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HEALTH  
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OR.

Spalding  
Rural District Council

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# REPORT

of the

Medical Officer of Health

and the

Chief Sanitary Inspector

for the

Year 1949





# SPALDING RURAL DISTRICT COUNCIL

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Chairman : Mr. A. C. Casswell, J.P.

Vice-Chairman : Mr. A. E. Chappell, J.P.

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## Members of the Council :

Mr. T. Atkinson	Mr. F. Earl
Mr. A. Barsley	Mr. S. A. Goodyear
Mr. H. K. Braybrooks	Mr. G. W. Machin
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Mr. A. Dawes	Mr. H. G. Witherington
Mr. W. L. H. Dillworth	Mr. A. E. Woodhead.
Mr. C. Dobney	

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## Members of the Public Health Committee :

Chairman—Mr. H. G. Witherington

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Mr. A. Barsley	Mr. C. A. Merrill
Mr. S. A. Goodyear	Mr. A. Dawes
Mr. A. E. Chappell, J.P.	Mr. G. W. Peacock

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## Staff of the Health Department :

MEDICAL OFFICER OF HEALTH—I. M. Cullum, M.D.,  
B.S. (Lond.), D.P.H., D.C.H.

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CHIEF SANITARY INSPECTOR—F. Luker, M.S.I.A.,  
Cert. Insp. of Meat.

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ADDITIONAL SANITARY INSPECTOR—H. G. Milburn,  
M.S.I.A., M.R. San. I., Cert. Insp. of Meat.

Spalding Rural District Council,  
Council Offices,  
10, The Crescent,  
Spalding.

**Annual Report of the Medical Officer of Health for the Year 1949.**

To the Chairman and Members of the  
Spalding Rural District Council.

Gentlemen,

I have pleasure in submitting herewith the report for the year 1949 in accordance with the recent Circular of the Ministry of Health. (Circular 2/50).

It will be appreciated that the report deals with a period during which my predecessor Dr. I. M. Cullum, held office. Despite the limited time at her disposal due to her new appointment, Dr. Cullum has done everything possible to make me fully conversant with the circumstances of the district. I am confident that the other officials and the members of the Council will be glad to take this opportunity of wishing Dr. Cullum success in her new post.

During the year the district remained free from serious epidemics and Dr. Cullum wishes to thank both the Chief and Additional Sanitary Inspector, Mr. Luker and Mr. Milburn, and their staff, for their co-operation in maintaining the high health standards of the district.

I am, Gentlemen,

Your obedient Servant,  
RAYMOND MILLER.

## STATISTICS AND SOCIAL CONDITIONS OF THE AREA.

The area of the district is 87,758 acres.

The resident population is 19,587.

The average population figure given by the Registrar General for the calculation of death rates is 18,350.

The number of inhabited houses according to the rate books is distributed as follows : —

Cowbit ... ..	194
Crowland ... ..	876
Deeping St. Nicholas ... ..	460
Donington ... ..	566
Gosberton ... ..	673
Moulton ... ..	765
Pinchbeck ... ..	997
Quadring ... ..	294
Surfleet ... ..	305
Weston ... ..	411
Total	<u>5,541</u>

The rateable value of the district is £43,361 and the sum represented by a penny rate is £165.



## EXTRACTS FROM VITAL STATISTICS

### Births.

	M		F		Total
Live Births (Legitimate) ...	180	...	165	...	345
(Illegitimate) ...	9	...	7	...	16
	<hr/>		<hr/>		<hr/>
Total Live Births	189		172		361
	<hr/>		<hr/>		<hr/>
Live Birth Rate per 1,000 estimated civilian population —	19.67.				
Still Births (Legitimate) ...	3	...	6	...	9
(Illegitimate) ...	—	...	—	...	—
	<hr/>		<hr/>		<hr/>
	3		6		9
	<hr/>		<hr/>		<hr/>

Still Birth rate per 1,000 total (live and still births) — 24.32.

### Deaths.

	M		F		Total
Death from all causes ...	94	...	93	...	187

Death rate per 1,000 estimated civilian population — 10.19.

The above figures have been corrected for transfers in and out of the district and it has been found unnecessary to make any adjustment of the age and sex composition of the population for the purpose of securing comparability between local death rates.

Deaths from Cancer (all ages)—24 (males 14 ; females 10).

Deaths from Measles (all ages)—nil.

Deaths from Whooping Cough (all ages)—nil.

Deaths from Diarrhoea (Children under 2 years) — 2 (both females).

## MATERNAL MORTALITY

Deaths from Puerperal causes :—

Puerperal Sepsis ...	...	...	...	...	...	nil
Other Maternal Causes ...	...	...	...	...	...	nil

## INFANTILE MORTALITY

Deaths of infants under 1 year of age.

	M		F		Total
Legitimate ...	6	...	6	...	12
Illegitimate ...	—	...	—	...	—

Death rates of infants under one year of age.

All infants per 1,000 live births ... 33.24

Legitimate infants per 1,000 legitimate live births ... 34.78

Illegitimate infants per 1,000 illegitimate live births ... nil

## COMMENTS ON THE VITAL STATISTICS.

A rough but fairly accurate picture regarding this district can be formed by comparing the rates for this district with those for England and Wales as a whole :—

	England and Wales		Spalding Rural District
Births (live births) ...	16.7 (A)	...	19.67 (A)
Deaths (all causes) ...	11.7 (A)	...	10.19 (A)

“ A ” — Rates per 1,000 Civilian population.

The infantile mortality rate of 33.24 is slightly higher than that of 32 for England and Wales. In general the Vital Statistics reveal a satisfactory state of affairs and no further comment is necessary.

