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County Borough of Halifax.



HEALTH DEPARTMENT.

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# *Report*

OF THE

MEDICAL OFFICER OF HEALTH,

Together with the Reports of the

SANITARY INSPECTOR

AND

THE BOROUGH ANALYST,

FOR

The Year ended December 31st, 1902.

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Printed by order of the Health Committee.

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Halifax:

WHITLEY & BOOTH, PRINTERS, CROWN STREET.

1903.





County Borough



of Halifax.



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# Health Committee.

Mayor.

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ALDERMAN J. F. COE, J.P., *Chairman.*

COUNCILLOR T. S. DODD, *Vice-Chairman.*

Alderman J. W. CROSSLAND, J.P.,	Councillor J. TAYLOR,
Councillor A. BINNS,	„ H. CLAY,
„ J. COLLINSON,	„ J. BROTHERTON,
„ R. MAUDE,	„ J. T. DALTON,
„ I. B. HAINSWORTH,	„ A. BROADLEY,
„ J. NAYLOR.	„ J. R. SWAINE.
„ J. MARSHALL,	

## Sub-Committees.

APPOINTED BY THE HEALTH COMMITTEE

### Hospital Sub-Committee.

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VICE-CHAIRMAN,	„ J. MARSHALL,
COUNCILLOR J. NAYLOR,	„ A. BROADLEY.
„ J. TAYLOR,	

### Goux Sub-Committee.

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VICE-CHAIRMAN,	„ H. CLAY,
COUNCILLOR I. B. HAINSWORTH,	„ J. R. SWAINE.
„ R. MAUDE,	

### Scavenging Sub-Committee.

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ALDERMAN J. W. CROSSLAND, J.P.	„ J. R. SWAINE.
COUNCILLOR J. BROTHERTON,	

### Nuisance Sub-Committee.

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COUNCILLOR A. BINNS,	„ A. BROADLEY.
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### Accounts Sub-Committee.

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VICE-CHAIRMAN,	„ J. COLLINSON,
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### Horse and Corn Sub-Committee.

THE CHAIRMAN,	COUNCILLOR NAYLOR,
VICE-CHAIRMAN,	„ J. T. DALTON.



# Staff of the Health Department.

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Medical Officer of Health and Superintendent of the  
Borough Fever Hospital.

JAS. T. NEECH, M.D., D.P.H., &c.

Public Analyst.

W. ACKROYD, F.I.C., F.C.S.

Chief Sanitary Inspector.

DAVID TRAVIS.

Meat Inspector.

J. K. CRAWSHAW.

District Sanitary Inspectors.

JAMES ARCHBELL,

J. W. ASQUITH,

J. WOOD,

J. E. FIRTH.

Foreman Scavenger.

NATHAN GARSIDE.

Chief Clerk.

J. W. JACKSON.

Assistant Clerks.

CHARLES CARLTON,

ERNEST JUBB.

Matron of the Borough Hospital.

MISS ROBISON.

Disinfector.

T. W. BOOTH.

Laundry Engineer.

W. GUEST.

Porter.

H. VICKERMAN.

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## Goux Department.

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Manager of Yard.

RD. TRAVIS.

Goux Inspectors.

J. HEATH,

S. MAUDSLEY

Clerk.

HARRY ASKE.





# *County Borough of Halifax.*

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## REPORT OF THE MEDICAL OFFICER OF HEALTH, JAS. T. NEECH, M.D., D.P.H., FOR THE YEAR 1902.

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### INTRODUCTION.

*To the Chairman and Members of the Health  
Committee.*

MR. CHAIRMAN AND GENTLEMEN,

I now have the honour of presenting you with the Thirtieth Annual Report on the Health and Sanitary condition of the Borough, together with an account of the work that has been carried out during the year in the Health Department.

This report is made in accordance with the requirements of the Local Government Board, and its publication this year has been delayed in consequence of the amount of time it has been necessary for me to devote to the outbreak of smallpox in the Borough.

I have pleasure to record that the deathrate from the principal infectious diseases is again considerably below every one of the 33 greatest towns with which it has been usual to compare Halifax, also that the general deathrate is the lowest on record for the Borough.

I desire to state that in my opinion three things are at present required to meet the needs of the Borough, all of which are more or less dealt with in the text of the Report. They are

- (1) A destructor to deal with the refuse which is at present being tipped.
- (2) A new and up-to-date slaughterhouse to replace the present unsuitable and insanitary building.
- (3) The enforcement of waterclosets for all new houses, and where conversions are necessary.

In conclusion I have to acknowledge the valuable assistance rendered me during the year by Mr. Travis, as well as by the District Sanitary Inspectors, in carrying out the work of the department, which is ever on the increase.

Mr. Jackson, Chief Clerk, has also rendered me valuable help, as well as Mr. Carlton, more especially in the preparation of this report.

I have further to thank the Committee for its continued and generous support.

I am,  
Gentlemen,  
Your obedient Servant,

*Jas. J. Keck M.D., D.P.H.*

TOWN HALL,  
HALIFAX,

MEDICAL OFFICER OF HEALTH.

JULY 1903.



# STATISTICAL SUMMARY.

	1902.	1901.
	ACRES.	ACRES.
Area of County Borough ...	13,634	13,634
Rateable Value ...	£480,576	£477,446
Population, estimated to middle of 1902 ...	105,950	105,120
Population, 1901 Census ...	...	104,936
Persons per Acre ...	7.7	7.7
Average number of Persons per Inhabited House, 1901 Census ...	...	4.2
Average number of Persons per House, 1901 Census ...	...	4.0
Birth Rate, 1902 ...	21.0	22.3
„ Average for previous 10 years ...	23.6	23.7
Death Rate, 1902 ...	15.5	16.4
„ „ Corrected ...	15.4	16.2
„ Average for previous 10 years ...	18.0	18.2
Death Rate for seven principal Zymotic Diseases ...	.95	1.36
Death Rate, the mean for previous 10 years of Zymotic Diseases ...	1.36	1.36
Death Rate of Infants under 1 year per 1000 Births ...	145.6	128.8
Illegitimate Births ...	89	101
Average Age at Death, 1902—		
Males ...	36.6 years	36.2 years
Average Age at Death, 1902—		
Females ...	40.2 years	40.1 years
Latitude—North ...	53° 43'	53° 43'
Longitude—West ...	1° 52'	1° 52'
Height above Sea Level, feet	625	625
Total Rainfall, inches ...	28.03	29.41

**Analysis of the Vital Statistics of Thirty-three of the  
largest English Towns during the Year 1902.**

Towns.	Estimated Population Middle of 1902.	Births.	Deaths.	Annual Rate per 1000 Living.			Deaths of Children under 1 year of age to 1,000 Births.
				Births.	Deaths.	Principal Zymotic Diseases.	
London	4,579,107	132,810	82,540	28.5	17.7	2.23	140
Croydon	137,917	3,655	1,957	26.0	13.9	1.32	131
West Ham	275,408	9,549	4,782	34.1	17.0	3.20	149
Brighton	124,539	3,071	2,003	24.2	15.8	1.26	125
Portsmouth	192,158	5,284	3,269	27.0	16.7	2.32	150
Norwich	113,184	3,204	1,919	27.3	16.6	1.83	166
Plymouth	110,066	3,015	1,902	26.9	17.0	1.80	154
Bristol	334,632	9,357	5,905	27.5	17.3	2.79	131
Wolverhampton	95,712	3,071	1,592	31.6	16.3	1.71	133
Birmingham	528,181	17,079	9,997	31.8	18.6	2.52	157
Leicester	216,389	6,410	3,275	29.1	14.8	1.54	152
Nottingham	243,193	6,867	4,121	27.8	16.6	1.30	158
Derby	116,869	3,326	1,656	28.0	13.9	1.27	124
Birkenhead	112,396	3,731	2,024	32.7	17.7	2.25	148
Liverpool	692,495	24,087	15,815	34.2	22.4	3.07	162
Bolton	171,082	4,736	2,943	27.3	16.9	2.02	134
Manchester	549,169	18,301	11,143	32.8	19.9	1.98	152
Salford	224,007	7,699	4,393	33.8	19.2	2.62	156
Oldham	138,091	3,659	2,677	26.0	19.0	2.00	147
Burnley	98,383	2,914	1,946	29.1	19.4	3.63	177
Blackburn	130,309	3,387	2,243	25.6	16.9	1.77	159
Preston	113,766	3,341	2,205	28.8	19.0	2.77	188
Huddersfield	95,000	2,354	1,716	24.3	17.7	1.58	138
<b>Halifax</b>	<b>105,932</b>	<b>2,286</b>	<b>1,691</b>	<b>21.2</b>	<b>15.6</b>	<b>1.07</b>	<b>144</b>
Bradford	281,770	6,575	4,530	22.9	15.8	1.42	138
Leeds	437,036	13,246	7,797	29.8	17.5	1.98	159
Sheffield	418,177	14,182	7,257	33.3	17.0	1.69	149
Hull	245,955	8,000	4,286	32.0	17.1	2.23	136
Sunderland	148,007	5,393	2,928	35.8	19.4	1.87	152
Gateshead	113,024	4,211	2,033	36.7	17.7	2.04	136
Newcastle-on- Tyne	219,021	7,259	4,428	30.1	19.8	1.75	138
Cardiff	168,909	5,408	2,885	31.4	16.7	2.66	146
Swansea	95,132	3,005	1,556	31.0	16.0	1.39	134



**Population and Area of the Borough.**—The Borough is divided into fifteen Wards, the area and estimated population of which are set out in the following table.

WARDS.	Population Estimated to Middle of 1902.	Acreage.	Persons per Acre.	No. of Houses Built during 1902.
Ovenden ...	7174	531	13·5	50
Akroydon ...	6560	582	11·2	7
North ...	8250	168	49·1	8
Central ...	7835	82	95·5	0
West ...	9282	86	107·9	1
South ...	7613	296	25·7	23
East ...	7008	191	36·6	6
Southowram ...	7485	777	9·6	6
Skircoat ...	9080	513	17·7	106
Copley ...	2908	516	5·6	3
Pellon ...	9225	241	38·2	36
Kingston ...	10310	238	43·3	29
Illingworth ...	7105	4504	1·5	2
Northowram ...	3270	1555	2·1	4
Warley ...	2845	3354	0·8	0
Totals ...	105950	13634	...	281
Average ...	...	...	7·7	...

In November last a small portion of the Urban District of Greetland was added to the Copley Ward, having a population of four persons, and an area of 16 acres, so that the total acreage of the Borough now is 13,650.

Since the issue of the last Annual Report the detailed results of the 1901 Census have been published and the following particulars will be of interest.

The following table gives the number of occupied tenements in the Borough in April, 1901, the number of rooms in the smaller houses, together with the number of persons inhabiting the different sized houses.

Size of House.	Number of Houses.	Number of Persons Occupying same.	Number of Persons per Room.
One Room ...	1118	2256	2.01
Two Rooms ...	5639	19240	1.7
Three Rooms ...	4449	18177	1.36
Four Rooms ...	4136	18471	1.11
Five Rooms and over	9688	46792	...

The following table gives the age and sex distribution as shown by the last Census, and compares this Census with that of 1881 and 1891 in those respects.

Census.	Number of Persons at all ages.	Sex.	Under 1 year.	One and under five years.	Five and under 15 years.	Fifteen and under 25 years.	Twenty-five and under 65 years.	Sixty-five years and upwards.
1881	73630	M.	1014	4580	7878	6474	14616	1086
		F.	1052	4684	8032	7674	17134	1472
1891	89832	M.	958	4614	9353	8440	18088	1426
		F.	991	4751	9620	9827	21596	2117
1901	104936	M.	1107	4911	9404	9632	22750	1770
		F.	1098	4992	9878	11447	27451	2701

The above figures are more striking when expressed in the form of percentages, and the following table shows the percentage which the numbers living at each of the above age periods bears to the total population at each Census.



Census.	Number at all ages.	PERCENTAGE LIVING.					
		Under 1 year.	Under 5 years.	BETWEEN			
				5 and 15 years.	15 and 25 years.	25 and 65 years.	65 and upwards
1881	73,630	2·8	12·5	21·6	19·2	43·2	3·4
1891	89,832	2·1	10·4	21·1	20·3	44·1	3·9
1901	104,936	2·1	9·4	18·3	20·0	47·8	4·2

The above table shows that there has been a marked diminution in the number of persons living at the age periods from 1 to 15 years, while the number living between 15 and 25 years has remained pretty constant, and there has been a marked increase in the number living at the age periods from 25 upwards.

This change in age distribution has arisen from two causes, viz:—a diminishing birthrate, and a falling death-rate. In comparison fewer persons are born annually now, than was the case 20 years ago, they live longer, and fewer die. Twenty years ago the average birthrate was over 30, but now it is under 23 per 1000. It will be observed that the greatest prolongation of life has taken place between 25, and 65 years, or that period of life which is most useful.

### Marriages.

There were 1044 marriages solemnised within the Borough during the year under notice, or 66 less than the previous year. This gives a marriage rate of 9·8 per 1000. The marriage rates during the previous five years were 1897, 15·9; 1898, 10·4; 1899, 12·3; 1900, 11·2; and 1901, 10·5 respectively. The marriage rate thus is seen to be declining. This rate however varies more or less with the rise or fall in the prosperity of the country or district. The marriage rate for England and Wales was 15·7.

### Births.

The total number of births registered within the Borough during the year ended December 31st, 1902, was 2225 of which 1162 were males, and 1063 were females. This gives a birthrate of 21·0 per 1000, which is 1·4 below that of the previous year, and the lowest of any year on record.

The birthrate of the Borough is steadily diminishing so is that also of the Country generally, but the former is diminishing much more quickly than the latter.

The following table will illustrate this by comparing the average birthrates per 1000 in periods between the year 1875 and the present for Halifax and England and Wales.

Period.	England and Wales.	Halifax.	Difference.
1875-9	35·3	35·7 +	0·4
1880-4	33·8	30·7 —	3·1
1885-9	31·4	28·0 —	3·4
1890-5	30·7	25·4 —	5·3
1895-9	29·7	23·1 —	6·6
Average for 25 years	32·1	28·5 —	3·6

The mean birthrate of the 33 largest towns (with which it has been usual to compare Halifax) for the year 1902 was 29·3, and Halifax had the lowest birthrate of those towns, that for Bradford which came next being



22·9 per 1000. The birthrate for England and Wales for 1902 was 28·6 per 1000, and the other great Yorkshire towns as follows, Leeds, 29·8, Sheffield, 33·3, Hull 32·0, and Huddersfield, 25·6. See table page 7.

The following table gives the number of births and the birthrates in each quarter of the year.

TABLE SHOWING BIRTHS AND BIRTHRATES IN EACH  
QUARTER OF 1902.

Period.	Males.		Females		Totals.		Birthrate per 1000 living.	
	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.
1st Quarter ...	284	323	261	287	545	610	20·5	23·2
2nd „ ...	305	285	294	315	599	600	22·6	22·8
3rd „ ...	305	313	259	286	564	599	21·2	22·7
4th „ ...	268	266	249	276	517	542	19·5	20·6
Whole Years ...	1162	1187	1063	1164	2225	2351	21·0	22·3

I sent a circular letter to the caretakers of all the cemeteries and burial grounds within the Borough in all, 20 in number asking for information as to the number of still births that were interred during the year. Of these three failed to reply altogether, and one or two others had kept no record, which I was surprised to learn, as I consider it most important that correct entries with reference to these burials should be preserved in a book for the purpose.

The question of the burial of still-born children is becoming an important matter in view of the continual

decline in the birthrate, the revelations that have recently been made in a great centre of population, and the fact that the midwives act of last year definitely states that the certificate under that act does not confer upon the holder, the authority to certify that a child is stillborn.

As a result of the above enquiries I ascertained that there had been 86 stillborn children buried during the year. During the previous year the number was 108.

### Deaths.

There were 1645 deaths registered within the Borough during the year under notice, of which 36 belonged to other districts, also 26 occurred outside the Borough of persons belonging thereto, so that excluding the former and including the latter, the corrected number of deaths for the year was 1634. This latter number consisted of 826 males, and 808 females, and gives a deathrate for the year of 15·4 per 1000, which is ·8 per 1000 below that of the previous year, and is the lowest on record. Only three of the 33 largest towns have a recorded deathrate for 1902 below that of Halifax, viz:—Croydon 13·9; Leicester 14·8; and Derby 13·9. In 1901 five of these towns had a smaller recorded deathrate than Halifax.

The deathrate of England and Wales for 1902 was 16·3 per 1000 and of the remaining great towns of Yorkshire as follows:—Leeds 17·5; Sheffield 17·0; Bradford 15·8; Hull 17·1; and Huddersfield 17·7 per 1000 respectively.

The following table gives the average deathrates of the Borough in quinquennial periods during the past 26 years.



1876-80	23·5
1881-5	21·1
1886-90	21·2
1891-5	17·9
1896-1902	17·0

This table shows that the average deathrate taken in periods as above has gradually fallen to the extent of 6·5 per 1000 during the past 26 years which is over 27 per cent.

The following table gives the mortality for the year under notice according to wards, and serves to compare the deathrates of the various wards.

WARDS.	Population.	Acreage.	Persons per Acre.	Total Deaths.	Death- rate per 1000.	Mortality per 1000 living.		
						Zy- motics.	Phthisis.	Other Respi- ratory Diseases.
Ovenden ...	7174	531	13·5	107	14·9	0·4	1·2	1·5
Akroydon ...	6560	582	11·2	77	11·7	0·1	0·3	3·5
North ...	8250	168	49·1	166	20·1	1·9	1·0	4·4
Central ...	7835	82	95·5	134	17·1	2·5	1·0	2·9
West ...	9282	86	107·9	170	18·3	0·8	1·2	4·5
South ...	7613	296	25·7	111	14·5	0·6	1·1	3·1
East ...	7008	191	36·6	155	22·1	0·7	0·9	4·2
Southowram	7485	777	9·6	127	16·9	1·0	1·2	3·8
Skircoat ...	9080	513	17·7	124	13·6	0·9	0·7	2·5
Copley ..	2908	516	5·6	30	10·3	1·3	1·3	1·0
Pellon ...	9225	241	38·2	111	12·0	0·3	1·1	2·2
Kingston ...	10310	238	43·3	118	11·4	0·5	0·4	3·0
Illingworth...	7105	4504	1·5	100	14·0	1·2	0·9	1·6
Northowram	3270	1555	2·1	66	20·1	0·9	2·4	3·0
Warley ...	2845	3354	0·8	38	13·3	0·3	0·3	3·1
Total ..	105,950	13,634	7·7	1634	15·4	0·95	1·0	3·0

The following table shows the total number of deaths of each sex which have occurred within the Borough (including Institutions), the total age lived, and the average age at death during the past seven years.

MALES.				FEMALES.			
	Deaths.	Total Years.	Average Ages.		Deaths.	Total Years.	Average Ages.
0·1	191	191	...	0·1	133	133	...
1·5	75	170	2·2	1·5	80	183	2·2
5·15	21	189	9·0	5·15	36	310	8·6
15·25	41	819	19·6	15·25	42	823	19·6
25·65	305	14873	48·7	25·65	289	14310	49·5
65 and upwards	193	14055	72·8	65 and upwards	228	16767	73·5
Total... 1902	826	30297	36·6 Average	Total... 1902	808	32526	40·2 Average
1902	Average		36·6	1902	Average		40·2
1901	"		36·2	1901	"		40·1
1900	"		38·3	1900	"		41·2
1899	"		35·1	1899	"		38·4
1898	"		34·4	1898	"		38·2
1897	"		35·3	1897	"		37·9
1896	"		35·5	1896	"		38·4

The following table shows the deaths from outside districts which occurred within Institutions in the Borough, and the districts to which they belong.



