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# 21st ANNUAL REPORT

ON THE

## Health of St. Helens

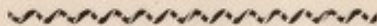
**For the Year ending Dec. 31st, 1893.**

BY

ROBERT McNICOLL,

M.R.C.S., &c.,

*Medical Officer of Health for the Borough.*



ST. HELENS :

F. HODGSON, PRINTER, OLD MARKET PLACE.

—  
1894.

HEALTH COMMITTEE  
OF THE  
St. Helens Corporation.

NOVEMBER 1893.

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HIS WORSHIPFUL THE MAYOR (ARTHUR SINCLAIR, J.P.)

COUNCILLOR J. FORSTER, J.P., CHAIRMAN

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ALDERMAN D. GAMBLE, C.B., J.P.

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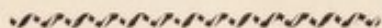
„ J. FISHER

„ J. GREEN

„ J. JONES

Medical Officer of Health's Department,  
TOWN HALL,  
ST. HELENS,

*March 14th, 1894.*



*To the Health Committee,  
Corporation of St. Helens.*

MR. CHAIRMAN AND GENTLEMEN,—

I have the honour of presenting to you the Annual Report on the Health of St. Helens for the year 1893, this being my Twenty-First Annual Report since I was appointed Medical Officer of Health for the Borough in 1873.

The year 1893 was characterized by two prominent features from a Public Health point of view. The first and most important of these was the amount of real sanitary work that has been done by your Committee during the year. It is impossible that the results of this work will become evident immediately, but I have no hesitation in saying that it will bear fruit in the near future. The matters I specially refer to are—the questions of sewerage and sewage disposal—the provision of proper Hospitals for Isolation,—of good Slaughterhouse accommodation,—the extended powers given by the St. Helens Corporation Act, 1893,—the passing of new Bye-laws on New Streets and Buildings,—the extension of our Water Supply,—and the extension of the area of the Borough. Several other important advances might also be mentioned as having been introduced during 1893.

The second important characteristic of 1893 was unfortunately one which we all deplore—the high mortality from Measles, and Diarrhœa. I need scarcely remind you that in considering the Health Statistics of St. Helens it is absolutely essential to be mindful of the facts—that we have an unusually large juvenile population—that St. Helens is essentially a working class town—and that with these two conditions, whenever epidemic disease breaks out, our mortality rises at a rate greater than in most other towns. We had an epidemic of Measles during the first two quarters, which caused 135 deaths, and during the past exceptionally hot summer, no less than 168 deaths were caused by Diarrhœa—of the 168 deaths, 156 were children under 15 years of age.

The Death rate for the year was 23·7 per 1000. The Birth rate was again one of the highest in all England, e.i. 40·1 per 1000. Small Pox, which was so prevalent in other neighbouring towns during the first half of the year, was successfully kept in check.

The most favourable circumstances happened for the development of Typhoid Fever, and as a result we had a larger number of cases from this disease than usual.

In conclusion I would beg to thank your Committee for the ready way in which you have acted upon my recommendations during the year. I would also thank the Officers in my department for the energy they have displayed in their work.

ROBT. McNICOLL, M.R.C.S.,

*Medical Officer of Health.*

## POPULATION.

The full report of the Registrar General for the Census of England and Wales, taken on April 5th, 1891, was issued during the next summer, and from it there have been extracted most of the facts relating to St. Helens. These may be found in the appendix at the end of this report.

The population of St. Helens on April 5th, 1891, was ascertained to be 71,288. This population had increased to 73,240 persons at the middle of 1892 (June 30th) and again this number is estimated to have increased to 74,840 by June 30th, 1893.

These figures have been arrived at by the method adopted by the Registrar-General, which allows that the rate of increase occurring between 1881 and 1891 Censuses has been maintained since then. There is no evidence that has come to light that this rate of increase has not gone on during 1893 as it did before.

The year 1893 was one of great industrial strife and distress in St. Helens, but this does not seem to have driven an appreciable number of people away from the town, for, as in former years, it was difficult for the working classes to get houses in most parts of the town, and new houses were erected during the year in as large numbers, proportionately as in former years.

The population of St. Helens on June 30th, 1893, may therefore be taken to be 74,840, 39,056 Males and 35,784 Females.

For the purposes, however, of calculating the rates of mortality and for other public health statistics a complication occurred during 1893 in the number of the inhabitants of St. Helens, for which an allowance must be made, and this will require some explanation. On August 24th the Borough was extended in its North-Western direction and 597 acres, with a population estimated then to be 1540, was added. After August 24th all the Births and Deaths occurring in this new area were debited to St. Helens, and therefore an addition must be made to the estimated population of 74,840 of 550, thus making the population for statistical purposes 75,390.

It has been pointed out in former reports that the increase in the population of St. Helens depends upon two causes mainly:—

- 1st.—The very large “natural increase”—that is the number of births in excess of Deaths, and
- 2nd.—The increase due to immigration.

Both of these depend very largely upon the commercial prosperity existing in the town.

The Birth rate for St. Helens is still a very high one. The number of Children born during the year was 3,029, the number of persons who died was 1,793, the natural increase therefore was 1,236, and comparing this with what we had in former years we have as follows :—

Year.	Natural Increase.	Estimated Increase.	Increase due to Immigration.
1883	1152	1291	139
1884	1203	1321	118
1885	1062	1348	286
1886	1193	1379	186
1887	1030	1407	377
1888	1322	1440	118
1889	1236	1470	234
1890	1032	1504	472
1891	1094	1535	441
1892	1408	1574	166
1893	1236	1600*	364

\* This figure does not include the increase which has taken place in the new area during the year.

The increase due to immigration is therefore 364.

The balance between births and deaths is invariably the great source of the increase of the population, while that due to the balance from emigration and immigration may be a source of decrease instead of increase. It has been a source of decrease throughout England since 1881, and has only been an increase in prosperous towns like St. Helens.

### INHABITED HOUSES.

The number of inhabited houses at the census of 1891 was 12,341, and this allowed 5·77 persons per house. Since April 1891, there have been built 533 new houses, and 77 old houses have been condemned as insanitary, making therefore on June 30th, 1893, 12,797 inhabited houses. This gives 5·83 persons per house.

In one of the census reports issued during 1893 is shown the number of 1, 2, 3 and 4 roomed houses, and also the number of persons living in each of these.

COUNTY BOROUGH OF ST. HELENS.

No. of Rooms in Tenement.	No. of Tenements with less than 5 rooms	NUMBER OF OCCUPANTS OF TENEMENTS.											
		1	2	3	4	5	6	7	8	9	10	11	12
1	120	39	40	17	16	4	2	1	1	..	..	..	..
2	1123	46	193	203	212	186	117	92	47	16	7	2	2
3	921	6	95	119	112	160	142	118	83	42	31	9	4
4	5438	42	449	794	888	822	827	637	474	309	134	70	42

This table is of value in showing the number of small houses in which there are more or less overcrowding, and in order to indicate how St. Helens stands in this respect with other Lancashire towns, I have compiled from the census report the following table.

	Census Population 1891.	No. of Tenements Census 1891.	PER CENTAGE OF TENEMENTS WITH				No. of Persons per 1000 living in 1 or 2 roomed tenements.
			1 room	2 rooms	3 rooms	4 rooms	
Manchester ...	505,342	103,720	1.5	9.6	5.1	38.9	75.8
Liverpool ...	517,951	104,890	7.6	10.7	12.5	17.6	113.4
Oldham ...	131,463	27,605	.67	8.3	2.3	64.9	63.6
Blackburn ...	120,064	24,682	.34	2.3	1.6	59.6	17.4
Bolton ...	115,002	23,663	.21	8.7	3.9	56.2	65.6
Preston ...	107,573	22,679	.49	2.7	5.3	37.4	17.5
Burnley ...	87,058	18,047	2.3	9.0	6.5	53.3	83.7
Rochdale ...	71,458	16,522	1.8	21.3	10.1	39.6	171.1
Wigan ...	55,013	10,188	.63	17.4	11.1	40.0	166.6
<b>St. Helens ...</b>	<b>71,288</b>	<b>12,851</b>	<b>.93</b>	<b>8.7</b>	<b>7.1</b>	<b>42.7</b>	<b>67.8</b>

It will be noticed that in 5 of the above mentioned 9 Lancashire towns the percentage of persons living in 1 and 2 roomed houses is greater than St. Helens, while in 4 it is less. In a great majority of

cases a one—or two—roomed house in a town means that the occupants of it are exceedingly poor, and that they are living under conditions which are anything but sanitary. Most of these houses are of the back to back type

### DISTRIBUTION OF POPULATION.

In the accompanying table is given the accurate statistics obtained by the Census.

WARDS.	Inhabited Houses.	Houses.		POPULATION.		
		Uninhab.	Buildings.	Persons.	Males.	Females.
Eccleston, North ...	1592	25	13	8552	4459	4093
Eccleston, South ...	1169	24	1	6639	3333	3306
Central ...	1329	46	—	8219	4395	3824
Windle, North ...	1167	18	20	6517	3315	3202
Windle, South ...	1498	20	—	8438	4282	4156
Hardshaw ...	1526	39	—	9225	4906	4319
Sutton, West ...	1329	14	16	8250	4270	3980
Sutton, East... ...	1308	16	13	7418	3981	3437
Parr ...	1423	15	8	8030	4262	3768
	12341	217	71	71288	37203	34085

From the above table, and with a knowledge of the localities in which new houses have been erected, the population of each ward to June, 1893, has been calculated, and is shown in the following table. It must be remembered that this estimation does not include the new area added to St. Helens on August 24th. In the same table are shown the number of persons per acre, and the number of persons per house in each ward.

WARDS.	Ward Populat'ns estimated to June 30, 1893.	Persons per Acre.	Population added to Wards on Aug. 24, 1893.	Area added to Wards Aug. 24, 1893.
North Eccleston ...	8937	77·0	6	90
Eccleston, South ...	7104	19·5	170	162
Central ...	8278	84·4	—	—
North Windle ...	6733	18·2	1364	345
South Windle ...	8551	125·7	—	—
Hardshaw ...	9729	28·5	—	—
East Sutton ...	8120	6·2	—	—
West Sutton ...	8788	3·6	—	—
Parr ...	8600	5·8	—	—
	74840	11·4	1540	597

## AGE DISTRIBUTION OF THE POPULATION.

AGES.	CENSUS, 1891.			Total Estimated to June 30th, 1893.
	Males.	Females.	Total.	
Under 1 year ...	1185	1213	2398	2518
1 to 2 years ...	1091	1052	2143	2250
2 ,, 3 ,, ...	1090	1050	2140	2247
3 ,, 4 ,, ...	1021	1047	2068	2173
4 ,, 5 ,, ...	998	969	1977	2064
Total under 5 years...	5385	5331	10716	11252
5 to 10 years ...	4642	4579	9221	9680
10 ,, 15 ,, ...	4219	4115	8334	8753
15 ,, 20 ,, ...	3951	3490	7441	7815
20 ,, 25 ,, ...	3604	2978	6582	6915
25 ,, 30 ,, ...	3252	2771	6023	6328
30 ,, 35 ,, ...	2868	2261	5129	5380
35 ,, 40 ,, ...	2440	2025	4465	4684
40 ,, 45 ,, ...	1946	1710	3674	3854
45 ,, 50 ,, ...	1410	1275	2685	2816
50 ,, 55 ,, ...	1268	1166	2434	2553
55 ,, 60 ,, ...	821	799	1620	1699
60 ,, 65 ,, ...	686	721	1407	1476
65 ,, 70 ,, ...	355	408	763	801
70 ,, 75 ,, ...	207	264	461	484
75 ,, 80 ,, ...	87	140	227	238
80 ,, 85 ,, ...	34	49	83	87
85 ,, 90 ,, ...	10	9	19	20
90 ,, 95 ,, ...	—	4	4	5
95 ,, 100 ,, ...	—	—	—	—
Totals ...	37203	34085	71288	74840

The following figures give a Comparison between the number living under Different Ages in St. Helens, and in other English Urban and Rural districts per 1000 living at all ages.

Years of Age.	Calculated from Census 1891. <b>ST. HELENS</b>	English Urban Districts.	English Rural Districts.
0 to 5	<b>150·3</b>	136	134
5 „ 10	<b>129·3</b>	119	126
10 „ 15	<b>116·9</b>	105	115
15 „ 20	<b>104·3</b>	100	96
20 „ 25	<b>92·3</b>	94	79
25 „ 35	<b>156·4</b>	155	127
35 „ 45	<b>62·3</b>	116	106
45 „ 55	<b>89·0</b>	83	86
55 „ 65	<b>56·8</b>	55	69
65 „ 75	<b>30·4</b>	27	43
over 75	<b>11·9</b>	10	19
All ages	<b>1000</b>	1000	1000

### BIRTHS.

During the year 1893 there were 3,029 children born in St. Helens.

Of these, 1,588 were males, and 1,441 were females—i.e. 110 males to every 100 females.

The Birth rate therefore was 40·1 per 1,000, which is ·2 per 1,000 above the average of the previous 10 years. This rate is considerably higher than any of the other towns in England with above 60,000 of a population. As will be seen on Table E this rate is 3·6 per 1,000 above that in any of the 33 great towns.

The Birth rate in England and Wales was 30·8 per 1,000 population, and this, though higher than in 1892, is 3·6 per 1,000 below the

preceeding ten years (1883 to 92). Several towns (e.i. Preston, Cardiff, Newcastle, &c.) used formerly to have Birth rates as high as that of St. Helens, but they have during the past few years fallen off while St. Helens still maintains its old rate.

The Quarterly number of Births is given in the accompanying table, together with the rates for each quarter during 1893.

Year.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.	Rate per 1000 per year
1884	637	743	659	518	2657	42.5
1885	709	631	582	606	2528	39.9
1886	721	651	671	595	2638	40.7
1887	651	617	584	604	2456	37.0
1888	694	668	601	689	2652	39.2
1889	723	748	624	679	2774	39.8
1890	754	678	645	699	2776	38.9
1891	767	684	750	719	2920	40.7
1892	695	769	719	730	2913	39.7
1893.	Males 405 Females 370 Total... 775 Rate per 1000. 41.1	387 360 747 39.6	393 383 776 41.1	403 328 731 38.7	1588 1441 3029	40.1

As has been previously stated, this high Birth rate is a most important factor in considering the mortality statistics for St. Helens. It must be remembered that in England and Wales nearly half the children born die before they reach the age of 5 years. In St. Helens the high Birth rate provides a large number of children at ages not only easily attacked by disease and killed, but specially liable to Infectious diseases. There is constantly being produced, therefore, a new population susceptible to Infection; while in a town like Brighton or Huddersfield, where the Birth rate is only about half of what it is in St. Helens, there is not nearly so many susceptible children.

**ILLEGITIMACY.**

Of the 3029 Births 81 were illegitimate. In every 1000 births 974 were legitimate, and 26 were illegitimate. This is 1·8 per 1000 higher than during the previous 10 years, which is shown below.

	Legitimate.	Illegitimate.
1884	979	21
1885	974	26
1886	974	26
1887	971	29
1888	970	30
1889	975	25
1890	976	24
1891	974	26
1892	981	19
1893	974	26

The Rate in St. Helens, however, compares favourably with that in the Northern Counties of England, which is shown below.

Counties.	Per 1000 Births.	
	Legitimate.	Illegitimate.
Nottingham ...	946	54
Derbyshire ...	959	41
Cheshire ...	958	42
Lancashire ...	959	41
Yorkshire ...	948	52
Durham ...	963	37
Northumberland	954	46
Cumberland ...	932	68
Westmoreland ...	932	68
All Wales ...	955	45
<b>St. Helens...</b>	<b>974</b>	<b>26</b>

**ANNUAL RATE OF MORTALITY.**

The local Registrars have recorded the deaths of 1769 persons, 962 of these being males and 807 being females.

Of these deaths 51 occurred in that part of Rainhill Asylum which is within the Borough of persons coming from districts outside St. Helens. Then 3 persons died in the Hospitals who did not belong to St. Helens. 78 persons died at the Workhouse, which

is outside the Borough, who came from St. Helens. After making these corrections, we get 1793 as the number of persons belonging to St. Helens who died in the town or in the institution in connection with the Borough during the past year.

This gives 23·7 as the rate of mortality during the year per 1000 of the population. The death-rate for the previous ten years was 22·44. The rate in 1893 was therefore 1·7 per 1000 above the mean death-rate of the years 1883 to 1892.

The causes of this higher death-rate are dealt with in detail in a later part of this report. It will be sufficient here to mention that it is mainly due to the epidemic of Measles which occurred in the first and second quarter, and to the epidemic of Summer Diarrhœa which occurred during the third quarter. These two diseases alone caused a death-rate of 4·01 per 1000 per annum.

In the whole of England and Wales, the death-rate was 19·2 per 1000. In the 33 great towns it was 21·55 per 1000. In six of these the rate was higher than in St. Helens (see Table E), and in the 14 of the 67 smaller towns it exceeded that in St. Helens.

The following rates of Mortality in Cities and Towns, including our own, will give the history of the past ten years:—

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
London	..20·1	19·7	19·9	19·6	18·5	17·4	20·3	21·4	20·6	21·4
Portsmouth	..19·4	19·7	23·8	19·5	18·8	18·1	19·6	19·0	18·5	18·2
Norwich	..21·2	20·3	23·3	20·4	20·2	18·4	21·1	19·3	20·0	19·2
Bristol	..18·4	19·7	19·3	20·4	16·9	17·6	19·2	20·9	19·4	18·9
Wolverhmpn	..23·4	20·2	22·2	21·7	20·7	20·6	21·8	24·2	21·5	23·3
Birmingham	..21·4	19·3	19·9	19·7	17·8	18·7	20·7	22·2	20·4	21·9
Leicester	..22·1	19·8	20·3	18·5	17·3	16·9	17·9	21·7	18·1	20·2
Nottingham	..22·9	19·9	20·4	18·7	17·3	17·0	16·5	19·9	19·8	18·4
Liverpool	..25·2	23·8	23·8	23·7	20·3	21·6	23·6	27·0	24·7	27·3
Manchester	..26·4	26·5	26·3	28·7	26·1	26·7	30·6	26·5	23·7	27·4
Salford	..22·3	21·1	22·1	22·2	21·3	20·5	22·4	26·0	24·5	24·0
Bradford	..20·1	17·7	19·0	19·9	17·1	19·2	20·4	22·7	17·9	20·9
Leeds	..24·2	19·9	21·9	21·1	20·6	22·1	22·6	22·9	19·7	22·3
Sheffield	..22·4	20·7	19·9	21·6	20·5	20·9	24·9	23·9	20·8	22·3
Hull	..21·1	17·2	18·8	19·2	16·4	20·3	19·2	21·0	19·9	21·3
Sunderland	..23·1	23·8	19·5	19·7	18·1	22·9	22·7	25·0	20·9	25·0
Newcastle-on-Tyne	23·1	26·1	20·2	25·3	20·6	25·2	25·9	23·8	19·7	21·0
Brighton	..19·0	17·0	17·1	16·9	16·1	15·1	17·8	18·2	19·2	18·4
Plymouth	..21·0	22·2	23·5	22·7	22·3	25·2	22·4	22·5	18·8	21·2
Oldham	..24·5	21·9	22·8	23·8	20·3	20·4	21·2	25·7	22·0	21·0
ST. HELENS	..23·5	23·18	22·29	21·4	19·5	22·25	24·46	25·4	20·82	<b>23·7</b>

The death-rate for each of the Wards is given below. No correction is there made for the deaths in Rainhill Asylum or in the Workhouse.

WARDS.		Death Rate, 1892.		Death Rate, 1893.
Eccleston, North	...	20·1	...	24·5
Eccleston, South	...	15·3	...	16·8
Central	...	19·9	...	24·5
Windle, North	...	16·5	...	19·7
Windle, South	...	21·6	...	20·6
Hardshaw	...	21·7	...	31·0
Sutton, East	...	15·6	...	20·1
Sutton, West	...	27·8*	...	29·0*
Parr	...	22·2	...	22·7

\* Including Deaths in Rainhill Asylum (old part).

The death-rates for each quarter are given below:—

	1892			1893
1st Quarter	23·6	...	...	24·8
2nd „	18·8	...	...	22·7
3rd „	19·6	...	...	26·8
4th „	19·6	...	...	19·5

At the end of this Report will be found a table showing the causes of death and numbers of death for each week during the year.

### INFANTILE MORTALITY RATE.

The number of Deaths of Infants under one year of age per 1000 births during 1893 was 196, against 159 for the whole of England and Wales and 181 in the 33 great towns.

Comparing our rate during 1893 with that in the last ten years we get:—

1884	...	173		1889	...	177
1885	...	168		1890	...	170
1886	...	172		1891	...	180
1887	...	163		1892	...	147
1888	...	151		1893	...	196

On Table D it will be seen that in 15 of the 33 great towns, the rate was higher than in St. Helens; and in many of the smaller towns it was much higher than the St. Helens Rate.

TABLE E.

Showing COMPARATIVE STATISTICS in the 33 GREAT TOWNS during 1893, and in St. Helens.

Town	ANNUAL RATE PER 1000.				Zymotic Rate.	Infantile Mortality Rate.
	Birth Rate.	Death Rate.				
33 Great Towns .. ..	31·9	21·55			3·18	181
London .. ..	30·9	21·4			3·08	165
West Ham .. ..	35·6	18·9			3·38	171
Croydon .. ..	26·1	16·3			1·80	154
Brighton .. ..	25·3	18·4			1·84	170
Portsmouth .. ..	28·2	18·2			2·81	165
Plymouth .. ..	29·9	21·2			2·75	169
Bristol .. ..	30·3	18·9			1·65	141
Cardiff .. ..	36·0	19·7			3·30	178
Swansea .. ..	35·1	19·6			1·83	170
Wolverhampton .. ..	34·5	23·3			2·84	209
Birmingham .. ..	32·7	21·9			3·04	199
Norwich .. ..	30·8	19·2			3·04	196
Leicester .. ..	33·0	20·2			3·98	219
Nottingham .. ..	30·2	18·4			2·60	166
Derby .. ..	32·2	18·2			2·07	131
Birkenhead .. ..	33·1	20·5			2·81	171
Liverpool .. ..	35·9	27·3			3·90	211
Bolton .. ..	33·1	24·0			4·65	200
Manchester .. ..	33·5	27·4			3·96	203
Salford .. ..	34·0	24·0			4·13	211
Oldham .. ..	28·6	21·0			2·48	236
Burnley .. ..	33·9	21·8			3·75	223
Blackburn .. ..	30·9	23·2			4·05	243
Preston .. ..	35·0	26·3			4·01	268
Huddersfield .. ..	23·7	17·2			1·24	141
Halifax .. ..	24·6	17·3			1·71	175
Bradford .. ..	27·7	20·9			3·42	196
Leeds .. ..	32·4	22·3			3·47	205
Sheffield .. ..	34·8	22·3			3·52	191
Hull .. ..	34·2	21·3			4·14	207
Sunderland .. ..	35·6	25·0			3·36	190
Gateshead .. ..	36·4	19·3			3·46	172
Newcastle .. ..	33·7	21·0			2·54	174
<b>St. Helens .. ..</b>	<b>40·1</b>	<b>23·7</b>			<b>5·31</b>	<b>196</b>

TABLE G.

