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Contributors

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FULWOOD URBAN DISTRICT COUNCIL.



REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year ending 31st December, 1957.

FULWOOD URBAN DISTRICT COUNCIL.

Chairman of Council :
Councillor E. Collier, J.P.

Public Health and General Purposes Committee :

Chairman—Councillor W. Holden, J.P. Vice-Chairman—Councillor W. C. Attwater.

Members of Committee :

Councillor J. H. C. Allen.	Councillor W. E. Holmes.
Councillor F. Cartmel.	Councillor J. Hothersall.
Councillor L. H. Cartwright.	Councillor A. Ingham.
Councillor H. V. Carwin.	Councillor E. R. Kernaghan, J.P.
Councillor Mrs. L. C. Crapper.	Councillor F. A. Mather, J.P.
Councillor F. H. Crapper, M.B.E.	Councillor T. C. Nicholson.
Councillor E. Collier, J.P.	Councillor J. Phoenix.
Councillor T. M. Haworth.	Councillor J. A. Speed, O.B.E.

Medical Officer of Health : J. Walker, M.B., Ch.B., D.P.H., L.D.S., D.P.D.

Public Health Inspector : R. Graham, N.D.A., M.R.S.H. (resigned 30.9.57).

K. W. McFarlane, M.A.P.H.I. (commenced 1.11.57).

Clerk and Shorthand -typist : Miss M. Carter.

FURWOOD URBAN DISTRICT COUNCIL

Chairman of Council
Councillor A. [Name]

Public Health and General Purposes Committee
Chairman of Committee: [Name]

Members of Council:

- | | |
|----------------------|-------------------|
| Councillor W. [Name] | Councillor [Name] |
| Councillor J. [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |
| Councillor [Name] | Councillor [Name] |

Minutes of the Council Meeting held on [Date] at [Time] in the [Room] of the [Building].
Present: [List of names]
Absent: [List of names]
The Chairman reported that the Council had received [Details of business]
The Chairman proposed that the Council should [Resolution]
The Council agreed to [Resolution]
The Chairman thanked the members for their attendance and adjourned the meeting.

PUBLIC HEALTH DEPARTMENT,
" LARCH HOUSE,"
4, LYTHAM ROAD,
FULWOOD,
LANCS.

REPORT OF THE MEDICAL OFFICER OF HEALTH

For the Year ended 31st December, 1957.

To the Chairman and Members of the Council.

Mr. Chairman, Lady and Gentlemen,

I have the honour to present the Report upon the health and sanitary circumstances of the Urban District of Fulwood for the year ended 31st December, 1957.

The number of live births registered in the District during the year was 181, or 11 more than in the previous year. This gives a birth rate of 12.7 (14.5 adjusted) as compared with 16.1 for England and Wales.

The number of deaths was 5 more than in the previous year and the death rate is 17.1 (10.4 adjusted) as compared with 11.5 for the Country as a whole. Deaths from malignant and lymphatic neoplasms numbered 34 as compared with 32 in the previous year, these figures include cancer of the lung from which cause there were 5 deaths as compared with 6 in 1956. Deaths from coronary disease were 22 as compared with 31 in 1956. Influenza was recorded as the cause of death in 6 cases as compared with only 1 in the previous year. Deaths from pneumonia numbered 4 and from bronchitis 13, the corresponding figures for the previous year being 2 and 3. No doubt the epidemic of Asian Influenza which affected many in this District was responsible for some of these deaths.

The number of infants who died before reaching one year of age was 3 as compared with 5 in the previous year. This gives an infantile mortality rate of 17 as against the national figure of 23.

It is pleasing to report that there were again no deaths attributable to child birth. The last death recorded from this cause was in the year 1945. There were two deaths from respiratory tuberculosis, the same number as in the previous year.

The number of notifications of infectious diseases was 8 more than in 1956. Measles was responsible for 133 notifications as compared with 120 in the previous year. The incidence of other infections was not high and followed much the same pattern as in the previous year. No cases of Diphtheria or Poliomyelitis were notified.

The resignation of Mr. R. Graham, Public Health Inspector, was received with much regret in September. Mr. Graham had held the appointment for 11 years and his efficiency and courtesy had won him high esteem in the District. Mr. K. W. McFarlane commenced duties as Public Health Inspector on the 1st November, 1957, and shows every sign of being a worthy successor to Mr. Graham.

During the year a survey of the District was carried out by the County Health Department and a report presented by the County Medical Officer. In this report it is recommended that suitable filtration plant should be provided for the water supply in order to improve the quality of the water. Another recommendation in this report is the establishment of Smoke Control Areas to cover the whole of the District. These important matters deserve serious consideration with a view to implementation.

The pollution of the brooks in the District with sewage continued as in past years to cause much concern. It will be seen, however, from the report of the Engineer and Surveyor, that the Sewerage Scheme is nearly completed and thus one can at last see an end to this long standing danger to health.

I am very grateful to the officials who, as in past years, have appended their reports. In conclusion I want to express my sincere thanks to the Chairman and members of the Council for their support and encouragement. My thanks are also due to the Officers of the Council for their ready co-operation on all occasions.

I have the honour to be

Your obedient Servant,

J. WALKER.

Medical Officer of Health.

Physical Characteristics of the Area.

The area of the Urban District is oblong in shape, the long axis lying East and West, though the length of this axis has been reduced by the area transferred to Preston County Borough on the Eastern side of the district. The highest point of the area is in the North East being 190 feet above sea level, and the lowest point in the South West being 55 feet above the datum line. Gentle rises and falls characterise the district.

There are four streams flowing through the area from East to West, namely, Sharoe Brook, Boundary Brook, Savick Brook and Eaves Brook, from North to South respectively. Eaves Brook forms the Southern boundary of the district and separates the Urban District from the County Borough of Preston. The Savick Brook is the largest of the four and also the most rapid in its flow, though after heavy rain it frequently overflows its banks and floods the adjoining lands. The other three are less rapid in their flow.

Geologically the area is a part of the Lancashire Plain which is floored with red rock of the Triassic age (examples of these rocks can be seen at the base of the cliffs at Blackpool). Most of this floor is impermeable, but there is a fault of Bunter Sandstone which runs from South East to North West through part of the district and is considered to be water bearing. Superficial to the rock base there are three layers of Glacial Drift varying in depth from 90 to 130 feet—the Lower Boulder Clay, the Drift Sand and the Upper Boulder Clay. The thickness of the individual layers varies considerably in different parts of the district. In the North Eastern portion there are many bluffs or hillocks composed entirely of Drift Sand with a covering of Upper Boulder Clay of varying thickness. Some of these bluffs have, on the contrary, a central core of clay and a surround of sand. All the bluffs rest upon a base of lower Boulder Clay many feet in thickness. Towards the Western side of the district the Upper Boulder Clay Layer is above 20 feet in thickness, resting upon sand of up to 30 feet in depth with a layer of Lower Boulder Clay underneath which varies considerably in thickness. The Triassic Rock Layer is raised above the existing sea level but forms an inclined plane rising to the Pennines. The Glacial Drift Layers above this rock layer sometimes reach a depth of 170 feet.