ROYAL HALIFAX INFIRMARY.				
Upper Greetland	...	...	...	1
Rawcliffe	...	...	...	1
Heptonstall	...	...	...	1
Sowerby Bridge	...	...	...	5
Rastrick	...	...	...	1
Hipperholme	...	...	...	1
Luddenden Foot	...	...	...	1
Stainland	...	...	...	2
Todmorden	...	...	...	4
Mytholmroyd	...	...	...	1
Hebden Bridge	...	...	...	2
Rishworth	...	...	...	1
Brighouse	...	...	...	1
Greetland	...	...	...	2
Midgley	...	...	...	1
Elland ...	...	...	...	2
Soyland	...	...	...	1
POOR LAW HOSPITAL.				
Grantham	...	...	...	1
WEST GROVE.				
Coley ...	...	...	...	1
BOROUGH FEVER HOSPITAL				
Lowestoft	...	...	...	1
L. AND Y. STATION.				
Hipperholme	...	...	...	1
CANAL BASIN.				
Castleford	...	...	...	1
WORKSHOP, BOOTH TOWN.				
Thornton, near Bradford	...	...	...	1
PRIVATE HOUSES.				
Belfast...	...	...	...	1
Rochdale	...	...	...	1
TOTAL	...	...	...	36

### Zymotic Deathrate.

The seven principal zymotic diseases caused 101 out of the 1634 deaths belonging to the Borough, which gives a zymotic deathrate of 0·95 per 1000. These figures differ slightly from those given by the Registrar General as shown in the table page 7, but they relate to a slightly different period. The above deathrate is below that of the previous year, in fact it is the lowest recorded since the year 1894.

The zymotic deathrate for Halifax according to the Registrar General's figures is 1·07, and that for the other Yorkshire great towns as follows:—Leeds, 1·98, Sheffield, 1·69, Bradford, 1·42, Hull, 2·23, and Huddersfield 1·58 per 1000 respectively.

The following table gives the zymotic deathrate of England and Wales and the great towns, with which that of Halifax favourably compares.

	DEATHRATE FROM							Zymotic Death- rate.
	Small- Pox.	Meas- les.	Scarlet Fever.	Diph- theria.	Whooping Cough.	Fever.	Diarr- hoea.	
England and Wales ...	0·08	0·38	0·15	0·23	0·29	0·13	0·38	1·64
76 great towns ...	0·12	0·49	0·19	0·26	0·37	0·15	0·54	2·12
103 smaller towns ...	0·08	0·37	0·14	0·24	0·22	0·13	0·35	1·53
England and Wales, less the 179 towns ...	0·03	0·27	0·10	0·20	0·22	0·10	0·22	1·14
Halifax ...	0·0	0·34	0·13	0·07	0·13	0·13	0·15	0·95

From the above table it will be seen that the zymotic deathrate of Halifax was not only below the average of the great towns but also the smaller towns, as well as the average of England and Wales less the 179 towns.



The following table shows the incidence of the deaths from the chief zymotic diseases with reference to the different Wards of the Borough.

WARDS.	Measles.	Scarlet Fever.	Diph- theria.	Whooping Cough.	Enteric Fever.	Diarrhoea.	Zymotic Death- rate per 1000.
Ovenden ...	1	...	1	1	...	...	4
Akroydon ...	1	..	...	...	...	...	1
North ...	9	..	...	3	2	2	1.9
Central ...	8	1	...	2	1	8	2.5
West ...	2	1	1	1	3	...	8
South ...	2	1	1	...	...	1	6
East ...	..	1	1	...	3	...	7
Southowram ...	3	...	1	3	1	...	1.0
Skircoat ...	2	2	1	1	1	1	9
Copley ...	3	1	...	...	...	...	1.3
Pellon ...	1	..	1	...	...	1	3
Kingston ...	1	2	...	...	2	1	5
Illingworth ...	2	4	1	..	...	2	1.2
Northowram...	1	...	...	2	...	...	9
Warley ...	...	...	...	...	1	...	3
Totals ...	36	14	8	13	14	16	Average 95

The following table gives the average zymotic death-rates of the Borough during the past 26 years, and shows the fall in that deathrate.

Period.	Deathrate.
1877-81	2.50
1882-6	1.55
1877-91	1.43
1892-6	1.33
1897-1902	1.38

### Infantile Mortality.

During the year there died 324 infants under one year of age, 21 more than during the previous year. This gives a mortality of 145 deaths to 1000 births registered. During the previous year the infant mortality was 128 deaths to 1000 births.

The following table gives the number of births and deaths of infants under one year of age in each ward and the mortality per 1000 births.

WARDS.	Number of Births.	Birthrates.	Number of Deaths under 1 year.	Mortality per 1000 Births.
Ovenden ...	149	20·7	23	154
Akroydon ...	185	28·2	26	140
North ...	208	25·2	45	216
Central ...	164	20·9	34	207
West ...	195	21·0	23	117
South ...	117	15·3	16	138
East ...	109	15·5	24	220
Southowram	217	28·9	39	179
Skircoat ...	163	17·9	18	110
Copley ...	41	14·0	4	97
Pellon ...	185	20·0	21	113
Kingston ...	181	17·5	25	138
Illingworth	144	20·2	14	97
Northowram	95	29·0	8	84
Warley ...	52	18·2	4	76
Workhouse	19	...	...	...
Infirmery ...	1	...	...	...
Total ...	2225	21·0	324	145

The next table shows the number of deaths from the chief infantile diseases per 1000 births, and the rate of those deaths per cent. of the total deaths at all ages.



DISEASES:	Total Deaths.		Rate per 1000 Births.		Rate per cent. of total Deaths at all ages.	
	1902.	1901.	1902.	1901.	1902.	1901.
From all causes ...	324	303	145·6	128·2	19·8	17·3
Respiratory Diseases ...	64	57	28·7	24·4	3·9	3·3
Marasmus, Wasting Diseases	30	40	13·4	17·1	1·8	2·3
Premature Birth, Inanition	79	47	35·5	20·1	4·8	2·7
Diarrhœa ...	2	25	·8	10·7	·1	1·5
Whooping Cough ...	8	8	3·5	3·4	·4	·4
Convulsions ...	50	40	22·4	17·1	3·0	2·3
Scrofula, Tuberculosis ...	16	2	7·1	·8	·9	·1
Dentition ...	14	11	6·2	4·7	·8	·6

The average infantile mortality of the Borough has been gradually diminishing during the past quarter of a century, though during the year under notice there was a considerable higher mortality among the infants than during the previous year.

The infantile mortality for 1902 of the other Yorkshire great towns was :—Leeds, 159, Sheffield, 149, Bradford, 138, Hull, 136, and Huddersfield, 138.

The following table gives the average infantile mortality of the Borough in quinquennial periods between 1875 and 1899 inclusive. It shows the fall in that mortality, and compares it with that of England and Wales.

Period.	Halifax.	England and Wales.
1875-9	173	145
1880-4	161	141
1885-9	158	142
1890-4	163	148
1895-9	154	157
1902	145	133

In view of the gradually diminishing birthrate in the Country, the question of the great mortality among infants of tender years assumes a serious aspect.

### Comparison of Deathrates.

The following table serves to compare the under-mentioned deathrates of the different Wards of the Borough for 1902.

WARDS.	General Deathrates.	Zymotic Deathrates.	Respiratory Deathrate.	Phthisis Deathrate.	Infantile Mortality.
Ovenden ...	14.9	.4	1.5	1.2	154
Akroyden ...	11.7	.1	3.5	.3	140
North ...	20.1	1.9	4.4	1.0	216
Central ...	17.1	2.5	2.9	1.0	207
West ...	18.3	.8	4.5	1.2	117
South ...	14.5	.6	3.1	1.1	138
East ...	22.1	.7	4.2	.9	220
Southowram ...	16.9	1.0	3.8	1.2	179
Skircoat ...	13.6	.9	2.5	.7	110
Copley ...	10.3	1.3	1.0	1.3	97
Pellon ...	12.0	.3	2.2	1.1	113
Kingston ...	11.4	.5	3.0	.4	138
Illingworth ...	14.0	1.2	1.6	.9	97
Northowram ...	20.1	.9	3.0	2.4	84
Warley ...	13.3	.3	3.1	.3	76
Average ...	15.4	.95	3.0	1.0	145

### Notification of Infectious Diseases.

The notification of infectious diseases was first made compulsory in the Borough in 1882 by the Halifax Corporation Act of that year. That Act has however



now been superseded by the Infectious Diseases (Notification) Act, 1899.

During the year under notice there were 586 cases of infectious diseases reported within the Borough. This number though not so large as during the previous year, when 883 were notified, is still too high, and is chiefly due to the epidemic of scarlet fever which prevailed in the Borough more or less throughout the year.

The following table shows the total number of cases of each disease notified during the year, and the distribution of the reported cases among the various Wards of the Borough, as well as public institutions.

WARDS.	Small-pox.	Cholera.	Typhus Fever.	Enteric Fever.	Scarlet Fever.	Continued Fever.	Puerperal Fever.	Relapsed Fever.	Diphtheria.	Erysipelas.	Total.	Rate percentage of Population.
Ovenden ...	...	...	...	4	80	...	...	...	2	6	92	1 28
Akroydon ..	...	...	...	7	11	...	...	...	3	2	23	0 35
North ...	1	...	...	1	25	1	1	...	1	1	31	0 37
Central ..	...	...	...	3	18	..	..	...	3	...	24	0 30
West ...	...	...	...	5	20	...	...	..	3	1	29	0 31
South ...	...	...	...	3	21	...	...	...	5	1	30	0 39
East ...	...	...	...	6	11	...	1	...	3	1	22	0 31
Southowram ..	...	...	...	10	31	..	..	...	3	1	45	0 60
Skircoat ..	...	...	...	8	40	...	1	..	3	8	60	0 66
Pellon ...	...	...	...	3	39	...	...	...	6	...	48	0 52
Kingston ..	...	...	...	5	72	..	..	...	2	...	79	0 76
Illingworth...	...	...	...	4	54	...	...	...	2	5	65	0 91
Copley ...	...	...	...	1	2	..	...	...	1	...	4	0 13
Northowram ..	...	...	...	4	9	...	...	...	...	1	14	0 43
Warley ...	...	...	...	1	19	...	...	...	...	..	20	0 70
Total 1902	1	...	...	65	452	1	3	...	37	27	586	0 55

#### PUBLIC INSTITUTIONS.

Royal Infirmary...	...	...	...	1	5	...	...	...	...	...	6	...
Workhouse...	...	...	...	2	...	..	..	...	..	1	3	...
Poor Law Hospital...	...	...	...	3	2	...	...	...	...	6	11	...
Orphanage ...	...	..	...	...	2	...	...	...	...	..	2	...

Lists containing the names and addresses of those notified each week were sent to the School Board, and Public Libraries.

The following table shows the number of cases notified in each month of 1902.

ZYMOTIC CASES REPORTED EACH MONTH  
DURING 1902.

			Small-pox.	Enteric Fever.	Scarlet Fever.	Puerperal Fever.	Continued Fever.	Diphtheria.	Erysipelas.	Total.
January	...	...	...	8	41	...	...	3	2	54
February	...	...	...	7	25	...	...	...	..	32
March	...	...	...	5	42	...	...	2	1	50
April	...	...	...	9	41	...	...	5	1	56
May	...	...	...	5	35	...	..	3	3	46
June	..	...	...	2	54	...	...	4	2	62
July	..	..	...	5	35	...	...	3	4	47
August	...	...	...	5	27	...	...	5	3	40
September	...	...	...	3	50	...	1	6	1	61
October	...	...	...	7	51	...	...	1	5	64
November	...	...	...	7	27	1	...	3	2	40
December	...	...	1	2	24	2	...	2	3	34
Totals	...	...	1	65	452	3	1	37	27	586

The following table shows the number of each disease reported yearly since notification was made



compulsory, and the rate per cent. which the total yearly number reported bears to the population of the Borough.

YEAR.	Small-pox.	Cholera.	Typhus Fever.	Enteric Fever.	Scarlet Fever.	Continued Fever.	Puerperal Fever.	Relapsed Fever.	Diphtheria.	Erysipelas.	Total.	Rate per centage of Population.
1883	2	...	2	108	158	43	2	1	14	...	330	·43
1884	1	...	1	69	269	24	4	4	13	...	385	·50
1885	7	...	1	56	214	22	1	...	25	...	326	·42
1886	3	1	...	57	124	7	5	...	59	...	256	·32
1887	1	...	1	66	727	8	7	..	26	...	836	1·05
1888	1	...	1	36	440	16	1	...	29	...	524	·65
1889	2	...	...	94	153	18	1	3	31	...	302	·37
1890	...	...	...	67	328	8	8	1	62	...	474	·58
1891	...	1	...	99	429	14	5	2	23	...	573	·68
1892	159	...	1	56	256	9	4	2	71	..	558	·66
1893	346	5	...	69	150	5	6	...	57	...	638	·69
1894	16	...	...	52	114	3	6	...	43	...	234	·25
1895	...	...	.	58	52	3	4	...	29	..	146	·15
1896	...	..	...	105	44	2	4	...	37	...	192	·20
1897	...	...	..	78	476	1	8	...	67	...	630	·66
1898	...	...	...	79	626	1	9	...	23	...	738	·76
1899	...	...	...	92	762	2	3	..	58	...	917	·93
1900	2	..	5	79	330	1	4	3	41	1	466	·46
1901	3	..	...	67	736	...	1	...	61	15	883	·83
1902	1	..	...	65	452	1	3	...	37	27	586	·55

The Borough having been extended several times since 1883, the rate per cent. of population in the above table will better serve for comparison than the totals notified.

### **Causes of Death.**

The causes of death in the Borough including those not belonging thereto during 1902, may be classified under the following eight headings, but for a more detailed list of these causes, see table in the appendix to this Report.

- (1) Infectious Diseases :—Scarlet Fever 14, Measles 36, Whooping Cough 13, Diphtheria 8, Fever 14, Diarrhœa 16, Influenza 9, Puerperal Fever 1, Other septic diseases 9.
- (2) Constitutional Diseases :—Malignant diseases (Cancer Sarcoma &c.) 95, Phthisis 108, Other tubercular diseases 61.
- (3) Dietetic Diseases :—Alcoholism and Cirrhosis of Liver 20.
- (4) Local diseases :—Brain and Nervous System 107, Apoplexy 42, Circulatory system 168, Respiratory system 358, Digestive system 55.
- (5) Developmental Diseases :—Premature Birth 79, Old Age 122.
- (6) Deaths from Accidents :—37.
- (7) Deaths from Suicide :—16.
- (8) Deaths from all other causes :—245.



### **Small-Pox.**

Although small-pox was prevalent in the Country and in districts around Halifax especially during the last quarter of the year, the Borough remained free from the disease throughout the year except for one case which was reported on December 22nd. The origin of this case could not be definitely traced. Strange to say however, a horse rug which the person stated she had picked up in the street, was found in the house and this had come from Brighthouse where the disease was prevalent. Efforts were made to ascertain where this rug had come from, and whether it had been the means of conveying the disease in this case. The owner of the rug was discovered, but no evidence was forthcoming to show that it had been the means of conveying the infection. The patient was removed to the small-pox hospital, the husband and child were kept in quarantine for 12 days, the house and its contents were thoroughly disinfected, and the disease spread no further.

### **Scarlet Fever.**

This disease was present in the Borough more or less throughout the year in epidemic form. All parts of the district were effected at some period of the year, but certain parts more so than others. The Ovenden and Kingston Wards had the largest number of cases, while Copley was scarcely affected, only two cases being reported in that Ward during the year. In all, 452 cases were notified, of which 14 died. This gives a deathrate of 0·13 per 1000, and a case mortality of 3·1 per cent. of the number reported. During the previous year the deathrate was 0·17 per 1000, and the case mortality 2·4 per cent.

This disease is difficult to control, as mild cases often occur, are overlooked in consequence thereof, and spread the infection. Parents also are not sufficiently careful with regard to this disease. In June last, several children contracted the disease as a result of mixing with others who were recovering from the disease. Parents frequently do not call in medical advice, and do not report these cases themselves as required by law, consequently in many cases there is no supervision, and the disease spreads.

On June 5th from information received I visited a house and found two children desquamating freely after Scarlet Fever, and in a very infectious state. As these cases had not been reported, the Committee decided to prosecute, and the Father was fined ten shillings and costs.

There is also no doubt that in many cases children caught the infection at School, this source of infection however was not so frequent as during the previous year, and at no time during the year did it warrant the closure of a school in consequence thereof.

The following table gives the number of cases notified during each month of the year.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cases Notified ...	41	25	42	41	35	54	35	27	50	51	27	24	452

### Fever.

Under this heading are included Enteric or Typhoid, Typhus, and Continued Fevers, and during the year



under review 65 cases of Typhoid, and one of Continued Fever were reported, against 67 of Typhoid during the previous year. The disease was present in the Borough throughout the year, cases being notified each month, the greatest prevalence however occurred during the months of January and April.

On investigating the cause of the various cases, no evidence was forthcoming indicating that either contaminated milk or a polluted water supply were responsible for any of them.

The following table gives the sanitary conditions connected with, and the probable or assigned causes of the notified cases of Typhoid Fever.

Disease.	Number of Cases notified.	Drainage.		Ventilation		Old Middens.	Goux Closets.	Water Closets.	Probable or assigned cause.				
		Good	Bad.	Good	Bad.				From a Cold.	From a previous case in same house.	From Defective Drains.	Other cases in the same neighbourhood.	No trace.
Typhoid Fever ...	65	59	6	65	...	2	52	11	10	3	5	1	46

When a case occurs in a house where a privy midden exists, and is not removed to Hospital, a special pail containing strong disinfectants is left for the patients excretions.

These pails are renewed daily and the contents safely disposed of. When a case occurs in a house where there is a goux closet, special precautions are taken in cleansing and disinfecting the goux tubs until the case is removed to the Hospital or has recovered.

Of the 66 cases reported, 14 ended fatally, which gives a deathrate of 0·13 per 1000, and a case mortality of 21 per cent. of those notified. During the previous year the deathrate was 0·14, and the case mortality 22 per cent. respectively.

### Diphtheria.

During recent years the tendency has been for Diphtheria to become more prevalent in large towns than formerly, and such has been the case in Halifax, as the following table indicates. This increase however has not been so marked here as in many large towns.

The following table shows the average number of cases of Diphtheria reported in quinquennial periods during the past 20 years.

Period.	Number of Cases reported.
1883-7	27
1888-92	43
1893-7	48
1898-02	44

The number of cases of this disease notified during the year under notice was 37, against 61 during the previous year, and is the smallest number reported in one year since 1898.

The following table gives the sanitary conditions connected with and the probable or assigned causes of the notified cases of diphtheria.



Disease.	Number of Cases notified.	Drainage.		Ventilation		Old Middens.	Goux Closets.	Water Closets.	Probable or assigned cause.					
		Good	Bad.	Good	Bad.				From a Cold.	From a previous case in same house.	From Defective Drains.	Contracted at School.	Away from Home.	No trace.
Diph-theria	37	30	7	37	...	2	29	6	2	1	2	1	1	30

Of the above 37 cases, 8 died which gives a death-rate of 0.07 per 1000, and a case mortality of 21 per cent. of those reported to be suffering from the disease. During the previous year the deathrate was 0.16 per 1000, and the mortality 28 per cent.

### Measles.

This disease was prevalent in the Borough more or less during the first nine months of the year, and during the summer months extending from April to July it assumed a somewhat extensive epidemic form, while during the last quarter of the year the town was practically free therefrom, except the district of Northowram where the disease was prevalent during the month of December.

An epidemic of Measles is very difficult to control for several reasons. It is very infectious in the early stages and before its nature is definitely manifested, parents look upon this disease as a trivial affection, and do not isolate sufferers therefrom, but allow them to mix with the healthy and thus the disease spreads rapidly. The elementary day schools also are a means of spreading this malady, and more especially the infants' department.