A SUMMARY OF THE  
VARIOUS CAUSES OF DEATHS

*In Groups and Classes is given in the following Table.*

DISEASE GROUPS.	DISEASE CLASSES.	Deaths.	TOTALS
Zymotics, principal ..	... ..	401	
„ minor ...	... ..	38	
			439
Constitutional ...	Dropsy, Cancer, &c ...	47	
„ ...	Scrofula, Phthisis, &c. ...	153	
			200
Local Diseases ...	Brain, &c. ...	200	
„ „ ...	Heart, &c. ...	65	
„ „ ...	Lungs, &c. ...	391	
„ „ ...	Stomach, &c. ...	140	
„ „ ...	Kidneys, &c. ...	26	
„ „ ...	Uterus, &c. ...	2	
„ „ ...	Bones, &c. ...	6	
„ „ ...	Skin, &c. ...	0	
			830
Developmental ...	Premature Birth, &c. ...	64	
„ „ ...	Childbirth, &c. ...	16	
„ „ ...	Old Age ...	29	
„ „ ...	Atrophy and Debility ...	131	
			240
Violence ...	Violence ...	46	
			46
Causes unspecified...	.. ...	14	
			14
			1769

**TABLE H.**

**WEEKLY RETURN OF DEATHS FOR 1893,**

*From Zymotic and other Diseases, with the rate per 1000 per Annum.*

1893.			Deaths from all Causes.	Annual Rate per 1000.	Deaths from Seven Principal Zymotics.	Annual Rate per 1000 for Zymotics.
Week ending	January	7	41	28.4	11	7.64
"	"	14	39	27.0	9	6.25
"	"	21	35	24.3	5	3.47
"	"	28	40	27.8	13	9.03
"	February	4	33	22.9	8	5.55
"	"	11	36	25.0	8	5.55
"	"	18	39	27.0	9	6.25
"	"	25	32	25.0	12	8.33
"	March	4	36	22.2	6	4.16
"	"	11	38	26.4	12	8.33
"	"	18	24	16.6	6	4.16
"	"	25	40	27.8	10	6.94
"	April	1	36	25.0	15	10.42
"	"	8	31	21.4	11	7.64
"	"	15	43	29.8	9	6.25
"	"	22	35	24.3	6	4.16
"	"	29	32	22.2	5	3.47
"	May	6	39	27.0	5	3.47
"	"	13	30	20.8	7	4.86
"	"	20	25	16.0	1	.69
"	"	27	29	20.0	3	2.08
"	June	3	28	19.4	3	2.08
"	"	10	22	15.2	1	.69
"	"	17	41	28.4	10	6.94
"	"	24	37	25.7	14	9.73
"	July	1	40	27.8	8	5.55
"	"	8	41	28.4	20	13.89
"	"	15	62	43.0	27	18.76
"	"	22	40	27.8	13	9.03
"	"	29	36	25.0	14	9.24
"	August	5	44	30.5	10	6.94
"	"	12	33	22.9	10	6.94
"	"	19	36	25.0	11	7.64
"	"	26	38	26.4	12	8.33
"	September	2	40	27.5	9	6.20
"	"	9	39	26.8	4	2.73
"	"	16	33	22.7	12	8.27
"	"	23	29	20.0	5	3.44
"	"	30	29	20.0	8	5.51
"	October	7	21	14.4	2	1.40
"	"	14	19	13.1	2	1.40
"	"	21	22	15.1	2	1.40
"	"	28	29	20.0	4	2.73
"	November	4	28	19.3	5	3.44
"	"	11	28	19.3	5	3.44
"	"	18	32	22.0	3	2.06
"	"	25	32	22.0	4	2.73
"	December	2	34	23.4	2	1.40
"	"	9	31	21.3	4	2.73
"	"	16	27	18.2	1	.68
"	"	23	28	19.3	2	1.40
"	" (8 days)	31	37	25.5	3	2.06

## CAUSES OF DEATH.

### CLASS 1.—Zymotic Diseases.

The rate of mortality from the seven principal Zymotics, *e.i.*, Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (including Typhus, Enteric, and Continued Fever), and Diarrhœa, was 5·3 per 1000. In the whole of England and Wales, the rate was 2·47 per 1000. An abnormally high Zymotic rate maintained in most of the large towns in England during the year, as is seen in Table "E." It will be remembered that during 1892 St. Helens had an unusually low Zymotic rate.

#### ZYMOTIC RATES IN ST. HELENS.

1884	...	...	5·4		1889	...	...	3·0
1885	...	...	4·1		1890	...	...	5·3
1886	...	...	5·2		1891	...	...	3·0
1887	...	...	4·0		1892	...	...	2·26
1888	...	...	3·1		1893	...	...	5·3

#### ZYMOTIC RATES DURING THE 4 QUARTERS OF 1893.

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
6·4	4·2	10·3	2·0

## CHOLERA PRECAUTIONS.

No Medical Officer who had observed the behaviour of this much dreaded disease on the Continent in 1892, and who knew of its method of spread, could but feel anxious during many months in 1893 for the welfare of his district. This was intensified as the exceptionally hot and dry weather continued from month to month in an almost unprecedented manner; also, there was the fact that no systematic medical inspection of vessels coming abroad was made unless disease was actually declared on board by the Captain. England having such an enormous commerce stood in great danger of infection.

Early during the Autumn, deaths from Diarrhœa became very numerous in St. Helens. Many of the cases proved fatal in an alarmingly short time; in one case, an apparently strong and healthy woman, 28 years of age, died after only seven hours illness.

Under conditions such as these, it became evident that every possible care should be taken: 1st, to get the whole district in the best possible condition to withstand an attack; and 2nd, to deal with the disease as efficiently and promptly as possible when it did occur

In order to meet these requirements, and that there might be as few omissions as possible during the excitement of an epidemic period, there were written out early in April, lists of instructions to the various Officers in the Health Department, to Nurses, Matron, Ambulance man, Disinfecting men, &c.

Definite information was collected as to Hospital Tents, and furnishing, special Medical Aid in diagnosis and special Bacteriological assistance.

#### PREVENTIVE MEASURES.

In any town the two most important preventive measures are : 1st, to insure the purity of the water supply, and 2nd, to see that filth nuisances of all kinds are prevented.

(a) **Water Supply.**—The Water Supply of St. Helens is derived almost entirely from 5 deep wells.

The depth of the bore-hole and distance from the centre of the town is given below in each of these—

		Depth of Bore Hole.		Distance.
Eccleston Hill	...	394 ft.	...	$1\frac{3}{4}$ miles
Whiston	...	465 "	...	$3\frac{1}{3}$ "
Collins Green	...	285 "	...	$2\frac{3}{4}$ "
Knowsley	...	687 "	...	$4\frac{2}{3}$ "
Kirkby	...	510 "	...	$6\frac{3}{4}$ "

Chemical Analysis has on all occasions shown that each of these waters is of very high Organic purity. The water—pure at its source—is sent to Brown Edge Reservoir and Softening Tanks, and from thence is distributed in ordinary cast-iron lead jointed pipes. The supply is a constant one, and, therefore, there is very little chance of leakage of filth into the mains.

Samples have been taken from the house taps and these analysed, but without any indication of impurity.

Although many of the mains are laid over mines, there does not seem to be any unusual tendency to leakage as indicated by the water meters.

It has been pointed out that all the great European local outbreaks of Cholera in recent years were due to specifically polluted waters. It is, therefore, most satisfactory to know that we have a water supply pure at its source, and distributed in the best possible manner.

There still exists in the Agricultural districts a few shallow wells, not more than 30 in number. Most of these were dry during last summer. Gradually these are being abolished and replaced by towns water.

(b). **Filth Nuisances.**—It is unpleasant to have to record that a very large number of these still exist in St. Helens. Although they do not produce Cholera, yet they assist very materially in propagating it, by forming breeding grounds for the Cholera poison. During recent years the staff whose special duty it is to deal with these has been increased by two, *i.e.*, an Assistant-Medical Officer and an additional Assistant-Nuisance Inspector. As has been mentioned in a former report when dealing with the subject of Typhoid Fever—the two filth nuisances which are most dangerous are the old-fashioned, deep and stinking privy middens and the dirty pigstyes. Early in May instructions were given to have all privies emptied without delay, and to use additional vigilance in dealing with and reporting all other nuisances.

**Arrangements for Dealing with Cholera Cases.**—Of the greatest importance is an accurate diagnosis of the early scattered cases, and for this reason, on May 7th, an arrangement was made with Professor Barron, of Liverpool, to see any suspected case as a consulting physician, and with Dr. Kanthack to make a Bacteriological examination of the stools to check the preliminary examination which would be made by the Assistant-Medical Officer. As cases of Cholera became more numerous, the Local Government Board had samples examined by Dr. Klein, and Dr. Kanthack's services would not therefore have been necessary. There would have been greater delay in sending specimens to London, however.

Written instructions were got ready—

- 1st. For dealing with the affected houses, yards and closets, and with the members of the household not attacked.
- 2nd. As to precautions to be taken in removing patients.
- 3rd. Instructions to officials in dealing with cases.
- 4th. To nurses and matron in dealing with the discharges, &c. (especially regarding their own personal hygiene).
- 5th. As to the regular inspection of suspected districts.
- 6th. As to the supply and erection of hospital tents, beds, additional medical help, supply of drugs, and the notification of all cases of diarrhœal disease, if found necessary.

As deaths from Diarrhœa and notification of cases of Typhoid Fever became more frequent the following handbill was delivered at all the houses in the Borough, with a view to putting people on their guard as to the best means of preventing those conditions which predispose to Diarrhœa, Cholera and Typhoid Fever.

## COUNTY BOROUGH OF ST. HELENS.

## PRECAUTIONS AGAINST TYPHOID FEVER, DIARRHŒA, AND CHOLERA.

—During the Autumn months these diseases, due to "filth," are always liable to occur, and in order that the public may protect themselves against them, the following simple rules must be carefully attended to:—

I.—Cleanliness, above all things, must be insisted on in the house. The walls of the kitchen should be whitewashed, and soiled woodwork well scrubbed.

II.—As little household refuse as possible should be stored in the ashpits or ash tubs. All vegetable matters, fish heads, and such like, should be burned on the kitchen fire.

III.—The Yard should be kept scrupulously clean. Gullies should be cleaned out, and a bucketful of clean water (or water containing carbolic powder) poured down each gully every day.

IV.—Any choked drain, or overfull ashpit, or other insanitary condition should be reported at the Medical Officers' Department, Town Hall, without delay.

V.—All persons should abstain from eating unwholesome food or unripe or over-ripe fruit, stale fish, or tainted meat. All Milk given to Children under five years of age should be boiled.

VI.—The discharges of persons suffering from any of the above spread the disease by infecting either food, water, or air. It is therefore essential that all linen and bedding which have been soiled should be Disinfected and then washed, and that the bowel discharges should be covered with carbolic powder before emptying them.

Finally, every case of bowel disease should be at once treated by a qualified medical man

Disinfectants will be supplied Free, or clothing removed for disinfection, by applying at the Town Hall.

ROBERT McNICOLL,

Medical Officer of Health

July 21st, 1893.

No case of Asiatic Cholera occurred during the year in St. Helens although many small outbreaks were reported in other districts in England and Wales. The cause of most of these outbreaks was of very obscure origin—but when it is remembered that a large traffic is done between every individual district of England and foreign countries, in foods, in fruits, in household articles, in toys, &c., one need not be surprised that the path of infection is difficult to find. Large quantities of fish come to St. Helens from Grimsby which was the seat of one of the largest outbreaks of Cholera during 1893.

The above few remarks indicate that it is quite useless to depend on the Quarantine and other sanitary arrangements of our ports to keep cholera out of our towns, and that we must depend chiefly on keeping the sanitary condition (in its widest sense) of the town in good order.

## SMALL POX.

Between November 1st, 1892, and August 26th, 1893, 65 cases of Small Pox occurred in St. Helens, and 13 persons were isolated for shorter or longer periods on suspicion of their developing the disease. In the Annual Report on the Health of St. Helens for the year 1892 the precautions which were adopted before any case of Small Pox occurred, and the means used for checking the disease when it did break out, are fully described. It is most satisfactory to have to chronicle that the means adopted were found to be most effective, and therefore, while many of the neighbouring towns were attacked severely, St. Helens escaped with but 65 cases, although the infection had been definitely imported 18 times, and probably imported in three other cases. Much of the success was due to the care taken by the medical gentlemen in St. Helens in early recognising the true nature of the cases, and in reporting them, and in having doubtful cases removed and isolated early. In one case, however, a Doctor failed to report a case of Small Pox in the house of a dairyman and cowkeeper—four secondary cases occurred in this family, all attended by the same gentleman, and none of them were reported till case No. 3 died, and it was found that the nature of the disease could then no longer be kept hidden. The cases occurred in Manor Street, and soon no less than 21 secondary cases and 3 deaths occurred, all traceable to those in the family of the dairyman. This is a good example of how Small Pox will spread when precautions are not taken to stop it. In these cases there was strong evidence to show that it not only spread by contact but by the air. Houses at the back of the dairyman's became infected although there was no evidence of communication between the houses infected and that of the dairyman. In one case only was there some evidence of milk, or a milk-can carrying infection. The medical gentleman who, through a false sense of kindness to his patients, failed to report these cases, was summoned under Sec. 3, sub-sec. 6 of the Infectious Diseases Notification Act, on 3 charges of failing to notify and was fined the maximum penalty in each case of two pounds.

As showing the extremely diffusible nature of the poison of Small Pox the following case is worth putting on record. A building society's book was kept under the pillow of one of these patients until his death. It was then taken in charge by his son, who lived at another part of the town, and without disinfection was kept for 4 weeks in his house. Being a saleable article it was taken and offered for sale to an artisan who kept it over night. While there this artisan's wife perused the book, with a result that, 14 days afterwards, she developed the rash of Small Pox.

Small Pox was repeatedly introduced from Warrington, where it was severely epidemic. It was introduced from Runcorn, Wigan, Standish, Manchester, Wrexham and Fleetwood.

In all, 44 cases occurred in 1893, with 5 deaths, and, as in 1892, no one who saw the cases and who had to take the responsibility of checking the spread of Small Pox, could fail to notice the great value of efficient vaccination and re-vaccination. No case of Small Pox occurred in any member of the hospital or sanitary staff. Of the 5 persons who died three were unvaccinated, in one the vaccination marks could not be seen on account of the confluent nature of the pocks, and no history could be obtained that vaccination marks ever existed. In the 5th case there was a history of vaccination, but no "marks" visible.

Of the 39 persons who recovered—all had a history of having been vaccinated. One man, aged 30, had been re-vaccinated at the age of 12 years. He had, however, only faint cicatrices existing. His attack was a mild one. In 17 other cases the vaccination cicatrices were very feebly present, while in the remaining 11 they were fairly marked.

All the patients were removed to hospital, and in nearly every case the rest of the household was re-vaccinated, as well as those who had been in contact with the patients from other houses. This re-vaccination was generally done by the Medical Attendant, but in some cases it was done by the Assistant-Medical Officer, with the sanction of the Medical Attendant. It was found in St. Helens as in other towns that when re-vaccination was done early—within 2 or 3 days after exposure to infection—that there was almost certain immunity.

The following is a copy of an inquiry sheet, one of which was filled up for each case of Small Pox. This was found to be of great use in tracing cases and in tabulating results.

#### SMALL POX.

Name ..... Age.....  
 Family.....Lodger.....  
 Address .....  
 How Long in House .....  
 Size of House .....  
 Medical Attendant.....First called in.....  
 Notified..... o'clock.....

LIST OF OCCUPANTS OF HOUSE.

Age. M. F.	Occupation.	Place of Work or School.	S. P. Hst. *	On- set.	Rash	H'pl	Vac'tion. Dte. Chr.	Re- Vac.	Last at Wrk
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\*A—Had S.P.      B—Not had S.P.      C—Now Ill.

Probable Source of Infection :—

Contact on 13th 14th 15th day before Rash.

Persons in Contact with Patient after onset.....

Nature of Isolation.....

PRECAUTIONS ADOPTED :—

Patient Removed to.....Hospital.....Other inmates.....

Persons in contact.....Neighbours.....Employer

communicated with .....School attended.....

Written..... House—rooms requiring stripping? .....

Clothing—requiring disinfection?.....Bedding—requiring disinfection?

.....Cautionary notices.....

Date of Fumigation.....Done by.....Date of Stripping and Lime-

washing.....Done by.....Date Bedding and Clothing stoved.....

House washed and cleaned by.....

Confirmed Inspection      { Date of.....

(14 days after this date) { Result .....

Termination      { Date of Discharge.....

of Case { Date of Death .....

Dated.....o'clock. This.....day of.....189..

Signed.....

**VACCINATION.**

St. Helens may be said to be a fairly well vaccinated town—but during recent years there is a tendency among the public to demand of medical men a nominal compliance with the Vaccination Act. There are in St. Helens as in other towns a few medical men who yield to this demand and who do the operation of Vaccination in a way that cannot be considered efficient. The result of this policy unfortunately will not be seen by the present generation of mothers.

The following table shows the Vaccination returns for 6 years. It compares favourably with that of other towns.

YEARLY RETURNS ON VACCINATION FOR 6 YEARS IN  
ST. HELENS.

YEAR.	1 Births.	2 Vaccin.	3 Insus- ceptible.	4 Dead.	5 Postpon'd	6 Removed	7 Un- accounted	Percentage not vaccinated including columns 5, 6, 7.
1886	2616	2180	2	320	17	92	5	4·3
1887	2559	2118	...	331	14	91	5	4·2
1888	2660	2226	1	316	12	100	5	4·3
1889	2744	2279	4	319	16	107	11	4·8
1890	2669	2167	4	369	24	99	6	4·8
1891	2827	2328	15	381	12	81	10	3·6
1892	2817	2407	7	316	6	63	18	3·08

### MEASLES.

This disease was prevalent during the last quarter of 1892 and the first two quarters of 1893 with most disastrous results. The mortality during 1893 from this disease alone was equal to 1·8 per 1000, while in the whole of England it was ·3 per 1000, and in the large towns ·37 per 1000,

One hundred and thirty-five children died during the year of Measles. As in former years this large number of deaths was due to the epidemic occurring during cold weather and thus increasing the severity of the complications.

On July 12th, the following report was presented to the Health Committee, and as it gives a history of the epidemic it is inserted in full.

Medical Officer of Health's Department,  
Town Hall, St. Helens,

12th July, 1893.

*To the Health Committee, Corporation of St. Helens.*

Mr. Chairman and Gentlemen,

I have to present this special report to you on the very severe recent epidemic of Measles in St. Helens, an epidemic affecting probably over 3000 children, causing the death of 146 children, and permanently damaging the health of many of the survivors.

I have gone with some detail into the various aspects of the epidemic, as it is by this means that we may hope to arrive at the best methods of combatting any future epidemic of this very infectious disease.

**Table No. 1** shows the previous history of Measles in St. Helens, and also our death rate compared with that for the whole of England. It will be there seen that St. Helens has suffered from epidemics, which have been even more fatal than the recent one. The mean Death rate from Measles for the 11 years, over the whole of England and Wales, was  $\cdot 485$ , that for St. Helens was  $1\cdot 29$  per 1000.

It must be remembered that cases of Measles are more liable to spread in a town district, than in a country district, where the houses are further apart; this will always therefore account for a higher rate in St. Helens than in the whole of England.

**TABLE I.**

NUMBER OF DEATHS FROM MEASLES IN EACH MONTH OF THE YEAR FROM 1882 TO 1892.

Year	Jan.	Feb.	Mar.	Apr	May	J'ne	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total Cases in each year.	Measles Death-rate in St. H's yearly.	Measles Death-rate in whole of Engl'd & Wales
1882	16	42	80	83	10	2	7	3	2	5	0	0	250	4·10	·481
1883	0	0	0	0	0	1	1	0	0	0	1	0	3	·04	·348
1884	0	0	2	3	1	0	0	0	3	16	45	75	145	2·35	·417
1885	36	10	10	3	2	5	2	1	0	0	0	1	70	1·11	·526
1886	3	3	1	8	3	2	16	8	3	15	29	11	102	1·58	·431
1887	4	2	6	6	2	1	1	4	1	6	10	10	53	·80	·594
1888	3	0	0	0	0	0	0	0	1	3	7	27	41	·61	·341
1889	10	13	8	11	5	11	3	3	1	7	2	1	75	1·09	·508
1890	0	0	0	0	0	0	0	0	0	6	5	5	16	·22	·439
1891	4	3	3	14	11	6	3	0	2	3	5	0	54	·75	·436
1892	0	0	0	1	0	0	0	1	0	1	5	15	23	·31	·330
<b>Totals</b>	<b>76</b>	<b>73</b>	<b>110</b>	<b>129</b>	<b>34</b>	<b>28</b>	<b>33</b>	<b>20</b>	<b>13</b>	<b>62</b>	<b>109</b>	<b>145</b>	<b>832</b>	<b>1·296</b>	<b>·4851</b>

From this table it will also be noted that no severe epidemic has occurred in St. Helens since that in 1888-1889,—so that ample time has elapsed for the accumulation of fresh material.

Three important points must be borne in mind when considering epidemics of Measles in St. Helens.

1st.—St. Helens has a very large proportionate infantile population. This is clearly indicated (*a*) by the fact of the annually recurring high Birth rate, which is generally either the highest, or within 2 or 3 places of the highest Birth rate of any of the large towns in England, see Table II. ; (*b*) by the census enumeration, where St. Helens is seen to have a larger number of young lives than in any other Urban or Rural populations in England, see Table III. At the census of 1891, one-fourth of the whole population was under 10 years of age in the Borough of St. Helens.

2nd.—St. Helens has a larger proportion of working class population than in most towns (probably amounting to 95 %). Amongst a large part of this class Measles is regarded as a simple ailment requiring little treatment, it is generally believed to be one of the inevitable accompaniments of child life.

3rd.—The class of cottage property tenanted by the working classes and the general domestic habits of these are well calculated to bring on those fatal sequelae of Measles, i.e., Bronchitis and Pneumonia; and again in the district where the epidemic started, the back yards of a considerable proportion of houses are common to several houses, thus allowing of free communication between the occupants.

