seven against fourteen in 1901.) The Cottage Hospital, which is situated in the Mowbray Municipality, increases the number of cases notified in Mowbray, but I have omitted certain cases admitted to the Hospital from outside districts.

There were a few cases of Diphtheria notified, but there has been nothing like an epidemic. There were two outbreaks of Small-pox in the district during 1902—one at West London and neighbourhood, and the other in Mowbray. When the former outbreak occurred I was away on leave, and my deputy was not asked to assist in any way in its suppression. I am thus unable to give any statistics with regard to it. I believe the Divisional Council and Public Health Office had to do with its suppression. With regard to the outbreak in Mowbray, the Local Authority in charge was the Mowbray Municipal Council. Fifteen cases altogether were discovered in Mowbray, all but two being found at the Exhibition Buildings, a number of wretched cottages near St Peter's Cemetery. All the cases were mild. I vaccinated eighty-two persons at these cottages. Most of them were children. It was impossible to trace the whole of them after the operation had been performed, but as far as I could gather nearly all were successful. The lymph used was obtained from the Colonial Secretary's Office.

In bringing this report to a close, I can only hope that something may be done very shortly to improve the very insanitary state of this district.

NATIVE TERRITORIES.

TEMBULAND, TRANSKEI, AND PONDOLAND.

(i) ELLIOT.

DR. M. PURCELL, DISTRICT SURGEON.

(a) In my previous reports I have mentioned that the custom here is to divert the water from the river-bed into furrows cut all over the township for purposes of irrigation. This still continues. As there is no Village Management Board, the furrows are not properly attended to, and the water flows all over the streets and squares, forming pools. The poorer inhabitants sometimes wash clothes in the furrows, and take water out of them for household use. As the furrows are totally unprotected, and animals have free access to them at all times, they get very filthy, and are a great source of danger to the health of the township. At most, the river water is scarcely sufficient, even when supplemented by wells, to supply the township without tampering with its course. The amateur irrigation scheme should be prohibited. This is now the more necessary as the township is increasing in size. Brickfields, which are situated on the Eastern side of the stream, should have latrines attached, or those who work there should be compelled to dig pits away from the river banks.

(b) Nothing to add to previous reports.

(c) As before.

(d) There are two dwellings in the town unfit for human habitation.

(e) There are two butcheries. Sheep are killed at those places and cattle in the town. All animals should be slaughtered outside the town.

(f) There are two kraals in the town which should be destroyed. Pigs are not kept regularly.

(g) and (h) As before.

(i) Until the formation of a Board, with power to levy taxes, no improvement in the abatement of nuisances can be expected.

(k) There were altogether six cases of Typhoid Fever; all in the country. The first case, which ended fatally from a relapse, lasted from October 4th to November 21st, and was probably due to polluted water. All the other cases were due to contact with the first, and were mild, ending in recovery. The last case was discovered on December 9th, and convalescent on January 22nd, 1903. Since the beginning of 1903, five more cases occurred in the township, some of them still under treatment. There were two cases of Diphtheria—both in the country—mild and ending in recovery.

There were thirteen cases of Small-pox, with twelve recoveries and one death, that of an old man, a Kaffir. In this case the disease was concealed by his relatives, and the man was buried before information was received by the Magistrate. Of the other cases, one patient was a white male, the others natives. One native, who got the disease in a confluent form, was pre-vaccinated, and had two good marks. No guards were employed. Vaccination was carried out. The Local Authorities rendered all the assistance necessary. With regard to vaccination, it is impossible to make more than a general statement that it was successful and that the suppression of the disease was due to its being extensively performed. The calf numbers were: 3,000, 3,135, 3,150, 3,192, 3,173, 3,168, 3,230, 3,221. All the lymph was supplied from the Bacteriological Institute, Graham's Town. The total cost was £30 11s. 6d.

(ii) ELLIOTDALE.

DR. ALBERT DAVID, DISTRICT SURGEON.

(a)—(i) Nil.

(k) No case of Typhoid Fever, Diphtheria or Small-pox was brought to my knowledge.

There were epidemics of Measles and Whooping Cough spreading through the whole district, a very great number of children succumbing to subsequent Pneumonia.

During the month of June a vaccination tour through the whole district was undertaken.

There were vaccinated 20,525 people, 7,230 being primary vaccinations.

The total cost was £98 3s. 6d.

The lymph was procured from the Vaccine Institute at Graham's Town, and the results were very good, especially in primary vaccinations.

(iii) ENCOBO.

DR. JOHN W. WEIR, DISTRICT SURGEON.

The health of the district during the past year has been very good. The number of deaths registered were 434, viz., thirty-four less than the previous year. The deaths arranged according to age are:

	1 year and under.	1 year up to 10 years.	10 years to 25 years.	25 years up to 60 years.	60 years and over.
January	13	15	2	11	4
February	15	14	3	14	5
March	8	10	3	11	2
April	8	7	3	10	4
May	5	19	3	8	3
June	2	6	4	6	2
July	8	10	8	6	4
August	10	5	3	19	4
September	11	12	5	13	8
October	13	13	4	15	2
November	5	4	5	9	2
December... ..	3	1	6	10	5
Total	101	107	49	132	45

The only disease of an epidemic nature requiring attention was Small-pox, which broke out at twelve centres. Vaccination was performed at these and at ten other centres, the total numbers vaccinated being 5,052. The following cases show the value of vaccination. A woman came from Pondoland with two young children, unvaccinated. On the way the children took Small-pox, but none of those in the kraal, eight in number, all of whom had been vaccinated, caught the disease. Again, a man born in the district went with a child to live at Steynsburg, and returned two years ago unvaccinated. This year, while on a visit to some friends in another district, he caught Small-pox and died. His mother, also not vaccinated, took the disease in an aggravated form, but recovered. But none of those in the kraal, about twelve, only one of whom had not been vaccinated, caught the disease. All the outbreaks were suppressed by disinfection and isolation without any further spread of the disease, except in

two, in each of which there was only one additional case. Seven individuals have been certified to be affected with Leprosy. The condition of the water supply and sanitation of the village and of the cemetery are as reported in previous years.

(iv) MQANDULI.

DR. P. H. WALKER, DISTRICT SURGEON.

There is nothing fresh to report as to the water-supply, etc., etc. With regard to infectious diseases, a few mild cases of Small-pox were discovered in February, near the Umtata border. Fortunately the natives there are progressive and for the most part well vaccinated, and on vaccinating the infants and all that seemed unsufficiently vaccinated the epidemic ceased. Subsequently I went over the whole district, and vaccinated over 6,000 persons at the twenty-four centres visited. The calf lymph supplied by the Bacteriological Institute was of the highest quality, and no failures were reported.

As to Leprosy, a practical measure is required to provide for the prompt removal of cases by asylum attendants instead of the local native police, to break up nests of unregistered lepers, and to enforce the segregation of tubercular cases without asking if they are willing to be removed, and the reception of any other acute case so long as the medical officer of the asylum may think necessary.

I would point out that in Norway, since the heredity of the infection was exploded, lepers are allowed to visit their friends on certain conditions from time to time, and that to allow the same indulgence in suitable cases would make segregation less hateful to the native mind without endangering the public health to the extent that unregistered hidden cases do. But the segregation of cases of Tubercular Phthisis would be of infinitely more importance, Phthisis being, among the natives, a hundredfold more infectious than Leprosy, and more liable to spread to the white population.

The spread of Bilharzi, which as yet only threatens this district, is another matter that calls for the attention of Government, seeing that it appears to depend, to some extent at least, on the situations in which schools for native children are built, with the approbation of the Education Department, although there may be no supply of wholesome drinking water near and no provision for the disposal of excreta.

(v) PORT ST. JOHN'S.

DR. THOMAS QUERNEY, DISTRICT SURGEON.

(a) Water supplies remain much in the same condition as they were last year, *i.e.*, most of the Europeans using tank water for domestic purposes, the coloured and native population, who mostly live in thatched huts, using any water they can get. The wells referred to in my last report remain *in statu quo*, the one abutting on the main street being a favourite drinking spot for cattle, and being unfenced, is open to contamination on all sides. Rain water and the wells are the only sources of water-supply, and both are, under existing circumstances, subject to contamination. The *Ascaris Lumbricoides* is to be found in 95 per cent. of the population—both coloured and white; while I have found their ova in both tank and well water, and on various stagnant pools in the village, together with mosquito eggs (*Culex pipiens*). The *Trichocephalus dispar* has been seen very frequently, and in one case that came under observation the *Anchylostoma duodenale*. Unfortunately there is no local governing body to enforce any hygienic measures, but until something is done to prevent the bush in and around the village being used for defecation, water-borne troubles are

likely to remain with us. There are one or two public conveniences for the use of natives, but, as there is no one to pay for the emptying of the pails (C. q.v.) these have fallen into more or less disuse; besides, the native at all times prefers to use the bush.

(b) There are no sewers of any kind, and practically only one main drain. This consists of a small stream that rises in the mountains and passes through the village, collecting most of the surface water, and much of the storm-water, as it nears the river, into which it opens about one hundred yards from the beach. A violent storm of rain that passed over the village in June last altered many of the smaller water-courses, the water-borne debris eventually being deposited in and around the mouth of the main drain, and completely blocking its course to the river. Many attempts were made to open up the channel without avail, there being no rains of sufficient duration to produce a current on what was becoming a stagnant pool. The mouth of the drain has since been most effectively opened, and a clear passage maintained.

Certain pools—which during heavy rains form a connecting link with the main drain—are used by the washwomen daily, and after a very short time become offensive to a degree, soiled linen and soap not having a tendency to improve water that is already stagnant. After a heavy rain these pools are scoured out, washing is continued as before, the stench accumulates until another heavy rain falls, and so the process is repeated. I would suggest that the communication between these pools and the main drain be kept open if possible, so as to ensure constant motion of the water, as their present state not only is a source of danger to the village in general, but also to those whose linen is washed there.

Many of the vacant erven lie low, and carry water during the greater portion of the year; these, where convict labour has been available, have, in many instances, been drained by the order of the Resident Magistrate, but, until there exists some Local Authority for compelling owners to attend to their land, the matter is one that is difficult to handle.

(c) Night-soil removal is efficiently attended to by a contractor, the pails being emptied as often as is necessary—never less than once per week—their contents being buried on the shore or in the bush according to the situation of the dwelling-house. The Prison pails are emptied daily and thoroughly disinfected; the hotel pails almost daily, according to circumstances. The public conveniences (both on the foreshore) require attention, and should be either closed altogether or attended to regularly. One in the bush, in front of the Needles Hotel, is continuously to be found in a filthy condition, the seats and floors covered with excrement, while the pails are overflowing with rotting fæces. Disinfectants are conspicuous by their absence, more particularly in the case of the latrine near the Market Square, which is extensively used.

Slop-water is buried locally, while refuse is, as a rule, placed in buckets for that purpose, and either burnt or buried in the bush. During the latter half of the year I continually found household refuse, and on one occasion stable-litter, deposited on unoccupied erven in various parts of the village, but was unable to trace the offenders. On the whole the night-soil, slop-water and household refuse are well and efficiently attended to by the white population, which, however, only forms a small portion of the inhabitants.

(d) Overcrowded dwellings are few and far between, and such as they are, the native occupies. Overcrowding only occurs at night, and is caused by the servants of various employers sleeping in the same hut for purposes of economy. Visitors from the country are also accommodated as occasion arises, and afford a vehicle for the importation of any disease that may at the time prevail in the district. This is the probable mode of entry of our annual visitors—Pertussis, Dysentery, and Measles—which I have observed always are to be first seen in the district before attacking the village.

(e) The one slaughter-house lies half-a-mile beyond the precincts of the village, and is under the personal supervision of the owner. The animals are killed and dressed there, afterwards being removed to the butchery in the village, which is conducted in the orthodox fashion.

The bakeries are managed with a strict regard to such cleanliness as the employment of native labour will permit, the bread being made of pure materials only, and free from adulteration.

There are no dairies.

Hides and skins (fresh) are salted and dried in the sun, and then stored in well-ventilated sheds away from either dwelling-houses or stores, no stock of skins being stored for any length of time, seeing that they are shipped almost as soon as they arrive.

(f) Neither cattle nor swine are kept in the village, though towards the end of the year the former—trek-oxen—that visited the port proved somewhat of a nuisance, inasmuch as their dung was left about the streets and in large quantities on the Market Square. The urine of the cattle—they are tied up to the waggons on the Market Square at night—together with the rain, soon converted the dung into a liquid manure, which a hot sun quickly rotted. Flies followed in pestilential quantities—flies being noticeably absent from the village—and I observed then for the first time the presence of a very large mosquito, whose bite was particularly irritating. So far as my observations have carried me, I have seen none like it in the village before; it is not the *Anopheles* nor the ordinary *culex*. Unfortunately I was unable to obtain a perfect specimen at the time with the rough appliances at hand, but the matter is still under observation, and will be reported upon later.

Such horses and mules as are stabled are fairly well housed, though the floors of all the stables leave much to be desired. These are made of either clay or trampled earth, and a certain proportion of stones, large or small. Most of the floors present a more or less paved appearance, the interstices being filled in with clay or earth, which continually soaks up urine and such liquid manure as may be present. Daily brushing away the manure does not clean the stable, as the urine-soaked portions still remain to be further soaked from day to day, and to provide their quantum of odour to the surrounding atmosphere. To keep stable floors either tiled or cemented is a matter of great expense here, the alternative being the free daily use of some form of disinfectant of the coal tar series, a matter of trivial expense, and one that would meet the situation.

(g) The only camp of natives is that of the Native Police, consisting of a group of huts some three-quarters of a mile from the Court-house. The men being more or less house-proud, their huts and surroundings are kept in a satisfactory condition.

(h) The death-rate does not warrant the removal of the cemetery, though the possible extension of the village at no distant date is a matter that should be kept in mind.

(i) Those mentioned under (b) have been remedied, but those under (a), (d) and (f) still remain more or less, and are difficult to handle in the absence of a Municipal body.

(k) One case of Typhoid Fever was seen on 7th July. A married European contracted Typhoid while at the "front," leaving the Maclear Hospital convalescent some two weeks before I saw him. In the interim he came down to the sea to recruit, but was taken ill on the road. The case—which has already been reported in full—was a relapse, and presented no peculiarities. He was isolated and quarantined, and was quite well three weeks later. There was no other case of Typhoid Fever either before or since, the patient and his family remaining in the vicinity for a month.

Towards the end of July a coloured child from the Lusikisiki District was seen suffering from Pertussis, and sent home at once. The mother re-

ported that native children about her house were ill in the same way, and dying by dozens. Odd native cases followed at irregular intervals from the St. John's District, though in most cases it was quite impossible to trace any source of contagion, or any connection with the case from the Lusikisiki District. There were no deaths amongst the cases under my care in the village—twenty-nine in all; eleven natives and eighteen coloured, of whom fourteen had Broncho-pneumonia at the time they were brought to me; there were no adult cases. The disease still exists, native cases from the district coming in from time to time, the parents invariably stating that infant mortality from the same disease is widespread. All attempts at treating the disease by isolation or ordinary hygienic principles are futile with the native. One cannot be on the spot to see that instructions are carried out, and until some method of inoculation comes into use the infant mortality amongst the Pondos will probably maintain its present high rate.

Dysentery appears to be continuously present in the district, sporadic cases frequently coming under observation apparently quite unconnected, while towards the approach of summer the disease spreads rapidly, assuming an epidemic form. All ages and sexes are equally affected, the infant mortality, as in the case of Pertussis, running high. The first case was seen on February 11th, though rumours had reached me before, that the disease was widespread amongst the Pondos. The total number of cases seen was fifty-four, twenty of whom were coloured, the rest natives. Of those cases seen in the village—twenty-two—all recovered. The natives one can obtain little or no information about, as they do not visit one doctor more than once for the one disease. Dysentery is now (December) assuming an epidemic form, and from what one can gather from rumours, seems to have spread over the whole of the Native Territories.

There has been no case of Small-pox.

On July 23rd a vaccination tour was begun, and continued at intervals till September 26th, the latter date being that of the last vaccinations at the Court-house. 7,673 persons were vaccinated, so far as is possible to ascertain successfully. Out of 437 persons vaccinated at the Court-house only four failed, and of these two again failed on re-vaccination; both adult natives. Of success in the district it is impossible to arrive at correct figures with any certainty. The Government makes no provision for either re-vaccination or inspection on the eighth day, but, judging from reports on all sides, the general result was successful vaccination.

The following are the details:—

Centre.	Calf No.	Result.
Tintonga's Kraal	3155	Successful ?
Vinjelwa's " " " " " "	3152	" ?
Ndonga's " " " " " "	3152 and 3160	" ?
Buji's " " " " " "	3160	" ?
Nomandi's " " " " " "	3160	" ?
Mqakama's " " " " " "	3164	" ?
Maqanda's " " " " " "	3164	" ?
Hlamvana's " " " " " "	3164	" ?
Isinuka " " " " " "	3164 and 3163	" ?
Court House, St. John's	3163	" ?
Private Cases... ..	3163	All Successful.

The lymph was, in all instances, obtained from the Bacteriological Institute, Grahamstown, 1,500 tubes being used. There being no Local Authority, the expense of the tour was borne by the Government; this amounted to £35 11s., or a fraction over one penny per head. Seeing that

considerable expense and trouble are entailed in endeavouring to cope with a disease such as Small-pox—which in this district is seldom seen nowadays—I beg to suggest that the Government consider the advisability of dealing with such diseases as are actually present, *e.g.*, Dysentery, Whooping-cough, Measles, and Infantile Summer Diarrhoea, which are the cause of thousands of deaths annually amongst the natives in the territories, and through them a standing menace to the white population.

(vi) ST. MARKS.

DR. WM. O. R. ARNOT, DISTRICT SURGEON.

(a) Rain-water caught in iron tanks is used for drinking and culinary purposes, while an open furrow running through the village supplies the inhabitants with water for washing and irrigation. The furrow is roughly constructed, and quite unprotected from the inroads of cattle, horses, dogs, pigs, etc., this being a decided danger to the poorer and coloured members of the community, who have to use this furrow-water for all purpose. A Village Management Board is being considered, and, if adopted, will probably improve the present condition of the water-supply.

(b) Not considered as yet.

(c) Each householder does as he thinks fit.

(d) Nil.

(e) Quite satisfactory.

(f) Kept in kraals or pens in the close neighbourhood of dwelling-houses; this will probably be rectified by the Village Management Board.

(g) No actual location has, as yet, been formed, servants sleeping on premises of employers in most cases.

(h) Only one cemetery, and that is well attended to.

(i) Kraals in the village and cesspools should certainly be prohibited.

(k) There was a good deal of Small-pox among the natives during the year. The first outbreak occurred about May in Qamata Basin, and was rapidly followed by other outbreaks at different points in the district, continuing till near the end of the year. Each infected kraal was visited and quarantined as well as could be done in a native district, and a thorough vaccination of the people at twenty-one different centres was undertaken, 5,634 people in all being done.

The Small-pox was of a very mild type, and few, if any, deaths from the actual disease occurred. The lymph was supplied from the Grahams-town Institution, and proved very satisfactory all through, a very large majority of those vaccinated taking well. The vaccination and quarantining was carried out by the District Surgeon, under instructions received from the Resident Magistrate.

The lymph used was from calves 3,062, 3,063, 3,008, 3,090, 3,091, 3,116, and 3,112, and the total cost of vaccination was £104.

It cannot be said that the state of war had any bad effect on the district; in fact, rather the reverse, as the natives who went to the "front" came back with large sums of money, and in most cases in specially good health.

(vii) UMTATA.

DR. J. WALLACE SWEETLOVE, ACTING DISTRICT SURGEON.

Subjects from (a) to (i) inclusive call for no special mention, being the same as in previous reports.

(k) Seven cases of Enteric Fever came to my notice at Cicira; four of these were in the house of Mr. D. Hechter, and all recovered; and three in

the house of Mr. Teidt; these were traceable to the river water, which was being drunk at the time. There was one other case, that of a native who was brought into hospital, and died a few days after admission of Enteric Fever; in this case I was unable to trace the source of infection. With regard to Small-pox, firstly, there was one case in the Municipality; the origin of this case is vague, but presumably it was contracted from some native selling goods, as there had been many cases in the district. The patient was the three-year-old daughter of Mr. Barker, and had never been vaccinated; there were two other children in the house, and these had not been vaccinated, and Mr. Barker would not permit of it being done. The child recovered, and no other cases arose in the town; the disease was discovered on 17th September, and the house at once quarantined and kept in quarantine until the 25th October, when the house was thoroughly disinfected. In the district Small-pox has been fairly widely spread; in a district such as Umtata, where the population is almost entirely native, it is only in wide terms that one is able to describe the outbreak. The first cases discovered were at Mpunzana, where three kraals were infected. The most careful enquiries could elicit no information as to where the disease originated, and the district had been vaccinated two years previously, though only a few showed any vaccination marks. In all there were five cases, and the kraals were quarantined; the cases were convalescent. The next outbreak was at Matiso's kraal; discovered on July 1st, this outbreak lasted until August 14th; in all seven cases, one of which died. On July 7th Small-pox was discovered at Glen Avon, Mr. R. Heathcote's farm, about four miles from Umtata. Here there was only one case. On August 30th cases were discovered at Centuli, and on September 20th sixteen cases were found at Qweqwe, all of a mild nature. The kraals in each instance were quarantined, and systematic vaccination carried out by lay vaccinators. The disease ended on November 16th at Qweqwe, and since that date no further cases have been discovered in the district; the chief cause, in my opinion, being the thorough vaccination that has been carried out, the lymph used being from Grahamstown, and the results obtained being good, as far as I have been informed.

(viii) XALANGA.

DR. P. L. CRAISTER, DISTRICT SURGEON.

During the first quarter of the year this part of the Colony was under arms, and the health report would include records from documents not now attainable, and if so, they would contain the usual items of military service cases, including wounds and one death from gunshot.

The district proper was invaded by a sharp epidemic of Small-pox, which very fortunately was at the farthest corner of Xalanga, at the Untingwevu, a valley "all to itself." There were in all eleven cases, and two deaths of unvaccinated girls. The valley was vaccinated thoroughly, and the disease died out.

In April I inspected a district or ward at Seplan, where Small-pox appeared in two kraals. There were ten mild cases; no deaths, and the disease also was soon stopped.

In consequence of these attacks the whole of Xalanga was divided into centres for systematic vaccination, and in all 1,200 persons were vaccinated and re-vaccinated, and of all these the number successfully vaccinated was good.

There has been no other epidemic in the district.

From general observation, I believe Tuberculosis is on the increase among our native population. I note also a much stronger feeling amongst them against reporting cases of Leprosy. We occasionally find

them out by accident, and when they are too far gone to be aught but a nuisance at the kraals. As regards the village of Cala and its Local Authority, there is little to add to my former unfavourable reports, either better or worse. Cala has the name of being a healthy village, and so it is a sort of dumping ground for all sorts of consumptives, who come here, and thus pollute our dust with another disease. They should be compelled to carry disinfecting spittoons. Categorically, for Cala I report:—

(a) I have said so much, both *ad hominem* and *ad absurdum*, on this that more is useless!

(b) Nil.

(c) Every householder pays for the removal of night-soil; as for the rest, nothing is done.

(d), (e) and (f) No inspection.

(g) No location. Latrines provided for natives.

(h) and (i) No inspection.

(k) Reported on above.

(ix) BUTTERWORTH.

DR. J. H. NANKIVELL, DISTRICT SURGEON.

During the past year Small-pox occurred in one location. Whooping-cough and Influenza have also been prevalent. Two natives died of Small-pox and one of Influenza.

Of the Contagious Diseases Prevention Act I have nothing to say.

Of Leprosy I have only seen one case, most of them being in the Emjanyana Asylum.

£500 has been outstanding for two years for the extension of the Hospital, and though the Government plans have been approved, the matter has been referred back to the Government.

With regard to the further questions, the grant of the Municipality is much to be desired.

There is no Local Authority.

With regard to vaccination, the lymph was procured from Grahams-town, and met with great success; but I never took the trouble of taking the number of the calf.

The total cost incurred in dealing with the outbreak was the actual travelling allowance incurred directly by the Government.

With regard to the state of war, it has brought Enteric Fever into the district, always from the military camps.

With regard to the other questions asked for, please refer to my previous reports, to which I have nothing to add.

(x) IDUTYWA.

DR. C. ARMSTRONG LUMLEY, DISTRICT SURGEON.

(a) The water-supply of the village remains in the same unsatisfactory condition as before.

When the Government diamond drill came to the village to bore for water at the Residency it was hoped that some benefit to the community might result, but a boring to the depth of 250 feet having been made without result, work was stopped, and a hole started in quite a different part of the village, where the geological formation was believed to be different.

At a very small depth dolerite was struck, and in accordance with his instructions the man in charge of the drill knocked off work, and the village is in just as waterless a condition as it was before.

As I pointed out in a letter to the authorities on the matter, the village is steadily increasing, more families are coming into the village, and each

requires a share of the water, which is brought here in an open furrow. The demands on this supply are now so numerous that it can only be obtained by any one family for a few hours once a fortnight. The demand will go on increasing, while the supply remains limited.

I believe Government has in its employ men who are experienced in the finding of underground supplies of water, and it would seem desirable that such an official should be instructed to give what assistance he can to villages such as this, where a water famine may at any time be the result of a drought.

To conserve and pipe to the village the water which at present runs in a wasteful furrow would be another method, but one which would need very considerable outlay and subsequent management.

What I would suggest as "the steps which should be taken for bringing about improvement" is that an expert in such matters should be sent here to review the situation and point out to the community the best means of remedying the existing condition.

While things remain, as at present, a subject for discussion among the numerous village experts, whose opinions are probably more varied than valuable, no true progress will be made.

(b) Nil.

(c) The disposal of night-soil is without system.

(d) Nil.

(e) Slaughtering is done in the open, and bread is generally home-made. There are three bakers, but I am not acquainted with their methods.

(f) This matter needs attention, but there is no Local Authority appointed to deal with such.

(g) Nil.

(h) Local needs are suitably provided for.

(i) At the discretion of the Resident Magistrate.

(k) There has been, so far as I know, no unusual epidemic of Typhoid or Diphtheria, and Small-pox, though present, has been easily kept in hand by the vaccination of contacts, and without the need of any rigid quarantine measures.

Scurvy has been very prevalent among the natives, but has been kept out of the gaol by potatoes.

(xi) KENTANI.

DR. W. GIRDWOOD, DISTRICT SURGEON.

On the general questions mentioned under headings (a) to (i) inclusive, I have nothing to add to my report of last year, which may be taken as representing the state of affairs at present existing.

(k) The general health of the district has been, on the whole, good. Dysentery prevailed in the district during the early months of the year, and accounted for the infant mortality, which was unusually high.

Tubercle of the lungs is the disease above all others which is most prevalent amongst the native population. Of late years the crops have been bad, and food, therefore, scarce; consequently, malnutrition is an undoubted predisposing factor to the spread of the disease. The domestic conditions under which they live—the huts being small, damp and dirty, and, as a rule, overcrowded at nights—is another factor which should be considered. Such suppressive means as disinfection of the sputa, segregation, medicinal and hospital treatment, are more likely to be matters of desirability than practice.

Diphtheria I have not seen once amongst these natives, and Typhoid only once in the black population. The natives do not recognise the grave nature of these diseases.

Small-pox broke out in three locations during the year. The disease assumed a severer type than last year, and three deaths occurred. Vaccination was performed in the neighbourhood of the infected areas on 371 persons. In a report on this subject submitted by me more than a year ago, I drew attention to the fact that vaccination had fallen short of the actual requirements of the district. It is even more so now, for general vaccination of the district has not taken place for over two years. As far as it is possible to ascertain, the cases vaccinated were mostly successful.

Fifteen cases of Leprosy have, during the course of the year, been discovered, examined and removed to an asylum.

(xii) NQAMAKWE.

DR. JOHN STRUTHERS, DISTRICT SURGEON.

(a) Dealt with in former report. No steps have been taken to remedy the evil.

(b) None exist. Natural conditions assist these, and the defects are of no consequence.

(c) As in former report.

(d) and (e) None exist.

(f) Few are kept in the village, and no nuisance exists from this cause.

(g) None exist.

(h) A new cemetery has been selected, and a perfect situation found.

(i) These nuisances, unavoidable in villages, are impossible to check. There is no Village Management Board, and the Resident Magistrate is powerless, through the want of convicts, to clean the village area.

(xiii) TSOMO.

DR. ROBERT YOUNG, DISTRICT SURGEON.

There is nothing particularly striking in the medical history of Tsomo during the year. Two outbreaks of Small-pox occurred at Ngcongcolo's and Tshwili's locations, but were promptly suppressed, and the whole district afterwards re-vaccinated, with the result that no further outbreaks took place. As regards other infectious disease, I have reason to believe that Typhoid Fever is accountable for many deaths amongst the natives, but as the disease is rarely recognised or reported, preventive measures are seldom taken.

(a) The water-supplies of the village are practically unaltered—like-wise the defects. Boring operations conducted within the Residency garden resulted in a fairly potable water being found at a considerable depth. This is brought to the surface by means of a hand pump, and is found to be a considerable advantage by a number of villagers.

(b)—(i) No material difference has taken place since previous reports in the subjects comprised under these headings.

(k) In regard to the success of vaccination, it is quite impossible to give any account of a reliable nature, as no inspection of natives is made subsequent to the operation.

(xiv) WILLOWVALE.

DR. A. LANG KNAPMAN, DISTRICT SURGEON.

There was nothing worthy of note nor of special interest in the health of this district during the year, and my report of the preceding year may be taken as representing the present state of affairs dealt with under headings (a) to (k).