In consequence of the prevalence of this disease, the following schools were closed.

School.	Date of Closure.
All Saints' (Infants' Department) ...	July 17th.
Northowram Board (Whole School) ...	Dec. 12th.

Besides the above, the babies' classes in several schools were dismissed for various periods by the Medical Officer of the School Board, Dr. Hunt, after consultation with myself, and this action seemed to have a beneficial effect in arresting the spread of the disease.

Measles caused 36 deaths during the year, half of which occurred during the four months April to July. This gives a deathrate of 0·34 per 1000, against death-rates 0·31 during 1901, 0·4 during 1900, and 0·14 during 1899.

### Whooping Cough.

Cases of this disease were present in the Borough more or less throughout the year, but at no time did it assume a serious epidemic form.

Whooping Cough like Measles, not being a notifiable disease, there is no means of ascertaining with accuracy, the incidence of the disease. The only information obtainable with reference thereto, is procured from the school authorities, and we find this very useful, as it enables us to form some idea of the prevalence of this malady in the Borough, as well as Measles.

This disease caused 13 deaths during the year, which gives a deathrate of 0·12 per 1000 against a deathrate of 0·18 during the previous year.



### Diarrhœa.

There were 16 deaths registered within the Borough during the year from those causes which are now classified under diarrhœa. This is the smallest number of deaths which have resulted from these causes since the year 1896. It is a well known fact that when the four foot earth thermometer reaches 56 degrees, diarrhœa becomes very prevalent. The highest point which the thermometer in Halifax recorded last year was 53 degrees, which it did on July 8th, and remained at that point until August 12th. This fact possibly accounts for the much smaller number of deaths from diarrhœa than during the previous year, when owing to the excessively hot summer, the thermometer rose to 56 degrees on July 19th, and remained at that point till August 3rd, when it recorded 57 degrees, it fell to 56 degrees again on August 6th, and remained there until September 5th.

The above 16 deaths give a deathrate for the year of 0·15 per 1000, against a deathrate of 0·39 during the previous year.

The following table serves to compare the diarrhœa deathrate of Halifax with the average of other towns, and with England and Wales.

	Deathrate per 1000.
England and Wales ... ..	0·38
76 Great Towns ... ..	0·54
103 Smaller Towns ... ..	0·35
England and Wales less the 179 towns ...	0·22
<b>Halifax</b> ... ..	<b>0·15</b>

It will thus be seen that our diarrhoea deathrate was, as during the previous year, not only below the average of that of the towns, but also that of the Country generally.

### Influenza.

This disease was present in the Borough during the year under notice, though not to a serious extent. Nine deaths resulted therefrom, the same number as during the previous year. During the five years previous to the one under review, the annual deaths from this cause were 9, 56, 22, 37, and 13 respectively.

### Respiratory Diseases.

The diseases included under the above heading are Pneumonia, Bronchitis, and Pleurisy, and during the year 328 deaths were registered as having resulted from these causes, viz :—Pneumonia 150, Bronchitis 173, and Pleurisy 5. The above number give a deathrate of 3·1 per 1000, against 3·0 during the previous year, 3·7 during 1900, and 3·6 during 1899 respectively.

We have as a rule a higher respiratory deathrate than many places owing no doubt to climatic conditions, though the deathrate as shown above during the past two years, was more favourable than the two years previously.

The following table gives the number of deaths from respiratory diseases during each month of the year.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Deaths from Respiratory Diseases	35	46	38	30	22	23	21	16	15	15	30	37	328



### Phthisis.

During the year Phthisis Pulmonalis caused 108 deaths within the Borough, which it is satisfactory to note is 37 below the number that fell victim to this disease during the previous year, and it is the lowest number of deaths occurring in any one year on record. It gives a deathrate of 1·02 per 1000, the lowest on record. During the previous year the deathrate was 1·38, which is also the average of the past five years.

There were also 61 deaths during the year from other tubercular diseases, which together with the above 108 from Phthisis, make 169 deaths in all, due to tubercular affections, and this gives a deathrate for the year of 1·6 per 1000 population from the various forms of tubercular diseases. During the previous year the deathrate from these causes was 2·07 per 1000.

The deathrate from Phthisis is gradually diminishing, and has been so in the Country during the past fifty years. No doubt this has arisen from the improved social condition of the people. They live in better constructed, lighted, and ventilated houses than formerly and are better fed.

The following table indicates the fall which has taken place in the Phthisis deathrate during the past 22 years.

			Average Phthisis Deathrate per 1000.
Ten years—1881-1890	...	...	2·0
Do. 1891-1900	...	...	1·5
Two years—1901-1902	...	...	1·25
Average for 22 years	...	...	1·32

A register is kept of all cases of Phthisis which come to our knowledge. A pocket spittoon is supplied free of charge to all who require the same, and when a death or removal takes place, the house is cleansed and disinfected. This work however cannot be adequately carried out until this disease is made notifiable. Several cities and towns now have a system of voluntary notification, which appears to be attended with some success, but that success can only be very limited, because it is obvious that no method of voluntary notification can possibly bring to the knowledge of the Sanitary Authority more than a small percentage of existing cases, and therefore cannot be the means of initiating the preventative action required in producing a marked and far-reaching affect in diminishing the incidence of this disease.

The Local Government Board so far as refused to sanction the application of the Infectious Diseases Notification Act to this disease. That being the case, an attempt was made by the Council to insert a clause in the Bill that was before parliament during the summer of the year under notice, to make this a notifiable disease. The Local Government Board opposed this clause, and although the Select Committee after hearing our evidence in support of the clause, expressed an unanimous opinion that compulsory notification would be an excellent thing, they struck the clause out because they considered that notification should be made compulsory generally throughout the Country, and not locally.

Seeing that doubts exist in many quarters as to the workability of compulsory notification in the case of a



chronic disease like Phthisis, I cannot agree with the decision of the Committee. If there are drawbacks in the way, and I do not admit there are, which offer any serious difficulty I am of opinion that it would be of advantage to try compulsory notification in limited areas, such as was first done in the case of ordinary infectious diseases, and this might be done even for a limited number of years. Then it would be possible to judge of the value of the method, find out its defects and drawbacks, if any, and eventually proceed with confidence to either make it general throughout the Country, or abandon it altogether.

I may mention that this effort on the part of the Corporation was referred to at the International Congress on Tuberculosis held at Berlin last year, as a movement in the right direction, and the opinion expressed by the Committee of the House of Commons was mentioned as a step towards the achievement of the desired end.

The question of treatment is also a very important matter in dealing with a disease like this. The open air treatment in Sanatoria is the most popular, and the one followed by the greatest amount of success. I would here like to point out that people can to a great extent secure this treatment in their own homes, by keeping their windows open night and day. I do not however wish to convey the idea that this method is equal to the treatment in sanatoria, where the surroundings are healthy and pleasing, and where the patients are constantly under trained and skilled supervision, but in the

absence of the above the open window at home is the next best method.

This town is entirely without a special institution for the treatment of consumptives. The Guardians have however constructed excellent wards for pauper patients in their new Hospital at Salterhebble, and the rich can easily look after themselves. It is among the poorer people, and those of the toiling masses, who are unfortunate enough to be stricken with this fell disease, that provision is urgently needed. It does not seem probable that an institution of this character is likely in the near future to be provided out of the rates, and it is in my opinion a most suitable object for private beneficence. In support of this idea I cannot do better than quote the remarks of my predecessor, the late Dr. Ainley, who in his Annual Report for 1899 said "But surely large hearted generosity and patriotism did not die with a Crossley or an Akroyd, and there is still a fine opportunity for some one less than a millionaire to crown the end of the century with the gift of an institution that will not only add lustre to a name, but untold blessings to the Town."

Mrs. Hodgson Wright is endeavouring to set on foot a movement for the establishment of a sanatorium which will meet the needs and requirements of the Town in this direction, and it is hoped that her efforts will be successful, and that she will be enabled to obtain sufficient pecuniary assistance to at least make some provision for the wants of the district, that will mitigate at any rate to a limited extent, the sufferings of the people.



### Cancer.

Under this heading are included the various forms of malignant tumours or growths which affect the human subject. The Cancer deathrate of the Country generally has increased, but how far that increase is due to an extended knowledge regarding the pathology of Cancer, and the greater accuracy displayed in modern methods of diagnosis, it is impossible to say.

During the year 95 deaths resulted from Cancer, which gives a deathrate for the year of .89 per 1000. The Cancer deathrate in Halifax has varied but little during the past 10 years, as the following table will show.

Years.	1892.	-3.	-4.	-5.	-6.	-7.	-8.	-9.	-00.	-01.	-02.
Deathrate	... .8	.7	.8	.8	1.1	.6	.6	.7	.7	.8	.89

With regard to the cause of Cancer, there is nothing very definite known. It is thought that the disease may be due to a specific microbe or parasite, in fact, observers have discovered bodies of a parasitic character in these tumours which they think are connected with the cause of the disease, but so far, sufficient proof has been wanting to make these ideas established facts. It is quite possible however that we shall not require to wait much longer before some discovery of great importance is made in this direction, because strenuous efforts are being put forth by able men, and laborious researches are in course of progress having that end in view.

### **Deaths from Violence, and Uncertified.**

The table which follows, gives the number of inquests held during each month of the year, and shows the total to be 120 in number. This table which is taken from the Report of the Chief Constable does not quite agree with the returns which have been furnished me by the Registrars of births and deaths. The total number of inquests held correspond in the two cases, but the verdicts stated to have been arrived at by the jury, do not agree.

According to the returns of the Registrars, there were 37 verdicts of accidental death, 16 Suicide, 47 Natural causes, and 20 other verdicts.

The 48 deaths certified by the Coroner after inquests is equal to 2·9 per cent. of the total deaths registered. During the previous year this percentage was 2·6. There occurred also 43 deaths which were neither certified by a registered medical practitioner, nor the Coroner. This number is equal to 2·6 per cent. of the total deaths which is below that of the previous year when the percentage was 3·4.



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TABLE 10.—Inquests in the Borough during the Year.

VERDICTS.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Accidental Deaths	2	3	1	1	2	...	1	1	5	...	...	...	2	1	1	1	3	4	1	...	1	1	1	4	20	16
Natural Causes	4	1	3	2	..	...	2	...	5	5	2	...	2	...	1	2	6	1	2	2	1	5	...	...	29	20
Suicide by various means	1	...	...	...	3	1	..	1	...	...	1	...	1	...	..	1	1	...	...	...	1	...	...	...	7	4
Other Verdicts	1	1	3	1	1	...	...	...	1	...	...	...	3	...	1	...	2	1	1	...	3	1	...	1	19	5
Total	8	5	7	4	6	1	3	2	11	5	3	...	5	4	3	4	12	6	4	4	6	7	5	7	75	45
"	5	1	8	...	7	2	6	1	4	2	6	1	6	...	5	1	3	4	8	4	6	4	2	2	70	22
"	8	2	3	3	4	2	4	...	4	2	5	...	2	3	6	3	6	1	4	3	5	2	3	5	56	24
"	4	3	1	3	3	5	7	2	7	1	4	2	11	2	4	...	3	...	4	2	1	...	4	1	53	21
"	5	6	5	2	4	1	6	3	5	5	10	...	5	1	7	2	2	1	1	2	7	2	1	7	64	26
"	5	3	7	1	5	2	3	3	5	4	4	1	3	4	3	...	1	3	7	3	4	2	8	8	55	34
"	4	2	3	4	7	5	3	1	3	3	7	1	4	1	6	3	4	1	3	3	5	...	11	4	60	28
"	7	5	8	1	5	1	5	3	5	4	6	1	5	4	5	1	4	2	4	4	2	7	1	4	62	34
"	11	2	5	2	7	...	5	2	1	1	5	1	8	1	2	2	2	1	3	3	3	...	6	1	59	19
"	5	2	2	...	4	1	4	...	3	2	5	1	2	...	2	1	2	1	2	1	5	...	3	3	39	17

### **Arsenical Beer Poisoning.**

It was no doubt generally expected that arsenical beer poisoning would disappear with the discontinuance of the use of Bostock's Sugar, although during the investigation of this subject in the scare of 1901 it was shown that some malts contained dangerous amounts of arsenic, and especially those made with gas coke.

In the beginning of the year under review, cases were admitted into the Poor Law Hospital, Salterhebble, bearing unmistakeable signs of arsenical poisoning. Altogether some 12 cases came to my knowledge, and of these, 3 died. A large number of samples of beer were taken for analysis from various sources, and arsenic was found therein, varying in quantity from a mere trace to 1/16 gr. per gallon. Samples of the various brewing ingredients were also examined, and found to be practically free from the poison, even the malt then in use only contained traces of the poison.

The question then presented itself as to how the arsenic got into the beer.

On considering this question it was evident that these people were suffering from beer they had drunk some months before, and not that being then consumed. On pushing the investigation further I was able to get evidence that beer brewed from the previous seasons malt was much more contaminated than that being then brewed. The cause of this was that gas coke was much more frequently used for malting purposes during that season, hence in that fact lay the explanation of this outbreak of arsenical poisoning. The Malsters now use oven coke or picked anthracite coal for malting purposes, and owing to the care now exercised, all danger seems to have passed away.



## Scavenging and Drainage.

The sewers and drains throughout the main portion of the Borough are mostly in a good and satisfactory condition, and are periodically flushed. I have however to complain of the existence of a number of untrapped gullies in certain parts of the Borough, many of which are situated near doors and windows. Sewer air coming from these gullies must find its way into houses under these conditions, and not only so, but the offensive smell arising from the gases, compel the inhabitants of these houses to keep their doors and windows shut, and thus ventilation is interfered with. I drew attention to these untrapped gullies in my last Annual Report, and several complaints were made during the year. In my opinion, trapped gullies should be substituted for these, at any rate, where they exist near houses.

The sewage scheme for Warley has I understand been completed, and several drains have already been connected thereto. Those owners who have not already connected up therewith, have had notice to do so. Warley is in the area of the Luddenden Joint Sewage Board, hence the Warley sewage will be treated at the outfall works of that Board at High Royd.

Mount Tabor is without a proper system of drainage, and a number of complaints have been made from time to time with reference thereto. It has however now been decided to continue a sewer into this district. Illingworth also has no proper system of sewers, nor has Northowram, but I believe the drainage of these districts is under the consideration of the Highways Committee.

The sewage outfall works are situated at Salter-hebble, and the treatment of the sewage is to be upon biological principles, but the scheme has not yet been completed. No doubt it will be proceeded with in due course.

### **Disposal of Nightsoil and House Refuse.**

The greater part of the nightsoil of the Borough is dealt with under what is known as the Goux System. These closets are constructed with moveable tubs which are conveyed to and from the Goux Dépôt. Here they are thoroughly cleansed and lined with shoddy which serves as an absorbent for the liquids. The tubs brought from houses where typhoid fever exists are marked and specially cleansed and disinfected.

There are 16,808 of these closets in the Borough and they are emptied on an average once in nine days.

The work of this department was carried out by contract until March, 1899, when it was taken over by the Health Committee. The contents of these tubs are sold by contract at 2/7 per ton, but this returns only about one-sixth of the cost of the working expenditure the balance has to come out of the rates. Engaged in carrying out this work there are 26 specially constructed vans, 26 horses, and 39 men.

In my opinion the time has come when water closets should be enforced for all new houses. However satisfactory the Goux System may have been, the water closet as a sanitary convenience must be admitted to be superior. Then again the cost of the goux method is great and ever increasing. The longer its replacement by the water carriage system is postponed, the greater



the cost will be. The removal of nightsoil by the goux method costs over £5,000 per annum. If all the goux closets could be at once put upon the water carriage system, the cost of water would be something over £2,000. There would thus be a saving of £3,000 per annum. The water which would be used for water closets, more especially when the Walshaw Dean Scheme is completed, will run to waste, and bring in no revenue to the Corporation, consequently practically speaking the whole £5,000 would be saved. Again in my opinion the admixture of the nightsoil with the present sewage, containing as it does trade refuse would be beneficial, as it would assist in, and render it more amenable to treatment by the bacteriological method.

Of course it is impossible to immediately convert all goux closets to water carriage, and if it were practicable, I would not recommend it. There ought however to be a gradual replacement of the present closets by water closets, and the time in my opinion has come when that change should be commenced.

There are at present 1063 privy middens in the Borough, a large proportion of which are in Warley and Northowram. These middens are emptied quarterly by our own men and the contents taken by farmers. With regard to the removal of house refuse, there are 508 dry ashpits, which are also emptied quarterly as a rule, and in every case except those houses with privy middens and dry ashpits attached, there are tubs for the reception of house refuse. The contents of these tubs as well as the dry ashpits are carted to tips by our own men, and each tub is emptied on an average of once in 10 days.

A destructor is much needed, as it is the most scientific and efficient method of dealing with this refuse.

### Water Supply.

The water supply to the Borough is by gravitation at present from seven storage and six service reservoirs, having a total capacity of 1,345,952,000 gallons. The collecting ground or drainage area of the reservoirs is chiefly moorland or high mountain pasture, and of the millstonegrit formation. The water is delivered in the town at a high pressure and with a constant supply.

A great deal of the water coming as it does from high moorland is very soft, and liable to contain an excess of peaty acids, which untreated, will act upon lead. This refers however chiefly to the water from Ogden Reservoir, which supplies Northowram, Southowram, and certain adjacent parts of the Town. This water however is treated with chalk and lime at Ogden: its acidity is thereby reduced if not quite neutralised, with the result that it has little or no action on lead, and there has been during the year no cases of lead poisoning in the districts supplied by this water.

The following table shows the average acidity of the samples of Ogden water taken monthly, before and after treatment. The acidity is given in terms of Sulphuric Acid, and in parts per 100,000.



MONTH.	Average Acidity of Sample of Water.	
	Taken from Reservoir.	Taken after Treatment and as supplied to the Consumer.
January ... ..	·68	·13
February ... ..	·88	·2
March ... ..	1·07	·05
April ... ..	No estimation made	
May ... ..	·83	·12
June ... ..	·68	·12
July ... ..	·88	·39
August ... ..	·68	·3
September ... ..	No estimation made	
October ... ..	·93	·29
November ... ..	·78	·29
December ... ..	·83	·39

On nine occasions the water was found to be slightly alkaline as a result of the treatment, and this occurred during the months of February, March, May, and June.

The water supplied to the main portion of the Town is mixed in the Ramsden Wood Reservoir into which the storage reservoirs flow, and this mixing acts beneficially in reducing the acidity thereof. In fact the acidity of this mixed water is so little that it has not yet been found necessary to apply to it any special treatment.

The following table gives the average acidity of the samples taken monthly of this water.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
No estima- tion.	'39	No estima- tion.	No estima- tion.	'3	'38	'41	'34	No estima- tion.	'41	'32	'39

In every other respect the water is pure and free from pollution, and under the above treatment is wholesome and the risk of lead poisoning if not completely abolished is reduced to a minimum.

Although the previous summer was remarkable for the long period of drought, only an average of 3 inches more of rain fell during the year under notice on the various collecting grounds of the Halifax Waterworks, than during that year. The fall however was more constant throughout the year, consequently there has been ample supply and no restrictions thereto have been necessary.

### Common Lodging Houses.

The Common Lodging Houses in the Borough number 17, and are registered to accommodate 821 lodgers, the same number as during the previous year. Under the provisions of the Halifax Corporation Act, 1900, their registration requires to be renewed each year in the month of May. They are under the supervision of the Police, Inspector Osborne has charge of them, and is responsible for seeing that the Byelaws are carried out. The Chief Constable has informed me that there has been no cause for complaint during the year and no overcrowding.