**TABLE II.**

YEAR.	Birth Rate All England.	Birth Rate St. Helens.
1882	33·7	43·70
1883	33·3	40·6
1884	33·4	42·5
1885	33·5	39·9
1886	32·4	40·7
1887	31·4	37·0
1888	30·6	39·2
1889	30·5	39·8
1890	30·2	38·9
1891	31·4	40·7
1892	30·5	39·7

**TABLE III.**

This Table shows a comparison between the numbers living under different ages in St. Helens and in other English Urban and Rural districts per 1000 living at all ages.

Years of Age.	Calculated from Census 1891 St. Helens.	English Urban Districts.	English Rural Districts.
0 to 5	150·3	136	134
5 „ 10	129·3	119	126
10 „ 15	116·9	105	115
15 „ 20	104·3	100	96
20 „ 25	92·3	94	79
25 „ 35	156·4	155	127
35 „ 45	62·3	116	106
45 „ 55	89·0	83	86
55 „ 65	56·8	55	69
65 „ 75	30·4	27	43
Over 75	11·9	10	19
All Ages	1000	1000	1000

During the eleven months prior to November, 1892, only 3 deaths occurred from Measles. In November, 5 occurred, in December, 15, in January, 1893, 31; February, 31; March, 31; April, 28; and May, 5; Total 146.

The notification of Measles is not in force in the Borough and therefore it was impossible to ascertain the actual number of children attacked, but allowing the high rate of 5 per cent mortality, the figures would work out as follows:—

	Probable Number of Children who suffered from Measles.	Number of these who died.
November, 1892 .....	100	5
December, „ .....	300	15
January, 1893 .....	620	31
February „ .....	620	31
March „ .....	620	31
April „ .....	560	28
May „ .....	100	5
Total .....	2920	146

In Edinburgh, one of the few towns where Measles is a notifiable disease, the mortality varied during 10 years from  $1\frac{1}{2}$  to 5.9 per cent of the cases.

I have prepared a map indicating the distribution of the 146 cases where death occurred. Those marked in red occurred in November, December or January. Those in blue in February or March, and those in olive green in April or May. At first the epidemic was almost entirely limited to Parr. It soon spread towards the Central districts, and after exhausting itself there it affected the East Sutton and Thatto Heath districts. It is not even yet away from these districts, but owing to the favourable weather it is not causing such a large percentage of deaths. The distribution in Wards has been as follows:

WARDS.	1892		1893					Total.
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
North Eccleston ...	—	2	3	5	1	3	—	14
South Eccleston ..	—	—	—	5	2	2	—	9
Central ...	—	1	1	5	2	8	1	18
North Windle ...	—	—	3	5	5	3	—	16
South Windle ...	—	—	1	3	7	3	—	14
Hardshaw ...	3	2	6	3	4	3	—	21
East Sutton ...	—	—	1	—	5	3	—	9
West Sutton ...	—	—	3	3	3	2	—	11
Parr ...	2	10	13	2	2	1	4	34
TOTALS ...	5	15	31	31	31	28	5	146

On the same map I have marked with a red cross the situation of the principal Schools.

Most of the children who died were under 3 years of age, and therefore not at school. Inquiry was made at each house where a death took place as to what school all children in the house went, and the following figures were obtained:—

Name of School.	Number of Houses where a Death took place connected with each School.
No School ... ..	30
Not ascertained ... ..	21
St. Joseph's School (Peasley Cross)...	8
Wesleyan Schools (Park-street) ... ..	3
Holy Trinity ... ..	8
Blackbrook School ... ..	1
Parr National .. ...	10
St. Joseph's School (Parr Mount) ... ..	3
Holy Cross ... ..	5
Peasley Cross Congregational ... ..	1
Sutton National ... ..	2
St. Ann's, Sutton ... ..	2
Derby Street Schools ... ..	7
Queen-street „ ... ..	7
Lowe House „ ... ..	10
Cowley British „ ... ..	2
Halefield-street „ ... ..	1
York-street „ ... ..	2
Ragged „ ... ..	8
St. Mary's „ ... ..	3
St. Thomas' „ ... ..	4
Sacred Heart „ ... ..	8
Mount-street „ ... ..	3

The following shows the age at death of each child—

Age.	No. of Children.
0 to 3 months ... ..	1
3 „ 6 „ ... ..	4
6 „ 12 „ ... ..	31
1 „ 2 years ... ..	67
2 „ 3 „ ... ..	19
3 „ 4 „ ... ..	11
4 „ 5 „ ... ..	6
over 5 „ ... ..	7

Like many other diseases of childhood, Measles is more fatal among children under two years than above. Probably, older children are affected far oftener than the above figures indicate, but a fatal termination does not so frequently ensue as among those of more tender years.

### INFLUENCE OF WEATHER ON THE EPIDEMIC.

There is in all cases of Measles more or less of Nasal and Bronchial Catarrh, the Bronchial Catarrh amounting to Bronchitis in most cases. When such an attack occurs during cold weather, deaths from Bronchitis or Pneumonia are very frequent. The past epidemic was at its height during the coldest part of the year, and this was *undoubtedly* the cause of the large death-rate from Measles. The following table shows the complications which followed, and which were registered as one of the secondary causes of death.

	1892		1893					Total
	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Measles uncomplicated ...	—	2	1	5	3	3	1	15
Measles and Bronchitis ...	5	11	17	5	10	7	1	56
Measles and Pneumonia ...	—	1	10	16	11	11	3	52
Measles and Convulsions ...	—	1	1	2	3	3	—	10
Measles and Diarrhœa, or } Enteretis, or Gastritis.. }	—	—	2	2	—	4	—	8
Measles and Croup, or } Laryngitis ... }	—	—	—	1	4	—	—	5
Totals ...	5	15	31	31	31	28	5	146

In the accompanying table is well seen the relationship of temperature to the epidemic. It shows the Number of Deaths from Measles, and the Maximum, Minimum, and Mean Temperature for each week from November, 1892, to May, 1893 :—

Weeks Ending	Max. Temp.	Min. Temp.	Mean Temp.	No. of Deaths from Measles.
	Degrees.	Degrees.	Degrees.	
5th Nov. 1892	57	34	43·2	—
12th „ „	55	35	45·7	1
19th „ „	54	33	43·07	1
26th „ „	46	38	41·5	1
3rd Dec. „	51	24	39·5	3
10th „ „	45	25	32·2	2
17th „ „	53	31	41·5	—
24th „ „	54	29	43·0	3
31st „ „	36	25	27·0	9
7th Jan. 1893	35	14	26·07	10
14th „ „	41	29	34·7	8
21st „ „	47	27	37·5	2
28th „ „	50	32	41·7	9
4th Feb. „	51	34	43·5	6
11th „ „	51	30	40·8	5
18th „ „	51·5	35	41·6	8
25th „ „	54	29	39·6	11
4th Mar. „	54	26	38·6	6
11th „ „	52	37	44·7	6
18th „ „	64·5	29·5	42·8	6
25th „ „	64	26	45·1	8
1st April „	64·5	35	49·2	8
8th „ „	66	31	48·4	10
15th „ „	63·5	30·5	44·5	9
22nd „ „	75	38	53·5	6
29th „ „	74	41	55·0	3
6th May „	73·7	42	52·7	1
13th „ „	68	39	53·1	2
20th „ „	74	47	58·1	—
27th „ „	66	42	54·0	1
3rd June „	69	43	55·07	1 (31 May)

I believe the only sanitary defect, in addition to those already mentioned is that many of our schools are admittedly overcrowded. Such crowding and overcrowding of children is a very fertile source of spreading infection.

### MEASLES IN SURROUNDING DISTRICTS.

I here append a table showing the population and number of deaths from Measles in each of the two quarters in the adjoining sanitary areas :—

Name.	Popu- lation 1893.	Deaths from Measles	
		4th Quar. 1892.	1st Quar. 1893.
Haydock Urban Sanitary Authority	6,686	0	0
Rainford „ „	3,584	3	0
Prescot „ „	6,745	0	0
Ashton-in-Makerfield „	13,965	0	2
Newton-in-Makerfield „	13,438	0	0
Warrington Rural Sanitary Authority (Lancashire Portion)	13,383	0	0
Prescot Rural Sanitary Authority	19,389	0	3
Totals	77,190	3	5

The above, I think, pretty clearly shows that in the less densely populated districts surrounding the Borough of St. Helens, Measles was not epidemic. It is well recognised that in towns an epidemic of Measles spreads much quicker and is more difficult to cope with than in country districts. This table also shows that our severe epidemic was not due to any large spread from an adjoining district.

At the fortnightly meetings of your Committee I reported on the special prevalence and fatality of Measles, on January 11th and 25th, March 22nd, and April 12th, 1893.

Measles being nearly always present in St. Helens, it was only during the latter part of December, when it had become fatally present, that my attention was specially directed to it. Under such circumstances, had Measles been one of the notifiable diseases, my information would have been much more definite and useful. Inquiry was at once made at nearly all the Schools as to the percentage of attendance, compared with corresponding periods in previous years, and also as to the number of children absent owing to Measles. These inquiries were made twice weekly in some districts. The information obtained was apparently *quite conclusive* that towards the end of December, Measles did not affect the school attendance to any appreciable degree except in the case of Chancery Lane School. Here the

attendance was certainly below the average. The Christmas holidays then intervened, and it was hoped that this period of general school closing would be of use. During these holidays most of the Schools were disinfected with Sulphurous Acid Gas. Whenever the schools reopened the following letter was addressed to the Head Master and Mistress of each school, and one of the School Managers in each case. I believe the instructions therein contained were carried out by the teachers, in most cases the result did not, however, prove at all satisfactory, as the epidemic did not abate, but spread as already described.

MEDICAL OFFICER OF HEALTH'S DEPARTMENT,  
TOWN HALL,  
ST. HELENS,

JANUARY 9TH, 1893.

#### MEASLES AND SCHOOL ATTENDANCE.

Owing to the prevalence of Measles in certain districts in St. Helens, and the probability of its spreading seriously, I would respectfully draw your attention to the following:—

1st—Of all ways in which the Infection of Measles is spread, School Attendance is by far the most important.

2nd—A very great number of cases can be prevented by using extra vigilance in excluding all Children from Infected Houses, and specially of excluding Children who are in the beginning stages of an attack of Measles,

3rd—The symptoms of Measles before the rash appears are, briefly: cold in the head, running at the nose and eyes, slight cough, occasional shiverings, and general feeling of feverish cold. Measles are perhaps more infectious during this stage than when after the rash appears. It is, therefore, specially necessary that, during an epidemic period, strenuous efforts should be made to prevent Children in this stage from attending School, and thereby avoid the more drastic measure of Closing the whole School

Believe me,

Yours very faithfully,

ROBERT McNICOLL,

Medical Officer of Health.

No attempt was made to disinfect every house where Measles occurred, as it was found that in a large percentage we had no means of ascertaining the presence of the disease, no medical man being in attendance.

### CONCLUSION AND RECOMMENDATION.

Two points have specially presented themselves during this epidemic.

1st.—Should Measles be included among the notifiable diseases? This could be done by a recommendation of the Borough Council, but could not be undone.

2nd.—The utility of complete closure of schools during an epidemic of Measles.

As regards the notifications of Measles, I do not feel that there is sufficient evidence from other towns to warrant me in recommending you to include it yet. I admit that there are strong arguments in favour of its inclusion—such as the fact of it giving us early and accurate information of the cases of infection and thereby enabling school closing at the proper time and disinfection of all houses, etc. Against its inclusion there are the facts,—1st, that Measles is always present in St. Helens, but is only epidemic at intervals of 2 or 3 years. 2nd, Measles is highly infectious for 2 or 3 days before even a Medical expert could certify that it was Measles. 3rd, In at least one-half of the affected houses no Medical advice is sought, and therefore a large number of the cases would pass unrecognised. 4th, In those towns where Measles is notifiable the disease seems to spread in the same way after as it did before the Notification Act was adopted. I feel quite sure that the expense varying from £12 to £460 yearly for fees to Medical men notifying Measles would not be any argument provided some real saving of life and health were reasonably probable.

As regards the question of closing schools this has undoubtedly been of great value in some towns—chiefly small towns—schools seem in many towns to be the chief means of spreading the infection of Measles. I cannot but think that had all the schools (where children were absent owing to Measles) been closed during January, fewer cases might have occurred. The letter which was sent to teachers did not have the good effect that was anticipated.

The epidemic occurred at a most unfortunate time, there was a large susceptible population and the weather was the most unfavorable. I have recently adopted a scheme whereby every case of death from Measles shall be inquired into, specially with regard to school attendance. By article 88 of the Code of Regulations of the Council on Education of 27th February, 1893, power is given to require information from teachers regarding cases attending schools (subject to appeal). I hope, therefore, in future to be able to ascertain more definitely as to the spread of Measles, and to ask you if necessary to close schools in affected districts.

I am, Gentlemen,

Your obedient servant,

ROBERT McNICOLL,

### SCARLET FEVER.

This disease caused six deaths during 1893, and this is equal to a death-rate of  $\cdot 08$  per 1000. In the whole of England the rate was  $\cdot 29$ , and in the 33 large towns it was  $\cdot 29$  per 1000.

This death-rate from Scarlet Fever in 1893 compares favourably with former years, as is seen in the following table.

Death-rate from Scarlet Fever in St. Helens, 1893.

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
$\cdot 25$	$\cdot 25$	$\cdot 52$	$\cdot 52$	$\cdot 16$	$\cdot 04$	2 $\cdot 52$	$\cdot 33$	$\cdot 24$	$\cdot 08$

There were 237 cases of sickness from Scarlet Fever reported during 1893, against 438 in 1892, 210 in 1891, and 1234 in 1890.

The type of disease was exceedingly mild, one case terminating fatally in every 39 $\cdot 5$ . Since the severe epidemic in 1890 the type of disease seems to have got milder each year, as is indicated in the following table..

Table showing distribution of cases of sickness from Scarlet Fever in St. Helens :—

WARDS.	No. of Cases of Sickness from Scarlet Fever.			
	1890	1891	1892	1893
Eccleston, North ...	209	48	58	32
Eccleston, South ...	73	14	28	35
Central ...	141	20	29	24
Windle, North ...	115	18	35	10
Windle, South ..	78	23	27	27
Hardshaw ...	186	25	43	17
Sutton, East...	244	46	118	13
Sutton, West ...	105	9	48	35
Parr ...	83	7	52	44
Totals ...	1234	210	438	237
No. of cases to 1 death	6 $\cdot 8$	9 $\cdot 0$	24 $\cdot 3$	39 $\cdot 5$

Much stricter precautions were taken during the year than formerly to prevent the spread of infection of this disease. In two cases, prosecutions were instituted against persons for exposing children suffering from Scarlet Fever in Public Places, and in each case the offender was fined. Without sufficient accommodation at the Fever Hospital, it will be impossible to prevent this disease, as there is so many houses in which proper precautions cannot be undertaken, and many others in which all precautions are neglected.

### DIPHTHERIA.

During 1893, Diphtheria and Membraneous Croup caused 18 deaths, and there were notified 79 cases of sickness from these diseases. The Registrar General classifies Membraneous Croup along with Diphtheria, and all recent investigation goes to show that these are merely two names for one disease. The deaths from this disease were rather more numerous than in the preceeding 3 years, while the reported cases were less numerous, as is shown in the subjoined table:

Year.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Deaths.	11	11	11	10	11	21	29	13	9	12	18
Cases of Sicknes.	Before Notification Act.							104	69	81	79

The deaths from Diphtheria in the whole of England during 1893 represented a rate of .29, while in St. Helens the 18 deaths represent a rate of .24 per 1000 per annum. This rate of .29 for the whole of England is the largest rate of any previous year on record. Of the 79 cases of sickness from Diphtheria, 26 occurred among children under 5 years of age, while among the 18 deaths, 15 occurred in children under 5, and 3 above 5 years of age. This represents a mortality of 57 per cent. among children under 5 years of age, and  $5\frac{1}{2}$  per cent among children over 5 years of age.

In former years the death-rate from Diphtheria has usually been below the average in St. Helens as compared with the whole of England.

In a very large proportion of the houses where Diphtheria occurred, it was found that there was dampness in one form or another.

Probably this acted as a predisposing cause to the disease. The cases of Diphtheria and Membranous Croup were distributed as is shown in the accompanying table.

WARDS.	1890	1891	1892	1893	Total
Eccleston, North ...	8	8	14	9	39
Eccleston, South ...	9	3	3	6	21
Central ...	5	9	5	7	26
Windle, North ...	12	15	6	13	46
Windle, South ..	23	10	15	6	54
Hardshaw ...	12	4	6	16	38
Sutton, East...	17	8	10	15	50
Sutton, West...	8	7	12	4	31
Parr ...	10	5	10	3	28
Totals ...	104	69	81	79	333

### WHOOPING COUGH.

18 Deaths were registered as due to this disease. This number is considerably below the average. 4 cases occurred in the 1st quarter, 3 in the 2nd, 3 in the 3rd, and 8 in the 4th.

In former years the number of cases per annum were as is shown in the accompanying table.

1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
24	9	53	41	28	61	15	68	29	31	18

### TYPHOID FEVER.

Owing to the exceptional meteorological conditions which existed during the Spring and Summer of 1893, great anxiety was felt as to Typhoid Fever becoming unusually prevalent. The whole town may be looked upon as an infected area, and given the necessary conditions there would be great danger of an epidemic. As was expected there were an unusually large number of cases of Typhoid Fever between August and the middle of November. In the following table is shown

for each week during the year (a) the mean temperature of the air (b) the mean temperature of the soil, at a depth of 4 feet, (c) the maximum temperature, and (d) the rainfall, together with the number of cases of sickness from Typhoid Fever.

Weeks Ending.		Mean Temp. of Air.	Mean Temp. of Soil. 4 feet.	Maximum Temperature.	Rainfall Total.	No. of Cases of Typhoid Fever.
		DEG.	DEG.	DEG.	INS.	
January	7...	26·07	40·8	35·0	·28	1
"	14...	34·7	39·8	41·0	·04	4
"	21...	37·5	39·0	47·0	·27	5
"	28...	41·7	39·0	50·0	·35	0
February	4...	43·5	39·9	51·0	·84	3
"	11...	40·8	40·8	51·0	·58	2
"	18...	41·6	41·0	51·5	1·21	3
"	25...	39·6	41·0	54·0	·29	3
March	4...	38·6	40·8	54·0	·53	3
"	11...	44·7	40·8	52·0	·02	2
"	18...	42·8	41·5	64·5	·19	2
"	25...	45·1	41·9	64·0	·00	5
April	1...	49·2	42·07	64·5	·02	6
"	8...	48·4	42·8	66·0	·0	0
"	15...	44·5	43·5	63·5	·0	0
"	22...	53·5	43·8	75·0	·34	0
"	29...	55·0	45·0	74·0	·01	0
May	6...	52·7	46·1	73·7	·18	2
"	13...	53·1	47·2	68·0	·0	0
"	20...	58·1	48·38	74·0	1·37	0
"	27...	54·0	49·0	66·0	·16	1
June	3...	55·07	49·9	69·0	·03	0
"	10...	59·2	50·6	73·0	·27	1
"	17...	61·2	51·8	78·0	·0	5
"	24...	60·2	53·6	85·0	·56	3
July	1...	59·3	54·0	73·0	·76	2
"	8...	65·8	54·6	82·5	·46	7
"	15...	60·07	55·7	78·0	1·03	2
"	22...	58·6	55·8	68·0	·43	6
"	29...	59·9	55·7	69·0	·59	7
August	5...	58·7	56·0	67·0	1·53	13
"	12...	64·6	56·0	83·0	·57	9
"	19...	68·9	57·0	85·0	·17	7
"	26...	60·5	57·9	73·0	·70	12

Weeks Ending.	Mean Temp. of Air.	Mean Temp. of Soil. 4 feet.	Maximum Temperature.	Rainfall Total.	No. of Cases of Typhoid Fever.
	DEG.	DEG.	DEG.	INS.	
September 2...	56.5	57.3	66.0	.31	8
" 9...	59.5	56.8	74.0	.87	15
" 16...	54.2	56.4	67.0	.05	21
" 23...	51.7	55.7	63.0	1.46	17
" 30...	51.8	54.4	59.0	1.45	17
October 7...	49.38	53.6	59.5	1.47	20
" 14...	50.7	52.7	61.0	.66	21
" 21...	53.7	52.0	63.5	.03	16
" 28...	50.1	51.9	66.5	.68	6
November 4 ..	43.98	51.04	57.0	.51	12
" 11...	39.7	49.4	50.0	.09	14
" 18...	42.1	48.1	56.0	.20	9
" 25...	37.7	47.1	48.0	.79	2
December 2...	41.8	46.1	58.0	.13	3
" 9...	42.6	45.8	52.0	.67	4
" 16...	41.4	45.3	54.5	1.39	6
" 23...	42.8	44.6	54.0	1.30	4
" 30...	42.5	44.08	50.0	.33	4

From the foregoing table it will be seen, as in the case of mortality from Diarrhœa, as soon as the soil temperature reaches a certain point in St. Helens that the Fever becomes more prevalent. During the hot weather, which existed between April and June, the disease was not unusually prevalent, but as soon as its breeding grounds became warmed up to a certain temperature the Fever spread. The Registrar General in dealing with the deaths from this disease over the whole of England during 1893 says, that the mortality was "*unusually high.*"

The death-rate was in the whole of England .23, while that for St. Helens was .69.

This death-rate from Typhoid Fever is an exceptionally high one, as we have no other means of judging of the prevalence of Typhoid Fever in previous years except by the death-rates. I give below the death-rates per 1,000 since 1873.

Year.	Rate.	Year.	Rate.
1873	·67	1884	·45
1874	·51	1885	·09
1875	1·05	1886	·43
1876	·99	1887	·51
1877	·60	1888	·31
1878	·62	1889	1·12
1879	·56	1890	·34
1880	·56	1891	·34
1881	·78	1892	·34
1882	·40	1893	·69
1883	·48		
Mean.	·65	Mean.	·46

The following table shows the distribution of deaths in St. Helens during the past 10 years.

WARDS.	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	T'tl.
Eccleston, North .....	4	1	2	5	7	15	6	6	1	4	51
Eccleston, South .....	2	—	1	1	—	4	1	1	3	5	18
Central .....	1	1	5	8	3	7	3	3	1	2	34
Windle, North .....	1	—	2	1	1	5	1	1	—	6	18
Windle, South .....	4	—	6	5	1	14	3	3	5	2	43
Hardshaw .....	3	2	5	4	3	4	2	2	2	4	31
Sutton, East .....	3	—	3	4	2	14	3	3	3	3	38
Sutton, West * .....	5	1	1	1	2	9	4	5	6	18	52
Parr .....	4	1	2	4	2	3	1	1	4	8	30
Totals .....	27	6	27	33	21	75	24	25	25	52	315

\* Including Deaths at Fever Hospital.

