[Report 1946] / Medical Officer of Health, Redcar Borough.

Contributors

Redcar (England). Borough Council.

Publication/Creation

1946

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BOROUGH OF REDCAR

NORTH RIDING (GUISBOROUGH)

COMBINED DISTRICTS.

. REPORT . for the Year 1946 of the Medical Officer of Health, C. R. GIBSON, M.A., M.B., CH.B. D.P.H.



TO THE MAYOR, ALDERMEN AND COUNCILLORS

OF THE

REDCAR BOROUGH COUNCIL.

MR. MAYOR, MADAM AND GENTLEMEN,

I beg to submit to you my twenty-eighth Annual Report, that for the year 1946.

As I have had to write this before the Registrar-General's estimate of population and corrected figures for births, deaths, etc., are available, my figures for these are provisional only and are subject to alteration when the more exact figures are known.

The Registrar-General estimated the population of the Borough at the middle of 1945 as 24,120: and increase of 280 from the previous year. There has, of course, been a lapse of 15 years since the last census was taken and the margin of error in any estimate is considerable, but, in view of the increase in the number of voters on the electoral roll, and of the return of men and women after demobilisation, I would estimate that the population of the Borough at the middle of 1946 was, roughly, 27,000.

The births registered in the Borough during 1946 numbered 375. Many mothers, however, went out of the District for their confinements to institutions elsewhere and the children born would be registered there. On the Registrar-General's estimate of the population in 1944 the birth-rate in that year was 21·0 per thousand; in 1945, 18·2 per thousand. Assuming that the birth-rate in 1946 was 19·0 per thousand, there would be, on my estimate of the population, 513 births, which would mean that rather more than one quarter of the births occurred outside the area.

The deaths of residents during the year numbered 316, corresponding to a death-rate of 11·7 per thousand. The average death-rate during the years 1934—38, before the war, was 12·0, and in 1939—43, 13·7.

The number of deaths of children under one year of age was 29, the largest number in this district since 1921. As in 1945 prematurity, debility at birth, or malformations, were the conditions responsible for most of the deaths; in 1946 as many as 19 out of the 29 deaths were ascribed to these three conditions. Of these 19 infants, sixteen were male. Three infants died from pneumonia, one from bronchitis, and one from whooping cough; two from tuberculous disease and one only from gastro enteritis, or infantile diarrhoea. Of the nineteen infants dying within one week of birth, ten died outside the borough and nine inside; of the older babies six deaths occurred inside the borough and four outside.

On the assumed total of 5·13 births estimated as occurring inside or outside the borough to residents, the number of infant deaths corresponds to an infant mortality rate of $56\frac{1}{2}$ deaths per thousand births, slightly in excess of the general level throughout the country.

There were three children died at ages from one to four years. In the last ten years or so there has been a marked decline in the number of deaths at this early age. In the five years 1919—23 there were, in this area, 65 deaths at these ages, a rate of 39 per thousand births; in the next two periods of five years there was a slight fall to 38.5 in 1924—28, and to 36.5 in 1929—33. Then in 1934—38 the death-rate at these ages per thousand births fell steeply to 19.5, and in 1939—43 to 13.2, while in the last three years it has been only at the rate of 9.6 per thousand births. A fall in the death-rate at these ages is merely another way of saying that the health of young children, before school age, has very markedly improved, and the physical benefits of this good start will endure throughout life.

This improvement of health, leading to the delay of unavoidable death to later years of life may be illustrated further by a comparison of the number of deaths at different age-periods in 1919 and in 1946:—

| | Estimated Deaths Under | | Under | Deaths at Ages— | | | | | |
|------|------------------------|--------|------------|-----------------|-----|------|-------|-------|---------|
| | Population | Births | (all ages) | 1 year | 1-4 | 5—14 | 15-24 | 25-64 | 65 & up |
| 1919 | 11,400 | 259 | 168 | 35 | 11 | 5 | 3 | 52 | 62 |
| 1946 | (27,000) | (513) | 316 | 29 | 3 | 2 | 10 | 105 | 167 |

In 1919 the deaths of residents in the area under the age of 25 years numbered 51; in 1946, when the population had more than doubled, deaths at these ages were 34 only; all the increase of deaths in 1946 as compared with 1919, associated with the large increase in population, was in the highest age groups. This improvement of health is doubtless largely consequent on better nutrition and better care, due to education and smaller families, but better housing and the advance in medical knowledge have also played their part.

Notified Cases per thousand Population.

| | Redcar | | | N.R. Combined | | |
|-----------------------|--------|-------|--|---------------|-------|--|
| | Bor | ough | | Districts | | |
| | 1946 | 1945 | | 1946 | 1945 | |
| Scarlet Fever | 2.52 | 1.66 | | 1.89 | 2.55 | |
| Diphtheria | 0.44 | 0.70 | | 0:40 | 1.12 | |
| Enteric Fever | 0.00 | 0.00 | | 0.03 | 0.02 | |
| Measles | 3.96 | 23.15 | | 5.78 | 16.60 | |
| Whooping Cough | 1.59 | 1.58 | | 3.62 | 1.64 | |
| Puerperal Pyrexia | 0.00 | 2.23 | | 4.70 | 4.49 | |
| (per thousand births) | | | | | | |

The above table shows that, on the whole, the experience of the borough as regards notifiable infectious disease in the year under review was light.

Seventeen cases of diphtheria were notified, but in five the diagnosis was not confirmed on bacteriological examination. There were no deaths from the disease. This has been the best year since 1937, when there were eight cases with no deaths.

At the beginning of 1946 the responsibility for the immunisation against diphtheria of children under 5 years of age was transferred from the District Council to the County Council, as the Child Welfare Authority, while the arrangements for immunising older children were left in the hands of the District Council. This change was not to replace any schemes that the District Council might be operating for the immunisation of younger children, although the expense of these would be borne by the County Council.

Record cards showing that 638 children had been immunised against diphtheria were received during the year: 397 aged under 5 years, 226 between 5 and 14 years, and in 15 the age of the child was not stated. The number immunised in 1945 was 529, and, in 1944, 437. Immunisation, therefore, is fairly satisfactory, although the number of children under five years immunised should for some years exceed the number of births if 100% immunisation is to be achieved. Eight of the cases of diphtheria in 1946 were children under 15 years of age; seven of these had been previously immunised, and, as already stated, there were no deaths.

Sixty-eight cases of scarlet fever were notified during the year, against 39 in 1945 and 74 in 1944. Of recent years this disease has been mild, with few complications, and it is now the practice to discharge uncomplicated cases from the Joint Hospital after two weeks. In 1919 the minimum period of isolation and treatment was six weeks.

One hundred and seven cases of measles and 43 of whooping cough were notified, with one death from whooping cough. The number of cases is comparatively small, and like the other common acute infections, these two diseases are becoming of less importance as causes of death.

The following table shows the experience of the Combined Districts in this respect:

N.R. COMBINED DISTRICTS

Number of Deaths from Common Acute Infections

| | ths from et Fever | Deaths from Diphtheria | Deaths from Measles | Deaths from Whooping Cough |
|--------------|----------------------|---------------------------|------------------------|-------------------------------|
| 1919—23 | 4 | 33 | 54 | 53 |
| 1924—28 | 9 | 14 | 27 | 32 |
| 1929—33 | 3 | 5 | 17 | 27 |
| 1934—38 | 2 | 29 | 17 | 9 |
| 1939—43 | 2 | 18 | 11 | 6 |
| 1944—46 | 0 | 7 | 2 | 5 |
| (3 Years onl | y) | | | |

The yearly combined death-rate of these four diseases per thousand children under 15 years of age has fallen from 1.57 in 1919—23 to .34 in 1944—46.