In the drift layers, pebbles and boulders are found, consisting of Yoredale Grits, Limestone, Lakeland Traps, Granites, and Volcanic Ash brought down from the Lakeland mountains by ice movement. Occasionally granite from Criffel on the North side of the Solway, may be found. Water bearing seams occur at the surface of the Lower Boulder Clay and on thin beds of clay in the Middle Drift.

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The Meteorological Features of 1957.

As in the previous years a day to day record was kept of the weather conditions locally. These were general observations recording the type of weather, whether wet or fine, the wind position, the amount of visibility and all other vagaries of our notoriously changeable weather conditions. There were no instrumental recordings, but these were very kindly supplied by Dr. Barocas of the Jeremiah Horrocks Observatory, Preston, by the kind permission of Mr. Tuson, Chief Education Officer, Preston, and by Mr. G. F. Sheard, of the Ministry of Agriculture Station, Esprick. Grateful thanks are extended to both these sources for much useful information. Mr. Holmes supplied information of the rainfall at Barnsfold in the water catchment area.

A short summary of the weather in each month is given below :—

January. During the month rain fell on twenty-one days, there was snow or sleet on five days, hail

on one day, fog on five days, ground frost fourteen days and air frost on eight days. There were 50.1 hours of sunshine during the month.

February. This month was warmer than average and was considerably warmer than February 1956. Rain fell on twenty days, there was snow or sleet on four days, hail two days, fog on seven days, gale force wind on one day, ground frost fifteen days and air frost on eleven days. There were 85.9 hours of sunshine during the month.

March. This was an unusually warm and pleasant month. Rain fell on eighteen days, there was fog on one day, gale force wind on one day and ground frost on six days. There were 95.8 hours of sunshine during the month.

April. This was a very dry month with a total rainfall of 0.42 inches making this the driest April of the century. Rain fell on seven days, thunder was heard on one day, there was ground frost on twelve days and air frost on two days. There were 177.8 hours of sunshine during the month.

May. Rain fell on twelve days during the month, there was snow or sleet on one day, thunder was heard on five days, ground frost on four days and there was air frost on one day. There were 224.1 hours of sunshine during the month.

June. This month was sunny and warm with clear sky. Rain fell on ten days, thunder was heard on two days, and there was ground frost on one day. There were 309.4 hours of sunshine during the month.

July. This was a wet and cool month. Rain fell on twenty days, and thunder was heard on six days. There were 135.4 hours of sunshine during the month.

August. This also was a cool and wet month. Rain fell on nineteen days, thunder was heard on five days and there were gale force winds on two days. There were 134.5 hours of sunshine during the month.

September. Another cold, stormy and wet month. Rain fell on twenty-two days, thunder was heard on one day, fog on one day, gale force winds on two days and ground frost on two days. There were 118.2 hours of sunshine during the month.

October. This was a warm and wet month. Rain fell on twenty days, there was hail on three days, thunder was heard on one day, fog on four days, and there was ground frost on five days. There were 81.8 hours of sunshine during the month.

November. This was a month with temperatures above normal and sunny days. Rain fell on nine days, and there was hail on two days. Thunder was heard on one day, five days with fog, gale force wind on one day, ground frost on nine days, and five days with air frost. There were 62.3 hours of sunshine during the month.

December. Another month with temperatures a little higher than average. Rain fell on seventeen days, snow or sleet on three days, fog on five days, gale force winds on two days, ground frost on fifteen days and there was air frost on nine days. There were 48.7 hours of sunshine during the month.

The table below gives the weather summary :—

Month	Rainfall at Barnsfold inches	Rainfall in the District inches	Rainfall at Esprick inches	No. of rain days	Hours of Sunshine	Prevailing wind days
January	4.39	2.99	3.335	21	50.1	S 9 SW 5 Calm 3
February	3.45	2.58	2.27	20	85.9	S 8 SE 7 Calm 5
March	3.99	2.99	2.53	18	95.8	SE 8 W 7 Calm 2
April	0.83	0.42	0.60	7	177.8	NE 6 E 4 S 4 Calm 2
May	2.75	2.21	2.74	12	224.1	E 9 S 6
June	2.32	1.48	2.27	10	309.4	E 7 NW 6 Calm 2
July	6.06	5.07	4.58	20	135.4	NW 10 W 7 Calm 2
August	6.10	5.18	4.46	19	134.5	NW 10 W 7 E 7 Calm 1
September	9.23	6.59	5.47	22	118.2	W 8 NW 6 Calm 2
October	7.51	6.15	5.32	20	81.8	S 8 SW 5 NW 5 Calm 6
November	1.64	1.27	1.09	9	62.3	S 4 SE 4 W 4 Calm 9
December	5.18	4.54	3.87	17	48.7	S 5 SW 4 W 4 Calm 9
	<u>53.45</u>	<u>41.47</u>	<u>38.535</u>	<u>195</u>	<u>1524.0</u>	

Statistics and Social Conditions of the Area.

Area in Acres	3,164
Population (Census 1931)	7,387
Population (Census 1951)	13,087
Registrar General's estimate of population mid 1957)	14,220
Number of inhabited houses (Census 1931)	3,664
Number of inhabited houses (rate book 1957)	4,325
Rateable value	£160,873
Sum represented by a penny rate	£646

Social Conditions and Amenities of the District.

The district is a residential one with wide streets and avenues, housing of an excellent and substantial character, and through it runs from South to North the vital highway A.6. In this district this highway is a broad and well lighted one. On the outskirts of the area there are dairy farms and a small amount of cultivation. Many of the avenues in the Northern section of the district, built just before the last war, were not made up, in addition to some of the side roads in the older parts of the district. Many of these have now been made up in each locality, and work is in progress to extend this surfacing work. A steam laundry employs local labour and is the largest industrial concern in the area. There are two large hostels for aged persons and a residential orphanage school in the district. There are two hospitals in the area — Sharoe Green Hospital for acute, chronic, maternity and mental cases, and Longsands Lane Continuation hospital for Orthopaedic cases.

The various religious denominations are well catered for by seven churches, and four of these possess halls which are used for religious and social activities. These halls were used in 1957 for concerts, dances, dramatic entertainments and lectures.

The County Council Library has two branches in this district, one in the northern part and one in the Southern part of the district.

Recreation and sport are well accommodated. There is an old established and well known Golf Club, three Tennis Clubs, a private Bowling Club, several bowling greens at hotels, a Sports Club and a Youth Centre with a sports section.

In two of the County Council Schools there are many activities in the evenings.

Local organisations provide debates, lectures and discussions on subjects of local, national and international importance.

There was no evidence of unemployment amongst the inhabitants of the Urban District during 1957.

