R E P O R T.

of the

M E D I C A L O F F I C E R O F H E A L T H

for the

O R M E S B Y

U R B A N D I S T R I C T,

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1 8 9 9.

REPORT

of the

MEDICAL OFFICER OF HEALTH

for the

ORMESBY URBAN DISTRICT

1898.-

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Gentlemen,

During the year 1898, 166 deaths were registered in the Ormesby District 31 of which occurred at the Cottage Hospital, of which number 21 were imported. Deducting these imported deaths the total due to the District is reduced to 145.

The population of your District estimated for the middle of 1898 is 9,257, and the death rate calculated on the population is 15·6 per thousand.

17 deaths from the seven chief Zymotic Diseases were registered during the year, giving a mortality rate of 1·83 per thousand.

The Births numbered 303 giving a birth rate of 32·7.

66 deaths of children under 1 year were registered, showing a death rate of 21·7 per cent calculated on the number of children born during the year.

The ages at which death occurred were:-

Under 1 year	66
1 year and under 5 years.	15
5 years " " 15 "	7
15 " " " 25 "	10
25 " " " 65 "	51
65 " " upwards.	17
	166.

The first of the following Tables is one showing the total number of deaths and rates of mortality from seven chief Zymotic Diseases and other causes during the past 10 years.

The general death rate for 1898 is lower than for the 3 previous

than for 1897.

years but the Zymotic death rate is somewhat higher viz.- 1·8 as compared with 1·4 per thousand.

5 deaths resulted from Small Pox. 1 from Scarlet Fever.

2 from Typhoid Fever. 7 from Diarrhoea. 2 from Measles, But there were no deaths from Diptheria or Whooping Cough.

The 2nd Table shows the deaths occurring at two groups of ages from various diseases in each quarter of 1898 the deaths at the Cottage Hospital being arranged separately.

During the year 31 deaths took place at this institution, only 10 of which belonged to the District, the others being imported cases.

The 3rd Table gives the Zymotic Death rates for the past 10 years that for 1898 comparing favourably with preceding years.

The next Table contains the deaths from Zymotic Diseases in each quarter of 1898 and shows a very satisfactory result for the year.

The Table following gives the Births and Deaths and the Birth rates and Death rates and Deaths at various ages during each quarter of 1898.

Examining this Table it will be seen that Infant Mortality was high in the 3rd and last Quarter of the year, 56 deaths under 5 years being registered during these six months, giving a total of 81 deaths under 5 years, and 85 at 5 years and over, for the 12 months.

The Birth rate for 1898 was higher than for the preceding year and the figures for the past 13 years are as follows:-

1886	38·7	1892	36·4
1887	39·3	1893	34·
1888	35·1	1894	31·
1889	36·8	1895	34·
1890	34·5	1896	33·1
1891	37·8	1897	30·0
	1898	32·7	

The Death rate per cent, of children under 1 year, I regret to report, again shows an increase on past years; chiefly the result

of deaths from Diarrhoea and Diseases of the Digestive System, Atrophy and Scrofulous affections, as in previous years.

Death rates per cent, for 13 years of children under 1 year calculated on the number of children born during the year:-

1886	18·6	1893	18
1887	15·6	1894	11·5
1888	14·5	1895	14·7
1889	17·2	1896	18·2
1890	16·7	1897	21·4
1891	12·5	1898	21·7
1892	12·2		

Deaths and Death-rates from all causes, for 10 years.

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Small Pox.										5.
Measles.	6.			19.		1.		12.		2.
Scarlet Fever.	6.	1.				1.	9.	2.	1.	1.
Diphtheria.			2.					2.	1.	
Whooping Cough.	2.	2.	6.		1.	1.	1.	9.	3.	
Typhoid Fever.	3.	16.	6.	1.	4.	2.	7.	1.	2.	2.
Doubtful Fever.			1.							
Typhus Fever.										
Diarrhoea and Dysentery.	11.	5.	3.	4.	11.	2.	5.	2.	6.	7.
Deaths from 7 Chief Zymotic Diseases.	28.	24X23.	18.	24.	16.	7 6.	22.	28.	13.	17.
Deaths from other causes.	132.	129.	134.	123.	125.	100.	133.	138.	151.	128.
Total for each year due to the district.	160.	152.	152.	147.	141.	106.	155.	166.	164.	145.
Death-rate from 7 chief Zymotic Diseases per 1000	3·23.	2·65.	2.	2·74.	1·8.	·6	2·44.	3·08.	1·41.	1·8.
Death-rate from other causes per 1,000.	15·28.	14·89.	15·52.	14·07.	14·1.	11·2.	14·78.	15·19.	16·4.	13·8.
General Death-rate per 1,000.	18·40.	17·5.	17·6.	16·8.	15·9.	11·8.	17·2.	18·2.	17·8.	15·6.

X Includes one imported death from Typhoid Fever at the Cottage Hospital.

CAUSES OF DEATH IN EACH QUARTER OF 1898-at two groups of Ages.

Not including Deaths at the Hospital.

Quarter Ending.		Deaths from chief Zymotic Diseases.	Erysipelas.	Croup.	Scrofulous Diseases.	Phthisis.	Diseases of Nervous System.	Convulsions.	Diseases of Organs of Circulation.	Diseases of Organs of Respiration.	Diseases of Organ of Digestion.	Diseases of Urinary System.	Childbirth.	Premature Birth.	Atrophy and Inanition.	Old Age.	Injuries.	Other Diseases.	Totals.
March 31.	Under 5 yrs.			1	3		1	3		1				1	1				11
	5 yrs & over	5				1	3		1	1	2					2	1	3	19
June 30.	Under 5 yrs	1			1			1		2				1	4				10
	5 yrs & over					2			2	2		1	1			1		1	10
Sept 30.	Under 5 yrs	7			1			1		2	8				8				27
	5 yrs & over	2	1	1		3				1	1								9
Dec 31.	Under 5 yrs	2			4			8		4		1		6	3				28
	5 yrs & over	4			2	1	3		2	8		1	1			3			21
Total Deaths from all causes.	Under 5 yrs	10		1	9		1	13		9	8	1		8	16				76
	5 yrs & over	7	1	1	2	7	6		5	12	3	2	2			6	1	4	59
Total at all ages.		17	1	2	11	7	7	13	5	21	11	3	2	8	16	6	1	4	135.

DEATHS AT THE COTTAGE HOSPITAL.

Quarter Ending.		Cancer.	Scrofulous Diseases.	Convulsions.	Diseases of Circulatory System.	Diseases of Respiratory System.	Diseases of Digestive System.	Diseases of Urinary System.	Croup.	Injuries.	Rheumatic Fever.	Other Diseases.	Total.
March 31.	Under 5 yrs.									2		1	3
	5 yrs & over.				3			1		3			7
June 30.	Under 5 yrs.			1									1
	5 yrs & over.	1			1	2		1		2	1		8
Sept 30.	Under 5 yrs.												-
	5 yrs & over.	1	1					1		2			6
Dec. 31.	Under 5 yrs								1				1
	5 yrs & over.	1			1	1	1			2			6
Total deaths from all causes	Under 5 yrs			1					1	2		1	5
	5 yrs & over.	3	1		5	3	1	3		9	1		26
Total deaths all Ages.		3	1	1	5	3	1	3	1	11	1	1	31.

DEATH RATES FROM ZYMOTIC DISEASES FOR THE PAST 10 YEARS.

DISEASES.	1889	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Small Pox										·54.
Measles.	·69			2·17		·11		1·32		·21
Scarlet Fever	·69	·11				·11	1·0	·22	·1	·1
Diphtheria.			.23					·22	·1	
Whooping Cough	·23	·23	·69		·11	·11	·1	·99	·3	
Typhoid Fever.	·34	1·84 1·73(a)	·69	·11	·45	·11(b) ·22(c)	·77	·11	·2	·21
Typhus "										
Doubtful "			·11							
Diarrhoea and Dysentery.	1·26	·57	·34	·45	1·24	·22	·55	·22	·6	·75
Zymotic Annual Death Rate.	3·21	2·7(b) 2·65	2·0	2·7	1·8	·7(d) ·6	2·4	3·0	1·41	1·8
General Death rate due to the District.	18·4	17·5	17·6	16·8	15·9	11·8	17·2	18·2	17·8	15·6

(a) Reduced to 1·73 after deducting imported case at Cottage Hospital.

(b) " 2·65 " " "

(c) " ·11 " " "

(d) " ·6 " " "

DEATHS FROM ZYMOTIC DISEASES IN EACH QUARTER OF 1898.

Quarter Ending.	March 31.	June 30.	Sept 30.	Dec 31.	Total.
7 Principal Zymotic Diseases-					
Under 5 years		1	7	2	10.
5 years and over	5		2		7.
Small-Pox-					
Under 5 years					
5 years and over	5				5.
Measles-					
Under 5 years				2	2.
5 years and over					
Scarlet Fever-					
Under 5 years		1			1.
5 years and over					
Diphtheria					
Under 5 years					
5 years and over					
Whooping Cough-					
Under 5 years					
5 years and over					
Typhoid Fever-					
Under 5 years					
5 years and over			2		2.
Typhus Fever-					
Under 5 years					
5 years and over					
Doubtful Fevers-					
Under 5 years					
5 years and over					
Diarrhoea & Dysentery-					
Under 5 years			7		7.
5 years and over					

TABLE SHOWING THE NUMBER OF BIRTHS AND DEATHS; ALSO THE BIRTH-RATE AND DEATH-RATE, AND THE DEATHS AT VARIOUS AGES DURING EACH QUARTER OF 1898.

Quarter Ending.	Births.	Birth Rate.	Total Deaths from all Causes.	Death ~~Rate~~ Rate due to the District.	Ages at which death occurred: Under 1 year.	1 year and under 5 years	5 years and under 15 years	15 years and under 25 years.	25 years and under 65 years	65 years and upwards.
March 31.	77	33·3	40	15·1	9	5	3	1	20	2
June 30.	81	35·0	29	9·0	10	1	2	3	12	1
September 30.	66	28·4	41	16·3	24	3	2	4	4	4
December 31.	79	33·9	56	22·3	23	6	0	2	15	10
Total for Year.	303	32·7	166	15·6	66	15	7	10	51	17

In the first quarter of the past year the Ormesby District suffered from an Epidemic of Small Pox commencing in February and terminating in June. The disease spread from Middlesbrough and unfortunately we were unprepared at the time to deal with it. In my report for 1897 I drew attention to the helpless condition of this District in the event of an outbreak of Small Pox occurring. Dependent as we are on the Middlesbrough Fever Hospital for the isolation of our infectious cases, and the accomodation being insufficient during an epidemic of any kind for the reception of patients from Middlesbrough itself, this District cannot rely on its cases being received by the Middlesbro' Sanitary Authority.

Shortly after the outbreak of Small Pox in Middlesbrough the accomodation for Middlesbrough Small Pox patients was exhausted and naturally our cases were refused. The Eston Sanitary Authority very generously agreed to assist us, but that help was denied us as soon as application for removal of 3 small pox cases was made, the Eston Surveyor refusing to take the patients into the Sanatorium. Steps were at once taken to cope with the emergency and so energetically was the work undertaken that in 5 days we were able to remove into Hospital the patients we then had and each case afterwards on the same day it was notified.

The following cases were certified in accordance with the Infectious Diseases Notification Act during the period under consideration.-

	Under 5 years.	5 years and over.	Total.
Scarlet Fever	8	4	12.
Typhoid Fever	-	8	8.
Erysipelas	1	5	6.
Diphtheria	-	1	1.
Small Pox	1	32	33.
Croup	1	-	1.
	11	48	59.

The June quarter was more satisfactory than the preceding one. Six cases of Small Pox were reported from 4 centres during the 3 months.

The Death rate due to the District was only 9 per thousand per annum. And one death only was returned from Zymotic Disease.

The Infectious Diseases notified were as follows.-

	Under 5 years.	5 years and over.	Total.
Scarlet Fever	6	10	16.
Typhoid Fever	-	4	4.
Small Pox	-	6	6.
	6	20	26.

During the quarter ending September 30th North Ormesby suffered from an outbreak of Typhoid Fever and Diarrhoea. The latter resulting in a high death rate for children under 1 year. 24 infants under 1 year died out of 41 deaths occurring at all ages. There were 2 deaths from Typhoid Fever and 14 cases notified, the majority of those attacked resided on the North side of the Market Place,

Return of Infectious cases certified during the quarter ending September 30th.-

	Under 5 years.	5 years and over.	Total.
Scarlet Fever	-	2	2.
Typhoid Fever	-	14.	14.
Erysipelas	-	4	4.
Croup	-	1	1.
	0.	21.	21.

In the last three months of the year Typhoid Fever was still prevalent and about the middle of December Measles appeared in North Ormesby, the number of cases of the latter disease rapidly increased, due to children attending school in the incubation period, and to neighbours and children visiting at or from infected houses. During the last fortnight of the year about 50 cases came under my notice.

The Infectious Diseases notified for the Quarter ending December 31st 1898 were.-

	Cases.	Under 5 years.	5 years & over.
Typhoid Fever	20.	1	19
Scarlet Fever	6.	-	6
Erysipelas	5.	-	5
	31	1	30

The total number of certificates received for infectious diseases during 1898 was above that for 1897. There was a diminution in the total cases of Scarlet Fever reported but cases of Typhoid Fever and Erysipelas were greatly increased and Small Pox alone resulted in the receipt of 39 notifications, due to the Epidemic which occurred in the Spring.

The total number of Infectious cases notified during 1898 is as follows.-

1897.	Disease.	Quarter Ending.				Totals.
		March 31	June 30	Sept 30	Dec. 31	
59.	Scarlet Fever	12	16	2	6	36
16	Typhoid Fever	6	4	14	20	44
8	Erysipelas	6	-	4	5	15
2	Diphtheria	1	-	-	-	1
	Membranous Croup	1	-	1	-	2
	Small Pox	33	6	0	0	39
85		59	26	21	30	137

SMALL POX.

The Epidemic of Small Pox in North Ormesby was an extension of the outbreak in Middlesbrough which is said to have had its origin in a visit paid to that town by a travelling show in November 1897, or may have been imported, it is suggested from Bilbao.

The first case in Middlesbrough was certified on November 22nd 1897,

2	additional cases on	Dec.	4th.	5	cases notified	Feby	2nd.
1	on	"	27th	8	on	"	3rd.
4	on	"	28th	18	on	"	4th.
3	on	"	30th	23	on	"	5th
31	during January 1898.			34	on	"	6th
				74	on	"	7th.

In all 1201 cases had been notified up to and including March 31st and 153 deaths had occurred, or to the end of the Epidemic 1411 cases with 202 deaths.

The accomodation provided for Small Pox patients in Middlesbrough soon became exhausted and on 19th Feby there were 174 cases outside the Hospital being nursed in their homes in the town many of whom remained at home until they recovered or died.

On Jany 22nd word was received from Dr Malcomson the Medical Officer of Health for Middlesbrough, that Small Pox patients from the Ormesby District could not be admitted into the Middlesbrough Fever Hospital, and the same day the Chairman of the Ormesby District Council, the Surveyor and myself took steps to provide accomodation for any cases arising in the Ormesby District. We fixed on a cottage called "Seldom Seen" (half way between North Ormesby and Ormesby Village) standing in a field and well away from the main road and about 1,000 yards distant from the nearest house.

A special meeting of the Council was held on January 24th and permission given to use this building for Small Pox cases.

Instructions were also given to be ready to at once provide additional accomodation if required and orders given for plans to be drawn for a small Hospital, and a nursing staff procured.

Arrangements were also made for tho immediate reception of cases into the Eston Fever Hospital.

It was thought that the cottage might do for 2 or 3 cases, but the disease increased so rapidly in Middlesbrough that it was seen enlargement of the building would have to be undertaken.

The first cases, 3 in number, occurred on February 6th and were refused admission by the Eston Sanitary Authority even after our promising to remove the cases as soon as we had accomodation for them, which I expected would be in 3 days, or I offered to afterwards take into our hospital an equivalent of Small Pox patients from Eston if required.