They have been visited by me from time to time during the year, and I always found them clean and well



kept. On the whole, and with a few exceptions the common lodging houses are suitable for the purpose and as good as can be expected for the sum paid. What is called the New Model Lodging House is I consider a very good one. Here all the beds are in cubicles, and they are all lighted directly by windows, and there is a cubic air space of about 600 feet. A sitting and reading room are provided, but the kitchens are below ground, and the arrangements there might be better.

### **Dairies, Cowsheds and Milkshops.**

The dairies and cowsheds have been visited and inspected during the year. I have also visited a number myself. Since the Regulations made in 1901 under the Dairies and Cowsheds Order of 1895 came into force, we have seriously attempted to improve the condition of these Cowsheds generally, and although there are a great number of Cowsheds in the Borough which are sadly deficient in many respects, it is very difficult to persuade the farmers of the necessity of a great many alterations which are needed for the protection of the milk. The clause in the new regulations enforcing the provision of 800 cubic feet per cow in old cowsheds does not come into force until August of the present year, after then we shall be in a better position to enforce improvements in the Cowsheds of the Borough. One of the greatest faults I have to find with the Dairymen generally, is the want of cleanliness in connection with the Cows, Cowsheds, and Milk Carts. Also I notice that at very few farms is there adequate provision for the supply of boiling water for scalding out milk vessels, which is a most necessary procedure both for keeping the milk free from microbic contamination, and preserving it. The Carts also which they convey the milk to their customers in,

are seldom cleansed and often used for carrying substances that will contaminate the milk. Then the clothing of those who serve out the milk is not always such as is desired, and the frequent opening of the stock milk can together with the constant dipping therein of the measuring tin by a man with dirty hands, a dirty coat, and in a dirty cart, is not conducive to the protection of the milk from contamination, but the very opposite.

The inspection of cowsheds is carried out by Meat Inspector (J. K. Crawshaw) and District Inspector (J. Wood) who between them paid 759 visits to these cowsheds during the year, as well as 93 visits to the various milkshops in the Borough.

The following table gives the number and nature of the defects found, together with the number remedied.

Nature of Defects.				Number Reported.	Number Remedied.
Want of Light	...	...	...	70	11
Do. Airspace	...	...	...	90	12
Do. Drainage	...	...	...	25	15
Do. Ventilation	...	...	...	85	15
Made up and defective drainage	...	...	...	81	24
Untrapped drains inside Cowsheds	...	...	...	4	4
Defective floors	...	...	...	13	8
Dirty floors and stands	...	...	...	6	6
Cowsheds requiring limewashing	...	...	...	47	46
Swine kept in Cowshed	...	...	...	2	2
Offensive and defective Cesspools	...	...	...	5	5
Do. accumulations in Cowsheds	...	...	...	2	2
Delivery cans unlabelled	...	...	...	8	8
Improper position of Middenstead	...	...	...	9	2
Living apartments communicating direct with Cowshed	...	...	...	3	0
Totals for 1902				450	160
No. reported in 1901				236	166



As will be seen by the above table a much larger number of defects have been reported than during the previous year, and a much smaller proportion have been remedied. The reason of this is that these defects have been reported under the new regulations, and until these regulations come fully into force in August of the current year, the same proportion will not be remedied as has been the case heretofore.

### **Slaughterhouses.**

The public slaughterhouse was in existence when the Borough was incorporated in 1848. There are also 10 private slaughterhouses in the town to which 282 visits were paid during the year. On the whole they are fairly well kept, and there has been no complaint during the year.

I desire again to call attention to the condition of the public slaughterhouse which is badly arranged, out of repair and insanitary, and to repeat that I think the time has come when the Markets Committee should take into consideration the question of re-building and re-arranging the whole structure. A cold stores is also much needed.

### **Factories and Workshops.**

Under the Factory and Workshops Act, 1901, it is incumbent upon the Medical Officer of Health to include in his Annual Report an account of the administration of this Act in his district.

A large number of factories were visited from time to time during the year, with the object of inspecting the sanitary conveniences and the condition of the drains

connected therewith, and for the purpose of supervising the work that was required to be done to remedy any of the defects that were found.

Several of the factories visited were inspected as the result of a notice from H. M. Inspector of Factories (Mr. Garvie). The workshops have also been kept under regular supervision.

The following table gives the number of visits that were made to factories and workshops and to shops under the Shop Hours Act by the District Sanitary Inspectors.

District.	Number of Visits made to Factories.	Number of Visits made to Workshops.	Number of Visits under the Shop Hours Act.
A	81	575	327
B	25	361	392
C	36	360	334
D	20	84	8
Total ...	162	1380	1061

The above visits resulted in the discovery of a large number of sanitary defects, the nature of which are set out in the following tables. Each table represents a district over which a Sanitary Inspector has supervision.



# District A.

INSPECTOR JAMES ARCHBELL.

Number of Workshops on Register ... 390

Nature of Nuisance.				Number Registered.
IN FACTORIES.				
Insufficient privy accommodation	...	...	...	29
Defective water closets	...	...	...	13
Defective drains	...	...	...	22
IN WORKSHOPS.				
Insufficient privy accommodation	...	...	...	21
Defective water closets	..	...	...	9
Defective drains	...	...	...	3
Want of ventilation	...	...	...	2
Workrooms requiring limewashing	...	...	...	60
Total	...	...	...	159

## District B.

INSPECTOR JOSEPH W. ASQUITH.

Number of Workshops on Register ... 549

Nature of Nuisance.				Number Registered.
IN FACTORIES.				
Defective urinals	...	...	...	3
Defective closets and drains	...	...	...	20
Insufficient privy accommodation	...	...	...	2
Defective roof	...	...	...	2
Rooms to limewash	...	...	...	3
Dirty closets	...	...	...	8
IN WORKSHOPS.				
Rooms requiring limewashing	...	...	...	13
Insufficient privy accommodation	...	...	...	10
Defective W.C's	...	...	...	8
„ sink pipes	...	...	...	7
Dirty closets	...	...	...	4
Defective roof and fall pipes	...	...	...	2
Insufficient ventilation	...	...	...	1
Overcrowded workroom	...	...	...	3
Accumulation of rubbish...	...	...	...	2
Total	...	...	...	88



## District C.

INSPECTOR JAMES EDWARD FIRTH.

No. of Workshops on Register ... 208

Nature of Nuisance.			Number Registered.
IN FACTORIES.			.
Defective W.C. cisterns	...	...	2
Door broken off closet	...	...	1
Flooded cellars, defective drains	...	...	5
Offensive steam	...	...	2
Closets requiring limewashing	...	...	9
Defective water closets	...	...	24
Stonewalled drains and burst water pipe	...	...	2
IN WORKSHOPS.			
Defective, broken and made up W.C's	...	...	7
Insufficient privy accommodation	...	...	5
„ ventilation	...	...	2
Leaking syphon traps	...	...	2
Workrooms requiring limewashing	...	...	23
Dirty closets	...	...	9
Leaky soil pipe	...	...	2
Made up sink drains	...	...	2
Accumulation of rubbish	...	...	1
Total	...	...	98

## District D.

INSPECTOR JOHN WOOD.

No. of Workshops on Register ... 82

Nature of Nuisances.				Number Registered.
IN FACTORIES.				
Offensive Smoke	...	...	...	6
Insufficient privy accommodation			...	1
Dirty Closets	...	...	...	4
Made up W.C. drainage	...	...	...	1
IN WORKSHOPS.				
Workrooms requiring limewashing			...	5
Dirty closets	...	...	...	2
Dilapidated closet	...	...	...	1
Total	...	...	...	20



The nuisances and sanitary defects registered in connection with the factories and workshops, as shown by the foregoing tables, number 365 of which 360 were remedied or abated and 5 remained unabated at the end of the year. Of the nuisances and defects that were remedied, four connected with factories, and nine with workshops were abated as the result of notices received from the Factory Inspector, and a formal notice of abatement was sent by me to the Inspector in each case after the work was completed in accordance with the provisions of the Factory and Workshops Act.

### **Bakehouses.**

The Bakehouses are under the supervision of Meat Inspector J. K. Crawshaw, and they have been regularly visited and inspected during the year.

Under the provisions of the Factory and Workshops Act 1901, no underground bakehouse can be occupied as such after January 1st, 1904, unless the occupier obtains a certificate from the Sanitary Authority for that purpose. Five underground bakehouses were closed during the year, but 41 still remain in existence. I have already visited a large number of these, and shall complete the inspection as soon as possible with a view to considering as to which should be recommended for a certificate. Already 25 applications have been made for certificates. No form of certificate is prescribed, and as this appears to me to be an important matter, the same is under my consideration. When once a certificate is granted, the Act seems to give no power of withdrawing the same at any future time, should that be necessary. I am of opinion that the Sanitary Authority ought to have the power of requiring the renewal of these certificates from time to time.

I have during the year visited a number of bakehouses other than those underground, and while some are not kept so clean as they should be, the large majority have been found satisfactory in most respects. We notice that those bakehouses in which females work are generally kept in a much more cleanly condition than those in which males are concerned. One bakehouse was closed during the year as being unfit for the purpose on sanitary grounds.

The following table shows the number of Bakehouses on the register, and the number of visits paid to them during the year.

Description of Premises.	Number on Register.	Number of visits made.
Wheat bread and muffin bakers, including confectioners ...	117	340
Oat bread and muffin bakers ...	20	

As a result of the above visits some 106 defects were discovered, which are set out in the following table, together with the number remedied.

Nature of Defects.	Number Reported.	Number Remedied.
Defective drains, and sink waste pipes to disconnect ...	23	18
Bakehouses requiring limewashing ...	14	14
Insufficient ventilation ...	25	9
Do. light ...	27	7
Do. closet accommodation ...	1	0
Stables ventilating into bakehouses ...	3	1
Damp walls ...	5	0
Dirty floors ...	4	3
Defective floors ...	1	0
Drain opening in Bakehouse ...	1	1
Untrapped sink pipe ...	1	1
Made up sink pipe ...	1	1
Total ...	106	55



As will be seen by the above table, a large number of defects discovered, had not been remedied at the end of the year. This is accounted for by the fact that those remaining unremedied are chiefly in underground bake-houses. As soon as a decision has been arrived at as to which of these bakehouses will be certified, these matters will be attended to, and of course those unfit for a certificate will in due course be closed.

### **Ice Cream Makers and Vendors.**

The rooms in which this article is manufactured have been visited by the inspectors during the year, and as a result there has been some improvement in regard to the conditions and cleanliness of the surroundings of these establishments. No infectious disease has been discovered among the workers in this trade during the year, and there has been nothing special to report on except perhaps that there is still room for improvement in the matter of cleanliness.

### **Congress of the Royal Institute of Public Health.**

The annual Congress of the above Institute was held during the year under review at Exeter, from August 20th to the 27th, and was attended by Alderman Coe, J.P., Chairman of the Health Committee and myself as delegates from the Committee.

We presented a joint report to your Committee on the proceedings of that Congress, which dealt with some of the more important questions that were discussed,

and as copies of that Report were sent to all members of the Council, it is not necessary to reproduce that report here.

### **Public Health Laboratory.**

A laboratory has been fitted up in the Town Hall, and equipped for ordinary bacteriological work, and chemical analysis. It was completed and opened for practical work early in January in the current year. All the Doctors in the Borough and surrounding districts who practice in the Borough were notified of the fact.

### **Byelaws.**

A new set of byelaws with respect to nuisances in the Borough were adopted during the year, and received the sanction of the Local Government Board on October 15th 1902.

### **Disinfection.**

The disinfecting chamber is situated at the Fever Hospital, Stoney Royd, and was constructed in the year 1892. During the year under notice there were 15,515 different articles disinfected therein, which consisted of beds, mattresses, bedclothing, carpets, and various articles of dress.

There were 1079 rooms fumigated and disinfected, also 17 elementary day schools. The latter are shown in the following table.



Date.	Name of School.			Number of rooms fumigated.
January 5th...	All Saints'	...	...	11
April 1st ...	Copley...	...	...	6
" 2nd ...	Parish Church	...	...	12
" 3rd ...	Bradshaw	...	...	18
" 9th ...	Haugh Shaw	...	...	23
" " ...	Siddal	...	...	17
" " ...	Trooper Lane	...	...	10
August 2nd ...	Holy Trinity	...	...	10
" " ...	Pellon Lane	...	...	14
" 5th ...	Parkinson Lane	...	...	16
" " ...	Queen's Road	...	...	30
" " ...	Warley Road	...	...	24
" 6th ...	Mixenden	...	...	14
" " ...	Mechanics' Institute, Northowram	...	...	7
" " ...	Towngate (Infants')	...	...	4
" " ...	Salterlee	...	...	8
December 8th	Wainstalls	...	...	8
" 16th	Mechanics' Institute, Northowram	...	...	7
" "	Towngate (Infants')	...	...	4
Total number of rooms disinfected				243

Disinfecting fluid is supplied free on application at the Health Office to those in whose family fever happens to occur, and disinfecting powder is given free to all who apply at the scavenging depôt, Lister Lane, between the hours of 10 and 12 a.m. and 2 and 4 p.m., and on Saturdays 10 and 12 a.m. only.

### Meteorological Observations.

These observations are taken in the grounds of the Public Library, Belle Vue, by Mr. J. Whiteley the

Librarian, and are set out in a general summary which follows.

Although the summer of 1901 was remarkable for its drought 1·4 inches more of rain actually fell in Halifax during that year than the year under notice. During the year 1901, 29·4 inches of rain fell, on 179 days, while during 1902, 28 inches fell on 191 days, so that rain fell on a greater number of days, and they were more evenly distributed over the latter year than the former.

Besides the above the rainfall is collected at ten other stations distributed over the area of the Halifax Corporation Waterworks, and the following table gives the stations, the height above sea level of each in feet, and the rainfall for the year 1902.

Height above Sea Level	1380	1350	1325	1375	1050	1060	990	815	795	568
1902.	Walshaw Dean. *	Midgley Moor. *	Warley Moor. *	Ovenden Moor. *	Widdop.	Castle Carr Lodge.	Ogden.	Ramsden Wood.	Albert	Gibbet.
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
January ...	3·65	3·53	3·04	4·22	3·95	2·94	2·80	2·62	2·50	2·65
February ...	1·49	1·50	1·59	2·42	1·64	1·58	1·50	0·91	1·24	1·37
March ...	2·48	3·34	2·53	2·42	2·69	2·52	2·06	1·72	1·96	1·75
April ...	2·40	2·46	2·53	2·38	2·86	2·73	2·24	2·08	2·22	2·24
May ...	3·45	3·85	3·62	3·72	4·08	3·99	3·41	3·44	2·81	2·81
June ...	1·45	1·72	1·98	2·01	2·06	1·86	2·03	1·52	1·40	1·47
July ...	4·11	4·16	3·98	4·00	4·34	3·48	3·18	2·79	2·36	2·24
August ...	3·77	4·03	3·97	4·39	3·27	4·11	4·10	3·27	3·14	3·06
September ...	2·55	2·32	2·42	2·56	2·18	2·59	2·18	1·83	1·72	2·01
October ...	5·43	5·03	5·39	5·41	5·19	4·86	4·62	4·01	3·21	3·21
November ...	3·46	2·94	3·16	3·10	3·45	2·75	3·01	2·34	2·53	2·17
December...	4·05	4·46	4·57	4·72	4·39	4·48	4·23	3·99	4·02	3·76
Totals ...	38·29	39·34	38·78	41·35	40·10	37·89	35·36	30·52	29·11	28·74

Average Rainfall over all the Gauges, 35·94.

Average Rainfall over all the Gathering Grounds (marked \*), 39·44.



### Borough Fever Hospitals.

The total accommodation for patients in the Borough Hospital is as follows :—

Stoney Royd Fever Hospital	...	...	95 Beds
Birks Hall Convalescent Home	...	...	25 Beds
Belle Vue Smallpox Hospital	...	...	40 Beds
Total number of Beds			160

The epidemic of Scarlet Fever not being so severe as during the previous year, there was not such great pressure upon the accommodation of the wards, consequently it was not found necessary to continue the use of Birks Hall after the spring of the year.

The Hospital Staff at present consists of the following :—

Matron	One Dining Hall Maid
Four Charge Nurses	One General Servant
Seven Probationer Nurses	One Kitchen Maid
Cook	One Laundry Engineer
Head Laundress	One Porter
Under Laundress	Caretaker Birks Hall
Three Ward Maids	Caretaker Smallpox Hospital
Three House Maids	

On January 1st, 1902, there remained in the Hospital 116 patients, there were admitted during the year a total of 403 cases, and there were 49 patients remaining in the Institution on December 31st last.

The following table shows the numbers admitted for each infectious disease during the year.

	Small-pox.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Total.
Cases remaining in Hospital December 31st, 1901 ...	2	6	108		116
Cases admitted during the year	1	30	365	7	403
Total ...	3	36	473	7	519
Recoveries ..	2	26	419	5	452
Deaths ...		8	9	1	18
Cases remaining in Hospital December 31st, 1902 ...	1	2	45	1	49

The following table shows the number of cases admitted since the Hospital was opened, the total deaths, and the mortality per cent. of those admitted.

	Small-pox.	Typhus.	Typhoid.	Fever.	Scarlatina.	Cholera.	Diphtheria.	Total.
Number of cases admitted since the opening	689	34	778	62	2843	153	7	4566
Number of deaths since the opening	71	16	163	8	106	19	1	384
Percentage of deaths from all causes, to whole number of cases admitted since the opening ... 8.40								

### Scarlet Fever.

There were 365 cases of this disease admitted during the year, eight of which were from outside districts, so that 357 cases out of 452 notified in the Borough, were



removed to Hospital, or 78·9 per cent of the total reported. During the previous year 80 per cent. were removed to Hospital.

Of the 365 cases, 9 died, which gives a mortality of 2·4 per cent., against 2·7 and 3·2 per cent. respectively during the previous two years.

There were 419 patients discharged during the year, and their average stay in Hospital was 51 days.

The following table shows the number of cases of Scarlet Fever that were admitted into the Hospital from 1881 to 1902, and gives the mortality per cent.

YEAR.	Number Admitted.	Number of Deaths.	Percentage of Deaths to Cases Admitted.
1881	34	2	5·8
1882	15	1	6·6
1883	8	0	Nil.
1884	13	1	7·6
1885	23	3	13·0
1886	24	0	Nil.
1887	54	0	Nil.
1888	28	0	Nil.
1889	33	0	Nil.
1890	39	5	12·8
1891	47	5	10·6
1892	15	1	6·6
* 1893	1	0	Nil.
1894	39	3	7·6
1895	25	3	12·0
1896	30	0	Nil.
1897	237	12	5·0
1898	341	10	2·9
1899	515	12	2·3
1900	250	8	3·2
1901	598	13	2·1
1902	365	9	2·4
Total 22 years	2734	88	3·2 average

\* Epidemic of Smallpox, only one case of Scarlet Fever admitted.

### **Typhoid Fever.**

There were 30 cases of this disease admitted during the year, all of which belonged to the Borough, so that 30 out of 65 cases notified were removed to Hospital for isolation, which represents 46 per cent. of the total number reported. During the previous two years, 24 per cent. and 52 per cent. respectively were removed for isolation. It should be noted, however, that the small percentage of 24 during 1901 was chiefly owing to the closure of the Typhoid Wards. On account of the pressure upon the Scarlet Fever wards, they were used for Scarlet cases.

Of the 30 cases, 8 died, which gives a mortality of 26·6 per cent. During the previous year the mortality was 22·2 per cent. There were 26 discharged during the year, and the average period during which each remained in the Hospital was 42 days.

The following table shows the number of cases of fever (typhoid, typhus, &c.) which were admitted into the Hospital between 1881 and 1902, and gives the mortality per cent. thereof.