During the year the useful work of the Old People's Welfare Committee continued under the Chairmanship of Mrs. N. M. Howard. Perhaps of special value were the many visits paid to those older people who were unable by reason of ill health or disability to carry out their own shopping duties and outside visits. All the various organisations in Fulwood have been invited to send representatives to this Committee and many accepted this duty. Whenever possible the Public Health Department has been represented by the Public Health Inspector.

During the year the Over 60's Club continued to add recreational interest to the other Committee activities which have been supported by the Chairman of the Council, the Chairman of the Public Health Committee and other members of the Council, and also the Health Visitors and other members of Health Division No. 4 staff.

In November a Meals on Wheels service was started by the Women's Voluntary Service. This service caters for old people and in some cases handicapped persons, and cooked meals at a nominal charge are delivered to their homes twice a week, on Mondays and Fridays.

The number of persons receiving this service has varied from eight to eighteen and the number of meals served in November was 37 and in December 103. This service has been greatly appreciated by all who have derived benefit from it.

Credit is due to the members of the W.V.S. who have given of their services so ably and willingly to make this new venture a success.

Vital Statistics.

Births.

Live Births—	M.	F.	Total
Legitimate	91	89	180
Illegitimate	1	—	1
	<hr/> 92	<hr/> 89	<hr/> 181

Birth rate per 1,000 population—Crude ...	12.7
Adjusted ...	14.5

Still Births—	M.	F.	Total
Legitimate	1	1	2
Illegitimate	—	—	—
	<hr/> 1	<hr/> 1	<hr/> 2

Still birth rate per 1,000 (live and still births) ...	11.
Comparability factor—For births ...	1.14

Deaths.

M.	F.	Total
124	119	243

Death rate per 1,000 estimated population—Crude ...	17.1
Adjusted ...	10.4
Comparability factor—For deaths ...	0.61

Maternal Mortality.

Deaths from pregnancy, child birth and abortion ...	Nil
Mortality rate per 1,000 births (live and still) ...	Nil

Infantile Mortality Rate.

Deaths of Infants under one year ...	3
All infants per 1,000 live births ...	17
Legitimate infants per 1,000 legitimate live births ...	17
Illegitimate infants per 1,000 illegitimate live births ...	Nil

Neo-Natal Mortality.

Death of infants under 4 weeks of age ...	3
Mortality rate per 1,000 live births ...	17

Other Mortalities.

Deaths from Cancer (all ages all sites) ...	34
Deaths from Pulmonary Tuberculosis ...	2
Deaths from Puerperal Causes ...	Nil
Deaths from Measles ...	Nil
Deaths from Whooping Cough ...	Nil
Deaths from Diarrhoea (under 2 years) ...	Nil

An Analysis of the Causes of Death, 1957.

	M.	F.	Total
Tuberculosis Respiratory	2	—	2
Malignant neoplasm, Stomach	3	1	4
Malignant neoplasm, Lung, bronchus	4	1	5
Malignant neoplasm, breast	—	3	3
Malignant neoplasm, uterus	—	1	1
Other malignant and lymphatic neoplasms	13	8	21
Leukaemia, aleukaemia	1	—	1
Diabetes	1	—	1
Vascular lesions of nervous system	17	29	46
Coronary disease, angina	11	11	22
Hypertension with heart disease	—	3	3
Other heart disease	37	35	72
Other circulatory disease	7	4	11
Influenza	3	3	6
Pneumonia	2	2	4
Bronchitis	10	3	13
Other diseases of Respiratory system	—	1	1
Ulcer of stomach and duodenum	—	1	1
Gastritis, enteritis and diarrhoea	1	1	2
Nephritis and nephrosis	3	—	3
Hyperplasia of prostate	1	—	1
Other defined and ill-defined diseases	7	8	15
All other accidents	—	2	2
Suicide	1	2	3
All Causes	124	119	243

Table of Comparative Statistics

	Per 1,000 estimated population						Maternal Mortality Rate	Infantile Mortality Rate
	Live birth-rate		Death-rate		Death-rate from respiratory tuberculosis	Death rate from cancer	Per 1,000 total (live and still) births.	Deaths under 1 year per 1,000 live births.
	Crude	Adjusted	Crude	Adjusted				
FULWOOD								
Mean of 5 years -								
1947-51 ...	13.8	—	15.3	—	0.28	1.92	—	34
1952-56 ...	11.9	13.7	16.5	12.3	0.15	1.94	—	21
Year - 1957	12.7	14.5	17.1	10.4	0.14	2.46	—	17
County of Lancaster, 1957	16.00	16.32	12.85	14.00	0.10	2.13	0.58	25
England and Wales, 1957	16.1	—	11.5	—	0.09	2.09	0.47	23.0

Population

In the census of 1951 the population of Fulwood was 13,087. This population contained approximately 2,000 persons resident in institutions. In 1957 the number of residents in these institutions would be approximately the same.

For mid 1957 the Registrar General's estimate of population was 14,220.

Deaths and Death Rates.

The tables below are corrected for inward and outward transfers. The crude and adjusted death rates were 17.1 and 10.4 the former being a decrease of 0.1 and the latter an increase of 0.6 on the previous year.

The total number of deaths recorded during the year was 243. An analysis made of the ages at death of those who died after attaining the three score and ten mark gives interesting information.

There were 164 deaths (79 males and 85 females) in the ages above 70 years :—

32 (M. 16, F. 16) were between 70 and 75 years.

57 (M. 24, F. 33) ,, ,, 75 and 80 years.

42 (M. 20, F. 22) ,, ,, 80 and 85 years.

24 (M. 14, F. 10) ,, ,, 85 and 90 years.

9 (M. 5, F. 4) ,, over 90 years.

During the year there were 97 deaths in hostels in this area (M. 49, F. 48).

Laboratory Service.

The Laboratory, attached to Preston Royal Infirmary, provided the technical assistance necessary for the examination of bacteriological and pathological specimens. It also carried out the bacteriological tests of milk, ice cream, water, and faecal material, submitted to it by the authority, and issued reports upon these materials. Under this arrangement the Local Authority is no longer responsible for the cost of examination.

Chemical analyses were usually carried out by the County Analyst.

Hospital Service.

Under the National Health Service Act all hospital treatment is free.

The hospitals under the control of the Regional Hospital Board are administered locally by the Preston and Chorley Hospital Management Committee, and are as follows :—

For General Diseases and Maternity—

- Preston Royal Infirmary.
- Sharoe Green Hospital.
- Chorley Hospital.
- Eaves Lane Hospital, Chorley.

Annexes—

- Lostock Hall Convalescent Hospital.
- Longsands Lane, Fulwood, Continuation Hospital for Orthopaedics.

For Infectious Diseases and/or Tuberculosis—

- Deepdale Isolation Hospital, Preston.
- Heath Charnock Hospital, Chorley.
- Chestnuts Sanatorium, Preston.