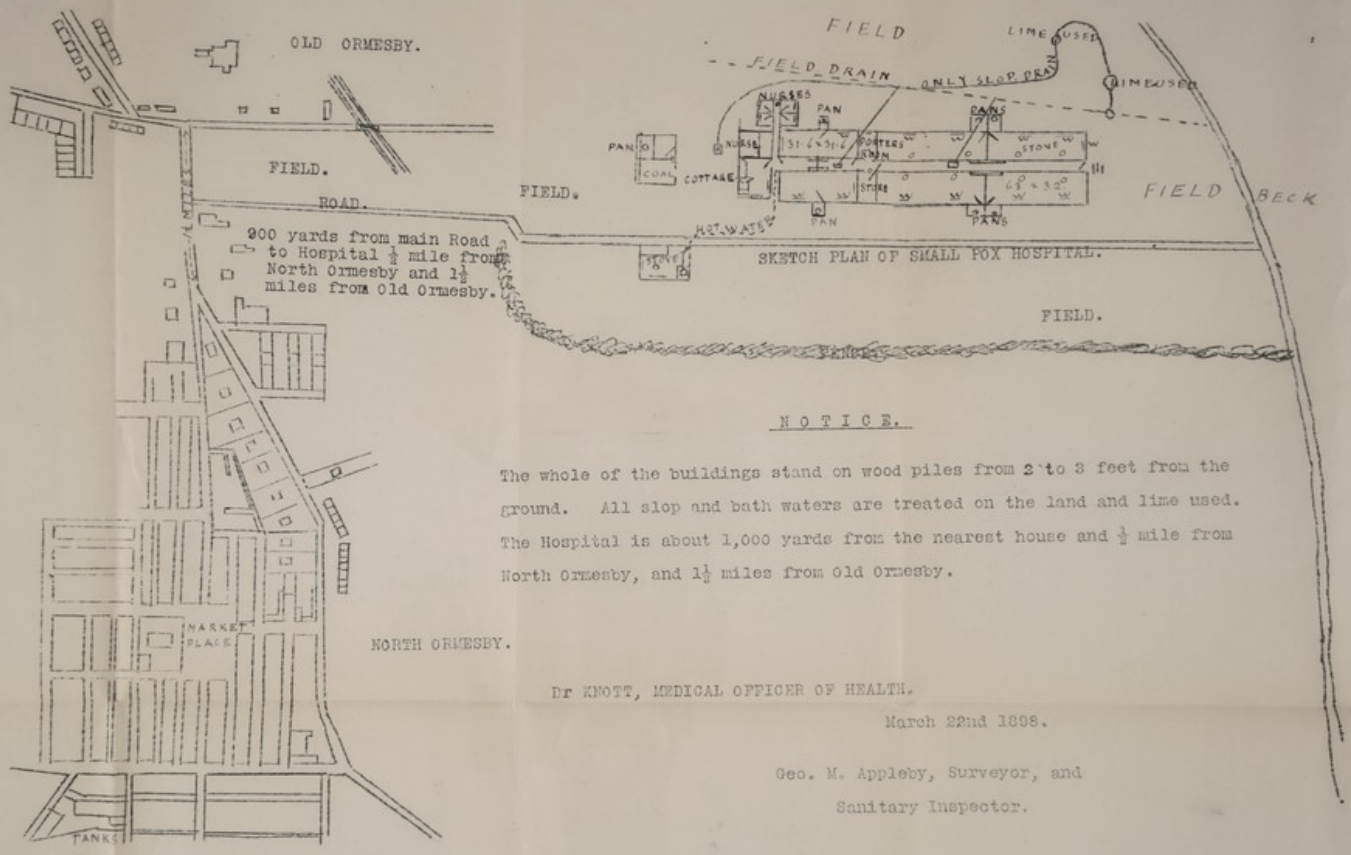
A special meeting of the Council was held on Sunday Feby 6th, and on Monday we began to carry out the erection of the first hospital buildings which was finished and the cases moved in on Thursday following. The number had by that time increased to 8.

No case I am pleased to say resulted from our having to retain the patients in their homes for the 4 days it took to prepare the hospital, so far as I can tell, and certainly none of those admitted afterwards were due to the delay in removing those first attacked.

The cases were strictly isolated and the inmates compensated for loss of wages. A watch was kept on the houses, and anything required by those within supplied by those guarding the premises.

On February 10th all the cases - 8 - were removed to "Seldom Seen", Dr Fulton Medical Officer to the Eston Sanatorium having been appointed Medical Officer in charge and since then every case was removed the same day as notified, excepting one in Louisa Street which was removed early the following morning.

The cottage was used as the administrative block and contained a kitchen, scullery, storeroom and bedroom. The shed hospital was built on piles 2 to 3 feet above the ground. A



SKETCH PLAN OF SMALL POX HOSPITAL.

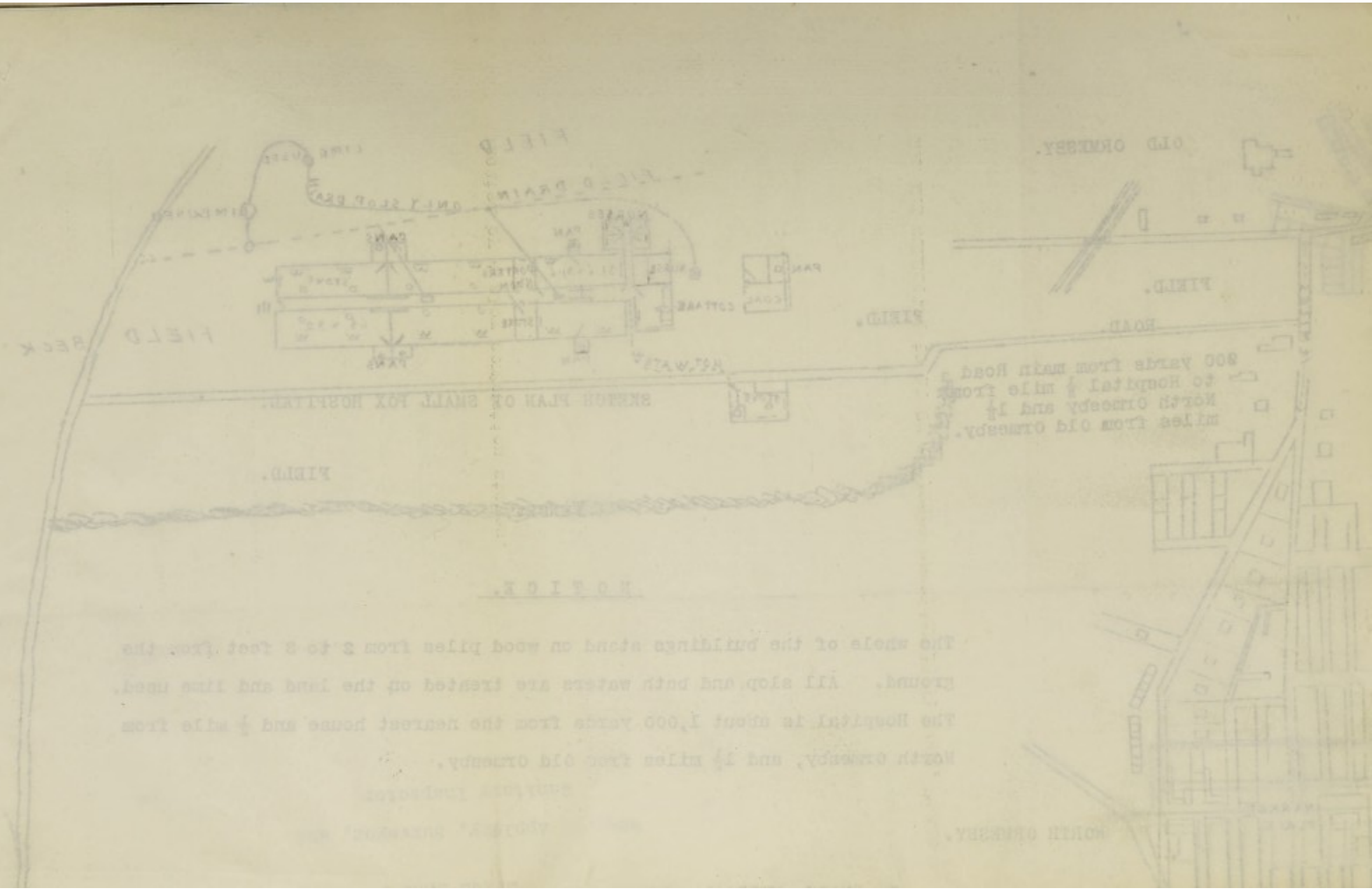
NOTICE.

The whole of the buildings stand on wood piles from 2 to 3 feet from the ground. All slop and bath waters are treated on the land and lime used. The Hospital is about 1,000 yards from the nearest house and ½ mile from North Ormesby, and 1½ miles from Old Ormesby.

Dr KNOTT, MEDICAL OFFICER OF HEALTH.

March 22nd 1898.

Geo. M. Appleby, Surveyor, and
Sanitary Inspector.


OLD ORMESBY.
FIELD.
ROAD.
900 Yards from main Road to Hospital ½ mile from North Ormesby and 1½ miles from old Ormesby.
NORTH ORMESBY.

proper drainage scheme was arranged by the Surveyor but all discharges from the patients were burnt. Provision for supplying hot water to the hospital was also made, and as the water supply to the cottage was thought of doubtful purity being derived from a spring it was ordered to be analysed and before being used to be boiled, and a supply was sent daily in a water cart from the Stockton and Middlesbrough Water Boards main in North Ormesby.

The first shed to hold 13 patients was 31 ft 6 inches long, by 31 ft 6 in. The height being 15 feet to the eaves, and 30 ft to the ridge, having a boarded floor, and divided by a central corridor 5 feet wide, so as to form 2 wards and connected to the administrative block by an open corridor. This and the whole of the wooden buildings was covered with felt outside and was heated by 4 slow combustion stoves.

Four bedrooms were also erected at the same time and connected by a short corridor to the corridor joining the cottage with the hospital. It was well lighted and ventilated and when finished was most comfortable.

After a time I saw the accomodation would prove insufficient and advised the Council to erect a second hospital. This was agreed to, and on February 14th an additional building was commenced and finished by 22nd February at which time there were 3 male and 9 female patients and a baby in the first shed.

This second hospital shed was built at the rear of the first one and connected to it by a closed corridor 12 ft long. The shed was 63 ft long, 32 ft wide, 11 ft from floor to eaves, and 22 ft from floor to ridge, divided by a central corridor 4 ft wide and each half again divided so that the shed contained 4 wards.

It was also found necessary to provide a wash house, a large copper for the supply of hot water and a new kitchen range were also fixed.

The staff consisted of Dr Fulton, Medical Officer, Mrs Carrott Matron and Head Nurse, 2 assistant nurses, Ward maid, Cook, General servnat and Porter.

From the commencement of the epidemic to March 31st 33 patients were admitted into the hospital of which 5 died. 14 were discharged cured and 14 remained under treatment.

In addition to isolation in hospital other measures were taken for checking the spread of the epidemic. Vaccination and Re-vaccination of the whole district was arranged for by the Guardians, and a great many vaccinations and re-vaccinations performed by the general practitioners in the district. Domiciliary vaccination and re-vaccination were done, and finally instructions were given to all medical men to perform vaccination and charge the Guardians for those done successfully, the Lymph being supplied by the Sanitary Authorities of the various districts. Hand bills and posters advising vaccination and re-vaccination were widely circulated, also bills giving instructions to Householders for dealing with any small pox case occurring in a house.

If a case did arise it was removed, and in some instances the beds and bed linen destroyed (compensation being given) or disinfected, Thorough disinfection of the house and contents carried out, re-vaccination of those exposed to the disease performed and a look out kept for a recurring case.

548 vaccinations and re-vaccinations were performed in North Ormesby by myself from January 1st to March 31st, including over 60 nurses, servants and patients at the cottage hospital, and 42 inmates at the Orphanage North Ormesby.

The Sanitary condition of the streets and back streets was also attended to. The removal of filth and emptying of ashpits well looked after. Disinfectants freely used and distributed in the district.

The epidemic of small pox really terminated at the end of March. After that 6 cases only were reported, and occurred at 4 centres, 3 of the patients lived at 26 Pierson Street, the other 3 at 5 Louisa Street, 74 Smeaton Street, and 28 Kings Road.

On the 31st March there were 14 patients in the Small Pox Hospital at "Seldom Seen", and 2 cases were admitted afterwards, one from 74 Smeaton Street on April 1st and one from 5 Louisa Street on April 23rd. On the 15th of May one patient only remained in the hospital, all the others having been discharged cured. This patient with the consent of your Council, and by arrangement with the Middlesbrough Sanitary Authority, was removed to the Middlesbrough Fever Hospital on May 19th, and preparations were then made for closing the building. All loose material in the hospital was destroyed by burning, the bedding washed and thoroughly disinfected, and walls, floors, and bedsteads washed with soft soap and warm water, then the wards and corridors fumigated with sulphur and afterwards all washed again with soft soap and warm water and allowed to dry, and all washed again with a solution of Perchloride of Mercury.

On the 21st of May the hospital was closed after being in use from February 10th, and having accommodated 35 patients - 30 having recovered and 5 died.

Since closing the Hospital 4 cases of Small pox arising in the District have been removed to the Middlesbrough Fever Hospital, 3 of them occurring at 26 Pierson Street, the final case being removed June 27th.

View of 1st & 2nd Hospital Buildings at "Seldom Seen."

View of Nurses' Bedrooms & "Seldom Seen" Cottage.

Interior of one of the Wards at "Seldom Seen."