YEAR.	Number Admitted.	Number of Deaths.	Percentage of Deaths to Cases Admitted..
1881	17	2	11.7
1882	24	2	8.3
1883	26	9	34.0
1884	29	10	34.4
1885	16	1	6.2
1886	18	4	22.2
1887	18	0	Nil.
1888	25	5	20.0
1889	54	13	24.0
1890	35	8	22.8
1891	47	7	14.8
1892	17	2	11.7
1893	4	1	25.0
1894	15	2	13.3
1895	39	7	17.9
1896	56	8	14.2
1897	32	4	12.5
1898	28	6	21.4
1899	38	6	15.7
1900	44	10	22.7
1901	17	2	11.7
1902	30	8	26.6
Total 22 years	629	117	18.6 average

### Diphtheria.

Seven cases of this disease were admitted during the year, of which one died, and which gives a mortality of 14.3 per cent. The average stay in Hospital was 27 days.

### Small-pox.

Two cases of this disease were remaining in the Hospital at the beginning of the year, and one only was admitted during the latter end of the year. This case was in the Hospital at the beginning of the present year

The following table shows the number of cases that have been admitted to the Borough Fever Hospital since the year 1881.

Year.	Small-pox.	Cholera.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Others.	Total.
1881	16			17	34		2	69
1882	13		3	24	15		5	60
1883	2		2	26	8		5	43
1884	1			29	23		2	45
1885	15		1	16	23		4	59
1886	3			18	24		3	48
1887	3			18	54		1	76
1888	5		1	25	28		7	66
1889	4			54	33			91
1890				35	39		7	81
1891		1		47	47		6	101
1892	188		1	17	15		1	222
1893	340			4	1			345
1894	15			15	39		1	70
1895				39	25		7	71
1896				56	30		20	106
1897				32	237		3	272
1898				28	341			369
1899				38	515			553
1900	3			44	250		9	306
1901	3			18	597	12	43	633
1902	1			30	365	7		403

Credit is due to the Matron, Miss Robison, for the able manner in which she has managed the Institution during the year, and also the Nurses for their constant and unremitting attention to the patients.





GENERAL SUMMARY OF METEOROLOGICAL OBSERVATIONS TAKEN AT THE PUBLIC LIBRARY, BELLE VUE, FROM JANUARY 1st, 1902, TO DECEMBER 31st, 1902,  
BY J. WHITELEY, SECRETARY AND LIBRARIAN.

LATITUDE OF STATION = 53° 43' N. LONGITUDE = 1° 52' W. HEIGHT ABOVE SEA LEVEL = 625 FEET.

1902.	Pressure of Atmosphere in Month.		Temperature of Air in Month.							Mean Temperature.		Vapour.			Mean degree of Humidity.	Mean Weight of a cubic foot of Air.	Mean Reading of Thermometer.		Wind.				Mean amount of Cloud.	Rain.		REMARKS.
Month.	Mean.	Range.	Highest.	Lowest.	Range.	Mean.		Daily Range.	Air.	Dew Point.	Elastic Force.	In a cubic foot of Air.		Maximum in Days of Sun.			Minimum on Grass.	Relative proportion of				No. of days in fall.		Amount Collected.		
						Of all Highest.	Of all Lowest.					Mean.	Short of Saturation.					Estimated Strength.	N.	E.	S.				W.	
ins.	ins.	o	o	o	o	o	o	o	ins.	grs.	grs.	grs.	o	o	o	o	o	o	ins.	ins.						
January	29.415	1.774	50.0	24.3	25.7	45.7	35.1	10.5	39.5	37.0	220	2.6	0.3	91	546	50.0	...	0.6	6	3	4	18	7.3	19	2.24	The observations have been reduced to mean values by Glaisher's Barometrical & Diurnal Range Tables, and the Hygrometrical results have been deduced from the seventh edition of Hygrometrical Tables, after corrections for Index errors of the Instruments employed.
February	29.208	1.582	47.2	13.8	33.4	36.4	29.3	7.1	32.8	29.8	172	1.9	0.2	91	550	51.0	...	0.3	7	9	8	4	8.2	10	1.36	
March	29.112	1.076	55.4	31.4	24.0	48.4	37.4	11.0	42.1	36.7	219	2.5	0.6	84	538	74.5	...	0.6	4	1	7	19	6.2	13	0.77	
April	29.301	0.908	59.8	30.6	29.2	50.3	37.1	13.2	43.7	36.3	215	2.5	1.2	75	538	81.0	...	0.7	8	8	6	8	6.4	11	2.10	
May	29.308	1.180	62.9	30.8	32.1	52.0	39.3	12.7	45.7	37.9	227	2.6	1.1	71	538	91.5	...	0.6	15	3	1	12	8.0	21	3.02	
June	29.300	0.800	79.2	37.6	41.6	62.3	47.8	14.5	55.1	47.7	331	3.7	1.5	71	527	97.8	44.4	0.5	6	12	4	3	7.4	12	1.37	
July	29.340	0.980	76.5	42.6	33.9	61.8	49.5	12.3	55.7	47.8	332	3.7	1.6	70	526	97.1	45.0	0.6	7	2	3	19	8.1	14	2.23	
August	29.238	0.588	67.1	40.5	26.6	61.1	48.9	12.2	55.0	48.4	339	3.8	1.4	73	525	94.0	44.6	0.5	7	2	6	16	8.4	17	3.27	
September	29.365	1.072	68.2	37.0	31.2	59.7	47.6	12.1	53.7	48.1	337	3.8	1.1	78	529	86.0	43.3	1.4	7	5	8	10	6.8	17	2.02	
October	29.266	1.154	59.5	34.0	25.5	52.1	44.0	8.1	48.1	45.6	306	3.5	0.6	87	533	68.7	40.0	1.0	8	7	5	11	8.8	24	3.26	
November	29.185	1.394	53.9	28.1	25.8	46.0	38.9	7.1	42.5	40.3	251	2.9	0.4	89	539	52.9	...	1.1	1	16	7	6	8.2	14	2.19	
December	29.303	1.878	54.4	21.4	33.0	42.2	35.6	6.6	38.9	36.1	213	2.5	0.4	86	545	47.1	...	1.6	6	8	6	11	8.0	19	4.20	
Annual Means	29.278	1.199	61.2	31.0	30.2	51.5	40.9	10.6	46.1	41.0	263	3.0	0.9	81	536	74.3	...	0.8	7	6	6	12	7.7	...	...	
Annual Means between Latitudes 53° and 54° N.	29.659	...	68.8	27.4	41.4	53.5	41.9	11.6	47.7	42.1	276	3.2	0.8	80	542	83.8	...	1.0	6	7	6	12	6.9	...	...	

NOTE.—The Annual Means give the Averages for the Twelve Months. The next lower line of numbers gives similar Averages for Stations between the 53rd and 54th Parallels of Latitude, between which Halifax lies; these numbers have been adapted from those given in the Meteorological Reports, published in the Registrar General's Quarterly Returns.

The Mean Readings of the Earth Thermometer four feet below the surface, were as follows:—January, 42°; February, 40°; March, 40°; April, 43°; May, 45°; June, 48°; July, 52°; August, 53°; September, 53°; October, 50°; November, 47°; December, 44°. The Highest Readings = 53°, July 8th to August 12th; the Lowest = 39°, from February 14th to March 5th.

Rain fell on 191 days, and measured 28.03 inches. This is considerably lower than has occurred during the last five years. The Rainfall in 1897 measured 32.89 in.; in 1898, 29.85 in.; in 1899, 35.33 in.; in 1900, 39.68 in.; in 1901, 29.43 in. Between Latitudes 53° and 54° N., Rain fell on 201 days, and 25.65 in. were measured.





# *County Borough of Halifax.*

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## THE Sanitary Inspector's Report

FOR THE  
*Year ended 31st December, 1902*

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*To the Chairman and Members of the Health  
Committee.*

GENTLEMEN,

I have the pleasure to submit for your consideration my Twenty-eighth Annual Report on the operations of the Health Department for the year ended December 31st, 1902.

TOWN HALL, HALIFAX,

*June, 1903.*



## HEALTH DEPARTMENT.

### Summary of Work done

Total number of Visits made by the District Inspectors ...	28836
Total number of Visits to Houses ... ..	9100
Number of Visits to Houses with reference to Defective Drainage ... ..	4230
Number of Visits to Houses with reference to Cleanliness, Overcrowding &c, ... ..	864
Number of Visits to Houses with reference to Infectious Diseases ... ..	2344
Rooms Disinfected ... ..	1079
Cases removed to the Hospital ... ..	403
Infectious Diseases reported ... ..	586
Nuisances reported ... ..	2420
Nuisances abated ... ..	2325
Notices served ... ..	1152
Letters served (referring to Nuisances, &c.) ..	294
Summonses taken out ... ..	16
Smoke Observations taken ... ..	781
Old Ashpits abolished ... ..	5
Old Ashpits altered to Goux System ... ..	37
Goux Closets registered ... ..	411

It must be remembered that many nuisances are frequently included under one notice, and therefore the number of nuisances represent considerably more than the number of notices.

## Removal of Nuisances

At the commencement of the year 234 complaints remained on the books and in course of removal, since then 2420 have been registered and 2325 removed, leaving at the close of the year 329 to be dealt with. The following Table shows the nature of nuisances registered.

Nature of Nuisances.				Number Registered.
Defective Sink Drains	...	...	...	75
"    "    Pipes	...	..	...	70
"    "    Syphon Traps	...	...	...	70
"    Basement Drains	...	...	...	45
"    Yard Drains	...	...	..	64
"    Urinal Drains	...	...	...	3
"    W.C. Drains	...	...	..	39
"    Area Drains	...	...	...	21
"    Private Street Drains	..	...	...	3
Made-up Sink Pipes	..	...	...	57
"    Bath Pipes	...	...	...	14
"    Lavatory Pipes	...	...	...	9
"    Basement Drains	...	...	...	50
"    Water Closets	...	...	...	83
"    Yard Drains	.	...	...	49
"    Urinal Drains	...	...	..	28
"    Gullies	...	...	...	40
"    Private Street Drains	...	...	...	6
Untrapped Basement Drains	...	...	...	22
"    Sink Drains	...	...	...	30



NUISANCES—*Continued.*

Nature of Nuisances.				Number Registered.
Untrapped Area Drains	...	...	...	15
„ Yard Drains	...	...	..	21
„ Urinal Drains	...	...	...	13
„ Bath Pipes	...	...	...	21
„ Lavatory Pipes	...	...	...	10
Drains not efficiently Trapped :—				
Sink Drains	...	...	...	4
Cellar Drains	..	...	...	9
Yard Drains	...	...	...	1
Urinal Drains	..	...	...	2
Sink Drains requiring Disconnecting	...	..	...	181
Defective Fall-pipe Drains	...	...	...	19
„ Fall-pipes	...	...	...	62
„ Spouting	...	...	...	77
„ Roofing	...	...	...	18
Broken Pot and Iron Traps	..	...	...	3
Insufficient Supply of Water to Closets	...	..	...	5
Nuisances from Water in Cellar	...	...	...	27
„ Want of Drains	...	...	...	2
„ Smoke	...	...	...	23
„ Poultry	...	...	...	6
„ Pigeons	...	...	...	6

NUISANCES—*Continued*

Nature of Nuisances.	Number Registered.
Nuisances from Rabbits ... ..	1
„ Swine ... ..	2
Houses Overcrowded ... ..	26
„ unfit for Habitation .. ..	1
„ requiring Limewashing ... ..	106
Accumulations of Offensive Matter ... ..	61
Privies requiring Limewashing ... ..	156
Insufficient Privy Accommodation ... ..	36
Offensive Ashpits and Privies ... ..	84
„ Goux Closets ... ..	109
„ Ash Tubs ... ..	11
Doors off Closets ... ..	65
„ Ashes Tub Places ... ..	35
Dilapidated Closets ... ..	36
Ashpits requiring Re-construction ... ..	67
COWSHEDS.	
Defective Drains ... ..	22
Want of Light, Room, Air Space, and Ventilation ... ..	65
Dilapidated Cowsheds and Floors ... ..	21
Cesspools requiring Emptying and Defective... ..	7
Offensive Middensteads ... ..	6
Cowsheds requiring Limewashing ... ..	42



NUISANCES—*Continued.*

Nature of Nuisances.	Number Registered.
<p style="text-align: center;">FACTORIES AND WORKSHOPS.</p>	
Rooms requiring Limewashing ... ..	11
Rooms overcrowded ... ..	3
Insufficient Privy Accommodation ... ..	5
Want of Ventilation... ..	2
<p style="text-align: center;">BAKEHOUSES.</p>	
Defective Drains ... ..	6
Want of Ventilation .. ..	1
Miscellaneous ... ..	163
Rooms requiring Limewashing ... ..	3
TOTAL ... ..	2420

The above list does not include work carried out after mere verbal notice.

## Night Scavenging.

The following Table shows the number of Ashpits cleansed during the year, and the number of loads of manure and rubbish collected.

Month.	Number of Ashpits Emptied.	Loads of Soil.	Loads of Rubbish.	Total Number of Loads.
January ...	548	126	163	289
February	278	147	69	216
March ...	485	180	114	294
April ...	478	99	185	284
May ...	339	159	170	329
June ...	368	176	128	304
July ...	677	177	227	404
August ...	304	146	39	185
September ...	524	147	116	263
October ...	673	148	182	330
November ...	321	189	74	263
December ...	390	139	125	264
TOTAL ...	5385	1833	1592	3425

The total number of Ashpits cleansed during the year is 5385, as against 6018 in the previous year. 37 Ashpits with Privies have been altered to the Goux System, 5 abolished, and Ashes Tubs supplied in the place of 12 Dry Ashpits. The above includes Ovenden, Illingworth, Copley, Warley, and Northowram Wards.



TABLE SHOWING THE NUMBER OF ASHPITS WITHIN  
THE BOROUGH, DECEMBER 31st, 1902.

District.	Wards.	Ashpits with Privies.	Dry Ashpits.	Total.
1	Akroydon and North ...	50	56	106
2	Ovenden and Illingworth	342	29	371
3	Central and East ...	35	92	127
4	West and South ...	15	199	214
5	Skircoat and Southowram	42	34	76
6	Pellon and Kingston ...	8	36	44
7	Copley ...	102	36	138
8	Warley ...	272	26	298
9	Northowram ...	197	...	197
	TOTAL ..	1063	508	1571

### Goux Scavenging.

The following Table shows the number of Closet Tubs and Loads of Ashes collected during the year.

Month.			Number of Closet Tubs Collected.	Loads of Ashes Collected.
January ...	...	...	55779	1889
February...	...	...	49925	1681
March ...	...	...	51355	1770
April ...	...	...	53537	1803
May ...	...	...	54985	1826
June ...	...	...	51350	1491
July ...	...	...	57193	1522
August ...	...	...	53835	1501
September	...	...	55070	1532
October ...	...	...	57709	1715
November	..	...	51951	1707
December	...	...	56486	1938
TOTAL	...	...	649180	20375

The above represents 30913 loads of Night Soil (each load containing 21 Closet Tubs) as against 29344 and 19162 loads of Ashes respectively for the preceding year.

The number of additional Closets registered is 411, being a decrease of 50 on the number registered during the year 1901.



### Goux Scavenging.

The following Table shows the number of Goux Closet Tubs registered since the commencement of the Goux System.

Year.			Number of Closet Tubs.	Number Registered during each year.
1871	...	...	1102	1109 in 15 months
1872	..	..	1895	786
1873	...	..	2440	545
1874	...	...	2820	380
1875	...	.	3088	268
1876	...	...	3316	228
1877	...	..	3769	453
1878	...	.	4277	508
1879	...	...	5858	576
1880	...	...	5071	218
1881	...	...	5552	481
1882	...	...	6057	505
1883	...	...	6506	449
1884	...	..	7405	899
1885	...	...	8049	644
1886	...	...	8727	678
1887	..	...	9327	600
1888	..	..	9831	504
1889	...	..	10446	615
1890	...	...	11098	652
1891	...	...	11644	546
1892	...	...	12068	419
1893	...	...	13047	984
1894	...	...	13450	403
1895	...	...	13797	347
1896	..	...	14145	348
1897	...	...	14444	299
1898	} 145 Tubs returned in connection with Property pulled down.	...	14881	437
1899		...	15287	551
1900	...	...	15974	687
1901	38 Tubs returned	...	16397	461
1902	...	..	16808	411

During the year 319 Closets have been erected in connection with new property, and 71 have been altered from the old system, 3 substituted for Water Closets, and 18 added where the accommodation was previously insufficient.

### Birks Hall Tips.

Table showing the number of loads of Ashes and Rubbish tipped during the year.

Names.				Number of Loads.
Goux Department	...	...	...	17510
Private Firms ...	...	...	...	960
TOTAL	...	...	...	18470

### Mozley Tip.

Table showing the number of loads of Rubbish tipped during the year.

Name.				Number of Loads.
Goux Department	...	...	...	1272



### Streets Scavenging.

Table showing number of Streets and Miles requiring Sweeping in each Ward.

Wards.				Number of Streets.	Number of Lineal Miles of Setting.	
					Miles.	Yards.
East	...	...	...	89	7	214
Central	...	...	...	41	4	522
South	...	...	...	51	6	1015
West	...	...	...	39	5	848
North	...	...	...	33	4	1109
Northowram	...	...	...	24	3	1468
Southowram	...	...	...	37	6	1406
Skircoat	...	..	...	26	3	600
Kingston	...	...	...	14	2	1000
Pellon	...	...	...	18	3	601
Ovenden and Illingworth	...	...	...	29	10	265
TOTAL	...	...	...	401	58	240

### Streets Scavenging.

Table showing number of Lineal Yards and Miles Swept during the year in each Ward.

Wards.			Number of Lineal Yards Swept.	Miles.	Yards.
East ...	...	...	2,698,518	1533	438
Central	...	...	872,657	495	1457
South ...	...	...	1,119,404	636	44
West ...	...	...	745,929	423	1449
North ...	...	...	629,741	357	1421
Akroydon	...	...	325,741	185	141
Southowram	...	...	613,129	348	649
Skircoat	...	...	205,765	116	1605
Kingston	...	...	118,133	67	213
Pellon...	...	...	257,823	146	863
Ovenden and Illingworth Part Swept by Halifax Gang		}	889,624	505	824
TOTAL	...	...	8,476,464	4816	304



### Streets Scavenging.

The subjoined Table gives at a glance the work done in this Department.

	1902.
Number of Streets swept ... ..	32,365
Lineal Yards Swept ... ..	8,476,464
Number of Streets Watered ... ..	7,994
Loads of Water used for that purpose ...	10,412
Loads of Sweepings gathered ... ..	10,607
Loads of Snow removed from the Streets ...	2,727
Number of Gullies emptied ... ..	199,311
Number of Street Drains flushed ...	197

During the year 315 loads of garbage have been removed from fishmongers, fried fish shops, and green-grocers.

THE FOLLOWING TABLE SHOWS THE AMOUNT OF WORK DONE IN THIS DEPARTMENT FROM  
1888 TO 1902.

	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
Number of Streets Swept ...	25901	27149	28244	28869	27019	30700	29800	26921	32204	30569	31960	30997	31402	33395	33703
Number of Streets Watered ...	4157	8620	5337	5404	8016	7822	5382	10055	9762	10045	10637	13036	11519	15699	8137
Loads of Water used ...	6255	12442	6877	6598	8057	8648	5969	10965	11850	11824	12435	15002	14831	21877	11457
Loads of Sweepings gathered ...	4609	4574	6882	5102	4833	6571	5184	4926	5364	6522	6979	6153	6119	7343	6815
Number of Gullies emptied ...	7666	18985	10010	12261	12006	14401	15341	13378	17590	17666	19604	19531	18138	20935	21043
Loads of Snow removed from the Streets ...	8031	972	884	291	1456	884	1215	1433	41	902	806	3417	12679	1793	2727
Drains flushed ...	789	306	523	1278	1822	2211	1006	709	592	684	1177	810	98	534	197



ANALYSIS OF REFUSE COLLECTED IN THE BOROUGH  
OF HALIFAX DURING THE YEAR 1902.