Mount Street Hospital, Preston, a voluntary hospital for Medical, Surgical and Maternity cases, is not under the National Health Service.

Malignant Diseases. A special section of Preston Royal Infirmary officered by personnel from the Christie Cancer Hospital, Manchester, was used by patients from this district. X-ray, Radium, Isotopes, and other forms of treatment were available. Where necessary patients were admitted to the Christie Hospital for more extensive or more specialised treatment.

Ante-Natal Services. The clinics formerly provided at Preston Royal Infirmary and Sharoe Green Hospital by the hospitals and County Council jointly are now provided by the Hospital Management Committee. No details were issued of the number of women who attended from this district but doubtless they were extensively used.

General Diseases.

The accommodation and the facilities for the treatment of persons requiring indoor and outdoor hospital treatment are enumerated above but the extent to which these facilities are utilised by the residents of this district is not known.

However, the Chief Officer of the Preston branch of the National Insurance, as in former years, kindly extracted for me from returns for the Preston area, figures relating to Fulwood of the number of claims for National Insurance for each month in the year. These figures apply to the insured persons only, they do not include self-employed persons and they exclude the ages below and above the age of insurance.

Fulwood has a large number of persons over the age of insurance, and as a residential area many are self-employed persons. It would, therefore, be difficult to base any scientific conclusions for the populations generally from the figures issued for the insured population.

Comparisons, however, can be drawn from them of the seasonal rises and falls of sickness and of the variations from year to year.

	Average number of new claims per week	Average total of claims paid each week
January	81	372
February	65	280
March	117	452
April	28	116
May	23	95
June	21	89
July	20	85
August	15	75
September	168	520
October	132	415
November	28	118
December	29	122
	<hr/> 727 (average 60) <hr/>	<hr/> 2,739 (average 288) <hr/>

The big increase in the number of claims during September and October was probably due to the epidemic of 'Asian Flu.'

Services of the County Council in the Area.

Child Welfare.

One centre met weekly on Wednesday afternoons at Larch House, Lytham Road, Fulwood.
The number of sessions held was 51.

	No. attending	No. of attendances
Children under 1 year of age	106	1,749
Children from 1 to 2 years	81	267
Children over 2 years	109	195
	<hr/> 296 <hr/>	<hr/> 2,211 <hr/>

Corresponding totals for the year 1956 were 253 attending and 1,736 attendances.

A Diagnostic Clinic for Deafness particularly in infancy was held at Larch House.

School Children

Routine medical inspections were made at the schools and the School Nurses made frequent visits to the Schools and inspections throughout the year.

Children requiring treatment for minor ailments or special examinations can now receive attention at the clinic in Larch House. A fortnightly Ophthalmic clinic is also held on the same premises.

In addition visits were made to the homes of the children by the school nurses to follow up treatment or to keep the children under observation in their homes.

The Centre for speech defects and for speech training at Spring Bank, Preston, was available for children from this area.

Tuberculosis.

The scheme for the prevention and treatment of tuberculosis in the Administrative County is administered by the Lancashire County Council and the Preston and Chorley Hospital Management Committee. Dispensaries are provided for the diagnosis of the disease, staffed by Chest Physicians and tuberculosis Health Visitors. The dispensaries work in close association with the Sanatoria and serve a valuable purpose in the main essence of supervision of patients after their discharge therefrom.

The dispensary for patients residing in the District is situated at 12, Walton's Parade, Preston.

The Regional Hospital Board supplied the hospital and Sanatorium accommodation.

Chemotherapy and BCG Vaccination against tuberculosis have undoubtedly improved greatly the outlook on this disease. Prior to the War the ratio of notifications to deaths was constant at approximately 2 : 1, it is now 5 : 1.

BCG Vaccination is available to contacts on the advice of the Chest Physician at the Dispensaries and to thirteen year old children under the School Health Service.

In spite of the foregoing, environmental control is still of great importance in preventing spread and must not be neglected.

The eradication of tuberculosis still remains a challenge to preventive medicine.

Tuberculosis Treatment.

Number of admissions to Hospital or Sanatorium—4.

Number of notifications of Respiratory Tuberculosis—5.

During the year a check has been made, through the County Health Department, on the number of cases on the tuberculosis register. The following number of cases have been taken off the register having recovered, died, or removed from the district.

Respiratory Cases		Non-Respiratory Cases	
Male	Female	Male	Female
6	1	6	6

The following number of cases were on the register at the end of the year :—

Respiratory Cases		Non-Respiratory Cases	
Male	Female	Male	Female
19	16	4	4

Ambulance Service.

This service is controlled from Lancashire County Council Ambulance Headquarters at Broughton House, Garstang Road, and dealt with the whole of the area of Health Division No. 4, north of the Ribble, in which Fulwood is included. The ambulances are under radio control.

Domiciliary Nursing and Midwifery Service.

This area is a Nurse Midwife district. These dual duties were performed by six nurses :—

Mrs. E. Bayman, S.R.N., S.C.M.,

3, Robinson Street, Fulwood. Telephone : Preston 77172.

Miss L. Slack, S.R.N., S.C.M.,

Westleigh, Sandygate Lane, Broughton. Telephone : Broughton 176.

Mrs. I. Lzalonnas, S.R.N., S.C.M.,

232, Inkerman Street, Preston. Telephone : Preston 89911.

Mrs. V. I. Knowles, S.R.N., S.C.M.,

349, Watling Street Road East, Fulwood. Telephone : Preston 77957.

Mrs. D. Ramsbottom, S.R.N., S.C.M.,

19, Cannon Hill, Ashton, Preston. Telephone : Preston 89029.

Mrs. D. Harding, S.E.A.N.,

46, Pope Lane, Ribbleton, Preston.

Immunisation.

The County Council, the authority responsible for this service, delegated its power to Health Division No. 4. The Divisional Medical Officer supplied the following details :—

Immunisation against Diphtheria, Whooping Cough and Tetanus.

Children under school age—102.

Children of school age—0.

Children re-inforced—12.

Immunisation against Diphtheria and Whooping Cough.

Children under school age—21.

Children of school age—0.

Children re-inforced—32.

Immunisation against Diphtheria only.

Children under school age—5.

Children of school age—13.

Children re-inforced—184.

Immunisation against Whooping Cough Only.

Children under school age—0.

Children of school age—0.

Children re-inforced—2.

Immunisation against Poliomyelitis.

Children under school age—189.

Children of school age—93.

Vaccination against Smallpox.

The Divisional Medical Officer supplied the following figures :—

Number of primary vaccinations—125.

Number of re-vaccinations—25.

ENVIRONMENTAL SERVICES.**The Prevalence and Control of Infectious Disease.**

In the introductory remarks to the report comments have been made on general aspects of infectious disease in this area in 1957. None of the outbreaks presented any problems other than the difficulty of endeavouring to trace the source of infection.