There were 27 new cases of tuberculosis during the year, 19 affecting the lungs and eight affecting other parts of the body. The number of deaths was 15, 9 respiratory and 6 elsewhere. The number of deaths in the two previous years was 13.

Deaths from Tuberculosis in two-year periods N.R. Combined Districts

| | From tuberculosis of lungs or larynx | From other tuberculosis |
|---------|---|-------------------------|
| 1921-22 | 64 | 22 |
| 1923—24 | 74 | 18 |
| 1925-26 | 76 | 21 |
| 1927—28 | 53 | 31 |
| 1929—30 | 51 | 13 |
| 1931-32 | 45 | 19 |
| 1933-34 | 43 | 15 |
| 1935—36 | 44 | 13 |
| 1937—38 | 36 | 14 |
| 1939-40 | 43 | 8 |
| 1941-42 | 54 | 12 |
| 1943-44 | 49 | 5 |
| 1945—46 | 45 | 19 |

Deaths both from tuberculosis of the lungs and from tuberculosis elsewhere now stand at a considerably lower level than at the beginning of the period reviewed but, while deaths from tuberculosis of the lungs reached their lowest level in 1937-38, just before the war, and then rose during the war to a peak in 1941-42 when air-raids were most frequent and the general situation was at its most anxious, since when the number has again diminished, the deaths from other forms of tuberculosis-meningitis, abdominal tuberculosis, tuberculosis of bones and joints, etc.— have not followed a parallel course. They diminished more irregularly than the deaths from pulmonary tuberculosis and reached their lowest level in 1943-44. In the following two years, 1945-46, they have risen again sharply, to as many as in 1931—32. There are two main varieties of the tubercle germ, the human type, found in practically all cases of tuberculosis of the lungs in man, and the bovine type, found in tuberculous cows and also in a very considerable proportion of cases of tuberculosis in children affecting other parts of the body than the lungs. This rise in the death rate from tuberculosis of other parts of the body than the lungs should lead one to pay special attention to the possibility of tuberculous milk being a present danger, especially in view of the increased quantity of milk consumed by children in the last few years. All milk for children should either be from tuberculin-tested cows, or should be pasteurised, or, failing that, boiled, to ensure th any tubercle germs it may contain are killed.

Foods. Meat and Food inspection is referred to in the report of your Sanitary Inspector.

One specimen of pasteurised milk was sent for laboratory examination in July and was reported as showing a bacterial count of 91,000 per c.c., with coliform bacilli present in 1/1000 c.c., and on the phosphatase test in Group II. The milk was pasteurised in an adjoining area and steps were taken to improve the supervision of the process.

Eleven samples of ice-cream were taken by your Inspector in August and November and were submitted to the Public Health Laboratory at Northallerton, within four hours of sampling. No disease producing germs were found in the samples, three of which, however, had bacterial counts of over 4,000,000 per c.c., four less than this but over 100,000, and four had counts of fewer than 50,000. Six had coliform organisms present in 1/100 c.c. In the absence of any standard of bacteriological cleanliness no exception can be taken to any of these samples, but undoubtedly, while some foods, such as some varieties of cheese, are usually eaten with impunity when swarming with lower forms of life, a product such as ice-cream cannot be regarded as satisfactory when it contains over 4,000,000 bacteria per c.c.

Water. Summaries of the analytical reports on samples of water submitted regularly by the Water Engineer are given in Tables in the Appendix. The samples taken from taps in the borough, either on the Council supply or on that of the Tees Valley Water Board, were reported as wholesome and satisfactory throughout the year.

Housing. During the year, with the progress of demobilisation, the lack of houses in the borough has become acute. The Council's post-war Housing Scheme envisaged the erection of 220 permanent and 50 temporary houses in the two years after the cessation of the war. By the end of 1946 work had progressed on roads and sewers and other preparation of the sites. The number of applications for Council Houses received total roughly 1200 and a considerable number of the applicants are living in conditions of overcrowding with their relatives. A speedy amelioration of the housing situation is of prime importance from a public health point of view.

During August "squatters" took possession of huts and other buildings at three camps in the area: Tees 'O' Green Lane Camp, Biddy Camp and Pasley Battery. Thirty-two families occupied the 32 huts at the first camp, 21 families 18 of the 23 huts at the second; at Pasley Battery 5 of the 12 huts were occupied. Arrangements were at once made to maintain a supply of water and electricity, adequate sanitary conveniences and refuse receptacles, and the sites were subsequently transferred by the Ministry on loan to the Council.

I am, Mr. Mayor, Madam and Gentlemen, Your obedient servant,

Guisborough,

March 26th, 1947.

C. R. GIBSON,

Medical Officer of Health.

APPENDIX

Statistics and Social Conditions of the Area.

Area (in acres): 7,035.

Estimate of resident population, mid-1946: 27,000.

Number of inhabited houses (end of 1946) according to Rate Books: 7,469.

Rateable Value: 173,578.

Sum represented by a penny rate: £671.

Redcar is a residential and seaside resort and has also important iron and steel works; it is proposed to erect a large modern chemical plant adjoining the area.

ANNUAL REPORT

for the year 1946

by

W. TUTIN

A.R.S.I., M.I.P.C., M.S.I.A., M.I.H.

CERTIFIED MEAT AND FOOD INSPECTOR (R.S.I.)

CHIEF SANITARY INSPECTOR AND

CLEANSING SUPERINTENDENT.

Health Department, Ridley House, Redcar.

To: The Mayor, Aldermen and Councillors of the Borough of Redcar.

Madam and Gentlemen,

I herewith submit my Annual Report for the year ended 31st December, 1946. Although we are back to the days of peace I am afraid we are a long way from being back to normal working conditions. The outstanding call continues to be housing, and it is to be hoped that there will be a steady increase of new houses during 1947. Until the shortage of houses is overcome, little can be done to improve the quality of existing houses. We have to concentrate on urgent defects, leaving reconditioning and major repair work until labour can be taken from house building.

I think the time has come for a comprehensive housing survey to be carried out in order to ascertain the condition of the older houses in the Borough. This survey should be carried out thoroughly and systematically, but could not possibly be undertaken without an increase in the Staff of your Health Department.

The following is a statement of work carried out by your Health Department:-

Inspections.