The case-mortality in a population of over 12 millions in 1892, in England and Wales, was 17·8% at all ages, and 20·8% in a similar population in 1891, so that the case-mortality from Typhoid Fever in St. Helens (16·5%) is rather below that for the rest of England.

The following table shows the ages at which the various cases of sickness and of deaths from Typhoid Fever occurred.

	Under 5 Yrs.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	Over 55	Total.
Cases of Sickness..	31	112	92	47	20	7	6	315
Deaths ..	5	15	14	9	5	1	3	52
Percentage Mortality..	16.1	13.3	15.2	19.3	25	14.2	50	16.5

Equally important with the deaths from Typhoid Fever is the number of cases of sickness from this disease. In fact, it is more important, to judge of the prevalence of this disease by the notifications than by the cases of death. It is often an accidental circumstance which determines the death of a patient suffering from Typhoid Fever, while a case of sickness from the disease is never accidental.

Table showing the number of cases of Sickness from Typhoid Fever in each ward in St. Helens from 1889 :—

WARDS.	1889	1890	1891	1892	1893	Total.
North Eccleston ...	133	22	52	17	36	260
Eccleston, South ...	64	22	36	20	22	164
Central ...	46	14	9	12	19	100
North Windle ...	46	16	11	13	51	137
South Windle ...	67	10	26	22	40	165
Hardshaw ...	42	9	13	18	57	139
East Sutton ...	66	14	8	19	10	117
West Sutton ...	57	24	18	9	33	141
Parr ...	37	19	12	8	47	123
Totals ...	558	150	185	138	<b>315</b>	1346

It will be seen from the above table that no one ward in the town is specially liable to be attacked by the disease. North Eccleston, which had the highest number of cases in 1889 and 1891, had 36 last year, while North Windle, which was below the average in 1890, '91, and '92, had 51 cases in 1893; the same applies to South Windle, Hardshaw and Parr Wards. That is to say, taking the populous districts of the town, Typhoid Fever is more or less evenly distributed over them. In order, the better, to indicate the distribution of this disease, a spot map has been prepared and will be found at the end of this report. On this map are indicated in blue spots the houses in which cases of sickness from Typhoid Fever occurred during 1893.

I have been able to calculate the number of cases of sickness from Typhoid Fever per 1,000 of the population in the large towns of England during 1893, and as it is of the greatest importance to demonstrate accurately, this table is printed below.

Rate per 1000 of Cases of Sickness from Typhoid Fever, 1893.

London ... .. .85	Manchester ... 1.2
Croyden ... .. .33	Oldham ... .. .51
West Ham ... .. 1.5	Burnley ... .. 1.3
Norwich ... .. 3.0	Blackburn ... .. 1.2
Plymouth ... .. .64	Preston ... .. 1.7
Bristol ... .. .50	Huddersfield ... .58
Wolverhampton ... 1.8	Halifax ... .. .73
Birmingham ... 1.0	Bradford ... .. .96
Leicester ... .. 2.0	Sheffield ... .. 1.3
Nottingham ... .. 2.2	Hull ... .. 3.0
Derby ... .. 1.09	Sunderland ... 6.00
Birkenhead ... .. 2.1	Newcastle-on-Tyne .71
Liverpool ... .. 2.7	Cardiff ... .. .72
Bolton ... .. 1.3	Swansea ... .. 1.1
Salford ... .. 2.7	St. Helens ... .. 4.2

From the above it will be seen that only one town had a larger sickness rate from Typhoid Fever amongst the great towns of

England. Amongst the smaller towns there were several which had as great or greater rates than St. Helens.

The main factors in producing this disease in St. Helens have been dwelt upon in former reports, \* and during the last year additional evidence has accumulated that these factors do play the important part that has been ascribed to them. Of the cases of Typhoid Fever 1·1 occurred per 100 houses on the w.c. system; 3·4 occurred per 100 houses on the Privy system; and 1·7 occurred per 100 houses on the Tub and Pail system. Therefore Typhoid Fever occurred twice as frequently in houses on the Privy system as in houses on the Tub and Pail system, and three times as frequently as in houses on the w.c. system. This is in complete accordance with the result obtained in 1891.

\* See Mr. Spears' Report, Dr. Robertson's Report on the Methods of Refuse Removal in St. Helens, and the Annual Reports of the Medical Officer for 1891-92.

### DIARRHŒA.

This is always a most fatal disease in St. Helens, and the reason for this excessive mortality is not far to seek.

As has been previously pointed out in this report, there is in St. Helens an unusually large birth-rate, and, as was demonstrated in the Census returns, there is a very large number of young children living at ages when diarrhœa is most fatal and at ages which are most susceptible to it. The death-rate from Diarrhœa in England and Wales was greater during 1893 than in any year since 1880. It amounted to ·96, while in St. Helens the rate was 2·2. This rate has been exceeded on 4 occasions during the past 20 years the last being in 1886 when it was 3·01. The following shows the death-rates during the past 10 years from Diarrhœa in St. Helens.

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
2·12	·89	3·01	1·53	·96	1·27	1·05	1·08	1·14	2·2

As in former years by far the larger number of deaths occurred during the 3rd Quarter, as is seen below:—

DEATH RATES IN ST. HELENS FROM DIARRHŒA.

	1887	1888	1889	1890	1891	1892	1893
January ...	4	0	2	1	2	2	1
February ...	2	1	0	0	1	3	0
March ...	2	3	1	0	4	3	2
1st Quarter ...	8	4	3	1	7	7	3
April ...	1	2	3	2	1	2	1
May ...	1	2	2	0	2	1	5
June ...	5	1	2	3	4	2	32
2nd Quarter ...	7	5	7	5	7	5	38
July ...	19	4	28	3	4	10	71
August ...	37	19	23	19	11	29	32
September ...	23	24	17	26	30	25	21
3rd Quarter ...	79	42	68	48	45	64	124
October ...	3	10	3	15	13	4	2
November ...	4	3	2	4	5	3	1
December ...	0	1	2	1	1	1	0
4th Quarter ...	7	14	7	20	19	8	3
Totals each year	101	65	85	74	78	84	168

How intimately this disease is associated with the soil is shown on the accompanying chart where, as in former years, it is seen that as the temperature of the soil rises sufficiently to cause the various organisms which produce Diarrhœa to germinate, then the disease becomes prevalent. When the temperature of 52° is reached at 4 feet below the surface, then diarrhœa became epidemic during the last three years. As far as the question of summer diarrhœa is concerned, the hypothesis that it is due to a number of organisms which germinate in the soil and infect food, etc., is being greatly strengthened every year as evidence accumulates.

Of the 168 deaths, 156 were under 3 years of age, 1 between 3 and 25, and 11 between 25 and 85. No less than 111 deaths occurred among children under 1 year of age when milk usually forms the staple article of diet.

During the period between 17th June and 26th August, an inquiry was instituted as to the causes producing the Diarrhœa in each fatal case.

This inquiry was not altogether satisfactory, as in most cases the information could not be obtained until four or five days after the death occurred. It was then impossible to get reliable information on many essential points. One point of importance however was ascertained. In 107 deaths among children said to have been fed entirely upon milk, 72·5 per cent. occurred in children fed by means of a bottle, while the remaining 27·5 per cent. occurred among children fed at the breast. The deaths from Diarrhœa were distributed over the town as follows :—

North Eccleston	...	...	...	...	...	32
South	„	...	...	...	...	14
Central	...	...	...	...	...	20
North Windle	...	...	...	...	...	8
South	„	...	...	...	...	29
Hardshaw	...	...	...	...	...	12
Sutton East...	...	...	...	...	...	8
„ West...	...	...	...	...	...	23
Parr	...	...	...	...	...	22

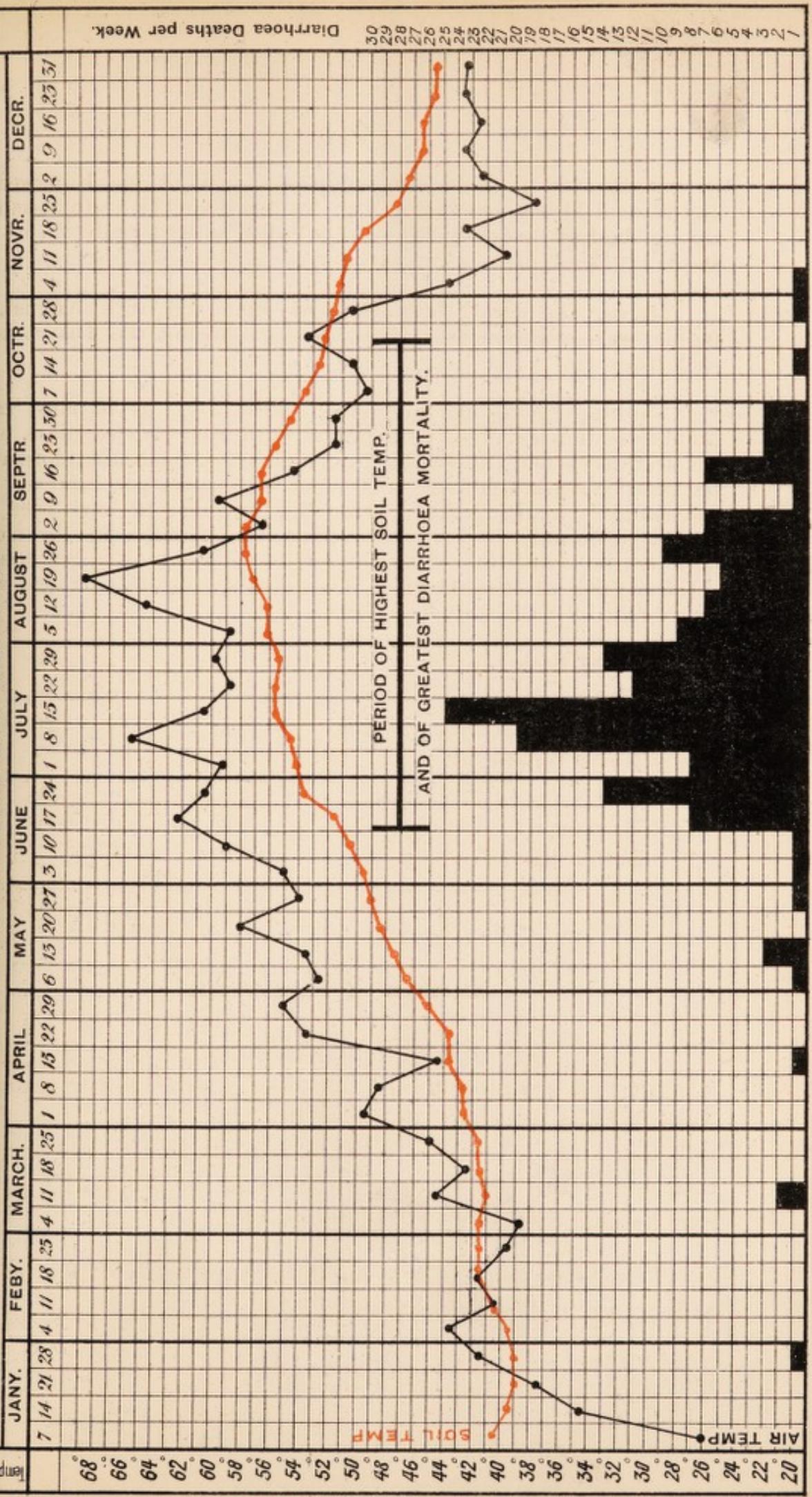
## MINOR ZYMOTICS.

### INFLUENZA.

Influenza was present during the year in May, and also again in November and December. It caused 3 deaths, against 19 in 1892, and 32 in 1891. The whole of England seems to have suffered less than during the former three years. Both the number of attacks were less and the severity of the disease less.

This disease seems to be going through the same cycle of events as happened in the previous great epidemic,

CHAKI SHOWING RELATIONSHIP BETWEEN DEATHS FROM DIARRHOEA AND THE MEAN TEMPERATURE OF SOIL AT 4 FEET AND AIR DURING EACH WEEK IN 1893.





**ERYSIPELAS.**

There were reported during the year 98 cases of sickness from this disease, causing 2 deaths. The cases were distributed over the town as is shown below.

WARDS.	1890.	1891.	1892.	1893.	Total.
North Eccleston ...	6	10	10	11	37
South     "     ... ..	3	3	7	9	22
Central     "     ... ..	7	6	9	12	34
North Windle     ... ..	4	4	4	5	17
South     "     ... ..	4	8	8	10	30
Hardshaw     ... ..	4	5	13	8	30
Sutton, East     ... ..	6	9	6	16	37
"     West     ... ..	3	9	8	8	28
Parr     ... ..	5	4	11	19	39
Total cases of Sickness ...	42	58	76	98	274
Total No. of Deaths in each year     ... ..	5	2	5	2	14

As in previous years a large proportion of the cases of Erysipelas occurred during the colder months of the year and were connected with some injury.

**PUERPERAL FEVER.**

10 deaths occurred from this disease during 1893 out of 19 cases which were reported. There is no doubt whatever but that most of the milder cases of this disease are not notified. This is chiefly due to the fact that there is considerable differences of opinion as to what constitutes Puerperal Fever. One mother died from this disease in every 302 births, while in 1892, one in every 542 died from this disease.

The following are the deaths from Puerperal Fever during the past ten years.

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
2	5	0	1	1	4	6	15	7	10

### CLASS II.—**CONSTITUTIONAL DISEASES.**

This group of diseases caused 210 deaths, against 203 in 1892, and 251 in 1891.

CANCER caused 36 deaths in 1893, as compared with the following numbers in the previous 10 years.

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
25	20	14	8	22	25	27	37	23	36

Of the 36 deaths due to this disease, 35 occurred in persons between 45 years of age and 75 years of age, and 1 between 25 and 35 years of age.

The Deaths from this disease have increased in number during the past 20 years, throughout the whole of England, and a somewhat similar increase has occurred in St. Helens. There can be no doubt but that this increase is mainly due to better methods of diagnosis.

PHTHISIS.—Consumptive diseases of the lungs caused 110 deaths during the year. In the previous years the number of deaths registered were as shown in the following table.

Year.	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Phthisis ...	119	100	100	90	97	101	126	132	112	110

Consumptive Diseases of the bowels caused 36 deaths against 39 and 38 in the two preceeding years.

Consumptive Diseases of the Brain caused 10 deaths against 6 in 1892, while Scrofula and other tubercular diseases caused 2 deaths. The total number of deaths therefore from tubercular diseases were 58 against 160 in the previous year. These cases were distributed over the town as is shown below.

WARDS.	1891	1891	1893
Eccleston, North ... ..	25	18	31
Eccleston, South ... ..	9	11	15
Central ... ..	25	17	11
Windle, North ... ..	19	18	6
Windle, South ... ..	15	19	13
Hardshaw ... ..	38	22	33
Sutton, East... ..	12	18	13
Sutton, West ... ..	19*	23*	23*
Parr ... ..	13	14	13
Total ... ..	175	160	158

\* Including Deaths from Tubercular Diseases occurring in Rainhill Asylum,

### CLASS III.—LOCAL DISEASES.

Diseases of the nervous system caused 192 deaths. Of this number 51 were due to convulsions. Of these 51 cases, 50 occurred in children under 2 years of age. 38 deaths from Apoplexy and softening of the Brain occurred. All of these were in persons over 40 years of age. At least 30 of these deaths from diseases of the nervous system occurred in Rainhill Asylum.

DISEASES OF THE RESPIRATORY SYSTEM.—390 deaths occurred from such diseases against 372 in the previous year. Bronchitis and Pneumonia caused 362 deaths. Comparing these figures with former years we get as follows:—

	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Bronchitis	167	142	212	170	299	210	221	177	219	232	300	243	215
Pneumonia	62	96	111	104	115	83	103	87	133	172	218	141	147

These cases of Bronchitis and Pneumonia were distributed over the towns as follows :—

WARDS.	BRONCHITIS.			PNEUMONIA.		
	1891	1892	1893	1891	1892	1893
North Eccleston ...	39	27	23	20	16	14
South Eccleston ...	22	10	12	13	10	9
Central ...	45	36	29	23	12	18
North Windle ...	18	16	20	17	18	16
South Windle ...	51	26	20	13	8	8
Hardshaw ...	45	26	42	33	29	23
East Sutton ...	23	19	28	37	23	28
West Sutton ...	33	16	24	30	19	17
Parr ...	27	24	17	31	18	14

As would be expected the first and fourth quarters contained the greatest number of deaths from these two diseases. First quarter, 116; second quarter, 80; third quarter, 64; fourth quarter, 102.

The other Diseases of this system do not call for special mention.

Diseases of the Heart and Blood Vessels caused 67 deaths, against 68 last year. These deaths occurred chiefly in persons of middle age.

DISEASES OF THE DIGESTIVE SYSTEM, caused a greater number of Deaths last year than usual—147 deaths against 132 in 1892. The disease which caused this excess was enteritis. This caused 79 deaths against 36 in the previous year. Of the 79 deaths, 66 were in children under 2 years of age.

Probably the majority of these deaths should have been included with those due to Diarrhœa.

DEVELOPEMENTAL DISEASES. The deaths from this group are shown in the subjoined list.

	1885	1886	1887	1888	1889	1890	1891	1892	1893
Premature Birth, &c. ..	36	44	39	45	47	61	66	61	64
Child Birth, &c. ..	11	7	11	13	11	10	14	18	16
Old Age .. ..	34	35	39	20	43	37	50	40	29
Atrophy and Debility ..	122	103	113	92	108	102	143	117	131

DEATHS FROM VIOLENCE. 46 Deaths were registered as due to violence, as against 59 in 1892, 58 in 1891, 59 in 1890, 49 in 1889, 46 in 1888, and 64 in 1887. It will therefore be seen, that the deaths from these causes are diminishing. Fractures and Contusions caused 21 deaths, against 29 in 1892. Burns and Scalds 14, against 13 in 1892. Other causes, such as Drowning, Suicide, &c, 11, against 14 in 1892.

### ISOLATION HOSPITAL.

Insufficiency of accommodation at the Hospital prevented a large number of persons from availing themselves of this means of checking the spread of infection during 1893. The work done at this institution, during the first six months of the year, when Small Pox so frequently threatened to become epidemic in St. Helens, was of the greatest value to the inhabitants of St. Helens. By the isolation of every case of Small Pox as it occurred, the disease was successfully prevented from spreading, although it was introduced into the town repeatedly. As was stated in a previous report, it was thought advisable when Small Pox did occur in the town to keep all the buildings at Peasley Cross for Small Pox alone, and therefore no other disease was admitted between January 1st and July 18th. During the past year the site at Old Wint was obtained for the purpose of erecting a special Hospital for Small Pox, and it was decided on 22nd February, to remove the present wooden Hospital from Peasley Cross to Old Wint, and to use the two cottages at Old Wint for a nursing and administrative house, and for a caretaker's house.

There is ample land at Old Wint for the erection of further accommodation should ever such unfortunately be required.

This arrangement for dealing with Small Pox will fulfil the requirements advised in previous reports, when the danger of keeping patients suffering from Small Pox anywhere near those suffering from other diseases was commented on.

In addition to providing separate Small Pox accommodation for 24 patients, plans were submitted to the Health Committee and to the Local Government Board for the extension of the existing Hospital at Peasley Cross. After several alterations of plans and arrangements the sanction of the Local Government Board was obtained to the scheme on May 12th, and building operations were commenced at once. The two new pavilions were built under the most favourable circumstances, no rain occurring until they were roofed. They will be ready for occupation early in Spring.

This will give bed accommodation for at least 40 patients at Peasley Cross, and for 24 Small Pox cases at Old Wint. The old building, which from its present arrangement of wards and rooms, is certainly dangerous if used for more than one disease, will require but slight structural alterations to make it reasonably safe. The danger above referred to is that each of the three wards are connected by doors, and in most cases these lead out of one ward into another.

The following is a copy of the provisional agreement between the Corporation of St. Helens and the Haydock Local Board, as regards the Hospital question.

**(A)—HAYDOCK LOCAL BOARD**

(1.)—To obtain for the Corporation the lease, for such term as the Corporation may desire, of a plot of land situate at Haydock, to the east of Blackbrook and near a point described on the Ordnance Map as "Haydock New Colliery," on which are erected two good houses, for the purpose of a site for the erection of a Small Pox Hospital, together with a lease for 21 years of some adjoining land on reasonable terms to be arranged.

(2.)—To be absolutely entitled, for a period of 21 years, to send from time to time to the said Hospital, and to the Isolation Hospital at Peasley Cross, a number of patients equal at any one time to one-twelfth of the total accommodation provided.

(3.)—To pay, in respect of all expenses, except medical attendance, the sum of 7/- per day per patient, the minimum annual payment however for cases other than Small Pox to be £120, and also the sum of 10/- per house for the disinfection of the articles therefrom.

(4.)—To adopt the Infectious Diseases Notification Act, 1889.

**(B)—THE CORPORATION**

To provide accommodation as aforesaid, and to maintain, and be solely responsible for the management and control of, the two said Hospitals; the Medical Officer of Health and Medical men of Haydock to have free access to any patients that may be sent from their district.

2.—Resolved that a joint arrangement, such as that proposed, be entered into; that the suggested terms be, and the same are hereby, approved; and that the Town Clerk be, and he is hereby, instructed to carry out the necessary negotiations, and to settle, on behalf of the Corporation, an agreement on the lines indicated: it being understood that Mr. Ellis, the solicitor to the Local Board, shall also receive a similar instruction from the Local Board on their behalf.

**HOSPITAL STAFF.**

The staff of Nurses has varied very much during the year as occasion required. It consists of a Matron, 5 Nurses, 3 Servants, and a man (whose time is partly employed at the Hospital and partly in disinfecting clothing from the town).

## HOSPITAL WORK

The following shows the per-centage of cases of Infectious Disease which were admitted during the years 1890 to 1893.

	1890	...	8.4	per cent.	admitted to Hospital.
	1891	...	18.4	"	"
Insufficient Accommodation	{	1892	...	17.1	"
		1893	...	18.65	"

As has been previously pointed out the number of admissions during the year would have been much greater but for the fact that until July 18th, the whole buildings were occupied by the few Small-Pox cases that occurred.

The following gives the yearly admissions since the Hospital was opened in 1881.