The total number of notifications during the year was 206 as compared with 198 during 1956. The increase is accounted for by there being 133 cases of Measles compared with 120 cases last year.

The fourteen cases of Scarlet Fever, thirteen cases of Dysentery and twelve cases of Food Poisoning

were all investigated and disinfections carried out where necessary. During the year 77 faeces specimens have been taken during the investigation of Food poisoning and Dysentery notifications.

There were no cases of Poliomyelitis notified during the year.

An epidemic of Influenza (Asian type) was prevalent in the area during the second half of the year with the schools being badly affected.

The table below gives details of notifications for the year under review :—

Infectious Diseases 1957.

Notifiable Diseases	Total Cases Notified											Total Deaths
	Total Cases All ages	Age Periods—Years										
		Under 1	1	2	3	4	5	10	15	25 & over	Age unknown	
1957												
Scarlet Fever	14	...	2	1	3	...	5	1	1	1	...	
Whooping Cough	17	...	2	...	1	1	11	...	...	2	...	
Ophthalmia												
Neonatorum	1	1	...	...	...	...	...	...	...	...	...
Measles	133	2	9	15	17	17	71	2	...	...	...
Dysentery	13	1	1	2	2	...	3	...	1	3	...	
			0	5	15	45	65 & over	Age unknown				
Acute Pneumonia	6	...	...	...	1	4	1	...	...	...	...
Erysipelas	2	...	...	...	...	1	1	...	...	...	...
Food Poisoning	12	...	4	...	5	3	...	...	...	...	...
Tuberculosis—Respiratory	5	1	...	...	2	2	...	...	...	...	...	3
T.B. Other	1	...	1	...	...	...	...	...	...	...	...
Puerperal Pyrexia	2	...	...	...	2	...	...	...	...	...	...
TOTALS	206										Total Deaths	3

INSPECTION AND SUPERVISION OF FOOD.

Milk. There are eight dairies in the district, and also eight shops other than dairies selling milk. There are also nineteen other distributors with premises outside the district.

During the year thirty-five licences have been issued for the sale of Tuberculin Tested milk, thirty-five for Pasteurised milk and sixteen licences for Sterilised milk.

Routine sampling of milk continued throughout the year and the table below gives details of raw milk samples during the past twelve years. A detailed account of the milk samples taken during 1957 will be found in Mr. McFarlane's report.

Tuberculin Tested Milks.

Year.	Bacteriological Tests		Tests for Tubercle Bacillus		
	No. of Samples	Satisfactory.	Percentage Satisfactory.	No. of Samples.	T.B. Present.
1946	1	1	100	1	Nil
1947	6	5	83	6	Nil
1948	16	13	81	14	Nil
1949	13	11	84	13	Nil
1950	68	50	73	57	1
1951	94	71	75	65	Nil
1952	121	96	79	92	Nil
1953	108	90	83	106	1
1954	136	113	83	136	Nil
1955	128	115	90	95	Nil
1956	151	128	86	151	1
1957	112	95	85	112	1

In only one sample was the tubercle bacilli found to be present. Following this result a notice was served on the producer that all milk was to be heat treated until further notice. This was done. Ministry of Agriculture and Fisheries officials carried out numerous tests on all cattle at the farm until satisfied that all were negative. The notice requiring heat treatment of the milk was then withdrawn.

Meat and Other Foods

There are Nine butchers shops in the district and one licensed slaughterhouse where meat inspection and meat marking has been carried out during the year. A table giving details of meat inspection carried out during 1957 will be found in Mr. McFarlane's report.

ICE CREAM

There are twenty-eight premises in the district selling ice cream and there are seven types of ice cream sold. The table below gives details of the ice cream samples taken during the past ten years :—

Ice Cream Sampling.

Year.	No. of Samples.	Grade 1.	Grade 2.	Grade 3.	Grade 4.
1948	66	35	15	10	6
1949	82	42	23	15	2
1950	65	32	18	6	9
1951	49	38	10	1	Nil
1952	46	28	10	6	2
1953	19	9	8	2	Nil
1954	16	14	Nil	2	Nil
1955	41	38	3	Nil	Nil
1956	24	24	Nil	Nil	Nil
1957	11	10	Nil	Nil	1

THE QUALITATIVE EXAMINATION OF FOODS.

The County Council was the Authority for Food and Drugs under which samples of food were taken for analysis.

The County Sampling Officer (Mr. Kewley), assisted by Mr. Graham, took samples in 1957. Dr. Gawne, the County Medical Officer of Health, supplied the following information of the results of analysis :—

A total of 70 samples was obtained, consisting of 33 samples of milk (which included six samples of Channel Island Milk) and 37 samples other than milk, comprising :—

2 Lard	1 Cornflour
2 Canned soup	1 Bacon
3 Custard powder	1 Cheese
1 Glycerin	1 Ice-cream
1 Borax	3 Grapefruit, canned
3 Fruit curd	1 Liquid paraffin
3 Oatmeal	1 Bread
5 Flour confectionery	1 Sodium bicarbonate
2 Teething powders	2 Camphorated oil
1 Pork sausage	2 Boric ointment

All the above samples were submitted to the County Analyst for analysis and he reported that they were all genuine with the exception of one sample of bread which was found to contain the abdomen of a larder beetle and this matter was referred to the Health Department and the Bakers were interviewed.

WATER SUPPLY

Mr. Holmes, the Water Engineer, as in past years, has supplied a report upon the water position in Fulwood. This report has been appended.

It is recommended by the County Medical Officer of Health in his report on the District that provision of suitable filtration plant should be made, in order to prevent turbidity which occasionally occurs, and further to improve the quality of the water.

SEWAGE AND SEWAGE CONTROL.

As in past years the drainage of the older part of the district is connected to sewers and the Sewage Works at Cottam dealt reasonably satisfactorily with the effluent though at times they are considerably overloaded.

As regards the northern part of the district drains are connected to septic tanks and the overflow was formerly discharged into field tiles and other drains which finally discharged into the streams of the district. Several new sewers have been laid before the making up of roads was undertaken and the effluent from septic tanks is now being taken by these new sewers but the septic tanks must remain in use until the whole of the Joint Sewage Scheme is complete when the effluent will be dealt with at the Preston Sewage Works.

As previously reported, though much work has been done and much improvement made, a major Public Health Nuisance still exists and is in fact, if anything, accentuated by the effluent from the new

sewers discharging into streams, by the increased number of houses in the northern part of the district and by the innumerable obstructions to the free flow of the water unless constant attention is given to the very considerable work of cleaning out these watercourses.

Rivers and Streams.

The River Board are responsible for ensuring the purity of the streams, their powers are wide and are used with a more stringent standard than in years past.

The four brooks in the district, all running from East to West, remained considerably fouled. The Savick Brook is fast flowing and keeps comparatively clean, but the others, Eaves, Boundary and Sharoe, in a normal year are much contaminated by overflow from septic tanks, etc.