	Number of Loads.	
From Wet and Dry Ashpits ... ..	3,425	
From Ashes Tubs ... ..	20,375	
From Goux Closet Tubs ... ..	30,913	
Sweepings gathered from the Streets, and Refuse from Gullies ... ..	6,911	
Garbage removed from Market Hall ...	1,018	
Horse Droppings from Streets ... ..	264	
Garbage from Fried Fish Shops ... ..	315	
Total Number of Loads ... ..	63,221	

### Smoke Observations.

The following Table shows the number of Smoke Observations taken during the year, and the average number of minutes of dense smoke emitted.

	Number of Observations taken.	Average Number of minutes of Dense Smoke emitted.
Number of Observations taken ...	781	
Number showing moderate Smoke or <i>nil</i> ...                      ...                      ...	} 249	
Number of Observations taken for a period of 60 minutes, each showing Dense Smoke ...	} 532	
Average number of minutes of Dense Smoke emitted from Chimneys ...                      ...	} ...	2.22



## Smoke Observations.

The following Table shows the number of observations taken, names of firms, and number of boilers working.

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Akroyd J. & Sons, Ltd.	Bowling Dyke ...	3	9	1·6
Akroyd W. ...	Lucy Street ...	1	7	0·1
„ Ltd. ..	Copley Mills ...	1	2	nil
Baldwin J. & J. ...	Clark Bridge Mills ..	5	9	3·0
Barraclough J. & Sons	Boy's Mill, brick chimney	2	4	4·5
„	Boy's Mill, stone chimney	1	2	4·5
Balme & Pritchard ...	Lister Lane, stone chimney	2	5	6·4
„ ...	Lister Lane, brick chimney	2	4	3·2
Baldwin and Walker...	West Croft Mill ...	2	1	4·0
Bowman Bros. ...	Pellon Lane ...	6	5	3·2
Butler James ...	Adelaide Street	1	2	1·0
Berry John ..	New Bank ...	1	5	nil
„ ...	Hebble Rag Mill, Wheatley	1	1	nil
Booth J. & Son ...	Lee Bridge ..	6	5	1·0
Bowman J. M. ...	Lee Bank ...	2	5	nil
Bradford and District Dyeing Co. ...	1, Lee Bank ...	4	5	0·4
„	2, Lee Bank ...	6	5	0·4
„	1, Old Lane ...	4	5	0·8

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Bancroft Alfred ...	Lister Street ...	1	3	0·6
Bancroft W. ...	Fenton Estate ...	2	1	1·0
Binns E. & Son ...	West Parade ...	2	5	0·8
Booth & Co. ...	Arundel Street ...	1	2	1·5
Butler J. & Co. ...	Adelaide Street, new chimney	1	3	2·0
Bennett Bros. ...	Aked's Road ...	1	18	0·6
Calder & Hebble Co....	Engine House Lane ...	1	7	2·5
Clayton & Murgatroyd	Lower Wade Street ..	4	7	4·1
Charlestown Brick & Tile Co.	Charlestown Road ...	1	2	1·0
Crossley & Porter Orphanage	Skircoat Moor ..	1	3	nil
Carter J. & Co. ...	Parkinson Lane ..	1	4	2·5
Charnock J. & Sons ...	Pellon Lane ...	1	2	nil
Crossland J. & Sons ...	North Bedford Street	1	2	1·5
Crossley J. & Sons, Ltd.	Dean Clough ...	4	4	1·0
„	Old Lane Chimney ...	1	5	0·8
„	Office Chimney ...	8	6	2·0
„	Lee Bridge, stone chimney	6	6	2·3
„	Lee Bridge, brick chimney	6	6	2·1
Calvert W. & Sons ...	Illingworth Mills ..	2	3	2·6
Crabtree F. ...	Cotton Mill, Salter-hebble	3	7	4·7
Crown Hardware Co....	New Bond Street ...	1	4	2·5
Charnock G. ...	North Parade ...	1	1	nil



SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Crossley J. & Sons, Ltd.	Hebble Mills, Wheatley	1	11	6.0
Carter & Wright ..	South Darley Street ..	1	5	1.0
Dobson & Co. ...	West End Works ..	1	1	5.0
Drake J. & Co. ...	Foundry Street ...	1	4	2.2
Dyson J. & Sons ...	Haugh Shaw ...	1	1	nil
Earnshaw A. ...	Grantham Road ...	1	4	nil
Eastwood A. ...	Craven Edge Mills ...	1	4	3.5
Edwards & Sutcliffe ..	Canal Mills, Copley ...	1	4	0.5
Farrar J. B. ...	Lower Wade Street ...	2	10	3.5
Feather Bros. ...	Sun Works, Winding Road	2	8	5.6
Foster E & Sons ...	Woolshops ...	1	3	2.6
Farnell E. & Son ...	Gibbet Street ...	1	1	1.0
Fletcher Bros. ...	Raglan Street, stone chimney	4	1	2.0
„	Raglan Street, brick chimney	1	5	2.4
„	Raglan Street, new chimney	1	5	3.6
Fletcher Harold ..	Bowling Dyke	2	8	1.6
Farrar H. & Son ..	Upper Clay Pits ...	1	5	4.4
Foster Adam ...	Builder, Arundel Street	1	1	nil
Forest Mill Co. ...	Ovenden ..	1	6	2.5
Fleming, Birkby and Goodall	Hopwood Lane ...	1	5	0.4
Fleming A. ...	Premier Works, Grantham Road	1	4	nil
Green J. ...	Corporation Street ...	1	5	nil

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Greenwood J. ...	Cross Hills ...	1	10	5·8
Goodall E. ...	Farrar Mill Lane ..	1	5	4·0
Halifax Corporation Gasworks	The Holme, Mulcture Hall Road	1	1	nil
Hanson W. ...	Range Royd Mill ...	3	5	nil
Halifax Corporation Baths	Woodside, Haley Hill	1	3	0·3
Halifax Flour Society	Bailey Hall ..	4	9	3·1
Halifax Steam Laundry	Parkinson Lane ...	1	5	5·0
Halifax Industrial Society	Northgate ..	1	2	1·0
Halifax Corporation ...	Albert Road ...	1	4	1·7
„ „	Electric Light Works	3	5	3·4
„ „	Electric Light Works, New Brick Chimney	1	4	1·5
„ „ Gasworks	Mulcture Hall Road..	1	2	nil
„ Infirmary ...	Free School Lane .	1	6	1·0
„ Corporation ...	Gasworks, Charlestown Chimney	1	7	nil
Haigh Allan & Co. ...	Winding Road .	1	7	1·8
Harrison & Singleton	Horton Street ...	1	7	1·7
Holdsworth J. & Co....	Shaw Lodge Mills ..	10	12	2·0
Hoyle E. & Son, Ltd.	Waterside, 1 chimney	2	5	2·4
„ „	„ 2 chimney	2	3	1·0
Highfield Leyland ...	Croft Mill, Gaol Lane	3	8	2·8
Halliday G. & W. ...	Holmfield Brickworks	1	1	nil
„ „ No. 1	„	1	1	nil



SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Halliday G. & W. No. 2	Holmfield Brickworks	1	1	nil
Hartley & Sugden ...	Gibbet Street ...	1	2	1.0
Hitchen J. ...	Iron Works, Hall Street	1	1	nil
Hoyle Richard ...	Queen's Road Mill ...	2	9	3.0
Huntress Exors ...	Stone Dam Mills ..	2	7	2.0
Haley M. ...	Stannary Street ...	1	1	1.0
Howson J. M. & Co ...	Albert Street ..	2	2	2.5
Hebden W. C. ...	Winding Road ...	1	5	0.2
Hanson & Keighley ...	Adelaide Mills ...	1	3	1.3
Hellinrake & Clegg ...	Miall Street ...	5	1	2.0
„ „	old chimney	5	1	3.0
„ „	new „	5	1	3.0
Hirst & Sons ...	Weymouth Street ...	1	2	nil
Horsfall Eli ...	Commercial Road ...	1	4	nil
Hoyle J. & T. ...	Range Bank ...	4	7	9.8
Horsfall & Co. ...	Pellon Lane ...	1	1	3.0
Howarth Greenwood...	West End Cabinet Works	1	1	1.0
Inman Brothers ...	Union Street South ...	1	4	nil
Law S. & Sons ...	Square Road ..	1	6	0.1
Lee & Sons ...	Timber Street ...	1	3	nil
Lee Bros. ...	King Cross .	1	2	nil
Morton J. ...	Siddal ...	1	5	0.4
„	Siddal Lane ...	1	4	1.0

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Martin ...	Falcon Laundry, Salterhebble	1	6	0.3
Maude & Turner ...	Gibbet Street ...	1	3	1.0
McNaught Thos. ...	Hare Street ...	1	9	3.1
Milner & Sowerby ...	Raglan Street ..	1	3	1.0
Martin & Sons ...	Pellon Lane ...	3	3	2.0
McCrea H. C. & Co. ...	Horley Green Road ...	1	4	nil
Moore Fred & Co. ...	Shaw Mill, Mixenden...	1	3	1.3
Mitchell Bros. ...	Pellon Lane ...	2	2	2.0
Mackintosh & Co. ...	Queen's Road ...	1	9	2.8
Moore Bros. ...	Birdcage ...	1	2	3.5
Northern Engineering Co.	Parkinson Lane ...	1	3	1.3
North A. ...	Old Lane ...	1	4	0.7
Oates J. E. ...	Hanson Lane, stone chimney	1	3	1.6
"	Hanson Lane, brick chimney	1	6	3.1
Oates & Green, Ltd. ...	Horley Green Road ...	1	5	1.6
"	Beacon Road ...	1	6	2.8
"	Ellen Royd ...	1	5	1.8
Ovenden Worsted Co.	Holmfield ...	1	1	2.0
Parker Thos. & Co. ...	Pellon Lane ...	1	2	nil
Pohlman & Sons ...	Hall Street ...	1	2	1.5
Parker & Co. ...	Horley Green Road ...	1	3	nil
Pickles Messrs. & Sons	Victoria Mills ...	2	5	0.8
Priestley James ...	Grove Mill, Ovenden...	1	2	2.5



SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Ramsden Thos. & Son	Trinity Road ...	1	7	4.1
Robinson E. ...	Battinson Road ...	3	5	2.0
Robinson Jesse ...	New Bond Street ...	2	7	5.2
Robinson John ...	Prospect Mill, Ovenden	1	5	0.6
Redman C. ...	Top of Parkinson Lane	1	4	2.6
Rushworth W. ...	Hayes Mill, Mixenden	1	3	2.6
Sagar J. & Co. ...	Water Lane ...	1	9	4.7
Smeeton J. ...	Stoney Royd ..	3	11	0.9
Smith D. & Co., Ltd. ...	Siddal ...	1	7	2.8
Smith F. G. ...	South Parade ...	1	3	nil
Standard Screw Co. ...	Dispensary Walk ...	1	9	3.5
Swan Bank Brick and Tile Co.	Swan Bank ...	1	8	0.2
Scott Brothers ...	Johnson Street ...	1	2	1.5
Smith and Wiltshaw...	Parkinson Lane Top...	1	3	1.0
Smithson J. ...	Lister Lane ...	2	8	3.3
Swift George ...	Spice Cake Lane ...	1	1	9.0
Soothill B. ...	North Castle Street ...	1	5	nil
Standeven & Earnshaw	Ladyship ...	3	4	0.2
Speak Paul ...	Mixenden ...	1	3	1.0
Smith B. G. ..	Stannary Street ...	1	3	0.6
Smithson J. .	Horton Street ...	1	3	nil
Sewell Brothers .	Well Lane ...	1	6	2.3
Sharp & Mallet ...	Chemical Works, Copley	1	1	nil

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Simpson & Sons, Ld....	Heath Road ...	2	1	nil
Stead Bros. ...	Hare Street ...	1	4	0 5
Stott & Ingham ...	Battinson Road Mill ...	1	4	3·5
Tillotson Bros. ...	Sedburgh Road ...	2	10	3·1
Taylor J. ...	Archer Street ...	1	1	nil
Turner John ...	Soap Works, Bedford Street	1	1	nil
Todd J. & Sons ...	Shay Lane, Ovenden...	1	3	5 0
Turner Edwin ...	Dapper Mill, Wheatley, long chimney	3	6	4·1
"	Dapper Mill, Wheatley, short chimney	1	6	4·5
Union Hospital ...	Salterhebble	1	7	2·2
Willey, Pearson & Co.	Haugh Shaw Road ...	6	9	6·4
Ward J. W. & Son ...	Walnut Street ...	5	9	1·2
Wade Josiah ...	Hopwood Lane ...	1	2	1·0
Whitley S. & Co. ...	Hanson Lane ...	5	4	2·2
Whiteley J. & Sons ...	West Parade ...	2	4	0·5
Walsh, Brierley and Eastburn	Pellon Lane ...	1	4	2·5
Whitaker R & Sons...	Corporation Street ...	2	5	0·2
Wood George ...	Pellon Lane ...	1	2	1·5
Ward R. D. & Sons ...	Washer Lane ...	2	7	10·9
West Riding Ice Co....	Thomas Street ...	1	5	2·2
Wadsworth & Son ...	" ...	1	5	0·4
Wheatley Steam Laundry Co.	Wheatley ..	1	1	nil



TABLE SHOWING NUMBER OF PREMISES REQUIRING  
INSPECTION BY THE MEAT INSPECTOR,  
J. K. CRAWSHAW.

Description of Premises.				Number.
Public Slaughterhouses	...	...	..	1
Private Slaughterhouses	...	...	...	9
Borough Market	...	...	...	1
Wholesale Market	...	...	...	1
Cattle Lairs	...	...	...	4
Potted Meat and Tripe Boiling Houses			...	60
Fried Fish Shops	...	...	...	120
Fat and Bone Boilers	...	...	...	4
Cowsheds	...	...	...	88
Milkshops	...	...	...	58
Wheat Bread and Confectioners		...	...	106
Oat Bread and Muffin Bakers		...	...	9
TOTAL	...	...	...	461

TABLE SHOWING NUMBER OF VISITS MADE BY THE  
MEAT INSPECTOR.

Description of Premises.					Number of Visits.
Public Slaughterhouses	...	...	...	...	600
Private Slaughterhouses	...	...	...	...	282
Borough Market	...	...	...	...	599
Wholesale Market	...	...	...	...	285
Fasting Sheds	...	...	...	...	290
Cattle Lairs	...	...	...	...	53
Potted Meat Houses	...	...	...	...	420
Tripe Boiling Houses	...	...	...	...	119
Butchers Shops	...	...	...	...	2080
Fried Fish Shops	...	...	...	...	178
Cowsheds	...	...	...	...	222
Dairies and Milkshops	...	...	...	...	93
Bakehouses	...	...	...	...	270
Other Visits	...	...	...	...	893
TOTAL					6384



TABLE SHOWING MEAT, FISH, FRUIT, ETC., DESTROYED  
AS UNFIT FOR HUMAN FOOD.

Kinds of Food Destroyed.					Quantity in lbs.
16 Carcases of Beef	...	...	...	...	8174
Beef not in Carcase	...	...	...	...	257
38 Carcases of Pigs...	...	...	...	...	5210
Pork not in Carcase	...	...	...	...	732
7 Carcases of Mutton	...	...	...	...	404
Mutton not in Carcase	...	...	...	...	40
13 Carcases of Veal...	...	...	...	...	741
10 Rabbits	..	...	...	...	15
4 Geese ...	...	...	...	...	50
2 Ducks ...	...	...	...	...	10
1 Turkey	...	...	...	...	15
Fish	...	...	...	...	2171
Fruit	...	...	...	...	1304
Offals	...	...	...	..	5028
Other Foods	...	...	...	...	1023
Total					25174

TABLE SHOWING NUMBER OF SEIZURES DURING THE  
YEAR BY MAGISTRATES' ORDER AND WITH  
CONSENT OF OWNERS.

Months.			Destroyed by Magistrates' Order.	Destroyed by consent of Owners.	Total.
January	...	...	1	17	18
February	...	...	2	17	19
March	...	...	...	20	20
April	...	...	1	24	25
May	...	...	1	19	20
June	...	...	2	17	19
July	...	...	1	21	22
August	...	...	1	29	30
September	...	...	3	26	29
October	...	...	...	23	23
November	...	...	...	16	16
December	...	...	...	26	26
TOTAL ...			12	255	267



TABLE SHOWING MEAT, FISH, FRUIT, ETC., DESTROYED  
AS UNFIT FOR HUMAN FOOD,  
FROM 1886 TO 1902.

Year.	Meat.	Fish.	Fruit.	Other Articles of Food.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.
1886	4527	769	196	180	5672
1887	2110	17	...	...	2127
1888	6955	3672	30	80	10737
1889	3651	1646	70	...	5367
1890	15494	3062	230	2250	21036
1891	4182	6240	40	230	10692
1892	6724	5697	910	63	13394
1893	6028	3512	1064	989	11593
1894	6112	29156	177	406	35851
1895	8466	18661	180	458	27765
1896	14420	9615	1083	847	25965
1897	11030	3840	100	382	15352
1898	9435	8760	90	564	18849
1899	8670	85	...	7605	16360
1900	16586	2432	3072	1592	23682
1901	19873	8057	8324	2824	39078
1902	20586	2171	1304	1113	25174

THE FOLLOWING TABLE SHOWS THE POPULATION AND  
ACREAGE FOR EACH DISTRICT, WITH NAMES  
AND ADDRESSES OF INSPECTORS.

District.	Population.	Area in Acres.	Names and Addresses of Inspectors.
A	26427	1997	J. Archbell, 1, Moorlands Place.
B	35195	1211	J. W. Asquith, 234, Hanson Lane.
C	26034	2387	J. E. Firth, 7, Randolph Street.
D	18294	8039	J. Wood, 27, Shay Lane, Ovenden.
	105950	13634	



**District A.**  
INSPECTOR JAMES ARCHBELL.

Nature of Defects.				Number of Defects.
Defective Sink Drains	...	...	...	84
„ Sink Pipes...	...	...	...	18
Made-up Cellar and Walled Drains	...	...	...	10
Defective Yard and Private Street Drains	...	..	...	132
„ Area Drains	...	...	..	17
Untrapped Sink Drains	...	...	...	27
Drains to Disconnect ...	...	...	..	47
Defective Water Closet Soil Pipes	...	...	...	34
Made-up Water Closets	...	...	...	17
Defective Water Closets	...	...	...	17
Untrapped Bath and Lavatory Waste Pipes	...	...	...	16
Bath and Lavatory Waste Pipes connected to Soil Pipes	...	...	...	14
Defective Roofing	...	...	...	23
„ Fall Pipes	...	...	...	14
„ Troughing	...	...	...	46
„ Urinals	...	...	...	12
Water in Cellars	..	...	..	53
Offensive Poultry	...	...	...	7
„ Pigeons	...	...	...	1
„ Swill Tubs...	...	...	...	5
Houses Overcrowded	..	...	...	38
Offensive Accumulations	...	..	...	137

DISTRICT A—*Continued.*

Nature of Defects.				Number of Defects.
Ashpits requiring Re-construction	...	...	...	15
Notices served	...	...	...	203
Disused Closets	...	...	...	26
Closet and Ash Tub Places requiring Doors	...	...	...	27
Insufficient Privy Accommodation	...	...	...	32
Bad Smells	...	...	...	84
Nuisances from Workshop Chimneys	...	...	...	6
Drains Tested	...	..	...	105
Smoke Observations taken	...	...	...	349
Houses requiring Limewashing	...	...	...	176
Furnished Rooms requiring Limewashing	...	...	...	60
Closets requiring Limewashing	...	...	...	94
Visits to Lodging Houses	...	...	...	2078
„ Houses where Fever Cases existed	...	...	...	350
„ Workshops	...	...	...	575
„ Factories	...	...	...	81
„ Furnished Rooms	...	...	...	880
Visits under the Shop Hours' Act	...	...	...	327
Houses Inspected	...	...	...	2276
Rooms Disinfected	...	...	...	342
Fever Cases removed to the Borough Fever Hospital	...	...	...	85
Seats for Shop Assistants' Act, 1899	...	...	...	91
Total Visits	...	..	...	8333



**District B.**

INSPECTOR JOSEPH W. ASQUITH.