(xv) BIZANA.

DR. G. B. THOMPSON, DISTRICT SURGEON.

I have little to add to, or to alter, in my report for 1901. No great changes of any kind have occurred in the district. Old defects remain, and are likely to remain to all appearance.

(a) Rain, river and furrow water are used. The latter has been very scanty most of the year, and now the supply has utterly failed, owing to disrepair of the furrow. Attempts are being made by the inhabitants to repair it, but even if success follows the efforts, the same sources of pollution remain. Several water-closets, a native police camp, several cattle-sheds and stables, and kraals stand above the trench at a distance suitable for good surface and other drainage into it. There is no Local Authority to remedy such matters; consequently they will, in all probability, persist. Chief of all these polluting sources I place the native police camp, which, as I have previously pointed out, should be removed either to below the furrow or preferably to, say, a site beyond the School-house, out of the village. The failure of the furrow has caused much inconvenience, but the health of the village has been none the worse. Indeed, I believe it is likely to be better for the inability to drink from the polluted stream, which some are always foolish enough to do.

(b) No sewers exist. Drainage is natural.

(c) Each does as is right in his own eyes, and owing to the sparse population and abundance of open spaces, no harm has appeared, except in the case of an outbreak of a fatal epidemic of Dysentery in some native locations, where probably owing to their ignorant habits the spread of the disease was aided.

(d) Many native huts are overcrowded, and are quite unfit for European habitation. No doubt the increase of Tubercular Lung Disease is in measure due to these dwellings, which are often damp and filthy. The native expectorates where he sits.

(e) No inspection of these is made.

(f) In the village, cattle, swine, and other animals abound, and are, many of them, kept disgracefully near human habitations. The open character of the village prevents any noticeable harm. No swine should be allowed to be kept in enclosures in the village as at present. One hundred yards away from any human habitation should be the lowest limit.

(g) No inspection of any such is made.

(h) Satisfactory.

(i) Nil.

(k) A vaccination tour of the district was made. The appearance of the natives at most stations was scandalously insignificant, clamantly demanding vigorous measures. When two vaccinators ride to a native headman's kraal and find not a soul of the tribe brought for vaccination, the headman himself, stated by his wives remaining, to be at a beer drink, it is time either that the farce of "compulsion" be given up, or its reality exhibited. The tour was practically aborted by beer-drinking. Those vaccinated "swole" in many cases. The lymph was obtained from Graham's Town. No inspection of vaccinated people is made, as in Natal; results are only known casually. The total cost of vaccination tour by District Surgeon and Lay-vaccinator working with him was £50. The latter, however, was employed apart from the former, for which a special extra sum was expended.

(xvi) FLAGSTAFF.

DR. OTTO BOLTZE, DISTRICT SURGEON.

(a) to *(i)* Same as last year's report.*(k)* There has been no case of Small-pox or Typhoid Fever, and the general health has been good, no deaths occurring amongst the white population.

A general vaccination of the inhabitants of the district was carried out during the year by me, and over 16,000 natives were vaccinated; but it is impossible to give an account of the result, as a tour of inspection of the vaccinated persons was not granted by the Government.

What I have stated in my report on the public health for the district of Lusikisiki with regard to the system of carrying out the Contagious Diseases Prevention Act, also refers to this district, and I may therefore be allowed not to repeat it here.

(xvii) LIBODE

DR. R. A. BOWEN, DISTRICT SURGEON.

As I have not been District Surgeon during the year ending 31st December, 1902, I cannot give definite information of the sanitary condition of the district during that period, but I have gathered as much information as possible from various sources.

(a) The water-supply for the township of Libode is derived from the river, which water is used for household purposes. The drinking-water is supplied from rain water tanks, and is excellent for drinking purposes. There is no likelihood of pollution. The natives use the river waters, which, except in flood time, are quite pure.

(b) Sewerage is by the earth-closet system—a very effective method.

(c) Night-soil, slop-water, etc., are emptied into cesspits.

(d) Nil

(e) These are kept constantly in a good sanitary condition.

(f) All swine are kept at a good distance from dwelling-houses, and generally in pits with earthen floors. Cattle are not usually housed.

(g) The native kraals are in a fair sanitary condition, there being at the present time no known cases of infectious disease in the district.

(h) Burial grounds are in good order.

(i) Nil.

(k) One case of Small-pox occurred. The patient had not been vaccinated previous to the attack. Recovery took place.

The war does not seem to have affected the district in any degree.

(xviii) NGQELENI.

DR. CHARLES SYMINGTON, DISTRICT SURGEON.

The following report regarding the general health and sanitation of the Ngqeleni District is for the period April 24th, 1902, to September 24th, 1902, the term of my tenure of the District Surgeoncy.

(a) The Europeans of the district rely upon (1), stored rain-water, (2), springs (3), streams, for their water supply. Of these sources (1) and (2) are the chief, and fairly safe. Streams and rivers, owing to rank vegetation and other factors, are decidedly unsafe, and propagate Dysenteric and other bowel disorders in all probability. More effort might be

made in some cases to protect the springs from contamination by enclosing them against trespass by animals and careless natives. Water is as a rule drawn direct from the springs by bucket, etc.

(b) Chiefly surface gutters.

(c) (1), Disposal by deep stercus pits situated in the garden, and sometimes dangerously close to the dwellings; (2), On the pail system, the contents being periodically removed for burial in trenches usually at a safe distance from inhabited tenements.

(d) The prevailing type of native hut conduces to unhealthy over-crowding at night, and by preventing free access of sunlight (direct) and the proper circulation of fresh air during the day favours the incidence of Tubercular and Pulmonary Diseases to which the native is undoubtedly very subject. No dwellings were, however, actually condemned as unfit for human habitation.

(e) No nuisance in connection with slaughter-houses, etc., came to my notice.

(f) Under this section no nuisances existed so far as I am aware.

(g), (h) and (i) Call for no remarks from me.

(k) Typhoid Fever, Diphtheria, and Small-pox appeared to be absent from the district. The only vaccinations performed by me were performed upon the European residents of Ngqeleni village, immediately prior to my departure in September for De Aar; the results, I am unable to state in the majority of the cases, from my own observation, but I am informed they were on the whole successful.

Two cases of Leprosy were discovered and notified. It appeared to me that cases of this disease ought to be systematically hunted out and efficiently isolated.

The Goal.—In conclusion it is necessary to point out that provision has not been made at the Gaol for the isolation and treatment of sick prisoners. There are only two cells, and at times the number of prisoners was rather high. In such circumstances, should a case of Pneumonia or Dysenteric Diarrhoea occur, two courses are open to the Medical Officer, either (1st) to turn all the other prisoners into one ward, and thus probably create a state of over-crowding, or (2nd) treat the sick convict in a tent if available. Neither course is a fair one; the first is unfair to the healthy prisoners, the second to the sick convict.

(xix) TABANKULU.

DR. W. P. NICOL, DISTRICT SURGEON.

The village of Tabankulu hardly calls in itself for a health report. Being very small and containing only a few people, and lying as it does in a high and unsheltered position, it is very healthy. Such disease as does occur is due generally to the folly or uncleanly habits of individuals.

(a) The water-supply is a weak point, as the water has to be brought to the village by an artificial furrow, about two miles long. This furrow is liable to damage and contamination all along its course, and the quantity of water is not large.

(b), (c) and (d) No remarks.

(e) No complaints.

(f) There are several cattle kraals in the village, but in the present circumstances they are not a nuisance.

(g) No remarks.

(i) I have not been called upon during the present year to investigate any nuisances.

(k) Small-pox appeared twice in the district during the year. On July 8th I visited Mlokwe's ward, and found six people suffering from the disease.

Table of Cases :—

1. Male	Adult	No vacc. marks	Semi-confluent	Recovery.
2. Female	"	One vacc. mark	Severe	"
3. Male	Baby	No marks	Mild	"
4. Female	Child	No vacc. marks	"	"
5. Female	"	"	"	"
6. Male	Adult	One slight mark	"	"

The disease appears to have been brought into the district by No. 1, who took ill a week after his return from the Qumbu District. I was unable to find out whether the disease was officially known to be present there, but the Kafirs stated that it was. The whole of the surrounding area was well vaccinated, and the huts in which the disease occurred were quarantined. No further cases occurred.

On August 7th a case was discovered in the Police Camp. It occurred in a male adult, who had been vaccinated. The case was mild. Vaccination was performed in the village by a layman. The constable's hut and his family were placed in quarantine, and no spread of the disease took place.

In connection with epidemics of Small-pox among the natives, it may be stated that the only combative measure of any value is thorough vaccination. Until it becomes possible to enforce the vaccination of every newborn child, the Government will have to rely on annual tours for the purpose of general vaccination. The practice of disinfection after an epidemic is of doubtful value.

Should the Bubonic Plague happen to break out in these Territories, the burning of all infected huts, with all rubbish and clothing, would, in my opinion, be the only feasible plan.

There are one or two other points of general interest to which I think the attention of the Government should be directed, and they will be found under the Health Report for the district of Mount Ayliiff.

(xx) LUSIKISIKI.

DR. OTTO BOLTZE, DISTRICT SURGEON.

(a) to (i) Same as last year's report.

(k) There was no case of Small-pox or Typhoid Fever, and the general health has been good. No deaths among the white population.

A general vaccination of the inhabitants of the district was carried out during this year, partly by the Assistant Resident Magistrate and the Chief Constable, and partly by myself, and 15,000 natives were vaccinated; but it is impossible to give an account of the result, as a tour of inspection of the vaccinated persons was not granted by the Government.

I was once called upon by the Magistrate to examine several prostitutes, who were suspected to be suffering from Syphilis, of which disease several cases occurred amongst the garrison stationed here. The examined individuals proved free from contagious diseases, but I have been informed that a few infected prostitutes left the district previous to the examination. The whole system of carrying out the Contagious Diseases Prevention Act here is altogether faulty. There is no hospital here or in any of the neighbouring districts in Pondoland, although its erection is absolutely necessary for many reasons, as I pointed out in my previous report, so that a treatment of such cases under strict medical supervision

is absolutely impossible. Besides, if a prostitute is found to be suffering from a sexual disease, she is simply sent out of the district, only to carry the disease into the next one. This is, of course, a farce, and certainly tends to spread the disease. A Hospital with a special ward for the treatment of such cases is a *conditio sine qua non* in order to fight Syphilis, which is certainly gaining ground also amongst the native population, effectually. The medical examination ought to be made a regular one, at least once a month.

2. GRIQUALAND.

(i) KOKSTAD.

DR. ARTHUR J. H. THORNTON, DISTRICT SURGEON.

The District of Mount Currie includes the township of Kokstad, which is governed by a Municipal Council, and a report upon its sanitary condition and general health of the inhabitants has already been made by me in my capacity as Borough Medical Officer, and in it the subjects (a), (c), (i) and (k) are fully dealt with.

(d) This is a matter which, in my opinion, requires to be dealt with. There are a large number of Griquas (half-castes) possessing erven in the township, and each erf in many instances contains three or four, or even more, mud hovels, each of which is inhabited by a family, living in what may be described a state of destitution. This condition of affairs has been rendered worse lately by the grant of erven which has lately been made to the Griquas. As these people are lazy, dirty and ignorant, it can easily be understood how very difficult it is to persuade them to exercise even the most elementary sanitary precautions.

(e), (f) and (h) As last reported.

(g) So far native locations have not been under the control of the Location Act, and I am therefore unable to report upon them. They are all situated a long distance from the seat of Magistracy, and I have not been authorised to visit them with a view to reporting upon their sanitary condition.

(k) In addition to the facts given in my report as Medical Officer of Health to the Municipality of Kokstad, there remains to be recorded the particulars of an outbreak of Small-pox in the district, in connection with which a general public vaccination was performed at various centres in the district. The first case of Small-pox was detected on the farm Diepfontein, situated on the direct road to Mount Fletcher District, on the 23rd April, and two further cases appeared before the disease was stamped out. The first case had returned from Mount Fletcher District the week before, and is believed to have contracted the disease there. The next case appeared on the farm Mill Grange, also imported from Mount Fletcher District. In this, as in the former case, all the native labourers on the farm, together with their wives and children, were vaccinated, the kraal affected put into quarantine, and no further cases occurred.

At an outlying kraal on Mehambehlala's Location three cases were detected on the 1st July, and similar steps being taken, together with the vaccination of all the inhabitants of the location, no spread of the disease took place. These cases were also derived from the same district. Lastly, on the 14th November, one case appeared on Mr. W. W. Pringle's farm: isolation and vaccination were carried out, and no other cases resulted.

With regard to public free vaccination, I regret I am not in a position to give the results obtained, as return visits have not been made to the different centres to ascertain the amount of success obtained.

(ii) MACLEAR.

DR. JAMES H. WHITE, DISTRICT SURGEON.

(a) The water-supply is good and plentiful. There are numerous springs of good water in and around the village. Numbers of people are using tanks for the storage of drinking-water.

(b) The lower part of the village is still in an unsatisfactory condition, but the rest of the village is well drained.

(c) Generally thrown on to the ground around the dwellings. Some people have ashpits made with a parapet of sods round them.

(d) This has improved since cessation of war. Everything is satisfactory.

(e) These are all kept in good order.

(f) All animals are either stalled or kralled at night. Horses are often allowed to run at night.

(g) Nothing has been done to remedy this evil. The camp, as has been pointed out, stands in a position menacing the health of the whole village.

(h) The cemetery is kept in good order.

(i) One or two cases of nuisances have been dealt with during the year, but it is still difficult to get private individuals to keep their places in good order.

(k) There have been one or two cases of Typhoid Fever at Ugie, fourteen miles from here. These I attribute to the deplorable condition of the village during the war, brought about by the number of horses which died in and about the village on their way from the Free State to Maclear and Mount Fletcher to be sold.

There has been one outbreak of Small-pox amongst Europeans in the village. The infection arose from some native communicating the disease to a white girl serving in a store. There were six cases in all. Five of them were well-marked cases of discrete Small-pox; the sixth case, that of an old woman attending the cases, had all the symptoms, but no definite rash apparent. Patients all recovered. The two houses in which the cases occurred were properly isolated, and all disinfectant precautions used.

I saw the first case on the 22nd June, when it was well advanced, and the last case was discharged on the 26th July. None of the cases had been previously vaccinated. All the people in the village were vaccinated as speedily as possible, the result of the vaccination being in almost every case eminently satisfactory.

(iii) MATATIELE.

DR. C. ERNEST POPE, DISTRICT SURGEON.

(a) The water-supply is quite inadequate to meet the most simple domestic requirements. It is pure at its source, but becomes contaminated by surface drainage soon after entering the furrow. The supply is most irregular, and since 1896 it has ceased to run except for a few days after heavy rain. The only remedy by which an improvement can be brought about, is an extensive outlay on water-works.

(b) Surface drains to take off the flood-water were constructed all over the town, but have been allowed to get filled and washed out, with

the result that in the times of heavy rain the water takes its own course, to the detriment of streets and private property. There are no sewers.

(c) The bucket system is in vogue, and the buckets are supposed to be emptied into a hole and the contents buried at some distance from the town. Slops and refuse are deposited at the most convenient spot.

(d) An improvement has taken place in this respect, the worst offenders in this matter being those whose incomes do not keep pace with the increase of their families, and those who are forced by circumstances to occupy smaller houses than their requirements demand.

(e) Good and satisfactory.

(f) No swine kept. Cattle are kept in open kraals, from which the dung is taken for fuel and manure. Stables are well-kept.

(g) None.

(h) Satisfactory.

(i) Somewhat improved, by preventing the natives from making a common latrine of every hidden nook and corner, and also by the advance of public opinion.

(k) Small-pox has been prevalent in the district for the last eighteen months; to what extent it is impossible to say, as it is known that its existence is not reported, and wherever it has come to light, it was the result of accident or its presence on a farm in the occupation of a European. Typhoid Fever is endemic, and always to be found in the locations. Phthisis is increasing rapidly in the native locations, and is really becoming, not only a serious menace to the healthy native, but a danger to European employers of labour, and I am convinced is one of the chief causes of stock thefts in this district, since so many prisoners convicted of this crime are found to be affected with this disease, which incapacitates them for work, and forces them to steal in order to maintain their position. Syphilis is seldom brought to my notice in its primary stage, but is very frequently observed in its tertiary and hereditary forms.

In my opinion the Local Authority has not done all things necessary, but I believe it has done all that the law, as it is applied to this Territory, permits. The Public Health Act is not in force, and there is no substitute for it. There is in my opinion a very urgent need for some form of legislation to enable the Authorities to deal with diseases of an infectious nature.

The whole subject of Public Health is, for any practical or efficient purpose, so neglected in this district, and I believe in the whole of the Native Territories, that it is wonderful that some virulent epidemic has not swept through these Territories before now. Some day we may expect such a visitation, and when it comes we shall be caught unprepared, with no power to act, with a filthy country, contaminated with the germs of generations of disease, crowded with a population who have not been trained to subservience to the most ordinary rules of domestic decency, a population who resented and resisted the attempt to save their cattle during the rinderpest epidemic, and who still neglect to be vaccinated, and run about the country, into the towns and stores with the Small-pox rash in its most infectious stage still out upon them, a population whose independence of proper control is being fostered by a want of legislation, and inefficiency of administration.

(iv) MOUNT AYLIFF.

DR. W. P. NICOL, DISTRICT SURGEON.

The village of Mount Ayliff is so small, and the dwelling-houses so scattered, that many sanitary arrangements which would be condemned in a town are practically harmless. If anything, there has been a slight

improvement in some respects, and people are beginning to keep their domestic animals out of the water-furrows.

(a) The water-supply has had a severe test during the last year, owing to the prolonged drought, and it has stood it well, as there has been a sufficient supply for all household purposes, and even for gardening. There are, however, too many furrows, as each householder seems to think it his right to have a stream flowing past his very doors.

Owing to the lack of prison labour during several months, the furrows got into a filthy and disgraceful condition, but as far as I could judge, this did not cause any ill effects among the residents. This state of things has, I am glad to report, been remedied.

(b) and (c) Nothing to add to previous reports.

(d) One dwelling occupied by Griquas was badly overcrowded; this was reported, and some of the inhabitants were removed.

(e) Nothing to report, except in the case of one man holding a butcher's licence, whose premises are unsuitable. In this case there is a promise that a proper place for keeping meat will shortly be built.

(f) There are seven cattle kraals practically in the village, but in the present circumstances they are not objectionable.

(g), (h) and (i) No remarks.

(k) Small-pox was present in the village up to December 31st, when it was stamped out, and there have been no cases since. There have been two outbreaks in the district, in both instances limited to one case.

On June 24th a case was discovered about six miles from the village. It was that of a man who had lately returned from Kimberley. All the people at the kraal were vaccinated, the man himself was quarantined, and no further spread took place. On September 5th a woman was found about twelve miles from the village suffering from Small-pox. Her mouth and throat were badly affected, and she died a few days afterwards. She had no vaccination marks. Vaccination was performed over an area completely surrounding her kraal, and no further spread took place. Fortunately, this case occurred after the performance of general vaccination, and it was found that very few people were not well-protected.

A general vaccination of the district was performed, extending from May until August, and from all accounts it appears to have been very successful. In all, 2,039 people were vaccinated, about half being primary and half re-vaccinations. It is impossible to keep an accurate record of the results, and one has to depend on the reports of the various headmen. Although the law as regards vaccination is practically never enforced, I am of opinion that the Kafirs are pretty thoroughly vaccinated. With a view to getting some idea on the subject, I have taken notes of all people who have come under treatment in one way or another, and give the following result:—

Number of persons examined, 363.

Number having vaccination marks, 299.

Number having no marks, 64.

No cases of Typhoid, Diphtheria, or Scarlet Fever have come under my notice during the past twelve months.

As regards the general health of the district, a favourable report can be given. There is, of course, and for many years will be, a very high rate of infant mortality among the Kafirs. This is almost entirely due to pulmonary affections (Bronchitis and Broncho-pneumonia). It is further partly due to the extraordinary ignorance displayed in the feeding of infants which leads to malnutrition. It is not to be disputed that Indigestion is the most common complaint among the Kafirs from infancy to old age. The prevalence of Pulmonary troubles is due in a measure to carelessness and ignorance in a somewhat treacherous climate. There

are, in addition, two causes at work, more under the control of the Government than the climate, which tend to destroy both the health and life of the Kafirs. On the one hand the Kafir doctor, and on the other the patent medicines sold freely at all stores.

The Kafir doctor directly or indirectly hastens the end of a large percentage of people every year.

The sale of patent medicines to savages is harmful, though less so than the Kafir doctor, and both questions are well worth the careful consideration of the Government.

(v) MOUNT FLETCHER.

DR. M. RICONO, DISTRICT SURGEON.

The general health of this district has for the most part been excellent.

(a) Water-supply.—The residents use tank-water when available, but the supply is for the most part obtainable from a small and very unreliable fountain near the village, which, being unenclosed, is subject to pollution at the source and during the transit.

(b) Nil.

(c) These are disposed in a fixed place outside of the village.

(d) Nil.

(e), (f) and (g) Under present circumstances do not call for remark.

(h) The cemetery has been closed; it is well-placed and kept.

(i) Nil.

(k) Typhoid and Diphtheria.—No cases to my knowledge.

Small-pox.—About the close of the year an outbreak of Small-pox was discovered among the native population in the south-west outlying portion of the district. Source of outbreak untraced—possibly imported in course of Military movements. The epidemic continued to spread during January, February and March, 1902. The district was in the most part unvaccinated, and it was impossible to apply a rigorous quarantine. A general vaccination was ordered in May, and was performed by two assistants and myself. There were three important centres of infection: Paballong, Nxotshane, and Gxako. Roughly I calculated the cases of Small-pox at 400, with a mortality not exceeding 3 per cent.

The lymph from Graham's Town as a rule was fairly good, but it is impossible to state the amount of success in the distant part of the district. The numbers of the calves were 2969, 2972, 2979, 2988, 2999, 3026, 3061, 3090, 3092, 3093, 3112, 3116.

The cost incurred for the general vaccination was £60.

During the summer seasons of 1900, 1901 and 1902, I observed several cases of Continuous Fever among the white and native population of the district. These cases invariably occurred in connection with persons living near some sluit, river or pool. The symptoms of the disease are very much like those of Malta Fever.

Syphilis is prevalent amongst the Basuto population of the district.

There are many cases of Leprosy. I strongly recommend that steps should be taken in order to remove the affected people, and to avoid a source of infection.

(vi) MOUNT FRERE.

DR. R. C. MORLEY HOARE, DISTRICT SURGEON.

I am unable to give a full health report for 1902, as I was only here during November and December. There is no Local Authority.

(a) Water-supply.—This comes along a furrow from a spring half a

mile away from the village. I have examined this water; it is excellent at its origin, but in its course is contaminated, ducks, geese, and other animals, and Kafirs, etc., being allowed to make free use of it. Either it should be enclosed by wire fencing or pipes, the cost of which would not be great, but the inhabitants do not seem to trouble themselves very much about it. I think this will prove a fruitful source of infection.

(b) None.

(c) Inhabitants do as they like.

(d) Have not discovered any overcrowded dwellings.

(e) Fairly good, although I do not imagine it entirely sanitary for natives to be allowed round the slaughter place waiting for the refuse.

(f) Stock are allowed to roam about the village.

(h) The cemeteries are two in number, one half a mile away from the village in a dilapidated condition, another one enclosed in the church grounds, in good repair.

(i) Nil.

(k) There was one case of Small-pox last year, distinctly traced from the Qumbu District. This was an unvaccinated case. No deaths. Three hundred and twelve people were vaccinated, of which eighty-three were primary vaccinations. I was authorised to do this by the Resident Magistrate.

With regard to vaccination, I believe the lymph was good, but am unable to say definitely, as no visit of inspection is allowed.

(vii) QUMBU.

DR. E. A. CULLIGAN, DISTRICT SURGEON.

The condition of the water-supply remains in the same condition as in my last report. The village could be supplied with a good and pure supply if convict labour were available for the making of a furrow of about three miles in length. At present the water-supply is obtained from the river below the "Spout," where whites and Kafirs bathe daily. One case of Typhoid which occurred is traceable to this source. There were three cases of Bilharzia traceable to bathing in this stream.

(b) Nil.

(c) At the discretion of the individual.

(d) Overcrowding occurs amongst the native population of the village. I remarked on a previous occasion on the inadvisability of allowing natives to occupy land and houses in the villages, but the law of equality of whites and blacks is carried out *ad absurdum* in the Native Territories.

(e) Butcheries and bakeries call for no comment.

(f) Animals are penned in kraals in the village, but it is not prejudicial to the public health.

(g), (h) and (i) No remarks.

(k) In common with most other districts, we had a visitation of Small-pox throughout the district. The type was very mild, fourteen deaths of Kafirs being ascribed to this cause. Intercurrent diseases were almost entirely accountable for even that number of deaths. It would be impossible to give the number attacked by Small-pox, as would also the number of cases of successful vaccinations. The disease began at the end of 1901, and the last case was released from quarantine about the middle of December, 1902.

The vaccination was a decided success, although I can give no definite numbers of success and failure. The cost of same, and the number vaccinated has been already furnished.

Four cases of Typhoid occurred in Shawbury, resulting in two deaths. The origin of the outbreak is not known, but it was probably contracted in Tabankulu.

There was one death amongst the white population, and four cases, all in the same household, of Ptomaine poisoning, caused by the water from a tank which contained the highly decomposed bodies of several bats.

There was a slight epidemic of Whooping Cough, but not so severe or widespread as in other years.

The state of war has in no way affected the public health, as very few of the inhabitants "smelt powder" during that time.

Reverting this year again to the state of the Gaol, I must complain of its utter unsuitability. It is much too small for the demands made on it at times, and there is no accommodation for female prisoners, or no isolation cell. A female lunatic awaiting order for removal was detained here for several months to her very great disadvantage physically, and to the great inconvenience of the Gaol officials. More humanity would be shown by the rectifying of matters of this sort than by teaching Kafirs the binomial theorem or French, or highly complex forms of religion, which drains enormous amounts from a thin Treasury purse.

Four cases of Leprosy were certified during 1902. The system of a yearly tour to inspect Lepers is to be deprecated, and allows the disease to spread. According as each case is reported it should be visited, and if certified, should be removed at the earliest opportunity. At present a leper may be at large for eleven months or more, disseminating the disease all the time.

(viii) TSOLO.

DR. DAVID MELVILLE, DISTRICT SURGEON.

(a) Tsolo derives its water-supply from a small spring arising in a hill behind the village. The water is led down to the village by means of a furrow. At the present time the furrow is in a disgraceful condition. It should be thoroughly cleaned out, and then fenced in to prevent the cattle, horses, etc., from polluting the water.

(b) These are pretty good.

(c) Each person attends to his own requirements in this direction, and the present arrangements work very well.

(d) There are no overcrowded dwellings in Tsolo. The only building unfit for human habitation is the Magistrate's office, which is in such a dilapidated condition that it threatens to fall down without any warning.

(e) Slaughter-houses, butcheries, bakeries and dairies are all kept in excellent condition.

(f) There is nothing to complain about in this direction.

(g) The Native Locations are all in a thoroughly sanitary condition.

(h) Cemeteries are well looked after.

(i) There are no nuisances.

(k) There have been several outbreaks of Small-pox in this district during the year.

In the early part of January Small-pox broke out in Jack's Location, the infection having been brought in from the Qumbu District. The disease spread through Ncalana's Location, into Jamanjili's ward; on my return to this district early in March, I visited the infected area, and found eleven cases of Small-pox in seven different kraals. All the cases were in unvaccinated persons. The infected areas were placed in quarantine, and 288 persons vaccinated. There had already been about 150 cases in this locality, with ten deaths. Quarantine was raised on the 14th April.

On the 11th April Small-pox again appeared in Jack's ward, at Limane's kraal. Four unvaccinated persons were found to be suffering from the disease. The kraal was placed in quarantine, and twenty-six persons vaccinated. Quarantine was raised on the 11th May. The infection was from previous cases in the location.

On the 4th May, one case of Small-pox was found at George Jamanjili's kraal at the Ncele, in an unvaccinated person who had been residing in the infected area in Jamanjili's ward. The kraal was placed in quarantine, and twenty-five persons vaccinated. Quarantine was raised on the 20th June. Meanwhile one case in an unvaccinated boy appeared at Kwasha's kraal, about a mile away from George Jamanjili's kraal on the 21st May. This kraal was also placed in quarantine from the 21st May to the 30th June, and twenty-eight persons vaccinated.

During the month of June a tour of public vaccination was completed, and it was hoped that by this means Small-pox would be stopped, but on the 12th July there was another outbreak in Magangaza's ward at Malaka's kraal, where three unvaccinated persons and four vaccinated persons (had been vaccinated some years previously) were attacked with the disease. The kraal was placed in quarantine from 12th July to 30th August. Seventeen persons vaccinated. The disease was carried in clothing from Jack's ward.

On the 22nd July, a man, Bobi, contracted the disease from Malaka's kraal. He lived in Quvile's ward, and had been vaccinated when a boy. His wife, who had also been vaccinated, and two children who were unvaccinated, also contracted the disease. The kraal was in quarantine from 22nd July to 30th September, and ten persons were vaccinated.

On the 15th August, 1902, Charlie Makimane, a vaccinated person residing on Makimane's farm, was attacked by Small-pox. He contracted the disease whilst living with some people in Zamva's ward, who had recently suffered from the disease. Thirty persons were vaccinated, and the kraal put in quarantine from 15th to 26th August.