Closet Accommodation.

The water carriage system was almost universal in the district, the houses in the south portion of the district connected to the sewerage system and the northern portion to septic tanks.

Number of houses supplied with water—4,315.

Number of houses on water carriage system—4,256.

Number of fresh water closets—4,564.

Number of privy middens—4.

Number of pail closets—7.

There were no conversions in 1957. The additional houses numbered 268.

Public Cleansing.

The Engineer and Surveyor was responsible for this service, as well as for the collection of salvage.

This service was fully motorised and a weekly collection for the district was in operation, and 5,320 movable ashbins were cleared each week.

Tipping on the controlled system was used on the various tips utilised. The main tip was at :—

Longsands Lane, Fulwood.

Additionally, private tips were in use at :—

Victoria Road

Civic Hostel

Mill Lane

Highgate Park

These were regularly inspected for nuisance or for pest infestation.

The tip at Longsands Lane was on fire during the year and it was not possible to extinguish the fire. Therefore tipping was stopped at this point and a new layer started. The fire died out and there was no further trouble.

Shops Act, 1950.

This Act was administered by the County Council, but on their request this authority undertook to inspect the shops, and thirty inspections were made.

Housing.

The standard of housing in this district is and always has been a high one. The policy of the Council has always been to maintain that standard and thus to retain the residential character of the area.

During the year under review 307 houses were completed and all of them were built by private persons or bodies. Two hundred and thirty-two of these houses were connected to existing sewers. Two Council flats were in course of erection at the end of the year.

The number of houses inspected for defects was 162, necessitating 493 visits. One hundred and thirty-five other houses were found to have defects of an easily remedied character, and by the end of the year 127 of them had been rendered fit as a result of informal action. It was not found necessary to take any legal proceedings.

Overcrowding.

Two dwellings were found to be overcrowded in 1957, involving 19 persons in all.

Three cases were relieved and these comprised 30 persons of whom 15 were rehoused.

All these cases were reported to the Housing Committee. There were approximately 60 applicants on the list at the year end.

School Accommodation.

The total number of schools in the district is seven and they are as follows :—

- Fulwood and Cadley County Primary School, Cadley Causeway.
- Fulwood and Cadley County Secondary Modern School, Black Bull Lane.
- Harris Orphanage, Garstang Road.
- Kennington Road Junior School.
- St. Anthony's R.C. School, Cadley Causeway.
- St. Pius 10th School, Garstang Road.
- St. Vincents R.C. School, Garstang Road.

Factories Act.

There are twenty-six factories or workshops on the register. Most of these are small mechanised workshops. During the year thirteen inspections have been made, three defects were discovered and all were abated by the end of the year.

Smoke Abatement.

The only large works in the district is the steam laundry, the chimney of which is frequently kept under observation. This chimney gives occasional trouble, and inefficient stoking or overloading of the plant are found to be the chief causes of the emission of dark smoke. The chimney owners were found to be quite co-operative.

Attention has been focused on the possible danger arising from the exhaust of motor vehicles. In view of the fact that the important motorway A.6 runs through the middle of the district, any steps to control this factor in air pollution must be of interest to this authority.

As domestic smoke is responsible for a large proportion of atmospheric pollution, it has been recommended in the report of the County Medical Officer of Health that the establishment of Smoke Control Areas to cover the whole of the Urban District should be considered.

New Legislation.

Rent Act, 1957.

Housing Act, 1957.

Food Hygiene (Amendment) Regulations, 1957.

The Housing (Prescribed Forms) Regulations, 1957.

Appended Reports.

- (I) The Report of Mr. McFarlane, Public Health Inspector.
- (II) The Report of Mr. Dickinson, Engineer and Surveyor.
- (III) The Report of Mr. Holmes, Water Engineer.

REPORT OF THE PUBLIC HEALTH INSPECTOR for the year ended 31st December, 1957.

Mr. Chairman, Mrs. Crapper and Gentlemen,

I have the honour to present my Annual Report for the year 1957, but before going into any details of the year's work I must comment on the fact that this is my first Annual Report to the Council since taking up my appointment at the beginning of November. Mr. R. Graham who was the Public Health Inspector for many years, resigned from Local Government in September to return to private business. I wish him every success in his new venture.

The year's work as detailed in the following tables has therefore mainly been carried out by Mr. Graham, to whom my thanks are due for the many facts and figures that he left behind for me in order that the change over could be made smoother and easier.

The total number of visits made during the year is similar to the previous year, although visits to certain types of premises has decreased in some instances and increased in others. Two specific instances to mention are in connection with Food Premises and Rodent Control. Visits to Food Premises shows a decrease mainly because far more visits than usual had been made in 1956 when the Food Hygiene Regulations came into force. Rodent Control shows a considerable increase in the number of visits, this does not mean that the rat population has increased in the Fulwood area, but that far more premises have been surveyed in connection with this work.

In July we were presented with new legislation when the Rent Act 1957 came into operation. This new act repealed most of the Housing Repairs and Rents Act 1954 which was not very successful and never really achieved the object for which it was intended.

Fortunately the new act did not present as big a problem in this area as it has done in the towns and cities. Only eleven applications for a Certificate of Disrepair were received and two of these were subsequently withdrawn, in one case because the necessary repairs had been completed, and in the other the tenant had received and accepted an undertaking that the repairs would be carried out.

There was no slaughtering at all at the Licensed slaughterhouse in the district until the end of September when it came under new management, and since then slaughtering has been carried out regularly each week and particularly at week-ends, this has entailed many hours being spent on meat inspection during Saturday or Sunday.

The incidence of Food Poisoning was again low throughout the district, only twelve notifications being received, five of these being in one household.

Routine visits were made to carry out the provisions of the Shops Act, the Factories Act and other legislation concerned with Public Health.

In conclusion I wish to thank the Chairman and Members of the Council for their support and confidence since my appointment. I would also like to thank all my colleagues for their co-operation and help, and in particular to Miss Carter for whose valuable assistance I am greatly indebted.

Yours faithfully,

K. W. McFARLANE,

Public Health Inspector.

March, 1958.

Type of Premises.	Number of Visits	Number of Premises	
		with new defects	where defects have been abated
Agricultural premises	24	4	—
Dairies	21	2	1
Disinfection of Premises	15	—	—
Bakehouses	36	3	3
Other Food Premises	98	3	23
Food Inspection	2	—	—
Factory Act	13	3	3
Institutions	11	4	4
Infectious Diseases	124	—	—
Housing applicants	25	—	—
Schools	1	—	—
Shops Act	30	—	—
Slaughterhouse	89	—	—
Public Houses	1	—	—
Tips	45	1	—
Houses—Advisory	85	22	26
Drainage	322	120	118
General Defects	86	20	17
Rodent Control	1,112	81	77
Miscellaneous	213	18	17
Total	2,353	281	289

Details of Improvements.