Nature of Defects.				Number of Defects.
Defective Sink Drains	...	...	...	96
Defective Syphon Traps	...	...	...	45
Sink Pipes to Disconnect	...	...	...	121
Untrapped Sink and Lavatory Waste Pipes	...	...	...	6
Broken Pot and Iron Traps	...	...	...	37
Made-up Disconnecting Traps	...	...	...	23
Untrapped Cellar Drains	...	...	...	4
Bell Traps in Cellars	...	...	...	9
Made-up and Defective Cellar Drains	...	...	...	72
„ Area and Wash Kitchen Drains	...	...	...	11
Water in Cellar from Defective and Sub-Soil Drainage	...	...	...	39
Made-up Yard and Private Street Drains	...	...	...	11
Defective Stone Wall Drains	...	...	...	10
„ Pan Closets	...	...	...	14
Made-up W.C's. and Defective W.C. Drains	...	...	...	64
Defective W.C. Cisterns or Insufficient Flush to W.C.	...	...	...	11
„ and Made-up Troughing and Fall Pipes	...	...	...	12
„ „ Fall Pipes and Drains	...	...	...	48
Drains disconnected	...	...	...	35
Defective Roofing	...	...	...	4
Nuisance from leaky Gas Fittings	...	...	...	18
Offensive Accumulations	...	...	...	48

## DISTRICT B—Continued.

Nature of Defects.	Number of Defects.
Offensive Swine and Poultry ... ..	6
Dilapidated Closets and Ash Tub places ... ..	49
Doors off               ,,               ,,               ,,               ... ..	29
Defective Urinals ... ..	6
Insufficient Ash Tub Accommodation ... ..	12
Ashpits to convert ... ..	12
Dirty Closets ... ..	38
,, Houses ... ..	34
Defective Flagging and Paving in Yards ... ..	20
,, Cellar and Bedroom Floors ... ..	5
Notices served ... ..	18
Nuisances from Smoke ... ..	8
Dirty Courts and Passages .. ..	42
Nuisances from Leaky Cistern Overflows ... ..	6
Made-up Street Gullies ... ..	81
Drains Tested ... ..	137
Smoke Observations. . . . .	224
Houses Overcrowded ... ..	6
Visits to Workshops .. ..	361
,, Factories ... ..	25
,, Shops Under the Shop Hours Act ... ..	392
,, Fever Cases .. ..	562
,, Furnished Rooms ... ..	108



DISTRICT B—*Continued.*

Nature of Defects.				Number of Defects.
Visits to Vans used as Dwellings	...	...	...	72
Cases removed to the Borough Hospital	...	...	...	115
Rooms Disinfected	...	...	...	212
No Abstract hung in Shops	...	...	...	21
Houses Inspected	...	...	...	540
Total Visits	...	...	...	5918

## District C.

INSPECTOR JAMES EDWARD FIRTH.

Nature of Defects.	Number of Defects.
Made-up and Leaky Sink Pipes ... ..	129
Defective Syphon Traps ... ..	38
,, Cellar Drains ... ..	8
Broken Soil Pipes ... ..	10
Made-up Cellar Drains ... ..	33
Defective and Made-up Water Closets ... ..	28
Old Pan Closets ... ..	2
Untrapped Bath and Lavatory Waste Pipes ... ..	10
,, Sink Drains ... ..	29
,, and Stone Walled Cellar Drains ... ..	45
,, Drains in Wash Kitchens ... ..	3
Defective Connections to Drain Pipes ... ..	13
Broken Fall Pipes ... ..	27
Made-up Fall Pipe Drains ... ..	31
,, Troughing ... ..	31
Defective Bell Traps in Cellars ... ..	12
Privies Converted ... ..	34
Made-up Yard and Area Drains ... ..	20
Broken Pot and Iron Traps ... ..	35
Disconnecting Traps without Grates ... ..	6
Offensive and Made-up Urinals ... ..	9
Insufficient Privy Accommodation ... ..	19



DISTRICT C—*Continued.*

Nature of Defects.	Number of Defects.
Insufficient Ash Tub Accommodation ...	12
Bad Smells ... ..	48
Damp Walls from Defective Roofs and Sub-Soil Drainage...	27
Defective Cisterns to Water Closets ... ..	16
School Rooms Disinfected ... ..	30
Drains Disconnected ... ..	83
Offensive Swine ... ..	3
„ Poultry, &c. ... ..	6
Water in Cellars from Defective Drainage and Burst Water Pipes ... ..	39
Houses Insufficiently Drained ... ..	22
„ Overcrowded ... ..	12
Dirty Houses ... ..	23
„ Closets ... ..	102
Doors off Closets and Ash Tub Places ... ..	22
Dilapidated „ „ ... ..	66
Offensive Accumulations and Middensteads ... ..	18
Nuisances from Smoke ... ..	2
Defective and Made-up Street Gullies ... ..	75
Rooms Disinfected ... ..	163
Drains Tested ... ..	105
Visits to Workshops ... ..	360
„ Factories ... ..	36

DISTRICT C—*Continued.*

Nature of Defects.			Number of Defects.
Visits to Shops under the Shop Hours' Act ...	...		334
No Abstract hung in Shops ...	...	...	3
Visits to Vans used as Dwellings ...	...		28
„ Furnished Rooms ...	..	...	147
„ Houses of Infectious Diseases ...	...		399
Houses Inspected ...	...	...	850
Fever Cases removed to the Borough Hospital ...	...		78
Smoke Observations taken ...	...	...	198
Wash Kitchens to Limewash ..	...	...	3
Offensive Gas Engines ...	...	..	35
Total Number of Visits ...			5039

## OVENDEN AND ILLINGWORTH.

**District D.**  
INSPECTOR J. WOOD.

Nature of Defects.	Number of Defects.
Defective and Drawn-out Syphons ...	15
Untrapped, Leaking and Made-up Sink Pipes ...	44
Sink Pipes and House Drainage to Disconnect ...	55
Want of Sink Pipes and New Sinks ..	4
Water in Cellars from Leaking Drains, etc. ...	17
Made-up and Defective House Drains . .	48
Untrapped and Defective Cellar Drains ...	32
Made-up Disconnecting Chambers ...	8
Insufficient Flushing Cisterns ..	2
„ Ventilation to Soil Pipes and Drains ...	14
Defective Connections and Made-up Soil Pipes ...	4
Want of proper Drainage ...	23
Old Wall Drains, and Defective Drain Connections ...	26
Untrapped Yard Drains ...	28
Made-up Yard and Street Gullies and Drains ...	33
Defective Gulley Traps, Broken Grates, and Bell Traps ...	12
Drains requiring Disconnecting from Sewer ...	2
Offensive Cesspools and Gullies require Cleansing ...	23
Offensive Urinals, Defective Floors, Walls, and want of Ventilation to same ...	5
Untrapped Street Drains ...	6
Polluted Water in Domestic Wells, and Insufficient Water Supply ..	6



DISTRICT D—*Continued.*

Nature of Defects.	Number of Defects.
Nuisance from keeping Swine, Poultry, Dogs and Rabbits	9
Bad Smells in Houses .. ...	48
Damp Walls, Defective Roofs and Floors of Houses ...	8
Dirty Houses and Overcrowded .. ...	7
Closets requiring Limewashing ... ..	3
Defective Troughing, Leaking and Broken Fall Pipes ...	36
Insufficient Closet Accommodation ... ..	10
Dilapidated Privies, etc. ... ..	30
Privies and Ashpits to Convert ... ..	33
Broken Doors and Seats of Closets and Ash Tub Places ...	12
Want of Ash Tub Places ... ..	26
Offensive Privies, Middens, Sewage and Filth Accumulation	45
Drains tested ... ..	67
Visits to Houses ... ..	577
,, Fever Cases ... ..	590
,, Cowsheds ... ..	537
,, Factories ... ..	20
,, Workshops ... ..	84
,, Bakehouses ... ..	70
Rooms Disinfected ... ..	362
Fever Patients removed to Hospital ... ..	129
Samples obtained for Analysis ... ..	22
Total Visits ... ..	3162

### Streets Scavenging.

The following Table shows the work done in this Department :—

OVENDEN AND ILLINGWORTH DISTRICTS.

W. GLEDHILL, FOREMAN.

Number of Miles of Setting	...	...	10
„ Square Yards Swept	...	...	5,571,302
„ Loads of Sweepings	...	...	850
„ Gullies Emptied	...	...	11,123
„ Roads Watered	...	...	243
Loads of Water used for that purpose	...	...	1,045

TABLE SHOWING NUMBER OF ROADS AND STREETS  
SWEPT AND AREA IN YARDS BY THE  
OVENDEN AND ILLINGWORTH GANG.

Number of roads and Streets Swept.	Number of times each Road and Street Swept.	Lineal Yards.	Square Yards.
3	91	171990	1158430
2	98	179340	1434720
1	92	40204	201020
1	88	11704	93632
1	87	9744	68208
1	85	62305	373830
1	83	8300	49800
1	82	91840	596960
1	70	14000	98000
1	49	23520	141120
1	48	50400	327600
1	46	13248	79488
1	45	27675	166050
1	42	8400	42000
1	26	8320	49920
1	18	57600	403200
3	14	17164	109508
2	13	13390	84240
2	12	8796	55176
2	8	7200	38400
28	1097	825140	5571302

Total Number of Miles Swept ... 468 $\frac{3}{4}$



TABLE SHOWING NUMBER OF INFECTED HOUSES  
VISITED BY THE DISTRICT INSPECTORS.

Wards.			Small-Pox.	Typhoid Fever.	Scarlet Fever.	Puerperal Fever.	Continued Fever.	Diphtheria.	Erysipelas.	Total.
Ovenden	...	...	..	4	80	...	...	2	6	92
Northowram	...	...	...	4	9	...	..	..	1	14
Akroydon	...	...	...	7	11	...	...	3	2	23
North	...	...	1	1	25	1	1	1	1	31
Central	...	...	...	3	18	...	...	3	...	24
West	..	...	...	5	20	...	...	3	1	29
South	...	...	..	3	21	...	...	5	1	30
East...	...	...	...	6	11	1	...	3	1	22
Southowram	...	...	...	10	31	...	...	3	1	45
Skircoat	..	...	...	8	40	1	...	3	8	60
Pellon	...	...	...	3	39	...	...	6	...	48
Kingston	...	...	...	5	72	...	..	2	...	79
Illingworth	...	...	...	4	54	..	...	2	5	65
Copley	...	...	...	1	2	...	...	1	...	4
Warley	...	...	...	1	19	..	...	...	...	20
TOTAL	...	...	1	65	452	3	1	37	27	586

TABLE SHOWING THE NUMBER OF INFECTIOUS  
DISEASES REMOVED TO THE BOROUGH FEVER  
HOSPITAL BY THE DISTRICT INSPECTORS  
FOR THE YEAR 1902.

Wards.		Small- Pox.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Total.
Ovenden	..	...	4	66	1	71
Akroydon	...	...	3	10	...	13
North	...	1	1	23	...	25
Central ...	...	...	2	17	...	19
West ...	...	...	2	19	2	23
South ...	...	...	...	14	1	15
East ...	...	...	4	10	2	16
Southowram	...	...	3	24	1	28
Skircoat	...	...	1	21	...	22
Pellon ...	...	...	1	30	...	31
Kingston	...	...	2	46	...	48
Illingworth	...	...	3	51	...	54
Copley ...	...	...	1	1	...	2
Warley ...	...	...	1	16	...	17
Northowram	...	...	2	9	...	11
Out of Borough	...	...	...	8	...	8
TOTAL	...	1	30	365	7	403

## ROOMS DISINFECTED.

THE FOLLOWING TABLE SHOWS THE NUMBER OF  
ROOMS DISINFECTED BY THE DISTRICT  
INSPECTORS DURING THE YEAR.

Wards.				Number of Rooms Fumigated.
Illingworth	...	...	...	108
Ovenden ...	...	...	...	162
Northowram	...	...	...	20
Akroydon	...	...	...	40
North ..	...	...	...	60
Central ...	...	...	...	45
West ...	...	...	...	42
South ...	...	...	...	40
Kingston ...	...	...	...	80
Pellon ...	...	...	...	60
East ...	...	...	...	74
Southowram	...	...	...	110
Skircoat ...	...	...	...	140
Warley ...	...	...	...	80
Copley ...	...	...	...	18
TOTAL	...	...	...	1079



## Disinfection.

THE FOLLOWING TABLE SHOWS THE NUMBER AND  
DESCRIPTION OF THE ARTICLES DISINFECTED  
AT THE DISINFECTING HOUSE, STONEY  
ROYD, DURING THE YEAR.

Description of Articles.						Number of Articles.
Beds	...	...	...	...	...	788
Mattresses	...	...	...	...	...	669
Pillows	...	...	...	...	...	1269
Sheets	...	...	...	...	...	1126
Bolsters	...	...	...	...	...	686
Blankets	...	...	...	...	...	1714
Counterpanes	...	...	...	...	...	594
Carpets and Rugs	...	...	...	...	...	98
Stockings	...	...	...	...	...	2
Flannel Vests, Dresses and Petticoats	...	...	...	...	...	1846
Mats and Sundries	...	...	...	...	...	3741
Dressing Gowns and Shawls	...	...	...	...	...	658
Coats	...	...	...	...	...	400
Cushions	...	...	...	...	...	6
Trousers	...	...	...	...	...	313
Waistcoats	...	...	...	...	...	213
Hose	...	...	...	...	...	863
Capes and Bed Covers	...	...	...	...	...	20
Drawers	...	...	...	...	...	509
TOTAL	...	...	...	...	...	15515

## CANAL BOATS.

The Inspections are made periodically by the Chief Sanitary Inspector amongst his other duties.

During the year 54 Inspections have been made, and the Boats generally were clean and in good condition.

There has not been a single case of sickness or overcrowding on board.

In all cases where females and children were on board proper provision was made for the separation of the sexes. Of the 54 Boats inspected there were 8 with women and children on board, and 11 with women only. The children in 3 cases having been brought for the single journey only.

All Boats were free from bilge water, ventilation was fairly good, and good provision was made for the storage of water for domestic purposes.

All Boats plying in this district are registered either at Goole, Mirfield or Leeds, consequently no arrangements have been made for registration.

### CANAL BOATS, 1902.

Number of Boats Inspected.	Number Registered to Carry.	Number of Males on Board.	Number of Females on Board.	Total.
54	356	104	20	124

### AGES OF CHILDREN FOUND ON CANAL BOATS.

	YEARS.									Total.
	Under 1 Year.	1	2	3	5			9	11	
Number ...	1	2	3	4	1	1	2	1	3	18

TABLE SHOWING PROSECUTIONS UNDER THE PUBLIC HEALTH ACT AND FOOD AND DRUGS ACT.

Date.	Defendant's Name.	Nature of Offence.	Decision of Court.			Remarks.
			Penalties.	Costs.	Total.	
1902			£ s. d.	£ s. d.	£ s. d.	
Feb. 20th ...	Eagland Bray & Sons, Ltd.	Preserved Peas containing 2·8 grains of Sulphate of Copper per lb.	0 5 0	0 16 0	1 1 0	
do ...	E. B. Lowe	Preserved Peas containing 2·27 grains of Sulphate of Copper per lb.	0 5 0	0 16 0	1 1 0	
do	Messrs. Websters & Sons	Selling Preserved Peas containing 2·1 grains of Sulphate of Copper per lb.	0 5 0	0 16 0	1 1 0	
do	Cash Supply Stores	Selling Preserved Peas containing 1·8 grains of Sulphate of Copper per lb.	0 5 0	0 16 0	1 1 0	
do	Blackburn and Son	Selling Preserved Peas containing 2·45 grains of Sulphate of Copper per lb.	0 5 0	0 16 0	1 1 0	
April 15th ...	Jonathan Priestley	Selling Milk adulterated with 19 % added Water	...	...	...	Case not proved. Dismissed
do	George Wilson	Refusing to sell samples of Milk for Analysis to Inspector.	0 1 0	...	...	Including Costs



TABLE SHOWING PROSECUTIONS UNDER THE PUBLIC HEALTH ACT AND FOOD AND DRUGS ACT.

Date.	Defendant's Name.	Nature of Offence.	Decision of Court.			Remarks.
			Penalties.	Costs.	Total.	
1902			£ s. d.	£ s. d.	£ s. d.	
June 3rd ...	Patrick Healey ...	Selling Margarine for Butter	5 0 0	0 19 6	5 19 6	
August 1st...	Messrs. J. Crossley and Sons, Limited	Permitting Dense Smoke to be emitted from their Chimney at Hebble Mills	...	...	...	Order to Abate
October 14th	Messrs. Balme and Pritchard	Permitting Dense Smoke to be emitted from the Chimney at their Works, Lister Lane	...	...	...	Order to Abate
do	Messrs. J. Robinson and Sons	Permitting Dense Smoke to be emitted from the Chimney at their Works, New Bond Street	...	...	...	Order to Abate
Nov. 11th ...	Jonathan Priestley	Selling Milk Adulterated with 7 % of added Water	10 0 0	1 3 6	11 3 6	
Dec. 23rd ...	Hugh McCormack...	Obstructing the Medical Officer of Health	5 0 0	0 5 6	5 5 6	
do	John Ford	do	1 0 0	0 5 6	1 5 6	
do	Michael Kelly	do	1 0 0	0 5 6	1 5 6	
do	Thomas O'Conner ...	do	1 0 0	0 5 6	1 5 6	

In conclusion I tender my thanks to Mr. J. W. Jackson (Chief Clerk), and the Inspectors for their support and assistance, and the manner in which they have carried out their duties.

I am, Gentlemen,

Your obedient Servant,

DAVID TRAVIS, A.S.I.,

Chief Sanitary Inspector.

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**Report of Proceedings of Sanitary Institute held at  
Manchester, from September 8th to the 13th, 1902.**

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*To the Members of the Health Committee.*

Gentlemen,

Having been appointed Delegates by your Committee to attend the above Congress, we present the following report on its proceedings.

The number of Delegates attending the above Conference were 1000 from all parts of the country. Town Councils, Boards of Guardians, School Boards, Urban and Rural District Councils were represented.

The actual work of the Congress began on the 9th, the Mayor giving a cordial welcome to all.

The meetings were held at Owen's College and the Municipal Schools of Technology, two buildings nearly one mile apart. This made matters rather difficult, it being impossible to be in two places at one and the same time, consequently we attended those meetings touching on subjects closely allied with the work of our department.

The President of the Congress, the Right Honourable The Earl Egerton of Tatton gave an exhaustive address on the work done by the Corporation of the City of Manchester, going into details as to cost of Sewage treatment and the supply of good and wholesome water.



He said Manchester had many triumphs of Engineering and Mechanical Art, applied to various industries, but the population which inhabits it had degenerated in size and physical power from the Ancestor who was attracted into the Town by higher wages from the country districts, and one of the problems was to arrest this deterioration and to make up for the drawbacks of Town life, by greater care in the physical education of the young in teaching them the principals of Hygiene.