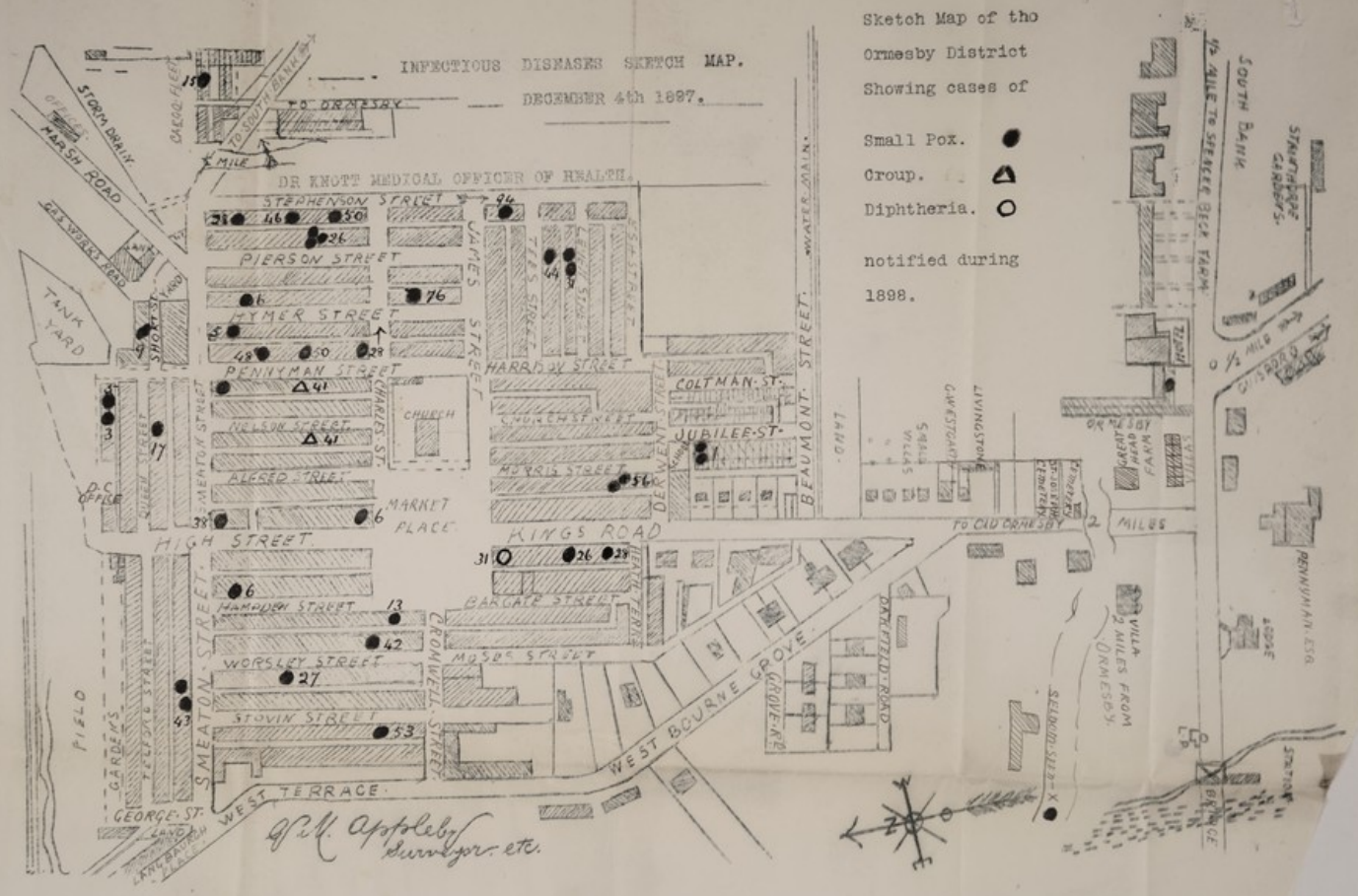

INFECTIOUS DISEASES SKETCH MAP.
DECEMBER 4th 1897.
DR KNOTT MEDICAL OFFICER OF HEALTH.
Sketch Map of the Ormesby District Showing cases of
Small Pox.
Croup.
Diphtheria.
notified during 1898.
STEPHENSON STREET
PIERSON STREET
HYMER STREET
PENNYMAN STREET
NELSON STREET
ALESED STREET
HIGH STREET
HAMPDEN STREET
WORSLEY STREET
STOVIN STREET
GEORGE ST.
WEST TERRACE
SMEATON STREET
CROMWELL STREET
JAMES STREET
CHARLES ST.
DEWENT STREET
BEAUMONT STREET
HARRISON STREET
COLTMAN ST.
JUBILEE ST.
KINGS ROAD
BARGATE STREET
MOSBY STREET
WEST BOURNE GROVE
BARKFIELD ROAD
MARKET PLACE
CHURCH
TANK YARD
MARSH ROAD
STORM DRAIN
GAS WORKS ROAD
D.C. OFFICE
FIELD
GARDENS
TO ORMESBY
TO SOUTH BANK
TO OLD ORMESBY
SOUTH BANK
WATER MAIN
LAND
MILES
VILLA 2 MILES FROM ORMESBY
PENNYMAN ESQ.
STATION
BRIDGE
W.H. Appleby Surveyor etc.

TABLE SHOWING FORTNIGHT BY FORTNIGHT THE NUMBER OF PERSONS REPORTED TO HAVE SUFFERED FROM TYPHOID FEVER IN THE ORMESBY DISTRICT.

Number of Typhoid Fever attacks reported to have occurred during fortnights ended.

NUMBER OF CASES.	Jan 14	Jan 28	Feb 11	Feb 25	Mar 11	Mar 25	Apr 8	Apr 22	May 6	May 20	June 3	June 17	July 1	July 15	July 29	Aug 12	Aug 26	Sept 9	Sept 23	Oct 7	Oct 21	Nov 4	Nov 18	Dec 2	Dec 16	Dec 30
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Totals.	-	1	1	2	1	1	-	2	-	-	-	1	1	-	-	-	2	7	4	11	6	2	1	-	-	1

Total Typhoid Fever attacks during period ending

March 31	June 30	Sept 30	Dec. 31
6	4	14	20

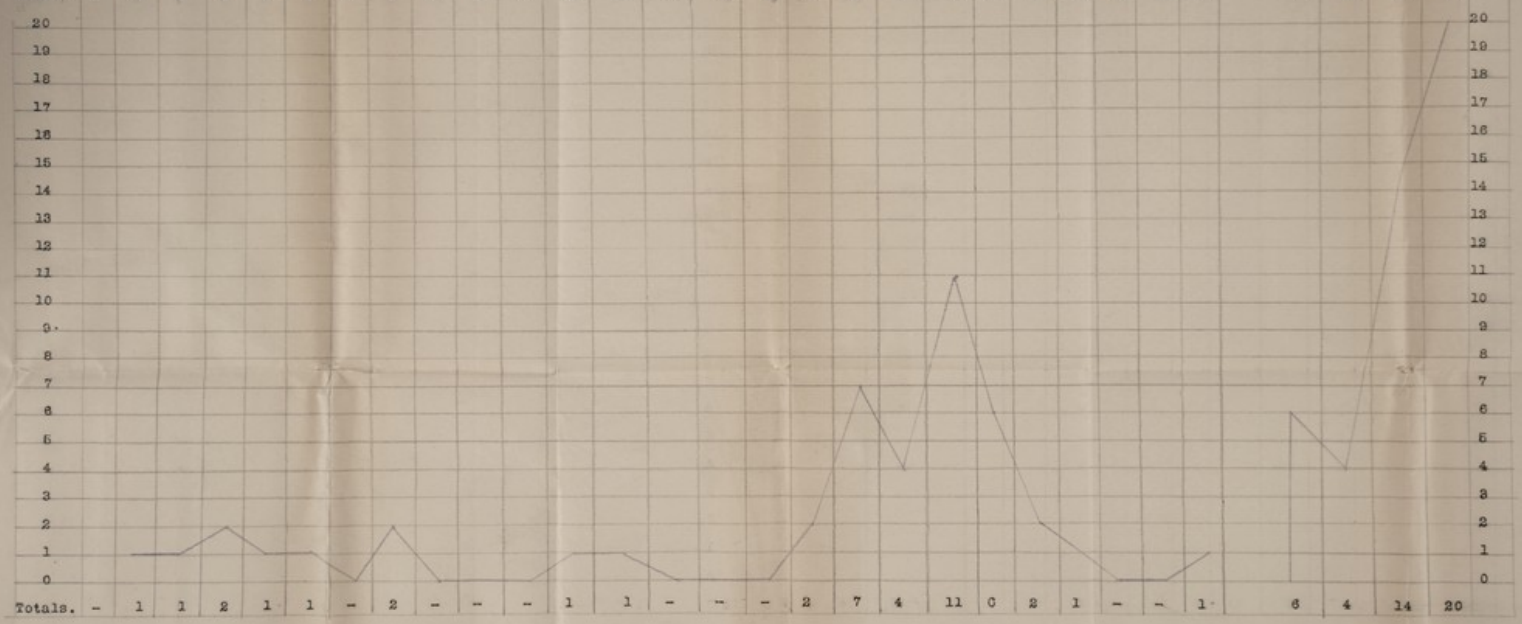


TABLE SHOWING PORT

NUMBER OF CASES.	Jan 14	Jan 28	Feb 12	Feb 26	Mar 11	Mar [illegible]
	1	2	3	4	5	6
20						
19						
18						
17						
16						
15						
14						
13						
12						
11						
10						

CHART SHOWING CASES OF SMALL POX REPORTED FROM JANUARY 1st 1896 TO THE END OF THE EPIDEMIC.

AGES.	No of cases.	From Jan 1 to Feb 5	Feb 6 to Feb 12	Feb 13 to Feb 19	Feb 20 to Feb 26	Feb 27 to Mar 5	Mar 6 to Mar 12	Mar 13 to Mar 19	Mar 20 to Mar 26	Mar 27 to Apr 2	Apr 3 to Apr 9	Apr 10 to Apr 16	Apr 17 to Apr 23	Apr 24 to Apr 30	May 1 to May 7	May 8 to May 14	May 15 to May 21	May 22 to May 28	May 29 to June 4	June 5 to June 11	June 12 to June 18	June 19 to June 25	June 26 to July 2	July 3 to July 9.
Under 5 years.								1																
5 years and over.			9	3	5	10	2	–	3	1			1				1				1	1	1	
Total.			9	3	5	10	2	1	3	1			1				1				1	1	1	

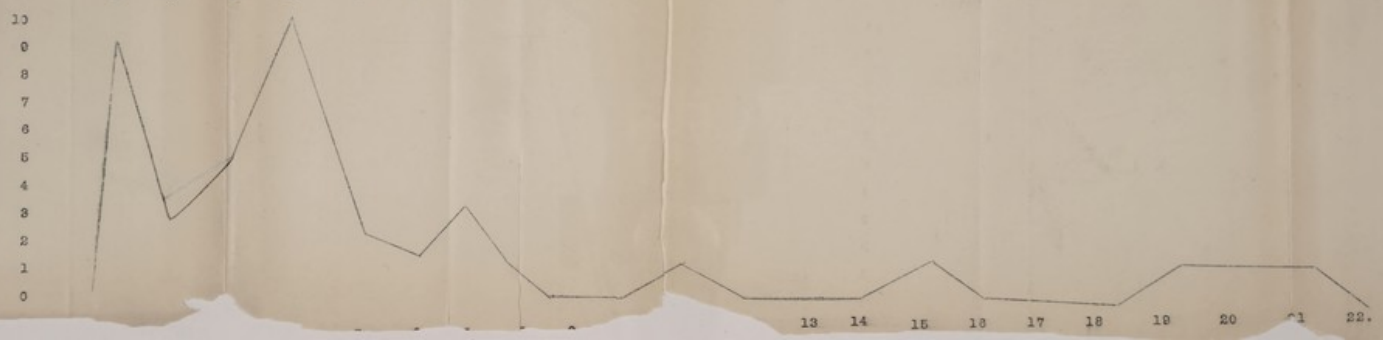
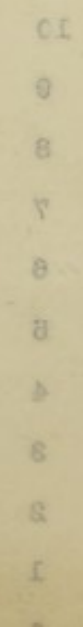


CHART SHOWING CASES OF SMALL POX REPORTED FROM

AGES.	No of cases.	From Jan 1 to Feb 5	Feb 6 to Feb 12	Feb 13 to Feb 19	Feb 20 to Feb 26	Feb 27 to Mar 5	Mar 6 to Mar 12	Mar 13 to Mar 19	Mar 20 to Mar 26	Mar 27 to Apr 2	Apr 3 to Apr 9	Apr 10 to Apr 16
Under 5 years.								1				
5 years and over.		9	3	5	10	2	–	3	1			
Total.		9	3	5	10	2	1	3	1			



LIST OF CASES OF SMALL-POX OCCURRING IN THE ORMESBY URBAN DISTRICT. QUARTER ENDING 31st MARCH 1898.

No.	Sex.	Age.	Residence.	Date of attack	VACCINATION. Vaccinated or not Vaccinated	No of marks	Quality of Marks.	When Vacc.	Adult re Vacc.	Removed to Hospital.	Result.
1.	F.	8.	43 Smeaton St	Feby 5th	No					Feby 10	Recovered Feby 26.
2.	M.	24.	6 Market Pl.	" 3.	Yes	3	Good	Infancy	No	" 10	" Mar. 25.
3.	F.	36.	38 Smeaton St.	" 4.	No.					" 10	" April 6.
4.	M.	25.	56 Morris St.	" 3.	Yes.	3	Good	do.		" 10	" Mar. 19.
5.	F.	56	31 Leven St.	" 4.	Yes	3	Bad	do	Feby 7.	" 10	" Feb. 28.
6.	F.	31.	43 Smeaton St.	" 5.	Yes.	3	Good	do	Feby 7.	" 10	" " 28.
7.	F.	17.	9 Short St.	" 8.	Yes.	None		do		" 10	" Mar 12.
8.	F.	27.	50 Steavenson	" 8.	Yes.	1.	Bad.	do.	Feby 7.	" 10	" " 5.
9.	F.	27.	28 Charles St	" 10.	Yes	3	Fair	do.		" 11	died " 8.
10.	F.	15.	20 Kings Rd.	" 10.	Yes.	3.	Good	do.		" 13	Recovered " 5.
11.	F.	53.	46 Steavenson	" 11.	No.					" 17	Died Feby 23.
12.	M.	28.	56 Morris St.	" 8.	Yes.	1	Bad.	do.	Feby 8.	" 18	Recovered Mar 12.
13.	F.	5.	1 Jubilee St.	" 18.	No.					" 21	Died. Mar 2.
14.	F.	20.	5 Hymer St.	" 24.	No.					" 24	Recovered May 14.
15.	F.	17.	28 Stevenson	" 25	Yes.	3.	Good	do.		" 25	" April 4.
16.	M.	52.	27 Worsley St.	" 25	No.					" 26.	Died Mar. 7.

VACCINATION.

No.	Sex.	Ages.	Residence.	Date of attack	Vaccinated or not Vaccinated	No of marks.	Quality of Marks.		When Vacc.	Adult re Vacc.	Removed to Hospital.	Result.	
17.	F.	23.	48 Pennyman St	Feby 25.	Yes.	3	Good		Infancy		Feby 26.	Recovered	March 26.
18.	M.	24.	50 do.	" 26.	Yes.	2.	Good		do		" 27.	"	April 4.
19.	F.	18.	15 Prospect Pl.	" 26.	Yes.	1.		Bad.	do		" 27.	"	March 26.
20.	M.	33.	76 C.F. Hymer St.	" 26.	Yes.	1.	Good		do	Feb 10.	" 27.	"	April 16.
21.	F.	19.	42 Worsley St.	" 27.	Yes.	4.	Good		do		" 28.	"	" 4.
22.	M.	21.	3 Louisa St.	" 28.	Yes.	2.	Good		do		Mar. 1.	"	March 30.
23.	M.	22.	31 Leven St.	" 28.	Yes.	3.	Good		do		" 1.	"	April 30.
24.	M.	16.	13 Market Pl.	Mar. 1.	Yes.	1.		Bad.	do		" 2.	"	" 20.
25.	M.	21.	Old Ormesby.	" 1.	Yes.	3.	Good		do		" 2.	"	" 15.
26.	M.	23.	6 Hampden St.	" 1.	Yes.	3.		Bad	do		" 3.	"	" 22.
27.	M.	31.	1 Jubilee St.	" 5.	Yes.	2.	Good		do	Feb 21.	" 5.	"	March 25.
28.	F.	9.	04 Stevenson St.	" 12.	Yes.	None.					" 12.	Died.	March 23.
29.	F.	30.	"Seldom Seen".	" 10.	Yes.	3.		Fair	do		" 12.	Recovered	April 30.
30.	F.	1.	6 Hymer St.	" 15.	No.							"	March 23.
31.	M.	19.	17 Queen St.	" 21.	Yes.	2.	Good		do		" 21.	"	April 22.
32.	F.	35.	53 Stovin St.	" 22.	Yes.	1.	Good		do		" 22.	"	" 30.
33.	F.	18.	44 Tees St.	" 23.	Yes.	3.	Good		do		" 23.	"	" 20.

VACCINATION.

No.	Sex.	Ages.	Residence.	Date of attack.	Vaccinated or not Vaccinated.	No of marks.	Quality of Marks.	When Vacc.	Adult. re Vacc.	Removed to Hospital.	Result.
34.	F.	27.	74 Smeaton St.		Yes.	4.	Good	Infancy		April 1.	Recovered May 14.
35.	M.	26.	5 Louisa St.		Yes.	3.	Good	do		"Seldom Seen" April 23.	
										Middlesbro' Sanatorium May 19.	" ~~June 1.~~ " June 1.
36.	M.	40.	28 Kings Rd.		Yes.	2.	1Good 1 Fair	do		May 21.	" " 15.
37.	M.	29.	26 Pierson St.		Yes.	2.	2 Good 2 Fair	do		June 15.	" July 8.
38.	M.	23.	"		Yes.	3.	3 Fair	June 18 3 successful		" 24.	" " 13.
39.	M.	21.	"		Yes.	3.	3 Fair	do.		" 27.	" " 11.

ANALYSIS OF CASES ADMITTED TO THE SMALL-POX HOSPITAL DURING THE QUARTER ENDING MARCH 31st 1898.