### Prevalence of and control over Infectious and other Diseases.

Numbers of cases of Infectious Disease :—

Excluding cases of Tuberculosis 94 cases of infectious disease were notified during the year :—

Disease	Cases Notified
Scarlet Fever ... ..	42
Whooping Cough . . . . .	27
Acute Poliomyelitis . . . . .	5
Measles ... ..	15
Acute Pneumonia .. . . .	4
Ophthalmia Neonatorum . . . . .	1
	—
Total	94
	—

There has been a slight increase in the number of cases of Scarlet Fever, but these were mild in type and no deaths ensued. It is satisfactory to note that there have been no cases of Diphtheria.



## Analysis of Cases of Infectious Diseases under Age Groups.

AGE GROUP	Scarlet Fever	Whooping Cough.	Polio-myelitis.	Measles.	Pneumonia	Ophthalmia Neonatorum	Erysipelas.	Puerperal Pyrexia.
Under 1 year ..		2	1	2		1		
1 to 2 ...		2		2				
2 to 3 ...	1	5		2				
3 to 4 ...	3	9			1			
4 to 5 ...		2						
5 to 10 ...	21	7	2	3				
10 to 15 ...	9		1	6				
15 to 20 ...	2							
20 to 35 ...	3		1					
35 to 45 ...	3				2			
45 to 65 ...					1			
65 and over ...								
Totals ...	42	27	5	15	4	1		

## Incidence of Infectious Disease in recent years

Disease	Year					
	1945		1946	1947	1948	1949
Scarlet Fever	Cases	56	25	11	20	42
	Deaths	0	0	0	0	0
Diphtheria	Cases	1	1	1	0	0
	Deaths	0	0	0	0	0
Measles	Cases	204	8	282	90	15
	Deaths	2	0	0	0	0
Polio-myelitis	Cases	1	0	8	4	5
	Deaths	0	0	1	0	0

## DIPHTHERIA IMMUNISATION

During the year 200 children under 5 years of age and 23 children between the ages of 5 and 14 were immunised against Diphtheria.

A further 265 children were given a " booster " or secondary injection.

The work is carried out by the staff of the Holland County Council Health Department and by medical practitioners.

The figures provided by the County Medical Officer of Health show that :—

61.7% of children under 5 years  
and 62.4% of children aged 5—14 years,  
had been immunised at the 31st December, 1949.

Corresponding figures for the County as a whole are :—

Children under 5 years 60.6%  
Children aged 5—14 years 71.4%

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## SCABIES

The joint scheme commenced in 1943 has continued in being through the year but no cases attended for treatment from this district.

One case of scabies was treated at home.

In view of the small number of cases occurring in the district, the cost of maintaining the Joint Scheme does not appear to be warranted and it is considered that the arrangements could now be discontinued.

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## FOOD POISONING

No cases of food poisoning were notified during the year.



## TUBERCULOSIS

		M.	F.	Total
Cases of Tuberculosis on the Register at 31.12.49.	Pulmonary ...	36	25	61
	Non-Pulmonary ...	13	19	32
Cases removed from the Register as cured during 1949	Pulmonary ...	1	—	1
	Non-Pulmonary ...	—	1	1
Cases removed from the Register due to diagnosis not being confirmed during 1949.	Pulmonary ...	—	—	—
	Non-Pulmonary ...	—	—	—
Cases removed from the Register due to removal from the district during 1949.	Pulmonary ...	1	1	2
	Non-Pulmonary ...	—	—	—

### Analysis of New Cases and Deaths

Age Periods	NEW CASES				DEATHS			
	Pulmonary		Non-pulmonary		Pulmonary		Non-pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 5 years								
5 to 10 years								
10 to 15 years								
15 to 20 years				1				
20 to 25 years	2	2	1			1		
25 to 35 years	2				2			
35 to 45 years	2							
45 to 55 years								
55 to 65 years								
Over 65 years								
Totals	6	2	1	1	2	1	—	—

## COMMENTS ON INCIDENCE OF TUBERCULOSIS

Here, as with all types of infectious disease, improvement is dependant on early diagnosis, segregation of confirmed "open" cases, and a check up on contacts so that early cases may receive immediate attention.

The failure to achieve any immediate improvement in the position is due to several factors :

- (a) Failure of the public to realise that immediate investigation and treatment is imperative if the disease is to be checked.
- (b) Inadaquate sanatorium accommodation in the County.
- (c) Though the housing position is being improved with all possible speed, over-crowding and unsuitable housing conditions still play an important part.
- (d) Disregard for the common rules of hygiene. Droplet infection is the main method of spread of the disease, and precautions must be taken by everyone regarding coughing, sneezing and spitting.

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## DETAILS OF CASES ON TUBERCULOSIS REGISTER 1945-49

Cases on Record at 31st December			Cases		Deaths			
			Respiratory	non Respiratory	Respiratory	non Respiratory	Respiratory	non Respiratory
1945	...	48	...	29	...	11	...	2
1946	...	58	...	35	...	3	...	2
1947	...	52	...	34	...	4	...	4
1948	...	60	...	31	...	5	...	2
1949	...	61	...	32	...	3	...	0