			Admitted.		Died in Hospital.
1882	...	...	9	...	3
1883	...	...	14	...	1
1884	...	...	36	...	6
1885	...	...	9	...	0
1886	...	...	17	...	3
1887	...	...	38	...	11
1888	...	...	25	...	4
1889	...	...	116	(Enteric Fever Epidemic.)	15
1890	...	...	128	(Scarlet Fever Epidemic.)	20
1891	...	...	89	...	10
1892	...	...	134	...	15
1893	...	...	150	...	25

The details of the cases admitted during 1893 are given below.

	Males.	Females.	Totals.	Deaths.	Average Duration of Cases in Hospital.
Small Pox ...	21	20	41	4	Days. 26.3
Scarlet Fever ...	7	2	9	2	38.2
Diphtheria ...	—	3	3	—	21.3
Enteric Fever ...	56	27	83	18	38.5
Typhus Fever ...	1	—	1	—	19.
Erysipelas ...	—	1	1	—	9.
Other Diseases ... (Including Observation Cases)	3	9	12	1	17.7
	88	62	150	25	

## DISINFECTION.

This has been even more carefully attended to during 1893 than in past years. The two specially appointed men have visited every infected house two or three times per week, and left a supply of Carbolic Powder, 15 % or Condy's Fluid at the house. At the termination of the infection the house is fumigated with Sulphurous Acid, and the infected articles of clothing removed to the Steam Disinfecting Apparatus. The results of this work have been most satisfactory. The printed rules for dealing with (a) Scarlet Fever Cases, (b) Typhoid Fever Cases, and (c) for General Disinfection, which were made in 1892 have also proved of great advantage.

The New High Pressure Steam Disinfecting Apparatus is doing very good work. It was started on May 1st, 1893, and from that date to December 31st, 1654 articles have been disinfected. The former old Hot Air Apparatus could never be depended on. It was found quite impossible to raise the temperature high enough without damaging one-half of the articles to be disinfected and therefore sulphurous acid had to be used to increase its power. The new apparatus has been repeatedly tested and found to act even better than the makers stated. On an average it takes  $\frac{3}{4}$  of an hour to get up steam. Then when an accurate thermometer is placed in the centre of a feather pillow which is itself covered with 8in. thickness of blankets the temperature can be raised to 240° F in ten minutes, and in another ten minutes both blanket and pillow may be taken out quite dry.

## SANITARY STAFF.

This has again been increased during 1893, and now consists of

An Assistant Medical Officer.	
A Chief Inspector of Nuisances ...	} These Offices are discharged by the Borough Surveyor.
An Inspector under the Canal Boats Act ... ..	
Three Male Assistant Inspectors of Nuisances.	
One Female " " "	
A Meat Inspector.	
An Inspector under the Sale of Food and Drugs Act.	
Two Disinfecting Men.	
The Fever Hospital Staff.	

Even with this augmented staff it is quite impossible to undertake all the work that might be done in an actively growing town like St. Helens. Every year the duties imposed on these offices are increasing. This is due to two reasons, 1st.—The increasing number of Statutes

and Orders to be carried out, and 2nd.—To the better knowledge of the fact that by keeping the town free from disease producing nuisances means increased wealth and prosperity.

### **GENERAL SANITARY WORK DURING 1893.**

At the fortnightly meetings of the Health Committee a report was presented dealing with the Health statistics for the previous fortnight. In these reports special attention was drawn to points requiring consideration.

Several Special Reports were submitted during the year, among which the following were the more important :—

Report on certain Filth Nuisances in St. Helens which are injurious to Health.

Slaughter Houses.

On Measles.

Pig Killing in Back-yards.

On Cholera Preventives.

The collection of Typhoid infected excrement.

More real Sanitary work has been done during 1893 than during any previous year in St. Helens, and although a large proportion of this has not yet had time to bear fruit, there is a certainty that year by year it will prove increasingly valuable.

### **SEWERAGE, DRAINAGE, AND SEWAGE DISPOSAL.**

These most important matters which have been so difficult to settle satisfactorily, and which have been discussed since 1886, have been all but definitely settled for all time. The Local Government Board have already sanctioned the loan required for carrying the sewage of St. Helens to the Borough Boundary, and are now waiting for another series of experiments to be made, with the proposed method of treating the sewage before finally sanctioning the loan for putting down the sewage works.

This settlement of the sewerage question will allow of much work being carried out which ought to have been done several years ago.

### WATER SOFTENING WORKS.

These were formally opened on April 6th. Three of the five wells which furnish the supply to St. Helens give a hard water and one also which contains a slight amount of iron.

Each of the three waters were treated separately at Brown Edge, and the following is the result:—

I.—COLLINS GREEN WATER:—	DEGREES.
Mean hardness of 8 samples of unsoftened water ...	25·89
"          "      16      "      softened      "      ... ..	11·70
Experimentally this water could be softened by lime to	8·6
Mean degrees of hardness removed ... ..	<b>14·19</b>
II.—KNOWSLEY WATER:—	
Mean hardness unsoftened (6 tests) ... ..	22·0
"          "      softened (12 tests) ... ..	13·3
Possible to soften this by lime to ... ..	8·9
Mean degrees of hardness removed ... ..	8·7
III.—KIRKBY WATER:—	
Mean hardness unsoftened (6 tests) ... ..	18·4
"          "      softened (13 tests) ... ..	9·5
Possible to soften this by lime to ... ..	7·0
Mean degrees of hardness removed ... ..	9·9

Since the above were made samples have been taken weekly, and it is found that the hardness is reduced from 21 to 22 degrees to 12·5 to 13·5 degrees.

### ST. HELENS CORPORATION ACT, 1893.

The chief Public Health Sections in this Act provide as follows.

No. 7. For the Extension of the Boundaries.

No. 39 to 5.—For Street Improvements.

No. 51.—Corporation to carry out Sewage Scheme.

No. 52 to 72.—As to Streets, Buildings and Sewers.

No. 77.—Dairymen to furnish Lists of Customers in certain cases when called upon.

No. 78.—Persons engaged in Washing or Mangling Clothes to furnish Lists when called upon.

No. 79.—Sources of Milk Supply to be furnished by Milk Vendors when required.

No. 80.—Dairymen living outside the Borough to notify to Medical Officer any case of Infectious Disease among his servants, &c., if he supplies milk in the Borough.

No. 81.—Infected persons not to carry on business, &c.

No. 82.—Section 124 of Public Health Act, 1875, to apply to persons who cannot be isolated. This will be a most useful section in dealing with many cases of dangerous infectious disease, *e.i.*, a case of Small Pox or Typhus Fever in a 2 or 3-roomed house where a large family lives.

No. 83.—Provision of Nurses in case of Infectious Disease.

No. 84.—Prohibition of blowing or stuffing of carcasses.

No. 85.—Rivers and Streams choked up to be a nuisance under the Public Health Act

No. 94.—Regulations as to Common Lodging House Keepers.

No. 98.—Penalties on Unregistered Common Lodging House Keepers.

No. 96.—Power to refuse Registration of Common Lodging House.

Most of the above Clauses were drawn out to meet certain cases which were of more or less frequent occurrence in St. Helens.

#### **BYE-LAWS WITH REGARD TO NEW STREETS AND BUILDINGS, &c.**

As soon as the St. Helens Corporation Act, 1893, was passed, new bye-laws on the above were prepared and sanctioned by the Corporation and Local Government Board. These new bye-laws are the Model Bye-laws of the Local Government Board, with a few alterations to adapt them to the requirements of St. Helens.

#### **ALKALI AND OTHER CHEMICAL WORKS AND THE ALKALI-WASTE HEAPS.**

No person who has lived many years in St. Helens can fail to have noticed the great improvement which has taken place in the amount of Chemical Gasses in the atmosphere during 1893. Practically, no untreated Alkali waste has been deposited during the year except at Baxter's Branch of the United Alkali Company, which is a considerable distance from the town proper, and has not given rise to any nuisance.

The number of inspections of Alkali Waste-heaps has been 80 during the year. This is below what was made in previous years, but

it was found unnecessary to visit, as no process liable to cause nuisance was being carried on at several places where formerly frequent visits were required.

The number of inspections of the drains from Chemical works were also less in number than in 1892. On five occasions slight escapes of acid were detected. On each of these occasions a letter was sent to the manager of the works, and on one occasion a letter was sent to the Inspector of Alkali Works for the district.

### **EXTENSION OF BOUNDARIES.**

On August 24th the new area became part of the Borough. This was an important matter as all its inhabitants were St. Helens people working in St. Helens. This area was sending its sewage into the Windle Brook, which passed through the town, and this to some extent was annulling the good which the main intercepting sewer was designed for.

During July, August and September the sewage from this district was dammed up in the Windle Brook, and created a very dangerous nuisance. Plans were submitted to the Local Government Board for sewerage the whole of this new added area.

### **DAIRIES, COWSHEDS, AND MILK-SHOPS.**

The inspection of these is carried out by the Police Inspectors. On December 31st there were 191 on the register, as against 195 on the same date in 1892. During the year 44 premises had been registered, and each of these has been examined by the Assistant Medical Officer before being approved. By this means many improvements were obtained. The prevailing idea in St. Helens being that any sort of premises would do for cowsheds or milkshops. Regulations have been drawn out as required by the Dairies, Cowsheds, and Milkshops Orders, and these have been forwarded to the Local Government Board for their approval.

### **PROPERTY UNFIT FOR HUMAN HABITATION.**

The following is a list of the houses which have been closed by order of the Health Committee during 1893.

No. 9, Gerards-street—Generally dilapidated.	} These houses have fallen into such a state of disrepair and filth that it was found necessary to close them.
„ 14, High-street	
„ 16, „	
„ 18, „	
„ 20, „	
And one house at back	

No. 1, in 3 Court College-street ...	}	These houses were very dilapidated, they had no through ventilation and had only one Privy for the 9 houses.
" 2 " " ...		
" 3, " " ...		
" 4, " " ...		
" 5, " " ...		
" 18, College-street ...		
" 20, " " ...		
" 22, " " ...	}	General dilapidation, no yards or privies.
" 24, " " ...		
No. 31, High-street, Greenbank ...		
" 33 " " ...		
" 35 " " ...		
" 37 " " ...		
" 39 " " ...		
No. 2 House at back of 42, and 44, Tontine-street—Insanitary.		
No. 33, Watery-lane } Very dilapidated.		
" 35, " }		
No. 1, Parr Mill Cottages... }	General dilapidation.	
" 3, Front " ...		
" 3, Back " ...		
" 5, " " ...		
" 7, " " ...		

#### CANAL BOATS ACTS, 1884-1887.

The following is a copy of the Annual report of the Inspector under this Act.

"In compliance with section 3 of the Canal Boats Act, 1884, I have to present to you my annual report as to the execution of the Canal Boats Acts, 1877 and 1884, for the year ending 31st December, 1893.

(1.) The Corporation of St. Helens have appointed me to be Inspector under the Canal Boats Act in addition to my duties as Borough Surveyor and Chief Inspector of Nuisances. No special remuneration is made for my duties under the Canal Boats Act.

(2.) The number of boats inspected in 1893 were 9. This small number of inspections is due to the fact that the canal is used less extensively now than previously. And also it is due to the fact that there have been industrial strikes affecting industries which formerly used the Canal. The short length of the Canal within this registration district was closed for traffic, either on account of the Canal being empty for repairs, or blocked by ice on 35 days during 1893.

(3.) Of the 9 boats inspected during the year, one was found to contravene Section 3 of the Act of 1877, by having no certificate on board. A caution was given and this was attended to. No other infringement of the Act occurred during the year.

(4.) It was not necessary to take any legal proceedings for infringements.

(5.) Nor was it necessary to take any other steps to secure compliance with the Acts or Regulations.

(6.) No case of Infectious Disease was discovered during the year, nor was any case reported to the Medical Officer of Health.

(7.) It was not found necessary to detain any boat for cleansing or disinfection.

(8.) The number of boats on the Register is *one*.

(9.) No boat was registered during 1893, and no structural alterations occurred in the previously registered boat.

I herewith append a table showing the foregoing facts.

I am, gentlemen,

Your obedient servant,

GEO. J. C. BROOM.

### **BLACK SMOKE NUISANCE.**

Improvement has been made in this respect during 1893. In only four cases was it found necessary to write to the owners of works for emitting black smoke for longer periods than five minutes. A certain allowance has always been made in St. Helens owing to the difficulty of carrying on some of the staple trades of the town without occasionally sending out more black smoke than many of the inhabitants care for. In four instances short chimneys in connection with workshops have been raised at the request of the Health Department, to carry the smoke away from the surrounding houses.

### **SWINE FEVER.**

Each case of this disease was reported at the Health Committee. 48 outbreaks occurred, and 115 pigs were affected, as compared with 23, 57, and 21 in the three preceding years.

**OFFENSIVE TRADES.**

The following is a list of the registered offensive trades in St. Helens :—

Tripe Boilers	...	...	...	...	...	8
Gut Scrapers	...	...	...	...	...	1
Manure Manufacturing	...	...	...	...	...	1
Soap Boiler	...	...	...	...	...	1
						<hr/>
				Total...	...	11

All of these have been kept in a satisfactory condition.

**COMMON LODGING HOUSES.**

There are 20 Registered Common Lodging Houses in St. Helens, containing 74 registered sleeping rooms. These have accommodation for 262½ lodgers. Most of these houses are unsuitable for the purpose of Common Lodging Houses, being originally cottages converted.

Proceedings were taken against the keeper of one house for failing to lime-wash, and proceedings were also taken for allowing persons of opposite sexes to occupy the same sleeping accommodation.

Owing to defects in the old St. Helens Bye-laws, many serious imperfections exist in the way in which these houses are conducted, for instance, it is no offence to have 3 or 4 married couples sleeping in the same room. A new set of Bye-laws has been prepared after the model of the Local Government Board Model Bye-laws. These are now waiting the sanction of the Corporation and the Local Government Board.

**HOUSES SUBLET IN LODGINGS.**

None of these are registered at present in St. Helens, nor have any ever been registered. A set of Bye-laws has been prepared on this subject, and as soon as these come into force the houses sub-let in lodgings will be registered.

## SLAUGHTER HOUSES.

There are at present 21 Licensed Slaughter-Houses in St. Helens, including the one carried on by the Corporation, and there is one Knacker's Yard. 8 new licenses were granted during the year. This large increase was due to the fact that there were 4 Slaughter-houses included in the Borough when the Denton's Green district was added, and that during the year the Health Committee resolved that Slaughter-Houses used for pig-killing only, should also be Licensed. The 21 Slaughter-Houses are used by 50 butchers. Up till recently pigs were killed by pork butchers in their back yards, thus creating a real nuisance. In some yards as many as 20 pigs were killed in a week. However, in future, all such pig-killing will have to be done on licensed premises.

Instructions were given to the Surveyor and the Assistant-Medical Officer to draw up a plan for a public Abattoir, as the present Corporation Slaughter-House is insanitary and greatly insufficient for the amount of work done.

There is a growing tendency on the part of the butchers to kill in the Corporation Slaughter-House, and were suitable premises obtained, and every facility given, probably a considerable number of butchers who use their own badly-constructed Slaughter-House would avail themselves of such.

The following figures show the number of Cattle Beasts killed in the Corporation Slaughter House and in the rest of the Borough.

		Cattle Beasts killed in Corporation Slaughter-house.		Cattle Beasts killed in the rest of the Borough.
1889	...	117	...	2470
1890	...	276	...	2429
1891	...	995	...	2714
1892	...	959	...	2959
1893	...	1321	...	2859

The following gives the number of Animals slaughtered in St. Helens during 1893, and three preceding years :—

ANIMALS KILLED.	1890	1891	1892	1893
No. of Beasts killed within the Borough in public and private slaughter-houses for market purposes ... ..	2429	2714	2959	4180
„ Sheep ... ..	4335	3923	3370	4264
„ Calves ... ..	307	371	369	1281
„ Pigs ... ..	1304	774	872	772
„ Lambs ... ..	987	1155	1015	1101
Total ... ..	9362	8937	8585	11598
Beasts killed in the Corporation slaughter-house, which are included in the above number ... ..	276	995	959	1321

#### INSPECTION OF DEAD MEAT.

This has been systematically carried out during the year by the Meat Inspector. All the beef killed in St. Helens has been seen by him before being sent out, and most of the other carcasses have also been inspected. The following prosecutions were instituted for offences during the year.

- 1.—Against a Farmer for killing on unlicensed premises. Fined 10/- and costs.
- 2.—Against a Butcher for having deposited a diseased beast for the purpose of preparation for Sale. Fined £2 and costs.
- 3.—Against a Farmer for being the owner of the above. Fined £2 and costs.
- 4.—Against a Butcher for dressing a Calf in back yard. Fined 1/- and costs.

MEAT, &c., CONDEMNED AS UNFIT FOR HUMAN FOOD.

Articles.	1890	1891	1892	1893
Meat	11 cwt. 80 lbs.	4 cwt. 107 lbs.	36 cwts. 36 lbs.	34 cwt. 111½ lbs
Fish	13 tons 14 cwt.	9 ton 11 cwt.	4 tons 7½ cwts.	10 tons 2 cwts 40 lbs
Mussels	42 Bags	7 Bags	35 Bags	16 Bags
Herrings	144 Boxes and Barrels	76 Boxes and Barrels	36 Boxes	54½ Boxes
Rabbits	81	40	31	15
Fowl	5	—	3	—
Geese	—	40	14	—
Prawns	—	2 Baskets	4 Baskets	—
Haddock	—	—	246 Boxes	64 Boxes
Kippers	—	—	124 Boxes	263 Boxes
Shrimps	—	—	1 Basket	—
Ducks	—	—	20	—
Mackerel	—	—	—	732
Milk	—	—	—	2 Tanks
Tripe	—	—	—	118 lbs

### SALE OF FOOD AND DRUGS ACT.

29 Samples were purchased during the year and 2 of these were found to be adulterated. During the past 5 years the number of articles sent for analysis have been as follows:—

Number of Samples taken.					Articles Purchased.
1889	1890	1891	1892	1893	
24	33	30	23	23	Milk
19	8	11	9	6	Whiskey
9	14	15	23	—	Butter
1	—	—	1	—	Bread
1	—	—	—	—	Cream of Tartar
1	1	—	1	—	Coffee
1	1	1	—	—	Cheese
2	—	—	—	—	Vinegar
2	—	—	—	—	Cocoa
2	3	7	1	—	Lard
—	2	—	1	—	Pepper
—	—	—	1	—	Beer
—	—	—	1	—	Mustard
62	62	64	61	29	Total number of Samples.
17·7	3·2	14·0	4·9	10·3	Percentage of adulterated samples

The following gives the nature and extent of the adulterated samples during the year.

No.	Date.	Name.	Remarks.
	1893		
1	Feb. 22	Butter	Genuine
2	" "	do.	" (slightly rancid)
3	" "	do.	" (contains 19 % of water)
4	" "	do.	"
5	" "	do.	"
6	" 23	Milk	" (rich)
7	" "	do.	"
8	" "	Butter	" (contains 18.9 % of Water)
9	" "	Milk	"
10	" "	do.	"
11	" "	do.	Contains 2.5 % fat and 8.1 % other solids and that 5 parts of water have been added to every hundred parts of poorest milk.—To pay 12/6 costs.
12	" "	do.	Genuine (rich)
13	" "	do.	"
14	" "	do.	"
15	March 9	do.	Genuine and Good Quality
16	" "	do.	" "
17	" "	do.	" "
18	" "	do.	" "
19	" "	do.	" "
20	" "	do.	" "
21	" "	do.	" "
22	" "	do.	Genuine
23	" "	do.	"
24	" "	do.	"
25	" "	do.	Contains 3.1 % fat and 7.23 % other solids and that upwards of 17 parts of water have been added to every hundred parts of the poorest milk.—Fined 10/- and costs.
26	" "	do.	Very poor milk, but within the limit of milk yielded by some cows at this season.
27	" "	do.	Genuine
28	" "	do.	"
29	" "	do.	" (rich in cream)

Under the Margarine Act, 1 sample was taken on June 24th, and for exposing this sample of Margarine for sale not properly labeled a fine of 2s. 6d. and costs was imposed

**BAKEHOUSES.****Bakehouses in use in 1893.**

WARDS.	Bakehouses	Men Employed.	Boys under 16.	Women Employed.
North Eccleston ... ..	21	19	...	6
South Eccleston .. ..	19	10	1	10
Central ... ..	32	27	...	28
North Windle ... ..	8	2	...	6
South Windle ... ..	17	15	1	8
Hardshaw ... ..	28	26	1	15
East Sutton ... ..	21	15	...	15
West Sutton ... ..	3	3	...	...
Parr ... ..	7	7	...	...
<b>TOTALS</b> ... ..	<b>156</b>	<b>124</b>	<b>3</b>	<b>88</b>

All of these have been visited, and found in fairly good condition.

**WORKSHOPS, 1893.**

WARDS	No. of Workshops.	Men Employed.	Women Employed.	Girls under 16 years.	TRADES.				
					Tailors	Dressmakers.	Milliners.	Stocking Knitters.	Miscellaneous.
Eccleston, North ...	25	4	47	15	1	20	1	2	1
Eccleston, South ...	11	...	13	...	...	10	...	...	1
Central ... ..	30	19	115	28	6	15	5	4	...
Windle, North ...	4	...	10	7	...	4	...	...	...
Windle, South ...	14	1	24	19	1	9	1	2	1
Hardshaw ... ..	19	10	93	45	2	11	2	2	2
Sutton, East ... ..	16	1	22	9	...	12	1	2	1
Sutton, West... ..	12	...	15	4	...	12	...	...	...
Parr ... ..	11	...	13	1	...	11	...	...	...
	<b>142</b>	<b>35</b>	<b>352</b>	<b>128</b>	<b>10</b>	<b>104</b>	<b>10</b>	<b>12</b>	<b>6</b>

All Workshops now come under the supervision of the Sanitary Authority, and, consequently, a better attention can be given to their sanitary condition,

## NUISANCE INSPECTORS WORK DURING 1893.

Systematic house to house inspections have been carried on during the year by the Assistant Nuisance Inspectors, and the following table gives a list of the numbers of cases in which nuisances were found for which notices had to be served.