On the 17th July two unvaccinated children residing at Mdunyelma's kraal in Samuel's ward contracted Small-pox. The source of infection in this case could not be traced. Twenty persons were vaccinated, and the infected area placed in quarantine from 17th August till 20th September.

On the 19th November nine cases of Small-pox were found in unvaccinated persons at Sizane's kraal in Pingxana's ward. A girl had been living at Bukwane's kraal, in Qumbu District, where there was Small-pox, and returned home. A week later she developed the disease, and infected the other members of the family. In the adjacent kraals, owned by Twatubana and Gope, one or two cases were also found. These kraals were in quarantine from the 19th November till 21st December, and some 296 persons were vaccinated.

At the end of the year there were no cases of Small-pox in the district.

The Local Authority is the Resident Magistrate, and in my opinion he has done everything necessary for preventing and dealing with outbreaks of Small-pox in this district.

(ix) UMZIMKULU.

DR. G. D. ROBERTSON, DISTRICT SURGEON.

There are no serious sanitary defects to mention. The Public Institutions with their sanitary attachments have been most thoroughly attended to. Disinfectants have been liberally supplied. Classifying under the headings suggested :—

(a) The water supply is obtained from river, spruit, and rain. There are two wells now. One is used for any purpose except drinking, as it is a shallow well (surface water). The other has just been bored for Gaol purposes, but is not in use as yet, as the apparatus has not arrived.

River water is good for all purposes all the year round, except during floods, when it is not altogether advisable to use it for drinking purposes.

Spruit water stands more risk of being undrinkable than the river water, owing to the greater risk of contamination from stagnant pools, rank vegetation, and herds of cattle making free use of it, also the course of a spruit being shorter and the flow more rapid, this contamination has no opportunity to settle.

Rain-water seems to be ideal, provided free access is assured to the receptacles for it, so that cleansing from outside matter may be undertaken at least twice a year. This generally runs short during the latter winter months.

(b) Sewerage and drainage are not undertaken here as yet in the real sense of the word. Dry earth closets are entirely used.

(c) Night-soil, slop-water, household and other refuse are generally conveyed in buckets to special dumping ground far from the house. This is selected by each householder. Refuse that will burn is generally devoted to the ordinary kitchen fire.

(d) There are no overcrowded dwellings, nor dwellings unfit for human habitation.

(e) The slaughter-houses, butcheries and bakeries seem to be healthily conducted. There is no slaughter-house proper in the village, but a place of slaughter is arranged in a cutting of the river bank, and leads down into the river. This ground is flushed thoroughly with every rain. There are two bakeries.

(f) Cattle, swine, and other animals are kept well in the open, and are no cause for remark.

(g) The good order, etc., of locations or camps, etc. These are well-ventilated, and perfect.

(h) The cemeteries or burial grounds are well situated as regards the public health, and require no remarks.

(i) The abatement of nuisances generally is not noticeable, as they have been so few and insignificant.

(k) Infectious Diseases.—Influenza and Small-pox are the only two infectious diseases which have visited us during the year. There have been no deaths from either.

Influenza was mild, endemic, but apt to recur again and again before entirely got rid of.

Small-pox came to us through a native man who had been visiting friends in the district of Qumbu, and who were suffering from Small-pox. This native developed the disease soon after his arrival home here in Umzimkulu. He was immediately quarantined, with the inhabitants of his kraal. All these inhabitants were also vaccinated. The surrounding kraals, for a mile radius, were also vaccinated, and instructions issued as regards the observing of the quarantine laid upon the infected kraal. It was a slight case, the affected party sitting outside with an unaffected appetite, and evidently enjoying his popularity. Quarantine was imposed on the 21st of July, and raised on the 23rd of August. The patient had not been previously vaccinated. Those in the kraal who were vaccinated "took" very well; those who did not "take" were, as a rule, previously vaccinated. All steps undertaken in the quarantining, etc., of this case, were taken under the authority of the Resident Magistrate,

and all things possible were done until the kraal was declared free, after a thorough disinfection of huts, persons and property. The total cost incurred in dealing with the outbreak was £6 18s., and this by sanction of the Government.

There have been no cases that come under the contagious Diseases Prevention Act. Leprosy is distinctly endemic in the district. The majority of the cases come from one large valley—the valley of Ensikim. Proximity to affected persons seems to be the cause of the spread of this disease in the majority of the cases, and in the remainder the cause is unknown. During the year ten cases were reported, and their clinical records and medical certificates submitted. Five of the cases were males and five females. Four were unmarried, two were widows, and four were married. Three of the unmarried were males and one female. The ages of the persons ranged from sixteen years to fifty years. The form of Leprosy was Anaesthetic in all cases.

The general vaccination of the district was undertaken, and owing to population and extent of district was not completed by the end of the year. The natives, however, came for vaccination in good numbers.

WALFISH BAY.

DR. F. C. SINCLAIR, DISTRICT SURGEON.

During the past year the health of the community throughout the district has been good, and no cases of infectious disease have been reported to me.

(a) The water used by the European inhabitants of Walfish Bay for drinking purposes is condensed here, and is of excellent quality and chemically pure, whilst the water used for culinary and washing purposes is drawn from Sandfontein, which is some three miles distant from the settlement. This water is hard in quality from excess of lime salts, and is distinctly salt or brackish, but otherwise, and when kept protected from dust and surface impurities blown into the open and unprotected wells, is fairly free from organic impurities.

The wells used by the natives are not as a rule closed, and consequently are liable to pollution from dust and its impurities, but up to the present no case of zymotic disease which might be attributed to the use of impure water has been brought to my notice.

(b) No system of sewerage and drainage has been adopted here.

(c) Night-soil is disposed of by being carried to a safe distance from the settlement and buried.

Slop-water is carried to some distance from the dwellings and run into the sand.

Household and other refuse.—This is satisfactorily disposed of by householders sending all refuse to a special railway truck which, at certain intervals, is run out for some distance along the line, and its contents emptied amongst the sandhills.

(d) The dwellings occupied by Europeans in the district are good, and there is no overcrowding.

The natives live in flimsily-constructed huts, which, although from a European standpoint are unfit for human habitation, suffice for, and I think are best for these people.

(e) The two principal traders here hold butchers' licences, and slaughter on their premises.

Slaughtering is conducted in a cleanly manner, and no nuisance occurs from this cause.

No bakeries, dairies, or other trades affecting health are carried on in the district.

(f) The stables and pens in which these animals are kept, although in somewhat close proximity to some of the dwellings, are kept in a tolerably sanitary condition.

(g) Good order is the rule in the native locations of this district.

No system of sanitation is in force in these locations; this is, however, to some extent provided for by nature, as the drift sand blown by the prevailing strong winds from the sand-hills amongst which these locations are situated, effectually covers up all impurities, which would otherwise be a source of danger.

(h) The local cemetery is at a considerable distance from the settlement, and is kept in excellent order.

(i) No nuisances of any serious nature have as yet been brought to my notice, but should such occur, I feel sure they would be effectually dealt with by the Local Authority.

(k) No cases of Typhoid Fever, Diphtheria, or Small-pox have occurred in the district throughout the past year.

I consider that the Local Authority has done everything necessary for the prevention of outbreaks of infectious disease in this district.

Since the general vaccination, which we performed throughout the entire district in 1902, no further vaccination has been performed by me.

PART II.

Reports of Local Authorities.

URGENT.

CIRCULAR LETTER.

Colonial Secretary's Office,
Local Government and Health Branch,
Cape Town, Cape of Good Hope,
15th January, 1903.

SIR,

I am directed to inform you that the Colonial Secretary will be glad to receive at the earliest date, for the purposes of the Annual Health Report to be presented to Parliament this year, such information as you may be in a position to furnish in regard to the health and sanitation of the area under your jurisdiction during the year 1902.

In the event of your Local Authority employing a Medical Officer of Health, the report in question should be made by that Officer, and should supply information on the following points:—

- (1) Water-supply; describing the source, whether spring, reservoir or other; the relation of the source to the area of the Local Authority; whether situated within or without such area; by what means the supply is conveyed for domestic or other purposes; whether by pipes or open furrows; the sufficiency and purity of the water-supply.
- (2) The systems of scavenging and disposal of excrement, and
- (3) The manner of disposing of household and other refuse.
- (4) The extent to which infectious disease has prevailed.
- (5) What action has been taken to remedy any sanitary defects (especially those involving the pollution of water or the accumulation of filth) that may have been found to exist during the year, and to prevent or limit the occurrence of preventable disease, and
- (6) Any other matters relating to the health and sanitation of your area which may be worthy of report.

I have the honour to be,

Sir,

Your obedient Servant,

NOEL JANISCH,

Under Colonial Secretary.

To the Chairman or Mayor of every Municipality,
and the Chairman of every Village Board
or Local Authority under
Act No. 23 of 1897.

II.—REPORTS OF LOCAL AUTHORITIES REGARDING WATER-SUPPLY, SANITATION, AND IMPROVEMENTS.

NOTE.—These have in most cases been somewhat condensed in order to economise space.

ABERDEEN.

ABERDEEN (MUNICIPALITY).

(1) Aberdeen gets its water-supply partly from the clouds and partly from a fountain situate within the limits of the Municipality, and the supply is conveyed from the fountain by means of open furrows. The supply from the fountain, as well as the purity of the water leaves much to be desired. When the river has not been down for some time the water in the intake dam gets putrid, and has a very disagreeable smell.

(2) The tub system is in use in a good many houses and tenements.

Night-soil is removed when pails are full, and deposited in properly-constructed stercus pits, and is covered up with dry soil after each delivery. On some premises cesspools are still in vogue, but disinfectants, such as chloride of lime or carbolic acid are used.

(3) Household refuse is carried away and deposited outside the town.

(4) Few cases of infectious diseases have been reported. There have been a few cases of Typhoid Fever and Scarlatina.

(5) and (6) Nil.

ALBANY.

(1) GRAHAM'S TOWN (MUNICIPALITY).

* Report of DR. J. T. BAYS, Medical Officer of Health

1. The water-supply of Graham's Town is mainly derived from the Milner reservoir, which consists of a large dam whereby the water from a large catchment area is retained, the capacity being fifty-two millions of gallons. The reservoir lies outside the area of the Local Authority, about six miles from the city. The water is led by means of underground iron pipes into the Grey reservoir, which is within the city area, and from there it flows by gravitation through the mains into the water-tanks of the houses, the water being turned on a certain number of days each week. In addition to the above-named reservoirs, there are also the Hamilton, the Douglass, the Fort England and the Hope's Gardens, which supply small parts of the city, and are within the Municipal area. The water from all these is conveyed by means of iron pipes. There is a sufficiency of water for the present needs of the inhabitants. The quality of the water is not all that could be desired, as it is contaminated by a certain amount of vegetable matter. The reservoir water is largely used for domestic purposes, for which it is well adapted, but a great deal of water for drinking is collected off the roofs of the houses.

2. The nightsoil is received into sanitary pails, which are emptied in accordance with the wishes of each householder. A regulation will, however, shortly be put into force compelling this to be done at least once a fortnight. As each householder employs any nightsoil man, whom he

* Forwarded by Municipality for publication.

pleases, of the number licensed by the Sanitary Authority, there is but little system in the removal. I have advocated a house-to-house removal at weekly intervals under the control of the Council. The sterco is removed in tip-carts to a spot about two miles from the city, where it is deposited in deep trenches, the earth being thrown over it daily. A nuisance is caused by the want of any proper provision for the removal of urine and refuse water from those premises where there is not sufficient ground to allow of it being efficiently disposed of. A great deal of the refuse water is disposed of by being thrown into the sluits of the streets.

3. There is no system for the disposing of household and other refuse; each householder makes any provision that he pleases for its removal. Certain spots on the outskirts are appointed by the Municipality as rubbish deposits.

4. During the year, 107 cases of infectious disease were notified, as compared with 205 the year before. There were thirty-three cases of Scarlatina, forty-four of Typhoid, four of Leprosy, nineteen of Diphtheria, and seven of Small-pox. The Scarlatina cases were of a very mild nature, and were those occurring at the end of an epidemic which had lasted through nine months of the preceding year. Only one case during the whole time proved fatal. Of the cases of Typhoid, fifteen were brought in from outside the Municipal area, and probably at least half the number contracted the disease away from Graham's Town. All the cases of Leprosy were brought in from the country, and six out of the nineteen cases of Diphtheria, while all the cases of Small-pox were traced to outside infection.

5. It is proposed shortly to erect a new water-tower at the Grey Reservoir in order to allow the water to be drawn off from the top instead of from the bottom, as at present. A system of filter-beds would add greatly to the purity of the water-supply. A special Hospital for the treatment of cases of infectious disease is now approaching completion, and should enable the patients to be more effectually isolated. An apparatus has been provided by the Town Council for the disinfection of premises by means of formalin, in which infectious disease has broken out. A Sanitary Inspector is about to be again appointed, whose duties will consist of a house-to-house visitation and inspection of all premises within the Municipal area. Attention has also been paid to the cleanliness of the native locations. The natives are supplied with water from the reservoirs, which runs into tanks near the locations six days every week. A hut-to-hut visit was made by me at the time of the outbreak of Small-pox, and 2,569 natives were vaccinated or re-vaccinated. In view of the prevalence of Plague, the destruction of rats and mice was continued during the past year. The health of the city has been generally good.

(ii) SALEM (VILLAGE MANAGEMENT BOARD).

The health of the inhabitants of the village of Salem has been good, no infectious disease of any nature having occurred during the year.

(iii) ALICEDALE (VILLAGE MANAGEMENT BOARD).

* Report of DR. J. C. MITCHELL, Medical Officer of Health.

1. The water-supply is derived chiefly from rain-water. This is supplemented by water from a bore-hole sunk within the area of the Railway camp. Natives are encouraged to make use of this water to the exclusion of water from the river, and they almost invariably do so.

* Forwarded by Municipality for publication.

2 and 3. Night-soil is removed bi-weekly, and slops and kitchen refuse on alternate days, excluding Sundays. All sewage and refuse is conveyed by rail to a point three miles from the village and there disposed of.

4. During the year two cases of Typhoid, two of Small-pox, and five of Measles occurred in the village.

5. Vaccination was extensively performed at the time of the Small-pox outbreak (June), and an inspection of the camp by the Sanitary Inspector and myself is regularly carried out.

ALBERT.

(i) BURGHERSDORP (MUNICIPALITY).

There is nothing to add to last year's report. No change has been made in the sanitary arrangements, which are working satisfactorily. The health of the town has been good.

(ii) VENTERSTAD (MUNICIPALITY).

The report of the Additional District Surgeon of Venterstad, who is also Medical Officer of Health to the Municipality, will be found on page 12.

ALI WAL NORTH.

(i) ALI WAL NORTH (MUNICIPALITY).

* Report of DR. LUTHER WATSON, Medical Officer of Health.

There is nothing special to report as to the public health or sanitation of this town.

1. The water-supply is derived from the usual rain-water tanks, supplemented by water drawn from the Orange River in dry seasons, as at present, and brought up in buckets or water-barrels. The new proposed water scheme has not yet been commenced.

2. Nightsoil, which is collected in a tank cart from the privy tubs, is deposited in deep sanitary trenches, and covered with earth daily about a mile to the west of the town.

3. Household refuse, etc., is only removed occasionally by persons finding it a nuisance, or when ordered to do so by the Sanitary Inspector. I have repeatedly urged the Council to institute a system for daily removal of slops and weekly, or oftener if necessary, removal of rubbish.

4. Infectious diseases have prevailed to a very slight extent this year.

5. More activity and diligence is now exercised in preventing the accumulation of filth, etc., but much requires to be done to prevent the pollution of the spruit, which carries the surface water and surplus water from the area in which the mineral springs are situated, to the Orange River just above where water is now drawn for drinking purposes.

6. The present system of emptying sanitary tubs into the tank cart, and being replaced without washing or deodorising is a disgusting process, and worse, in my opinion, than a well-managed dry pit. I have urged for duplication of the tubs and cleansing and tarring or lining of same, but the difficulty is want of water; hence we are waiting for the completion of water-works.

* Forwarded by Municipality for publication.

(ii) LADY GREY (MUNICIPALITY).

* Report of DR. JOHN CRANKE, Medical Officer of Health.

1. There are two public wells and several private wells for drinking purposes within the area of the Authority. The water is carried by hand from the wells. There are two dams for irrigation within the area. The water-supply is inadequate, but good.

2. The bucket system is in vogue. The refuse is carried in a sanitary cart and dumped some distance from the town.

3. None.

4. A few cases of imported Enteric Fever occurred in the coloured location.

There were a few cases of Scarlet Fever and Measles.

The town has been remarkably free from infectious disease.

(iii) JAMESTOWN (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—Drinking-water is obtained chiefly from wells, situated within the area of the Board. These wells are supplied by springs, and with the exception of this year have never been known to fail. The supply this year has been weakened owing to drought, but at no time did they completely fail.

2. A few w.c.'s on the bucket system are in use. These are emptied by private contract, and the contents are buried at a spot pointed out by the Board.

3. Household and other refuse is deposited in a large donga out of sight of the town.

4. No infectious diseases necessitating medical attendance were reported during the year.

5. Wells are periodically cleaned and all premises inspected.

6. The health of the town is good, and compares favourably with any other town or village.

BARKLY EAST.

(i) BARKLY EAST (MUNICIPALITY).

1. The water-supply is at present drawn from the rock by means of a piece of iron piping and about twenty yards of covered-in stone furrow; the only chance of pollution would therefore lie within the twenty yards; however, from the appearance of the water, and the taste of it, it seems to be generally considered the purest to be had. The Council are now taking the necessary steps to tap the source higher up, and to eventually pipe the water into every house. The matter has not sufficiently been gone into yet to give more definite information.

2. There are no cesspits, and a weekly system of removal of night-soil is in vogue. All nightsoil is deposited at a special site and covered in from time to time. Special pails, which are removed daily, are supplied to infectious cases. There are four latrines on the outskirts of the town for the use of natives and others. The Council hope to very much improve on this by supplying a duplicate pail system, and other up-to-date means for coping with both night-soil and slops.

3. Systematic inspections by the Sanitary Inspector are made weekly of all houses, and all rubbish is removed weekly to special sites on the commonage.

The provisions of the Public Health Act are rigidly enforced.

4. During last year an epidemic of Enteric occurred, principally amongst the troops moving in and out, and unfortunately a few of the townspeople were affected; however, only two of the civilians died.

It is pleasing to report that no Enteric legacy has been left behind by the troops.

The Council are fully alive to their responsibilities with regard to public health, all possible steps being taken with the necessarily limited plant, and hope before long to be more up-to-date and in a better sanitary condition than any other Municipality in South Africa.

(ii) RHODES (VILLAGE MANAGEMENT BOARD).

Nothing has been brought to the Board's knowledge with regard to any diseases. The public health has been very good, and on the whole quite satisfactory.

The water-supply is obtained from a spring. During dry seasons the water is not quite satisfactory, and the Board is endeavouring to get a better supply.

BARKLY WEST.

(i) BARKLY WEST (VILLAGE MANAGEMENT BOARD).

The Board has not yet employed a Medical Officer of Health, and there is no change to report from last year.

(ii) BOETSAP (VILLAGE MANAGEMENT BOARD).

1. The water-supply is obtained from springs, situated within the area of the Local Authority, and is conveyed for domestic and irrigation purposes by open furrows. There is sufficient pure water for all purposes.

2. There is no system of scavenging or disposal of excrement. All householders remove their own.

3. Household and other refuse is removed by the householders.

4. No infectious disease has prevailed.

5. No action has been taken to remedy sanitary defects, as none have been found to exist.

Householders and erfholders keep the furrows clean and remove the filth.

6. The health of all residing within the area of the Village Board is good.

(iii) DANIEL'S KUIL (VILLAGE MANAGEMENT BOARD).

1. There is an ample supply of water available within the area of the Board. The water is obtained from springs, and conveyed in open furrows.

2. By regulation every householder is compelled to provide his property with proper privies to the satisfaction of the Board.

3. Officers are appointed to prevent the accumulation of filth or the pollution of the water-supply.

Sanitation generally is considered very satisfactory. The Board has regulations drawn up under the Public Health Act, no immediate necessity to remedy any defects having been experienced.

The Dairy Act has not been proclaimed within the area of the Board, there being no dairy farms within the limits.

The health of the inhabitants has never been better than at present, the death-rate having been exceedingly low.

BATHURST.

(i) BATHURST (MUNICIPALITY).

1. The water-supply is good, and almost every dwelling has iron tanks. There is also a good supply from springs situated within the area of the village.

2. The houses in the village are scattered, and each occupier disposes of his own excrement.

3. The refuse is disposed of in the same way.

4. No infectious disease has prevailed.

5. No action has been required, as there has been no need for it.

(ii) PORT ALFRED (MUNICIPALITY).

The report of the District Surgeon of Bathurst, who is also Acting Medical Officer of Health to the Municipality, will be found on page 20.

BEAUFORT WEST.

BEAUFORT WEST (MUNICIPALITY).

* Report of Dr. LEICHER, Medical Officer of Health.

General Health.—The number of deaths registered during the year was 367, 97 Europeans, 270 Coloured or mixed.

The principal diseases which increased the death-rate were Diarrhoea, and similar diseases of the Alimentary Channel, and Bronchitis, Pneumonia, and other diseases of the Respiratory System.

Fifty-seven persons died of Diarrhoea and similar diseases, of which fifty-two were under five years.

Eighty-nine persons died of diseases of the Respiratory System.

The number of deaths in the single quarters of the year were as follows:—

1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
86	83	114	84

The following infectious diseases were notified:—

Typhoid Fever, 81 with 29 deaths.

Diphtheria, 90 with 20 deaths.

Scarlet Fever, 18, with 3 deaths.

Small-pox, 51, without fatal results.

This shows an increase of Typhoid Fever compared with the year 1901, and a decrease of Diphtheria.

The Small-pox epidemic was imported by rail from the Eastern Provinces.

Forty-four persons died from Consumption.

The mortality of children under five years was 170, 27 Europeans and 143 coloured or mixed.

Taking the population of Beaufort West Village and Location to be 7,000, the death-rate will amount to about 53 to a 1,000 inhabitants.

1. The water-supply for the greater part of the village is taken from the water-works, which bring the water from the kloof, about five miles from the village by means of pipes. In consequence of a severe drought

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the stand-pipes had to be closed during the greater part of the year, and the poor population again took water from the wells; this caused the increased occurrence of Typhoid Fever.

2. Regarding the disposal of the night-soil, the bucket system is still in use for the whole village.

3. The household refuse has been taken away by the Municipality, and deposited on certain places outside the village. The greater portion of the slops are still poured out in the yards of the premises.

4. Regarding the extent of the infectious diseases, see remarks on the general health.

The actions taken by the Municipality to prevent or limit the spreading of infectious diseases were:—

Isolation in cases of Small-pox, etc., at the Isolation Hospital outside the village.

Distribution of disinfectants to the poor people for disinfection of excrement, etc.

Disinfection of rooms where infectious diseases occurred, and daily removal of nightsoil.

BEDFORD.

BEDFORD (MUNICIPALITY).

In furnishing the following report on the health and sanitation of this Local Authority, it is hoped that Government will be convinced of the necessity of helping private townships situated as Bedford unfortunately is, and the need of revising the cast-iron rule that all towns must be treated on one footing.

1. Most people use tank-water for drinking purposes, etc. The source of the water-supply is on the Maastrom Mountain, but the so-called intakes are situate perhaps a mile from the springs, and above the intakes the Municipality has no control. The water is distributed by an open furrow. A survey was made by a Government Engineer a few years ago, but his scheme only provided for a pipe track and distribution.

Unless a reservoir is built to conserve water for household purposes, a pipe scheme is useless, as all the water running from the intakes belongs, and is allotted to the water erven. The poorer classes, however, "skip" the water from the furrows, and use it for drinking, etc. One recommendation of the Engineer has been carried out, viz., the fencing of the furrow in Maastrom; but the fence, unfortunately, does not keep pigs out; and bush-workers have huts a few feet below the fence. In order to get a scheme to place before the public, the Public Works Department were approached to have a reservoir included in the scheme prepared by one of their officers; but the reply was, "How do you propose paying for it?"—and in this and other respects it is evident that Government, while worrying Municipalities to improve their water-supply, do absolutely nothing to help or encourage them to do so. Government has permitted private townships to be established without taking the trouble to safeguard the interests of future inhabitants; and the result is that progress and improvement are practically impossible. Bedford is in the unfortunate position of being bound by a cast-iron set of conditions of sale which hamper the Council on all sides; and the founders of the township have not given an inch of ground which can be sold for improving the water-supply, or which can be set apart for a native location. We have not even a piece of ground which we can give on which to erect a building for

a poor school. As a result of no native location having been provided for, the natives are scattered throughout the township, living side by side with Europeans,—this being, doubtless, the reason for recent epidemics of Typhoid. Through the liberality of the executors in the Maastroom Estate, the Council has secured a small extent of ground at a nominal rental, which has been laid out in plots, and on which the Municipal location is now established; but there is no permanency even in this, as the lease expires fifteen or sixteen years hence. To supply this location with water, the Council applied for a Government bore, but this laudable effort was frustrated by conditions which could not be accepted, viz., that the Council would be responsible for wear and tear, or any damage done to the machine, etc., etc.—conditions which are not imposed on farmers. Thus does a paternal Government foster, encourage, and aid smaller Municipalities, while rich towns like Port Elizabeth and Cape Town have locations bought, paid for, laid out, and governed at enormous expense out of the revenue of the country.

The water coming into town is undoubtedly polluted in various ways, one being by pigs. A number of pigs from Maastroom are habitually in town, and naturally wallow in the water-furrows. Pigs cannot be driven to the pound, as that requires the aid of several drivers, and before these can be collected the animals have disappeared. A bye-law desired by the Municipality rendering it legal to shoot pigs found in the furrows was declared *ultra vires* by the Attorney-General, another instance of Government aid.

2. Disposal of excrement.—All cesspools have been abolished, and nightsoil is removed by a contractor, the tub system having been enforced by regulation. The contractor collects payment for such removal.

3. Household and other refuse is deposited by each householder at sites pointed out by the Council. Occasional house-to-house visitation is made by the Sanitary Inspector.

4. Infectious diseases. During the year there was a serious outbreak of Small-pox, introduced into the Municipality by natives from beyond its boundaries. Prior to the epidemic, sporadic cases, diagnosed as "Amaas," had occurred; but in February it was discovered that several natives had been suffering from an eruptive disease, and the Council then took prompt measures. Tents were purchased and a Lazaretto established about a mile beyond the town; a hut-to-hut visitation being made by an officer appointed for that purpose. As a result, several cases were discovered, and were instantly removed to the Lazaretto. Energetic and continuous supervision was exercised, and the epidemic was stamped out by the middle of April, some thirty-six cases having been treated in the Lazaretto, two in huts, which were sufficiently isolated to render quarantine effective; and two Europeans in houses which were quarantined. In all, three deaths occurred, one a child four months old; one an old man of seventy-eight years, and one, a man aged forty-five, who was *in extremis* when discovered, the case having been concealed (this man was a Minister of the African Presbyterian Church). In June two fresh cases occurred, one being a European and one native. Since then no further cases have occurred in town. It is worthy of note in this connection that though the Council succeeded so quickly in suppressing the outbreak, and although it was forced to incur a considerable overdraft at the bank, Government has not, at date of writing, refunded a penny of the amount expended, and the unfortunate Municipality has the privilege of paying interest on the overdraft. The authorities refuse to pay the account of the Medical Officer, with whom a contract was made, notwithstanding that this and the other accounts were certified by the Magistrate as reasonable and correct—another encouragement for Local Authorities to be energetic and economical.

During the year nine cases of Typhoid were reported, viz., two in February, two in September, three in October, and two in December. There were also three cases of Whooping Cough and two of German Measles.

5. So far efforts have failed to remedy sanitary defects, such as pollution of water, for several reasons. First, the disinclination of Government to help; secondly, the entail on Maastrom estate complicates the question of a storage reservoir; thirdly, the absence of ground which can be sold to effect improvements (all unsold erven, fully two-thirds of the total number, belonging to the Maastrom estate, which reaps all benefits accruing from sales); fourthly, the incomplete scheme of the Government Engineer; fifthly, the necessity for an Act of Parliament; and sixthly, the heavy initial expense. Counsel's opinion has been taken and notwithstanding heavy handicap, it is hoped the problem will be eventually solved. But it is felt that Government sympathy and aid should be extended to such places as Bedford; and that equity and justice both demand that Government should assert the rights of the population of the town, even though such rights may appear to infringe on the rights of individuals, heirs of the founder of the township.

6. It is imperatively necessary that natives should be induced to live in a location, instead of being scattered through the township. This can only be done by Government establishing a location, as it has done in Cape Town and Port Elizabeth. The Municipality cannot be held responsible for the health of the town as long as present conditions exist.

BREDASDORP.

(i) BREDASDORP (VILLAGE MANAGEMENT BOARD).

1. The water-supply is obtained from a kloof in the mountain, consisting of several sound springs, some of which are within the area of the Village Management Board, and is brought down by an open furrow.

The water-supply is sufficient for the present water-erven holders to irrigate their gardens, and at the same time for domestic purposes for the whole village, but about two-thirds of the inhabitants live on dry erven.

The furrow in which the water runs for drinking and all other purposes is exposed to the open air, but enclosed by a wire fence from the intake to the mountain.

2 and 3. Excrement and all other refuse is carried outside the village and deposited at a spot pointed out by the Board.

4. During the year a good many cases of Enteric Fever were reported, but notwithstanding that, the death-rate was very low.

5. The Board has been very active in seeing that the orders given towards any sanitary defects are promptly carried out.

6. The sanitation of the village during the year was in a very satisfactory state, and the health of the inhabitants exceptionally good.