		January.	February.	March.	Total.
Vaccinated.	Under 5 years.	-	-	-	-
	5 years and over.	-	15	11	26
Not Vaccinated.	Under 5 years.	-	-	1	1
	5 years and over	-	6	-	6
Number of Vaccination marks to be seen on those said to have been vaccinated.	1	-	4	2	6
	2	-	1	3	4
	3	-	8	5	13
	4	-	1	-	1
	None.	-	1	1	2

Character of Vaccination marks.	No of marks	January Cases	Total Cases.	No of marks	February Cases	Total Cases.	No of marks	March Cases	Total Cases.	Total.
Good.	1			1	1		1	1		
	2			2	1		2	3		
	3			3	6	9	3	3	7	16
	4			4	1		4			
Fair.	1			1			1			
	2			2			2			
	3			3	1	1	3	1	1	2
	4			4			4			
Bad.	1			1	3		1	1		
	2			2	0		2			
	3			3	1	4	3	1	2	6
	4			4	0		4			
Not visible.						1			1	2

			February	March	Total.
RESULT.	Death.	Vaccinated.		2 Note A.	2
		Not Vaccinated.	1	2	3
	Cured.	Vaccinated.	2	10	12
		Not Vaccinated.	1	1	2

Note A. includes a woman of 27 years having 3 good primary Vaccination marks, and a child of 9 years said to have been vaccinated, but having no marks of Vaccination.

14 Patients remained under treatment in the Hospital at "Seldom Seen" on the 31st March.

Analysis of Cases notified and removed for isolation from March 31st to the end of the Epidemic.

		April.	May.	June.	Total.
Vaccinated.	Under 5 years				
	5 years and over.	2	1	3	6
Not Vaccinated.	Under 5 years				
	5 years and over.				
Number of Vaccination marks to be seen on those said to have been vaccinated.	1				
	2		1		1
	3	1		2	3
	4	1		1	2
	None.				

Character of Vaccination marks.	Two cases. One having 3 good marks and one having 4 good marks.	One Case having one good and one fair mark.	Three cases. Two having 3 fair marks and one having 2 good and 2 fair Marks.

RESULT. No Deaths occurred after March 31st.

ANALYSIS OF CASES ADMITTED TO THE SMALL-POX HOSPITAL DURING

QUARTER ENDING MARCH 31st 1896.

	January.	February.	March.
Vaccinated. Under 6 years.	–	–	–
Vaccinated. 6 years and over.	–	16	11
Not Vaccinated. Under 6 years.	–	–	1
Not Vaccinated. 6 years and over	–	8	–
Number of Vaccination marks to be seen on those said to have been vaccinated. 1	–	4	8
2	–	1	8
3	–	8	8
4	–	1	1
None.	–	1	2

Character of Vaccination marks.	No of marks	January Cases	No of marks	February Cases	No of marks	March Cases
Good.	1		1	4		1
	2		2	1		2
	3		3	8	2	3
	4		4	1		4
Fair.	1		1			1
	2		2			2
	3		3	1	1	3
	4		4			4
Bad.	1		1	3		1
	2		2	6		2
	3		3	1	4	3
	4		4	0		4
Not viable.					1	1

		January	February	March
Death.	Vaccinated.		2	1
	Not Vaccinated.			
Return.	Vaccinated.		12	2
	Not Vaccinated.		2	1

Note A. Includes a woman of 27 years having 3 good primary Vaccination marks said to have been vaccinated, but having no marks of Vaccination.

14 patients remained under treatment on the 31st March.

Analysis of Cases notified and removed for isolation from March 31st to June.

		April.	May.	June.
Vaccinated.	Under 6 years			
	6 years and over.	1	6	3
Not Vaccinated.	Under 6 years			
	6 years and over.			

Number of Vaccination marks 1

In the following table the figures given are for:-

Gloucester, the first 686 cases. (1895-6)

Middlesbrough, up to the end of February.

Ormesby District, to the end of the Epidemic.

AGES.	UNVACCINATED. GLOUCESTER. Total Case.	Total Deaths.	Fatality per cent.	MIDDLESBROUGH. Total Cases.	Total Deaths.	Fatality per cent.	ORMESBY. Total Cases.	Total Deaths.	Fatality per cent.	VACCINATED. GLOUCESTER. Total Cases.	Total Deaths.	Fatality per cent.	MIDDLESBROUGH. Total Cases.	Total Deaths.	Fatality per cent.	ORMESBY. Total Cases.	Total Deaths.	Fatality per cent.
0 to 5 yrs	127	70	55·1	13	6	46·1	1	0	0·0	0	0	0·0	5	1	20·0	0	0	0·0
5 to 10 "	161	58	36·0	23	9	39·1	2	1	50·0	6	0	0·0	24	0	0·0	1	1	Note A.
10 to 15 "	16	4	25·0	11	2	18·1	0	0	0·0	41	1	2·4	58	2	3·40	0	0	0·0
15 to 20 "	8	6	75·0	11	4	36·3	0	0	0·0	40	1	2·5	97	2	2·06	8	0	0·0
20 to 60 "	6	2	33·3	44	27	61·3	4	2	50·0	270	27	10·0	394	42	10·60	23	1	4·3
over 60 "	0	0	0·0	3	1	33·3	0	0	0·0	11	3	27·2	3	1	33·30	0	0	0·0
Totals.	318	140	44·0	105	49	46·6	7	3	42·8	368	32	8·7	581	48	8·20	32	2	6·2

Note A. No vaccination marks.

The figures for the Gloucester Epidemic are from Dr Coupland's report; and for Middlesbrough from Official sources as quoted in the British Medical Journal for April 9th 1898.

In the following table the figures given are for:-

Gloucester, the first 664 cases. (1888-9)

Middlesbrough, up to the end of February.

Ormesby District, to the end of the Epidemic.

Ages.	Gloucester.						Middlesbrough.						Ormesby.					
	Unvaccinated.			Vaccinated.			Unvaccinated.			Vaccinated.			Unvaccinated.			Vaccinated.		
	Fatal cases.	Rel. cases.	Mortality.	Fatal cases.	Rel. cases.	Mortality.	Fatal cases.	Rel. cases.	Mortality.	Fatal cases.	Rel. cases.	Mortality.	Fatal cases.	Rel. cases.	Mortality.	Fatal cases.	Rel. cases.	Mortality.
0 to 5 yrs	127	70	55·1	13	8	44·1	1	0	0·0	0	0	0·0	5	1	20·0	0	0	0·0
5 to 10 "	161	58	36·0	23	9	39·1	2	1	50·0	8	0	0·0	24	0	0·0	1	1	Note A.
10 to 15 "	18	4	22·0	11	2	18·1	0	0	0·0	41	1	2·4	68	2	2·40	0	0	0·0
15 to 20 "	8	6	75·0	11	4	36·3	0	0	0·0	40	1	2·5	97	2	2·06	8	0	0·0
20 to 30 "	8	2	25·0	44	27	61·2	4	2	50·0	270	27	10·0	894	43	10·00	23	1	4·3
over 30 "	0	0	0·0	8	1	12·5	0	0	0·0	12	2	27·3	3	1	33·30	0	0	0·0
Totals.	320	140	44·0	108	49	45·6	7	3	42·8	369	32	8·7	881	48	5·50	32	2	6·3

Note A. No vaccination data.

The figures for the Gloucester Epidemic are from Dr Coupland's report; and for Middlesbrough from Official returns as quoted in the British Medical Journal for April 9th, 1892.

VACCINAL POSITION OF PERSONS ATTACKED.

	UNDER 10 YEARS.				OVER 10 YEARS.			
	Unvaccinated.		Vaccinated		Unvaccinated.		Vaccinated.	
	Total.	Percent.	Total.	Percent.	Total.	Percent.	Total.	Percent.
Gloucester Epidemic.	680	34·4	26	1·3	88	4·5	1182	59·7
Middlesbrough to the end Feb.	36	5·2	29	4·2	69	10·0	552	80·4
Ormesby Epidemic.	3	7·6	1 note A.	2·5	4	10·2	31	79·4

Note A. No vaccination mark.

REMARKS. The Gloucester Epidemic was largely one of unvaccinated children.

Middlesbrough and Ormesby being well vaccinated, the adults who had more or less lost the protection afforded by Vaccination in infancy were mainly attacked.

Small Pox Death rate in Gloucester Epidemic to March 31. (830 cases 212 deaths) Per cent 24·9

Small Pox Death rate in Middlesbrough Epidemic from November 22 to March 31 (1200 cases 153 deaths) Per cent 12·7

Small Pox Death rate in Ormesby Epidemic from commencing to end (39 cases 5 deaths) per cent 12·8.

Remarks on cases admitted into the Hospital.

The protective value of Vaccination against Small pox was again proved by the results following the Epidemic in the Ormesby District 4 children only under ten years of age were admitted out of the whole population, 3 of whom had never been vaccinated, the other was said to have been, but although only 9 years of age had no marks of vaccination so that if it had been done its value was nil.

Of those who died, one was a woman of 27 years who had been vaccinated in infancy; 2 were adults who had not been vaccinated

and one the girl of 9 years, who was said to have been vaccinated but had no scars due to vaccination.

The modifying influence of Vaccination was also upheld for looking back on the severity of the cases apart from those who died, the most serious cases were two unvaccinated cases 3 and 14, both of which almost died in the first days of the disease.

Re-Vaccination. No person who had within a reasonable time been re-vaccinated before exposure to Small Pox contracted the disease. The following cases were investigated to clear up doubt as to the efficacy of re-vaccination in preventing an attack of Small Pox, each of these people having developed the disease, it was said, after being re-vaccinated.

1. The Cook at the Hospital (case 29) who reported on going to the Hospital to commence duty that she had been re-vaccinated this was found to be untrue.

2. A labourer (case 31) employed by the District Council in helping to remove cases, and sent to be re-vaccinated, who afterwards reported himself as having been done. This was also untrue.

3. A labourer (case 20) engaged from Feb. 6 in attending to the wants of those not allowed to leave houses infected with Small-Pox until the cases could be removed and the premises disinfected, employed on 10th Feb. and afterwards in helping to remove patients to hospital. Re-vaccinated Feb. 10, ill on the 22nd, rash out on the 24th and patient removed to hospital on the 27th. Re-vaccination was performed too late, had it been performed a few days earlier it would undoubtedly have prevented this patient developing Small-Pox.

4. Cases 38 and 39 were re-vaccinated after being exposed to Small-Pox for several days at 26 Pierson Street.

Origin of Cases. It was impossible to trace the source of infection in all instances, so many cases were left at their homes in Middlesbrough till they recovered or died, that the inhabitants of the Ormesby District might contract Small-Pox as a result of visiting or working in Middlesbrough, or infection could be imported into the district without it being possible to trace the origin afterwards. Some of the cases without doubt originated in Middlesbrough.

Case 2 (Feb 6) was a pawnbroker whose place of business was in Middlesbrough. He came to North Ormesby to be nursed with Small-Pox.

Case 5 was reported by a neighbour. At the time of my visit she was going about the house doing her house work and had continued to do so from the commencement of her illness. She had practically recovered from Small-Pox when removed to the Hospital.

Case 23 was a second case arising at the same house and there is good reason for believing that case 18 had its origin at this house, for the patient worked along with the son of the first patient removed from here.

Cases 7 and 11 nursed case 8 during her confinement, all three were removed with Small-Pox. The origin of this group was probably a lodger in the house of case 8, who was off work ill for 4 days during the second week in January.

No Doctor attended him and he had a papular rash out on the face.

Case 12 was derived from case 4 both occurring in the same house.

The same applied to Cases 13 and 27.

Cases 1 and 6 were concurrent.

Case 14 was believed to have been contracted at Middlesbrough.

Case 15 came home ill with Small-Pox from Middlesbrough.

Case 16 was a Debt Collector attending the Middlesbrough County Court and chiefly employed in Collecting Debts from houses in Middlesbrough.

Cases 17 and 18 were from adjoining houses.

Case 19 was a girl in service in Middlesbrough who came home ill.

Cases 20 and 31 were men employed by the District Council in removing cases of Small-Pox and mentioned previously under heading of Re-Vaccination.

Case 21 was a sister of case 17 and I have no doubt there was a connection between these cases. Visiting went on between these two houses during the whole of the incubation period.

Case 22 was believed to have had its origin in Middlesbrough.

Case 23 was a second one from 31 Leven Street.

Case 24 a butcher employed in the Middlesbrough Market.

Case 25 had business which took him a good deal into Middlesbrough.

Case 27 was a second case at 1 Jubilee Street.

Case 29 a cook at the Hospital, see note on re-vaccination.

Case 30 the mother of this child had a fortnight before gone as a Charwoman to a house in Middlesbrough where there was a case of Small-Pox being nursed at home.

Allowing for the incubation period and the fact of the woman not having been exposed elsewhere to infection, so far as I could tell, the origin appeared to be due to the mother working at the infected house in Middlesbrough.

Case 33 was a Ward maid from the Small-Pox Hospital, Middlesbrough; who after taking a situation there, ran away and took charge of a woman recently confined in North Ormesby and slept with the lying in woman.

The above facts will show how exposed this district really was to Small-Pox from Middlesbrough.

North Ormesby is a continuation of Middlesbrough; so built that had it not been for the most active and decisive measures taken for dealing with every case as it arose, and the united action of the District Council and those officially responsible for the health of the District, the spread of Small-Pox in North Ormesby would have been rapid and almost unlimited. The epidemic was well kept in hand from the commencement but the work was difficult and often disheartening. The Guardians of Middlesbrough also did their very utmost to have everyone vaccinated or re-vaccinated. The deaths were equal to 1 in about 2000 of the population for Ormesby against 1 in 445 for Middlesbrough. Estimating their population at 90,000 and ours at 10,000 we should have had 156 cases, calculated at the same rate as in Middlesbrough, with 22 deaths, against 39 cases and only 5 deaths, as actually occurred ~~on~~ or a saving of 117 cases, with 17 deaths prevented.

The results obtained more than compensate for the increased rates due to necessarily increased expenditure, and it should be remembered that the limiting of this epidemic has certainly

saved much sickness, many lives and much sorrow, and the amount expended for such ends is money well and wisely spent.

The three following tables are taken from a paper read by the Medical Officer of Health for Middlesbrough Dr Dingle before the Northern Branch of the Incorporated Society of Medical Officers of Health at Newcastle-on-Tyne October 1898, and published in "Public Health" December 1898.

They give the particulars of the whole of the cases occurring in Middlesbrough during the Epidemic.

MIDDLESBROUGH EPIDEMIC.

TABLE A.

AGE PERIOD.	Total Attack	AMONG VACCINATED. Persons attacked	Died	Fatality per cent of attacks.	AMONG UNVACCINATED. Persons attacked	Died	Fatality per cent of attacks.
Under 1 year.	10	3	0	0·0	7	5	71·4
1 to 5 years.	25	7	0	0·0	18	8	44·4
5 to 10 "	72	35	0	0·0	37	16	43·5
10 to 15 "	141	120	2	1·6	21	4	19·0
15 to 25 "	477	435	22	5·0	42	16	37·2
25 to 60 "	679	607	81	13·1	72	45	62·5
60 and over.	7	6	3	50·0	1	0	0·0
All ages.	1411	1213	108	8·8	198	94	47·4

TABLE B.

Comparison of Fatalities among Children under 10 years of age.

From the Final Report of the Royal Commission on Vaccination.

Epidemic at.-	VACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.	UNVACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.
Sheffield.	353	6	1·7	228	100	43·9
London.	130	6	4·6	228	61	26·7
Dewsbury.	45	1	2·2	174	56	32·1
Warrington.	33	2	6·0	32	12	37·5
Leicester.	2	0	0·0	107	15	14·0
Gloucester.	26	1	3·8	680	279	41·0
Middlesbrough.	45	0	0·0	62	29	46·7

MIDDLESBROUGH EPIDEMIC.

TABLE A.