# CAUSES OF DEATH IN THE SPALDING RURAL DISTRICT DURING 1949

	M.	F.	Total
1. Typhoid and paratyphoid fevers ... ..	—	—	—
2. Cerebro-spinal fever ... ..	—	—	—
3. Scarlet fever ... ..	—	—	—
4. Whooping cough ... ..	—	—	—
5. Diphtheria ... ..	—	—	—
6. Tuberculosis of Respiratory system ... ..	2	1	3
7. Other forms of Tuberculosis ... ..	—	—	—
8. Syphilitic diseases ... ..	—	—	—
9. Influenza ... ..	1	—	1
10. Measles ... ..	—	—	—
11. Acute Polio-myelitis and polio-encephalitis .	—	—	—
12. Acute infectious encephalitis ... ..	—	—	—
13. Cancer of buccal cavity & oesophagus (M) uterus (F)	— 1	— —	— 1
14. Cancer of stomach and duodenum ... ..	5	3	8
15. Cancer of breast ... ..	—	2	2
16. Cancer of all other sites ... ..	8	5	13
17. Diabetes ... ..	—	—	—
18. Intra-cranial vascular lesions ... ..	11	10	21
19. Heart diseases ... ..	23	31	54
20. Other diseases of circulatory system ... ..	3	1	4
21. Bronchitis ... ..	6	3	9
22. Pneumonia ... ..	6	2	8
23. Other Respiratory diseases ... ..	2	—	2
24. Ulcer of stomach or duodenum ... ..	—	—	—
25. Diarrhoea (under 2 years) ... ..	—	2	2
26. Appendicitis ... ..	—	—	—
27. Other digestive diseases ... ..	1	2	3
28. Nephritis ... ..	1	—	1
29. Puerperal and post abortional sepsis ... ..	—	—	—
30. Other Maternal causes ... ..	—	—	—
31. Premature birth ... ..	—	2	2
32. Conjenital malformation; birth injuries, &c.	5	1	6
33. Suicide ... ..	—	—	—
34. Road traffic accidents .. ..	3	1	4
35. Other violent causes ... ..	5	—	5
36. All other causes ... ..	11	27	38
	—	—	—
All causes	94	93	187
	—	—	—

The following section of the annual report refers particularly to the work of the Sanitary Inspectors and I am indebted to them for its compilation.

### Visits.

The following table shows the number of visits made during the year by the Sanitary Inspectors :—

Subject of Visit	Initial Visits	Routine or re-visits
Housing defects	101	162
Water supplies, water samples	23	6
Drainage nuisances	65	33
Refuse nuisances	10	6
Overcrowding	25	15
Moveable dwellings ; camps	14	25
Fried Fish Shops	3	8
Ice Cream premises ; Ice Cream samples	6	22
Bakehouses	10	6
Food preparing premises ; food shops	30	33
Common lodging houses	—	1
Factories and workplaces	14	11
Cowsheds ; dairies ; Milk samples	9	61
Scabies and Vermin	16	10
Infectious Diseases	56	6
Disinfection after Infectious diseases	3	—
Rats and Mice	4	—
Disinfestation	5	12
Drain Tests	51	11
Sewerage Schemes	1	111
Refuse Schemes	4	155
Night Soil Services	5	64
Cesspool emptying service	—	38
Slaughterhouses	—	424
Building Licences	26	1
Miscellaneous	133	49
Totals	614	1270



## BUILDING CONTROL

During the year 55 building licences were issued as follows :—

New houses	...	...	...	...	...	...	23
Work of Conversion resulting in additional dwellings							4
Repairs to houses	.	...	...	...	...	...	28
							—
							55
							—

The relaxation of the building control, allowing persons to spend up to £100 without a licence, has caused a welcome reduction in this work. At the present time, however, this control takes up much of the Sanitary Inspectors' time, in visits, interviews, correspondence and records, which it is felt could be put to much better use. It is hoped that the time is not too far distant when the building control will be discontinued entirely.

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## OVERCROWDING

During the year 15 cases of overcrowding were investigated and reported to the Council and 12 overcrowded families were rehoused. In most cases the overcrowding was found when the family applied for a Council house and it is considered that there are still a number of overcrowded families whose circumstances are not known to the Health Department because they lack the means or initiative to seek better accommodation.

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## NEW COUNCIL HOUSES

During the year a total of 130 houses were completed and a further 134 were commenced of which 14 had reached roof level at the end of the year. The absence of sufficient new houses continues to be the most serious problem confronting the Council and is a serious obstacle to the public health services of the area.

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## SANITARY CIRCUMSTANCES OF THE AREA

### Water Supply.

There has been no change in the source of supply which is from 5 artesian bores.

The following table shows the number of dwelling houses and the approximate population supplied from the Council's mains in each parish :—

Parish	Number of dwellinghouses supplied from public mains.	Approx. No. of population supplied.
Cowbit ... ..	177	619
Crowland ... ..	726	2541
Deeping St. Nicholas ... ..	361	1264
Donington ... ..	514	1799
Gosberton ... ..	514	1799
Moulton ... ..	478	1873
Pinchbeck ... ..	915	3202
Quadring ... ..	185	647
Surfleet ... ..	226	791
Weston ... ..	321	1123
	<hr/> Totals 4417	<hr/> 15658

The quality of the water from all the bores is satisfactory from the bacteriological side but the water from the Pinchbeck and Donington bores has an excessive iron content, an unpleasant taste and a high degree of hardness which render it unsuitable for general domestic use.

During peak consumption periods the present supply is inadequate owing to the large quantities used for horticultural purposes in this intensely cultivated district.

## WATER SAMPLES

### Private Supplies.

No complaints in respect of private water supplies were received and no samples were taken.

### Public Supplies.

A total of 10 samples of water from the Council's public supplies were taken during the year from consumers' taps.

Two samples of the water derived from the Pinchbeck Bore were taken at a private residence and submitted to the Public Health Laboratory, Peterborough for bacteriological examination.

One sample was taken from a yard tap and the other from a kitchen tap after the water had passed through a softener. In both samples no B. Coli were found.

The remaining samples were submitted for full chemical and bacteriological examination with the following results :—



### Pinchbeck Bore.

Sample taken at No. 11 Clarkson Avenue, Cowbit, on 7th December, 1949.