The following is a tabulated statement of the number of inspections made during the year under review:—

| Total number of inspections | 5473 |
|---|------|
| Total number of re-inspections | 6196 |
| Total number of nuisances found | 4801 |
| Total number of nuisances abated | 4745 |
| Total number of Informal Notices (including | |
| verbal and written notices) | 4242 |
| Total number of Statutory Notices | Nil |
| Total Number of Informal Notices complied with | 4214 |
| Total number of Statutory Notices complied with | Nil |
| Total number of Informal Notices outstanding | 28 |
| Total number of Statutory Notices outstanding | Nil |

Sanitary Works and Improvements.

| Dilapidated dustbins | 364 | Defective W.C. Basins | 32 |
|-----------------------------------|-----|--------------------------------|-----|
| Choked drains | 540 | Choked street gullies | 51 |
| Choked and defective eave spouts | 231 | Defective paving of yards | 7 |
| Choked sewers | 92 | Defective set-pots | 5 |
| Defective flushing apparatus | 49 | Defective fireplaces | 61 |
| Keeping of animals, poultry, etc. | | Premises in a verminous | |
| in an unsanitary condition | 61 | condition (including Military) | 390 |

| Sanitary Works and Improveme | ents-conti | nued. | | | |
|------------------------------------|-------------|--|------------|---------------|-------|
| Defective construction of drains | 23 | Choked and def | fective ra | ainwater pipe | es 43 |
| Dirty condition of dwellinghouses | 147 | Broken plasterw | vork | | 114 |
| Dirty condition of water-closets, | | Premises in nee | d of lim | e-washing | 10 |
| urinals, etc. | 111 | Insufficient sink | accomi | modation | 19 |
| Accumulation of rubbish | 63 | Dirty condition | of cows | heds | 5 |
| Defective roofs | 72 | Defective const | ruction o | of windows | 27 |
| Dirty condition of yards | 42 | External walls r | equiring | g repointing | 272 |
| Defective floors of dwellinghouses | 72 | Dampness of dv | wellingh | ouses | 196 |
| Defective and insanitary condition | | Defective and d | angerou | s condition | |
| of sinks | 15 | of outbui | ildings | | 12 |
| Choked and defective waste-pipes | 37 | | Total | 1 | 3163 |
| Infectious Diseases and Disinfec | tion. | | 1 Ota | () mehan | 3103 |
| Number of Infected h | | ected | | 88 | |
| Number of infected he | | | | 88 | |
| Number of schools dis | | | | 12 | |
| Number of classrooms | disinfecte | | | 92 | |
| Factories and Workshops. | | | | | |
| Number of inspections | s of Factor | ies and Worksho | ne | 70 | |
| Number of nuisances | | | The same | 15 | |
| Number of nuisances | | **** | | 15 | |
| Number of complaints | | A Inspector | **** | 5 | |
| | s mom m.n | 1. Hispector | | | |
| Offensive Trades. | | 1.6 | | N 711 | |
| Offensive Trades on F | | | **** | Nil | |
| Number of inspections | | ut | **** | Nil | |
| Number of nuisances | dealt with | **** | **** | Nil | |
| Bakehouses. | | | | | |
| Number of Bakehouse | - | | | 34 | |
| Number of notification | | The second secon | pector | 4 | |
| Number of notification | | | **** | 4 | |
| Number of Bakehouse | | | **** | Nil | |
| Number of Bakehouse | | | | Nil | |
| Number of nuisances | | and dealt with | | 17 | |
| Number of inspection | s | **** | **** | 152 | |
| Cowsheds. Number of Cowkeepe | re within t | he Borough | | 8 | |
| Number of Cowsheds | | | **** | 16 | |
| Number of Registered | | | **** | 8 | |
| Number discontinued | | | | Nil | |
| Number registered du | | | **** | Nil | |
| Number of Inspection | | | | 230 | |
| Number of notices de | | **** | | 11 | |

Dairies and Milkshops.

| Number on Register | | 35 |
|---------------------------------|------|-----|
| Number discontinued during year | | 1 |
| Number registered during year | | 1 |
| Number of inspections | | 174 |
| Number of notices dealt with | | 16 |

Public Conveniences. During the year all the existing Public Conveniences have been cleansed and disinfected daily.

I must again point out how seriously the shortage of conveniences affects Redcar—especially the ladies' conveniences on the Promenade. These are definitely inadequate for the summer season. It is common to see long queues of females waiting for admission to Swiss Cottage Conveniences. Before the war a comprehensive scheme was planned for the extension of these premises. I think this question should be re-opened, and a special effort made to obtain a licence to proceed with the work.

During the year the gent's conveniences at Lobster Road and Moore Street have been reconditioned and brought up-to-date.

Water Supply. Bulk supplies from the Cleveland Water Company are mixed with the Corporation's own water derived from Worts Well Spring and adits in the Reservoir. The water is chlorinated and filtered on passage from the Reservoir to the town mains. The western portion of the Borough, including Warrenby and Dormanstown, is supplied with water purchased in bulk from the Tees Valley Water Board. A few houses in Kirkleatham are supplied direct from the Cleveland Water Company.

Shops Acts. During the year periodical inspections have been carried out, and a general tendency to close shops earlier than required under the 1912 Act has been noticed. The following is a summary of defects found and remedied:—

| | Number | Number | Number |
|--------------------------------------|-----------|----------|-------------|
| | Inspected | Remedied | Outstanding |
| Rooms not at reasonable temperature | 26 | 26 | Nil |
| Lack of Ventilation | 11 | 11 | Nil |
| Insufficient Sanitary Accommodation | 2 | 2 | Nil |
| Lack of accommodation for taking mea | ls 4 | 4 | Nil |
| Insufficient washing accommodation | 1 | . 1 | Nil |
| Seats not provided for Assistants | 2 | 2 | Nil |

Rat and Mice Destruction Act, 1919. Measures against rodents form one of the most important functions of our Department. During 1946 our campaign against rat infestation has been intensive. Bread and Sausage Rusk have been the main baits, along with the poisons zinc phosphide, arsenic, barium carbonate and red squill, the latter being used chiefly for the infestation of poultry runs.

Where infestations come to our notice, premises are visited and surveyed, and appropriate advice given to occupiers. Often it is found that garden huts are fixed in such a position as to act as harbourage for rats. In such cases it is suggested that the huts be raised off the ground. Another common fault is the throwing of scraps of food over the ground.

At the beginning of the year we had in Redcar I Reservoir, I Major, and several Minor infestation areas. A special campaign was carried out in these areas, with good results. The town has been divided into 55 areas, and is being systematically visited, and treated, and pre-baiting carried out, followed up with poison baits. Very good results have been obtained with this procedure.

With regard to the Refuse Tip, which is considered our worst infestation, extra special treatment by gassing, poisoning and trapping, and also occasional visits with dogs and ferrets, have been carried out. These methods have shown very good results.

During the year it is estimated that well over 4,000 rats have been accounted for.

Summer Camps. The three summer camps in Redcar were again well patronised during the summer months. These camps were well managed, and are licensed under Section 269 of the Public Health Act, 1936. During my several visits to these camps I observed an improvement in the class of persons taking advantage of this type of holiday.

Eradication of Bed Bugs. During the year 192 premises came to our notice for attention. These premises were sprayed and fumigated after wallpaper, skirting boards along walls, and picture mouldings had been removed. The spraying was carried out with an effective disinfectant fluid containing the new preparation known as D.D.T. This method was quite successful.

Markets. The market continues to be held on Saturdays in the High Street. An increase in the number of stalls has taken place during the past year. Cleansing of the market area is carried out on each Saturday night immediately after all the stalls have been dismantled.

Housing. Housing work, as I have previously stated, has, out of necessity, been confined to urgent work, and owing to the licencing system in operation, many owners of property have been dilatory in complying with notices. During the year a start was made on the erection of new houses and 46 were completed, which number includes 18 Aged Person's Homes. 140 houses were visited to verify applications for the tenancy of Council Houses. Advantage was taken of these visits to ascertain the condition of the houses visited.