AGE PERIOD.	AMONG VACCINATED.				AMONG UNVACCINATED.			
	Total Attacks.	Persons attacked.	Died.	Fatality per cent of attacks.	Total Attacks.	Persons attacked.	Died.	Fatality per cent of attacks.
Under 1 year.	10	3	0	0·0	7	[illegible]	[illegible]	[illegible]
1 to 5 years.	38	7	0	0·0	18	[illegible]	[illegible]	[illegible]
5 to 10 "	72	55	0	0·0	37	[illegible]	[illegible]	[illegible]
10 to 15 "	141	130	2	1·6	21	[illegible]	[illegible]	[illegible]
15 to 20 "	477	438	22	5·0	42	[illegible]	[illegible]	[illegible]
20 to 60 "	670	607	81	13·1	72	[illegible]	[illegible]	[illegible]
60 and over.	7	6	3	50·0	1	[illegible]	[illegible]	[illegible]
All ages.	1411	1216	108	8·5	198	[illegible]	[illegible]	[illegible]

TABLE B.

Comparison of Fatalities among Children under 15 y[illegible]

From the Final Report of the Royal Commission on [illegible]

Epidemic at:-	VACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.	UNVACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.
Sheffield.	363	6	1·7	228	[illegible]	[illegible]
London.	180	6	3·3	238	[illegible]	[illegible]
Dewsbury.	46	1	2·2	474	[illegible]	[illegible]
Tarrington.	33	2	6·0	82	[illegible]	[illegible]
Leicester.	2	0	0·0	167	[illegible]	[illegible]
Gloucester.	28	1	3·6	880	[illegible]	[illegible]
Middlesbrough.	46	0	0·0	82	[illegible]	[illegible]

MIDDLESBROUGH EPIDEMIC.

TABLE A.

AGE PERIOD.	Total Attack	AMONG VACCINATED. Persons attacked	Died	Fatality per cent of attacks.	AMONG UNVACCINATED. Persons attacked	Died	Fatality per cent of attacks.
Under 1 year.	10	3	0	0·0	7	5	71·4
1 to 5 years.	25	7	0	0·0	18	8	44·4
5 to 10 "	72	35	0	0·0	37	16	43·5
10 to 15 "	141	120	2	1·6	21	4	19·0
15 to 25 "	477	435	22	5·0	42	16	37·2
25 to 60 "	679	607	81	13·1	72	45	62·5
60 and over.	7	6	3	50·0	1	0	0·0
All ages.	1411	1213	108	8·8	198	94	47·4

TABLE B.

Comparison of Fatalities among Children under 10 years of age.

From the Final Report of the Royal Commission on Vaccination.

Epidemic at.-	VACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.	UNVACCINATED. Attacks.	Deaths.	Fatality per cent of attacks.
Sheffield.	353	6	1·7	228	100	43·9
London.	130	6	4·6	228	61	26·7
Dewsbury.	45	1	2·2	174	56	32·1
Warrington.	33	2	6·0	32	12	37·5
Leicester.	2	0	0·0	107	15	14·0
Gloucester.	26	1	3·8	680	279	41·0
Middlesbrough.	45	0	0·0	62	29	46·7

TABLE C.

Analysis of Marks and Quality of Vaccination of 1,2

Vaccinated persons attended.

AGE PERIOD.	1 mark. Good.	1 mark. Bad.	2 marks Good.	2 marks Bad.	3 marks Good.	3 marks Bad.	4 marks Good.
Under 1 year.	1	-	-	-	1	-	1
1 and under 5 years.	-	1	3	-	-	-	3
5 " " 14 "	7	1	10	-	4	1	12
10 " " 15 "	13	1	28	8	24	6	83
15 " " 25 "	48	6	108	18	88	9	182
25 " " 60 "	88	17	208	68	101	19	724
60 years and over	1	-	3	1	1	-	6
Totals:	158	25	358	95	197	34	270
Grand totals.	183.		454.		231.		1318.

The total cost of this Epidemic to Middlesbrough was over £20,000, following are some of the principal items: Buying and erecting iron During and erecting wooden ditto. £6,120: Plumbing and fitting £1,1 £3,088: Provisions £1,408: Lymph, Drugs, and disinfectants £2,000 of the larger items: There were a hundred and one other expenses due

The cost of the Cressy Epidemic was £1,177. The larger items

Buildings	402.
Plumbing and Fitting	64.
Furnishing	160.
Provisions	102.
Lymph, Drugs, and Disinfectants.	68.
Wages.	188.
Compensation for bedding, clothing, &c. destroyed.	82.

TYPHOID FEVER.

Six cases of Typhoid Fever were notified in the first three months of the year, and 4 in the second quarter. From the 30th of June to August 15th no case occurred but 33 were reported from that date to November 15th and a total of 44 for the year. Some of the cases have arisen where nuisances were found to exist, as for example at 19 King's Road, 77 Telford Street, Toll Bar Cottages, Cargo Fleet, and 63 Hampden Street, but in many instances it was impossible to state the probable cause.

Diarrhoea and Typhoid Fever were both very prevalent in August and September and there appeared to be a common cause for these diseases.

The conditions generally held to assist in the spread of Typhoid Fever are:-

Milk Supplies.
Water Supply.
Sewage.
Excrement disposal.

MILK SUPPLIES:- It does not appear to me that the outbreak of Enteric Fever in the Ormesby District can be connected in any way with Milk.

The WATER SUPPLY for North Ormesby is derived from the works of the Stockton & Middlesbrough Water Board. For Cargo Fleet and Ormesby the supply is from wells and a reservoir, near to Ormesby Bank, belonging to Miss Brown.

There was no case of Typhoid Fever at Ormesby Village, and 2 only at Cargo Fleet, viz.- Toll Bar Cottages, the water supply for these being obtained from the Stockton & Middlesbrough Water Board, but the Cottages were in such a dilapidated and insanitary condition as to be certified unfit for habitation.

The present outbreak of Typhoid Fever occurred under opposite conditions to the epidemic of 1890 and 1891, which it will be remembered affected the districts supplied with water obtained from the works of the Stockton and Middlesbrough Water Board.

Then, immediately antecedent to the epidemic outbursts, sudden floods occurred, but the present outbreak was preceded by long continued hot and dry weather and only after heavy rainfalls was there a diminution in the number of cases notified.

North Ormesby itself is fairly well built. The streets which are at right angles to one another are of good width, there is little or no crowding of houses together, there are no back to back houses and there is a free circulation of air at the rear of the houses. The back streets are paved with Scoriae bricks and the main streets macadamised.

EXCREMENT & REFUSE DISPOSAL:- Midden privies are general throughout the district, but many have been converted into pan closets during late years and others have had the floor of the midden raised above the surface level. At North Ormesby the middens are emptied about every three weeks and the night soil removed in open carts about 2 miles away and used for agricultural purposes. At Ormesby the scavenging is done by the tenants.

Water closets are in use in some of the houses in North Ormesby but there is usually a midden privy in addition. In North Ormesby, Ormesby, and Cargo Fleet, the total number of water closets is about 25, Pan closets 487, Middens 812. These midden privies are in double rows behind the parallel rows of dwelling houses and only a few feet from the kitchen door or window. The brickwork is only 4½" in thickness and there is often soakage into the yards which in many instances are still badly paved although a number of the worst have been repaved with scoriae bricks or cemented. That they are a nuisance is an established fact. The ground below them is saturated with filth the smell from which is so horrible that doors and windows must often be kept closed.

The empting of them is a sourde of danger from the throwing of the liquid filth on the surface of the back streets, and it is also impossible to cleanse the bottom and sides of such middens.

SEWAGE & DRAINAGE:- North Ormesby is sewered with stoneware

pipes discharging into a tidal beck flowing into the Tees.

The sewers pass down the back streets and are provided with manholes having catch pits and are ventilated. Very few of the houses have now slop sinks connected with the yard gully the rule being to carry the waste pipe outside to discharge over a trapped gully grating in the yard.

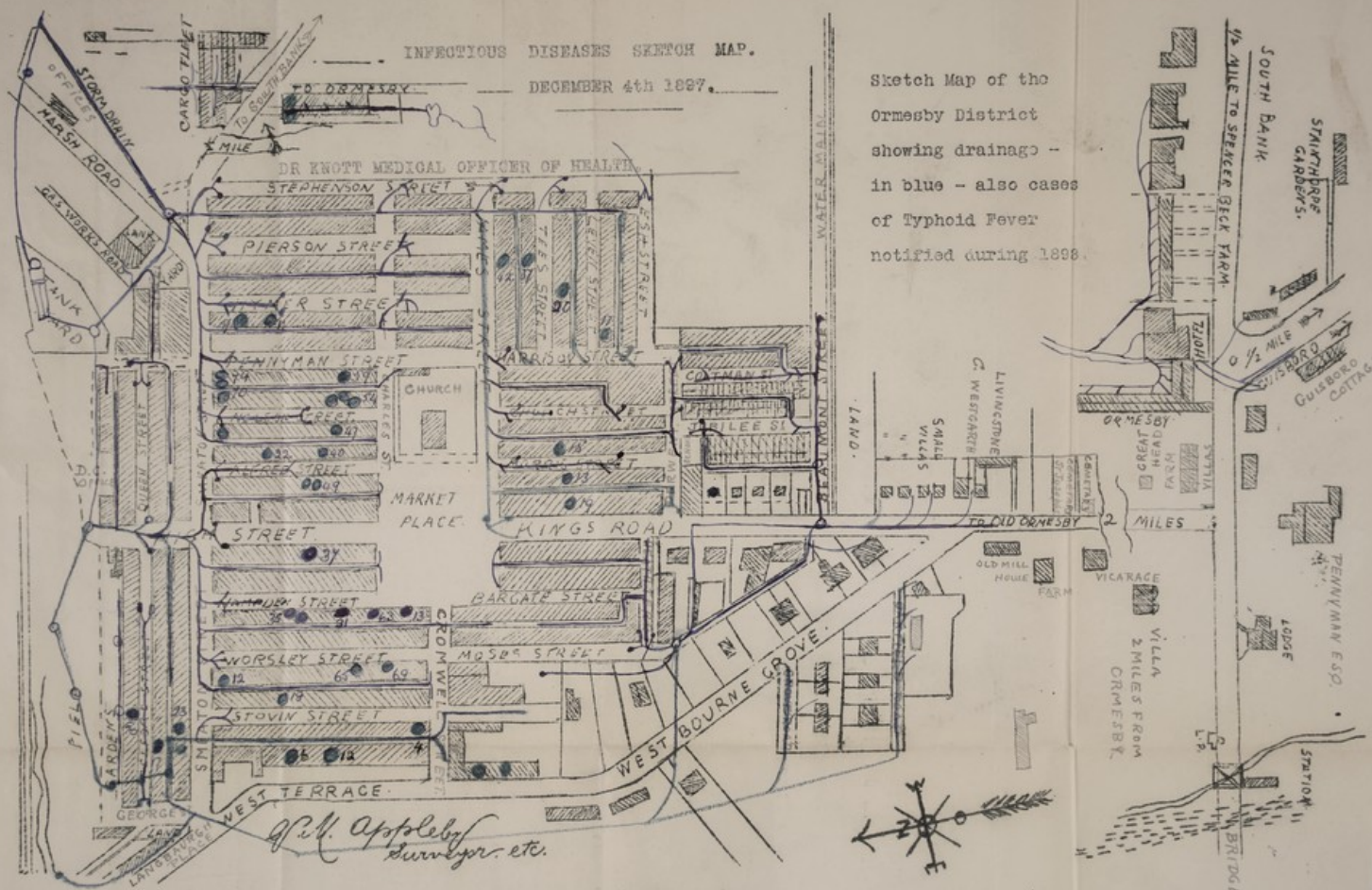
Ormesby village is drained by a highway stream having its outfall into a water course.

The Drainage of the district will be found marked on the Typhoid Fever Sketch Map.

MEASURES TAKEN IN DEALING WITH THE PREVALENCE OF TYPHOID FEVER.

As a precaution it was recommended by hand bills that all water should be boiled before being drunk and all milk treated in the same way before being used. Careful attention was paid to the removal of filth accumulations.

All manholes, street and yard gullies were cleaned out, sewers flushed and sewage tanks cleaned. The Street gullies after being cleaned out had disinfectants put into them and the streets were watered with a disinfectant, the middens emptied and well sprinkled with hot lime and where Typhoid Fever was known to exist disinfectants were given and pans supplied for collecting the discharges from the patient and removed each day, or second day for the contents to be burnt with tar and paraffin. The majority of the cases were nursed at home by relatives, the District Nursing Association supplying a District ~~Nruse~~ Nurse who as a rule visited each case twice a day.


INFECTIOUS DISEASES SKETCH MAP.
DECEMBER 4th 1897.
Sketch Map of the Ormesby District showing drainage -- in blue -- also cases of Typhoid Fever notified during 1898.
DR KNOTT MEDICAL OFFICER OF HEALTH.
TO DRAMSBY
TO SOUTH BANK
CARGO FLEET
STORM DRAIN
OFFICES
MARSH ROAD
GAS WORKS ROAD
TANK
YARD
STEPHENSON STREET
PIERSON STREET
PENNYMAN STREET
CHURCH
MARKET PLACE
KINGS ROAD
STREET
WORSLEY STREET
STOVIN STREET
WEST TERRACE
BARGATE STREET
MOSS STREET
WEST BOURNE GROVE
WATER MAIN
LAND
OLD MARKET
LILEE ST
SMALL VILLAS
LIVINGSTONE ST
WESTGARTH
TO OLD ORMESBY
2 MILES
OLD MILL HOUSE
FARM
VICARAGE
VILLA 2 MILES FROM ORMESBY
ORMESBY
GREAT HEAD FARM
VILLAS
SOUTH BANK
1½ MILE TO SPENCER BECK FARM
STAINTHORPE GARDENS
GUISBORO
GUISBORO COTTAGES
PENNYMAN ESQ.
LODGE
STATION
BRIDGE
GEORGE
LANE
LANGBURGH
PIER
W. M. Appleby
Surveyor etc.

Sketch Map of the
Orrmsby District
showing drainage -
in blue - also cases
of typhoid fever
notified during 1897

MEASLES. Less than a dozen cases were brought under my notice until the middle of December when there was a smart outbreak in North Ormesby and about 50 cases were known to have occurred in the last fortnight of December.

CHICKEN-POX was almost absent.

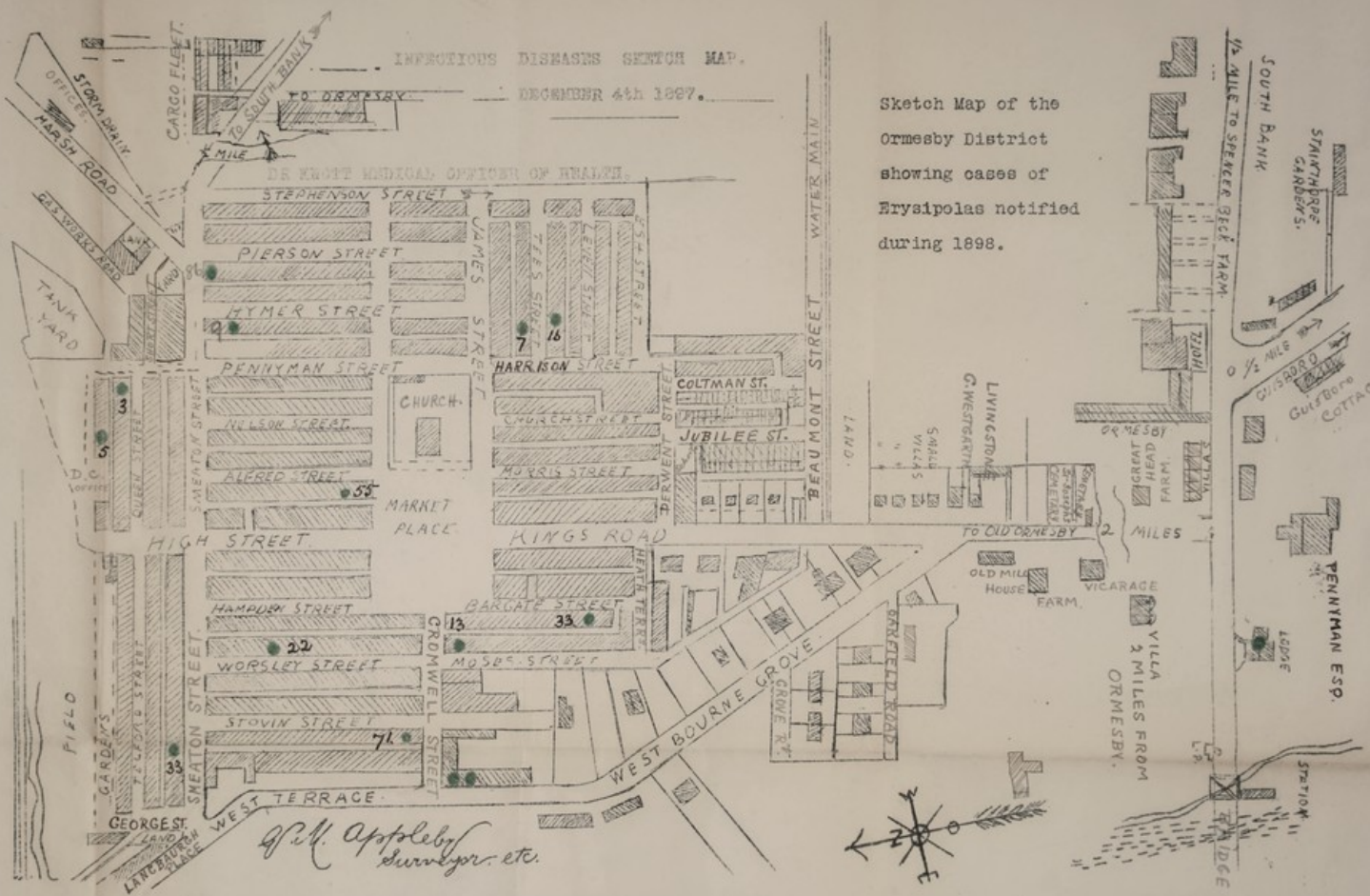
WHOOPING COUGH was limited to a very small number of cases.