(ii) NAPIER (VILLAGE MANAGEMENT BOARD).

1. The water-supply is obtained from a spring partly within the area of the Board, and is conveyed through an open furrow. The quantity of the water is sufficient, but the quality is very impure under peculiar circumstances.

2 and 3. Excrement, as well as household and other refuse, is removed by each householder privately to a place fixed by the Board.

4. Infectious diseases have not been very prevalent, only one case of Fever occurring during the year.

5. No special action has been taken by the Board. Ordinary precautions are observed individually.

BRITSTOWN.

BRITSTOWN (MUNICIPALITY).

1. The water-supply of the village of Britstown is obtained from a perennial spring situated at the north-eastern side of the town within the Municipal boundaries.

The spring is protected by a small brick building built over it, whence the water is led out through an iron pipe. The supply for domestic and other purposes is conveyed by water-carts.

2. The pail removal system is in force. Nightsoil is deposited in trenches about three miles outside of the village.

3. The Municipal carts make a house-to-house visit twice per week to collect and remove all household and other refuse, which is deposited at a place about two miles outside of the town specially pointed out by the Municipal Board.

4. Very few cases of infectious diseases occurred within the jurisdiction of the Municipal Board.

5. Pollution of Water.—The present arrangement is working satisfactorily, consequently no alterations have been made.

CALEDON.

(i) CALEDON (MUNICIPALITY).

* Report of Dr. A. J. ALBERTYN, Medical Officer of Health.

1. Caledon obtains its water-supply from several springs in the Swartberg Mountains. These springs are in the area of the Local Authority. The water is pure, clear and palatable. It is first collected in a small cemented reservoir, and from thence it is led to the village by pipes and given to the public by means of pumps distributed in various parts of the town. There is virtually nothing tending to cause its pollution at its origin or during transit, but as my predecessor, Dr. Van Coller, has so often pointed out, the pump-system is a dangerous and highly undesirable one. The matter of leading water into the houses has had the attention of the Local Authorities, and there is every possibility of the abolition of the pump-system at no distant date.

2. Nightsoil is disposed of by means of carts, which call at the various houses, and empty buckets in place of full ones are left. This system seems to answer well.

3. Refuse generally is removed in carts, which call and empty the bins at the various houses, the contents being subsequently deposited at some considerable distance from the town.

4. No epidemics have visited the district during the past year, but there have been isolated cases of Diphtheria and Enteric Fever.

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5. The abolition of the pump-system and the leading of water by means of pipes to the various houses for domestic purposes is receiving the attention of the Municipality. The management of butcheries, bakeries, dairies, and other matters affecting health is very satisfactory.

An improvement has taken place with regard to slaughter-houses. There are two, which are located some distance from the town, in a healthy area.

The keeping of cattle, swine, and other animals is very systematic, and the condition of affairs at present in that respect is highly satisfactory.

(ii) GREYTON (MUNICIPALITY).

*REPORT OF DR. WILLMOT.

The past year has been an exceptionally healthy one—as far as Greyton is concerned. There has not been a single case of infectious disease to my knowledge. There have been no cases of Measles, Scarlet, Enteric, or Diphtheria. At the present time there are several cases of Phthisis, as well as several cases of Sore Throat, but the cases of Consumption, it may be noted, are almost, without exception, confined to certain families who have an undoubted predisposition and hereditary tendency to the disease. Apart from this fact, Greyton is undoubtedly damp, and to this together with the exceptional rainfall of the year, I attribute the cases of Sore Throat.

The water-supply is even larger than the demand, and pure in odour and taste. Though the water is always running and fresh, I think it advisable that very strict injunctions be issued to the inhabitants of the town regarding the burying of refuse near the open streams. No refuse should be buried within at least ten to twelve yards above or below the sluits.

The system of enforcing inhabitants to build water-closets puts Greyton ahead of the average country towns of the same size in Cape Colony, and undoubtedly keeps the town in such a healthy condition.

During the year there have been nineteen deaths, compared with thirty-six births. No exact percentage can be obtained because of the want of an accurate census, but this very great increase of the birth-rate over the death-rate is worthy of note.

(iii) HERMANUSPETRUSFONTEIN (VILLAGE MANAGEMENT BOARD).

1. The water-supply is the same as last year.
2. The sanitary system of last year is still working very well.
3. Every householder disposes of his refuse at a place appointed by the Board.
4. This area has been free of any serious infectious diseases, with the exception of a slight epidemic of Measles during the last two months.
5. There is much room for improvement in this connection. The Board has regulations with regard to cattle roaming about the village, and persons committing nuisances on the rocks along the sea coast, but these regulations are not carried out by the constables, who get their instructions from Caledon.

(iv) STANFORD (VILLAGE MANAGEMENT BOARD).

1. The water-supply is obtained from a spring rising south of the village. The source is within the area of the Board, but in its course it goes out of it, and again enters it. The supply, which is sufficient, is conveyed by open furrow.
2. Excrement is buried.
3. Household refuse is used as manure in the gardens.
4. Infectious diseases have prevailed to a very slight extent.
5. The Board enforces either the use of w.c.'s or latrines.

(v) VILLIERSDORP (MUNICIPALITY).

*REPORT OF DR. S. J. J. VAN DER POEL.

1. Water-supply: This is derived from two sources, the northern part of this town being supplied with water taken from the Elands River at a point near the boundary of the Commonage, and conveyed into the town by means of an open furrow, the southern portion of the town obtaining its supply from springs arising in Aasvogelkop, outside the Municipal boundary, but adjacent to it, and also conveyed into the town by means of an open furrow. For domestic and drinking purposes, the water has to be obtained from open furrows running through the town. The supply of water is abundant in quantity, and excellent in quality.

2. There is no regular system of scavenging carried out here. For the disposal of excrement the bucket system is adopted, and carried out in a fairly systematic manner, the excrement being finally deposited in trenches on private ground adjoining the Commonage.

3. The manner of disposing of household and other refuse leaves much to be desired, it being left to the option of the occupier whether such refuse be removed by Municipal cart or deposited on erf or garden.

4. During the period of my residence here in 1902 I notified one case of Typhoid Fever (of doubtful origin) and three cases of Scarlet Fever.

5. Beyond the cleansing of water furrows and instructions given to householders—by public notice—to keep their premises clean, no further steps were taken to remedy sanitary defects, or to limit the recurrence of preventable diseases.

6. Finally, I would recommend a more improved and safer means of conveying water for domestic purposes, and the adoption of more stringent regulations respecting the cleansing of all premises and the removal and disposal of household and other refuse.

As a proof of the unsatisfactory state of these systems, I have had to report during the months of March and April, 1903, the occurrence of four cases of Typhoid Fever, all of them breaking out in the southern part of the town, and undoubtedly due to local causes of insanitation.

 CALVINIA.
(i) CALVINIA (VILLAGE MANAGEMENT BOARD).

The sanitation of the village and location was taken over by the Commandant in 1901, and the Village Management Board members were informed accordingly, thus taking all the responsibility from their shoulders during the time of Martial Law. The civilians were sent out of

* Forwarded by Municipality for publication.

the village for reasons only known to the military, and were only allowed to return in August, when some people were even threatened by the military to be sent away again, and this after peace was declared. The village was in a disgraceful state when the Board took it over. The members refused to take over the management of the village, on account of the accumulation of filth and dead carcasses of animals lying about in the village. We had to remove fifty-two dead carcasses of animals lying in and about the houses in the village. The Bushmanland Borderers (natives) were allowed by the Military Authorities to live in the houses of the white people who were sent out, and each householder on their return found a lot of filth and rubbish in and about their premises, and through the accumulation of filth and dead carcasses, Typhoid and Enteric Fever were very rife, and we had to incur a lot of costs to clear the village of all the undesired contents. The Military Authorities promised to pay a share of the cost of removing the filth and burying the dead carcasses, but which was afterwards refused.

Had it not been for the strict attention of the Management Board we would have had many more deaths. The death-rate, however, was high after the Military's occupation.

(ii) BRANDVLEY (VILLAGE MANAGEMENT BOARD).

1. In time of drought, as is the case at present, springs form the source of water-supply. These are dug in the river-bed to the depth of from seven to ten feet, and are situated within the area, the water for domestic and other purposes being conveyed by water-carts. When the reservoir, constructed by the Government, contains water, the supply is conveyed by means of open furrows.

The water-supply is altogether insufficient in time of drought. Although non-injurious to those accustomed to it, it does not agree with those not accustomed to it, and has a very bad taste.

2. Nil.

3. Every erfholder deposits his refuse on his premises on the most convenient spot.

4 and 5. Nil.

6. From the above report it will be seen that matters relating to the health and sanitation of this area are indeed unsatisfactory, and the reasons are: (a) On account of the terrible drought at present prevailing, the water in the reservoir has failed, and consequently the water-supply is absolutely dependent on springs, which are not only insufficient, but also decidedly bad. There is no money to remedy this defect, although it is most urgent that something be done at once in the matter; and (b) As this village is still very small, the Village Board have not yet deemed it necessary to frame rules in regard to scavenging and disposing of excrement and household refuse, but contemplate doing so in the near future, as it is becoming necessary.

CAPE.

(i) CAPE TOWN (MUNICIPALITY).

1. The sources of the Cape Town water are from springs on the north-west of Table Mountain, and the catchment area on the summit thereof. The springs are within the Municipality, but the catchment area is not. The water flows from its sources through pipes to the Molteno Reservoir; it is exceptionally soft, and upon analysis its purity has been certified as excellent. The storage of water in house tanks for domestic purposes has been resorted to, to prevent waste during the sum-

mer months. One reservoir (the Woodhead), on Table Mountain, has been constructed, and the work of constructing another is proceeding. This, when completed, will afford an abundance of water for flushing purposes, in addition to that for domestic use.

2. The scavenging of the town is done departmentally, all garbage and filth being collected daily. The sewerage of Cape Town has been greatly extended. The removal of excreta in pails ceased at the end of December, 1902.

3. The house refuse is collected daily, and removed by rail to be used for reclaiming land and other agricultural purposes.

With regard to sections 4, 5 and 6 full particulars may be obtained from the report of the Medical Officer of Health for the city, published in the Mayor's Minute.

(ii) CLAREMONT (MUNICIPALITY).

*Report of Dr. GEORGE G. EYRE, Medical Officer of Health.

1. Water-supply.—The Municipality is supplied from two springs, the Albion Spring, situated in the adjoining Municipality of Rondebosch, and the Kometjie Spring, situated in its own area. The water is pumped direct from this source into the mains, and for nine months of the year it constitutes the sole source of the water-supply. For the remaining three months the supply is partially obtained from the drainage of the Mountain slopes, collected in a reservoir, whither it is carried by a pipe.

The supply is consumed as follows:—12,240 gallons per diem are delivered to the street watering posts, 46,655 gallons per diem are delivered to the meter consumers, and 141,530 gallons per diem to 1,511 cottages by the dribble system, giving a supply per cottage of $93\frac{2}{3}$ gallons per diem.

For all domestic purposes the supply is sufficient, and it is of very pure quality, containing a remarkably small amount of mineral matter.

2. System of Scavenging.—The main road is scavenged twice daily, the side roads leading therefrom once daily, and the roads in the outer portions of the Municipal area once a week or once a month, as need arises.

Disposal of Excrement.—The pail system is in general use. The pails are removed once a week from ordinary dwelling-houses, twice a week from boarding-houses, and three times a week from railway stations, breweries and such localities. The excrement is buried in trenches at night in sandy soil. These are covered over in the early morning, and the whole deposit site kept under regular cultivation, producing very fine crops of mealies, potatoes and other vegetables.

The charge levied for removal of night-soil is £1 per annum per closet.

3. Household Refuse.—This is collected by Municipal carts three times a week and deposited in whatever vacant ground may be available, where it is at once covered with about one foot of loam.

4. Infectious Disease.—Enteric Fever, Scarlet Fever, Diphtheria and Puerperal Septicaemia have all been notified as occurring, but in no case have they reached the prevalence of a well-marked epidemic.

5. Remedies for Sanitary Defects.—For some years past the standing waste water accumulated in certain areas has appeared to threaten disease, and has induced the Municipal Council to carry out an extensive system of kerbing and guttering within these areas, which cannot fail to improve the sanitation therein to a marked degree. The general use of cement inverts for watercourses and open drains has served a like purpose.

(iii) D'URBANVILLE (MUNICIPALITY).

The report of the Additional District Surgeon of D'Urbanville, who is also Medical Officer of Health to the Municipality, will be found on page 33.

(iv) GREEN AND SEA POINT (MUNICIPALITY).

*Report of Dr. GEO. A. BATCHELOR, Medical Officer of Health.

The suburban area of Green Point and Sea Point has a population of 7,560.

The census was taken in July, 1902.

1. Water-supply.—This area is supplied with water from the reservoirs on the slopes of Table Mountain. It is the same source of water-supply supplying Cape Town. The entire water-supply is from this source, with the exception of two houses in Sea Point, which are supplied by the Municipal Reservoir, situate within the Green Point and Sea Point Municipal area. This Municipal reservoir derives its supply from springs at Camp's Bay. The water of this reservoir, with the exception of the above-mentioned two houses, is used for Municipal purposes, such as the watering of roads and the flushing of drains.

Means of Conveyance.—The water is conveyed to the houses by covered pipes, and is supplied to each house on the dribble system into tanks, from which the requirements of the house are drawn.

Disadvantages of the Dribble System.—The present dribble system, besides other disadvantages from a sanitary point of view, has the disadvantage of leaving the amount to be supplied to the option of the occupier or owner, without in some cases a proportional reference to the largeness of the house or the number of occupants in the house.

Shortage of Water.—During the shortage in the water-supply which occurred during the latter part of the summer season, a number of houses suffered in greater proportion than others on account of their supply being derived from the end of water leaders. In some instances houses so situated were at times quite without water.

The Use of Sea-water.—A quantity of sea-water is used throughout the Municipality for the watering of streets and roads and for flushing purposes.

Extra Supply during Shortage.—During the time the water-supply was short the inhabitants were invited to make up their shortage at the hydrants in the streets, which were turned on at certain notified times, and a quantity of sea-water was sent round the area for the use of those requiring water for flushing purposes and baths.

2. Sewage Disposal.—The water-carriage system of sewage is in use throughout the area. The sewers converge to a main outfall sewer, which empties into the sea. This outfall sewer runs out some distance into the open sea before it discharges. This sewer is situated off the Beach-road, Sea Point.

3. Disposal of Household Refuse.—The household refuse is collected from each house throughout the area daily, excepting Sundays. The col-

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lection is made by the Municipal carts, which convey the refuse to a tramway along which it is run and tilted into the sea.

This tramway is run some distance into the sea off Beach-road, Sea Point.

The usual way in which house refuse is stored by the householder, to await removal by the Municipal carts, was the subject of a report by me to the Council in October. In this report I suggested that each house should be supplied with an iron pail with a cover, in which the house refuse should be deposited while awaiting removal, instead of the nondescript receptacles in general use. The Council adopted my suggestion, and are now prepared to supply householders with iron pails with covers at the cost price of such pails. A matter of this kind, where there can be no insistence, although of great importance to the public health, must necessarily take some time before being generally adopted.

4. The Prevalence of Notifiable Diseases.—The diseases notified during the year were Enteric Fever, Scarlet Fever, Diphtheria, Erysipelas, and Puerperal Scepticaemia. The two diseases most prevalent were Enteric Fever and Scarlet Fever.

Enteric Fever.—The incidents of Enteric Fever occurred throughout the year. The greatest number occurred in January and June.

Scarlet Fever was prevalent more or less from March to December. The greatest number occurred in March.

In neither of these diseases was the prevalence so great as to constitute an epidemic. The returns for the year are as follows:—

	Enteric.	Scarlet Fever.	Diphtheria.	Erysipelas.	Puerperal Scepticaemia.
January	6	—	1	—	—
February	1	—	—	—	—
March	2	4	—	—	—
April			No Returns.		
May	2	2	4	1	—
June	8	3	1	—	1
July	2	1	1	—	—
August	—	1	—	—	—
September	2	3	—	—	—
October	2	1	—	—	—
November	4	2	—	—	—
December	2	1	—	—	—

The total number of cases gives an incident of 8·14 per 1,000 inhabitants for the year.

For Enteric Fever the incident was 4·1 in 1,000; for Scarlet Fever 2·4 per 1,000.

Small-pox.—No case of Small-pox occurred in this area. During the prevalence of Small-pox in Cape Town and the Southern Suburbs, the following precautionary measures were adopted. A house to house visitation was made throughout the area, for the purpose of leaving at each house a notice pointing out the importance of primary and secondary vaccination. During this visitation the opportunity was taken to obtain the number of unvaccinated persons in the area. At the request of the Council the Government vaccinator attended for the gratuitous vaccination of persons presenting themselves.

Vital Statistics.—The birth and death-rate for each month of the year was as follows:—

	Birth-rate.	Death-rate per 1,000.
January	30	14
February	44	12
March	28	12
April	No Return.	
May	48·9	11·6
June	35	10
July	24	6·4
August	24	6·4
September	27·2	6
October	35·2	6·4
November	28	11·2
December	24	22·4

Or a birth-rate for the whole year, taking an average for April, of 29 per 1,000, and a death-rate, allowing an average for April of 6 deaths, of 9·5 per 1,000.

The causes of death registered for the year were as follows:—

Pneumonia, 2; Broncho-pneumonia, 1; Bronchitis and Pneumonia, 2; Acute Bronchitis, 2; Pleurisy, 1; Acute Capillary Bronchitis, 2; Heart Disease, 6; Ulcerative Endocarditis, 1; Angina Pectoris, 1; Heart Failure, due to old age, 1; Gastritis, 2; Gastro-enteritis, 2; Diarrhoea, 9; Dysentery, 1; Ulcerative Colitis, 1; Kidney Disease, 1; Acute Bright's Disease, 1; Apoplexy, 3; Softening of Brain, 1; Old Age, 1; Peripheral Neuritis, 1; Convulsions (infants), 2; Premature (infants), 3; Exposure (infants), 3; Abscess of scalp, 1; Umbilical Hæmorrhage, 1; Rupture of Abdominal Cyst, 1; Cancer, 4; Phthisis, 4; Tubercular Meningitis, 2; Rheumatic Fever, 1; Enteric Fever, 1; Drowning, 2; Burnt to Death, 1; Suicide, 1.

It will be seen that during the year four cases of Phthisis and two cases of Tubercular Meningitis were registered among the deaths. As no form of notification is made of Tubercular diseases, no particulars of these cases are at hand.

Infantile Mortality for each month was as follows:

Infants below two years: January, 3; February, 1; March, 2; April, no return; May, 6; June, 3; July, 1; August, 3; September, 2; October, 2; November, 3; December, 6; giving a total for the year of 35, making an average for April, for which month there is no return. This number gives an infant mortality (under two years) of 16 per cent. of the births. The deaths were principally due to bowel complaints.

Appointment of Sanitary Inspector.—The Sanitary Inspector, Mr. Kirkup, was engaged in England, by the Municipal Council, at a salary of £200 per annum. He commenced his duties on the 1st November. Mr. Kirkup has had considerable experience in England, and was employed at the time of engagement as Sanitary Inspector in the district of Croydon. Since his appointment a thorough examination is made of all premises where a case of notifiable disease has occurred. And in the cases of the two diseases, Enteric Fever and Diphtheria, the drains were tested.

Prevention of Spread of Notifiable Diseases.—With a view of preventing the spread of the three diseases, Enteric Fever, Scarlet Fever and Diphtheria, printed instructions are left at any house where such diseases have occurred, and are treated at home.

Medical Officer of Health Appointment.—Dr. Pearson resigned the Health Medical Officership of the Municipality in April, and the duties of Medical Officer of Health were taken over by me on the 1st of May.

(v) MAITLAND (MUNICIPALITY).

*Report of Dr. JOHN HEWAT, Medical Officer of Health.

1. The water-supply of Maitland is deficient in quality, more especially during the summer months. Many of the residences are connected with the Waterworks Mains, which are leadings from Newlands, where the water is obtained partly from springs, and partly from Mountain sources, the whole supply being stored in a reservoir and distributed by cast-iron pipes and galvanised house leadings to the various houses. Many of the houses, more especially in Yzerplaat district, are unable to obtain this supply, owing to the insufficient amount of water for disposal, and those have to obtain their supply as best they can, mostly from wells, and a few by catchment from the roofs stored in tanks. Those receiving water by the mains from Newlands have a pure and good supply in quality if not in quantity. Those using wells, etc., have a source always liable to contamination, although much is being done by the Municipality to minimise the danger of contamination by making systematic inspections and insisting upon the covers being sealed, and that no accumulation of filth in the proximity occurs.

2. Scavenging and the disposal of excrement is done departmentally, with success, and buried on the town commonage some distance from dwellings.

3. Household and other refuse is collected daily departmentally, and taken to a deposit area on the town commonage, and what is inflammable is burnt there.

4. Infectious diseases, compared with the number of inhabitants, have not been great. Several cases of Small-pox have occurred on the boundaries in proximity to Rentzkie's Farm, which is a source of danger if not thoroughly quarantined and guarded. Several cases of Typhoid Fever have occurred here and there at Yzerplaat, and the source of infection, in several instances, was traceable to the water-supply from the wells.

5. Much has been done and is being done by the Municipality and their efficient officers to deal with sanitary defects as they arise. Several prosecutions have stirred many to a sense of their duty.

6. Maitland, like all the Municipalities, suffers from a deficient water-supply, and from the want of a proper and complete drainage system.

(vi) MOWBRAY (MUNICIPALITY).

*Report of Dr. MATTHEW L. HEWAT, Medical Officer of Health.

Population, 7,950 (excluding Valkenberg, 300). Census returns.

Birth-rate, 46.29. Death-rate, 21.51. Comparison with previous years is impossible, owing to faulty estimate of population for 1901.

N.B.—In estimating the Death-rate I deduct 38 deaths that were registered at Mowbray but occurred at Public Institutions, *i.e.*, Asylum and Hospital.

Births.—During the year there were registered 368 births, of which 194 were males, of these 120 were European, 74 were coloured; 174 were females, of these 103 were European, 71 were coloured; *i.e.*, 223 were European, and 145 were coloured.

Of the births, 46 or 12 per cent. were illegitimate, 11 European, 35 coloured.

Deaths.—During the year there were registered 209 deaths, of which 90 were males; 54 over 5 years; 38 European, 16 coloured. 119 females; 36 under 5 years; 14 European, 22 coloured; 63 over 5 years; 41 European, 22 coloured; 56 under 5 years; 22 European, 34 coloured. 38 of these deaths took place at public institutions, and are deducted from the total in estimating the death rate.

An analysis of the causes of the deaths shows the following: 1, Measles, 4 Enteric Fever, 1 Scarlatina, 2 Pertussis, 1 Diphtheria, 23 Phthisis, 20 Pneumonia, 10 Bronchitis, 20 Enteritis and Diarrhoea, 127 other causes.

Note.—More than 25 per cent. were due to chest complaints. This fact is probably due to the excessively wet winter of last year, and that Measles and Whooping-Cough were prevalent.

Notification of Infectious Diseases.—There were notified: Scarlatina 14 cases, Small-pox 8 cases, Puerperal Fever 3 cases, Diphtheria 8 cases, Enteric Fever 20 cases (of these last 8 were from outside of the Municipality).

During the year we have never been quite free from Zymotic Disease, but at no time has it been in any sense epidemic. Measles, Scarlatina, and Whooping-Cough have persisted more or less, and in a very mild form throughout the year. Summer Diarrhoea has been less prevalent, but where it has occurred it has been of a severe, often Dysenteric type. Small-pox made its appearance towards the end of the year, and, thanks to the unvaccinated state of the population, spread rapidly. Fortunately, owing to the fact that the area in which it first appeared being a group of poor houses, surrounded by fields, we were able to place the area in Quarantine until it had been thoroughly disinfected, and the inhabitants all vaccinated. The cases were all removed to Rentzkie's Farm.

Vaccination.—Up to the outbreak of the Small-pox this had been, as usual, utterly neglected, or the Municipality might have been saved an expenditure of considerably over £1,000. Pressure was brought to bear on the Government, who are responsible for the carrying out of the Vaccination Act, and as a result of a vigorous campaign, including house-to-house visitation, the Government Health Department and the Municipal Sanitary Department co-operating, over 700 unvaccinated people have been vaccinated by the public officials, and a very large number have been compelled to be done by their private doctors.

Water Supply.—Almost entirely from the Municipal Water Works.

Scavenging.—Disposal of house refuse and excrement carried out departmentally by means of cartage, and, on the whole, in a satisfactory manner.

Sanitary defects have been attended to as they have arisen, and in several places temporary drainage provided.

(vii) RONDEBOSCH (MUNICIPALITY).

No Report Furnished.

(viii) WOODSTOCK (MUNICIPALITY).

The Report of the Additional District Surgeon of Woodstock and Maitland, who is also Medical Officer of Health to the Municipality, will be found on page 34.

(ix) WYNBERG (MUNICIPALITY).

*Report of Dr. P. B. T. Stubbs, Medical Officer of Health.

1. Water-supply.—This is mainly from the Wynberg Catchment Area, on the Southern part of Table Mountain, which is stored in the large Reservoirs, holding about 61 million gallons of water.

This is outside the Municipal Area, and is conveyed from the Mountain by means of iron pipes, and distributed to the houses in a like manner.

There is an ample of sufficiency for the ratepayers, and the purity is beyond question.

2. The system of scavenging is done by a gang of labourers, and collected in carts, and conveyed to a depositing site on the Flats, and in some cases, it is set alight to reduce it to a small bulk, and covered with sand. This applies to the household refuse as well.

3. The disposal of excrement is done departmentally, such being conveyed some two miles away on to the Flats, and deposited in trenches, which are prepared during the day.

During the course of this year the Drainage Works have been begun, and within a twelve-month many houses will be connected therewith, and eventually the night removal of excreta will be done away with.

4. Infectious Diseases.—Considering the number of inhabitants, the Municipality has been particularly free from infectious diseases. Several cases of Small-pox have been unearthed, and were removed to the Lazaretto, but in no single case did the malady spread, due to the vigilance observed and the precautions taken.

Enteric.—This has spread over a very large area, and, considering the number of unreported cases in the Military Hospital, there has been no epidemic. Measles should be enforced to be notified, because of the utter callousness with which this disease is looked upon by many people, yet it is the one chief malady of many illnesses occurring among the poor.

CARNARVON.

(i) CARNARVON (MUNICIPALITY).

As was expected an epidemic of Diphtheria broke out. This was due to the large influx of natives arriving from all parts of the district for military protection.

The general state of the health of the town was otherwise fairly satisfactory.

(ii) VAN WYK'S VLEI (VILLAGE MANAGEMENT BOARD)

1. The water-supply is obtained from springs, and owing to the severe drought is rapidly ceasing to give even the necessary supply to human beings.

2. The system is wholesome, all excrement being buried.

3. Burnt or buried as in the manner above described.

4. There has been no infectious disease.

5. There has been no necessity for any action as far as any sanitary matters are concerned.

CATHCART.

CATHCART (MUNICIPALITY).

1. Water-supply.—The town is supplied from springs, which rise on Farm No. 12. Water rights have been purchased by the Railway Department. This supply is conserved in new reservoir, and from there supplied to the town and Railway Department. The railway are also building a reservoir. When completed, there will be sufficient water for all purposes. The water is pure, and is supplied to the railway and inhabitants by pipes.

2. Scavenging is done by contract, twice a week. The pail system is in vogue, and the excrement is deposited in pits about one and a half miles away below the town.

3. The disposal of household refuse is also done by contract, and removed once a week and deposited at a site specially selected.

4. There have been a few cases of Typhoid, and, with two exceptions, were imported into the town.

5. The water-course from springs into the reservoir has been fenced off to keep cattle out, and the Council have plans out for filter-beds.

Sanitary arrangements are being made for natives.

CERES.

(i) CERES (MUNICIPALITY).

* Report of Dr. G. MUNNIK, Medical Officer of Health.

1. Ceres enjoys a reputation of a unique water-supply in respect of quantity, quality and source.

It flows from a reservoir which is merely an impounding of a mountain stream fed by springs, and situated without this area. The supply is lavish and of great purity. During the year, and until recently, it has been conveyed for domestic purposes in an open furrow, but it is now being supplied by pipes to the kitchen—to the man who can pay for it. The poor do not enjoy this luxury, and it would have been fair to have placed public hydrants at several places for the "submerged ten," who still must continue drinking out of the furrow.

2. Excrement was disposed of by burial in the garden. Recent innovations (1903) have abolished this repulsive practice, and it is now being systematically removed for burial outside the town "far from the madding crowd."

3. Household and other refuse are likewise dealt with.

4. As regards infectious diseases, some half-dozen Typhoid cases have to be recorded.

Diphtheria.—Nil.

In the spring of the year Influenza was rampant, accompanied, in some, by a passive Pneumonia that proved very fatal to the aged and to those of feeble condition.

We have been immune, practically from any other epidemic, save minor ailments.

5. The remedying of sanitary defects in the matter of water-supply and removal of excrement, as already mentioned, promise to be satisfactory.

6. Much remains to be done in the native locations—such as the building of better houses, and observation of general cleanliness inside as well as outside. This will become an important matter in the near future, as village life offers an attraction to the farm labourer, who comes and squats down in filthy ill-constructed huts not fit for human habitation.

* Forwarded by Municipality for publication.

(ii) PRINCE ALFRED'S HAMLET (MUNICIPALITY).