Squatters. In common with other places, we had an influx of squatters when three disused Military Camps were occupied by people from different parts of the district. In all we had 74 families who occupied 59 huts. Immediately this took place arrangements were made for sanitary services to be provided. Fortunately two of the camps had a sufficient number of water closets and an adequate supply of water laid on. Towards the

end of the year instructions were given to provide the huts with cooking stoves, and to carry out necessary work for the comfort and well-being of the squatters. The third Camp occupied had no closets of any description and emergency chemical closets were provided. This camp is situated on the gun site at Warrenby and has no drainage system. The Military Authorities are very reluctant to allow squatters to continue to occupy these huts, and therefore they have not yet been handed over to the Local Authority.

Meat and Food Inspection. During 1946 the same procedure has been adopted with regard to the inspection of Meat and Food, as during the previous six years, i.e., all fresh meat was distributed from the Government controlled slaughterhouse at Middlesbrough, and all imported meat from warehouses in Middlesbrough. The meat was then distributed through the local Distributing Depots to the retail shops. Periodical inspections were carried out by your Staff and any meat found unfit was returned to the Government Depot for their disposal.

In addition to inspections at the Meat Depot, inspections of various other foodstuffs have been carried out at shops throughout the Borough.

The following is a list of foodstuffs condemned as unfit for human consumption:-

| Meat | | | 183 lbs. |
|-------------------------|--------------|------|-----------|
| Corned Beef & Lunche | | | 482 tins |
| Cakes, Teacakes & Tar | | | 473 |
| | Lo | | |
| Biscuits | | | 21 lbs. |
| Pudding Mixture & Sp | onge Mixtu | re | 245 Pkts. |
| Dessert Moulds | | | 637 Pkts. |
| Eggs | | | 360 |
| Bacon | | | 24 lbs. |
| Steak & Kidney | | | 21 tins |
| Fish | | **** | 78 stone |
| Beans & Peas | | | 33 tins |
| Pilchards & Sardines | | | 34 tins |
| Salmon | | | 72 tins |
| Sweets | | | 21 lbs. |
| Milk | | | 86 tins |
| Stuffing, Salad Dressir | g, Butter Sa | auce | 586 Pkts. |
| Cheese | | | 14 lbs. |
| Sugar | | | 15 lbs. |
| Bread | | | 980 lbs. |
| Jam | .000 | | 12 lbs. |
| Tomatoes | | | 6 lbs. |
| Curry Powder & Junke | et Powder | | 47 tins |

All the above articles were voluntarily surrendered and therefore no legal action was necessary. As far as possible, condemned food was used as pig food.

Premises Registered under Section 14 of the Food & Drugs Act, 1938.

A. Premises used for manufacture and storage of ice-cream intended for sale:

| Number on Register | | 26 |
|--------------------------------|------|---------|
| Number of Inspections | **** | 184 |
| Number of Nuisances found | **** | 14 |
| Number of Nuisances dealt with | | 14 |

B. Premises used for the Preparation and manufacture of sausages, or potted, pressed, pickled or preserved food intended for sale:—

| Number on Register | | 26 |
|--------------------------------|------|-----|
| Number of Inspections | | 242 |
| Number of Nuisances found | | 16 |
| Number of Nuisances dealt with | | 16 |

Ice-Cream. During the back end of the summer season all ice-cream manufacturing premises were regularly inspected and samples taken which were analysed at the Public Health Laboratories, Northallerton.

11 samples were submitted.

5 samples were found to be satisfactory.

6 samples were found not to be satisfactory.

Unfortunately, there is no legal bacteriological standard laid down for ice-cream due to no reliable test being available that would detect the presence of unduly large numbers of non-pathogenic organisms. It is pointed out by the Ministry that any test prescribed as a measure for cleanliness or safety of ice-cream must be entirely reliable. The new Heat Treatment Regulations come into force in May, 1947.

PUBLIC CLEANSING

Refuse Collection. During the year we can claim to have maintained a satisfactory service, although many difficulties have had to be overcome; for example, there appears to be more sickness among the refuse collectors. This may be due to the continued shortage of good food. It cannot be denied that this work is of a very heavy nature. Our refuse vehicles are getting the worse for wear and have at times been long periods off the road due to shortage of spare parts. In most cases a weekly collection service has been maintained for all dwellings. Cafes, hotels and other business premises have had their refuse collected twice weekly.

Refuse Disposal. We continue to use the controlled tipping method of disposal. Our tipping area is fast filling up and will probably only last for a period of 18 months to 2 years. A Committee has been formed to settle our future policy for refuse disposal. A special report has been drawn up for the guidance of that Committee.

Street Cleansing. During the year considerable re-organisation of the Street Cleansing Department took place. Additional staff has been engaged, and the town divided into areas, each sweeper being responsible for his given area. In addition, the cleansing of footpaths (previously carried out by the Engineer's Dept.) has been taken over by your Cleansing Department. This is a big improvement, as the cleansing work throughout the Borough is now under one control.

The total mileage of streets in Redcar is 42.37 miles, including 8.36 miles of County Roads, for which a monetary grant on a percentage basis of actual cost is payable by the County Council.

All main streets are swept daily. The following is a summary of service given to the different streets:—

Swept once daily 26·16 miles.

Swept three times weekly 7·25 miles.

Swept at least once weekly 8·96 miles.

In addition to the streets cleansed, the Department is responsible for the cleansing of the full length of the Promenade, including the western and Stray extensions.

Gully Cleansing. All the street gullies throughout the Borough are cleansed by means of a mechanical gully-cleansing machine. They are then re-sealed with a disinfectant solution. The full cost of gully cleansing on the County Roads is refunded by the County Council.

Cost. The following is a summary of the cost of your public cleansing service:

REFUSE COLLECTION:—

| Total No. Loads collected | | 7,100 |
|-------------------------------------|---------|-----------------|
| Total estimated tonnage | | 10,650 tons |
| Weight of refuse per thousand pop | ulation | |
| per day | | 23·34 cwts. |
| Nett cost per ton collected | | 12/8·14d. |
| Nett cost per thousand population | | £268 1s. 7·2d. |
| Nett cost per thousand premises | | £827 8s. 1.7d. |
| Refuse Disposal :— | | |
| Nett cost per ton disposed | | 1/9·6d. |
| Nett cost per thousand population | | £38 7s. 2.4d. |
| Nett cost per thousand premises | **** | £118 7s. 10.6d. |
| STREET SWEEPING:- | | |
| Total square yards of surface clear | ised | 106,000,000 |
| during the year | | |
| Nett cost per 10,000 sq. yards. | | 4/1·4d. |
| Nett cost per thousand population | | £87 9s. 7·2d. |
| GULLY CLEANSING :- | | |
| Total number gullies cleansed | **** | 32,000 |
| Nett cost per 1,000 gullies | | £11 6s. 3d. |
| Nett cost per thousand population | | £14 9s. 7.2d. |
| rece cost per mousand population | | £17 75. 1 Zu. |

THE BASIS OF THIS REPORT IS AS FOLLOWS:—

Estimated normal population 25,000
Approx. number of premises 8,100
Tonnage collected (estimated) 10,650
Cost of Refuse Collection £6,702
Cost of Refuse Disposal £959
Cost of Street Cleansing £2,187

Cost of Gully Cleansing

Salvage. We continued during the year to collect salvage and kitchen waste. This collection is carried out by means of trailers attached to our refuse vehicles. The amount of material collected and sold during 1946 shows a slight decrease compared with 1945, but the value is slightly increased.