MEMBRANOUS CROUP & DIPHTHERIA. One case of each was reported in the March Quarter and one of Croup in the 3rd quarter. During the year 3 deaths occurred from Croup one being due to Spasmodic Croup, but no deaths resulted from Diphtheria.

DIARRHOEA was very prevalent during August and September. The greatest number of cases occurring on Sunday the 14th of August. This and Saturday August 13th were unusually hot days followed by a long period of hot, dry weather, during the whole of that time Diarrhoea continued as a common ailment amongst the inhabitants. The mortality of Infants for the September Quarter was excessive - 24 deaths under 1 year out of a total of 41 at all ages - due to Diarrhoea and allied diseases, viz.- diseases of the Digestive System and Marasmus following the same. Probably Infantile Diarrhoea was greatly the result of changes arising in milk foods as a consequence of the excessively hot weather. Hand bills were distributed ~~about~~ throughout the district advising that water and milk be boiled before drinking either.

SCARLET FEVER. In my report for 1897 I referred to the existence of Scarlet Fever in North Ormesby during the whole of that year, the largest number of cases being notified in the December quarter. There was a continuance of the disease during the first 6 months of the past year. 12 cases being notified in the 1st and 16 in the 2nd quarter of 1898 but 2 only in the September quarter and 6 in the last 3 months of the year. One death only occurred during 1898.


Infectious Diseases Sketch Map.
December 4th 1897.
Dr Knott Medical Officer of Health.
Sketch Map of the Ormesby District showing cases of Scarlet Fever notified during 1898.
STEPHENSON STREET
PIERSON STREET
HYMER STREET
PENNYMAN STREET
ALFRED STREET
HIGH STREET
HAMPDEN STREET
WORSLEY STREET
STOVIN STREET
WEST TERRACE
SMEATON STREET
JAMES STREET
MARKET PLACE
CHURCH
HARRISON STREET
CHURCH STREET
MORRIS STREET
KINGS ROAD
BARGATE STREET
MOSER STREET
CROMWELL STREET
DERWENT STREET
COLTMAN ST.
JUBILEE ST.
BEAUMONT STREET
WATER MAIN
WEST BOURNE GROVE
BARFIELD ROAD
TO ORMESBY
TO SOUTH BANK
CARGO FLEET
STORM DRAIN
MARSH ROAD
TANK YARD
FIELD
GARDENS
GEORGE ST
LANDRAVEN PLACE
SOUTH BANK
STAINTHORPE GARDENS
½ MILE TO STEELER BECK FARM
HOTEL
ORMESBY GREEN FARM
VILLAS
TO OLD ORMESBY
2 MILES
OLD MILL HOUSE
FARM
VICARAGE
VILLA ½ MILES FROM ORMESBY
PENNYMAN ESQ.
LODGE
STATION
BRIDGE
G.W. Appleby Surveyor etc.


INFECTIOUS DISEASES SKETCH MAP.
DECEMBER 4th 1897.
DR KNOTT MEDICAL OFFICER OF HEALTH.
Sketch Map of the Ormesby District showing cases of Erysipelas notified during 1898.
STEPHENSON STREET
PIERSON STREET
HYMER STREET
PENNYMAN STREET
WILSON STREET
ALFRED STREET
HIGH STREET
HAMPDEN STREET
WORSLEY STREET
STOVIN STREET
WEST TERRACE
GEORGE ST.
SMEATON STREET
CROMWELL STREET
JAMES STREET
HARRISON STREET
CHURCH STREET
MORRIS STREET
MARKET PLACE
CHURCH
KINGS ROAD
BARGATE STREET
MOSES STREET
COLTMAN ST.
JUBILEE ST.
BEAUMONT STREET
WATER MAIN
WEST BOURNE GROVE
BARGATE ROAD
TO OLD ORMESBY
2 MILES
OLD MILL HOUSE
FARM
VICARAGE
VILLA 2 MILES FROM ORMESBY.
GREAT HEAD FARM
ORMESBY
SOUTH BANK
STAINTHORPE GARDENS.
½ MILE TO SPENCER BECK FARM
TOWN
GISBORO
GUISBORO COTTAGES.
PENNYMAN ESP.
LODGE
STATION
BRIDGE
TO SOUTH BANK
TO ORMESBY
STORM DRAIN
OFFICE
HARSH ROAD
GAS WORKS ROAD
TANK YARD
CARGO FLEET
FIELD
GARDENS
LANCASTER PLACE
LAND
D.C.
QUEEN STREET
SMEATON STREET
LIVINGSTONE
G. WESTGARTH
SMALL VILLAS
W. M. Appleby
Surveyor etc.

REPORT OF ALL INFECTIOUS CASES NOTIFIED DURING THE YEAR 1898.

DATE.	ADDRESS.	DISEASE.	REMARKS.
Jany 3/98.	6 Westbourne Grove.	Scarlet F.	2nd case see Dec 31/97.
11.	Cottage Hospital.	" "	Admitted Jany 9th with Scalds from 44 Gurney St, Middlesbro' Removed to Middlesbro' Fever Hospital January 12th.
22.	do.	" "	Removed to Worsley House.
25.	33 Bargate St.	Erysipelas.	No Sanitary defects.
26.	15 Morris St.	Scarlet F.	Origin unknown, objectionable gully in yard.
26.	7 Tees St.	Erysipelas.	After burns with Carbolic Acid. Disused scullery sink waste pipe passing under scullery floor, offensive gully in yard.
26.	5 Louisa St.	"	Sanitary condition of house good.
28.	16 Tees St.	"	No Sanitary defects.
28.	49 Alfred St.	Typhoid F.	Deep Ashpit, cause of Fever unknown, 2nd case April 9.
Feby 4/98.	37 High St.	" "	Imported from Middlesbrough no defects.
6.	43 Smeaton St.	Small-Pox.	Case 1. S. P.
6.	6 Market Pl.	"	Case 2. S.P.
6.	38 Smeaton St.	"	Case 3. S. P.
7.	56 Morris St.	"	Case 4. S. P.
8.	13 Cromwell St.	Erysipelas.	
9.	31 Leven St.	Small-Pox	Case 5. S. P.
10.	43 Smeaton St.	"	Case 6. S. P.
10.	9 Short St.	"	Case 7. S. P.
10.	50 Stevenson St.	"	Case 8. S. P.
11.	28 Charles St.	"	Case 9. S. P.
11.	6 Harrison St.	Scarlet F.	Source of disease could not be ascertained. Scullery sink waste pipe not trapped and discharging directly into yard gully.
13.	26 Kings Road.	Small-Pox	Case 10. S. P.
14.	77 Telford St.	Typhoid F.	Offensive gully in yard.

DATE.	ADDRESS.	DISEASE.	REMARKS.
Feby 17/98.	46 Stevenson St.	Small-Pox.	Case 11. S. P.
18.	56 Morris St.	"	Case 12. S. P.
18.	"Worsley Arms."	Typhoid F.	Sanitary condition of premises fairly good.
21.	1 Jubilee St.	Small-Pox.	Case 13. S. P.
24.	5 Hymer St.	"	Case 14. S. P.
25.	28 Stevenson St.	"	Case 15. S. P.
26.	27 Worsley St.	"	Case 16. S. P.
26.	48 Pennyman St.	"	Case 17. S. P.
26.	19 Kings Road.	Typhoid F	Scullery sink waste pipe not trapped and appears to discharge into house drain which was stopped. Offensive urinal in corner of yard.
27.	50 Pennyman St.	Small-Pox.	Case 18. S. P.
27.	15 Prospect Pl. Cargo Fleet.	"	Case 19. S. P.
27.	76 Hymer St.	"	Case 20. S. P.
28.	42 Worsley St.	"	Case 21. S. P.
28.	3 Louisa St.	"	Case 22. S. P.
28.	38 Bargate St.	Scarlet F.	Cause unknown. Deep ash-pit March 5th, 2nd case.
Mar 1/98.	31 Leven St.	Small-Pox.	Case 23. S. P.
2.	13 Market Pl.	"	Case 24. S. P.
2.	"Sundial" Ormesby.	"	Case 25. S. P.
3.	6 Hampden St.	"	Case 26. S. P.
5.	1 Jubilee St.	"	Case 27. S. P.
5.	38, Bargate St.	Scarlet F.	2nd Case. See Feb 28th.
8.	6 Heath Ter.	"	Cause unknown. No Sanitary defects. A 2nd case March 22nd.
8.	33 Smeaton St.	Erysipelas.	No Sanitary defects.
12.	94 Stevenson St.	Small-Pox.	Case 28. S. P.
12.	"Seldom Seen"	"	Case 29. S. P.
14.	11 Prospect Pl.	Scarlet F.	No Sanitary defects. Origin of Fever unknown.
15.	6 Hymer St.	Small-Pox.	Case 30. S. P.
16.	41 Pennyman St.	Croup.	No Sanitary defects. Death.
18.	41 Leven St.	Scarlet F.	do. cause unknown.

[illegible]	46 Stevenson St.	Small-Pox.	Case 11.	S. F.
14.	59 Morris St.	"	Case 12.	M. F.
15.	"Forsley Arms."	Typhoid F.	Sanitary condition of premises fairly good.	
21.	1 Jackson St.	Small-Pox.	Case 13.	S. F.
24.	5 Hymer St.	"	Case 14.	S. F.
25.	28 Stevenson St.	"	Case 15.	S. F.
26.	27 Conway St.	"	Case 16.	S. F.
26.	46 Pennsylvania St.	"	Case 17.	S. F.
26.	19 Kings Road.	Typhoid F.	Sanitary sink waste pipe not trapped and opening in dwelling into house drain which was stopped. Defective drains in course of work.	
27.	50 Pennsylvania St.	Small-Pox.	Case 18.	S. F.
27.	15 Freeport Pl. Gaslo Flats.	"	Case 19.	S. F.
27.	76 Hymer St.	"	Case 20.	S. F.
28.	13 Forsyth St.	"	Case 21.	S. F.
28.	8 Lorian St.	"	Case 22.	S. F.
28.	24 Delgate St.	Scarlet F.	Cause unknown. Town sewer-gas. Church sth. Foul odor.	
1/28.	31 Lever St.	Small-Pox.	Case 23.	S. F.
2.	15 Market Pl.	"	Case 24.	S. F.
2.	"Capital" Grocery.	"	Case 25.	S. F.
3.	6 Hampton St.	"	Case 26.	S. F.
5.	1 Jackson St.	"	Case 27.	S. F.
5.	32 Delgate St.	Scarlet F.	Foul drains. Gas from drain.	
6.	6 Mason Ter.	"	Cause unknown. No Sanitary defects & foul odor inside room.	
8.	22 Hamilton St.	Erysipelas.	No Sanitary defects.	
12.	91 Stevenson St.	Small-Pox.	Case 28.	S. F.
12.	"Raines Room"	"	Case 29.	S. F.
14.	11 Freeport Pl.	Scarlet F.	No Sanitary defects. Origin of fever unknown.	
15.	6 Hymer St.	Small-Pox.	Case 30.	S. F.
15.	41 Pennsylvania St.	Strong.	No Sanitary defects. Death.	
15.	41 Lever St.	Scarlet F.	40.	Cause unknown.

DATE.	ADDRESS.	DISEASE.	REMARKS.
Mar 20/98.	53 Stoven St.	Small-Pox.	Case 32. S. P.
21.	17 Queen St.	"	Case 31. S. P.
22.	6 Heath Ter.	Scarlet F.	2nd case see March 8th.
23.	18 Morris St.	Typhoid F.	No Sanitary defects.
24.	31 Market Pl.	Diphtheria.	do.
24.	23 Harrison St.	Scarlet F.	do. origin unknown.
25.	44 Tees St.	Small-Pox.	Case 33. S. P.
Apr. 1/98.	74 Smeaton St.	"	Removed to Hospital. Origin unknown.
4.	Ormesby.	Scarlet F.	Derived from Normanby, the washing having been sent there to be done by a woman having Scarlet Fever in the house.
7.	38 Morris St.	Scarlet F.	Source unknown. No Sanitary defects. 2nd case April 25th.
9.	49 Alfred St.	Typhoid F.	2nd case. See Jany 28th.
18.	44 Morris St.	Scarlet F.	No Sanitary defects.
22.	18 Stoven St.	Typhoid F.	Large underground rain water cistern in yard which required filling in.
23.	5 Louisa St.	Small-Pox.	Removed to Hospital. Works in Middlesbro' 3 weeks since last case was reported in Ormesby District.
25.	38 Morris St.	Scarlet F.	2nd case. See April 7th.
29.	86 Telford St.	Scarlet F.	No Sanitary defects.
29.	79 Hymer St.	"	Scullery sink waste pipe covered by a bell trap and connected directly with yard gully.
29.	5 Short St.	"	Scullery Sink waste pipe not trapped and discharging directly into yard gully.
May 14/98.	49 Morris St.	"	No Sanitary defects. Probable source of infection was School. See May 24th and June 16th.
14.	44 High St.	"	No Sanitary defects and most likely due to attendance at School.
16.	4 Bargate St.	"	No Sanitary Defects. Origin unknown. See June 7th - 2nd case.

DATE.	ADDRESS.	DISEASE.	REMARKS.
May 21/98.	28 Kings Road.	Small-Pox.	No Sanitary defects. Removed to Middlesbro' Fever Hospital.
24.	49 Morris St.	Scarlet F.	2nd case. See June 16 and May 14.
June 6/98.	Orphanage.	"	Removed to Worsley House Cottage for isolation.
7.	4 Bargate St.	"	2nd case. See May 18th.
9.	23 Smeaton St.	Typhoid F.	No Sanitary defects. Origin could not be traced.
14.	9 Church St.	Scarlet F.	Deep Ashpit. Source of infection not known.
15.	26 Pierson St.	Small-Pox.	Removed to Middlesbrough Fever Hospital. Source of disease not known. No Sanitary defects. 2nd case June 24th, 3rd case June 27th.
16.	49 Morris St.	Scarlet F.	3rd case. See May 14th.
22.	42 James St.	Typhoid F.	Yard paved with common red bricks and out of repair. Origin of Typhoid Fever not known.
24.	26 Pierson St.	Small-Pox.	Removed to Middlesbro' Fever Hospital 2nd case. See June 15th and 27th.
25.	49 Pennyman St.	Scarlet F.	Deep and wet ashpit. Cess pit in yard containing 18 inches of mud.
27.	26 Pierson St.	Small-Pox.	3rd case. See June 15 and 24. Removed to Middlesbrough Fever Hospital.
July 1/98.	25 High St.	2 Scarlet F.	Source of disease not known. No Sanitary defects.
28.	9 Hymer St.	Erysipelas.	Death. Premises disinfected and bed destroyed.
Aug. 4/98.	86 Smeaton St.	"	Cess pit gully in yard with pipes open from main drain.
5.	41 Nelson St.	Croup.	Defective yard surface, yard wall, ashpit, and roof.
11.	Pennymans Lodge. Ormesby.	Erysipelas.	No Sanitary defects.
15.	54 Nelson St.	Typhoid F.	2nd case. Sept. 8th. 3rd case Oct 5th.
20.	Cottage Hospital.	"	No Sanitary defects. Admitted from 14 Tees Street.
29.	15 Morris St.	"	Deep Ashpit.