1. The water for both domestic and irrigation purposes is derived from the Wagenbooms River, and runs in an open furrow through the village. This furrow is not fenced in. The furrows in the village and the main watercourse from the river are looked after and kept clean as much as possible. Still, the water may be considerably polluted by the time it reaches the lower parts of the town.

The furrows in the village will be paved with stones as soon as possible.

2. There is no artificial drainage.
3. Each householder looks after his own.
4. There have been a few cases of Typhoid Fever in the lower parts of the village.
5. Nil.
6. Nothing to report.

COLESBERG.

COLESBERG (MUNICIPALITY).

The health of the town has been fairly good, and the Commissioners pay great attention to sanitary matters. No reports of infectious diseases have been received by the Council for a long time. Constant inspections are made by the Municipal Inspector. The native location is also well looked after.

CRADOCK.

(i) CRADOCK (MUNICIPALITY).

1. Water-supply.—This is supplied from a spring eighteen miles distant, and brought into the town by pipes.

2. Scavenging and disposal of excrement is carried out by the Municipality, the pail system being used, between 10 p.m. and 5 a.m.

3. Household refuse is removed by the Municipality weekly, and taken out of the town.

4. Infectious Diseases.—Beyond an outbreak of Small-pox amongst natives, there are no other infectious diseases to report upon.

5. Sanitary Defects.—As for the polluting of drinking water, this is impossible under our system of supply.

(ii) MARAISBURG (MUNICIPALITY).

1. Water-supply.—This is derived from two sources, a permanent spring and a dam. The former is independent of the latter, which is supplied only by rainfall, and the water therefrom being used only for irrigation purposes; whereas, the spring serves for both domestic and irrigation purposes. In both cases the water is conveyed in open furrows. The spring and dam are both within the limits of the Municipality. For drinking purposes the community chiefly depend on private tanks of rain-water. Previous reports of the Additional District Surgeon will more fully explain the water-supply.

2. Each and every w.c. is supplied with a bucket, which is removed by the street-keeper, engaged by the Municipality, to a distant point from the village, where it is deposited as occasion arises.

3. Household refuse and slop-water are likewise conveyed by the street-keeper to a distant spot daily.

4. Dr. Pollock reports that there are no epidemics prevalent.

EAST LONDON.

(i) EAST LONDON (MUNICIPALITY).

* Report of Dr. R. J. ROULSTON, Medical Officer of Health.

1. There has been no alteration in the water-supply since my last report. A public meeting held on the 11th February, 1903, was called by the Mayor and Town Councillors, on receipt of a requisition from the ratepayers, to consider the best scheme for providing East London with a sufficient supply of pure water. Two schemes were before the meeting, namely, the Buffalo and Kabusie. The Council recommended the Buffalo, a number of ratepayers the Kabusie. On a poll being taken, the Kabusie scheme was carried by 365 votes to 152 in favour of the Buffalo.

Considering the exceptional purity of the water, which would not require filtration, the easy prevention of pollution of the watershed, I believe the selection made is a good one, if the supply is sufficient to meet the requirements of the town and suburbs.

2 and 3. No change since last year.

4. Forty-five cases of Scarlet Fever have been notified during the year; this is a continuation of the epidemic of the previous year.

Diphtheria.—Three local cases and one imported.

Small-pox.—One imported and two local.

Typhoid Fever.—Seventy cases, compared with 149 of the previous year; of these seventy cases, seventeen were imported. Although rats have been dying of Plague, no case has occurred among human beings up to the end of the Municipal year.

Treatment of Sewerage.—On the 5th May, 1902, the Mayor and Council agreed to adopt the Biological treatment of sewerage flowing through the Queen's Park, pending the opinion of the Medical Officer of Health for the Colony. For some reason or other they have changed their minds, and have now arranged to pipe it to the First Creek on the Buffalo River; by so doing, all the sewerage gas will be bottled up until it escapes at the First Creek; the smell, which is at present very bad, will be increased considerably, to the detriment of the harbour and those employed thereon.

I sincerely hope the whole matter will be reconsidered and the first proposal adopted, which will be much cheaper and more efficient.

Sewer Beach.—The sewerage from Inverleigh Terrace and adjacent properties flows down Rhodes Street, Quanza Street, Fitzpatrick Road, and the street facing Marine Park, passes underneath the road, and continuing a few yards, ends in the sand; consequently, the smell at these endings at certain times, particularly in the summer months, is very offensive. These small infected areas along the Beach have a most injurious effect on East London as a health resort, which it naturally holds by virtue of its geographical position. These sewers should be converged in cement gutters to the low water mark in one small area, where bathing should be prohibited; public notices should be erected at that particular spot.

Buffalo Culvert.—The Buffalo Culvert is the main sewer for the north end of the town west of Oxford Street. The floor is broad and uneven, which renders flushing very difficult, even if arrangements were made for so doing, which is not so. The ending is open; consequently, when a south-east wind blows, the sewer gas is forced through the gullies, to the detriment and injury of the inhabitants of the neighbourhood. The floor should be made of concrete, smooth, egg-shaped bottom, or prefer-

able, crockery pipes, and provided at regular intervals with Reeves' reevezone, and a flap valve on end of sewer.

Gutters.—The want of gutters is one of the great sources of danger to the health of the inhabitants. In many instances the houses are built and occupied before the gutters are made; the slop-water flows to the streets (which are not macadamized), where it soaks into the ground, and when saturated, form a series of small cesspools; these are good centres for the different kinds of germs to develop. I have little doubt some of our cases of Typhoid Fever originate from these centres, and I would recommend the gutters be made as soon as possible after the streets are laid out and the ground sold. Belgrave Crescent particularly requires immediate attention. Last year I recommended the duplicate bucket system for removing night-soil, and a temporary slop removal system, awaiting a proper sewerage scheme. I still strongly recommend the same.

(ii) CAMBRIDGE (MUNICIPALITY).

1. The only source of water-supply under the control of the Council is that of springs. Most householders have private supplies from their tanks. The supply, thus, is insufficient for the town.

2. The tub system is in use, and the Council have their own contractor.

3. The Sanitary Contractor also collects household and other refuse, same being deposited some distance from the township and buried in trenches with the above.

4. The town has been free from infectious diseases for months. One mild case of Typhoid has been reported.

5. This will be covered under the heading of Nos. 2 and 3. No public works undertaken.

6. The East London slaughter-sheds (as reported last year) are a most serious matter, and will become a greater source of sickness and death than any other cause. They are situate within 200 yards of our boundary, and are in a disgraceful condition, the blood and filth draining from slaughter-sheds into pools in the valley below. In the filthy water Indians wash the clothes of East London inhabitants. Letters have been written to the East London Municipal Council pointing out the serious danger to the lives of the people generally. The Medical Officer has condemned the place, but up to the present no steps have been taken to remove them or to keep them clean. An immediate investigation should be undertaken by Government in regard to this matter.

(iii) MACLEAN TOWN (VILLAGE MANAGEMENT BOARD).

1. Drinking water is chiefly collected in tanks, some few taking it from water in ravines, which is brack. There is a small dam, the water of which is chiefly used for domestic purposes.

2. There is no system of scavenging, and cesspools are used.

3. No arrangement; everyone manages as he can.

4. No infectious disease has occurred during the year.

5. The local dam has been enclosed, to prevent pollution from cattle, etc.

6. The village area is very small, and no rates are charged to the inhabitants, who are very poor, and, consequently, nothing has been done with reference to improving sanitation.

The health of the area has been exceptionally good. No medical officer of health is employed.

FORT BEAUFORT.

(i) FORT BEAUFORT (MUNICIPALITY).

* Report of Dr. W. DUNCAN MILLER, Medical Officer of Health.

A report upon the health of this Municipality, and upon the sanitation of the area under the jurisdiction of the Municipal Council for 1902, cannot vary much from the report of the preceding year. There has been a decrease in the number of infectious diseases reported, and the deaths within the urban area among the Europeans have fallen below the number of deaths reported during the year 1901.

1. Water-supply.—The town is supplied, both as regards furrow water and water by piping for domestic use, from the Kat River. The water is brought by open furrow six or seven miles from the intake at Blinkwater. The reservoir is situated about a mile from the town, and has recently been greatly enlarged and supplied with new filter beds, and the piping from the reservoir into the town has been replaced by new pipes of a larger calibre.

These improvements have resulted undoubtedly in a better supply of water to the Municipality, but the supply is not such as to preclude the possibility of a water famine during times of drought. A large portion of the water admitted at the intake is undoubtedly lost by leakage from the furrow before it runs into the town, and there must always be a regrettable amount of contamination of the water in the furrow by cattle and ostriches. A scheme for the erection of a weir across the Kat River has recently been under the consideration of the Council. Could such a scheme be carried through, there is no doubt that even in times of drought the town could be well supplied, at least, with pipe water.

2. There is no system of scavenging and disposal of excrement. There is a gradual increase in the number of buckets and dry-earth closets, which are regularly emptied, and the contents conveyed to pits outside the town. But there are yet far too many filthy cesspools, which are an undoubted source of danger to the public health. This is a matter which might well be taken up by the Municipal Council, to the welfare of the community and in the interests of the public health.

3. The manner of disposing of household and other refuse is a matter which is left to the private judgment of occupiers of houses. But the Sanitary Inspector reports that on the whole this matter is well attended to. A stricter enforcement of the Municipal regulations on the subject would, however, be of real advantage.

4. Infectious disease within the urban area has been conspicuous mainly by its absence, and very few cases have been reported within the year.

5. A more thorough inspection of the butchers' shops has led to considerable improvement of the premises in which meat is stored and exposed for sale. Complaints made by the Sanitary Inspector, or reported by him, have been enquired into, and, in several cases, the Council have interfered with good results.

(ii) ADELAIDE (MUNICIPALITY).

* Report of Dr. WILLIAM DAVIDSON, Medical Officer of Health.

1. Water-supply.—There is no water-supply for the town of Adelaide, the inhabitants depending on the rainfall, which is conserved in

tanks, and when this fails they have to fall back on the river water, which in dry seasons is not fit for human consumption. During the past year the river has often been standing for weeks on end, water only being found in large holes in the river, and in these the water is in dry seasons both stagnant and stinking. During the year 1901 water was obtained at the Gaol by boring, but no further boring operations have been attempted since then, although several of the inhabitants signed a petition which was sent to Government, in order to have the Government drill sent here; but as far as I am aware, nothing further has been heard of the petition.

2. There is no system of scavenging in the town, cesspools receiving and conserving excrement, and when these cesspools are full they are in most cases filled in and fresh ones made.

3. Household and other refuse is in most cases placed in a heap in a corner of the yard, and when this accumulates it is then taken out of the village and deposited at a place set apart for the purpose.

4. Infectious Diseases.—During the year several cases of Scarlet Fever occurred in the village, but most of the cases were of a mild nature. Whooping Cough has been rather prevalent among the natives, and a few deaths occurred from Catarrhal Pneumonia, as a complication of Whooping Cough. A couple of cases only of Enteric Fever came under my notice during the year, but we have had a fair share of Small-pox.

Small-pox broke out in December, 1901, and this outbreak continued till 17th February, 1902, when the last case was discharged, and during the outbreak eight cases were treated, viz., five Europeans and three natives. A second outbreak occurred during the month of May, and extended over to 26th July, during which time ten natives were affected.

Again in November one isolated case of Small-pox occurred in a native child, which was discharged on 29th December. The natives suffering from Small-pox were removed to the Lazaretto, and kept there till discharged.

5. The Municipality has paid attention to the removal of refuse from yards, but as regards the pollution of the river water, that is beyond their power to prevent.

6. No doubt the absence of a water-supply is a great drawback to the town, but although a water scheme has been spoken of for some years past, and the valuation of the property raised in order that a Government loan might be obtained, yet I believe the loan cannot be obtained, and we seem as far off as ever from having a water-supply for Adelaide.

(iii) BLINKWATER (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—The source is the Kat River water. The river runs through the location from one end to the other, and is conveyed to the houses for domestic and irrigation purposes by open furrows. The supply is ample. Save in drought, the water is pure and sweet.

2 and 3. There is no system.

4. No infectious diseases are known, and will be duly reported when known.

5 and 6. None.

(iv) HEALDTOWN (VILLAGE MANAGEMENT BOARD).

Thirty cases of Small-pox occurred during the month of January, resulting in two deaths. All have been discharged from the camp.

FRASERBURG.

(i) FRASERBURG (MUNICIPALITY).

* Report of Dr. P. J. MADER, Medical Officer of Health.

1. The water-supply is from a spring and several bore-holes, and is situate within the area of the Municipality at the south-west end of the town. Water is conveyed in an open furrow down the main street. Most inhabitants have water-carts for carrying water for domestic purposes; these are filled at a pump erected at the spring. The water is pure, and the supply sufficient.

2. Scavenging and the disposal of excrement are under the control of the Local Authority, and are regularly attended to; the latter is deposited at a safe distance from the town.

3. So also is household refuse.

4. During the first half of the year Typhoid Fever was prevalent, especially amongst the troops stationed here. During the latter half, Diphtheria prevailed to some extent.

5. Existing regulations for preventing the pollution of water and the accumulation of filth have been satisfactorily carried out.

(ii) WILLISTON (MUNICIPALITY).

No report furnished.

GEORGE.

(i) GEORGE (MUNICIPALITY).

The report of the District Surgeon of George, who is also Medical Officer of Health to the Municipality, will be found on page 53.

(ii) PACALTSDORP (VILLAGE MANAGEMENT BOARD).

1. The water-supply for domestic purposes is obtained from a spring situated near the middle of the village. The spring is covered in, and water carried a few yards by pipe, and supplied to inhabitants through a hydrant, thus avoiding any possibility of contamination. Inhabitants fetch it by means of buckets or casks, etc. Under ordinary circumstances the supply is sufficient.

2. There is no system of scavenging, excrement being usually buried.

3. Household refuse is disposed of in pits by householders, and used subsequently as garden manure.

4. With the exception of Whooping Cough, only one case of infectious disease, Diphtheria, has been reported during the year.

5. The case of Diphtheria was isolated, and the place thoroughly disinfected; but no further action was considered necessary either to remedy defects or to prevent disease.

6. With the above exception of Whooping Cough the health of the community has been remarkably good, and the sanitation is fair.

* Forwarded by Municipality for publication.

GLEN GREY.

LADY FRERE (MUNICIPALITY).

1. The water-supply is derived :—

- (a) From tanks in private property principally.
- (b) From springs conveyed in an open furrow, the source being without the area of the Local Authority.
- (c) From the Cacadee and Amakalo streams, which flow through the Lady Frere commonage, which supply is conveyed by buckets or in barrels.

The supply is sufficient.

2 and 3. The Municipal Rules and Regulations not yet having been promulgated, each householder disposes of excrement, household and other refuse at different sites appointed by the Council. Many of the householders still use cesspools.

4. Within the last twelve months there have been four cases of Enteric Fever within the Municipal area, but no other infectious disease has been reported.

GORDONIA.

(i) UPINGTON (MUNICIPALITY).

1. The water-supply has its source from the Orange River, outside the area of the Local Authority, and is conveyed for domestic and other purposes in a large open furrow. This furrow is under the direct control of the Upington Waterworks Company, Limited.

The supply of water is abundant, but its purity is being questioned.

2. There is practically no scavenging done by the Council.

The disposal of human excrement is done in the village proper by a sanitary contractor appointed by the Council, but outside the precincts of the village proper. This matter is being attended to by the householders themselves.

3. The disposal of household and other refuse is being attended to by the householders themselves.

4. No infectious disease worth mentioning has prevailed during the past year, and where such cases were reported the Council at once took the necessary steps to bring the same to the notice of the local District Surgeon.

5. The pollution of water and accumulation of filth are not permitted, and the action adopted by the Council to remedy such sanitary defects is, after due notice has been given, to report the matter to the local police with a view of bringing the offenders to justice under the Police Offences Act.

(ii) KEIMOES (VILLAGE MANAGEMENT BOARD).

1. The water-supply is brought to the village in an open furrow led out of the Orange River. It is ample for irrigation and for domestic purposes. The water is clear in winter if no rain falls higher up the river, and very muddy during the rainy season.

2. No proper system of scavenging and disposal of nightsoil is being carried out, though provided for in the Board's Regulations.

3. Household refuse is mostly carried into the lands and gardens.

4. No infectious diseases have been prevalent, which may be put

down to our extremely dry air and the absence of rain for nearly three years.

5. A Periodical Court will be established as soon as the Gaol or Lock-up is ready, which will be the case in a few weeks. The Board will then be in a position to prosecute all offenders against its Regulations without having to go to the Magistrate's Court at Upington. It is to be expected that sanitation in general will be greatly improved.

6. It is to be regretted that Syphilis seems to be prevalent amongst the inhabitants, and something should be done to check the spread of the disease.

GRAAF-REINET.

(i) GRAAFF-REINET (MUNICIPALITY).

* Report of DR. DAVID MASSEY, Acting Medical Officer of Health.

In laying before you my annual report I beg to state that I took over the duties of Medical Officer of Health for the town on the 17th April. I proceeded at once to examine the sanitary arrangements. Coming direct from England, I was very much struck by the proceedings necessary to protect the public health of a town like this as compared with a town of equal population in Great Britain.

1. The water-supply of the town is from three sources, viz., Mackay's Pit, the upper and the lower furrows. The supply from the first is good, pure water, and is conducted in a culvert to the upper part of the town, where it is discharged into the furrow. The other supply is also good, but not so constant, depending as it does more or less on the rainfall. The great objection to the water-supply of Graaff-Reinet is that, being conveyed through the streets in open furrows, it is so liable to contamination. The water-works scheme adopted two years ago by the Council would have had far-reaching effects on the health and comfort of the town, but owing to the Government refusing the necessary loan this could not be done. The Government, I understand, would advance the money, if once the question of the legal right of the erf-holders to the water was finally settled. I regret to say that the Council seem to have a disinclination to have this question finally decided by law. Until this is done the way is not clear for this most necessary work. The Town Engineer has lately brought forward another scheme for increasing the supply of water for irrigation. The work could be done at a cost of £6,000, but no action has as yet been taken upon the matter.

The well which the coloured people in the location get their water from is in the worst possible position. Situated as it is at the bottom of the hill on which the location is built, it makes an excellent receptacle for the filth and dirt which drains and is washed into it. When we consider there are no closets in the location, we can imagine how the water must be polluted. In many parts of the town the furrows are uneven, and pools of water are left, which decompose and emit unhealthy vapours. I have traced one or two cases of Diphtheria to this cause.

2 and 3. The scavenging is done by the Municipal Authorities; several carts are employed to go round and collect the refuse, and it is deposited in a suitable place outside the town. The removal of nightsoil from the places where the pail system is in use is in the hands of a contractor, who is paid by the Council; they in turn charging a certain fee to the householders for the removals weekly. The nightsoil is removed a con-

siderable distance from the town, and used to be deposited in a huge pit, but this practice has been stopped, and it must now be deposited in shallow furrows and covered in with fine sand. There is no provision made for the removal of slops, and this is a very important matter. In many parts of the town where the houses are closely packed the slops must either be thrown into the furrow or into the little yards attached. This matter was brought to the notice of the Council on more than one occasion, but up to the present nothing has been done. Another important matter, viz., the milk supply, is quite without supervision. Anyone who likes can sell milk, and keep their milk vessels in any condition. This was brought to the Council's notice several times, but owing to the want of water the matter was allowed to lapse.

4. In the month of June Small-pox broke out in the town. It was introduced by some boys who were in Military employ, and who had previously been in the districts of Cradock and Richmond, where Small-pox was prevalent at the time. Considerable difference of opinion was prevalent as to whether the disease was Small-pox or not, and certainly, as it showed itself here, there is in many respects a difference from the Small-pox we see in England. There is no doubt that the disease is true Small-pox, and that it is controlled by vaccination. As soon as it showed itself here, a special Inspector was employed at once to make a house-to-house inspection of the location, and to report any suspicious cases to me, at the same time he was to report any people who were still unvaccinated. Over 5,500 vaccinations were performed in a few weeks, all the medical men in the town giving assistance to get it thoroughly done. The disease was mostly confined to the natives living in Graaff-Reinet Location; only a few cases were discovered in the town. There were only six cases among Europeans in the town. Before Small-pox made its appearance amongst us, it was prevalent in many parts of the district, and the source of infection was in many cases traced to the neighbouring districts. In some instances the people refused to go to the Lazaretto, and I regret to say that the Local Authority did not give me the necessary assistance to have them forcibly removed. However, in the few cases where patients refused to go, a special guard was employed to watch their house and a yellow flag erected. The total number of cases treated at the Lazaretto up to the end of December numbered 123; about twenty-five of these were sent in from various parts of the district, and were living outside the Municipal limits. Measles were very prevalent amongst the natives, but it was not until complications arose and a doctor was called in that the disease was discovered. Very few cases of Scarlet Fever occurred. Diphtheria was not prevalent, and did not become epidemic. I asked for a special meeting of the Health Committee to discuss the sanitary and other matters relating to the location, and several important matters were discussed as to the erection of closets, removal of household refuse, the destruction of huts and dwellings unfit for use, etc., but beyond building a few receptacles for the household refuse, very little has been done to improve matters. The houses in the location are much improved during the past twelve months, and the Council have erected eleven blocks of new buildings; this practically exhausts the Government loan obtained for the purpose. The shambles are unclean and badly kept, pigs and dogs are allowed to roam as they will all over the place, and they live upon the offal and other refuse thrown there. The floors of the slaughter-houses are not often cleaned, and are consequently covered with dry blood; altogether the place bears an untidy and uncared-for aspect.

The bakeries are clean, tidy, and well looked after.

The kraals are well-kept.

The following table gives the vital statistics for the year.

Total number of deaths registered during the year 1902 ...	483
Annual death-rate, estimating population (total) at 10,000 ...	48.3
Total number of European deaths registered during the year	102
Annual death-rate, estimating the European population at 4,000 ...	25.5
Total number of deaths registered amongst the Coloured inhabitants ...	381
Annual death-rate estimating Coloured population at 6,000 ...	63.5
Total number of deaths registered of children under six years old ...	278
Annual Infantile mortality, estimated on total population, 10,000 ...	27.8
Number of European deaths registered under six years old ...	43
Annual Infantile mortality ...	10.75
Total number of deaths (Coloured) under six years old ...	235
Annual Infantile mortality ...	39.16
Infantile mortality, estimated on European (4,000) and Coloured (6,000) population.	

	Europeans.	Coloured.
Deaths registered as having been due to Enteric and Remittent Fever (7) ...	2	5
Deaths registered as having been due to Measles (18) ...	1	17
Deaths registered as having been due to Small-pox (13) ...	1	12
Deaths registered as being due to Bronchitis and Pneumonia (144) ...	22	122
Deaths registered as being due to Phthisis (38) ...	3	35
Deaths registered as being due to diseases of Stomach, Bowels, Diarrhoea, and Acute Intestinal Catarrh (115) ...	13	102
Infectious Diseases notified during year 1902 :—		
Number of cases of Enteric Fever notified ...		28
Do. Measles ...		15
Do. Scarlet Fever ...		5
Do. Diphtheria ...		6
Do. Small-pox ...		98

Births registered during the year :—

European.		Coloured.	
Legitimate.	Illegitimate.	Legitimate	Illegitimate.
116	8	138	134

Total European, 124; total Coloured, 272.

(ii) ADENDORP (MUNICIPALITY).

Since the last annual report no alterations have taken place in regard to the water-supply or the sanitary working of this Municipality.

(iii) NEW BETHESDA (MUNICIPALITY).

- 1, 2 and 3. As in last report.
4. One convalescent case of Amaas has been reported.
5. The water-furrows were regularly cleaned.
6. The Additional District Surgeon received instructions to visit all houses and huts within the limits of the Municipality occupied by natives, and with the exception of a few cases of overcrowding, he found everything in a fairly satisfactory state.

GRIQUALAND.

KOKSTAD (MUNICIPALITY).

* Report of DR. ARTHUR J. H. THORNTON, Medical Officer of Health.

1. The water-supply of the township remains as last reported viz. : The source is a spring at the foot of Mount Currie, within the area of the commonage, from which the water is conveyed by means of a furrow, for a distance of about three miles to the township, and distributed through the latter by means of numerous subsidiary furrows. It is obvious that such a system lays the water open to pollution from innumerable sources.

2. All nightsoil is removed in buckets by a sanitary staff at night time, and the system being maintained by the Town Council, and conveyed to small pits situated outside the inhabited area, which pits are covered over with soil as soon as filled. The pails are washed in disinfectant before being returned.

3. Household and other refuse are deposited on certain areas pointed out for such purpose by the Council, and the accumulation of refuse on town erven is forbidden by bye-law.

4. Of infectious diseases during the year there were as follows :—
Enteric Fever.—Twelve cases, one of which terminated fatally, came under observation. This disease, which was once unknown in the township, now appears to have obtained a firm footing, and become endemic. It is not easy to assign the source to its true cause, but its prevalence certainly coincides with the highest level of the subsoil water, which level must be affected by percolation from the numerous water-furrows. Should these, therefore, be done away with, and the water conveyed in pipes, the level of the subsoil water should be lowered, and a decrease in the number of cases of Enteric Fever might reasonably be expected to result.

Of other infectious diseases, there were two cases of Scarlatina reported, two of Diphtheria, and numerous cases of Varicella, Pertussis, and Mumps, none of which were fatal.

5. It is the duty of the town Sanitary Inspector to report upon all cases of sanitary defects which come under his notice, and to see to the remedying of same so far as circumstances will permit. This official also sees to the disinfection of buildings and clothes in cases of infectious diseases.

6. The main points requiring attention are :—(a) The establishing of the town water-supply on a satisfactory basis by conveying it in pipes from a reservoir provided with a filtering-bed to the town; and (b) The erection of a suitable building for the isolation and treatment of infectious diseases, a scheme for which is, I understand, shortly to be considered by the Municipal Council.

HANOVER.

HANOVER (MUNICIPALITY).

1. Water-supply.—This is procured from a spring about a mile from the town, and led into the town by a covered stone and cement furrow. Water for domestic purposes is carried in buckets from the outlet of this furrow; for irrigation and other purposes the water is conveyed through the town by open furrows. The supply is sufficient, and the water pure.

* Forwarded by Municipality for publication.

2. Scavenging and disposal of excrement is done by a contractor, who must empty each sanitary pail once a week, and deposit the contents to the east of the town, at such spots as indicated by the Council, where the refuse must be covered up.

3. Household and other refuse is carried away by a contractor too, and deposited away from the town at spots fixed by the Council.

4. There have been very few cases of infectious diseases in this town.

5. The Council is using its best endeavours to remedy all sanitary defects, and to limit the occurrence of preventible diseases.

HAY.

GRIQUATOWN (VILLAGE MANAGEMENT BOARD).

No report furnished.

HERBERT.

DOUGLAS (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—The village is mainly supplied by a well sunk on Market Square by the Village Management Board, which gives a sufficient quantity of pure water for the inhabitants of the village proper. The erven or agricultural lands people get their supply from the irrigation furrow, which is river water, and not too pure, but as yet has not had any ill effects.

This is under the control of the authorities, who have instituted a proper sanitary pail system of one universal sized pail, which is removed once a week.

3. This is removed by householders.

4. No infectious diseases whatever have prevailed.

5. There have been no sanitary defects whatever during the year, and no pollution of water.

6. The health and sanitation of this area is splendid, as may be seen by having no infectious diseases whatever to report.

HOPE TOWN.

(i) HOPE TOWN (MUNICIPALITY).

1. The water-supply of the village is derived from a fountain which has been opened by a tunnel, and the water brought out by a pipe. This fountain is within the village, and householders fetch their water at the fountain. There is another fountain, as well as two dams, at which only stock is watered. As the water-supply, it is feared, will be inadequate, should the village be extended, the Council is busy sinking new wells and tunnels to try and tap a stronger stream of water.

A few of the inhabitants have wells with pumps on their erven. The water of the fountain is absolutely pure.

2. All nightsoil is removed from the several w.c.'s twice a week, and oftener if necessary, by a special wagon, which takes away the full bucket, replacing it by an empty one which has been cleaned and disinfected, while the nightsoil is then carried outside the village to a distance of at least three miles and buried.

3. No arrangements have hitherto been made for the disposal of household refuse.

4. Infectious diseases have prevailed to a very small extent. In September there was an outbreak of Amaas in the location, which disease was brought from De Aar by a sick native. There were only two cases and one contact and the disease was soon checked.

In January, 1903, there was one case of Diphtheria in the village, brought here from the district, and that was the only case.

5. The water-supply cannot be polluted, as the water is brought from the fountain in pipes, and where it comes out of the pipes the inhabitants take the water.

6. The health and sanitation of the village is good, as can be judged from the very few cases of Typhoid, etc., as stated above, and in all cases of infectious diseases the disease has never gained a hold.

(ii) STRYDENBURG (VILLAGE MANAGEMENT BOARD).

No material sanitary reform of any importance has taken place since last report.

1. The wells from which the village gets its only supply of water are regularly kept clean.

2 and 3. Nightsoil and refuse are properly carted away.

4. No sickness of any infectious nature is prevalent, and the place continues to be very healthy.

HUMANSDORP.

(i) HUMANSDORP (MUNICIPALITY).

1. Water-supply.—Strong and natural springs, about a mile north from area, conveyed to town by open furrows for all purposes—an abundant and never-failing supply.

2. Compulsory bucket system. Excrement deposited in pits, about three miles from town, by Municipal contractor.

3. Deposited on site set apart for purpose.

4. No report or information was furnished to this office.

5. No action has been taken. As a rule the purity of the water is respected by the inhabitants for their own sakes.

6. District Surgeon's report includes area of Municipality.

(ii) HANKEY (VILLAGE MANAGEMENT BOARD)

Since the last report a case of Small-pox has occurred. The disease, however, was suppressed, and there has been no further spread of the outbreak. No complaint of any description has been made, and the place is pretty clear of any disease. The village water-supply has been very good all through the drought.