The following is a summary of articles reclaimed and sold during 1946:—

| | A | PPROX. | WEIGHT | A | MOU | JNT |
|--------------------|---|--------|----------------|-------|-----|-----------------|
| ARTICLE | | Tons | Cwts. | £ | S. | d. |
| Waste Paper | | 195 | 14 | 1288 | 9 | $11\frac{1}{2}$ |
| Ferrous Metals | | 27 | 18 | 71 | 10 | 0 |
| Non-Ferrous Metals | | 1 | 734 | 25 | 18 | 9 |
| Textiles (Mixed) | | 14 | $0\frac{1}{2}$ | 94 | 4 | 6 |
| Bones | | 6 | $1\frac{3}{4}$ | 32 | 5 | 6 |
| Bottles and Jars | | 26 | 14 | 93 | 0 | 11 |
| Kitchen Waste | | 38 | 84 | 66 | 14 | 0 |
| | | 309 | 11½ | £1672 | 3 | 71/2 |

The expenses in connection with this work amounted to £1,036 0s. 0d., which left a balance of £636 3s. $7\frac{1}{2}$ d. excess of income over expenditure.

Since salvage operations were commenced in 1939, our total collections have been:

| Weight | | 3,101 tons. |
|---------|-------------|-------------|
| Value | **** | £13,113 |
| Approx. | Expenditure | £7,489 |

leaving a balance of £5,624 excess of income over expenditure.

In conclusion I wish to express my appreciation and thanks to the Chairman and Members of the Health Committee, and to the members of the staff and workmen of the Council for their continued support and co-operation, and for the help received from them in the discharge of my duties.

I am, Madam and Gentlemen, Your obedient servant,

W. TUTIN,

Chief Sanitary Inspector and Cleansing Superintendent.

£,362

APPENDIX.

1. SUMMARY OF VITAL STATISTICS.

| | | | 11.00 | Deaths | Deaths at Ages | Deaths | Yearly | Yearly | Infant Mortality Rate |
|-----------|-------------|------------|---------|-----------------|----------------|--------------------------------|-----------------|-----------------|--|
| Period. | Population. | Births. | Deaths. | Under 1 year | 1—4 years. | forms of Tubercu- losis. | Birth- rate. | Death- rate. | (Infant deaths per thousand births). |
| | | EFE GER | | | | | | | |
| 1889—1903 | 7,695 | 1022 | 582 | 127 | 90 | ٥٠ | 26.6 | 15·1 | 124 |
| 1904—1908 | 8,900 | 1216 | 909 | 131 | 58 | 42 | 27.3 | 13.6 | 108 |
| 1909—1913 | 10,509 | 1336 | 899 | 132 | 73 | 99 | 25.4 | 12.7 | 66 |
| 1914—1918 | 11,400 | 1227 | 685 | 06 | ٥. | 19 | 21.5 | 12.0 | 73 |
| 1919—1923 | 15,450 | 1655 | 803 | 133 | 65 | 59 | 22.3 | 10.4 | 80 |
| 1924—1928 | 17,708 | 1506 | 935 | 66 | 58 | 89 | 17.0 | 9.01 | 99 |
| 1929—1933 | 20,314 | 1507 | 1155 | 98 | 55 | 59 | 14.8 | 11.4 | 57 |
| 1934—1938 | 22,526 | 1740 | 1352 | 95 | 34 | 54 | 15.5 | 12.0 | 54 |
| 1939—1943 | 23,522 | 1893 | 1612 | 66 | 25 | 69 | 1.91 | 13.7 | 52 |
| 1944 | 23,840 | 501 | 297 | 00 | 4 | 13 | 20-7 | 12.5 | 91 |
| 1945 | 24,120 | 438 | 312 | 24 | 7 | 13 | 18.2 | 12.9 | 55 |
| 1946 | 27,000 | (513) | 316 | 29 | 3 | 14 | 0.61 | 11.7 | 564 |
| - | - | - | | | | | | | |

2. NOTIFIABLE DISEASES, 1946

(other than Tuberculosis)

| Total Deaths | 1 | 1 | 16 | 1 | 1 | - | 1 | 1 |
|------------------------------|---------------|------------|-----------|------------|---------|----------------|----------------|---------------------|
| Cases Admit'd Hospital | 42 | 17 | 1 | 1 | 1 | 1 | 1 | 1 |
| 65- | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| 45- | 1 | 1 | 7 | т | 1 | 1 | 1 | E |
| 35— | 4 | 1 | 9 | 1 | 1 | 1 | 1 | |
| 25— | L | - | 1 | - | 1 | 1 | 1 | - |
| 15— | 4 | 6 | 4 | - | - | 1 | 1 | |
| 101 | 17 | 5 | 1 | - | 1 | 1 | 1 | 1 |
| · v | 29 | 6 | - | 1 | 54 | 6 | 1 | I |
| 4 | 9 | 1 | 1 | -1 | 21 | 7 | 1 | |
| т. | 4 | ı | 1 | 1 | 15 | ∞ | 1 | 1 |
| 2 | 1 | 1 | - | -1 | 6 | 7 | 1 | 1 |
| 1 year | 2 | 1 | 1 | 1 | 4 | ∞ | 1 | 1 |
| Under 1 year | 1 | 1 | 1 | 1 | 3 | 4 | 1 | 1 |
| All | 89 | 12 | 21 | 9 | 107 | 43 | - | - |
| And the second | | | | | | ug | | noebic) |
| | Scarlet Fever | Diphtheria | Pneumonia | Erysipelas | Measles | Whooping Cough | Food Poisoning | Dysentery (Amoebic) |