#### Chemical Results in Parts Per Million.

Appearance : Yellow-brown opalescence with a yellow-brown deposit of iron-oxide.

		Turbidity (Silica Scale) ...	110
Colour (Hazen) Filtered			
	less than 10	Odour ... ..	slightly oily
Reaction p.H. ... ..	7.3	Free Carbon Dioxide ... ..	18
Electric Conductivity at 20°C	570	Total Solids, dried at 180°C	380
Chlorine in Chlorides ...	22	Alkalinity as Calcium Carbonate	255
Hardness : Total ... ..	285		
Carbonate (Temporary)	255	Non-carbonate (Permanent)	30
Nitrogen in Nitrates ... ..	0.0	Nitrogen in Nitrites ...	Less than 0.01
Free Ammonia ... ..	0.16	Oxygen absorbed in 4 hrs. at 27°C	0.00
Albuminoid Ammonia ... ..	0.000	Residual Chlorine ... ..	Absent
Metals : Iron 7.6, Manganese 0.05,		Other metals absent.	
Fluorine (F) ... ..	0.6		

#### Bacteriological Results

Number of Colonies developing on Agar	1 day at 37°C	2 days at 37°C	3 days at 20°C
	0 per ml.	0 per ml.	1 per ml.

Presumptive Coli-aerogenes Reaction	Present in.	Absent from.	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli. (Type 1) ... ..	— ml.	100 ml.	0 per 100 ml.
Cl. welchii Reaction	— ml.	100 ml.	

This sample has opalescence and heavy deposit causing excessive turbidity which is due to the presence of an excess of iron. It is free from other metals apart from a negligible trace of manganese. The water is neutral in reaction, hard in character but not to an excessive degree, contains no excess of salinity or mineral constituents in solution and it is of the highest standard of organic and bacterial purity.

The presence of iron does not affect wholesomeness, but is objectionable from other aspects of drinking and domestic use. The quantity present is such that the water is considered unsuitable for domestic use.



## Donington Bore.

Sample taken at the railway crossing house, Siding Road, Quadring, 13th December, 1949.

### Chemical Results in Parts Per Million.

Appearance : Yellow-brown opalescence with a yellow-brown flocculent deposit of iron oxide together with a slight growth of Leptothrix.

			Turbidity (Silica Scale) ...	15
Colour (Hazen) Filtered	Nil	Odour ...	Sulphuretted Hydrogen.	
Reaction p.H. ...	7.3	Free Carbon Dioxide ...		17
Electric Conductivity at 20°C	530	Total Solids, dried at 180°C		355
Chlorine in Chlorides ...	18	Alkalinity as Calcium		
		Carbonate		240
Hardness : Total ...	250			
Carbonate (Temporary)	240	Non-carbonate (Permanent)		10
Nitrogen in Nitrates ...	0.4	Nitrogen in Nitrites ...	Less than	0.01
Free Ammonia ...	0.060	Oxygen absorbed in 4 hrs. at 27°C		0.10
Albuminoid Ammonia ...	0.000	Residual Chlorine ...		Absent
Metals ... Iron 2.2, Manganese	0.04.	Other metals	absent.	
Fluorine ...	0.4			

### Bacteriological Results

Number of Colonies developing on Agar	1 day at 37°C	2 days at 37°C	3 days at 20°C
	0 per ml.	0 per ml.	1 per ml.

Presumptive Coli-aerogenes Reaction	Present in,	Absent from,	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli. (Type 1) ...	— ml.	100 ml.	0 per 100 ml.
Cl. welchii Reaction ...	— ml.	100 ml.	

This sample has opalescence and deposit causing distinct turbidity which is due to the presence of excess of iron. It is free from other metals apart from a negligible trace of manganese. The water is neutral in reaction, hard in character but not to an excessive degree and it contains no excess of mineral or saline constituents in solution. It is of very satisfactory organic quality and of the highest standard of bacterial purity.

The presence of iron does not affect wholesomeness, but is objectionable from other aspects of drinking and domestic use. The amount present is such that the water is considered unsuitable for domestic purposes.



### Quadring Fen Bore.

Sample taken at No. 5 Council House, Quadring Fen, on 13th December, 1949.

#### Chemical Results in Parts Per Million.

Appearance : Yellow-brown opalescence with a flocculent deposit of iron oxide.

		Turbidity (Silica Scale) ...		30
Colour (Hazen) Filtered	Nil	Odour ...	Sulphuretted Hydrogen	
Reaction p.H. ...	7.2	Free Carbon Dioxide ...		20
Electric Conductivity at 20°C	530	Total Solids, dried at 180°C		355
Chlorine in Chlorides ...	18	Alkalinity as Calcium Carbonate		255
Hardness : Total ...	250			
Carbonate (Temporary)	225	Non-carbonate (Permanent)		25
Nitrogen in Nitrates ...	0.4	Nitrogen in Nitrites ...	Less than	0.01
Free Ammonia ...	0.12	Oxygen absorbed in 4 hrs. at 27°C		0.20
Albuminoid Ammonia ...	0.000	Residual Chlorine ...		Absent
Metals ... Iron	4.3	Manganese	0.04	Other metals absent.
Fluorine ...	0.4			

#### Bacteriological Results

Number of Colonies developing on Agar	1 day at 37°C	2 days at 37°C	3 days at 20°C
	0 per ml.	0 per ml.	0 per ml.

Presumptive Coli-aerogenes Reaction	Present in.	Absent from.	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli (Type 1) ...	— ml.	100 ml.	0 per 100 ml.
Cl. welchii Reaction ...	— ml.	100 ml.	