JANSENVILLE.

JANSENVILLE (MUNICIPALITY).

1, 2, 3, 5 and 6. As formerly reported.

4. An outbreak of Small-pox occurred in one of the native locations, but no case terminated fatally.

KENHARDT.

KENHARDT (VILLAGE MANAGEMENT BOARD).

No report furnished.

KIMBERLEY.

(i) KIMBERLEY (MUNICIPALITY).

* Report of DR. H. G. H. MONK, Medical Officer of Health.

Population.—The actual number of people living in the Borough can only be approximately obtained, so that after the taking of the next census it may be necessary to make certain corrections in the rates presented to you. The white population has been a very varying number, owing to the number of refugees who had made Kimberley their home during the war and returning to the Orange River Colony and the Transvaal after the declaration of peace. For statistical purposes I have retained the old numbers, viz. :—

White population	18,000
Coloured population	23,000

and the following tables give at a glance the population, deaths, and death-rate of the Borough for white and coloured population in the year 1902 and four previous years.

Table I.—

	Approximate Population.	No. of Deaths.	Death rate per 1,000.
White	18,000	346	19·2
Coloured	23,000	985	43·7
Total	41,000	1,331	32·4

Table II.—

Comparative Death-rate from 1898—1902.

Year.	White.	Coloured.	Combined.
1898	21·7	53·6	41·4
1899	25·8	51·5	41·3
1900	25·6	87·1	59·1
1901	25·1	60·2	52·9
1902	19·2	43·7	32·4
Average for 5 years ...	23·4	59·2	45·4

It will be noticed from the above tables that the death-rate for both sections of the population is lower in 1902 than in any previous year, and stands well below the five-yearly average.

Births.—The number of white children born during the year was 560, which works out at a rate of 31·1 per 1,000 population.

* Forwarded by Municipality for publication

Amongst the coloured community there were registered 492 births, which I am sure is very much below the actual number, and which only gives a rate of 21·3 per 1,000.

Table 3 gives these rates, and also the infantile mortality rate.

Table III.—

	No. of Births, 1902.	Number of Deaths under 1 year of age.	No. of Deaths of Infants under 1 year of age per 1,000 born.
White	560	113	201·7
Coloured	492	222	451·4
Total	1,052	335	318·4

In the last column, the infantile mortality rate, the figures are very high indeed, and show that the child of white parents has more than twice the chance of surviving its first year of life than the child of coloured parentage.

Reviewing the above-mentioned rates, to have the lowest death-rate up to the present time for both white and coloured people to record, is a good sign for the public health of Kimberley, but this good result is rather spoiled by the heavy rates recorded in Table III.

Infectious or Zymotic Diseases.—The number of cases of all varieties of infectious diseases is much less for the year 1902 than in any previous year. The numbers notified are given in the following Table:—

Table IV.—

	White.	Coloured.
Enteric Fever	61	22
Do. (Refugee Camp) ...	116	0
Scarlet Fever	8	0
Diphtheria	4	5
Do. (Refugee Camp) ...	6	0
Puerperal Fever	0	1
Leprosy	0	4
Small-pox	0	1
Totals	195	33

	White.	Coloured.
Total Refugee Camp	122	0
Total Kimberley Borough	73	33

In previous years as many cases have been notified in one month during the summer and autumn as in the whole of the year 1902.

As will be seen from the above Table, by far the greater portion of cases of Enteric Fever occurred in the Refugee Camp, and with the disease once starting there the fact of its spreading is not much to be wondered at, when it is borne in mind that one room or tent was the sleeping and living room for a whole family. Enteric Fever is not a disease that shows its symptoms early in its onset, and it is often ten days or a fortnight before the nature of the complaint is evident, and consequently during that time the disease may easily be conveyed to other members living, eating, and sleeping in the same tent. As is fairly well known,

Enteric Fever is propagated by the discharges that come from Typhoid patients, but it is not sufficiently recognised that the water passed by the patient is infectious just as much as the motion, and needs treating just as carefully by disinfectants.

General Sanitation.—Pail Closet, etc.—One matter that has received much attention from the Sanitary Committee during the year has been the renewal of the sanitary contract. Much time was spent by them trying to improve upon the old order of things, and I think with success. Up to December, 1902, the contents of the pails were removed three times a week, with no removal of excreta upon Sunday nights. Since January 1st the removal has been altered to every other night, so that the complaints that the pail was not emptied from Friday night till Monday is a thing of the past. The question, too, of tarring buckets has also been debated, and I must confess that I do not see any object in tarring galvanised iron buckets, as the material of which they are constructed is quite as impervious as the tar coating, and with the installation of the new bucket-washing apparatus, the need for tarring does not exist. The one good point about the tarring is that any small leak in the bucket would be stopped by the tar. In most houses in Kimberley wood is burned as fuel, and the wood-ashes, being practically pure charcoal, if added each day to the bucket placed in the closet, would form a very efficient deodorizer, and prevent smells from these necessary but often much-neglected places. Leakage through a defective bucket would also be stopped by the fine particles of wood-ash just as effectively as by the coating of tar.

Slop-water removal.—I am afraid I cannot say anything in praise of this system, and the sooner sewers are laid and this method of dealing with slop-water abolished the better. In many houses advantage is not taken even of the slop-water removal carts, but the dirty water is scattered over the back-yard; in many instances, after dark, over the street. In small yards the soil from this treatment has become filth-sodden, and in damp weather would give off offensive effluvia. If sewers were put down, all slop-water drains from houses would be connected, so that all filthy water would be immediately removed from the vicinity of dwelling-houses.

Dust and rubbish removal.—This part of the house cleansing is still done by the contractor, and from time to time various difficulties seem to crop up. The chief complaint that one hears on his side is that the money due to him is not paid, so he works at a loss. Then trucks are burnt at the siding, and there is a debate as to who shall recoup the Cape Government Railway for the loss. On the other side—the public side, if I may so call it—complaints are made that the rubbish is not removed, and on investigation we are told that entrance could not be obtained to the yard. As I have suggested before, if certain streets were visited at fixed times, the householder would know when to expect the dust carts, so manage to have their back gates unlocked and the dust boxes in position to be removed.

Dust and rubbish at present are removed by carts to the Refuse siding, and then conveyed by rail at great cost to Dronfield, and the question whether a refuse-destroyer would not be cheaper in the long run might be considered. A six-celled destructor, which would cost in Kimberley something like £8,000, would deal with all the rubbish easily, and I think, when all the expenses of the refuse siding and tip, together with haulage, cost of raising rails, and burning trucks are considered, there would be a margin in favour of a destructor. Besides getting rid of all refuse, carcasses of animals dying from Glanders, or other similar disease,

can be dealt with, whilst the heat produced can be made use of in the driving of stone-breaking or other machinery, and supplying hot water to the public wash-houses. A supply of hot water at all hours at the public wash-houses would be quite sufficient inducement, I think, to convert the loss at present sustained on these premises into a gain, and the public would also reap the benefit by having their linen washed and cleansed with about half the knocking about it gets at the present time, in addition to the extra cleanliness which would ensue.

Water-supply.—From time to time during the year I have analysed the water supplied to Kimberley by the Waterworks Company, and although at times it has been rather thicker than one likes to see, yet the quality of the water is good. The water is thick during the rainy season in the upper reaches of the Vaal River and its tributaries, and, as I have from time to time pointed out, the turbidity depends upon the amount of silica which is stirred up by the rains, and which, being in a very finely-divided state, passes through any ordinary filter-bed. In the early part of the year, when there happened to be no rain to cause the water to be thick, I was at a loss to explain the turbidity at first, but found that it was caused by the crossing and re-crossing of miles of convoy during the time war was in progress.

Food Inspection, etc.—During the year various seizures have been made of meat, fish, vegetables, etc., which were unfit for food, and orders made for this unwholesome stuff to be destroyed.

Milk analysis has occupied a good deal of time during the year, and the results are rather interesting. Altogether I have analysed 78 samples of milk, which gave the following figures as percentages :—

	Per cent.	Total solids per cent.
Highest fat	5.1	16.4
Lowest fat	1.4	9.4
Average fat	3.3	12.6

The system of delivering milk in bottles I have frequently referred to as one not to be encouraged, but up to the present time with very little success. However, I hope in time that this may be altered, and that we may see the daily milk supply left at houses in tin cans instead of bottles, which are very difficult to keep clean.

In conclusion, I may perhaps add that of the various requirements of Kimberley as a Borough, I do not think any are so pressing as the want of sewers, so that the town may get rid of all dirty and slop-water immediately it is produced. The inconvenience of having many gallons of this offensive liquid stored for even twenty-four hours is not one to be lost sight of, and I am sure the public health of the town would be greatly benefited if some system of slop-water removal, other than the one now in use, were adopted. I have added tables, giving the number of deaths, etc., in Kimberley.

ANNEXURE TO MEDICAL OFFICER'S REPORT.

Table V.—MORTALITY STATISTICS OF INFECTIOUS DISEASES, 1902.

	Cases Notified.			No. of Deaths.			Mortality Percentage.		
	W.	C.	Total.	W.	C.	Total.	W.	C.	Total.
Enteric Fever ...	177	22	199	38	11	49	21·4	50·0	24·6
Scarlet Fever ...	8	...	8	1	...	1	12·5	...	12·5
Diphtheria ...	10	5	15	2	...	2	20·0	...	13·3
Total ...	195	27	222	41	11	52	21·0	40·7	23·4

Table VI.—DEATHS FROM ZYMOTIC DISEASES DURING 1902.

KIMBERLEY.

	Enteric Fever.		Scarlet Fever.		Diphtheria.		Diarrhoea (Gastro Enteritis).		Puerperal Fever.		Whooping Cough.		Measles.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
January ...	5	2	1	...	...	...	4	16	...	1	1	1	...
February ...	3	1	...	...	2	...	3	4	...	...	1	3	...
March ...	10	1	...	...	...	...	...	6	...	...	...	...	...
April ...	2	2	...	...	...	...	1	2	...	...	...	...	...
May ...	8	3	...	...	...	...	1	10	...	...	...	1	...
June ...	2	2	...	...	...	...	...	3	...	...	...	...	...
July ...	2	...	...	...	...	...	...	...	...	...	...	1	...
August ...	3	...	...	...	...	...	...	...	...	...	...	...	...
September ...	...	...	...	...	...	...	1	1	...	...	...	...	...
October ...	...	...	...	...	...	...	5	20	...	...	...	...	...
November ...	1	...	...	...	...	...	8	34	...	...	...	...	...
December ...	2	...	...	...	...	...	6	30	...	...	...	...	...
Totals ...	38	11	1	...	2	...	29	126	...	1	2	6	...

Table VII.—INFANTILE MORTALITY.

(Deaths in Children under one year of age), classified into monthly periods.

					WHITES.	COLOURED.
January	...	...	...	...	13	25
February	...	...	...	...	11	11
March	...	...	...	...	5	16
April ...	...	...	...	...	3	13
May ...	...	...	...	...	11	23
June ...	...	...	...	...	7	13
July ...	...	...	...	...	7	13
August	...	...	...	...	7	8
September	...	...	...	...	4	12
October	...	...	...	...	12	24
November	...	...	...	...	17	35
December	...	...	...	...	16	29
Total.	...	...	...	...	113	222

Table VIII.—INFANTILE DEATH-RATES.

White and Coloured.

			No. of Births from Jan. to Dec. 1902.	No. of Deaths in Infants, 1902.	Infantile Death-rate per 1,000 born.
Whites	...	...	560	113	201·7
Coloured	...	...	492	222	451·4
All Races	...	...	1,052	335	318·4

Table IX.—BIRTHS REGISTERED IN 1902.

Classified according to the months in which they occurred.

					WHITES.	COLOURED.
January	...	...	...	...	67	59
February	...	...	...	...	43	41
March	...	...	...	...	47	43
April	...	...	...	...	53	41
May	...	...	...	...	48	41
June	...	...	...	...	46	40
July	...	...	...	...	56	38
August	...	...	...	...	57	34
September	...	...	...	...	43	44
October	...	...	...	...	47	49
November	...	...	...	...	24	26
December	...	...	...	...	29	36
Totals	...	...	...	...	560	492
Whites and Coloured	...	...	...	...	1,052	

BIRTHS CLASSIFIED ACCORDING TO SEX AND RACE.

	WHITES.		COLOURED.	
	Males.	Females.	Males.	Females.
1902	261	299	243	249

BIRTHS, LEGITIMATE AND ILLEGITIMATE.

	WHITES.		COLOURED.	
	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.
1902	537	23	264	228

BIRTH-RATES, 1902.

	Whites.	Coloured.	All Races.
1902	31.1	21.3	25.6

Table X.—

TOTAL DEATHS IN KIMBERLEY, 1902.

(Classified according to Sex and Race).

			Whites.			Coloured.			Refugee Camp.	
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
January	...	...	22	20	42	56	19	75	3	10
February	...	...	19	11	30	51	15	66	6	6
March	...	...	14	13	27	79	18	97	5	7
April...	...	...	14	6	20	46	19	65	3	1
May ...	...	...	22	16	38	45	22	67	8	7
June ...	...	...	9	12	21	58	11	69	2	2
July ...	...	...	17	15	32	64	15	79	...	5
August	...	...	16	9	25	66	11	77	1	2
September	...	...	12	2	14	87	10	97	...	1
October	...	...	13	12	25	49	32	81	...	1
November	...	...	17	15	32	68	29	97	1	...
December	...	...	24	16	40	91	24	115	2	...
Total	...	...	199	147	346	760	225	985	31	42

Table XI.—

TOTAL DEATHS UNDER 5 YEARS OF AGE.

			1898	1899	1900	* 1901	* 1902
Whites	...	...	120	149	141	404	147
Coloured	...	...	307	315	391	356	287
All Races	...	...	427	464	532	760	434

* Including Refugee Camp.

(ii) BEACONSFIELD (MUNICIPALITY).

This township is included within the area reported upon by the Medical Officer of Health, Kimberley.

No material alterations have been made in regard to the points alluded to since the last report was furnished.

(iii) WARRENTON (VILLAGE MANAGEMENT BOARD).

1. The town is supplied with water from the Vaal River and private wells, the Board being of opinion that it is both sufficient and pure.

2. Nightsoil is collected and disposed of in pits ten feet deep, two miles distant, by the Sanitary Inspector, and covered with five feet of earth.

3. Household refuse is buried, to the satisfaction of the Board's Sanitary Inspector.

4. The general health is good, no infectious diseases having occurred. The Registrar of Deaths mentions two cases of Syphilis in the location during Military occupation.

5. There is no stagnant water.

6. Representation was made to the Resident Magistrate of Kimberley on 16th March, 1903, regarding the excessive number of natives who were brought to Warrenton from neighbouring States by the Military, and whose continued presence, useless for labour purposes, is a danger to the health of the town, as the location sewage runs down among European houses.

KING WILLIAM'S TOWN.

(i) KING WILLIAM'S TOWN (MUNICIPALITY).

* Report of DR. H. M. CHUTE, Medical Officer of Health.

During the past year the health of the town has improved. No epidemic of a widespread or serious nature having occurred. The rate of mortality per thousand shows a marked decrease as compared with the rate for the year 1901, the figures being:—

	European.	Native.
1901	24.36	70.84
1902	15.33	50.32

There has been a marked decrease in the number of cases of Enteric or Typhoid Fever occurring during the year, only eleven deaths, three Europeans, eight natives, as against thirty deaths, fifteen Europeans, fifteen natives during 1901.

The number of deaths from Diarrhoea is high, particularly among natives, the figures being: 1902—Europeans eighteen; natives thirty-five.

This large mortality among natives would, I think, be less if the locations could be supplied with a water-supply from the mains, and the people induced to use it instead of the water from the river and open furrows, which in times of hot weather and drought becomes scanty, and of not good quality. The matter is engaging the attention of the Council, and it is hoped that during the coming year this want will be remedied.

* Forwarded by Municipality for publication.

1. The general water-supply of the town is excellent, being in times of ordinary rainfall abundant, and of excellent quality. It is a pipe-system, the water of the Buffalo being impounded at the two streams by a concrete dam built across the river and led thence a distance of sixteen miles into two reservoirs in the town, whence it is distributed to the houses by mains. In times of drought, however, the supply is insufficient, the service having to be limited to a few hours' supply daily. During the present year a scheme will be carried out of increasing the water-supply by piping and tapping the very large body of water impounded by a dam five miles from town—Dunbar Lake. It is hoped that by the end of the year 1903 the scheme will be completed, and the supply considerably increased.

There is great need for filter-beds, as the water contains at times much vegetable matter, and in times of storms and freshets is often discoloured.

Full control of river tributaries and springs is given to Local Authority by Act of Parliament.

2. The system of scavenging and disposal of excrement is by the dry method, and pail-removal system. The service is well-arranged, and works admirably.

The night-soil is buried in sanitary trenches, which are subsequently planted with trees. There is now existing, and year by year increasing and extending, a very handsome plantation, which now numbers 25,000 trees, many of which are now fit to cut, and from which a handsome revenue will be forthcoming. The Council have approved of and adopted the system of the dry-sawdust urinal, by which urine is filtered through dry pinewood sawdust in a receptacle of special design, and by this means all nuisance is removed, this process rendering the fluid free from all noxious odours, and renders the daily removal unnecessary.

3. Household and kitchen refuse is collected and removed by Sanitary Authority free of charge. The refuse is burned in the sanitary trenches.

Stable manure and rubbish has to be removed by the occupants of houses at their own expense.

During the year important works have been completed, which will conduce to the better health of the town. The extensive system of drainage of streets by building of stone gutters with cement channels, is being continued through all the streets of the town, improving markedly the drainage. All storm-water is now quickly carried away, and no longer soaks under streets and houses.

The Fleet Ditch, which for years has been a constant menace and danger to the health of the town, has now been converted, by building a concrete invert in its bed, into a cement drain, which carries all fluids quickly away, and has thus removed a sanitary defect which will, without doubt, act most beneficially on the health of the people.

(ii) BERLIN (VILLAGE MANAGEMENT BOARD).

1. The water-supply for the village is obtained from a spring situated in the village, which has been sunk to a depth of fifteen feet lately. The water is good, but not sufficient, wherefore the inhabitants use mostly iron and underground tanks.

2. Our village has no scavenging system as in towns.

3. Each household attends to its own nightsoil, refuse, etc.

4. We had no infectious diseases in the village.

5. No sanitary improvements were made during the year.

6. The general health of the inhabitants is very good.

(iii) BRAUNSCHWEIG (VILLAGE MANAGEMENT BOARD).

No cases of infectious disease have occurred. The water-supply is good, and is conveyed in tubs from the Buffalo River.

The disposal of household and other refuse is well attended to.

(iv) BREIDBACH (VILLAGE MANAGEMENT BOARD).

The health and sanitary arrangements in this village are in a good and proper state. The water-supply comes from the River Yellowwoods, which flows through the village. The water is good, and the supply sufficient. The village is small, but there are a good many farmers in the vicinity. During the year no cases of infectious diseases have been reported. The people are all in good health, and no complaints have been made with regard to sanitary arrangements.

The Dairy Act is not in force.

(v) FRANKFORT (VILLAGE MANAGEMENT BOARD).

No cases of infectious disease have been reported, and everything is in satisfactory order.

(vi) HANOVER (VILLAGE MANAGEMENT BOARD).

No alterations have been made since the last report.

1. The water-supply is good, and is obtained from wells, and iron and underground tanks.

2 and 3. Nightsoil is buried, very little household refuse is produced, and each inhabitant attends to this matter himself.

4. The general health has been good, no case of Fever or any other infectious disease having occurred.

(vii) KEISKAMA HOEK (VILLAGE MANAGEMENT BOARD).

1, 2 and 3. No alteration from previous years.

4. There were only five cases of Small-pox during the year.

5 and 6. Nil.

(viii) PEELTON (VILLAGE MANAGEMENT BOARD).

With regard to the questions asked regarding sanitation and water arrangements, there is nothing new to record; all circumstances continue as in former years.

(ix) PERIE (VILLAGE MANAGEMENT BOARD).

1. Water is obtained from the Perie Mountains and from the forest, situate within our area. The supply is conveyed by cask, as there are no pipes or furrows, and is very pure.

2. The system of scavenging is carried out in a better manner than formerly.

3. Household refuse is removed in a satisfactory manner.

4. No infectious disease has occurred.

5. All persons found washing in the river are punished by the Board, it being necessary that all washing be done in tubs.

6. A request has been forwarded to the effect that the number of members on the Board should be increased from three to five, and that a tax of 6d. be levied upon all the inhabitants who have resided within the boundaries of Perie Commonage since November 3rd, 1899.

(x) UMNKESHA (VILLAGE MANAGEMENT BOARD).

The water-supply is obtained from the Mngqesha River. No infectious diseases have occurred during the past year, and the general health has been good.

KNYSNA.

KNYSNA (MUNICIPALITY).

* Report of Dr. GEORGE MARR, Medical Officer of Health.

1, 2 and 3. As regards these heads, there is no change since last report. We are entirely dependent on rain-water collected in tanks for water-supply, with the exception of some collected in a dam for purposes of watering horses and supplying engines, etc.

Removal of excrement is by bucket system, and all rubbish is also carted away several miles from the town.

4. One case of Enteric Fever occurred in the town, and one or two mild cases of Diphtheria. A very mild form of Scarlet Fever spread through the children of the poorer classes before it came under medical observation. When discovered, such isolation as is possible was enforced. A very severe epidemic of Measles, introduced from Port Elizabeth, laid down practically everybody who was not immune, and caused a good many deaths in the town and district, but it has now worked itself out.

5. No particular sanitary defects required action.

6. I would suggest that Measles be made a notifiable disease, as here it was a much more serious matter than Scarlet Fever.

LADISMITH.

(i) LADISMITH (MUNICIPALITY).

1. The source of the water-supply of this town is a fresh mountain spring running in a furrow to the north of the town into a reservoir, from where it is conveyed about the town by means of piping. The water is sufficient and pure.

2. We have a night service, by means of which the excrement is disposed of.

3. Household and other refuse is left to the householders, and disposed of by them in the best way.

4. With regard to the prevalence of infectious diseases, all particulars are furnished in the Health Report of the District Surgeon.

(ii) BUFFELSFONTEIN (VILLAGE MANAGEMENT BOARD).

1. The water-supply of the village is good, being derived from a spring in the mountain.

2 and 3. Nightsoil, slop-water, etc., is disposed of according to the taste of the house occupier.

4. The general health of the village has been satisfactory, with the exception of Influenza being very prevalent.

6. So far no serious nuisance has arisen from the keeping of cattle and swine in the village.

MAFEKING.

MAFEKING (MUNICIPALITY).

1. Water-supply.—The source is situate about two miles from the nearest dwelling, and is a spring; the spring is situate about one and a half miles outside of the township; the water is conveyed partially by pipes and partially by open furrows; the water is pure and good, but the supply is considered quite insufficient for the demands of a small rural town like Mafeking.

2. The bucket system is in existence.

3. Slops and rubbish are regularly removed from different premises and deposited at a site one and a half miles away from the town.

4. Infectious disease during the year was practically unknown outside of the Military Hospital, and the cases dealt with in the Military Hospital were in nearly every case contracted outside the township.

5. No special sanitary defects have shown themselves, and consequently no special action has been taken beyond the customary sanitary administration of the Municipality.

6. There is no other matter worthy of report.

MALMESBURY.

(i) MALMESBURY (MUNICIPALITY).

No report furnished.

(ii) DARLING (VILLAGE MANAGEMENT BOARD).

The Board of Management for Darling came into operation only in February, 1902, and as the total rates levied for the year amounted to a little over £50, and only became payable towards the end of the year, the Board has not been able to effect as much as it could have wished in the way of sanitary and other improvements.

No Medical Officer of Health has been appointed.

1. As regards the water-supply, there is a stream of water running through the village, but the water is so brack that it is neither used for domestic purposes nor even for washing. Most of the larger properties have private wells or tanks on their own grounds, and the rest of the public obtained their water-supply for domestic purposes from a well on the property of Mr. Charles Spiers. It may be noted here that since January, 1903, the Board has dug a public well, obtaining water from below at a depth of twenty feet.

2. So far no regular system of scavenging has been instituted. The Board has, however, ordered to provide and keep in good order w.c.'s, and every place of business to have a w.c. and urinal in good order on the premises. Places have also been pointed out well outside the village, where excrement from the w.c.'s is to be buried, and those who have neglected to do so have been prosecuted and fined, or imprisoned on conviction.

3. Household and other refuse is mostly disposed of in the gardens attached to most of the properties in Darling.

4. There has been very little infectious disease in Darling. There has been only one case of Diphtheria, and a very limited number of cases of Enteric Fever.

(iii) MOORREESBURG (VILLAGE MANAGEMENT BOARD).

1. Water-supply for the village is obtained mainly from underground tanks, as well as from wells, which are very frequently polluted.

2. The Board has a contractor for nightsoil, etc., who does the work fairly well.

6. The drainage of the village is in a very bad state, as also are the streets.

The general sanitary condition of the village is bad, on account of the Military being stationed here for a considerable time, but is now being improved.

(iv) RIEBEEK'S KASTEEL (VILLAGE MANAGEMENT BOARD).

No cases of infectious diseases have occurred. There has been one case of dangerous Inflammation of the Lungs.

(v) RIEBEEK WEST (VILLAGE MANAGEMENT BOARD).

No report to make, as nothing was spent for sanitary matters. Streets only were repaired, and proper drainage cared for. A village with so few inhabitants does not require the attention that larger places demand.

MIDDELBURG.

MIDDELBURG (MUNICIPALITY).

1. Water-supply.—This has been fully described in previous reports, and remains the same at present.

The Council has now under consideration a scheme for the supply of good water in pipes for drinking and household purposes.

2 and 3. Scavenging, the disposal of excrements and household refuse, etc., are still the same as in previous reports.

The pail system is used, and no cesspools are allowed.

All sanitary work is carried out by Council's own employees, under an Inspector, and is done satisfactorily.

4. Small-pox.—This disease started in the town on the 29th August. The Municipality and the Divisional Council have a joint Hospital more than half a mile from the nearest habitation, where all the Small-pox patients were sent to.

Since the 29th August the Municipality and Divisional Council have attended to about seventy cases of Small-pox within the Lazaretto, all of whom were natives and paupers. This is calculated to the end of December, 1902.

The action taken by the Municipal Authorities to prevent or limit the spreading of Small-pox were:—

(a) General inoculation.

(b) Contacts isolated near the Small-pox Hospital.

(c) Disinfections of the room where Small-pox occurred.

The disease is at present much less frequent; there are only about seven patients within the Lazaretto.

MOLTENO.

MOLTENO (MUNICIPALITY.)

1. Water-supply.—The supply is obtained from the farm Paardenkraal, the property of Mr. George Vice, which adjoins the town commonage. The water is conducted from certain dams and fountains on that part of the farm furthest from Molteno, principally in open furrows, to a small reservoir distant nearly a mile from Molteno, and situated also on Paardenkraal, from whence it is carried into the town in 4-inch pipes and laid on to erven by branch leadings.

This supply, owing to the prolonged drought, has proved insufficient, and has practically failed since the 25th of November, and unless the owner of the farms makes more extensive provision for conserving water, the town will always be in danger of a failure of the supply in times of drought.

The Town Council, however, has a scheme in hand of boring for water on the town commonage and an adjoining farm, sites which were pointed out by the Government official sent to Molteno to advise the Town Council in regard to sites for boring for water.

The majority of householders have tanks in which rain-water is stored.

2 and 3. The Sanitary Contractor removes all excrement from premises of householders twice per week, and deposits the same in pits dug for the purpose some distance from the town. All slop-water is carted away by the Sanitary Contractor daily, and deposited some distance from the town in a sluic. Ash, stable litter and kitchen garbage is carted away once per week, and also deposited some distance from the town.

When almost full, the sanitary pits are covered up with earth.

4. The Dairy Act Regulations are considered unnecessary at present. The town presents a cleanly appearance, and sickness has not been so prevalent this year; in fact, only a very few cases of Fever have taken place in comparison to other years.

5. At present the only drawback to the town is the water-supply.

MONTAGU.

MONTAGU (MUNICIPALITY).

The report of the District Surgeon of Montagu, who is also Medical Officer of Health to the Municipality, will be found on page 98.

MOSSEL BAY.

(i) MOSSEL BAY (MUNICIPALITY).

* Report of DR. T. KITCHING, Medical Officer of Health.

1. The water is brought from a mountain stream, distant about twenty-two miles outside the area of the Local Authority. It is brought into the reservoir by means of pipes, and from this reservoir water is conveyed by pipes through the town. The water is of good quality, and is sufficient for the present population.

* Forwarded by Municipality for publication.

2. During the last three years all cesspools have been done away with, and the pail system has been introduced for the removal of excrement. These are emptied weekly into the sea, at a place set apart for that purpose. The buckets are cleaned and disinfected.

3. Household and refuse matter is collected frequently and thrown into holes near the sea-shore.

4. During the year there were 106 cases of Enteric Fever, several cases of Whooping Cough, and one case of Diphtheria.

5. Cleaning and flushing the drains, as often as possible, but our present supply of water, which is ample for domestic purposes, is not sufficient for the effectual flushing of the drains, which ought to be cleaned, etc., daily.