TABLE 3. PATIENTS ADMITTED TO GUISBOROUGH & DISTRICT JOINT ISOLATION HOSPITAL

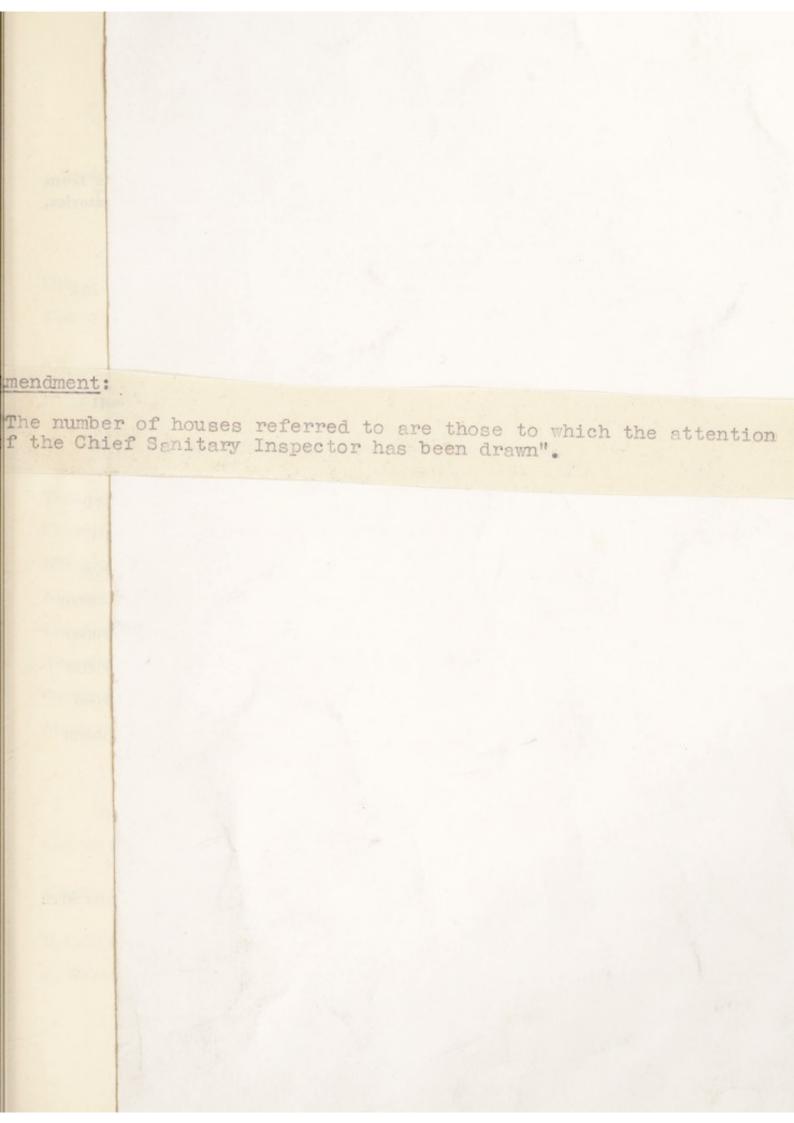
| | | | 1/4/40 to 31/3/41 | 41/42 | 42/43 | 44/45 | 45/46 | Year 1946 |
|---|--|---|----------------------|-------------------|-------|-------|-------|--------------|
| | | | | | | | | |
| | Scarlet Fever | : | 48 | 27 | 32 | 110 | 85 | 74 |
| - | Diphtheria | | 99 | 73 | 36 | 22 | 92 | 30 |
| | Enteric Fever | 1 | - | 2 | 1 | ı | 1 | 2 |
| - | Erysipelas | : | 1 | 1 | 3 | 1 | 1 | 1 |
| | Puerperal Fever | | 1 | - | - | - | 1 | 1 |
| | Cerebro-Spinal Fever | - | 18 | 5 | 9 | 4 | 3 | 1 |
| | Others | 1 | 29 | 30 | 36 | 40 | 99 | 20 |
| | | | | | | | | |
| | TOTAL | | 154 | 139 | 114 | 179 | 236 | 126 |
| | Service and outside patients (included) | 1 | 25 | 24 | 29 | 32 | 52 | 5 |
| | | | | The second second | | | | |

4. ABSTRACT OF THE WORK OF THE SANITARY DEPARTMENT

| Remarks | | | | | | | | 148 Infactions Diseases | 242 Verminous Premises |
|-------------------------|---------------------------------------|-----------------|----------------------|------------|-------------------------|------------------|--------------------------------------|---------------------------|------------------------|
| Result | 26 Informal Notices Outstanding | 0 | Compliance | do. | do. |) Informati | Notices Outstanding | do. | T |
| Statutory Notices | | Z | īZ | Nil | IN | 1 | Z | IIN | |
| Informal Notices | 4242 | IN | 11 | 17 | 15 | 1 | 46 | 10 | or you |
| Number dealt with | 4801 | Nil | 43 | 34 | 51 | 1 | minimu minimu minimu minimu | 3 | 390 |
| | Nuisances | Slaughterhouses | Dairies and Cowsheds | Bakehouses | Factories and Workshops | Offensive Trades | Shops | Music Halls, Cinemas, etc | Premises Disinfected |

5. HOUSING STATISTICS.

| No | of . | New Hous | es complete | d in 1946: | | | | | |
|----|--------|-----------|---------------|--------------|-----------|---------------|----------------|----------|-----|
| | | (a) Cour | ncil | | | | | | 46 |
| | | (b) Othe | r | **** | | **** | | **** | Nil |
| 1. | Ins | pection o | f Dwellingh | ouses du | ring the | vear: | | | |
| | (1) | _ | | | | | housing defe | ects | |
| | | | (under | Public He | alth or H | lousing Act | (s) | **** | 426 |
| | | (b) No. | of inspection | ns made fo | r the pu | rpose | | | 788 |
| | (2) | (a) No. | of dewllingl | nouses (inc | luded un | der sub-he | ad (1) above) | | |
| | | | which | were inspe | cted and | recorded u | nder the Hou | using | |
| | | | Consol | idated Reg | ulations, | 1925 | | | 161 |
| | | (b) No. | of Inspectio | ns made fo | or the pu | rpose | | | 336 |
| | (3) | No. of dv | ellinghouses | found to | be in a s | tate so dang | gerous or inju | urious | |
| | | | to healt | th as to be | unfit for | human ha | bitation | | Nil |
| | (4) | No. of d | wellinghouse | s (exclusiv | e of the | se referred | to under th | ne | |
| | | | | | | | all respects | | |
| | | | reasona | bly fit for | human h | abitation | | | 142 |
| | | | | | | | | | |
| 2. | | | | | | | of formal | notices: | |
| | (1) | No. of de | | | | | sequence of | | |
| | (2) | N. C.1 | | | | | or their offic | | 112 |
| | 17,000 | | | | | | not yet comp | olete | 30 |
| | | | tices in cour | | | iot yet serv | ed) | **** | 17 |
| | (4) | No. of no | tices outstan | ding | | **** | | **** | 12 |
| 3. | Act | ion under | Statutory | Powers d | luring th | he year : | | | |
| | A. | Proceedi | ngs under Se | ections 9, 1 | 10 and 16 | of the Ho | using Act, 19 | 36: | |
| | | (1) No. o | of dwellingho | uses in res | pect of w | hich notices | were served | | |
| | | | requirir | ng repairs | | | | **** | Nil |
| | | (2) No. | of dwellingh | ouses reno | dered fit | after service | ce of formal | | |
| | | | notices | | | | | | |
| | | | | by owner | | | | | Nil |
| | | | (b) | by local a | uthority | in default | of owners | **** | Nil |
| | В. | Proceedi | ngs under Pi | iblic Healt | h Acts | | | | |
| | 2. | | | | | hich notices | were served | | |
| | | (., | | ng defects | | | | | Nil |
| | | (2) No. (| | | | | medied after | | |
| | | 1 3 | | of formal | | | | | |
| | | | | by owner | | | | | Nil |
| | | | (b) | by local a | uthority | in default o | of owners | **** | Nil |
| | | | | | | | | | |



no transition and notes to evenit eve at herroton as

HOUSING STATISTICS—continued

| | C. | Proceedings under Sections 11 and 13 of the Housing Act, 1936: (1) No. of dwellinghouses in respect of which Demolition Orders were made | | Nil |
|-----|-------|--|------|------|
| | | (2) No. of dwellinghouses demolished in pursuance of Demolition | | |
| | | Orders | | Nil |
| | D. | Proceedings under Section 12, Housing Act, 1936: | | |
| | | (1) No. of separate tenements or underground rooms in respect | | |
| | | of which Closing Orders were made | | Nil |
| | | (2) No. of separate tenements or underground rooms in respect | | |
| | | of which Closing Orders were determined, the | | |
| | | tenement or room having been rendered fit | | Nil |
| | | | | |
| TO. | asing | Act, 1935. Overcrowding. | | |
| | (a) | (1) No. of dwellinghouses overcrowded at the end of the year | | 263 |
| | | (2) No. of families dwelling therein | | 413 |
| | | (3) No. of persons dwelling therein | | 1426 |
| | (b) | No. of new cases of overcrowding reported during the year | | 51 |
| | (c) | (1) No. of cases of overcrowding relieved during the year | | 13 |
| | | (2) No. of persons concerned in such cases | | 110 |
| | (d) | Particulars of cases in which dwellinghouses have again become | | |
| | | overcrowded, after the local authority have taken | | |
| | | steps for the abatement of overcrowding | **** | Nil |
| | | | | |

TABLE 6.