Improvements.	Number of Premises
Brickwork repaired	7
Drains repaired or cleansed	118
Damp proof course renewed	1
Disinfection of premises	15
Disinfection of books	5
Disinfestations	5
General Nuisances abated	3
Gutters and downspouts repaired	8
Floorboards repaired	2
Plasterwork renewed	7
Lead Flashings repaired	2
Roofs repaired	3
Sanitary accommodation provided	5
Sanitary accommodation improved	1
Septic tank cleansed	1
Sundry Public Health Nuisances abated	6
Woodwork renewed	4

RENT ACT, 1957.

Applications for Certificates of Disrepair.

1. Number of applications for certificates	...	...	...	...	...	...	...	...	...	9
2. Number of decisions not to issue certificates	...	...	...	...	...	...	...	...	...	Nil
3. Number of decisions to issue certificates	...	...	...	...	...	...	...	...	...	9
(a) in respect of some but not all defects	...	...	...	...	...	...	...	...	...	8
(b) in respect of all defects	...	...	...	...	...	...	...	...	...	1
4. Number of undertakings given by landlords under paragraph 5 of the First Schedule	...	...	...	...	...	...	...	...	...	6
5. Number of undertakings refused by Local Authority under proviso to paragraph 5 of the First Schedule	...	...	...	...	...	...	...	...	...	Nil
6. Number of certificates issued	...	...	...	...	...	...	...	...	...	3

FOOD SUPERVISION.

Milk Sampling Results, 1957.

(a) Raw Milk.	Total number of samples	Number of satisfactory samples	Number of unsatisfactory samples	Percentage of satisfactory samples
Tuberculin Tested—				
(I) Tuberculosis	112 (5 no result)	106	1	98
(II) Methylene Blue	112	95	17	81
(III) B. Coli	112	112	—	100
(b) Pasteurised Milk.				
(I) Phosphatase test	40	38	2	95
(II) Methylene Blue	40	40	—	100
(III) B. Coli	40	40	—	100
(c) Sterilised Milk.				
Turbidity test	12	12	—	100

Ice Cream.

At present twenty-eight shops sell ice cream, but the product sold is from seven different sources of manufacture only.

Eleven samples were submitted to analysis, ten were satisfactory (Grade 1) and one was unsatisfactory (Grade 4).

Meat and Other Foods.

Carcases and Offal inspected and condemned in whole or in part.

	Cattle			Sheep & Lambs.
	excluding Cows.	Cows.	Calves.	
Number killed	181	78	10	494
Number inspected	181	78	10	494
All diseases except T.B. and Cysticerci.				
Whole carcases condemned	—	—	—	—
Carcases of which some part or organ was condemned	46	31	—	34
Percentage of the number inspected affected with disease other than T.B. and Cysticerci ...	25.4	39.7	—	6.8
Tuberculosis only.				
Whole carcases condemned	—	1	—	—
Carcases of which some part or organ was condemned	12	16	—	—
Percentage of the number inspected affected with T.B.	6.6	21.7	—	—
Cysticercosis.				
Carcases of which some part or organ was condemned	1	2	—	—
Carcases submitted to treatment by refrigera- tion	1	2	—	—
Generalised and totally condemned	—	—	—	—

The following food was surrendered after being inspected and found unfit for human consumption.

Type of Food	Total quantity	
	of stock or consignment examined lbs.	quantity condemned lbs.
Tongue	6	6

Number of food premises, by type, in the district at the end of the year :—

Grocers	20	Bakers and Confectioners	14
Greengrocers	11	Fried Fish shops	3
Fishmongers	5	Sugar confectioners	11
Butchers	10	Catering establishments	29

Number of food premises, by type, registered under Section 16 of the Food and Drugs Act, 1955, or under local Acts :—

Type of Premises	No. Registered at 31.12.57	No. of inspections of registered premises
Preserved Foods	6	35
Ice Cream	28	39
Hawkers' Premises	2	6

Food Hygiene Regulations, 1955—Improvements to Food Premises.

Bakehouse cleansed	...	...	...	...	...	...	...	...	...	1
Bakehouse painted	...	...	...	...	...	...	...	...	...	1
Floor repaired	...	...	...	...	...	...	...	...	...	1
Floor re-tiled	...	...	...	...	...	...	...	...	...	1
Hot and cold water provided	...	...	...	...	...	...	...	...	...	5
Impervious surfaces provided	...	...	...	...	...	...	...	...	...	1
New ceiling	...	...	...	...	...	...	...	...	...	1
New sinks provided	...	...	...	...	...	...	...	...	...	5
Offensive accumulation removed	...	...	...	...	...	...	...	...	...	1
Shops walls tiled	...	...	...	...	...	...	...	...	...	1
Walls painted	...	...	...	...	...	...	...	...	...	1
Protection to counter provided	...	...	...	...	...	...	...	...	...	2
Wash hand basins provided	...	...	...	...	...	...	...	...	...	6

RODENT CONTROL.

	Type of Property			
	Non-Agricultural		Agricultural	
	Dwelling Houses	All Other		
(a) No. of properties in district	4,325	140	59	
(b) No. of properties inspected	348	58	22	
(c) Total inspections carried out (incl. re-inspections)	727	351	34	
(d) No. of properties inspected which were found to be infested by :—				
Rats— major				
minor	54	13	3	
Mice— major				
minor	12	2	1	
(e) No. of infested properties treated	66	15	—	
(f) Total treatments carried out (incl. re-treatments)	66	15	—	
(g) No. of " Block " control schemes carried out	—	2	—	

REPORT OF THE ENGINEER AND SURVEYOR

Mr. Chairmen and Members of the Council,

The following is my Report on the work of the Engineer and Surveyor's Department in 1957 :—

Private Street Works.

Work on the following streets has been completed :—

Banksfield Avenue	South Grove
Brooklands Avenue	Woodlands Drive
Brookfield Drive	Broadway
Moorfields Avenue	Greenway
Hollins Grove	Northway
Melbert Avenue	

Work on the following streets was in progress at the end of 1957 :—

Robinson Street	Brook Street North
Harland Street	Douglas Road North
Fowler Street	Douglas Road
Derby Road	Lorraine Avenue
Norris Street	Boundary Road
Strathmore Road	

By agreement with the developers work on the following streets is proceeding :—

Northway	Watling Street Road Estate
Janice Drive	Heaton Mount Avenue
Nooklands Estate	Melrose Avenue
Banksfield Avenue	Hall Road Estate
Valley View	Hollins Grove

Work will commence on the following streets in the near future if loan sanction is granted by the Ministry of Housing and Local Government :—

Yewlands Avenue	Yewlands Crescent
Yewlands Drive	Cross Green Road

Highways.

The usual maintenance has been carried out and a part of Watling Street Road is being resurfaced.

Work was completed on the improvement of Black Bull Lane from Scott's Farm entrance to Queen's Drive.

Sewerage.