### SANITARY NOTICES.

Number of Sanitary Notices Served:—

	1890	1891	1892	1893
To clean Choked Drains ... ..	298	276	357	447
„ „ Filthy Privies ... ..	49	26	48	57
„ „ Backyards and Passages ...	—	54	11	46
„ „ Ditch ... ..	—	1	2	5
„ provide Slopstone Pipes ...	17	19	45	42
„ „ Slopstones ... ..	—	—	—	28
„ „ Privy, Ashpit, Pail Closet } Doors ... ..	40	157	179	59
„ „ Trapped Gullies ... ..	61	77	91	28
„ „ Down Spouts and Eave } Spouts ... ..	—	—	37	14
„ „ Ventilation Pipes to w.c. ...	—	—	—	19
To repair Down Spouts and Eave } Spouts ... ..	—	11	39	93
„ „ w.c.'s and Barns ... ..	—	—	—	40
„ „ Ashpit, Privy, Dwelling- } house, and Pantry } Roofs ... ..	15	150	115	142
„ „ Backyards ... ..	89	239	291	252
„ drain Dwelling-houses ... ..	—	—	—	177
„ lengthen Slopstone Pipes ...	—	74	81	102
„ disconnect do. ... ..	—	8	22	—
„ „ Down Spouts ... ..	—	29	2	—
„ re-hanging Privy or Ashpit } Doors ... ..	—	42	49	92
„ caulk Down Spouts ... ..	—	9	—	—
„ remove Pigs ... ..	2	21	14	39
„ „ Manure ... ..	42	—	16	5
„ „ Rubbish ... ..	—	—	17	16
„ Overcrowding ... ..	27	13	37	26
„ Miscellaneous ... ..	184	237	396	389
Foul Ashpits to be reconstructed } to Tub and Pail and No. 2 } System ... ..	75	43	96	31
To provide w.c.'s ... ..	—	—	—	—
	927	1486	2085	2377

It will be seen from the above that the amount of work done by them is increasing each year in this respect. They also have to generally supervise the reporting of Ashpits which require to be emptied, and the work done in this respect is as follows:—

	1890	1891	1892	1893
Ashpits emptied ...	8,663	8,586	8,351	9,116
Houses benefited ...	15,073	14,738	14,061	15,191
Number of Loads ...	17,877	16,316	15,869	16,616

### TUB AND PAIL SYSTEM.

The Houses on the Pail System are as follows:—

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	Total
Old System ..	49	..	..	..	..	..	..	..	..	..	..	49
New Houses ..	..	97	180	352	307	338	349	275	221	268	347	2735
Converted Privies and Ashpits .. }	..	161	526	380	328	415	602	435	117	192	196	3352
	49	258	706	732	635	753	951	710	338	461	543	6136

316 Notices were served to convert insanitary privies. Most of these were served during the winter months, and 196 of these had been completed by December 31st. The reason for requiring this work to be done during winter is that there is less danger of injury to health being caused by disturbing the walls of these old pits. On several occasions it has been ascertained that disease was produced by these means.

### STATUTES AND ORDERS

RELATING TO PUBLIC HEALTH WHICH CAME INTO OPERATION IN  
ST. HELENS, 1892.

St. Helens Corporation Act, 1893.

Shop Hours Act, 1893.

The Rivers' Pollution Prevention Act, 1893.

The Contagious Diseases Animals Act, 1893.

Order from the Local Government Board as to the Prevention of Cholera from imported bedding and clothing from France and other seaports.

## METEOROLOGY DURING 1893.

**JANUARY.**—January was very cold until the 17th, when it became milder. Frost was registered on 13 days during the month, against 15 days in January, 1892. The maximum temperature was above  $45^{\circ}$  on 9 days. Snow fell on 9 days, and the rainfall amounted to 1.01 inches. This fell during 17 days, the heaviest fall being .15 inches. S.E.&N.W. winds prevailed. The maximum temperature was  $51^{\circ}$ , the minimum was  $14^{\circ}$ .

**FEBRUARY.**—The weather during February was cold, unsettled, and wet. The temperature was above  $45^{\circ}$  on 16 days, and it was below freezing point on 6 days. The maximum temperature was  $57^{\circ}$  on February 20th, and the minimum  $28^{\circ}$  on February 28th. Rain fell on 19 days, the greatest fall in one day being on February 13th, .64 inches; the total rainfall being 3.18 inches. Fog was registered on 3 days, and snow on 4 days. A severe storm occurred between February 8th and 11th. The prevailing winds were S.E., S.W., and W.

**MARCH.**—March was exceptionally fine and dry. Bright clear skies prevailed. The maximum temperature was  $64.5^{\circ}$  on the 13th and 26th, the minimum was  $26^{\circ}$  on the 2nd and 19th. Frost was registered on 6 days. The mean temperature of soil which had been  $39^{\circ}$  in January had risen to  $42^{\circ}$  by March 22nd. The mean temperature of the air during the month is said by the Registrar General to have been higher than during any March since 1859. Only on 4 occasions since 1771 was so high a mean temperature registered. The fall of rain was .41 inches. Rain fell on 6 days, the greatest amount on any one day being .1 inch.

**APRIL.**—The weather during April was remarkable in many respects. Few persons remember so much sunshine and warmth during April in St. Helens, and so little rainfall. The maximum temperature was  $75^{\circ}$  on the 22nd, and it was above  $60^{\circ}$  on 17 days. The mean temperature was  $50.4^{\circ}$  against  $44^{\circ}$  in April, 1892. The minimum temperature was  $30.5^{\circ}$  on the 12th. Rain fell on only 4 days during the month. The total amount being the same as in March, .41 inches. South-easterly winds prevailed on 15 days. The temperature of the soil had risen to  $46^{\circ}$  on April 30th, against  $43^{\circ}$  on April 30th, 1892.

**MAY.**—The weather in May was remarkably fine and dry, being in fact a continuation of the fine bright sunny weather which occurred in April. The maximum temperature was  $74^{\circ}$ , the minimum  $39^{\circ}$  and the mean  $54.7^{\circ}$ . The mean temperature for the month was  $3^{\circ}$  above that for May, 1892. The total rainfall was 1.69 in., the greatest fall in one day being .5 in., and the number of days on which rain fell were 13. Easterly and south-easterly winds prevailed. The temperature of the soil had risen to  $50^{\circ}$  on May 30th, against  $47^{\circ}$  on May 30th, 1892.

**JUNE.**—The fine weather which prevailed during the preceding two months continued throughout June. The maximum temperature was on 11 occasions above  $70^{\circ}$ , the minimum temperature was  $44^{\circ}$  on June 1st. The highest temperature reached was  $85^{\circ}$  on the 19th. Rain fell on 8 days, amounting to a total of 1.60 inches, the greatest fall in one day being .69 inch. Easterly and north-westerly winds prevailed. The drought which had been general throughout England was now beginning to be felt in St. Helens district. The soil temperature was  $54^{\circ}$  on June 30th, against  $51^{\circ}$  on June 30th, 1892.

**JULY.**—The weather in the early part of July was very warm, and the month was generally fine and warm. The maximum temperature was above  $70^{\circ}$  on 9 days, and reached  $82.5^{\circ}$  on the 8th. The minimum was  $49.5^{\circ}$ , and the mean temperature was  $61^{\circ}$ , against  $58^{\circ}$  in July, 1892. Rain fell on 16 days, the total amount being 2.62 inches, and the greatest fall on any one day being .46 inch. The soil temperature was  $56^{\circ}$ , against  $52.8^{\circ}$  in July, 1892.

**AUGUST.**—The weather during August was warm, fine and dry, with a very hot period extending between the 8th and 20th. The maximum temperature was  $85^{\circ}$  on the 16th, and the minimum  $40^{\circ}$ . The mean temperature was  $62.3^{\circ}$ , against  $58.4^{\circ}$  in August, 1892. North-westerly and south-westerly winds prevailed, and the maximum soil temperature at a depth of 4 feet was  $58^{\circ}$ . The rainfall was 3.15 inches, which fell on 14 days. The maximum amount which fell on any one day was .73 inch.

**SEPTEMBER.**—September was generally very fine, particularly during the first half of the month. In the second half showers were more common. The maximum temperature was  $74^{\circ}$ , the minimum  $38^{\circ}$ , and the mean temperature  $54.6^{\circ}$ . The mean temperature for September, 1892, being .52. Rain fell on 19 days, the total amount being 3.85 inch, the

total amount on one day being .59 inches. The temperature of the soil which had been 57° on September 1st, fell to 54° on September 30th. On September 30th, 1892, the temperature of the soil was 53°.

**OCTOBER.**—The weather during October was generally fine, with frequent showers. The maximum temperature was 66° on October 22nd, against 57° for October, 1892. The minimum temperature was 28.3° on the 31st, and the mean temperature was 50.15°, against 44.2° in 1892. The total rainfall was 2.95 inches, the greatest amount falling in any one day being .67 inches. The temperature of the soil had fallen from 54° on the 1st to 51.2° on the 31st. Westerly and south-westerly winds prevailed.

**NOVEMBER.**—The weather during November was dull, cloudy, cold and damp. The maximum temperature was 58° on the 29th, and the minimum 26° on the 5th, and the mean temperature 41.5°. Frost occurred on 12 days. The rainfall was 1.61 inches, the greatest fall in one day being .62 inches, and the number of days on which rain fell was 15. Northerly and westerly winds prevailed, and the temperature of the soil had fallen to 46° on November 30th. A gale occurred on the 18th from the N.E.

**DECEMBER.**—December was dull and changeable. The maximum temperature was 54.5° on the 16th, and the minimum temperature 20.5° on the 2nd and 3rd. Snow fell on 2 days, and frost occurred on 6 days. The rainfall was 3.70 inches, the greatest fall being 8.3 inches on the 12th. This amount fell during 6 hours. The number of days on which rain fell was 16. The temperature of the soil at 4 feet was 44° between 25th and 30th. The prevailing winds were S.W. and W.



## RAINFALL AT ECCLESTON HILL WATERWORKS.

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
January	3.15	3.51	1.78	3.99	0.98	0.93	0.65	3.17	1.01	1.80	0.89
February	4.35	2.33	2.35	0.80	0.61	0.61	1.53	0.19	0.08	1.54	3.07
March	.63	2.49	1.94	1.84	1.33	1.89	1.27	2.28	0.75	0.73	0.77
April	1.09	1.07	1.38	1.12	1.06	1.09	1.92	1.31	1.95	1.15	0.39
May	.68	0.82	2.14	4.25	2.03	0.66	2.47	1.58	2.13	3.36	1.30
June	2.90	2.11	3.32	1.68	0.91	2.54	0.35	2.27	3.39	4.08	1.74
July	3.32	3.30	1.91	3.03	1.17	6.87	2.98	2.43	3.26	3.20	3.32
August	2.25	2.02	1.98	1.74	1.50	3.31	4.75	3.67	6.50	4.15	2.79
September	6.41	3.09	4.58	3.47	5.36	1.56	2.25	1.48	2.92	3.80	3.85
October	5.81	1.49	5.99	4.05	2.37	1.85	2.84	2.09	3.49	6.25	2.18
November	2.60	1.57	3.18	3.04	1.17	4.98	2.49	6.41	2.92	2.44	1.88
December	1.65	3.12	2.18	4.00	2.61	1.89	2.39	0.14	3.93	1.96	3.55
Totals	34.84	26.92	32.73	33.01	21.10	28.18	25.89	27.02	32.34	34.84	25.73

*Information supplied by*

Mr. D. M. F. GASKIN,

M. INST. C.E.

## APPENDIX A.

Showing the results of work done during 1893 in the erection of Buildings and the Paving and Sewering of Streets.

This information is supplied by

MR. GEO. J. C. BROOM, M.I.C.E.

### Plans Deposited and Approved by the Health Committee.

	1889.	1890.	1891.	1892.	1893.
For Dwelling-houses ... ..	368	285	238	401	563
„ Other Buildings ... ..	89	90	66	47	35
„ Alterations to Existing Buildings ... ..	27	47	49	29	59
Total ... ..	484	422	353	477	657

The following table shows the several Wards of the Borough in which the above-mentioned Buildings have been erected : -

North Eccleston.	South Eccleston.	North Windle.	South Windle.	East Sutton.	West Sutton.	Central.	Hardshaw.	Parr.	TOTAL.
45	46	6	13	75	76	4	60	84	409

### PASSAGES.

#### Sewering, Levelling, Paving, Flagging and Channelling.

- Behind Nos. 16 to 38, Chapel Street.
- „ 32 to 46, Langtree-street.
- „ 1 to 13, Fisher-street.
- „ 64 to 104, Peckers Hill-road.
- „ 15 to 73, Lowe-street.

**Sewering, Levelling, Flagging and Channelling.**

Behind Nos. 31 to 49, Langtree-street.  
 „ 18 to 30, „  
 „ 66 to 76, Higher Farr-street  
 „ 22 to 24, Parr-street.  
 „ 54 to 60, Ellams Bridge-road.  
 „ 1 to 7, Royle-street  
 „ 115 to 165, Duke-street.  
 „ 52 to 54, Baldwin-street.  
 „ 99 to 133, Duke-street.  
 Between School-street and Manor-street.  
 Behind 155 to 167, Higher Parr-street.

**Sewering, Levelling, Paving and Channelling.**

From Allen-street to Crouch-street.  
 Behind Robins Lane and Baxter's-lane.  
 „ Nos. 8 to 93, Church-street.  
 „ „ 18 to 52, Orrell-street.  
 Between Duke-street, Rigby-street, Henry-street, and Hamer-street.  
 Behind Nos. 2 to 10, Union-street.  
 „ 45 to 75, Cooper-street.  
 „ 15 to 36, Chapel-street.  
 „ 35 to 47, Morley-street.  
 Between Cyril-street and Doulton-street.  
 „ Doulton-street and Gladstone-street.  
 „ Dentons Green-lane and Harris-street.  
 Behind Nos. 1 to 27, Gladstone-street.  
 „ 4 to 18, Crowther-street.  
 Off Barrow-street (Gable, Angle Inn).  
 Behind Nos. 1 to 43, Croppers Hill.  
 Between Parade, Vincent, Charles and Cansfield-streets.  
 Behind Nos. 64 to 78, Traverse-street.

**Draining, Levelling, Paving and Channelling.**

Behind Nos. 68 to 92, Albion-street.  
 „ 65 to 71, Duke-street.  
 „ 60 to 70, Ormskirk-street.  
 Between Parade, Charles, Vincent and Corporation-streets.  
 „ Brynn, Cansfield, Birchley and Tolver-streets.

**STREETS.****Sewering, Levelling, Paving, Flagging and Channelling.**

Doulton-street (portion of).

**Levelling, Paving, Flagging and Channelling.**

Silver-street (portion of).

**Levelling, Sewering, Bottoming and Kerbing.**

Foundry-street (portion of).

Salisbury-street „

**FOOTPATHS.****Levelling, Paving, Flagging and Channelling.**

Prescot-road (portion of).

Boundary-road „

North-road „

Gerard-street „

Dentons Green-lane „

Lancots-lane „

Chancery-lane

**Levelling, Paving and Flagging.**

Russell-street (portion of).

Hardy-street „

**Levelling, Flagging and Channelling.**

City-road (portion of).

Lugsmore-lane „

**APPENDIX B.**

Showing the various figures relating to St. Helens, which were published during 1893, on the Census taken on April 5th, 1891.

**COUNTY BOROUGH OF ST. HELENS.****AREA, HOUSES, AND POPULATION IN 1891.**

	Area in Acres.	HOUSES.			POPULATION.		
		Inhabited.	Un-inhabited	Building	Persons	Males.	Females
ST. HELENS...	6,586	12,341	217	71	71,288	37,203	34,085

## MUNICIPAL BOROUGH OF ST. HELENS.

AREA, INHABITED HOUSES, AND POPULATION IN  
1881 AND 1891.

Municipal Borough.	Adminis- trative County.	Area in Acres.	Inhabited Houses.		Population enumerated.		Increase or Decrease of Population between 1881 & 1891-	
			1881	1891	1881	1891	Increase.	Dec'se
ST. HELENS	County Borough	6586	10,007	12,341	57,403	71,288	13,885	—

## CIVIL PARISHES,

SITUATED IN MORE THAN ONE COUNTY BOROUGH OR COUNTY.

AREA AND POPULATION, 1891.

Civil Parish.	No. of Registrat'n District and Sub- District.	Administrative Areas in which situated.	Area in Acres.	Population, 1891.
ECCLESTON ...	456 : 5,6	Lancaster St. Helens County Boro'	} 3569 {	} 3,949 20,675
WINDLE ...	456 : 6	Lancaster St. Helens County Boro'		

## MUNICIPAL BOROUGH OF ST. HELENS

## WARDS: HOUSES AND POPULATION.

Borough and Wards.	HOUSES			POPULATION		
	Inhabited	Uninh' btd	Building	Persons	Males	Females
St. Helens (County Borough)						
Wards:						
Central ...	1329	46	—	8219	4395	3824
Eccleston North ...	1592	25	13	8552	4459	4093
do. South ...	1169	24	1	6639	3333	3306
Hardshaw ...	1526	39	—	9225	4906	4319
Parr ...	1423	15	8	8030	4262	3768
Sutton East ...	1308	16	13	7418	3981	3437
do. West ...	1329	14	16	8250	4270	3980
Windle North... ..	1167	18	20	6517	3315	3202
do. South... ..	1498	20	—	8438	4282	4156
Total ...	12341	217	71	71288	37203	34085

## CIVIL PARISHES OR TOWNSHIPS

## IN THE COUNTY BOROUGH OF ST. HELENS.

## INHABITED HOUSES, FAMILIES, OR SEPARATE OCCUPIERS &amp; POPULATION

Civil Parish or Township	Inhabited Houses	Families or Separate Occupiers	Population	Registered District or Poor Law Union in which situated.
Eccleston (Part of *)	3635	3785	20675	} Prescot 456
Parr ...	2301	2393	13203	
Sutton ...	2637	2706	15668	
Windle (Part of *) ...	3768	3967	21742	
County Borough of St. Helens ...	12341	12851	71288	

\* This parish is partly in the Administrative County of Lancaster.

ECCLESIASTICAL PARISHES OR DISTRICTS IN THE  
COUNTY BOROUGH OF ST. HELENS.

INHABITED HOUSES AND POPULATION.

Ecclesiastical Parish or District	Date of Formation	Inhabited Houses	Population	Ancient Parish in which situated	No. of Registration District
St. Mark's ...	1887	1157	6495	Prescot ...	456
St. Mary's ...	1852	2874	16702	"	"
St. Nicholas ...	1848	1513	8505	"	"
St. Peters, Parr.	1844	1423	8030	"	"
Holy Trinity, Parr Mount	1863	1329	7780	"	"
St. John's Ravenhead ...	1870	1174	7441	"	"
St. Thomas' (with St. Pauls Eccleston) ...	1839	2424	13839	"	"

DISTRICTS, AND OF THEIR CONSTITUENT CIVIL PARISHES.

Registration District and Sub-district and Civil Parishes.	Area in Statute Acres.	HOUSES.						POPULATION.					
		Inhabited.		Building.		Uninhabited.		Persons.		Males.		Females.	
		1881	1891	Inhabited.	Building.	Inhabited.	Uninhabited.	1881	1891	1881	1891	1881	1891
St. Helens .....	9121	9914	445	68	11863	212	113	56872	68628	29531	35848	27341	32780
Eccleston (part of) .....	613	2372	120	26	2827	46	4	13426	16176	7095	8498	6331	7678
Sutton .....	3725	2108	88	1	2637	30	29	12695	15668	6605	8251	6090	7417
Parr .....	1633	1934	85	16	2301	26	8	11278	13203	5948	7043	5330	6160
Windle (part of) .....	3150	3500	252	25	4098	110	72	19473	23581	9883	12056	9590	11525

TOTAL TENEMENTS, AND TENEMENTS WITH LESS THAN 5 ROOMS, DISTINGUISHING THOSE OCCUPIED BY VARIOUS NUMBERS OF PERSONS, IN THE SANITARY DISTRICT OF ST. HELENS.

Sanitary District.	Administrative County.	Rooms in Tenement.	No. of Tenements with less than 5 rooms.	NUMBER OF OCCUPANTS OF TENEMENTS.											
				1	2	3	4	5	6	7	8	9	10	11	12 or more.
				St. Helens Urban.	1	120	39	40	17	16	4	2	1	1	..
Total Tenements, 12,851.	4	5488	42	449	794	888	822	827	637	474	309	134	70	42	42

## Inmates of Workhouse, Hospitals, Lunatic Asylum, in Registration Districts and Sub-Districts and Civil Parishes.

Reference Number.	District.	Sub- District.	REGISTRA- TION DISTRICT.	REGISTRA- TION, SUB- DISTRICT.	CIVIL PARISH.	NAME OF INSTITUTION.	Total number of Inmates, including Officers, &c.			Number of Special Inmates, such as Paupers, Patients, Lunatics, &c.		
							Persons.	Males.	Females.	Persons.	Males.	Females.
456		5	Prescot ...	Prescot ...	Whiston...	Workhouse ...	586	362	224	570	358	212
						Sanitorium ...	4	1	3	1	...	1
					Eccleston..	County Lunatic Asylum } (Rainhill) part of ... }	1016	459	557	934	422	512
		6	Do. ...	St. Helens.	Sutton ...	Cottage Hospital ...	28	16	12	18	15	3
						Fever do. ...	9	1	8	3	1	2
						County Lunatic Asylum } (Rainhill) part of ... }	780	362	418	690	323	367
					Windle ...	Providence Hospital ...	47	25	22	33	24	9

## ACREAGE OF LAND, WATER, &amp;c.

Registered Districts and Civil Parishes	Area in Statute Acres.				
	Of Parishes		Of Adjacent Tidal Water and Foreshore		Total Water and Foreshore
	Land	Water	Tidal Water	Foreshore	
Prescot ... ..	...	...	...	...	...
Eccleston ... ..	3568	1	...	...	1
Sutton ... ..	3708	17	...	...	17
Parr ... ..	1606	27	...	...	27
Windle ... ..	3126	24	...	...	24

INCREASE OR DECREASE OF POPULATION, 1881-91,  
COMPARED WITH EXCESS OF BIRTHS OVER DEATHS.

AGGREGATE NUMBER OF MARRIAGES, BIRTHS AND  
DEATHS REGISTERED IN THE REGISTRATION DISTRICT  
OF PRESCOT DURING THE TEN YEARS, 1881-1891.

Registration District	Population		Registered in the 10 years 1881-90			Excess of Register'd Births over Deaths, 1881-90	Increase or Decrease of Population between the Censuses of 1881 and 1891	
	1881	1891	Marriages	Births	Deaths		Increase	Decrease
Prescot ... ..	117960	140927	8588	49422	28073	21349	22967	...

AGES OF MALES AND FEMALES IN THE SANITARY DISTRICT OF ST. HELENS.