Summary of Chemical and Bacteriological Examination of Water Samples from The Spring, Upleatham, submitted to the Counties Public Health Laboratories, Queen Victoria Street, E.C.4.

| Date of Sample N | March 4th. | June 5th | Sept. 2nd | Dec. 2nd. |
|---|--------------|------------|---------------|------------|
| Turbidity, parts per million, Silica Scale | — 5 | — 5 | — 5 | |
| p.H. Value | 6.5 | 6.6 | 6.5 | 6.5 |
| Hardness: Total | 10.5 | 11.0 | 11.0 | 12.5 |
| Hardness: Temporary | 3.0 | 3.0 | 5.5 | 5.5 |
| Parts per 100,000 | | | | |
| Total Solids dried at 180°C. | 23.0 | 23.0 | 23.0 | 23.0 |
| Chlorine in Chlorides | 4.1 | 4.3 | 4.2 | 4.3 |
| Nitrogen in Nitrates | 0.44 | 0.48 | 0.42 | 0.38 |
| Nitrogen in Nitrites | Per Ve de la | -0.001 | - | -0.001 |
| Free Ammonia | 0.0022 | 0.0016 | 0.0006 | 0.0000 |
| Albuminoid Ammonia | 0.0006 | 0.0022 | 0.0010 | 0.0030 |
| Oxygen absorbed in 4 hrs. at 27°C. | 0.015 | 0.015 | 0.015 | 0.000 |
| Metals | Absent | Absent | Absent . | Absent |
| Bacteriological Results: | | | | |
| Colonies per c.c. on Agar at 37°C. in 2 days | 1 | 25 | 80 | 4 |
| Colonies per c.c. on Agar at 20°C. in 3 days | 8 | 42 | 80 | 4 |
| B. Coli (Type I) | pres. 50 c.c | c. — | pres. 10 c.c. | pres 50 cc |
| C. Welchii Reaction | | | | |

TABLE 7.

Summary of Chemical and Bacteriological Examination of Water Samples from The Tunnel, Council Waterworks, submitted to the Counties Public Health Laboratories, E.C.4.

| Date of Sample | March 4th | June 3rd | Sept. 3rd | Dec. 2nd |
|--|-----------|------------|------------|-------------------|
| Turbidity, parts per million | 8 | — 5 | 7 | 8 |
| Silica Scale | 0 | _3 | , | 0 |
| p.H. Value | 6.9 | 7.0 | 7.0 | 6.9 |
| Hardness: Total | 64.0 | 67.0 | 66.0 | 69.0 |
| Hardness: Temporary | 31.5 | 31.5 | 33.5 | 33.5 |
| Parts per 100,000 | | | = your mil | |
| Total Solids dried at 180°C. | 81.0 | 80.0 | 81:0 | 85.0 |
| Chlorine in Chlorines | 3.6 | 3.8 | 2.8 | 3.7 |
| Nitrogen in Nitrates | 0.00 | 0.00 | 0.00 | 0.06 |
| Nitrogen in Nitrites | - | - Too 5 | - | -0.001 |
| Free Ammonia | 0.020 | 0.026 | 0.019 | 0.014 |
| Albuminoid Ammonia | 0.0008 | 0.0000 | 0.0000 | 0.0000 |
| Oxygen absorbed in 4 hrs. at 27°C. | 0.010 | 0.010 | 0.010 | 0.000 |
| Metals: Iron | 0.020 | 0.040 | 0.056 | 0.055 |
| Manganese | 0.055 | 0.062 | 0.062 | 0.070 |
| Bacteriological Results : | | | | |
| | | | | |
| Colonies per c.c. on Agar at 37°C. in 2 days | 0 | 0 | 0 | 0 |
| Colonies per c.c. on Agar at 20°C. in 3 days | 0 | 0 | 16 | 2 |
| B. Coli (Type I) | _ | - | _ | Pres. in 100 c.c. |
| C. Welchii Reaction | _ | - | - | - |
| | | | | |

TABLE 8.

Summary of Chemical and Bacteriological Examination of Water Samples from The Cleveland Water Company's Reservoir, Upleatham.

| Date of Sample | | March 4th | June 3rd | Sept. 2nd | Dec. 2nd. |
|--|----------|------------|---------------|-------------------|-------------------|
| Turbidity, parts per million Silica Scale | n | — 5 | — 5 | — 5 | — 5 |
| p.H. Value | | 6.7 | 7:1 | 6.7 | 6.5 |
| Hardness: Total | | 5.5 | 5.0 | 5.5 | 5.0 |
| Hardness: Temporary | **** | 0.5 | 0.5 | 3.5 | 1.0 |
| Parts per 100,000 | | | | | |
| Total Solids dried at 180°C | 2. | 10.5 | 11.0 | 11.0 | 9.0 |
| Chlorine in Chlorides | | 1.7 | 1.8 | 1.6 | 1.6 |
| Nitrogen in Nitrates | | 0.00 | 0.00 | 0.00 | 0.00 |
| Nitrogen in Nitrites | | -0.001 | 001 | -0.001 | -0.001 |
| Free Ammonia | | 0.011 | 0.0018 | 0.0052 | 0.011 |
| Albuminoid Ammonia | **** | 0.0056 | 0.0054 | 0.0050 | 0.0052 |
| Oxygen absorbed in 4 hrs. | at 27°C. | 0.120 | 0.125 | 0.235 | 0.330 |
| Metals: Iron | | 0.012 | 0.014 | 0.026 | 0.036 |
| Metals : Manganese | | 040.0 | 0000 em | - | 0.005 |
| Bacteriological Resu | lts | | | | |
| Colonies per c.c. on Agar a 37°C. in 2 days | t | 0 | 7 | 40 | 0 |
| Colonies per c.c. on Agar a 20°C. in 3 days | t | 180 | 35 | 200 | 0 |
| B. Coli (Type I) | **** | - 6 | Pres. 20 c.c. | Pres. 50 c.c. | THE RESERVE |
| C. Welchii Reaction | | | | Pres. 100 c.c. | Pres. 100 c.c. |

TABLE 9.