01/00.	26 Kings Road.	Small-Pox.	No Sanitary defects. Removed to Middlesbrough Fever Hospital.
04.	49 Norris St.	Scarlet F.	2nd case. 2 & 5 yrs. 10 and 8y 11.
06/08.	Ormesby.	"	Removed to Fever Hospital Cottons for isolation.
7.	4 Bretnio St.	"	2nd case. See 1y 14th.
9.	25 Somerset St.	Typhoid F.	No Sanitary defects. Origin could not be traced.
14.	9 Gurnos St.	Scarlet F.	Deep ASHES. Source of infection not known.
15.	26 Pearson St.	Small-Pox.	Removed to Middlesbrough Fever Hospital. Source of disease not known. No Sanitary defects. 2nd case June 24th, 3rd case June 27th.
16.	49 Norris St.	Scarlet F.	2nd case. See 1y 14th.
23.	45 Queen St.	Typhoid F.	Yard paved with concrete. Drains run on to yard. Origin of Typhoid fever not known.
24.	26 Pearson St.	Small-Pox.	Removed to Middlesbro' Fever Hospital and case. See June 15th and 27th.
25.	49 Pemberton St.	Scarlet F.	Pan- and wet closets. Close pit in yard containing 10 inches of mud.
27.	26 Pearson St.	Small-Pox.	2nd case. See June 15. and 24. Removed to Middlesbrough Fever Hospital.
1/06.	20 High St.	Scarlet F.	Source of disease not known. No Sanitary defects.
20.	9 Byrnt St.	Erysipelas.	Death. Premises disinfected and had laundered.
4/06.	26 Somerset St.	"	Close pit only in yard with pipes open from main drain.
5.	43 Nelson St.	Group.	Defective yard surface, yard wall, dampit, and road.
11.	Pemberton Lodge. Ormesby.	Erysipelas.	No Sanitary defects.
15.	24 Nelson St.	Typhoid F.	2nd case. Sept. 8th. 3rd case Oct 8th.
20.	Cottage Hospital.	"	No Sanitary defects. Admitted from 14 Tees Street.
24.	15 Monkton St.	"	Deep ASHES.

DATE.	ADDRESS.	DISEASE.	REMARKS.
Aug. 31/08.	35 Hampden St.	Typhoid F.	Yard gully of this and adjoining house stopped sometime ago, but now acting. 2nd case Oct. 2nd.
Sept 1/08.	63 Hampden St.	"	Fish Shop. Nuisance from Cess pit in yard. Ventilation of premises inadequate. Fatal termination of case.
3.	12 West Ter.	"	No Sanitary defects.
5.	40 Alfred St.	"	No Sanitary defects.
5.	22 Worsley St.	Erysipelas.	No Sanitary defects.
8.	54 Nelson St.	Typhoid F.	No Sanitary defects. 1st case Aug 15th, 3rd Oct 5th.
9.	22 Alfred St.	"	Deep and wet ashpit also cess pit gully.
10.	4 Cromwell St.	"	No Sanitary defects.
16.	Toll Bar Cottages. Cargo Fleet.	"	2 cases in same house the premises with 2 adjoining houses not fit for habitation on account of nuisances from defective privy accomodation &c. See special report after inspection.
16.	Carlyle House, Kings Road.	"	No Sanitary defects.
26.	40 Telford St.	"	No Sanitary defects.
Oct 1/98.	47 Nelson St.	"	No Sanitary defects.
2.	6 West Ter.	"	No Sanitary defects.
2.	35 Hampden St.	"	2nd case. See August 31st.
3.	69 Worsley St.	"	Ashpit wall defective.
4 8.	11 Hymer St.	"	Cess pit gully in yard.
4 8.	59 Pennyman St.	"	No Sanitary defects.
4 8.	37 Tees St.	"	No Sanitary defects.
4 8.	9 Hymer St.	"	Cess pit gully. Ashpit full. Notice served for cess pit gully.
5.	54 Nelson St.	"	3rd case. See Aug. 15th.
6.	2 James St.	Scarlet F.	No Sanitary defects. Origin not known.
7.	Black Swan Hotel.	Typhoid F.	do.
10.	3 Pennyman St.	Erysipelas.	Ashpit roof defective. Cess-pit gully.
10.	51 Hampden St.	Typhoid F.	No Sanitary defects.
11.	20 Tees St.	"	do.

1/28.	28 Hampden St.	Typhoid ?.	Very guilty of this and adjoining house stopped selling milk, but now selling. Case Oct. 3rd.
1/28.	28 Hampden St.	"	Prim. Lab. Negative. Case put to press. Ventilation of pre-1899 Act is very. Total ventilation of case.
3.	12 Brooton St.	"	
3.	12 West Ter.	"	No Sanitary defects.
6.	10 Alfred St.	"	No Sanitary defects.
8.	22 Orsay St.	Erysipelas.	No Sanitary defects.
9.	64 Nelson St.	Typhoid ?.	No Sanitary defects. 1st case AUG 11th. Sth-out St.
9.	22 Alfred St.	"	Deep and dot nuphit also open pit guilty.
10.	4 Grenwell St.	"	No Sanitary defects.
10.	Fort Ter Cottages. Grove Place.	"	2 cases in same house. Premises on 2 sections. Passage but fit for habitation on ground of unventilated rooms. See previous inspection. Insufficient ventilation.
10.	Carlyle House. King Road.	"	No Sanitary defects.
10.	40 Telford St.	"	No Sanitary defects.
1/10.	47 Nelson St.	"	No Sanitary defects.
2.	6 West Ter.	"	No Sanitary defects.
2.	38 Hampden St.	"	Bad case. See August list.
8.	20 Moraley St.	"	Adopt well defective.
9/8.	12 Hyner St.	"	Close pit guilty in yard.
8/7.	20 Fenwyck St.	"	No Sanitary defects.
4/8.	27 Tope St.	"	No Sanitary defects.
4/9.	2 Hyner St.	"	Close pit guilty. Adopt well. Notice served for both for guilty.
5.	64 Nelson St.	"	3rd case. See Aug. list.
6.	2 Tupse St.	Scarlet ?.	No Sanitary defects. Origin not known.
7.	Black Swan Hotel.	Typhoid ?.	do.
10.	3 Fenwyck St.	Erysipelas.	Adopt room defective. Close pit guilty.
10.	81 Hampden St.	Typhoid ?.	No Sanitary defects.
12.	20 Tope St.	"	do.

DATE.	ADDRESS.	DISEASE.	REMARKS.
Oct 12/08.	13 Market Pl.	Typhoid F.	Cellar under front room had 2 or 3 inches water over floor.
15.	12 Smeaton St.	"	No Sanitary defects.
20.	70 Smeaton St.	"	do. 2nd case.Dec 30.
20.	74 Smeaton St.	"	Defective bedroom and pantry roofs.
21.	55 Alfred St.	Erysipelas.	Was in Cottage Hospital with a scalp wound.
27.	Cottage Hospital.	Typhoid F.	Removed from White Cottage, Smeaton St, where there was a defective cess pit gully in yard. The property has been put into good sanitary order since removal of patient.
28.	17 Harrison St.	"	No Sanitary defects.
Nov 6/08.	6 Market Pl.	Scarlet F.	No trap to sink in Cellar kitchen.
10.	65 Worsley St.	Typhoid F.	Bottom of inner wall of midden out of repair. Scullery sink waste pipe not trapped and discharges directly into yard gully.
11.	34 Stoven St.	Scarlet F.	No Sanitary defects. Two children attending school. The child of 5 years was found to be desquamating and allowed to run about the streets. This case had not been attended by a Medical man, nor been notified.
10.	34 Stoven St.	"	
Dec 8/08.	46 Coltman St.	"	No Sanitary defects. Source not known.
15.	71 Stoven St.	Erysipelas.	Cess pit gully. Open pipe drain. Defective ashpit roof.
16.	44 Hampden St.	Scarlet F.	No Sanitary defects.
22.	Cottage Hospital.	Erysipelas.	Following injury to head.
23.	do.	"	do.
30.	70 Smeaton St.	Typhoid F.	2nd case. See Oct 20/08.

No.	ADDRESS.	DISEASE.	REMARKS.
15.	13 Market St.	Typhoid F.	Cellar under front room and 2 or 3 inches water over floor.
16.	13 Brenton St.	"	No sanitary defects.
23.	70 Brenton St.	"	Do. 2nd case. See 20.
26.	74 Brenton St.	"	Defective bedroom and pantry floors.
31.	59 Alfred St.	Erysipelas.	Was in Cottage Hospital with a scalp wound.
37.	Cottage Hospital.	Typhoid F.	Removed from Little Cottage, Brenton St., where there was a defective dose pit quite in yard. The property has been put into good sanitary order since removal of patient.
37.	17 Harrison St.	"	Contact from Cottage.
40.	4 Bank St.	"	
40.	4a Torpley St.	Typhoid F.	Contact of same main of sanitary work. Sanitary work under this not tropped and [illegible] directly into yard drain.
41.	74 Steven St.	Scarlet F.	No sanitary defects. Two children attending school. The child of 8 years was found to be desquamating and allowed to run about the streets. This case has not been attended by a medical man, nor been notified.
42.	84 Steven St.	"	
43.	40 Collman St.	"	No sanitary defects, nature not known.
45.	71 Steven St.	Erysipelas.	Dose pit quite open pipe drain. Defective sanitary roof.
46.	44 Hongden St.	Scarlet F.	No sanitary defects.
48.	Cottage Hospital.	Erysipelas.	Following injury to head.
50.	do.	"	do.
50.	70 Brenton St.	Typhoid F.	2nd case. See cot 20 Br.

INFANT MORTALITY. There is no doubt that milk and milk foods are responsible for much of the disease amongst infants, more especially diarrhoea, marasmus and tubercular disease, particularly tabes mesenterica. As recently pointed out by Sir Richard Thorne the rate of mortality from this disease which is mainly due to infection received through the digestive system, and is the principal representative of tubercular disease in infancy, has not diminished as has the rate from tubercular diseases - notably Phthisis - at all ages in England and Wales notwithstanding Sanitary progress, but there has actually been a heavy increase of deaths under 1 year of age from this cause which increase has gone hand in hand with an increase in the consumption of cows milk as a food in this country. Tuberculosis in milch cows is unfortunately of common occurence and its prevalence is greatly due to the cows being kept in byres which are ill ventilated, ill lighted and ill cleansed; and as the largest part of Tuberculosis which man obtains through food is by means of milk containing tubercular matter it is advisable that as far as possible the danger from this source should be overcome, 1st by the slaughtering of all milch cows suffering from advanced tuberculosis.

2nd by the boiling of milk before it is consumed, for it has been proved over and over again that milk contaminated with tubercular matter can be rendered harmless by being boiled for one minute.

3rd seeing that the conditions under which milch cows are kept are satisfactory, the byres being well lighted, well ventilated, well drained, having sufficient cubic and floor space for each beast and that they are kept clean. Several of the cow-byres in this district do not approach this standard, being badly lighted - little or no sunshine ever coming into them - they are ill kept and not well ventilated and cows confined under such conditions are likely to suffer from tuberculosis, and the consumption of their milk as food is likely to be followed by tubercular disease.

REPORTS have been prepared by me on the epidemics of Small Pox and Typhoid Fever. Also reports on the following:-

TOLL BAR COTTAGES, Cargo Fleet. Following the appearance of Typhoid Fever in one of these 3 cottages, an inspection was made of the property and certified unfit for habitation. The soil at the back of the houses was found saturated with filth, the drainage bad, the bedroom accommodation inadequate and the lighting and ventilating of the same most unsatisfactory, the yards unpaved and covered with filth partly due to the keeping of poultry. Boundary yard walls were required, the middens were open and dilapidated, the smell arising from them most offensive and the contents of one ran over the ground surface, much of the yard area of each cottage was taken up by wood huts erected for poultry and resulting in a nuisance.

MARTON RESERVOIR. The water having become impure an inspection was made and pollution found to occur at two points before the water arrived at the reservoir which is situated near to Nunthorpe Railway Station, 1st by sewage derived from a culvert running under the railway, and polluting the water at a point near the depot.

2nd by sewage from Hambleton Farm.

Report on Nuisance at Mr Wilkinson's Farm, Ormesby. The cow-byre drained into a ditch at the back of the cow-byre and blacksmith's shop. This ditch was found to be full of putrid filth and discharging 22 yards away into Ormesby Beck. The yard surface in front of the blacksmiths shop and cow-byre was not paved being formed of clay only and 3 yards from the blacksmith's shop was a collection of manure from the piggery and cow-byre and near to that were pools of filth causing a nuisance of the most offensive character and dangerous to those living or working near.

REPORTS have been prepared by us on the epidemics of Small Pox and Typhoid Fever. Also reports on the following:-

TOIL SAN GUSTADES, Cargo Fleet. Following the appearance of Typhoid Fever in one of these 3 dwellings, an inspection was made of the property and certified unfit for habitation. The soil at the back of the houses was found saturated with filth, the drainage bad, the bathroom accommodation inadequate and the lighting and ventilating of the same most unsatisfactory, the yards unpaved and covered with filth partly due to the keeping of poultry. Boundary yard walls were required, the middens were open and dilapidated, the small stinking from them most offensive and the contents of one ran over the ground surface, much of the yard area of each cottage was taken up by wood ~~being stored for sale and resulting in a nuisance.~~

BARTON RESERVOIR. The water having become impure on inspection was made and pollution found to occur at two points before the water arrived at the reservoir which is situated near to Middlesbrough Railway Station, let by drains derived from a culvert running under the railway, and polluting the water at a point near the depot.

and by sewage from Hopkinson Farm.

Report on Nuisance at Mr Wilkinson's Farm, Grangetown. The cow-byre drained into a ditch at the back of the cow-byre and Blacksmith's shop. This ditch was found to be full of putrid filth and discharging 22 yards away into Greenway Beck. The yard surface in front of Blacksmiths shop and cow-byre was not paved being formed of clay only and 2 yards from the Blacksmith's shop was a collection of manure from the pigsty and cow-byre and close to that were pools of filth causing a nuisance of the most offensive character and dangerous to those living or working near.

NUISANCE AT MR HANSELL'S FARMSTEAD. The fold yard was not paved and in winter and wet weather was ankle deep with mud, stored in the upper end was a heap of about 60 loads of manure about 25 yards from dwelling house.

The Main drain from Hansell's house, farmstead, cottages and adjoining properties discharged into Ormesby Beck 8 feet from the Village School fence and endangered the health of the children attending the school. The cow-byres are small having both insufficient air space and are badly lighted and ventilated, the outbuildings and main buildings wanted spouts and down comers.

INSPECTION OF PREMISES OF ICE CREAM MAKER at 2 Lower Pennyman Street, North Ormesby. In the yard was a manhole covered by a stone and wood cover, containing 12 inches of sewage and 4 inches of deposit, and receiving the drains of 127, 129 & 131 Smeaton Street, and 2 Lower Pennyman Street.

The drains of the 3 first mentioned houses were blocked and sewage from them was percolating through the area wall into the area itself of 2 Lower Pennyman Street, and close to the door of the back cellar kitchen. The smell was unbearable and ICE CREAM WAS BEING MADE IN THIS CELLAR KITCHEN.