This sample has opalescence and deposit causing marked turbidity which is due to the presence of an excess of iron. It is free from other metals apart from a negligible trace of manganese. The water is neutral in reaction, hard in character, but not to an excessive degree and it contains no excess of mineral or saline constituents in solution. It is of very satisfactory organic quality and of the highest standard of bacterial purity.

The presence of iron does not affect wholesomeness, but is objectionable from other aspects of drinking and domestic use. The amount present is such that the water is considered unsuitable for domestic purposes.

### Deeping St. Nicholas : 1st Oatsheaf Bore.

Sample taken from Stand tap, Main Road, Deeping St. Nicholas, 8th December, 1949.

#### Chemical Results in Parts Per Million.

Appearance : Very faint opalescence with a few mineral particles.

	Turbidity (Silica Scale) ...	Less than 5
Colour (Hazen) Filtered	Nil	Odour ... .. Nil
Reaction pH. ... ..	8.2	Free Carbon Dioxide ... .. 3
Electric Conductivity at 20°C	1,600	Total Solids, dried at 180°C 1,070
	Alkalinity as Calcium	
Chlorine in Chlorides ...	310	Carbonate 385
Hardness : Total ... ..	30	
Carbonate (Temporary)	30	Non-carbonate (Permanent) 0
Nitrogen in Nitrates ... ..	0.0	Nitrogen in Nitrites ... Less than 0.01
	Oxygen absorbed in 4 hrs. at	
Free Ammonia ... ..	0.64	27°C 0.25
Albuminoid Ammonia ... ..	0.000	Residual Chlorine ... .. Absent
Metals ... Iron 0.50	Other metals absent.	
Fluorine (F) ... ..	3.3	

#### Bacteriological Results

Number of Colonies developing on Agar { 1 day at 37°C 2 days at 37°C 3 days at 20°C  
0 per ml. 0 per ml. 3 per ml.

Presumptive Coli-

aerogenes Reaction	Present in.	Absent from.	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli. ... ..	— ml.	100 ml.	0 per 100 ml.
(Type 1) ... ..	— ml.	100 ml.	0 per 100 ml.
Cl. welchii			
Reaction ... ..	— ml.	100 ml.	

This sample has slight opalescence and deposit due to the presence of an objectionable trace of iron. It is free from other metals. The water is faintly alkaline in reaction, soft in character and has a high content of salinity and mineral constituents in solution.

Due to the soft character of the water, the high salinity and the excess of alkalinity over hardness, a corrosive tendency towards metals would be anticipated although no plumbo-solvent action would be expected. The content of Fluorine is greater than that desirable.

The water is of very satisfactory organic quality and of the highest standard of bacterial purity, and from these aspects it is considered wholesome in character and suitable for drinking and domestic purposes.



Deeping St. Nicholas : 2nd Oatsheaf Bore : Sample taken at Bore-head on 27th May, 1949.

Determination	Parts per 100,000
Free and Saline Ammonia ... ..	0.90
Albuminoid Ammonia ... ..	0.003
Oxygen absorbed at 80°F. (in 15 minutes) ...	—
(in 4 hours) ... ..	0.043
Nitric Nitrogen ... ..	ABSENT
Chlorine (in Chlorides) ... ..	32.5
Equivalent to Sodium Chloride ... ..	53.5
Total solid matter (dried at 180°C.) ... ..	100.0
Temporary Hardness ... ..	2.5
Permanent Hardness ... ..	NONE
Carbonate of Soda ... ..	38.2
Reaction (p.H) ... ..	8.1
Metals (Lead, copper, zinc, iron) ... ..	Minute trace of iron
Appearance in a two foot tube ... ..	Colourless and clear
Free Chlorine ... ..	absent

The above results, taken in conjunction with the bacteriological findings, indicate that this water, in its present condition, is free from any suspicion of pollution.

The chemical results are almost identical with previous ones obtained from Oatsheaf Borehole waters.

### BACTERIOLOGICAL RESULTS

No. of organisms per c.c. capable of growing :		B. Coli Communis Presumptive Test		
On Standard Gelatin in 3 days at 22°C.	On Standard Agar in 24 hours at 37°/38°C	100 c.c	10 c.c.	1 c.c.
250	16	—	—	—

## Deeping St. James Bore.

Sample taken from a house in Postland Road, Crowland, on 7th December, 1949.

### Chemical Results in Parts Per Million.

Appearance : Faint greyish opalescence with a very slight deposit of iron oxide.

Colour (Hazen) Filtered		Turbidity (Silica Scale) Less than 5	
less than 10		Odour Very faint Hydrogen Sulphide	
Reaction p.H. ... ..	8.1	Free Carbon Dioxide ... ..	4
Electric Conductivity at 20°C	1,600	Total Solids, dried at 180°C	1,070
Alkalinity as Calcium			
Chlorine in Chlorides ...	290	Carbonate	390
Hardness : Total ... ..	40		
Carbonate (Temporary) ...	40	Non-carbonate (Permanent)	0
Nitrogen in Nitrates ... ..	0.0	Nitrogen in Nitrites ...	Less than 0.01
Free Ammonia ... ..	0.79	Oxygen absorbed in 4 hrs. at 27°C	0.40
Albuminoid Ammonia ... ..	0.014	Residual Chlorine ... ..	Absent
Metals ... Iron 0.86.	Other metals absent.		
Fluorine (F) ... ..	3.3		

### Bacteriological Results

Number of Colonies {	1 day at 37°C	2 days at 37°C	3 days at 20°C
developing on Agar {	0 per ml.	0 per ml.	3 per ml.