Summary of Chemical and Bacteriological Examination of Water Samples from the Borough Council's Reservoir.

| Date of Sample | Jan. 8 | Feb. 4 | Mar. 4 | Apr. 1 | May 5 | June 3 | July 1 | Aug. 6 | Sept. 2 | Oct. 1 | Nov. 4 | Dec. 2 |
|---|--------|--------|--------|--------|--------|--------|--------|------------------|-------------------|-------------------|-------------------|--------|
| Turbidity, parts per million, Silica Scale | 5 | 1 | -5 | -5 | -5 | 2 | 00 | 8 | 5 | ∞ | -5 | -5 |
| p.H. Value | 7.1 | 7.5 | 7.5 | 7.4 | 4.6 | 7.7 | 7.7 | 9.2 | 7.5 | 7.5 | 7.5 | 7.5 |
| Hardness: Total | 21.0 | 22.5 | 25.5 | 27-0 | 30.5 | 28.5 | 29.5 | 30.0 | 30.0 | 29.0 | 27.0 | 27.5 |
| Hardness: Temporary Parts per 100,000 | 7.5 | 9.5 | 11.0 | 11.5 | 13.0 | 12.6 | 14.5 | 15.0 | 14.5 | 14.0 | 12.5 | 12.5 |
| Total Solids dried at 180°C. | 32.0 | 39.0 | 37.5 | 39.0 | 41.5 | 41.5 | 41.5 | 41.5 | 42.0 | 41.0 | 37-5 | 39.0 |
| Chlorine in Chlorides | 2.8 | 2.9 | 2.8 | 5.9 | 3.1 | 3:1 | 3.1 | 3.1 | 3.1 | 3.1 | 2.8 | 3.0 |
| Nitrogen in Nitrates | 0.14 | 0.14 | 90-0 | 0.12 | 90.0 | 90-0 | 0.04 | 0.04 | 90.0 | 0.04 | 90.0 | 0.10 |
| Nitrogen in Nitrites | 100.0— | -0.001 | 1 | 1 | 1 | 100.0— | 0.001 | 0.001 | -0.001 | 0.001 approx. | 100.0— | 00:0— |
| Free Ammonia | 0.000 | 0.040 | 0.058 | 0.957 | 0.052 | 0.062 | 990-0 | 0.078 | 920.0 | 0.023 | 0.000 | 090-0 |
| Albuminoid Ammonia | 0.0024 | 0.0042 | 0.0040 | 0.0019 | 0.0032 | 0900-0 | 0.0064 | 8900-0 | 0.0088 | 0.0064 | 9200-0 | 0.0054 |
| Oxygen absorbed in 4 hrs. at 27°C. | 0.000 | 0.11 | 090-0 | 0.030 | 0.040 | 0:055 | 0.000 | 0.105 | 0.120 | 0.135 | 0.110 | 0.115 |
| Metals: Iron | 0.030 | 0.005 | 0.004 | 900-0 | 0.014 | 0.024 | 0.020 | 0.018 | 0.000 | 0.000 | 0.000 | 0.00 |
| Metals: Manganese | 0.01 | 0.014 | 0.014 | 0.014 | 0.014 | 0.021 | 0.018 | 0.016 | 0.020 | 0-050 | 0.050 | 0.016 |
| Bacteriological Results: | | | | | | | | | | | | |
| Colonies per c.c. on Agar at 37°C. in 2 days | 0 | 1 | 2 | 0 | 1 | 3 | 0 | 00 | 9 | 3 | 0 | 63 |
| Colonies per c.c. on Agar at 20°C. in 3 days | 3 | 1 | 1 | 3 | 9 | 3 | 41 | 36 | 15 | 2 | 0 | 4 |
| B. Coli. (Type I) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | pres. 50 c.c. | pres. 50 c.c. | 1 | 1 | 1 |
| C. Welchii Reaction | 116 | 1 | 1 | 124 | 1 | 1 | 1 | 1 | pres. 100 c.c. | pres. 100 c.c. | pres. 100 c.c. | |

TABLE 10.

Summary of Chemical and Bacteriological Examinations of Water Samples from Points on the Borough Council's Supply.

| Date of Samples | | March 4th Jun | ne 3rd | Sept. 3rd D | ec. 3rd. |
|--|----------|------------------|-------------|----------------|----------|
| | | Transcri itii ju | | Sept. ord | cc. srai |
| Turbidity, parts per million Silica Scale | 1, | less than 5 | less than 5 | less than 5 | - 3 |
| p.H. Value | | 7.5 | 7.3 | 7.4 | 7.5 |
| Hardness: Total | 9 9 | 25.0 | 29.0 | 29.5 | 28.0 |
| Hardness: Temporary | | 10.5 | 11.5 | 14.5 | 13.0 |
| Free Chlorine Reaction | | absent | absent | absent | absent |
| Parts per 100,000: | | | | | |
| Total Solids dried at 180°C | | 37.0 | 41.5 | 41.0 | 38.5 |
| Chlorine in Chlorides | | 2.8 | 3.0 | 3.0 | 2.9 |
| Nitrogen in Nitrates | | 0.08 | 0.08 | 0.12 | 0.10 |
| Nitrogen in Nitrites | | -0.001 | 0.001 | 0.001 | 0.001 |
| Free Ammonia | | 0.032 | 0.081 | 0.013 | 0.056 |
| Albuminoid Ammonia | | 0.0011 | 0.0056 | 0.0028 | 0.0036 |
| Oxygen absorbed in 4 hrs. | at 27°C. | 0.060 | 0.050 | 0.045 | 0.095 |
| Metals: Iron | | 0.006 | 0.012 | 0.016 | 0.018 |
| Metals: Manganese | | 0.007 | 0.004 | _ | - |
| Bacteriological Resu | lts: | | | | |
| Colonies per c.c. on Agar a 37°C. in 2 days | t | 0 | 3 | 18 | 2 |
| Colonies per c.c. on Agar a 20°C. in 3 days | t | 3 | 5 | 21 | 2 |
| B. Coli. | | - | - | - 11 | _ |
| C. Welchii | | - | - | Pres. 100 c.c. | _ |

TABLE 11.

Summary of Chemical and Bacteriological Examinations of Water Samples from Points on Tees Valley Water Board Supply.

| Date of Sample | 1 | Feb. 4th | Mar. 4th J | une 3rd Se | pt. 2nd De | c. 2nd |
|--|----------|-------------|---------------------|-------------|---------------------|---------------------|
| Turbidity, parts per m Silica Scale | illion, | less than 5 | 5 less than 5 | less than 5 | less than 5 | _ |
| p.H. Value | | 7.1 | 7.1 | 7.3 | 7.1 | 7.1 |
| Hardness: Total | | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Hardness: Temporary | | 2.0 | 1.0 | 2.0 | 4.0 | 3.5 |
| Free Chlorine Reaction | 1 | absent | absent | absent | absent | absent |
| Parts per 100,00 | 00: | | | | | |
| Total Solids dried at 1 | 80°C. | 9.0 | 9.0 | 9.5 | 8.5 | 8.0 |
| Chlorine in Chlorides | | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 |
| Nitrogen in Nitrates | | 0.04 | 0.04 | 0.00 | 0.04 | 0.06 |
| Nitrogen in Nitrites | | absent | less than 0.001 | Trace | less than 0.001 | 0.001 |
| Free Ammonia | | 0.0032 | 0.0044 | 0.0012 | 0.0004 | 0.0034 |
| Albuminoid Ammonia | | 0.0061 | 0.0070 | 0.0052 | 0.0080 | 0.0088 |
| Oxygen absorbed in 4 at 27°C. | hrs. | 0.42 | 0.570 | 0.380 | 0.830 | 1.05 |
| Metals: Iron | | 0.040 | 0.010 | 0.012 | 0.012 | 0.026 |
| Metals: Manganese | **** | 0.007 | _ | - | _ | 0.012 |
| Bacteriological 1 | Results: | | | | | |
| Colonies per c.c. on Ag 37°C. in 2 days | gar at | 0 | 14 | 5 | 1 | 4 |
| Colonies per c.c. on Ag 20°C. in 3 days | gar at | 0 | 2 | 260 | 40 | 4 |
| B. Coli. | | - | _ | - | - | |
| C. Welchii. | | _ | present in 100 c.c. | _ | present in 100 c.c. | present 100 c.c. |

Tural Splitte dailed at 180 C.

In trade with