SANITARY DISTRICT.	ALL AGES.		Under 1 Year.										Under 5 Years.	100 and upwards.													
	Persons.	Males & Females.	1	2	3	4	5	10	15	20	25	30		35	40	45	50	55	60	65	70	75	80	85	90	95	100 and upwards.
ST. HELENS Urban	71288	M. 37203 F. 34085	1185	1091	1090	1021	998	5385	4642	4219	3351	3604	3352	2868	2440	1964	1410	1268	821	686	355	207	87	34	10	—	—
			1213	1052	1050	1047	969	5331	4579	4115	2490	2978	2771	2261	2025	1710	1275	1166	799	721	408	254	140	49	9	4	—

CONDITION AS TO MARRIAGE AND AGES OF MALES AND FEMALES IN THE URBAN SANITARY DISTRICT OF ST. HELENS.

URBAN SANITARY DISTRICT.	All Ages.	Under 15 Years.										65 and upwards.												
		15	20	25	35	45	55	65	75	85	95													
UNMARRIED	(M. 24293 F. 20562)	3829	2734	2141	762	303	132	46	14246	3829	2734	2141	762	303	132	46	14025	3353	1576	963	309	151	80	43
MARRIED	(M. 11745 F. 11601)	22	967	3870	3429	2089	1069	399	—	22	967	3870	3429	2089	1069	399	—	137	1591	3851	3139	1867	851	255
WIDOWED	(M. 1165 F. 1982)	—	3	109	213	286	306	248	—	—	3	109	213	286	306	248	—	—	9	118	287	423	569	556

OCCUPATIONS OF MALES AND FEMALES, AGED 10  
YEARS AND UPWARDS, IN THE  
URBAN SANITARY DISTRICT OF ST. HELENS.

URBAN SANITARY DISTRICT OF ST. HELENS.

OCCUPATIONS,	Total...	Males.	Females
		27,176	24,175
<b>I.—Professional Class.</b>			
<b>1—THE GENERAL OR LOCAL GOVERNMENT OF THE COUNTRY.</b>			
1— <i>National Government.</i>			
Civil Service (Officers and Clerks) ... ..		13	7
Do. (Messengers, etc.) ... ..		38	1
2— <i>Local Government.</i>			
Police ... ..		71	
Municipal, Parish, Union, District Officer ... ..		15	
Other Local or County Official ... ..		14	
<b>2—DEFENCE OF THE COUNTRY.</b>			
1— <i>Army (at home).</i>			
Army Officer (effective and retired). ... ..		2	
Soldier and non-commissioned officer).... ..		10	
2— <i>Navy (ashore and in port).</i>			
Navy Officer (effective and retired) ... ..		1	
<b>3—PROFESSIONAL OCCUPATIONS.</b>			
(With immediate subordinates).			
1— <i>Clerical Profession.</i>			
Clergyman (Established Church). ... ..		13	
Roman Catholic Priest ... ..		23	
Minister, Priest of other religious bodies ... ..		12	
Missionary, Scripture Reader, Itinerent Preacher		10	2
Nun. Sister of Charity ... ..			9
Church, Chapel, Cemetery, Officer, Servant ... ..		5	2

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>PROFESSIONAL OCCUPATIONS</b> ( <i>Continued</i> ).		
2— <i>Legal Profession.</i>		
Barrister, Solicitor .. .. .	12	
Law Clerk ... .. .	29	
3— <i>Medical Profession.</i>		
Physician, Surgeon, General Practitioner ...	28	
Dentist, Dental Apparatus Maker ... .. .	5	
Veterinary Surgeon ... .. .	6	
Sick-Nurse, Midwife, Invalid Attendant ...		55
Subordinate Medical Service ... .. .	7	1
4— <i>Teachers and Students.</i>		
Schoolmaster Teacher, Professor, Lecturer ...	66	317
Student (15 years or over) ... .. .	59	80
School Service and others concerned in Teaching	5	
5— <i>Literary and Scientific.</i>		
Author, Editor, Journalist ... .. .	3	1
Reporter, Shorthand Writer ... .. .	6	
Persons engaged in Scientific Pursuits ..	10	
Literary, Scientific, Institution, Service, &c. ..	7	
6— <i>Engineers and Surveyors.</i>		
Civil and Mining Engineers ... .. .	26	
Land, House and Ship—Surveyor ... .. .	5	
7— <i>Artists.</i>		
Painter, Engraver, Sculptor (Artist) ... .. .	2	1
Architect ... .. .	5	
Musician, Music Master ... .. .	29	21
Photographer ... .. .	10	2
Actor ... .. .	13	7
Art, Music, Theatre—Service, &c. ... .. .	2	1
8— <i>Exhibitions, Games, &amp;c.</i>		
Performer, Showman, Exhibition, Games— Service ... .. .	43	7

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males.	Females
<b>II.—Domestic Class.</b>		
4—DOMESTIC OFFICES OR SERVICES.		
1— <i>Domestic Service.</i>		
Domestic Servant (Indoor) ... ..	9	2011
Lodge, Gate, Park—Keeper (not government)...	5	2
Inn, Hotel—Servant ... ..	51	34
College, Club—Service ... ..	2	
2— <i>Other Service.</i>		
Office Keeper, Caretaker (not government) ...	3	1
Cook (not domestic) ... ..		6
Charwoman ... ..		154
Washing and Bathing Service ... ..	2	75
Hospital and Institution—Service ... ..	51	57
Others engaged in Service ... ..	1	
-----		
<b>III.—Commercial Class.</b>		
5.—COMMERCIAL OCCUPATIONS.		
1— <i>Merchants and Agents.</i>		
Broker, Agent, Factor ... ..	46	1
Auctioneer, Appraiser, Valuer, House Agent ...	13	3
Accountant ... ..	3	0
Salesman, Buyer (not otherwise described) ...	1	2
Commercial Traveller .. ..	38	2
" Clerk ... ..	467	10
Officer of Commercial Co., Guild Society, &c. ...	3	0
2— <i>Dealers in Money.</i>		
Bank Officials and Clerks ... ..	15	
Bill Discounter, Broker, Finance Agent ...	1	
3— <i>Insurance.</i>		
Life, House, Ship, &c.—Insurance Service ...	85	2

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>6.—CONVEYANCE OF MEN, GOODS, AND MESSAGES.</b>		
1— <i>On Railways,</i>		
Railway Engine Driver, Stoker ... ..	139	
Railway Guard ... ..	24	
Pointsman, Level Crossing Man ... ..	29	
Railway Porters and Servants ... ..	157	1
Railway Officials and Clerks ... ..	47	
2— <i>On Roads.</i>		
Livery Stable Keeper, Coach, Cab Proprietor ...	4	
Coachman, Cabman, Groom, Horse Breaker ...	94	
Carman, Carrier, Haulier, Carter, Waggoner (not farm) ... ..	427	
Tramway Service ... ..	22	
3— <i>On Canals, Rivers, and Seas.</i>		
Navigatoin Service (not crew) ... ..	1	
Bargeman, Lighterman, Waterman ... ..	3	
Merchant Service, Seaman, Pilot Boatman on seas ... ..	9	
4— <i>In Storage.</i>		
Warehouseman ... ..	18	
Meter, Weigher ... ..	15	
5— <i>Messages and Porterage.</i>		
Messenger, Porter, Watchman (not railway or government) ... ..	247	1
Telegraph, Telephone—Service ... ..	9	1
	—	—
<b>IV.—Agricultural and Fishing Class.</b>		
<b>7—AGRICULTURE.</b>		
1— <i>In Fields and Pastures.</i>		
Farmer, Grazier ... ..	45	2
Farmers, Graziers—son, grandson, brother, nephew ... ..	22	

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>AGRICULTURE</b> ( <i>Continued</i> ).		
Farm Bailiff ... ..	6	
Agricultural Labourer, Farm Servant ... ..	116	13
Horsekeeper, Horseman, Teamster, and Carter...	2	
3— <i>In Gardens.</i>		
Gardener, Nurseryman, Seedsman ... ..	81	4
4— <i>About Animals.</i>		
Cattle, Pig, Sheep—Dealer, Salesman ... ..	3	
Gamekeeper ... ..	2	
Dog, Bird, Animal—Keeper, Dealer ... ..	3	
Knacker, Cats Meat Dealer, Vermin Destroyer...	3	
<b>V.—Industrial Class.</b>		
9—BOOKS, PRINTS, MAPS.		
1— <i>Books.</i>		
Publisher, Bookseller, Librarian ... ..	9	3
Bookbinder ... ..	2	8
Printer ... ..	76	1
Newspaper Agent, Newsroom Keeper ... ..	11	3
10—MACHINES AND IMPLEMENTS.		
1— <i>Machines.</i>		
Engine and Machine Maker ... ..	60	
Millwright... ..	8	
Fitter and Turner (engine and machine) ... ..	182	
Boiler Maker ... ..	94	
2— <i>Tool.</i>		
Tool Maker ... ..	5	
Cutler and Scissors Maker ... ..		1
File Maker ... ..	4	
Sawmaker ... ..	3	

OCCUPATIONS.— *Continued.*

OCCUPATIONS	Males	Females
<b>MACHINES AND IMPLEMENTS—</b> <i>Continued.</i>		
3— <i>Watches and Philosophical Instruments.</i>		
Watchmaker, Clockmaker ... ..	61	2
Electrical Apparatus Maker ... ..	4	
4— <i>Surgical Instruments.</i>		
Surgical Instrument—maker, dealer ... ..	1	
5— <i>Arms.</i>		
Gunsmith, Gun Manufacturer ... ..	1	
6— <i>Musical Instruments.</i>		
Musical Instrument—maker, dealer ... ..	1	
8— <i>Tackle for Sports and Games.</i>		
Fishing Tackle, Toy, Game, Apparatus—maker, dealer ... ..		2
<b>11—HOUSES, FURNITURE, AND DECORA- TIONS.</b>		
1— <i>Houses.</i>		
Builder ... ..	51	
Carpenter, Joiner ... ..	467	
Bricklayer ... ..	463	
Mason ... ..	100	
Slater, Tiler ... ..	36	
Paper Hanger, Plasterer, Whitewasher ... ..	37	
Plumber ... ..	116	1
Painter, Glazier ... ..	148	1
2— <i>Furniture and Fittings.</i>		
Cabinet Maker, Upholsterer, Furniture Dealer, French Polisher ... ..	51	8
Locksmith, Bellhanger, Gasfitter ... ..	22	1
House and Shop Fittings—maker, dealer ... ..	2	
Funeral Furniture Maker, Undertaker... ..	6	1
3— <i>House Decorations.</i>		
Wood Carvers ... ..	2	
Carver and Gilder ... ..	12	

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
12—CARRIAGES AND HARNESS.		
1— <i>Carriages.</i>		
Coach, Carriage Maker ... ..	17	
Wheelwrights ... ..	66	1
Others ... ..	4	
2— <i>Harness.</i>		
Saddler, Harness, Whip Maker ... ..	15	
13—SHIPS AND BOATS.		
1— <i>Hull.</i>		
Shipwright, Ship, Barge, etc., Builder (wood)...	2	
Shipwright, Ship, Barge, etc., Builder (iron) ...	3	
14—CHEMICALS AND COMPOUNDS.		
1— <i>Colouring Matter.</i>		
Dye, Paint, Ink, Blacking, Manufacturer ...	11	
2— <i>Explosives.</i>		
Gunpowder, Gun Cotton, Explosive Substance Manufacturer ... ..		3
Fusee, Fireworks, Explosive Article Manufac- turer ... ..	1	22
3— <i>Drugs and other Chemicals and Com- pounds.</i>		
Chemist, Druggist ... ..	76	3
Manufacturing Chemist, Alkali Manufacturer...	1746	2
Drysalter ... ..	2	
15—TOBACCO AND PIPES.		
1— <i>Tobacco and Pipes.</i>		
Tobacco Manufacturer, Tobacconist ... ..	15	15
Tobacco, Pipe, Snuff Box, etc., Maker ... ..	1	

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
16—FOOD AND LODGING.		
1— <i>Board and Lodgings.</i>		
Inn-keeper, Hotel Keeper, Publican ... ..	147	35
Lodging, Boarding House—keeper ... ..	6	96
Coffee, Eating House—keeper ... ..	7	2
2— <i>Spirituous Drinks.</i>		
Brewer ... ..	51	3
Beerseller, Ale, Porter, Cider, Dealer ... ..	29	14
Cellarman ... ..	5	8
Wine and Spirit—Merchant, Agent ... ..	1	
3— <i>Food.</i>		
Milkseller, Dairyman ... ..	53	15
Cheesemonger, Butterman ... ..	1	
Butcher, Meat Salesman... ..	146	31
Provision, Curer, Dealer ... ..	21	19
Fishmonger, Poulterer, Gamedealer ... ..	42	17
Corn, Flour, Seed—Merchant Dealer ... ..	4	
Corn, Miller ... ..	5	
Baker ... ..	95	13
Confectioner, Pastrycook... ..	18	68
Greengrocer, Fruiterer ... ..	41	28
Sugar Refiner ... ..	2	
Grocer, Tea, Coffee, Chocolate—Maker, Dealer.	357	154
Ginger Beer, Soda, Mineral Water—Manufac- turer, Dealer ... ..	13	8
17.—TEXTILE FABRICS.		
2— <i>Silk.</i>		
Silk, Satin, Velvet, Ribbon, Manufacturer ...		1
Silk, Dyer, Printer ... ..	1	
3— <i>Cotton and Flax.</i>		
Cotton, Cotton Goods—Manufacturer ... ..		8
Fustian—Manufacturer ... ..		1
Cotton, Linen, Lace, Fustian, Tape, Thread Dealer ... ..	1	

OCCUPATIONS.—*Continued.*

OCCUPATIONS	Males	Females
<b>TEXTILE FABRICS.—<i>Continued.</i></b>		
4— <i>Hemp and other Fibrous Material.</i>		
Rope, Twine, Cord—Maker ... ..	12	
Mat Maker ... ..	1	1
Canvas, Sailcloth, Sacking—Manufacturer ...		1
Others working in Hemp... ..	2	
Dealers in Hemp, Jute, &c. ... ..		1
5— <i>Mixed or Unspecified Materials.</i>		
Factory Hand, Textile (undefined) ... ..	1	2
Draper, Linen Draper—Mercer ... ..	76	75
Fancy Goods (textile)—Manufacturer, Worker, Dealer ... ..	2	6
Trimming Maker—Embroiderer... ..		2
<b>18—DRESS.</b>		
1— <i>Dress.</i>		
Hatter, Hat Manufacturer (not straw)... ..	6	1
Straw—Hat, Bonnet, Plait, Manufacturer ...	1	
Tailor ... ..	102	164
Milliner, Dressmaker, Staymaker ... ..	1	703
Shirt Maker, Seamstress ... ..	1	30
Hosiery—Manufacturer ... ..		18
Hosier, Haberdasher ... ..	5	4
Shoe, Boot, Patten, Clog—Maker ... ..	201	14
Wig Maker, Hairdresser... ..	54	2
Umbrella, Parasol—Stick Maker ... ..	2	3
Others working and dealing in Clothes... ..		1
<b>19—ANIMAL SUBSTANCE.</b>		
1— <i>In Grease, Gut, Bone, Horn, Ivory, and     Whalebone.</i>		
Tallow Chandler, Candle Grease Manufacturer	2	
Soap—boiler, maker ... ..	3	
Manure Manufacturer ... ..	4	
2— <i>In Skins.</i>		
Currier, Leather Goods—maker, dealer ...	3	1

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>ANIMAL SUBSTANCE.—<i>Continued.</i></b>		
3— <i>In Hair and Feathers.</i>		
Brush, Broom—maker; Hair, Bristle—worker, dealer ... ..	1	1
<b>20—VEGETABLE SUBSTANCES.</b>		
1— <i>In Oils, Gums, and Resins.</i>		
Oil and Colourman.	5	
India Rubber Waterproof Goods—worker ...	94	14
Others ... ..	1	
2— <i>In Cane, Rush, and Straw.</i>		
Willow-Cane Rush-Worker, Basket—maker ...	9	
Dealers ... ..	2	
3— <i>In Wood and Bark.</i>		
Timber, Wood, Cork, Bark—merchant, dealer...	6	
Sawyer ... ..	49	
Wood Turner, Wooden Box—maker ... ..	17	
Cooper: Hoop—maker, bender ... ..	129	
Others working in Wood, Cork, Bark, etc. ...	5	
4— <i>In Paper.</i>		
Stationer, Law Stationer ... ..	16	6
Ticket Label—writer ... ..	2	
Others ... ..	5	
<b>21—MINERAL SUBSTANCES.</b>		
1— <i>Miners.</i>		
Coal Miners ... ..	4153	167
Copper Miners ... ..	4	
Miner in other, or Undefined Minerals ... ..	16	
Mine Service ... ..	25	
2— <i>Coal, Coal Gas, etc.</i>		
Coal, Coke, Peat, etc.—dealer ... ..	28	2
Coalheaver: Coal—porter, labourer ... ..	5	
Coke, Charcoal, Peat—cutter, burner ... ..		1
Gas Works—service ... ..	59	

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>MINERAL SUBSTANCES.—<i>Continued.</i></b>		
<i>3—Stone, Clay, and Road Making.</i>		
Stone Quarry—cutter, dresser ... ..	1	
Lime Burner ... ..	5	
Clay, Sand, Gravel, Chalk—labourer ... ..	12	
Well—sinker, borer ... ..	22	
Brick, Tile—maker, burner ... ..	165	25
Dealers in Stone, Slate, Tiles, etc. ... ..	2	
Pavior, Road Labourer ... ..	43	
Road—contractor, surveyor, inspector ... ..	4	
Platelayer, Railway Labourer, Navy ... ..	88	
Others ... ..	1	
<i>4—Earthenware and Glass.</i>		
Earthenware, China, Porcelain Manufacture ...	51	16
Glass Manufacture ... ..	4845	573
Earthenware, China, Porcelain, Glass—dealer...	20	4
<i>5—Salt.</i>		
Salt—maker, dealer ... ..	2	
<i>6—Water.</i>		
Water Works Service ... ..	4	
<i>7—Precious Metals and Jewellery.</i>		
Goldsmith, Silversmith, Jeweller ... ..	3	
Others ... ..	1	1
<i>8—Iron and Steel.</i>		
Blacksmith, Whitesmith ... ..	289	
Anchor, Chain Manufacture ... ..	1	
Other Iron and Steel Manufactures ... ..	248	
Ironmonger : Hardware—dealer, merchant ...	22	3
<i>9—Copper.</i>		
Copper, Copper Goods—manufacturer, worker	271	

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
<b>MINERAL SUBSTANCES.—<i>Continued.</i></b>		
10— <i>Tin and Zinc.</i>		
Tin, Tinplate, Tin Goods—manufacturer, worker	16	1
11— <i>Lead.</i>		
Lead, Leaden Goods—manufacturer, worker ...	28	
12— <i>In other, mixed, or Unspecified Metals.</i>		
Metal-Refiner, Worker, Turner, Burnisher, Lacquerer ... .. .	16	1
Brass, Bronze—manufacturer, brazier ... ..	9	
White-metal Plated Ware—manufacturer, pewterer ... .. .	1	
Wire—drawer, maker, worker, weaver ... ..	17	
Bolt, Nut, Revit, Screw, Staple—maker ... ..	6	
Lamp, Lantern, Candlestick—maker ... ..	1	
Dealers in Sub-orders, 9 to 12 ... .. .	2	
<b>22—GENERAL OR UNSPECIFIED COM- MODITIES.</b>		
1— <i>Makers and Dealers (General or     Undefined.)</i>		
General Shopkeeper—dealer ... .. .	36	69
Pawnbroker ... .. .	59	5
Costermonger, Hawker, Street Seller ... ..	43	17
Contractor Manufacturer, Manager Superinten- dent (undefined) ... .. .	38	
2— <i>Mechanics and Labourers (general or     undefined).</i>		
General Labourer... .. .	3272	21
Engine Driver, Stoker, Fireman (not railway, marine, nor agricultural) ... .. .	400	
Artizan, Mechanic, Apprentice (undefined) ...	180	2
Factory Labourer (undefined). ... .. .	74	5
Machinist, Machine Worker (undefined) ...	11	14

OCCUPATIONS.—*Continued.*

OCCUPATIONS.	Males	Females
23—REFUSE MATTERS.		
1— <i>Refuse.</i>		
Town Drainage Service ... ..	10	
Chimney Sweep, Soot Merchant...	5	
Scavenger, Crossing Sweeper ... ..	6	
Rag Gatherer—dealer ... ..	1	1
—	—	—
<b>VI.—Unoccupied Class.</b>		
24—UNSPECIFIED OCCUPATIONS.		
Retired from Business (not Army, Church, Navy, Medicine) ... ..	458	144
Pensioner ... ..	13	
Living on own Means ... ..	77	356
Others (over 10 years) ... ..	3218	18202

COUNTRY OF BIRTH OF FOREIGNERS ENUMERATED  
IN URBAN SANITARY DISTRICT OF ST. HELENS.

Where Born.	Males.	Females.
Total ... ..	<b>50</b>	<b>35</b>
<b>EUROPE.</b>		
Russia.. ... ..	2	2
Poland (Russian) ... ..	3	2
Sweden ... ..	1	...
Holland ... ..	1	2
France ... ..	4	1
Germany (including Heligoland) ... ..	7	4
Austria ... ..	...	1
Switzerland ... ..	1	1
Italy ... ..	2	1
Roumania ... ..	...	1
<b>ASIA.</b>		
Arabia ... ..	1	...
China... ..	1	...
Other Countries ... ..	1	...
<b>AMERICA.</b>		
United States ... ..	18	12
Other States... ..	8	8

FEMALES TO 1000 MALES IN THE URBAN SANITARY  
DISTRICT OF ST. HELENS.

Females to 1000 Males.

**ST. HELENS - 916.**

Lowest—YSTRADYFODWG ... 761

Highest—HASTINGS ... 1493

ENUMERATED POPULATION 1881-91, AND INCREASE  
PER CENT., URBAN SANITARY DISTRICT OF  
ST. HELENS.

Urban Sanitary District.	Enumerated Population.		Increase per cent.
	1881	1891	1881-91.
ST. HELENS.	57,403	71,288	24·2

POPULATION OF THE URBAN SANITARY DISTRICT OF  
ST. HELENS AT SIX SUCCESSIVE CENSUSES.

*NOTE.*—In many cases in which the Urban Sanitary District, as now constituted, include parts of Parishes or Townships, it is impossible to ascertain the precise population enumerated within its present boundaries at each preceding Census. In such cases the population at each Census, within these parts of Parishes, has been approximately estimated. All the figures in the following Table which include any such estimate are marked with an asterisk (\*).