He attached great importance to open spaces for the recreation of the young and to the improvement of dwellings for the working classes, which was complicated in Towns by the increased price of labour in their construction, it was therefore difficult to build cottages except for the higher class artizan to pay a remunerative rent.

Dr. Sykes also read a paper on the housing of the working classes, he spoke of the migration of people from the country into Towns, which was brought about by the depression in Agriculture and Stagnation in rural finance, the result was overcrowding. Mr. Howard recommended that a large number of houses should be built in Areas, right away from crowded Cities and Towns, to take both work and workers into new districts and which was taking place, to avoid excessive rents and rates.

Sir James Chrichton Brown in his Presidential Address in the section over which he presided, dealt very comprehensively with the question of dust under three different heads, Atmospheric dust, Industrial dust, and Municipal dust. In speaking about the latter, he said that caked dust in streets were culture beds for

bacteria. The quantity of Mineral and Organic dust in the air must greatly depend on the way in which Scavenging and Street Watering are conducted, dust must not only be moved on, but removed altogether.

In speaking of dust in Cotton Factories he stated that the death rate amongst cotton workers was from 20 to 23 per cent. higher than that of occupied males generally, and the potent remedy was Ventilation both Artificial and Natural. Important results were expected from the Committee of Experts now sitting to consider this important question.

An important paper was read by Dr. Marsh on Typhoid Fever. He spoke strongly of the importance and carefulness in eating shell fish. So convincing was the evidence that Typhoid Fever was often caused by shell fish, that special legislation should be taken in the interest of Public Health to prevent the pollution of places used for layings, fattening beds, and storage ponds, all such places being subject to the approval of the Sanitary Authority.

Papers were read dealing with the disposal of Household Refuse.

The opinion of the meeting being decidedly in favour of Cremation, and by placing the Destructor in a central position and easy of access, with proper management, could be worked without any charge upon the rates.

Invitations were given to several representatives attending the Congress, to inspect one recently erected at Moss Side.



We took advantage of this, and were well repaid for our visit. The Chairman of the Health Committee informed the company that the cost of the land, buildings and working plant, had cost £10,300. The Destructor is one of six cells, and will destroy sixty loads in six hours. The cost per load for destroying was  $7\frac{3}{4}$ d., previous to putting down the Destructor, it cost five shillings per load. The clinker from the Destructor has a ready sale, it is put through a stone breaker, and by elevators is carried to a screening machine, which separates it into three different sizes, which is used for Ashphalting and other purposes. The price varying from 6d. to 1s. per load. It will be interesting to know that this Destructor is erected in a residential part of the district, and the Chairman informed us that not one person in a hundred knew that they had commenced operations, although they had been at work four months. From this statement, it would appear that the smells from Destructors of recent date, are not well grounded, individually, we believe there is little if any smell arising from them.

We also embraced the opportunity of visiting the Municipal Lodging House in Harrison Street. The building is three storeys high. On the ground floor are Smoke, Dining, Reading Rooms, Shop, Lodgers' kitchen, Offices, and Superintendent's department.

In the basement, Lavatories, Wash-house, Baths, Footbaths, Laundry, Disinfecting apparatus, Lockers, &c., for bundles, and boot cleaning room for the use of the lodgers.

The first and second floors are entirely set apart for sleeping accommodation.



The dormitories are heated by means of steam radiators placed at the end of each wing and against the main staircase, and ventilated by air trunks.

The charge is 6d. per night, or 3/- per week, they can also have all their meals on the premises by paying a certain sum per week. The food is of a good and substantial kind. The place was exceedingly clean, and everything done to add to the comfort of the occupants, but up to the present it has not been a financial success. One of the reasons given was that the occupants had not the same liberty as in other lodging houses, but had to conform to the rules laid down by the Authority, which were not of a stringent character, but not suitable to some of those who make lodging houses their home.

Other papers were read on the provision of "Sanatoria" suggestions for the employment of Consumptives after leaving the Sanatoria, Water Supply, Sanitation of Road Traffic, etc.

THOMAS S. DODD,

*Vice-Chairman of the Health Committee.*

DAVID TRAVIS,

*Chief Sanitary Inspector.*

# *County Borough of Halifax.*

## **Report of the Borough Analyst**

FOR THE

*Year ended 31st December, 1902*

*To the Chairman and Members of the Health  
Committee.*

GENTLEMEN,

The following is a summarised account of the analyses made by me during the past year in compliance with the provisions of the various Acts relating to Foods and Drugs and the Public Health Act.

The total number of samples received for examination has been 217, which compares as follows with former years.

YEAR.	Number of Samples Analysed.	Estimated Population of the County Borough.	Number of Samples Analysed per 1000 of the Population.
1898	211	96729	2·18
1899	205	100471	2·04
1900	210	101187	2·07
1901	183	105120	1·74
1902	217	105978	2·04

I am pleased to report this slight increase in the total number of samples analysed, as compared with the previous year when there was a marked falling off. It may be mentioned here, as an ideal state to aim at, that in London during the period of 1901-1902, one sample was examined for every 291 persons; our figures work out to one sample for every 488 people; the average for the whole country (taking in those areas where the duty is neglected) is one sample for every 479 of the population. These facts are furnished by the Annual Report of the Local Government Board for 1901-1902.

The kind and number of Samples examined have been as follows :

FOODS.						
Milk ...	...	...	...	...	...	145
Butter ...	...	...	...	...	...	24
Cheese ...	...	...	...	...	...	2
Lard ...	...	...	...	...	...	1
Treacle and Sugar ...	...	...	...	...	...	5
Peas ...	...	...	...	...	...	3
Mustard ...	...	...	...	...	...	2
Pepper ...	...	...	...	...	...	1
Ginger ...	...	...	...	...	...	2
Chocolate ..	...	...	...	...	...	4
Porter ...	...	...	...	...	...	5
Beer ...	...	...	...	...	...	17
Malt ...	...	...	...	...	...	3
DRUGS.						
Camphorated Oil ...	...	...	...	...	...	3
						<hr/> 217 <hr/>

The results of the Examination, as well as the distribution of the Samples, is summarised in this table.



## RESULTS OF THE ANALYSES IN 1902.

Quarter Ending.	Genuine.	Doubtful.	Adulterated.	Total.
March 31 ...	34	...	10	44
June 30 ...	47	...	2	49
September 30 ...	41	5	...	46
December 31 ...	67	4	7	78
	189	9	19	217

Per cent. of adulteration : 8.75. The figure is a high one as compared with former years, which will be seen by reference to the following data :—

	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	Average.
Percentage of Adulterated Samples ...	3	5.4	6.7	1.5	3.2	5	3.3	6.3	4.76	6	4.51

The abnormal adulteration number for 1902 is due to a combination of circumstances, one of which has been a repetition of cases against fraudulent persons who were eventually driven from the town.

The adulterated samples consisted of 5 margarines sold as butter ; 2 peas containing blue vitriol ; 3 beers with from 1/200th to 1/60th of a grain of arsenious oxide per gallon ; 1 malt containing 1/200th of a grain of arsenious oxide per pound ; 6 milks below standard, and 2 treacles containing glucose.

The following were the results of Court proceedings :—

Jan. 3rd & 4th.—Adulterated Peas. Fined 5/- and 16/- costs in each case.

Mar. 6th.—Milk 19% below legal standard. Case dismissed.

May 10th.—Margarine sold as butter. Fined £5 and 19/6 costs.

Oct. 13th.—Milk 19% below legal standard. Fined £10 and £1 3s. 6d. costs.

Nov. 29th.—Margarine sold as butter. Fined £20 and 15/- costs.

In addition to the analyses of Food and Drugs, 3 samples of Water have been examined, 2 of them for lead, and 1 for pollution of other kinds.

I have the honour to be, Gentlemen,

Your obedient Servant,

WILLIAM ACKROYD,

PUBLIC ANALYST.



---

# APPENDIX.

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# VITAL STATISTICS OF THE BOROUGH OF HALIFAX DURING 1902 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.					Total Deaths in Public Institutions in the District.	Deaths of Non- residents in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THIS DISTRICT.	
		Number.	Rate.*	Under 1 year of age.		At all ages.						Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*						
1	2	3	4	5	6	7	8	9	10	11	12	13	
1892	83,882	2169	25.8	354	163.2	1663	19.8	218	21	3	1645	19.6	
1893	91,540	2254	24.6	394	174.8	1614	17.6	187	23	...	1591	17.3	
1894	92,104	2128	23.1	292	137.2	1548	16.8	168	26	20	1542	16.7	
1895	92,875	2186	23.5	354	161.4	1826	19.6	195	23	...	1803	19.4	
1896	93,581	2329	24.8	351	150.7	1694	18.1	197	27	21	1688	18.0	
1897	94,311	2147	22.7	301	140.2	1603	16.9	220	33	28	1598	16.9	
1898	95,037	2205	23.2	369	167.3	1751	18.4	235	28	28	1751	18.4	
1899	95,767	2239	23.3	363	162.1	1806	18.8	258	34	30	1802	18.8	
1900	98,910	2316	23.4	314	135.5	1874	18.9	277	42	19	1851	18.7	
1901	105,120	2351	22.3	301	128.2	1726	16.4	294	38	21	1709	16.2	
Averages for years 1892-1901	94,312	2232	23.6	339	152.0	1710	18.1	224	29	17	1698	18.0	
		2225	21.0	324	145.6	1645	15.5	282	36	25	1634	15.4	
1902	105,950												

\* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.





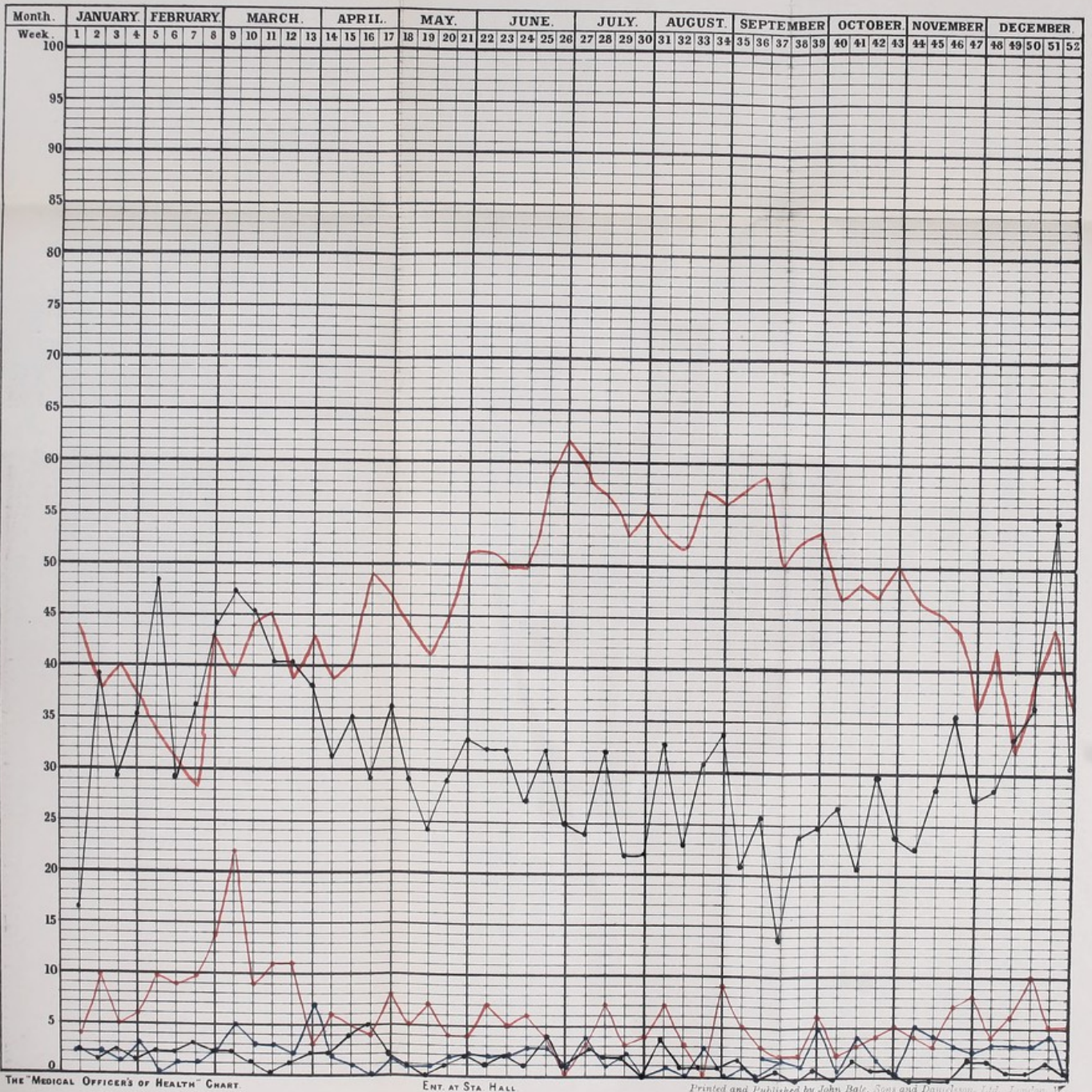










TABLE SHOWING NUMBER OF CASES OF ZYMOTIC DISEASE IN EACH LOCALITY OF THE BOROUGH, NOTIFIED DURING THE YEAR, AND CLASSIFIED ACCORDING TO AGE. ALSO THE NUMBER OF CASES REMOVED FROM EACH LOCALITY TO THE BOROUGH FEVER HOSPITAL.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.																	NUMBER OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.														
	At all Ages.	At Ages—Years.						Oyngden Ward.	Akroydon Ward.	North Ward.	Central Ward.	West Ward (W).	South Ward.	East Ward.	Southwam Ward (S).	Skircoat Ward.	Pellon Ward.	Kingston Ward.	Ilingsworth Ward.	Copley Ward.	Northwam Ward.	Widley Ward.	Oyngden Ward.	Akroydon Ward.	North Ward.	Central Ward.	West Ward (W).	South Ward.	East Ward.	Southwam Ward (S).	Skircoat Ward.	Pellon Ward.	Kingston Ward.	Ilingsworth Ward.	Copley Ward.	Northwam Ward.	Widley Ward.	Out of Borough.	
		Under 4.	1 to 4.	5 to 14.	15 to 24.	25 to 64.	65 and upwards.																																
Small-pox	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Diphtheria	37	...	7	10	11	8	1	2	3	1	3	3	5	3	3	3	6	2	2	1	...	...	1	...	...	...	2	1	2	1	...	...	...	...	...	...	...	...	
Membranous croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Erysipelas	27	...	...	2	6	12	7	6	2	1	...	1	1	1	1	8	...	...	5	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Scarlet Fever	452	3	112	277	48	12	...	80	11	25	18	20	21	11	31	40	39	72	54	2	9	19	66	10	23	17	19	14	10	24	21	30	46	51	1	9	16	8	
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Enteric Fever	65	...	4	17	16	27	1	4	7	1	3	5	3	6	10	8	3	5	4	1	4	1	4	3	1	2	2	...	4	3	1	1	2	3	1	2	1	...	
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Continued Fever	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Puerperal Fever	3	...	...	...	1	2	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
TOTALS	586	3	123	306	83	62	9	92	23	31	24	29	30	22	45	60	48	79	65	4	14	20	71	13	25	19	23	15	16	28	22	31	48	54	2	11	17	8	





TABLE SHOWING CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1902, IN THE SEVERAL LOCALITIES OF THE BOROUGH.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SURJOINED AGES.							DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES).													Total Deaths in Public Institutions in the District.		
	At all Ages.	Under 1.	1 to 4.	5 to 14.	15 to 24.	25 to 64.	65 and upwards.	Oversden Ward.	Alverston Ward.	North Ward.	Central Ward.	West Ward.	South Ward.	East Ward.	Southdown Ward.	Skewton Ward.	Pelton Ward.	Kingsdown Ward.	Millersdown Ward.	Coker Ward.		Northdown Ward.	Worthington Ward.
Measles	36	10	22	4	...	...	...	1	1	9	8	2	2	...	3	2	1	1	2	3	1	...	...
Scarlet Fever	14	...	3	8	3	...	...	...	...	...	1	1	1	1	...	3	...	2	4	1	...	...	
Whooping Cough	13	8	5	...	...	...	...	1	...	3	2	1	...	...	3	1	...	...	...	2	...	...	
Diphtheria and Membranous Croup	8	1	4	2	...	...	1	1	...	...	...	1	1	1	1	1	1	...	1	...	...	1	
Croup	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Fever—Enteric	14	...	...	4	3	7	...	...	...	2	1	3	...	3	1	1	...	2	...	...	1	9	
Epidemic Influenza	9	...	...	...	...	4	5	...	...	...	2	1	...	...	1	1	...	2	...	...	2	1	
Diarrhoea	16	2	10	...	...	2	2	...	...	2	8	...	1	...	...	1	1	1	2	...	...	...	
Enteritis	6	5	...	...	...	1	1	1	...	1	...	2	...	1	...	...	...	1	...	...	...	...	
Puerperal Fever	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	
Erysipelas	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other Septic Diseases	9	...	1	2	2	2	1	...	...	...	...	...	...	...	3	...	1	1	...	...	1	1	
Phthisis	108	...	1	3	24	78	2	9	2	9	8	12	9	7	9	7	11	5	7	4	8	1	
Other Tubercular Diseases	61	16	20	10	6	9	...	7	4	9	4	7	...	5	4	5	4	3	3	2	4	10	
Cancer, Malignant Disease	95	...	...	...	...	66	29	11	2	7	5	12	6	13	6	4	10	5	8	1	1	4	
Bronchitis	173	29	10	2	...	66	66	3	9	17	16	25	16	17	13	11	12	15	7	2	5	20	
Pneumonia	150	35	37	6	9	47	16	7	13	20	7	17	7	13	15	11	9	16	5	1	5	19	
Plurisy	5	...	1	...	1	3	...	1	1	...	...	...	1	...	1	1	...	...	...	...	...	...	
Other Diseases of Respiratory Organs	29	3	9	1	1	9	6	1	2	3	3	5	3	2	3	2	...	1	1	3	...	2	
Alcoholism, Cirrhosis of Liver	20	...	...	...	...	14	6	...	1	1	5	1	1	3	2	1	2	1	2	1	...	3	
Premature Birth	79	79	...	...	...	...	...	3	6	11	6	4	3	5	10	8	3	9	7	...	3	1	
Diseases and Accidents of Parturition	9	1	...	...	1	7	...	...	3	2	...	...	...	...	1	...	...	2	1	...	...	...	
Heart Diseases	168	1	1	7	7	94	58	9	5	14	10	11	16	21	12	21	10	14	13	...	6	37	
Accidents	37	9	6	3	2	10	7	3	...	9	4	3	2	4	5	2	1	3	1	...	...	14	
Suicides	16	...	...	...	2	12	2	2	...	...	1	1	...	1	...	2	4	...	3	1	1	1	
Old age	122	...	...	...	...	5	117	9	9	11	12	7	15	11	9	6	5	3	10	2	8	34	
Digestive System	49	14	1	1	6	16	11	4	3	2	6	8	3	6	2	4	4	3	2	...	2	7	
Brain and Nervous System	107	3	3	1	4	60	36	2	3	9	5	13	7	10	6	10	8	10	6	4	6	1	
Apoplexy	42	...	...	...	1	14	27	3	...	1	2	6	2	1	1	4	6	4	5	1	4	2	
Convulsions and Dentition	64	51	13	...	...	...	...	8	4	5	11	7	5	3	6	3	7	1	1	1	1	2	
All other causes	172	57	7	3	11	68	26	12	12	17	9	18	9	24	13	11	10	17	10	3	5	42	
All causes	1634	324	155	57	83	594	421	107	77	166	134	170	111	155	127	124	111	118	100	30	66	282	





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