Presumptive Coli-aerogenes Reaction	Present in.	Absent from.	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli.			
(Type 1) ... ..	— ml.	100 ml.	0 per 100 ml.
Cl. welchii			
Reaction ... ..	— ml.	100 ml.	

This sample has slight opalescence and deposit due to the presence of iron, and although the turbidity is not marked the amount of iron is objectionable. The water is very faintly alkaline in reaction, soft in character, and has a high content of salinity and mineral constituents in solution.

Due to the soft character of the water, the high salinity and the excess of alkalinity over hardness, a corrosive tendency towards metals would be anticipated although no plumbo-solvent action would be expected. The content of Fluorine is greater than that desirable.

The water is of very satisfactory organic quality and of the highest standard of bacterial purity, and from these aspects it is considered wholesome in character and suitable for drinking and domestic purposes.



### Tongue End Bore.

Sample taken from stand tap at Tongue End Yard, Tongue End, on 8th December, 1949.

#### Chemical Results in Parts Per Million.

Appearance : Yellow-brown opalescence with a slight deposit of iron oxide.

		Turbidity (Silica Scale) ... .. 50	
Colour (Hazen) Filtered			
less than	10	Odour .. ...	Nil
Reaction p.H. ... ..	7.3	Free Carbon Dioxide ... ..	19
Electric Conductivity at 20°C	580	Total Solids, dried at 180°C	390
		Alkalinity as Calcium	
Chlorine in Chlorides ...	28	Carbonate	260
Hardness : Total ... ..	225		
Carbonate (Temporary)	225	Non-carbonate (Permanent)	0
Nitrogen in Nitrates ... ..	0.0	Nitrogen in Nitrites ...	Less than 0.01
		Oxygen absorbed in 4 hrs. at	
Free Ammonia ... ..	0.27	27°C	0.50
Albuminoid Ammonia ... ..	0.000	Residual Chlorine ... ..	Absent
Metals ... Iron 3.4.	Other metals absent.		
Flourine (F) ... ..	0.6		

#### Bacteriological Results

Number of Colonies	1 day at 37°C	2 days at 37°C	3 days at 20°C
developing on Agar	0 per ml.	0 per ml.	0 per ml.

Presumptive Coli-aerogenes Reaction	Present in.	Absent from.	Probable number
	— ml.	100 ml.	0 per 100 ml.
Bact. Coli. ... ..			
(type 1) ... ..	— ml.	100 ml.	0 per 100 ml.
Cl. welchii			
Reaction ... ..	— ml.	100 ml.	

This sample has opalescence and marked deposit causing pronounced turbidity which is due to the presence of an excess of iron. It is free from other metals. The water is neutral in reaction, hard in character but not unduly so, and it contains no excess of salinity or mineral constituents in solution. It is of the highest standard of organic and bacterial purity.

The presence of iron does not affect wholesomeness, but is objectionable from other aspects of drinking and domestic use. The amount present is such that the water is considered unsuitable for domestic purposes.



The Council have obtained the consent of the Minister of Health to their "Regional Scheme" for improving the water supply of the area and extending the mains throughout the outlying parts of the district.

During the year ten extensions of 3" mains were made to parts of the district not previously supplied and water mains were laid on ten new housing sites.

A new artesian bore was sunk at Deeping St. Nicholas ; work commenced on the construction of a new water tower at Crowland and main extensions in Crowland and Weston parishes commenced.

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### **DRAINAGE, SEWERAGE and REFUSE DISPOSAL**

There has been little change during the year in the drainage and sewerage arrangements in the district. A number of houses not previously provided with sinks and drains have had these amenities provided following representations to the owners.

Work continued satisfactorily on the new sewerage scheme for the village of Crowland.

The Council's cesspool emptying machine was fully employed during the year and emptied 779 cesspools, 432 vault closets and 17 cisterns. Pending the completion of the sewerage scheme at Crowland the machine is being used to empty the three temporary sumps into which is received the sewage of the 50 new houses erected in the village. This work occupies three days each week.

During the year the Council took delivery of a second cesspool emptying machine and in September instituted a weekly collection of night soil in all parishes except Crowland where the existing collections of refuse and night soil by horse and cart were maintained.

Following the delivery of a new refuse freighter and the complete overhaul of the machine formerly used for salvage collections the Council instituted in August a weekly collection of refuse and salvage in all parishes. Four refuse tips have been brought into use and salvaged materials are baled at the Council's Depot.

For a time, owing to the difficulty of disposing of waste paper, collection of paper was stopped but as the marketing position improved, collections were resumed, and a total of £402 was realised during the year from the sale of paper, rags, sacking, &c.

In addition to the new scavenging and night-soil services the Department took over the maintenance of 13 sewage disposal plants on new housing estates. Two of these plants were operated by petrol motors and had to be serviced daily.

To facilitate the day to day working of the Health Services the Council approved the appointment of Mr. Frank Daubney as Health Department Works Foreman.



During the year the number of workmen employed by the Department increased from eight to sixteen.

In the parish of Donington the collection of refuse was formerly done by horse and cart but with the commencement of the new service the modern freighters were used.

## **MILK, COWSHEDS AND DAIRIES**

### **Milk Sampling.**

There are two pasteurising dairies in the district and samples of milk in course of delivery were taken at intervals during the first nine months of the year.

As from 1st October the responsibility for supervision of these dairies passed to the Holland County Council as licensing authority under the Milk (Special Designations) (Pasteurised and Sterilised Milk) Regulations, 1949.

### **DAIRY A**

Of 14 samples taken in course of delivery 11 passed the statutory tests but of these 3 failed the coliform test.

Numerous visits and 10 further samples were taken of milk at various stages of the pasteurising plant and the B. Coli contamination was proved to be due to a fault in the bottling machine. The fault was immediately corrected.