6. The sanitary condition of the town is not in a satisfactory state, and I very much fear that with the existence of the pail system and open drains, and limited supply of water, that it will not improve. The Municipal Commissioners are considering the practicability of a sewer system, which I strongly recommend. An Engineer from Cape Town has been engaged by the Council; he has visited the place, and I believe has drawn up a plan and given an estimate of the cost.

(ii) HERBERTSDALE (VILLAGE MANAGEMENT BOARD).

1. The water-supply was moderate during the last year.

4. The inhabitants enjoyed for the most part good health, with the exception of Whooping Cough prevailing amongst the children.

5. No important alterations have been made during the year.

MURRAYSBURG.

MURRAYSBURG (MUNICIPALITY).

The Council does not employ a Medical Officer of Health.

1. The water-supply is derived from :—

(a) Springs in the Buffels River, situate on the farm "Vley Plaats." The water runs along the river bed for a distance of about two miles, where it is dammed up and then brought into town by an open water-furrow about two miles in length. The supply totally failed some time ago, but when running is used both for domestic and irrigation purposes.

(b) Wells, both public and private. The Council and private persons were compelled to resort to these wells on account of the failure of the spring water from the effects of the drought; now the water-supply is totally insufficient.

2. Cesspools are principally in vogue, there being but few who use the bucket system.

3. Household and other refuse are removed at the expense of the Council, who employ a cart for the purpose.

4. There has been no severe epidemic for some years past, though there are occasional cases of Typhoid, Scarlet Fever, Diphtheria, etc.

5. The Council causes frequent inspections to be made of all premises, water-closets, furrows, dams, etc., and takes immediate steps against all defaulters.

OUDTSHOORN.

(i) OUDTSHOORN (MUNICIPALITY).

* Report of DR. R. M. TRUTER, Medical Officer of Health.

1. Water-supply.—As in previous report. During the severe drought this summer the supply came up to all expectations.

2. Scavenging and disposal of excrement.—This is done under the supervision of the Sanitary Department. The work is not commenced until 11 p.m. A weekly removal is made in proper pails with lids. Only about a half of the town is at present served by the Municipality. The remainder are removed by private contractors, which is unsatisfactory.

The excrement is conveyed to a site out of town, and there deposited in trenches; the day's collection of house and street refuse is deposited on top and then covered with earth. The nightsoil, street refuse, and slop-water are deposited at the same ground and trees planted afterwards on the spot. The contents of pails from infectious areas are treated at another spot.

3. Disposal of household and other refuse.—This is done by the Municipal dust and slop-carts, which call regularly and deposit the same out of town. During the year the town has been thoroughly cleaned of all refuse by the Municipality.

4. Prevalence of Infectious Diseases.—Enteric Fever, forty-one cases—twenty-three Europeans, eighteen natives; Scarlet Fever, thirty-two cases—thirty-one Europeans, 1 native; Diphtheria, 342 cases—166 Europeans, 176 natives; Erysipelas, six cases—three Europeans, three natives.

5 and 6. All cases of infectious diseases are investigated by the Sanitary Inspector, instructions given as to isolation, disinfection, quarantine, etc. A special pail is provided for the excrement of each infectious patient. The poor are provided with disinfectants by the Municipality, and the premises fumigated after convalescence. The closing of the cess-pools and the construction of proper closets, along with the pure water-supply, have greatly reduced the number of Enteric Fever cases.

Overcrowding has been attended to to some extent, and several buildings have been condemned as unfit for habitation. On account of the outbreak of Diphtheria, the schools under Municipal control were at one time closed, and the teachers are notified of any infectious disease occurring amongst their pupils, or of any member in the house where a pupil resides.

In the interest of public health, the erection of wash-houses, slaughter-houses, and an Infectious Diseases Hospital should be provided. As regards the general health—due to the vigilance of the Sanitary Department—a marked improvement can be reported during 1902.

(ii) CALITZDORP (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—The position as concerns this matter is to the greatest extent unaltered, except that owing to an extreme drought which has prevailed for the last nine months, want, in this respect, is seriously felt.

2 and 3. Refuse included under both these headings is removed by the same system as previously reported, and the method of disinfection adopted proves to answer admirably.

With reference to this subject, it may be remarked that additional sanitary regulations, in terms of the Health Act, for the better carrying

out of the system have been passed and submitted for approval. This took place as far back as August, 1902, and, up to the present, have not been enforced, which is the means of retarding the proper construction of the work.

The urgent wish is therefore expressed that the matter receive attention as early as possible.

4. It is to be regretted that some fourteen cases of infectious diseases—Diphtheria, Scarlatina, and Enteric—have found their way into this area, although invariably it was found to have had its source beyond the limits of this locality. Regarding this subject, it may be worthy of remark that the enforcement of the sanitary regulations referred to under headings 2 and 3 may tend to check the spread of such diseases.

5. Beyond the matter referred to in the preceding sections the position is the same as previously reported.

6. Nothing of importance falls to be remarked over and above the foregoing.

(iii) DYSELSDORP (VILLAGE MANAGEMENT BOARD).

No alterations or improvements have been made since the last report, and there is nothing particular to report for 1902, everything being still the same.

PAARL.

(i) PAARL (MUNICIPALITY).

1. The township of Paarl has a good and abundant water-supply coming through pipes from two reservoirs within the Municipal area. The water is conveyed for domestic and other purposes by means of pipes; every householder is supplied with as much water as he applies for (say, from 100 to 1,000 gallons per day).

2. All streets, sluits and side-walks are regularly swept and cleaned, and carts kept to have the filth brought to places pointed out by the Council.

3. All household and other refuse is taken to places (by the owners) pointed out and approved of by the Council.

4. The following notifications were made during 1902: By Dr. P. J. Retief: 1 case of Scarlet Fever, 9 cases of Diphtheria, 1 case of Typhoid. By Dr. Krakowsky: 6 cases of Diphtheria.

5. A sanitary inspector is appointed to inspect all places, and report on same at every Municipal meeting.

6. The Council has resolved to raise a loan of £20,000 sterling, for a proper storm-water drainage scheme at the Paarl; all plans and specifications have been forwarded to the Public Works Department for approval.

(ii) WELLINGTON (MUNICIPALITY).

1. Water-supply still the same as reported in former years.

2 and 3. The system of night-soil removal is giving every satisfaction, and the quarterly payments in advance, which was introduced last year, has given satisfaction to all concerned.

4. There have been a few cases of Typhoid Fever during the year.

(iii) FRENCH HOEK (MUNICIPALITY).

1. The water-supply is obtained from a spring within area of the Municipality, and is conveyed by open furrows. The water is pure, and the supply sufficient for domestic purposes. It is not, however, sufficient for irrigation purposes.

2. Streets and furrows are cleaned, and rubbish is removed when required.

3. Household refuse is buried by householders, and night-soil is used for manuring gardens.

4. One case of infectious disease was reported during last year.

5. Several new regulations have been framed, and will come in force as soon as the Government has sanctioned them.

PEDDIE.

(i) PEDDIE (VILLAGE MANAGEMENT BOARD).

The Health of the village during the year has been fairly good. No alterations have occurred in regard to the health and sanitary arrangements of the village since last report.

(ii) BODIAM (VILLAGE MANAGEMENT BOARD).

No report furnished.

PHILIPSTOWN.

(i) PHILIPSTOWN (MUNICIPALITY).

1. Water Supply.—This is obtained from a strong spring on the town commonage, and at present conveyed in an open furrow used for irrigation purposes. The Municipal Council have purchased about 600 yards of galvanised iron furrows, which will be laid shortly, to a point as near as possible to the spring as the level will allow. Water for domestic purposes is drawn from two Abyssinian Pumps generally, but several householders have private tanks for rain water.

The spring referred to is situate on the immediate outskirts of the town in a spruit. The supply for domestic purposes is abundant, but for irrigation purposes inadequate during summer.

2. The pail system has been introduced some time ago, and satisfactorily carried out. Excrement is carted away by a contractor twice a week.

3. Household and other refuse is likewise carried out and carted away by a contractor twice a week.

Both excrement and refuse are deposited at a safe distance outside the limits of the town.

4. Nil.

5. As reported last year, the water is partly led through pipes to prevent pollution, and as stated under paragraph No. 1 of this report the greatest length of the water furrow for irrigation purposes will be laid

with galvanised iron furrows, which will certainly prevent collection of filth. It must be stated that owing to the ground being almost level, the pipes as laid before did not answer the purpose, and therefore for a great length require to be substituted with open iron furrows.

(ii) PETRUSVILLE (MUNICIPALITY).

No alterations have been made since last report.

PIQUETBERG.

(i) PORTERVILLE (MUNICIPALITY).

There is nothing to add to the last report. Since said report the Municipality has been constituted under the provisions of the Act 45 of 1882, and improvements have been attempted in the matters of an "improved water supply" and the removal of night-soil. A public meeting has been held to ascertain the views of the ratepayers with regard to the raising of a loan of £1,500 for the purpose of carrying out a water scheme, but the proposal was rejected almost unanimously. Tenders have twice been called for the removal of night-soil, but not a single tender was received. The water-supply is really a disgrace to this village, running in open furrows from the mountain through kraals and manure heaps, etc., and consequently is greatly polluted. The Additional District Surgeon at Porterville has often reported the matter, but owing to the opposition from the ratepayers, nothing has been done, although the proposed water scheme has been broached as early as 1894. It is to be hoped the Government will take the matter into earnest consideration and give the Municipality every possible assistance.

(ii) PIQUETBERG (VILLAGE MANAGEMENT BOARD).

The health of Piquetberg during the year was very good except for an epidemic of Measles and Whooping-cough, which was pretty severe. The death-rate, however was very low.

There were also a few cases of Typhoid Fever and Influenza.

The cemeteries are being kept in good order, and are situated on the outskirts of the town.

The Waterworks are kept in good order, and the town has an overabundance of excellent water.

The Board is calling for tenders for the proper removal of night-soil.

PORT ELIZABETH.

(i) PORT ELIZABETH (MUNICIPALITY).

1. Water-supply.—The water of Port Elizabeth is derived from Van Staadens, at a distance of thirty miles to the west of the town, where a Storage Reservoir is situated capable, when full, of holding thirty million gallons of water. The Reservoir is supplied by several small streams, and the water is filtered before delivery. This supply is supplemented by a pumping station four miles lower down the Van Staadens Valley, where the water is pumped from a small reservoir on the river in the leading mains between the before-mentioned reservoir and the town. These sup-

plys are outside the area of the Municipality, and the water is conveyed throughout the town by cast iron mains. The purity of the water is satisfactory, and with great care and economy the quantity available has been found sufficient for the actual needs of the town. A Bill was submitted to Parliament last year, and has been approved, for the execution of works in the Sand and Palmiet Valleys, and it is proposed to proceed with this work forthwith, which will provide an ample supply of water.

2. Scavenging and Disposal of Excrement.—Until the increased water supply referred to above is available, the Municipality are compelled to prohibit new water-closets, especially as the town is only partially sewered, which defect, however, it is proposed to remedy by the execution of a comprehensive sewerage scheme in the near future. At present the pan system is in operation, the tubs being collected in covered waggons, and the material taken some considerable distance from the town, where it is buried in trenches.

3. Refuse Disposal.—The refuse collected in the town is carted to railway sidings, tipped into trucks, and under agreement between the Cape Government Railway and the Harbour Board, run out to the drift sands, at the south of the town, where it is utilised by the Forest Department by covering up the sand, the area being subsequently planted.

4. Infectious Diseases reported during the Year.—Small-pox, 48 cases; Plague, 39 cases; Scarlet Fever, 61 cases; Diphtheria, 49 cases; Enteric Fever, 213 cases; Puerperal Fever, 2 cases; Erysipelas, 12 cases.

The Sanitary Department during the year served 2,200 notices to abate nuisances of various kinds.

Thirty-seven prosecutions were effected in the Magistrate's Court for offences under the Public Health Amendment Act of 1897.

The owners of eighty-three properties were cited before the Town Council for allowing places unfit for human habitation to be occupied.

The Town Council gave notice of expropriation of Russell Road Mission Buildings, one of the most insanitary and congested areas of the town. The work is actively being proceeded with. Valuable sanitary work has been done by the Plague Administration during the year in their efforts to eradicate Plague.

(ii) WALMER (MUNICIPALITY).

1. Water-supply.—The position, as stated in previous reports, is unchanged. The town is dependent on rainwater caught from the roofs of the house and stored in tanks. The supply is ample for domestic use where sufficient storage is provided.

2. Night-soil.—The pail system has been adopted, and is working very satisfactorily.

No cesspools are allowed, and existing ones are being closed.

The work of removal is being carried out by the Council departmentally and deposited in pits some distance away from the town and covered in with dry earth after each deposit.

3. Household and other refuse is deposited at sites set apart for that purpose.

4. Insanitary native dwellings have been declared unfit for human habitation and demolished.

5. The Inspector has promptly taken action against any contravention of the Health Regulations.

6. All the outbreaks of contagious diseases within this township have been confined to one locality, viz., to a private location near the Port Elizabeth boundary. This location ought to be removed in the interest of both Port Elizabeth and Walmer. Only recently two cases of Small-pox and two cases of Plague have been removed from that location.

If the Government Proclamation was extended so as to include this location in the Government Native Location Scheme, a great danger would be removed from this and the adjoining township.

Since commencing this report another case of Plague has been discovered in the above-mentioned location.

PRIESKA.

PRIESKA (MUNICIPALITY).

1. There is a fair supply of water for domestic purposes, but very far from perfect, derived from the spring in the Prieska River, and which is carried to the village by means of 6-inch cast iron pipes with taps distributed at different places in the village.

2 and 3. The Council have a scavenger who has entered into a contract for the removal of nightsoil and household refuse, which is conducted very satisfactorily under the supervision of a Sanitary Inspector.

4. Nil.

5. Pipes are laid from the fountain enclosed with flat stones, lime, and cement. Pure drinking water is obtained from the taps in the village.

PRINCE ALBERT.

(i) PRINCE ALBERT (VILLAGE MANAGEMENT BOARD).

There have been six cases of Enteric Fever during the year, with no deaths.

(ii) LAINGSBURG (VILLAGE MANAGEMENT BOARD).

No report furnished.

QUEENSTOWN.

(i) QUEENSTOWN (MUNICIPALITY).

1. Water-supply.—Conveyed from the Bongolo River by means of (1) pipes and (2) open furrow to storage reservoir, thence distributed throughout the town by pipes. Intake from river without the Municipal area. Supply inadequate. Quality good.

2. Street scavenging done by Council's staff. Night-soil removed by contractor with nightsoil carts. Single bucket system is in use.

3. Household and other refuse also collected by contractor and removed to suitable sites.

4. The following cases of Infectious diseases have occurred:—Enteric Fever, 43; Scarlet Fever, 9; Small-pox, 110. Total, 162. No case of Diphtheria throughout the year.

5. Improvements made at Council's Shambles to prevent pollution of Komani River below the town. Cinder receiving wells and French drains properly constructed have had the desired effect.

(ii) STERKSTROOM (MUNICIPALITY).

No report furnished.

[G. 66—1903.]

(iii) HACKNEY (VILLAGE MANAGEMENT BOARD).

1. Water is obtained from the small streams which run through our large area.
 2. There is no special system of scavenging adopted.
 3. Each house uses its own place at some distance from the house or hut.
 4. No infectious disease occurred.
 5. No sanitary defects existed during the year.
 6. There is nothing worthy of report.
- The Board does not employ a Medical Officer of Health.

(iv) KAMASTONE (VILLAGE MANAGEMENT BOARD).

The health of the inhabitants under the jurisdiction of the Board has been good, no disease of any kind having occurred.

(v) LESSEYTON (VILLAGE MANAGEMENT BOARD).

No report furnished.

(vi) WHITTLESEA (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—The water-supply for domestic purposes is derived from two sources: (a) By means of tanks; (b) direct from the Oukraal River, which bounds the village on one side. It is sufficient and pure.
2. Scavenging.—This is still carried out, as in the past, by the householders themselves, and no complaint can be made against the system.
3. Household Refuse.—This is carried out as under No. 2, and is satisfactory.
4. Infectious Disease.—No case of infectious disease has occurred during the year.
5. No action has been thought necessary with regard to sanitary arrangements, or to remedy pollution of the water-supply, other than the erection of one or two w.c.'s on property which formerly had none of these conveniences.
6. The health and sanitation of this area still continue as good as in the past.

RICHMOND.

RICHMOND (MUNICIPALITY).

No report furnished.

RIVERSDALE.

RIVERSDALE (MUNICIPALITY).

1. The water-supply is derived from a river, and is led down into a reservoir in pipes, and from there also in pipes into the streets and private properties.
- The source is owned by the Municipality, but is outside the area.
- The water-supply is constant and pure, and no contamination occurs in transit.

2. The pail system is in vogue, and cleaned nightly. No cesspools. Scavenging is well supervised, and deposited on a suitable spot outside the town, which deposit place is under the supervision of the Municipality.

3. Household refuse is removed daily.

4. No infectious diseases prevailed.

5. All cesspools are closed. Yards are inspected twice a week.

6. Nothing special to report.

ROBERTSON.

(i) ROBERTSON (MUNICIPALITY).

1. The water-supply for domestic and irrigation purposes is brought to this town in iron pipes from two ravines about four miles beyond the Municipal area.

The water is then, by means of branch pipes, supplied to the inhabitants at public water-taps at most of the cross streets, and all householders, on application to the Council, are given a private supply for use on their premises, free of charge. There has been an abundant supply of water for domestic purposes during the past year, notwithstanding the continued drought, which has prevailed for several months.

Provided no contamination takes place above the intakes, our water is pure and sufficient for all domestic purposes.

2. There is no regular system of scavenging, but night-soil is removed at frequent intervals, the pail system being in force.

3. Wherever necessary, all household and other refuse is supposed to be carted out into the veldt to a place set apart for that purpose, the regulations providing for the cleanliness of all premises.

4. There have been several cases of infectious diseases, more especially among coloured children, where, during the current year and the last few months of the last year, an epidemic of Measles prevailed, but the number has not been greater than usual.

5. Since last report a Sanitary Inspector has been appointed, and the condition of the town, from a sanitary point of view, is better than it hitherto has been.

6. It is being alleged that the Municipal water-supply for domestic purposes is being contaminated by irrigation above the intakes, and steps are being taken by the Council to investigate the matter and remedy any defect.

Above and adjoining the town the coloured people mostly reside, and this locality, known as Jubelsdorp, is not in a satisfactory sanitary condition, and is a constant menace to the town.

(ii) LADY GREY (VILLAGE MANAGEMENT BOARD).

1. The water-supply is still the same as reported in the last report, and is conveyed from the mountain in a large open furrow to the top of the village, and from there through the village in an open drinking-water furrow. During the months of December up to April there was about an inch of drinking water.

2. The Board has got each proprietor to erect a proper w.c. on his property. The excreta is mostly buried on the property, while some is taken outside the village.

3. Household and other refuse are generally thrown in the kraals and on the property for manure.

4. All cases of infectious diseases have mostly been attended to by a doctor.

5. The Board hired a man to look after the drinking-water during the summer months.

SIMON'S TOWN.

(i) SIMON'S TOWN (MUNICIPALITY).

The report of the District Surgeon of Simon's Town, who is also Medical Officer of Health to the Municipality, will be found on page 138.

(ii) KALK BAY AND MUIZENBERG (MUNICIPALITY).

* Report of Dr. J. BOLGER, Medical Officer of Health.

1. The water-supply is obtained from a reservoir upon the mountains over Tokai. The area is within the Municipal limits, and is enclosed by a wire fence. It is a catchment area supply, augmented by a few springs, and flows from the main reservoir to a service reservoir near Muizenberg through iron pipes, from whence it is distributed, also by means of pipes, throughout the Municipality. The supply is abundant, and is also pure, but, owing to the lack of filtration, is highly coloured with vegetable matter, and at times contains fragments of the same material.

2 and 3. All sanitary pails are emptied once a week, and their contents buried in the sand about two miles down the beach, away from all habitations. Household and other refuse is collected daily and brought to an adjacent site to the above, where the combustible portion is burnt, and the whole residue buried.

4. There was one case of Diphtheria, four of Enteric Fever, and two of Scarlet Fever, besides three of Puerperal Fever, all of which recovered.

5. Men are constantly employed sweeping and cleansing all parts, to prevent the accumulation of filth.

The reservoir is under frequent supervision, to prevent the pollution of the water.

SOMERSET EAST.

(i) SOMERSET EAST (MUNICIPALITY).

1. The town is supplied with water from springs rising on the town commonage, and conveyed to town in pipes for domestic and other use.

2. The tub or bucket system. Removal of all night-soil is done by Council's contractor weekly.

3. Each householder must see to the removal of all refuse, and deposit on sites appointed by the Council.

4. The number of cases of infectious diseases was a great deal less than the previous year.

5. Nothing further has been done in sanitary matters, as the system of weekly removals has, so far, proved satisfactory.

With regard to the pollution of water, the Council has had the whole area where the springs rise and enter in the service reservoir thoroughly fenced, and no cattle of any description are allowed on the ground.

* Forwarded by Municipality for publication.

(ii) PEARSTON (MUNICIPALITY).

* Report of Dr. R. BROWN, Medical Officer of Health.

1. There are three main sources of water-supply in Pearston: (a) By means of an open furrow water is led from the Vogel River into the majority of streets. In the last few years this supply has been intermittent, owing to the drought, and also to the fact that the river water has formed an underground passage somewhere under the township, coming out in a strong spring again in the bed of the river below the town. This supply is used by the coloured population of the township pretty largely for general purposes. Doubtless there is some little source of danger in using this supply, and if Enteric Fever were prevalent, the danger would be great. I am not, however, aware of any serious result having arisen, though it is possible that one or two cases of Enteric may be traced to this source. (b) There are a number of wells in town which tap the underground water-supply, and one of these wells is a public one. Most of the water used for washing, and much of that used for cooking, is obtained from the wells, and the well-water is also used for the manufacture of aerated waters. The supply is abundant, and free from organic contamination. (c) Most of the better class houses are provided with tanks for storing the rain-water.

2. Excrement is, in most cases, deposited in cesspits, and, under the circumstances, this is the most satisfactory means of disposal. In the location there are no cesspits, and excrement is deposited in the open, but I am not aware that any injury to the health of the inhabitants has arisen therefrom.

3. Household and other refuse is either used as manure for gardens, or thrown into the river and neighbouring sluits, and it is washed away by the first flood.

4. During the year there was very little infectious disease. Two cases of Small-pox came into town from the country, but were at once isolated, and no other cases occurred. Three or four cases of mild Scarlet Fever also occurred, but were isolated, and the disease did not spread.

5. No action has been taken during the year to remedy any sanitary defects; nor do I think that any special action has been called for. The Municipal Council has invariably taken whatever steps I have recommended towards the suppression of any infectious disease.

6. During the year the general health of Pearston has been singularly good.

 STELLENBOSCH.

(i) STELLENBOSCH (MUNICIPALITY).

The report of the District Surgeon of Stellenbosch, who is also Medical Officer of Health to the Municipality, will be found on page 141.

(ii) SOMERSET WEST STRAND (MUNICIPALITY).

1. Water supplied through reservoir. Reservoir supplied by water coming from Lourens River. Water conveyed through pipes for domestic and building purposes. The water-supply is pure and sufficient.

2. The system of scavenging and disposal of excrement is by contract, and carried out by carts.

3. The manner of disposing of household and other refuse is done daily by cart.

4. The extent to which infectious disease has prevailed has been very moderate.

5. As there have been no sanitary defects, all sanitary matters are left in the hands of the Sanitary Inspector.

STEYNSBURG.

STEYNSBURG (MUNICIPALITY).

1. Water-supply.—This comes from springs within the limits of the Municipality, about a mile from town, and is conveyed in an open furrow. The supply is amply sufficient for household and domestic purposes.

2. Disposal of Excrement.—This is left to each individual householder, but subject to such supervision from the Municipal Board as may prevent nuisances.

3. Disposal of Household and Other Refuse.—This is also left to each individual householder, and the same is deposited at such places as the Municipal Board points out.

4. Infectious Diseases.—No infectious diseases have been reported to the Board during the year.

5. Sanitation Generally.—Every means are taken to prevent the water-supply of the town from being polluted, and to prevent the accumulation of filth.

STEYTLERVILLE.

STEYTLERVILLE (MUNICIPALITY).

1. The water-supply is derived from wells, being the drainage of the Groot River, which flows on the immediate confines of the village. The supply is quite sufficient for the requirements of the place; the quality of the water is sufficiently pure for immediate use.

2. The dry-earth closet and pail system is in force here; the excrement is deposited in holes entirely outside of the village; when sufficiently full, they are covered in with earth.

3. Household and other refuse is conveyed to certain depositing grounds some distance from the village.

4. Very few cases of infectious disease prevalent here.

5. No further action taken; the present system sufficient.

6. No other matters relative to health and sanitation to be reported upon.

STOCKENSTROM.

(i) BALFOUR (VILLAGE MANAGEMENT BOARD).

Since the last annual report no alterations have occurred. There are no special sanitary defects in this village, the water being pure and not polluted in any way.

(ii) BELLVALE (VILLAGE MANAGEMENT BOARD).

1. The water-supply is conveyed by an open furrow from the Kat River.

2 and 3. These are deposited on erven in holes, at an average distance of 175 yards.

4. No infectious diseases have occurred.

5. The water-furrow is kept properly clean.

(iii) BERGMAN'S HOEK (VILLAGE MANAGEMENT BOARD).

No report furnished.

(iv) BUXTON (VILLAGE MANAGEMENT BOARD).

The health in the village under our Board during the last year was good and satisfactory. No infectious disease occurred during the year. The water-supply is the same as usual.

(v) CATHCART VALE (VILLAGE MANAGEMENT BOARD).

No cases of any disease occurred during the year.

(vi) DAVIDSCHEEPERS (VILLAGE MANAGEMENT BOARD).

Small-pox broke out amongst coloured people in December, 1902, and lasted to February, 1903. Since then no further outbreak of any description has occurred.

(vii) EBENEZER EAST (VILLAGE MANAGEMENT BOARD).

No report furnished.

(viii) ELANDS RIVER (VILLAGE MANAGEMENT BOARD).

No report furnished.

(ix) EYRE (VILLAGE MANAGEMENT BOARD).

1. By springs from the mountains (without the area). By open furrow; supply sufficient and pure.

2. No system, but strewed over lands and worked in.

3. Destroyed by fire.

4. None, with exception of two cases of Small-pox, of which the area is now clear.

5. Not required in regard to sanitary defects or pollution of water, as both are kept in thorough order.

6. With regard to the outbreak of Small-pox, everything has been done according to Health Regulation in this matter with success, the disease having been thoroughly stamped out.

(x) HERTZOG (VILLAGE MANAGEMENT BOARD).

No report furnished.

(xi) LUSHINGTON (VILLAGE MANAGEMENT BOARD).

No report furnished.

(xii) MAASDORP (VILLAGE MANAGEMENT BOARD).

No important alterations have been made during the past year.

(xiii) MANCAZANA (VILLAGE MANAGEMENT BOARD).

This area has been absolutely free from any kind of infectious disease, with the exception of a few cases of Small-pox which occurred in December.

(xiv) MENZIES (VILLAGE MANAGEMENT BOARD).

1. The water-supply is excellent. The two streams (Menzies and Lushington) have their sources from springs in the surrounding mountains. There are also open water furrows, which are used almost exclusively for irrigation purposes.

2. Of the thirteen small homesteads in this location, four only have latrines, the others just squat down anywhere, but usually at a reasonable distance from their dwellings.

3. Household refuse is generally burnt.

4. There have been no infectious diseases during the year.

5. When the streams are low, bathing and washing of clothes in them is strictly forbidden.

(xv) PHILIPTON (VILLAGE MANAGEMENT BOARD).

The health during the year has been good. There has been no sickness owing to the very salubrious climate.

(xvi) READSDALE (VILLAGE MANAGEMENT BOARD).

There is nothing new to report since last year.

(xvii) SEYMOUR (MUNICIPALITY).

There has been no change in the sanitary conditions of Seymour since the last report.

(xviii) UPPER BLINKWATER (VILLAGE MANAGEMENT BOARD).

The health of the place has been very satisfactory. Since January one European developed Typhoid Fever, and two natives Small-pox, but in a mild form. All recovered. No cases of Small-pox have occurred since.

(xix) UPSHER (VILLAGE MANAGEMENT BOARD).

This area has been absolutely free from any kind of infectious disease.

(xx) WELLSDALE (VILLAGE MANAGEMENT BOARD).

No report furnished.

STUTTERHEIM.

(i) STUTTERHEIM (MUNICIPALITY).

No alteration has taken place since last year, but the Council have sold a number of erven, and the proceeds are to be devoted to improving the water-supply.

(ii) EMGWALI (VILLAGE MANAGEMENT BOARD).

1. Water-supply is from the Emgwali River and Cencwana River.
 - 2 and 3. No arrangements.
 4. No infectious disease has come to the notice of the Board.
- The village has been healthy.

SUTHERLAND.

SUTHERLAND (MUNICIPALITY).

* Report by DR. R. H. H. HAYDEN, Medical Officer of Health.

1. Water-supply derived from wells in village, from rain water collected in tanks, and from a spring some distance from the village, the water being conveyed in an iron pipe from the spring to the village. This spring, as well as the local wells, is in the area under the control of the Municipal Council of Sutherland. The supply is sufficient and the water of good quality, although liable to impurities from dust and soakage into wells.
2. The tub system is in use here. The inhabitants have their tubs emptied when they think fit, such tubs being emptied at a certain place set apart some distance from the village, where a large trench is dug.
3. Household and other refuse is usually removed by the person to whom it belongs when any quantity has collected in his yard.
4. During the military occupation of the village, in the months of March and April more especially, there were many cases of Enteric Fever among the troops, which extended to private persons.
5. The Municipal Council approached the military on different occasions to try and get them to keep the village clean, as the filth was mostly caused by the troops camping in the village. The military tried to blame the Municipal Council for the bad sanitation and epidemic of Enteric Fever, while with military restrictions and all labour being in the hands of the military, the Municipal Council were powerless. However, it is evident that the military were the cause of the condition of the village, for since they left the place the village has become clean and healthy without any unpleasantness.
6. Nil.