MILK SELLERS.

The Milk trade in North Ormesby is carried on under the same conditions as in previous years. Only a limited quantity of milk is delivered from the farms to the milk sellers who for the most part keep a small shop and sell the milk from vessels kept on the shop counter. In very few instances were any provisions made for storing milk and in none was the milk protected from dust &c. falling into it, by the placing of a cover over the vessel in which it was kept whilst exposed for sale. At one house I believe the trade was carried on with possible danger to the custmmers, viz. at 19 Coltman Street. The milk was kept in the front room of a cottage house, and in the event of any infectious disease occurring amongst those living here, there is a certainty of its being carried by the milk to others. A mild case of Scarlet Fever might be overlooked, or Typhoid Fever exist in this house for some considerable time before being notified, and serious consequences would follow. The party carrying on this business was not disposed to accept any suggestions made for keeping the milk and milk tins apart from those living in the house.

In my report for 1897 I had to mention unfavourably two milk sellers one in Langbaurgh Place, for keeping pigs and poultry in the cow-byre, the other a pawn-broker in Smeaton Street. The keeping of cows has been given up by the milk seller in Langbaurgh Place, and the milk dealer in Smeaton Street is now no longer a pawn-broker.

SLAUGHTER HOUSES.

These were found to be clean and in a satisfactory condition. The Slaughter House in Gas Works Road, objected to in my last report is now closed. But one in back Hymer Street I found had been altered and was now used as a Stable, Coach House, and Slaughter House. At the time of my inspection I found a large quantity of meat which had been hanging for some days, exposed

to the noxious emanations from stable manure &c. It is hardly necessary to point out that the building should be a stable or Slaughter House, NOT BOTH.

INSPECTION OF FARMS.

The farms in the Ormesby District supplying milk to North Ormesby and Middlesbrough have all been visited recently.

LONGBANK FARM. The milk is all used on the farm. The water supply is not satisfactory. In fact the former tenant refused to drink it, but the present occupiers are doing so after allowing it to stand for several hours so as to deposit the suspended matter. The pump is out of repair and it is only with great difficulty water can be raised from the well. Also the latter requires a proper cover. The water for the cattle is obtained from a spring and carried by pipes to a trough near the farm buildings. A soft water well in the garden has for years been unsafe. The garden fence is rotten, part has fallen down and that near the mouth of the well may at any time give way and an accident happen.

THE GRANGE FARM. Was found to be in a satisfactory state.

SPENCER BECK FARM. There are 2 stables, one is insufficiently lighted, badly paved and ventilated. The other still drains on to the surface of an adjoining loose box. This should be remedied by putting in a proper drain and gully. There are two cow-byres, one not well paved, the other requires the roof pointing, and there is an inadequate lighting and ventilation of both. The open middon still exists about 16 yards from the well supplying water for the farm, and in the event of Typhoid Fever occurring there is great risk of an extension of the disease. Some years ago we had an example of this following a case of Typhoid Fever which occurred at White House Farm, resulting in pollution of the well water and afterwards a very serious outbreak of Fever amongst those living on the farm and death of the farmer himself. The right thing to do is to put in a pan closet and abolish the privy as previously recommended. The well in the scullery which was condemned in my report for last year has been filled in.

INSPECTION OF FARMS.

The farms in the Oxnaby District supplying milk to York, Oxnaby and Middlesbrough have all been visited recently.

LOCOSLAKE FARM. The milk is all used on the farm. The water supply is not satisfactory. In fact the former tenant refused to drink it, but the present occupiers are doing so after allowing it to stand for several hours so as to deposit the suspended matter. The pump is out of repair and is only with great difficulty water can be raised from the well. Also the latter requires a proper cover. The water for the cattle is obtained from a spring and carried by pipes to a trough near the farm buildings. A moat water well in the [illegible] yards been unused. The garden fence is rotten, part has fallen down and that near the mouth of the well may at any time give way and an accident happen.

THE GRANGE FARM. Was found to be in a satisfactory state.

BRIDGES BECK FARM. There are 2 stables, one is insufficiently lighted, badly paved and ventilated. The other still drains on to the surface of an adjoining farm-box. This should be remedied by putting in a proper drain and gully. There are two cow-byres, one not well paved, the other requires the roof pointing, and there is an inadequate lighting and ventilation of both. The open midden still exists about 12 yards from the well supplying water for the farm, and as the cases of Typhoid Fever occurring there is great risk of an extension of the disease. Some years ago we had an example of this following a case of Typhoid fever which occurred at White House Farm, resulting in pollution of the well water and afterwards a very serious outbreak of fever amongst those living on the farm and death of the farmer himself. The right thing to do is to put in a pan closet and abolish the pitty as previously recommended. The well in the sanitary point was condemned in my report for last year but been filled in.

BOTTOMS FARM. Is in good condition with the exception of the rain water spouts being defective on the main buildings.

MR LISTER'S PREMISES. Cow Keeper, Ormesby. The cow-byre should be properly lighted and ventilated and the roof made weather proof. The water supply is from Miss Brown's Reservoir in Crow Wood, near Ormesby Bank, which also supplies Cargo Fleet etc. the well water from the pump in the stable previously condemned is now only used for cleansing purposes. Much has been done since my last report to improve the condition of these premises by draining, paving and laying on water from Miss Brown's reservoir, but more is required. Spouts are wanted to the house, the yard surface should be paved or macadamised and a heap of manure 11ft from the house and abutting on the road and draining on to the footpath should be removed to a more suitable place. At present it is a nuisance.

MR WILKINSON'S PREMISES. Cow Keep, Ormesby. The old cow-byre has been repaved, properly ventilated, lighted and drained and is now in good order. A new byre has been erected for 2 cows which is equally satisfactory. The ditch draining the old byre and running at the back of the byres and Blacksmith's shop has been filled in and a drain put in to discharge into the beck, and in its course receives the whole of the sewage from Hansell's Farmstead, and adjoining cottages and 2 Villas in Redcar Road, The yard in front of the Blacksmith's shop requires suitable channels and gullies and should be macadamised.

MR HANSELL'S PREMISES. Cow Keeper, Ormesby. Some improvement has been made on this farmstead. Spouts and downcomers have been fixed, the stable well lighted and ventilated and the cow-byres and fold yard were unusually clean, but the latter should be properly paved. The calf house is used for 4 cows and being low does not contain sufficient air space and it is insufficiently lighted and ventilated. The farmstead has had more than the usual amount of attention given to it by the tenant and so is in a cleaner, and less untidy condition than

usual, but structural alterations and improvements are yet needed. A double pan closet was being substituted for an offensive privy at the time of my visit so that necessary work was still being done about the farm by the owner.

MR JACKSON'S PREMISES. Cow Keeper, Ormesby. The cow-byres and the arrangements made for carrying on the milk trade are satisfactory, but a piggery was found draining into an open midden, the latter being about half full of water and offensive filth causing a nuisance requiring early attention.

MR WOOD'S PREMISES. Milk Seller, Ormesby. The cow-byre is not well lighted but excepting that is all that one could wish for. Milk is stored as before in a pantry in the house so situated as to be unsuitable for such a purpose. It is also improperly ventilated. Certainly it is advisable some other place should be provided for keeping the milk at this house.

HAMBLETON FARM. Twenty cows are kept on this farm and all the milk is sent to Middlesbrough. No milk is stored and there is no dairy. The whole of the sewage from this farmstead is poured into the watercourse supplying the Marton reservoir. A special report on this was previously made to the District Council.

There are 2 cow-byres, one containing 10 cows, which is low and required additional ventilation on that account. The other is satisfactory.

COLD KNUCKLES FARM. The cow-byres are badly lighted and ventilated. Grates and channels are required about the farm buildings. Many of the buildings for the stock are dilapidated The fold yards are in about the same condition as found on previous visits, viz:- filthy. The new well in the field near the footpath leading to Normanby has been filled in as it was dangerous from there being no protecting fence.

BERWICK FIELD FARM. This farmstead is one of the best in the Ormesby District being well looked after by the tenant and kept in good order. The buildings and drainage are excellent

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and provision has recently been made for storing the milk tins in the open air but under cover, after scalding and cleansing.

KELD HOUSE FARM. This farmstead is in good order. The only suggestion I have to make is that the midden and privy near the house should be altered. At very little cost and trouble it might be converted into an ashpit and pan closet and would then no longer be objectionable.

WHITE HOUSE FARM. There are 4 cow-byres. The outside wall of one and the engine house wall, both previously unsafe have been repaired but the byre should be better lighted and it needed limewashing. A shed in the fold yard has been converted into a cow-byre for 10 cows and is not suitable for such a purpose. In fact it is so dilapidated that repairs and alterations made to it would be more costly than rebuilding. It is too small for the number of cows kept and is insufficiently lighted and ventilated and is altogether in a dilapidated state. There is a third byre for 2 cows also not adapted for its present use being dark and not ventilated satisfactorily. The 4th byre is well built and in good order.

BRAMBLES FARM. Water is now obtained from Miss Brown's reservoir. That from the well not being used, and the pump has been removed. The cow-byre is an excellent one, 18 cows are kept and the milk is sent to Middlesbrough, North Ormesby and Cargo Fleet.

THORN TREE HOUSE FARM. There are 3 Stables. One good, one fairly satisfactory, the other badly lighted and ventilated. The fold yard drain was blocked. The Scullery sink waste pipe was still connected with the main drain and should be disconnected. One cow-byre is clean and satisfactory and another is very dilapidated and simply two old temporary loose boxes converted into a byre.

TOWNS FARM. The water supply is now obtained from Miss Brown's reservoir, the condemned well water not being used. The cow-byre is untidy and wants lime-washing. Ducks are

kept in it, which is an objectionable practice. The general appearance of the farmstead is untidy, dirty and unsatisfactory for which the tenant is chiefly to blame. A loose box is being used as a piggery and drains on the ground surface causing a pool of putrid filth to collect and resulting in a nuisance which cannot too soon be abated. There is a pan closet with double seat but only one pan. The far seat and end of pan receiver being used as a common privy the excrement and liquid from same running over ground surface. The piggery proper drains into a large hole dug in the ground and at the time of my visit was almost full of black offensive fluid. This was used as a duck pond and was only a short distance from the dwelling house.

SUN DIAL COTTAGES, Ormesby. There are 14 middens at the back of these cottages which should be put into sanitary condition. One of them is 10 ft from the village School window, all are open and deep, the boundary walls being from 2 ft to 4 ft high and many of them contained a large quantity of water and were most offensive. In addition there is a covered privy and ashpit at the back of the Sadler's shop which is certainly a nuisance dangerous to health and only 18 ft to 20 ft from the windows of 3 cottages. The privy should be converted into a pan closet.

THE STREETS in North Ormesby are in fairly good condition excepting Lower Pennyman Street and Louisa Street both of which should be properly made.

The piece of land at the back of Short Street remains in the same state as when my report was written for last year. At little cost it might be improved and afterwards I have no doubt would be used as a play ground by the children. A few feet of Scoriae brick pavement put down at the back of the middens of the Short Street cottages would be a great improvement, and prevent the nuisance caused by throwing the night soil from the privies on to the surface of the ground when they are emptied.

more so it, which is an objectionable practice. The general appearance of the premises is untidy, dirty and unsatisfactory. The water closet is entirely to blame. A loose box is being used as a pigstye and draining on the ground surface causing a pool of putrid filth to collect and resulting in a nuisance which cannot too soon be abated. There is a pen closet with double seat but only one pan. The cur seat and and of pan receiver being used as a common water the excrement and liquid from pans running over ground surfaces. The pigstye dropper draining into a large hole dug in the ground and at the time of my visit was almost full of black offensive fluid. This was seen as a dark pool and was only a short distance from the dwelling house.

BUT MIAL COTTAGES, ormesby. There are 14 middens at the back of these cottages which should be put into sanitary condition. One of them is 10 ft from the village school window, all are open and deep, the boundary walls being from 8 ft to 4 ft high and many of them contained a large quantity of water and were most offensive. In addition there is a covered pitty and cesspit at the back of the dealer's shop which is constantly a nuisance dangerous to health and only 15 ft so it from the windows of 8 cottages. The pitty should be converted into a pan closet.

THE STREETS in North Ormesby are in fairly good condition excepting Lower Panmure Street and Louisa Street both of which should be properly made.

The place of land at the back of Short Street remains in the same state as when my report was written for last year. As little cost it might be improved and afterwards I have no doubt would be used as a play ground by the children. A few feet of Scoriae brick pavement put down at the back of the middens of the Short Street cottages would be a great improvement, and prevent the nuisance caused by throwing the night soil from the privies on to the surface of the ground when they are emptied.

THE BACK STREETS are paved excepting back Short and Queen Street.

FOOTPATHS. Smeaton Street footpath could be improved and pieces of footpath dotted about North Ormesby should be completed as for example Bargate, Moses, and James Streets, Kings Road and Market Place.

THE SURVEYOR AND NUISANCE INSPECTOR REPORTS as follows:-

The Town sewage tanks have been cleaned out 3 times during the past year and several new flushing shafts have been fixed; the gullies have been regularly cleaned out and special attention given to cleansing the cess pit manholes and flushing the sewers. The Surveyor recommends the bottoms of the cess pit manholes should be raised to the level of the sewers so as to allow of more efficient flushing.

He also suggests that by temporarily closing the inlets and outlets of the sewers in these manholes by wood plugs to which a rope or chain is attached, they could be filled with water and used as flushing tanks and by withdrawing the plugs about 5 van loads of water would be poured into the sewers at once, and, as many of the manholes could be filled by a hose pipe the cost of flushing the sewers would be reduced.

Three new gullies, main and flushing shafts have been fixed in Pennyman Street, at the top of Short Street and end of Queen Street to take surface water and a manhole has been fixed over the sewer at the rear of High Hymer Street. The gullies in Morris Street have been blocked due to connections having been made with pipes of various sizes, viz.- 12", 9", and 6". Other instances of imperfectly constructed gullies have occurred during the year and others are known to exist.

The Telford Street gully drain leading to main sewer was blocked for 40 yards in May and following this a manhole has been put in. This sewer stands 3 parts full and has from 8" to 10" of backfall from the manhole near the office of the Council to the centre of the Cricket Field at which point it is always full.

Almost 300 extra loads of ashpit manure have been removed during the year and as a large number of soil pans have been substituted for deep and wet ashpits, 2 loads of pan manure are now removed every morning instead of one load once a week as formerly.

1775 private sinks have been cleaned out since the 8th of September and a house to house inspection of nine-tenths of the

Whole district made by the Surveyor. Notices for the following have been served during the year:-

For

Yard Surfaces	168.
Gullies and Drains	160.
Cess pit gullies	104.
Ashpits	214.
Walls	69.
Spouting	34.
Footpaths	2.
Sheds	6.
Doors off	69.
Wells and tanks	15.
Chimneys	3.
Roofs	38.
Urinals	1.
Slopsinks	20.
Soil Pans	19.
General Notices	10.

For Farms

Listers	1.
Spencer Beck.	1.
Towns End	1.
Thorntree House	1.
Brambles	1.
Total.	937.

The forms required by the Local Government Board are forwarded with this report.

I am, gentlemen,

Yours obediently,

WM. KNOTT.

Medical Officer of Health.

To the

Ormesby Urban District Council.,

January 10th 1899.

Health District made by the Surveyor. Notices for the following have been served during the year:-

For

Yard Surfaces	249.
Cellars and Drains	190.
Water pipe gullies	104.
Ashpits	204.
Walls	69.
Spouting	34.
Footpaths	2.
Sinks	5.
Roofs etc	80.
Windows and Sashes	28.
Cisterns	2.
Roofs	38.
Urinals	1.
Ventilation	30.
Wall Plate	18.
General Notices	10.

For Fumes

Stables	1.
Spouse Beer.	1.
Tonna Ltd	1.
Theatre House	1.
Brandies	1.
Total.	987.

The forms required by the Local Government Board are forwarded with this report.

I am, Gentlemen,

Yours obediently,

W. MOTT.

To the Medical Officer of Health.

Cromwell Urban District Council.

January 10th 1910.