### **DAIRY B**

Of 14 samples taken in course of delivery 10 passed the statutory tests but of these 6 failed the coliform test. 5 samples were taken in course of production to locate the source of coliform bacilli. In this case, however, the trouble could not be isolated and details of the work done were handed on to the County Sanitary Inspector.

## **COWKEEPERS AND MILK WHOLESALERS**

During the first nine months of the year 5 new cowkeepers and milk wholesalers were registered by the Council. With the introduction of the Food and Drugs (Milk and Dairies) Act, 1944, and the Milk and Dairies Regulations, 1949, on 1st October the inspections of milk producers' premises were discontinued.

## **MILK DISTRIBUTORS**

5 Milk distributors were registered by the Council in accordance with the Milk and Dairies Regulations, 1949.

## **MEAT AND FOOD INSPECTION**

During the year all animals slaughtered at the Central Slaughterhouse were given a routine inspection and those showing evidence of disease were subjected to detailed examination.

The total weight of meat and offals condemned as unfit for human consumption was approximately 35½ tons, and this was disposed of for other purposes under the Ministry of Food Waste Utilization Scheme.

The following table gives the number of animals slaughtered and condemned.

Class of Animal	Cattle excluding cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed	1564	509	471	5712	975
Number inspected	1564	509	471	5712	975
<u>All Diseases except Tuberculosis</u>					
Whole carcasses condemned	12	12	10	11	55
Carcase of which some part or organ was condemned	895		3	118	172
Percentage of car- casses affected with disease other than Tuberculosis	43%		3%	2%	17%
<u>Tuberculosis only</u>					
Whole carcasses condemned	19	18	—	—	8
Carcasses of which some part or organ was condemned	294		—	—	10
Percentage of car- casses affected with Tuberculosis	16%		—	—	2%

Details of the meat condemned and also of other foodstuffs dealt with are contained in the following list.



Article Examined	Disease or Condition Found
19 Carcases of Beef and Offals ...	Generalised Tuberculosis.
2 Carcases of Beef and Offals ...	Traumatic Pericarditis.
2 Carcases of Beef and Offals ...	Generalised dropsy and emaciation.
1 Carcase of Beef and Offals ...	Gangrene and dropsy.
1 Carcase of Beef and Offals ...	Generalised dropsy.
1 Carcase of Beef and Offals ...	Pyæmia and septic peritonitis.
1 Carcase of Beef and Offals ...	Septic Pneumonia.
1 Carcase of Beef and Offals ...	Septicæmia.
1 Carcase of Beef and Offals ...	Cancerous growth with evidence of spread.
1 Carcase of Beef and Offals ...	Unwholesome, animal died on farm
1 Carcase of Beef and Offals ...	Large abscess on flank; septicæmia
16 Cow Carcases and Offals .....	Generalised Tuberculosis.
7 Cow Carcases and Offals .....	Generalised dropsy.
2 Cow Carcases and Offals .....	Tuberculosis with emaciation.
2 Cow Carcases and Offals .....	Pathological emaciation and dropsy
1 Cow Carcase and Offals .....	Traumatic pericarditis.
1 Cow Carcase and Offals .....	Gangrene.
1 Cow Carcase and Offals .....	Septicæmia.
3 Calf Carcases and Offals .....	Immaturity.
2 Calf Carcases and Offals .....	Septic pneumonia and fever.
2 Calf Carcases and Offals .....	Unwholesome, commencing putrefaction.
1 Calf Carcase and Offals .....	Pyæmia.
1 Calf Carcase and Offals .....	Septic Pericarditis.
1 Calf Carcase and Offals .....	Generalised dropsy and emaciation.
7 Part Carcases of Beef .....	Localised dropsy.
4 Part Carcases of Beef .....	Large purulent growths.
3 Part Carcases of Beef .....	Tuberculosis.
2 Part Carcases of Beef .....	Large abscesses.
2 Part Carcases of Beef .....	Old injuries.
2 Part Carcases of Beef .....	Fractures
1 Part Carcase of Beef .....	Peritonitis and pleurisy.
1 Part Carcase of Beef .....	Actinomycosis.
1 Part Carcase of Beef .....	Injured by lorry.
3 Part Calf Carcases .....	Fractures, injuries.
3 Hindquarters of Beef .....	Tuberculosis.
2 Hindquarters of Beef .....	Acute Mastitis and dropsy.
5 Forequarters of Beef .....	Tuberculosis.
1 Forequarter of Beef .....	Broken foreleg.
6 Part Hindquarters of Beef .....	Heated meat; tainted.
7 Part Hindquarters of Beef ...	Broken legs.
3 Part Hindquarters of Beef .....	Bruised and dropsical.
1 Part Hindquarter of Beef .....	Purulent lesion.
1 Part Hindquarter of Beef .....	Old injury.
5 Part Forequarters of Beef .....	Tuberculosis.
3 Part Forequarters of Beef .....	Heated meat; tainted.
3 Part Forequarters of Beef .....	Severe bruising.
1 Part Forequarter of Beef .....	Purulent abscess of prescapular gland.
1 Part Forequarter of Beef .....	Broken Shoulder.
1118 lbs. Beef Trimmings .....	Injuries; bruising, &c.
613 lbs. Frozen Hindquarters Beef	Bone-taint putrefaction.
24 lbs. Frozen Forequarter Beef ...	Bone-taint putrefaction.
107 Beasts Head and Tongues .....	Tuberculosis.
38 Beasts Head and Tongues .....	Actinomycosis.
2 Beasts Head and Tongues .....	Abscesses of throat.
13 Beasts Hearts .....	Pericarditis.
4 Beasts Hearts .....	Tuberculosis.
261 Beasts Lungs .....	Tuberculosis.
48 Beasts Lungs .....	Pulmonary distoma.
38 Beasts Lungs .....	Pleurisy.
15 Beasts Lungs .....	Pneumonia.
9 Beasts Lungs .....	Echinococcus Cysts.
346 Beasts Livers .....	Distomatosis.
104 Beasts Livers .....	Septic abscesses.
43 Beasts Livers .....	Tuberculosis.