Urban Sanitary District.	POPULATION.					
	1841	1851	1861	1871	1881	1891
ST. HELENS.	18628*	25403*	37794*	45134	57403	71288

**Table D.**  
MORTALITY STATISTICS for Year ending December 31st, 1893, showing Age at Death, and Ward.

DISEASES.	AGES AT DEATH.																		WARDS.																							
	0 to 3		3 to 6		6 to 12		12 to 15		15 to 20		20 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 years and upwards		Ecceleston North.	Ecceleston South.	Central.	Windle North.	Windle South.	Hardshaw.	Sutton East.	Sutton West.	Parr.	Whole Borough.						
	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms	ms						
<b>Zymotic Diseases.</b>																																										
<b>(a) MIASMATIC DISEASES.</b>																																										
Small Pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Measles ..	1	5	32	59	15	10	6	4	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Typhus Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Whooping Cough ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Diphtheria ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Simple, Continued, or Ill-Defined Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Enteric Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Influenza ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Other Miasmatic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
<b>(b) DIARRHEAL DISEASES.</b>																																										
Simple Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Diarrhoea ..	34	36	41	35	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Dysentery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
<b>(c) MALARIAL DISEASES.</b>																																										
Remittent Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Ague ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
<b>(d) ZOOGENOUS DISEASES.</b>																																										
Cow Pox and Effects of Vaccination ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia, Glanders, & Splenic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..











No.	Name	Age	Sex	Profession	Religion	Marriage	Children	Notes
1	John Smith	45	M	Farmer	Methodist	Married	3	
2	Mary Jones	35	F	Homemaker	Baptist	Married	2	
3	Robert Brown	55	M	Teacher	Presbyterian	Married	4	
4	Elizabeth White	60	F	Widow	Quaker	Widowed	0	
5	James Wilson	25	M	Student	Methodist	Single	0	
6	Sarah Miller	40	F	Teacher	Baptist	Married	1	
7	Thomas Moore	30	M	Blacksmith	Methodist	Married	2	
8	Anna Taylor	50	F	Widow	Presbyterian	Widowed	0	
9	William Clark	65	M	Retired	Methodist	Married	5	
10	Rebecca Lewis	20	F	Student	Baptist	Single	0	

**TABLE VI DEATHS during the year 1893, in the Urban Sanitary District of St. Helens, Lancashire, Classified according to Diseases, Ages & Localities**

WARDS. (a)	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.												
	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	(i)												
	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Smallpox.	Scarlatina.	Diphtheria.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	All Other Diseases.	TOTAL.
Eccleston, North ..	219	93	50	10	6	48	12	Under 5 5 upwds.	1	2	1	2	29	1	2	19	..	..	71	143
Eccleston, South ..	120	39	30	8	4	30	9	Under 5 5 upwds.	..	..	..	1	3	..	..	10	..	..	30	66
Central ..	203	69	50	6	4	53	21	Under 5 5 upwds.	1	2	..	3	19	..	..	20	..	..	58	119
Windle, North ..	133	39	30	8	4	37	15	Under 5 5 upwds.	2	1	1	2	7	..	2	15	1	..	26	69
Windle, South ..	177	69	41	5	6	44	12	Under 5 5 upwds.	..	1	..	1	2	1	9	16	3	1	35	71
Hardshaw ..	302	74	62	18	20	106	22	Under 5 5 upwds.	1	1	1	5	12	..	2	21	2	3	72	136
East Sutton ..	164	48	27	6	12	51	20	Under 5 5 upwds.	..	2	..	8	8	..	2	30	..	1	23	75
West Sutton H ..	255	69	37	14	21	91	23	Under 5 5 upwds.	1	..	..	12	22	..	2	13	1	..	52	103
Parr ..	196	77	43	12	8	44	12	Under 5 5 upwds.	..	2	..	25	19	..	1	19	..	..	45	114
TOTALS ..	1769	577	376	87	85	504	146	Under 5 5 upwds.	5	10	5	130	17	154	2	160	4	6	420	931

The subjoined numbers have also to be taken into account in judging the above records of mortality. Deaths occurring outside the district among persons belonging thereto (at all ages) 78. Deaths occurring within the district among persons not belonging thereto (at all ages) 54.

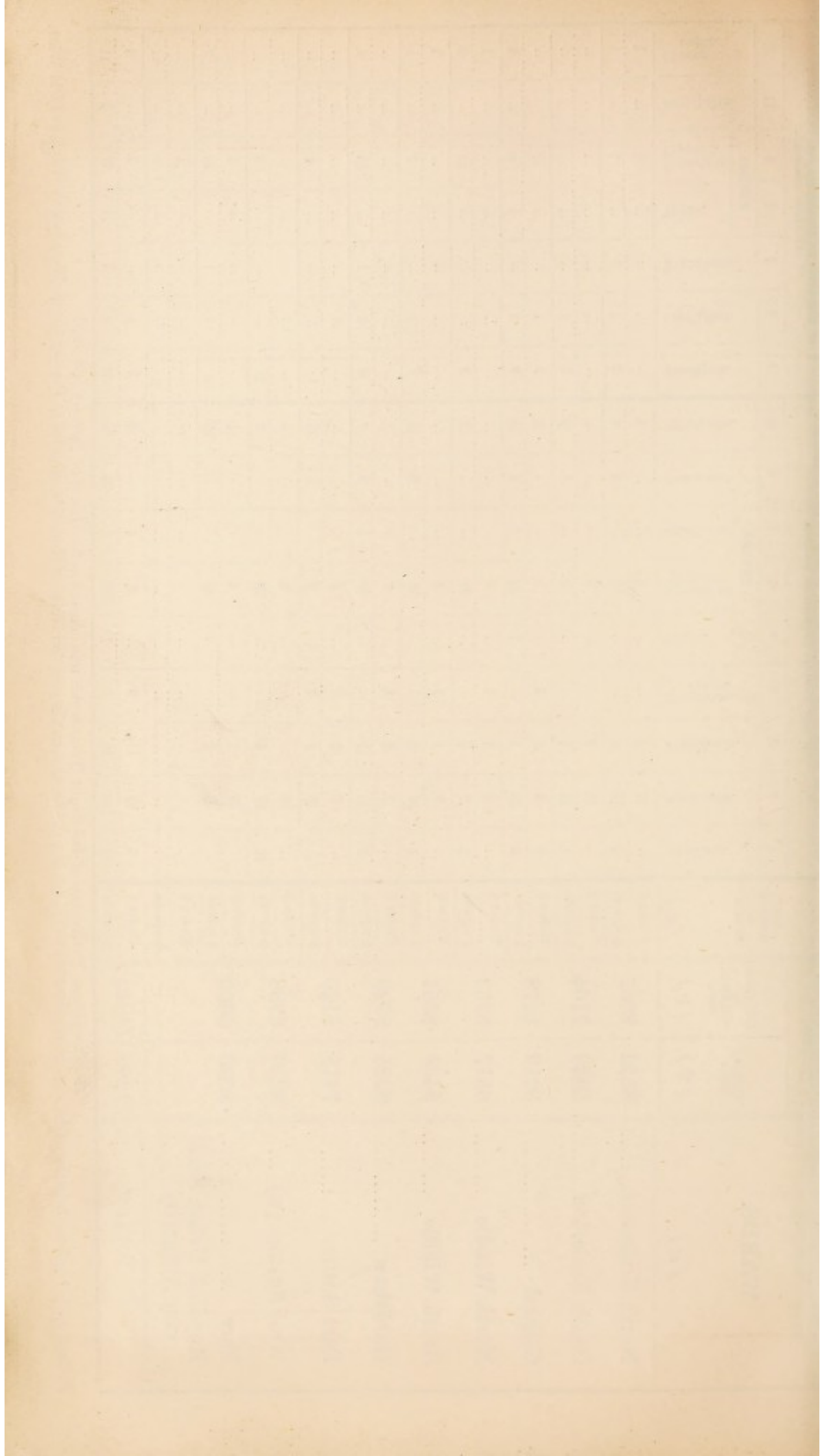


**TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH DURING THE YEAR 1893, IN THE URBAN SANITARY DISTRICT OF ST. HELENS, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.**

WARDS.	POPULATION AT ALL AGES.			Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.												NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.						
	Census, 1891.	Estimated to middle of 1893.	(c)		FEVERS.												Smallpox.	Scarlatina.	Diphtheria.	FEVERS.		Krysipelas.	Observation Cases.
					1	2	3	4	5	6	7	9	11	Typus.	Enteric or Typhoid.	Continued.				Puerperal.	1		
(a)	(b)	(c)	(e)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typus.	Enteric or Typhoid.	Continued.	Puerperal.	Krysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Typus.	Enteric or Typhoid.	Krysipelas.	Observation Cases.				
North Eccleston.....	8552	8937	Under 5 5 upwds.	2	17	3	..	..	3	..	..	3	..	..	..	..	1	..	..	1			
South Eccleston.....	6639	7104	Under 5 5 upwds.	..	15	6	..	..	33	..	2	8	2	1	1	..	7	..	..	1			
Central .....	8219	8278	Under 5 5 upwds.	1	21	4	..	..	3	..	2	9	1	1	..	..	..	..	..	..			
North Windle .....	6517	6733	Under 5 5 upwds.	9	9	2	2	..	1	..	..	2	1	1	..	..	..	..	..	..			
South Windle .....	8438	8551	Under 5 5 upwds.	3	7	9	..	..	4	..	..	5	3	..	..	..	13	..	..	2			
Hardshaw .....	9225	9729	Under 5 5 upwds.	7	20	3	1	..	4	..	3	10	7	1	..	..	8	..	..	1			
East Sutton .....	7418	8120	Under 5 5 upwds.	..	7	2	3	..	7	1	..	1	3	..	..	..	..	..	..	..			
West Sutton (H) .....	8250	8788	Under 5 5 upwds.	3	10	11	..	..	50	1	4	7	3	2	1	..	15	..	..	4			
Parr.....	8030	8600	Under 5 5 upwds.	..	3	3	2	..	1	..	..	..	..	..	..	..	..	..	..	..			
Haydock Urban Sanitary Authority .....	71288	74840	Under 5 5 upwds.	14	17	4	..	..	29	..	..	7	11	..	..	..	8	..	..	..			
TOTALS.....	71288	74840	Under 5 5 upwds.	39	140	51	2	1	294	2	19	90	36	8	3	1	77	1	..	11			

The Compulsory Notification of Infectious Diseases Act was adopted in St. Helens on January 7th, 1891.

Patients suffering from Infectious Diseases are received free of charge into the St. Helens Corporation Isolation Hospitals, situated at Peasley Cross, West Sutton Ward, and Old Wint.







## STREET REGISTER,

Showing the Locality, number of Deaths in each, and whether arising from  
Zymotic or other Diseases.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Asheroft street ...	5	8	13	Blackbrook road ...	0	1	1
Albion street ...	6	8	14	Bolton street ...	1	4	5
Appleton street ...	1	1	2	Back Albert street ...	0	1	1
Assam street ...	1	1	2	Bruce street ...	2	6	8
Atherton street ...	5	2	7	Bridge street ...	0	1	1
Ardwick street ...	0	3	3	Black Horse street ...	0	1	1
Anne street ...	0	4	4	Bridgewater street ...	1	0	1
Albert street ...	4	6	10	Birchley street ...	0	3	3
Argyle street ...	1	3	4	Berreys lane ...	0	1	1
Arthur street ...	0	2	2	Barton street ...	1	1	2
Alma street ...	0	4	4	Bewsey street ...	0	1	1
Atlas court ...	1	3	4	Bath street ...	1	0	1
Allinson street ...	0	2	2	Blinkhorn street ...	0	1	1
Arnold street ...	0	2	2	Boardman's lane ...	1	3	4
Ashton street ...	0	1	1	Bold road ...	3	1	4
Alice street ...	1	1	2	Blackbrook ...	0	2	2
Barracks ...	1	2	3	Castle Dart ...	0	1	1
Booth street ...	0	1	1	Carlow street ...	2	1	3
Baxter street ...	1	2	3	Campbell street ...	2	3	5
Burtonhead road ...	2	4	6	City road ...	1	1	2
Barrow street ...	0	5	5	College street ...	3	13	16
Brook street ...	2	5	7	County Asylum ...	0	57	57
Banner street ...	1	3	4	Cottage Hospital ...	1	21	22
Bishop street ...	1	5	6	Crab street ...	1	12	13
Bold street ...	5	16	21	Clarence street ...	2	1	3
Back lane ...	1	3	4	Chapel street ...	1	3	9
Back Grove street ...	0	2	2	Crossley road ...	0	4	4
Brynn street ...	0	2	2	Chancery lane ...	6	10	16
Boundary road ...	1	10	11	Clyde street ...	1	5	6
Barbers court ...	0	3	3	Croppers hill ...	3	8	11
Binney street ...	1	1	2	Carnarvon street ...	0	2	2
Brown edge ...	0	3	3	Corporation street ...	0	4	4
Bronte street ...	0	4	4	Cloughton street ...	4	5	9
Baldwin street ...	1	2	3	Cresswell street ...	0	5	5
Barber street ...	2	4	6	Cyril street ...	4	2	6
Baxters lane ...	1	0	1	Copperas street ...	1	3	4
Broad Oak road ...	3	9	12	Chorley street ...	0	1	1
Bickerstaffe street ...	0	5	5	Canal bank, west ...	2	2	4

STREET REGISTER—CONTINUED.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Charles street	3	2	5	Fever Hospital	23	2	25
Cowley street	3	3	6	Fox street	2	3	5
Church street	0	1	1	Factory row	1	2	3
Cecil street	0	1	1	Fenton street	1	2	3
Cooper street	3	4	7	Frederick street	1	15	16
Critchley street	2	0	2	Fidler street	1	2	3
Crowther street	1	2	3	Fleet lane	12	13	25
Church street (Sutton)	1	1	2	Frazer street	1	3	4
Cowley Hill lane	1	4	5	Fisher street	0	2	2
Clock Face road	1	2	3	Fenney's lane	1	0	1
Carlton street	1	1	2	Frazer's court	1	2	3
Cross street	0	1	1	Friar street	1	0	1
Canal Bank east	1	2	3				
Cairne street	2	2	4				
Chester street	0	2	2	Glover street	5	16	21
Clarence court	1	1	2	Green street	0	2	2
City Gardens	1	0	1	Gladstone street	1	4	5
				Grafton street	0	2	2
Derbyshire Hill	3	4	7	Greenough street	2	1	3
Dyson street	0	2	2	Graham street	0	8	8
Duke street	5	26	31	Gerard's lane	0	2	2
Dentons Green lane	0	1	1	Gerard street	1	1	2
Ditch Hillock	2	5	7	Grant street	1	4	5
Doulton street	1	4	5	Gilbert street	1	5	6
Dudley street	0	2	2	Glade hill	0	1	1
Devon street	1	4	5	Garden street	0	1	1
Dunriding lane	0	2	2	Garnet street	0	1	1
Davies street	0	1	1	George street	0	3	3
Dam Row	2	0	2	Grove street	0	5	5
				Grove place	0	2	2
Edgar street	0	4	4	Greenfield road	2	3	5
Eldon street	2	5	7				
Eccleston street	3	14	17	Henry street	1	1	2
Elephant lane	2	9	11	Higher Parr street	6	12	18
Elliott street	0	6	6	Hope street	2	4	6
Edward street	1	0	1	Hall street	1	3	4
Ellbess lane	1	5	6	High street	1	5	6
Endowment row	1	1	2	Hamer street	2	8	10
Essex street	0	1	1	Hardy street	2	6	8
Eliza street	0	1	1	Hanover street	3	2	5
Exeter street	0	1	1	Heath street	0	2	2
Edgeworth street	0	1	1	Hammond street	1	1	2
Ellam's Bridge road	0	3	3	Havelock street	2	5	7
Ellison's square	0	1	1	Herbert street	0	4	4
				Hardshaw street	1	3	4

## STREET REGISTER—CONTINUED.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Hillsmoss lane ..	0	3	3	Morley street ..	1	5	6
Highfield street ..	0	2	2	Marshalls Cross road ..	2	9	11
Halefield street ..	1	1	2	Mount street ..	2	5	7
Helsby street ..	0	2	2	Mill lane ..	0	2	2
Harris street ..	0	5	5	Mill street ..	0	1	1
Haswell street ..	0	1	1	Manor street ..	5	5	10
Haydock street ..	0	2	2	Market street ..	1	2	3
Harrison street ..	1	1	2	Merton Bank road ..	3	17	20
Hawthorn road ..	0	2	2	Merton street ..	0	1	1
Helena road ..	1	2	3	Moss Bank street ..	0	3	3
Houghton street ..	0	1	1	Mill place ..	1	2	3
Hudson street ..	0	1	1	Marsland street ..	0	4	4
Havannah ..	0	1	1	Maxwell street ..	0	1	1
Hard lane ..	0	2	2	Marsh street ..	1	0	1
Haresfinch ..	0	1	1	Micklehead green ..	0	2	2
Islands brow ..	1	3	4	Normans road ..	2	10	12
Junction lane ..	0	4	4	Nelson street ..	0	1	1
John street ..	1	2	3	Napier street ..	4	9	13
Kirkland street ..	0	4	4	Normans lane ..	0	1	1
King street ..	0	1	1	New Cross street ..	2	1	3
Liverpool road ..	4	10	14	Nutgrove road ..	2	6	8
Lyon street ..	17	5	22	North road ..	1	4	5
Liverpool street ..	1	11	12	New street ..	0	4	4
Lord street ..	0	2	2	Newton road ..	4	3	7
Langtree street ..	4	13	17	Newton street ..	0	1	1
Lewis street ..	5	3	8	Nuttall street ..	1	0	1
Lowe street ..	4	12	16	Oxford street ..	3	11	14
Lingholme road ..	0	3	3	Oxley street ..	0	1	1
Lawrenson street ..	2	3	5	Oldfield street ..	4	4	2
Lea green ..	0	2	2	Ormskirk street ..	0	2	8
Lugsmore lane ..	0	3	3	Orrell street ..	1	5	6
Leach street ..	0	2	2	Owen street ..	1	2	3
Lancots lane ..	1	1	2	Old Nook ..	0	2	2
Lee street ..	1	0	1	Park road ..	4	22	26
Leach lane ..	0	1	1	Parr street ..	5	11	16
Leicester street ..	0	2	2	Providence Hospital ..	0	57	57
Laurel road ..	0	3	3	Parr Stocks road ..	4	7	11
London street ..	0	1	1	Prescott street ..	2	3	5
				Peter street ..	0	12	12
				Peckers hill road ..	2	12	14
				Peasley Cross lane ..	3	12	15
				Parr moss ..	2	0	2

## STREET REGISTER—CONTINUED.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Phythian street ..	8	14	22	St. Helens canal ..	0	2	2
Peel street ..	0	3	3	Sutton Heath road ..	0	1	1
Pitt street ..	0	7	7	Sandon street ..	0	3	3
Pocket Nook street ..	0	13	13	South street ..	1	4	5
Prospect row ..	0	1	1	Springfield row ..	0	1	1
Parr mill ..	0	4	4	School street north ..	1	1	2
Prescot road ..	1	4	5	Salisbury street ..	0	1	1
Parr Mount street ..	0	1	1	Scholes lane ..	0	1	1
Parr mount ..	1	2	3	Short street ..	0	2	2
Parliament street ..	0	1	1	Shaw street ..	1	3	4
Pen Lake lane ..	0	1	1	Silver street ..	0	1	1
Platt street ..	1	0	1	St. James street ..	0	1	1
Parr flat ..	1	0	1	St. Helens Rly. Station.	0	1	1
				Swaine street ..	0	2	2
Queen street ..	1	5	6	St. Helens road ..	0	1	1
				Sutton road ..	0	3	3
Raglan street ..	2	10	12				
Ramford street ..	5	10	15	Tontine street ..	1	8	9
Rimmer street ..	0	3	3	Tickle street ..	1	2	3
Remington street ..	0	2	2	Talbot street ..	5	9	14
Robins lane ..	2	3	5	Traverse street ..	1	8	9
Russell street ..	4	5	9	Twyford street ..	2	0	2
Randon street ..	0	7	7	Taylor street ..	1	1	2
Rigby street ..	2	5	7	Tullis street ..	0	1	1
Reginald road ..	0	3	3	Thatto Heath ..	2	5	7
Rolling Mill lane ..	0	3	3				
Rutland street ..	0	1	1	Union street ..	6	6	12
Royal street ..	1	2	3	Union street east ..	0	1	1
Ravenhead ..	0	5	5				
Rodney street ..	2	6	8	Vernon street ..	0	2	2
				Virgil street ..	1	1	2
School street east ..	1	1	2	Victoria street ..	1	7	8
Stanhope street ..	2	6	8	Vincent street ..	0	4	4
St. Thomas street ..	1	7	8	Volunteer street ..	0	1	1
Sutton Moss ..	0	1	1				
Sutton road ..	1	14	15	Watson street ..	0	1	1
Sutton street ..	2	2	4	Warrington Old road ..	0	1	1
Stanley street ..	1	4	5	Williamson street ..	0	3	3
Sandfield crescent ..	0	1	1	Waterloo street ..	1	4	5
St. Paul's street ..	0	4	4	Windle city ..	0	5	5
Stone street ..	0	4	4				
South John street ..	2	3	5				

## STREET REGISTER—CONTINUED.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Warrington New road..	2	4	6	Walker's lane	..	1	1
Watery lane	..	2	8	10	Wood street	..	0
Worsley's brow	..	0	1	1	Wellington terrace	..	0
Water street	..	0	4	4	Webb street	..	0
Wilson street	..	2	19	21	William street	..	0
Westfield street	..	3	14	17	Windle street	..	1
Whittle street	..	1	0	1			
Wright street	..	2	3	5	York street	..	3
Ward street	..	0	2	2			

STATE OF NEW YORK

NAME	RESIDENCE	DATE	AMOUNT
John Doe	New York	1850	100
Jane Smith	New York	1851	200
Robert Johnson	New York	1852	300
Elizabeth Brown	New York	1853	400
William White	New York	1854	500
Thomas Green	New York	1855	600
Ann Black	New York	1856	700
James Grey	New York	1857	800
Mary Pink	New York	1858	900
George Blue	New York	1859	1000

STATE OF NEW YORK  
IN SENATE  
January 1, 1860

REPORT  
OF THE  
COMMISSIONERS OF THE LAND OFFICE  
IN ANSWER TO A RESOLUTION PASSED BY THE SENATE  
MAY 1, 1859

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1860

# MAP OF THE COUNTY BOROUGH OF ST. HELENS.



NOTE.—Houses in which eight rates of value from 100 to 1000 are assessed are marked with a square. Houses in which the value is less than 100 are marked with a circle. The number of persons being assessed in the house is marked in the square or circle. The Plan is that of the Borough as constituted, but in the case of houses in which the value is less than 100, the number of persons being assessed is marked in the square or circle. The Plan is that of the Borough as constituted in 1885.

GEORGE BROWN ARCHT. & CIVIL ENGRS.

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