SWELLENDAM.

(i) SWELLENDAM (MUNICIPALITY).

1. Water-supply.—There is nothing fresh to state regarding domestic water-supply, with the exception that the Commissioners are still awaiting a reply to their application to Government for a loan under the Irrigation Acts.
2. The System of Scavenging.—The householders have authorised the Commissioners to carry out a proper system, a wagon and buckets have been ordered.
3. Disposal of Household Refuse.—Nothing fresh to report under this head. The Sanitary Inspector has to inspect and see that all refuse is properly buried by householders.

* Forwarded by Municipality for publication.

4. Infectious Diseases.—There have been fifteen cases of infectious diseases, chiefly Enteric Fever. Four cases proved fatal.

5. Remedy of Sanitary Defects.—As in previous year, there are frequent inspections of the several drinking furrows, but it is of course impossible to keep open furrows free from all pollution.

(ii) BARRYDALE (VILLAGE MANAGEMENT BOARD).

During the past year the health of the inhabitants was good, no cases of infectious or contagious diseases occurring.

Sanitary.—The arrangements are very primitive, but great improvements have been made.

Water-supply.—The water is good. The village is supplied by open furrows, which are kept clean and in good order.

(iii) HEIDELBERG (MUNICIPALITY).

There has been no change since the last report.

(iv) ZUURBRAAK (VILLAGE MANAGEMENT BOARD).

1. Water-supply.—Since February, 1902, owing to the great flooding of the river, the water-supply has been cut off both for irrigation and drinking purposes. The inhabitants of the village have to fetch their water from the river (which is very unhealthy for drinking purposes), and being so situated that it is impossible for irrigation. We have taken steps to have it remedied, but owing to the poverty of the place we have not been able to raise the required sum.

2 and 3. The inhabitants have to keep their premises in order themselves.

4. A species of Typhoid Fever during the warm weather has to some extent prevailed.

5. No action has been taken with the exception of trying ineffectually to remedy the water-supply.

6. It is hoped that the Government will help to remedy the water-supply.

TARKA.

TARKASTAD (MUNICIPALITY).

* Report of DR. WM. H. FERGUS, Medical Officer of Health.

1. Water-supply.—The source of this is a fountain arising in the town commonage, about half a mile from the village; the eye of the fountain is protected by mason work and enclosed by a wire fence. The water is conveyed by iron pipes to the upper end of the village; from it is carried by means of buckets and barrels to the various houses of the village. The surplus water is collected in a reservoir, and from thence is distributed in open furrows running through the streets to the garden. The water, as it runs from the pipes, may be said to be absolutely pure. The water is of excellent quality, and ample for domestic purposes.

2. The bucket system is in force. The buckets are emptied at stated intervals by men employed by the Municipality, and the contents carried to trenches about two miles from the village, and then covered with earth.

* Forwarded by Municipality for publication.

3. Domestic refuse and rubbish is carried to the sluits and dongas near the village and there deposited. There is no systematic removal under Municipal control.

4. There was no outbreak of infectious disease amongst the European population, but the Native Location was visited by a severe epidemic of Typhoid Fever during the autumn and winter months.

5. No special action has been taken beyond general attention to sanitary measures. I am of opinion that a great deal more might be done to put the Native Location in a more sanitary condition.

6. The health and sanitation of the European area were good during the year, but the same cannot be said of the native quarters, where over 100 cases of Typhoid prevailed. This outbreak was due to overcrowding and bad sanitation.

TEMBULAND.

(i) UMTATA (MUNICIPALITY).

1. Water-supply.—Umtata has no artificial water-supply at present, the people relying on tanks and the Umtata River, which passes through Umtata. The water is conveyed from the river in casks drawn by natives, and is unlimited in quantity, and permanent.

2 and 3. Each house provides buckets for night-soil and rubbish, and these are removed by the sanitary contractor at 1s. 4d. per bucket, the matter being taken out of town and buried in pits.

4. Infectious Diseases.—One case of Small-pox and two of Scarlet Fever were reported last year. Beyond Whooping-cough and Influenza, and two cases of Enteric, no other infectious diseases were reported.

5. With regard to the pollution of water, the banks of the Umtata River are regularly patrolled by police to prevent pollution or the depositing of rubbish on the river banks. Rubbish is either buried out on the Commonage or deposited there, according to its nature.

6. The town has been fairly free from sickness, and butchers' shops, back yards, slaughter-houses and the Native Location (about three miles out of town), are all regularly inspected and reported on to the Municipal Council at their regular meetings.

The Council are at present advertising for a water scheme, and on receipt of tenders these will be placed before the ratepayers for their approval or otherwise.

(ii) CALA (MUNICIPALITY).

1. Water-supply.—Water is obtained from a natural spring outside the area of the Municipality. It is brought into the town and circulated in the same by means of open furrows. The supply, as a rule, is fairly efficient, though it varies considerably.

The water is perfectly pure near the source, but taking into consideration the fact that it is conveyed by open furrows, can hardly be so classed by the time it reaches the town, or by the time it has passed through a portion of the same.

2. Scavenging and disposal of excrement is carried out by a nightman, who is licensed by the Municipality, and who conveys the excrement to a distance from the town and buries it.

3. Refuse is carted by the nightman to a distance from the town, and allowed to rot in the sun.

4. No infectious disease prevailed within the Municipality during the year.

5. No such action as indicated has been taken, nor appeared necessary.

TULBAGH.

(i) TULBAGH (MUNICIPALITY).

1. The township of Tulbagh is supplied with water from the Witzem-berg. Portion of this stream traverses through open furrow, from its source, through the village of Tulbagh. This portion is used by the inhabitants exclusively for irrigation purposes. The other portion of the stream is conveyed from an intake tank, near the source, to the reservoir in the township, a distance of about three miles, by a two-inch cast-iron pipe. From this reservoir the inhabitants are supplied with excellent water for drinking and domestic purposes.

2 and 3. The Municipality removes household refuse from every dwelling-house once per week. There is no regular system in vogue regarding scavenging and the disposal of excrement, but the Municipality causes other refuse to be removed and scavenging to be done during such periods and at such times as they are at present able to do.

4. No infectious diseases have prevailed within the limits of the Municipality to any extent worth mentioning.

5 and 6. The Municipality removes all night-soil at least once every week by van, and supplies the pails to be used. After disposing of the night-soil the pails are passed through a solution of Jeye's Fluid, and properly tarred in the inside.

(ii) WOLSELEY (VILLAGE MANAGEMENT BOARD).

1. The water-supply is obtained from a water-furrow turned out of the Breede River, at the entrance to Mitchell's Pass, and running through the northern portion of the Village Management Board's area to Artois Mills Siding, four miles distant.

The water-supply for domestic and other purposes is conveyed from the main furrow by open furrows. Some dry seasons it happens that the supply for irrigation purposes runs short.

2. Article 8 of the Board's regulations enacts:—"The Board shall provide and set apart a place within the limits of the Board where filth, night-soil, litter or rubbish may be deposited, and notice shall be given from time to time of the place or places so set apart, and no person or persons shall deposit or cause to be deposited any filth, night-soil, stable litter or rubbish on any street or public place or waste ground within the limits of the Board, except such places as the said Board shall set apart for that purpose, and any person or persons casting any filth, night-soil, stable litter or rubbish into any street or public place, other than mentioned in this regulation, shall be bound to remove forthwith such filth, night-soil or rubbish at his own expense."

3. Article 6 of the Board's regulations enacts:—"The owner of any house or hut in the village intended to be inhabited shall provide it with satisfactory, proper, and sufficient closet accommodation and means of disposing of night-soil without prejudice to the health of the inhabitants of such house, hut, or the public."

4. Only three cases of Enteric Fever, two of which were pronounced by the local doctor as slight or mild attacks, prevailed during the past year.

5. As regards the 5th point, it may be stated that during the past year the greater majority of the expenditure incurred by the Board has been spent on furrow cleaning, with a view to good sanitation.

UITENHAGE.

UITENHAGE (MUNICIPALITY).

1. Water-supply.—As explained in previous reports, the town is supplied from a never-failing fountain situated on the town commonage, about five miles distant from the town. The entire flow of the springs is conveyed to the outskirts of the town in a large main, and the quantity necessary for the domestic service system is diverted into a reservoir, which supplies the various distributing mains throughout the town. During the year additional areas were connected with the domestic service system, and all parts of the town now enjoy an abundant water-supply. The necessity of filtering has been dispensed with, in consequence of the intake of the large main being placed quite close to the springs.

2. Disposal of Excrement.—With regard to the disposal of night-soil, the pail system is in operation over the whole of the town proper, with a compulsory weekly removal of all pails. But any householder desiring it, may have a removal of pails twice or three times a week according to arrangement. A number of residents have a duplicate set of pails for their own use, but such an arrangement is optional. The removal work is carried on, under the supervision of the Municipal Sanitary Inspector, by a contractor, who provides his own plant and his own staff. The contract is performed satisfactorily.

3. Scavenging.—The system of scavenging a number of the principal streets in town, introduced some years ago, was continued during the year. The regular removal by the scavenging party of animal excreta and other refuse from the thoroughfares, combined with the flushing of waste-water and dirty-water furrows, greatly conduces to the cleanliness of the town.

4. Household and Yard Refuse.—Household, stable, and yard refuse continue to be removed in the way described in previous reports. No regular departmental system has been established; but the Sanitary Inspector has special instructions to prosecute all parties who offend by allowing any description of refuse to accumulate on their premises or in their yards. At the recognised depositing sites, all inflammable refuse is periodically burnt, and the other stuff buried.

5. Infectious Diseases.—The total number of cases of Typhoid or Enteric Fever reported during the year was twenty-one. Of these only eighteen cases originated in the town. In three cases it was represented that the disease was contracted outside the Municipality. Over a dozen cases of Scarlatina and one case of Diphtheria were reported.

In all cases the infected premises were attended to and disinfected, under the supervision of the Sanitary Inspector and the Medical Officer of Health to the Municipality.

6. Municipal Native Locations.—There are nearly four thousand residents in the several Municipal native locations situated on the outskirts of the town. In such a large community it might reasonably be expected that there would be a deal of sickness, arising from certain

primitive modes of life and ignorance of sanitary rules that prevail among the natives. But such has not been the case with regard to these locations. There has been comparatively little sickness in the locations, and almost an entire absence of Enteric.

UNIONDALE.

(i) UNIONDALE (MUNICIPALITY).

There is not much to add to the last report.

1. The water-supply is still good and clean, although, owing to the severe drought this season, it has been somewhat weaker than usual.

2 & 3. The sanitary arrangements inaugurated by the Council some time ago are working excellently. All closets are now on the earth system, no cesspools being allowed. The excrement is removed to a depositing site by the Municipal contractor, and our village is clean and healthy, despite the prolonged and severe drought.

4. No cases of Typhoid or other infectious diseases have been known here for some time past.

(ii) HAARLEM (VILLAGE MANAGEMENT BOARD).

There has been no special sickness. The water is in a good condition, and whenever carcasses of animals are found they are buried immediately.

VICTORIA EAST.

ALICE (MUNICIPALITY).

1. Water-supply.—The water is supplied from the Tyumie River, within the Municipality, and is brought into the town by open furrow for all purposes. There is a good supply of water the whole year.

2. The scavenging is done by contract, and all excrement is deposited in proper pits made for the purpose.

3. Household and other refuse is removed by the Municipal cart, once a week, and deposited in pits made for the purpose.

4. During the past year no infectious disease has prevailed in the Municipality.

VICTORIA WEST.

(i) VICTORIA WEST (MUNICIPALITY).

* Report of DR. T. E. JONES, Medical Officer of Health.

1. The water-supply of the village of Victoria West is derived from a spring situated in the river-bed some 400 yards west of the village, and within the area of the Municipality. This water is served to erf-holders in an open stone-built furrow, which is subject to very many sources of contamination of the worst kind. The objections to and the dangers of such a mode of conduction are too well known to require any reiteration in this report.

The tank system for drinking purposes is becoming more general.

* Forwarded by Municipality for publication.

There are many wells in the village, but the water is too brak for household purposes.

I believe that an additional supply of water can be procured at Kapoksfontein by boring. This, together with the present spring, would give a good, pure, and plentiful supply of water, if properly conserved and led to the erf-holders in pipes.

2. Night-soil is removed by the bucket system nightly by the Municipal contractor, and is deposited in an earth-pit some 700 yards beyond the eastern extremity of the village.

The system works very well.

The slop-water was supposed to be carried across the dry river-bed which lies between the north kopje and the village, and deposited on the hillside on sandy sloping soil. Perhaps a dozen of the inhabitants were enterprising enough to become possessed of slop-carts, and deposited their slops in this way, the majority of the inhabitants depositing it anywhere, the back-yard usually being most convenient. A new arrangement has lately been made whereby the contractor removes all slops by the bucket system.

3. Household refuse and ashes are removed each morning and carted to a position well outside the village. This work is being satisfactorily done.

4. On September 16th two cases of Small-pox occurred in the village, the affected being two Hottentot mule-drivers employed in transport between Victoria West Road and the village. They were immediately isolated, and contacts vaccinated. Both cases were discharged on 17th October. During September two cases of Diphtheria were reported. They were immediately isolated, and every disinfecting precaution taken. Both cases were inoculated with anti-toxine serum, and both recovered. The one case occurred upon the premises of a butcher. The carcasses upon the premises were destroyed.

Two cases of Enteric Fever occurred during December. I was unable to trace the cause of infection in either case. Proper sanitary precautions were taken, the stools disinfected in chloride of lime buckets after being received into bed slippers containing carbolic solution 1 in 20.

Gastro Enteritis in children prevailed to an alarming extent during months of November and December, as it generally does every year during these months, the two main factors influencing the disease being, in my opinion, diet and temperature. The majority of fatal cases were artificially fed infants in their second summer.

Much has been done during the summer months to clean the river-bed, which is usually the dumping ground of much of the village refuse, and a channel for much of the drainage. It is, therefore, the source of great menace to the public health, particularly during the hot dry months of the year.

I think a stone-built cemented furrow built along the river embankment at a low level, to receive the village drainage from the furrows carrying bath-water, etc., from the houses, would go a long way to remedy the unhealthy and unsavoury condition of the river-bed. This furrow, extending the whole length of the village, could be flushed out two or three times a day, either from the dam or from private pumps, of which there are plenty along the course of the river.

I would like to see the Municipality devoting itself to the reform of slaughtering. None should be allowed within the town. A Municipal abattoir, properly fitted and arranged, would soon be self-supporting.

The first case of Diphtheria which occurred in the village in September occurred, as above mentioned, on the premises of one of the butchers.

Cattle, sheep and horse kraals exist in the village, and our principal street is at times rendered very unsavoury by their existence.

Laundry work is carried on by the native women in the location and elsewhere. The clothing is washed in pools of filthy water and sewage which collects in the river-bed below the village. I have suggested to the Council the erection of slabs, and the provision of water by boring, for this work.

(ii) VOSBURG (MUNICIPALITY).

* Report of Dr. G. R. WILKINSON, Medical Officer of Health.

1. From three sources: (a) Rain; (b) wells; (c) springs.

The chief supply is from wells, which are worked by hand or wind pumps. Water is found all over the village at a depth of from 10 feet to 20 feet. It comes off limestone rock, and is very hard, varying from 8 to 28 degrees, and is unsatisfactory for household use. It is stored in large cement or iron tanks, and is carried directly by cans into the houses.

The Municipal water-supply runs in open furrows, and is unfit for drinking purposes.

2 and 3. Scavenging is not done by the Municipality, but by individual householders, refuse being carried away at intervals.

4. Comparatively slight. Enteric, about fifteen cases; Dysentery, about twelve cases.

6. The death-rate has been low. This, in my opinion, is due to there being so little rain, and, therefore, the refuse has not been washed into the water-supply.

VRYBURG.

VRYBURG (MUNICIPALITY).

No report furnished.

WILLOWMORE.

WILLOWMORE (MUNICIPALITY).

No report furnished.

WODEHOUSE.

(i) DORDRECHT (MUNICIPALITY).

1. The water-supply of the township of Dordrecht is obtained from three springs and conveyed to various points in the town by means of pipes. The source is within the area of the Municipality. The supply is conveyed for domestic purposes. The sufficiency of the supply has been equal to the demand. The purity thereof is good. During the past year water was obtained from a reservoir within the Municipal area and used for domestic purposes, and, when there was a surplus, for irrigation.

* Forwarded by Municipality for publication.

2. The Municipality has entered into contract for the disposal of house refuse daily, and for the removal of night-soil weekly. This has been carried out satisfactorily.

3. Household and other refuse is deposited at a distance of 600 yards outside the township at two spots.

4. There have been few cases of Typhoid Fever, which have been dealt with in accordance with the Act.

5. An officer, appointed by the Municipality, guards against the pollution of water and the accumulation of filth.

(ii) INDWE (MUNICIPALITY).

1. Water-supply.—The water-supply for the town of Indwe has not improved.

As previously reported, the water provided by the Indwe Company is simply pumped direct from the Indwe River, and is passed, without any filtration whatever, into a reservoir, from which it is taken to one stand-pipe, consequently it is at all times in an impure state.

It was hoped that the waterworks for the town would have been in course of construction by this time, but unfortunately difficulties (not anticipated) have so far rendered this impossible.

2. Sanitary Arrangements.—The sanitary work has been well carried out by the contractor, who has given a bi-weekly service, and latterly this work has been done by the Council departmentally, with the most satisfactory results, and as soon as the new sanitary cart is built, it is intended to remove all slops daily, which should tend to improve the sanitation of the town.

Sanitary refuse is deposited about a mile from the town, and all deposits are well covered with earth to a depth of four feet. Ashes and rubbish are removed with regularity each week, and also properly buried.

3. Native Location.—This is being well supervised. Proper and sufficient latrine accommodation has been provided by the Municipality, and the whole location is cleaned fortnightly.

4. Infectious Diseases.—During the latter part of last year, there was a slight outbreak of Small-pox, which, however, did not spread after the infected patients were removed to the Lazaretto. This year we have had rather a large number of Enteric cases (about thirty-five in all), but they were nearly all slight attacks. During the prevalence of the fever, great care was exercised by the Sanitary Contractor, and every precaution was taken by the Municipality.

Considering the large native population, and the constant passing to and fro of large numbers of natives, perfect freedom from infectious diseases cannot be expected, but every care has been exercised by the Municipal Authorities, with the very best results.

5. Streets, &c.—Indwe being so young a town, much has yet to be done in the matters of street work and drainage of the town, but the Municipal Council are endeavouring to steadily improve these things; a large amount has been voted for street construction by contract, and it is hoped that within the next year great advances will be made in this direction. The general health of the town is good, and compares favourably with many places of greater importance.

The great want is a plentiful supply of pure water, and when the contemplated water scheme is carried out, which will give to each householder a sufficiency of good water, it is believed that the health and the sanitation of the town will be secured.

WORCESTER.

(i) WORCESTER (MUNICIPALITY).

* Report of Dr. D. HUGO, Medical Officer of Health.

1. Water-supply remains ample, and no further changes have occurred since last annual report.

2 and 3. Scavenging and Disposal of Excrement, etc., are carried out satisfactorily.

4. Typhoid Fever has prevailed to a remarkably less extent; but Dysentery and Diphtheria have been rather more prevalent. On the whole, the general health of the town has been good.

5. Satisfactory; no alteration since last report.

All the above points have been traversed and exhaustively dealt with in my annual report as District Surgeon.

(ii) RAWSONVILLE (VILLAGE MANAGEMENT BOARD).

1. Water-supply plentiful from river without area of Board, and is conveyed in open furrows.

4. No infectious disease has prevailed.

* Forwarded by Municipality for publication

PART III.

REPORTS OF THE MEDICAL INSPECTORS ON THE WORKING OF PART I. OF "THE CONTAGIOUS DISEASES PREVEN- TION ACT, 1885."

1. CAPE TOWN.

Dr. Wm. H. Ross, Acting Medical Inspector.

The gross expenditure incurred in the maintenance and effective up-keep of this public Institution amounted to the sum of £2,226 15s. 9d. as compared with the sum of £2,207 5s. 7½d. for the year previous.

The daily average under treatment in the wards shows a reduction by one-third—from 29·8 in 1901 to 20·9 in 1902; but this perhaps may be due to the increased stringency of the Police Regulations in driving the foreign women away from the town, and so reducing the balance between black and white prostitutes. The women themselves do not seem physically to flourish in their calling, and exhibit a good deal of Bronchitis and kidney trouble, from exposure and poor dietary outside. Their death-rate is higher than normal conditions of living would justify at the Cape.

The daily cost of each patient admitted came to an average of 5s. 9¾d.

TABLE I.—SHOWING THE OPERATION OF THE CONTAGIOUS DISEASES ACT
DURING THE YEAR 1902.

Number of women on the Register on the 31st December, 1901	228
Number of fresh cases registered during the year 1902 ...	246
Total number dealt with during the year 1902 under Part I. ...	474
Number of women removed from the Register during the year 1902, shown on Table II. ...	289
Remaining on Register on December 31st, 1902 ...	188
Voluntary submissions under Section 14 ...	246
Compulsory submissions under Section 14 ...	None.
Number of prosecutions under Section 17 ...	44
Total number of women examined ...	474
Total number of examinations ...	1,826
Number of women dealt with under Part II., shown on Table VI. ...	44

TABLE II.—SHOWING CAUSES OF REMOVAL FROM THE REGISTER DURING
THE YEAR 1902.

Left District	41
Service	26
Disappeared	208
Died	10
Salvation Army Home	3
Married	1
Total	289

TABLE III.—SHOWING ADMISSIONS TO HOSPITAL, NATURE OF DISEASES, AND CAUSES OF DEATH.

Remaining on the 31st December, 1901	...	...	...	...	22
Total number of separate admissions, including 44 under Part II., shown on Table VI.	...	...	...	...	189
Gonorrhœa	...	...	...	...	100
Secondary Syphilis	...	...	...	...	19
Tertiary Syphilis	...	...	...	...	45
Chancroid, Eruption of Vulva, &c.	...	...	...	...	25
Total	...	...	...	...	189
Discharged—169. Died—10	...	...	...	...	179
Total number of individuals admitted:—					
Europeans	...	...	...	...	22
Coloured	...	...	...	...	74
Total	...	...	...	...	96
Daily average number resident	...	...	...	...	20·9
Average stay in Hospital per individual in days	...	...	...	...	40·9
Average stay in Hospital per admission in days	...	...	...	...	40·5
Average cost per head daily	...	...	...	...	5s. 9½d.
Remaining in Hospital on December 31st, 1902	...	...	...	...	10

Causes of Death of Patients in Hospital.

Phthisis	...	...	...	...	...	4
Pneumonia	...	...	...	...	...	4
Pleurisy	...	...	...	...	...	1
Asthenia	...	...	...	...	...	1
Total	...	...	...	...	...	10

TABLE IV.—SHOWING THE NUMBER OF WOMEN UNDER EXAMINATION DURING EACH MONTH SINCE 1892.

	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
January	173	132	172	195	223	263	265	305	198	278	263
February	173	138	174	207	249	273	260	311	200	301	269
March	180	147	180	201	259	294	254	324	217	300	260
April...	186	143	184	207	266	277	247	305	188	268	225
May ...	182	138	185	216	260	258	228	299	180	239	234
June ...	196	145	182	219	252	268	228	297	179	222	226
July ...	171	146	186	217	254	261	236	267	177	239	239
August	159	150	192	217	256	280	266	239	178	242	251
September	171	159	189	215	254	275	255	221	201	265	234
October	181	164	196	214	264	280	277	171	209	259	236
November	175	166	201	215	262	279	295	174	229	260	227
December	134	165	202	225	270	273	289	187	267	259	219

TABLE V.—SHOWING ADMISSIONS TO HOSPITAL FROM WYNBERG DURING THE YEAR 1902, AND THE NATURE OF THE DISEASES.

Remaining in Hospital on December 31st, 1901	...	1
Total number of separate admissions during the year 1902...		4
Gonorrhœa	...	1
Secondary Syphilis	...	3
Total	...	4
Total number of individuals admitted:—		
Europeans	...	None.
Coloured	...	4
Remaining in Hospital on the 31st December, 1902	...	None.

TABLE VI.—SHOWING THE NUMBER OF ADMISSIONS, AND THE NATURE OF THE CASES DEALT WITH UNDER PART II. OF THE CONTAGIOUS DISEASES ACT.

Remaining in Hospital on 31st December, 1901	...	7
Total number of admissions during the year, 1902	...	37
Total	...	44
Europeans	...	27
Coloured	...	17
Total	...	44
Nature of Diseases for which Patients were admitted during Year:—		
Gonorrhœa	...	15
Secondary Syphilis	...	9
Tertiary Syphilis	...	14
Chancroid, Eruption of Vulva, &c....	...	6
Total	...	44
Discharged during the year 1902...	...	39
Remaining on December 31st, 1902	...	5
Total	...	44

2. WYNBERG.

Dr. CLAUDE WRIGHT, Medical Inspector.

The working of the first part of the Contagious Diseases Prevention Act in this district for the year 1902 has been satisfactory with the exception of the months of November and December, during which time I was without the services of a lay inspector. Some of the women took ad-

vantage of this and absented themselves from periodical examination. Some absconded, and have not been since heard of, and some imagined the working of the Act had been abandoned. Forty-four females were on the register at the beginning of the year, and one was placed on the register, bringing the total to forty-five. Five were released by order of the Magistrate, one died, two absconded and eleven removed to other districts. There was only one voluntary submission under the Act. There were 572 separate examinations, and only two were found to be diseased and sent to Hospital. There were eight prosecutions under Section 17 of the Act. The total cost of the working of the Act amounted to £159 4s. 8d.

The Act is administered as carefully as possible, and I am sure no female is on the register who should not be there. Many females who are domestic servants to-day are prostitutes to-morrow, and great tact is required. It is my practice to write to mistresses informing them of the facts, and the liability of the servant to periodical inspection. I find mistresses readily consent to the examination taking place in their own interest, and in these cases they are at times let off with a monthly examination. This class of servant, however, never remains in her situation for any long period.

3. SIMON'S TOWN.

Dr. H. CLARKE, Medical Inspector.

During the year 1902, forty-six women were dealt with, of whom only two were European. Forty were cases of voluntary submission, and only six were compulsory.

There were 1,230 separate periodical examinations made, with an average interval of thirteen days between the examinations.

Only ten of the women kept free from the disease during the year. Of the thirty-six women found diseased, all were admitted into hospital for treatment. Some were admitted oftener than once, and a few suffered relapse. Four of the cases were Primary Syphilis, six Secondary, and five Tertiary. Eighteen cases of Gonorrhoea were discovered, and three of simple Ulcer.

The women behaved well, and, with a couple of exceptions, cheerfully attended for examination.

There were no deaths during the year.

The Naval and Military Authorities continue to speak highly of the Act and its beneficial working.

4. EAST LONDON.

Dr. J. BARCROFT ANDERSON, Medical Inspector.

For the year 1902 I have to report that the power provided by section 10 of the Act has not been made use of by any private person or body, and all new names have been added on the initiative of the police only.

Those found to be diseased are treated in King William's Town, as hitherto; where, when cured, they are discharged. From thence they do not always at once return here to their previous mode of life. This considerably swells the recorded number of those who fail to appear for examination.

For the periodical examination, the Gaol buildings and instruments continue to be used.

5. KING WILLIAM'S TOWN.

Dr. HENRY M. CHUTE, Medical Inspector.

Under Part I. of the Act, thirteen women have been dealt with; of these six were found to have been affected, and were detained in Hospital.

The number of cases sent to this Hospital for treatment from East London, under Part I., has been forty-three.

Part II. of the Act continues to work satisfactorily. Natives voluntarily avail themselves of the advantage of the Hospital for obtaining treatment, and during the year there have been sixty-seven admissions; twenty-eight males, thirty-nine females.

Of these, fifty-four were cured, two absconded, one died, one transferred, nine remaining on December 31, 1902.

The average daily cost of each patient was, 3s. 0 1-25d. per diem.

6. PORT ELIZABETH.

Dr. J. G. UPPLEBY, Medical Inspector.

Nineteen hundred and forty examinations were made, the number of women examined being 159—45 European and 112 Coloured. Sixty-four women were found to be diseased, and were duly treated in the Lock Hospital, the average stay being thirty-two days, and the daily average of women in Hospital, eleven. There were eighteen cases of Syphilis and forty-six cases of Gonorrhœa. Forty-five new cases were placed on the Register. There were forty-two prosecutions under Section 17. The average cost per diem of each patient under treatment was 2s. 2d.

The internal working of the Hospital has been satisfactory, discipline being well maintained, and the women under treatment willing and cheerful in performing the usual domestic duties.

7. UITENHAGE.

Dr. J. G. UPPLEBY, Medical Inspector.

One hundred and twenty-two examinations were made, the number of women examined being fifteen—five European and ten coloured. Three women were found to be diseased, and brought down to Port Elizabeth for treatment. Two new cases were placed on the Register. There were six prosecutions under Section 17. The average cost per diem of the women found affected, and who were treated in the Lock Hospital, Port Elizabeth, was 2s. 2d.