Article Condemned.	Disease or Condition Found.
38 Beasts Livers .....	Cirrhosis.
34 Beasts Livers .....	Cavernous Angioma.
73 Part Beasts Livers .....	Distomatosis.
30 Part Beasts Livers .....	Cirrhosis.
28 Part Beasts Livers .....	Septic abscesses.
14 Sets Beasts Intestines with Mesentery .....	Tuberculosis.
14 Sets Beasts Intestines with Mesentery .....	Commencing putrefaction.
13 Sets Beasts Intestines with Mesentery .....	Johne's Disease.
3 Sets Beasts Intestines with Mesentery .....	Peritonitis.
28 Beasts Tripes .....	Commencing putrefaction.
6 Beasts Tripes .....	Peritonitis and dropsy.
2 Beasts Tripes .....	Inflammation.
2 Beasts Tripes .....	Septic abscesses.
49 Cows Udders .....	Mastitis.
2 Cows Udders .....	Tuberculosis.
86 x 6lb. cans Corned Beef .....	Blown, damaged or rusted cans.
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5 Sheep Carcases and Offals .....	Generalised dropsy and emaciation
2 Sheep Carcases and Offals .....	Commencing putrefaction.
1 Sheep Carcase and Offals .....	Acute mastitis fever.
1 Sheep Carcase and Offals .....	Gangrene.
1 Sheep Carcase and Offals .....	Extensive severe bruising.
1 Sheep Carcase and Offals .....	Unwholesome; animal found drowned.
18 Sheeps Lungs .....	Parasitic infection.
8 Sheeps Lungs .....	Pneumonia.
3 Sheeps Lungs .....	Septic pleurisy.
2 Sheeps Lungs .....	Echinococcus Cysts.
45 Sheeps Livers .....	Parasitic infection.
11 Sheeps Livers .....	Echinococcus Cysts.
559 lbs. Sheeps Mesenteric Fats ...	Stale and putrefying.
2 x 6lb. cans Corned Mutton .....	Blown and damaged cans.
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17 Pig Carcases and Offals .....	Generalised dropsy.
15 Pig Carcases and Offals .....	Acute Swine Erysipelas.
10 Pig Carcases and Offals .....	Unwholesome; commencing putre- faction.
8 Pig Carcases and Offals .....	Generalised Tuberculosis.
3 Pig Carcases and Offals .....	Jaundice.
3 Pig Carcases and Offals .....	Septic peritonitis and dropsy.
2 Pig Carcases and Offals .....	Unwholesome; moribund.
1 Pig Carcase and Offals .....	Septicaemia.
1 Pig Carcase and Offals .....	Casualty; died of suffocation.
1 Pig Carcase and Offals .....	Multiple septic injuries.
1 Pig Carcase and Offals .....	Cancer of abdomen.
1 Pig Carcase and Offals .....	Large septic growth of abdomen.
20 Part Pig Carcases .....	Fractures.
8 Part Pig Carcases .....	Bruising; injuries.
128 lbs. Pork Trimmings .....	Swine erysipelas.
76 lbs. Pork Trimmings .....	Bruising; injuries.
102 lbs. Pork Trimmings .....	Putrefying.
69 lbs. Pork Trimmings .....	Localised dropsy.
18 lbs. Pork Trimmings .....	Inflammation.
8 Pigs Heads .....	Tuberculosis.
40 Pigs Lungs .....	Pneumonia.
19 Pigs Lungs .....	Pleurisy.
22 Pigs Hearts .....	Pericarditis.
16 Pigs Livers .....	Cirrhosis.
6 Pigs Livers .....	Echinococcus Cysts.



In addition to the above-mentioned carcasses, organs, etc., there were also many part part carcasses and organs condemned for various conditions and diseases too numerous to mention here.

Other foodstuff condemned included the following :

8½ lbs. Ham .....	Heated; putrefaction taint.
8 lbs. 6ozs. Smoked Gammon	
Bacon	Commencing putrefaction.
10 x 28 lbs. boxes unsalted margarine	Rancid and unwholesome.
1 lb. Arrowroot Biscuits .....	Mouldy.
1 x 4 lb. can Luncheon Meat ...	Perforated can; contents mouldy.
1 x 15½ oz. can Salmon .....	Badly blown can.
1 x 10½ oz. can Mock Turtle Soup	Badly blown can.
1 x 1 lb. can Sliced Peaches .....	Damaged and leaking can.
1 x 1 lb. 14 oz. can Grapes .....	Damaged and leaking can.

## FOOD PREPARING PREMISES

Although numerous visits were made during the year the setting up of the scavenging and night soil services interrupted the systematic work in this branch of the Department.

Generally conditions were found to be satisfactory but there is still a large amount of work to be done in this field.

### Ice Cream.

During the year six more retailers of Ice Cream were registered by the Council.

The two manufacturing premises in the district were visited and found to be well managed, clean and satisfactory.

### Factories.

The number of premises on the register is 75 including 16 where mechanical power is not used and where the provisions of Sections 1, 2, 3, 4, and 6 of the Factories Act, 1937, are enforced by this Authority.

During the year 25 inspections were made and 4 notices were served in connection with sanitary conveniences, cleanliness, &c.

One case was referred to H.M. Inspector of Factories.