Work has continued on the Broughton Area Sewerage Scheme throughout the year and this Scheme is now nearing completion.

A House Connection Scheme has been carried out in Cadley Drive and Cadley Avenue to divert the house drainage from the septic tanks on to the main sewerage system.

Sewage Works.

The works operated satisfactorily throughout the year. Tanks were cleaned out as follows :—

Detritus tanks	141
Settling tanks	17
Humus tanks	64

A crop of Mangolds was grown and sold for £42 18s. 3d.

Refuse Collection and Salvage.

The weekly collection of house refuse was maintained throughout the year, disposal being carried out by means of controlled tipping.

116 tons 13 cwts. of materials were salvaged and sold during the year.

Street Lighting.

Gas lighting has been replaced by electric lighting in Fulwood Hall Lane between the Barracks entrance and Longsands Lane, and electric lighting has been installed in Fulwood Row.

Private Enterprise Housing.

At the beginning of 1957 134 houses were under construction by private enterprise. 302 houses were completed in 1957.

The principal areas in which development by private enterprise was carried out during 1957 were as follows :—

Northway	Shire Bank Crescent
Nooklands Estate	Watling Street Road Estate
Banksfield Avenue	Melrose Avenue

Yours faithfully,

A. C. DICKINSON,

Engineer and Surveyor.

18th February, 1958.

REPORT OF THE WATERWORKS ENGINEER

Mr. Chairman and Members of the Council,

Water Supply, 1957.

I have pleasure in submitting my Report on the work carried out by the Department during the year ending 31st December, 1957.

Area of Supply.

The Statutory Area of Supply comprises the Urban District of Fulwood, the rural parishes of Broughton, Goosnargh, Haighton and Whittingham, and part of the parishes of Grimsargh and Lea.

The whole of that part of the parish of Lea, ceded to the Preston County Borough last year, has continued to be supplied by Fulwood.

At the end of the year there were 5,515 premises being supplied, including those metered but excluding the 34 supplies provided free. Of the number given 4,050 are in the Urban District, 1,173 in the Preston Rural District, 290 in the County Borough and 2 in the Clitheroe Rural District.

Rainfall.

The Council maintains two officially recognised rainfall stations at Barnsfold and Haighton Reservoirs, the daily readings being forwarded monthly via the Lancashire River Board to the Air Ministry Meteorological office.

The chief points of interest in this connection are :—

	Height above sea level in feet	Average of previous 17 years	1956.	1957.
Barnsfold	508.37	48.94	50.44	53.33 inches.
Haighton	264.00	41.73	43.80	44.77 inches.

For comparison the maximum and minimum figures recorded at the Barnsfold station since the installation of standard approved gauges are :—

1954	67.43 inches.
1951	36.60 inches.

The wettest month at Beacon Fell was September with 9.23 inches (the wettest month recorded to date was August 1956, with 14.40 inches).

The driest month at Beacon Fell was April with 0.83 inches.

The number of days with no rainfall (less than 0.01 inches), 166.

The longest drought period was 10th to 24th June, 15 days.

The heaviest day's rainfall was on 17th September 2.10 inches. (The heaviest day's rainfall last year, 1.93 inches; the heaviest day's rainfall recorded, 20th January, 1954, 3.62 inches.)

It is interesting to note that the first half of the year, i.e., January to June, yielded only 17.73 inches, compared with a fall of 35.60 inches from July to December.

Yield of Gathering Grounds.

The gathering ground on Beacon Fell, Goosnargh, consists of an area of 295 acres, 132 of which are owned by the Council who have the water rights of the remainder. The collected run-off from this area during the year was 179.325 million gallons, which amounts to a volume of 3.36 million gallons per inch of rain compared with 3.35 last year. These figures are exclusive of all flood water turned to waste when considered unsuitable for use. Several small inexpensive modifications to the drainage of the Fell are being carried out and will effect a considerable improvement in this run-off.

The 76 acres of catchment area on the Burnslack side of Saddle Fell produced 61.47 million gallons which is about an average for the year's rainfall. Early in the year preliminary investigations were made for the addition of two extra springs to this supply. The 6in. main delivering water from this source to Barnsfold Reservoirs was, as usual, maintained at its full capacity by pressure scraping and brushing twice during the year.

Barnsfold Reservoirs were full on only 9 days, all in September, and the supply from Saddle Fell was shut off on 8 days.

Quantity Supplied.

The total quantity of water supplied during the year was 365,131,000 gallons, or an average daily supply of 1,000,359 gallons.

This water was derived from the following sources :—

Barnsfold and Saddle Fells	232,266,000 gallons.
Fylde Water Board—Bulk Supply	125,126,000 „
Preston County Borough	6,760,000 „
Thirlmere Aqueduct	979,000 „

The maximum daily flow recorded at Barnsfold was 1,136,000 gallons on the 5th November. The minimum quantity impounded was 34.12 million gallons on the 10th July.

Treatment and Quality.

All water entering the Reservoirs was chloraminated with a 4:1 chlorine ammonia dose by means of manually operated instruments whose settings were determined from the readings of two Venturi Flume Recorders situated on the upstream side of the inlet cills.

The dose was regulated to give a residual at the point of entry to the Reservoir of, as far as possible, 0.6 to 0.7 p.p.m. In order to allow adequate storage the supply was taken from one Reservoir at a time whilst the other was being filled.

After storage all water entering the distribution system was treated with further small doses of chlorine and ammonia injected by instruments automatically controlled by the differential pressures from a Venturi tube. The dose administered (ratio 4:1 as before) varied during the year, the amounts depending on the residuals recorded immediately downstream of the chlorinator and at the usual check point at Lower House Farm. The rate of injection varied from 0.20 to 0.60 parts per million by weight, the higher being required chiefly in the summer months after heavy rain following dry periods.

The residual obtained at the outlet averaged 0.18 p.p.m. resulting in readings of 0.03 to 0.05 at the consumers' taps.

Samples for ascertaining residuals were taken at least once daily at both the inlet and outlet of the Reservoirs.

Samples for determining chlorine residuals, pH and Hazen values were taken at frequent intervals in the Fulwood Area.

The Council's consultant Analyst, Mr. T. W. Lovett, F.R.I.C., took twelve samples for bacteriological analysis from the distribution area and eleven of water entering the Reservoirs with the following results :—

Supply Waters—B.Coli absent in 100 m.l.—11 samples.
 „ „ 8 B.Coli present in 100 m.l.—1 sample.

The Analyst's comment on the latter being—" The sample of Lower House Farm water shows eight coli-form organisms per 100 m.l.'s : in 48 hours : there were only three after 24 hours."

Intake waters :—

B.Coli absent in 100 m.l.—9 samples.

180 + B.Coli present.—1 sample.

This latter being raw water after heavy rainfall and prior to chlorination.

No observations were made by the Analyst.

Chemical Analysis.

Samples taken from (a) Lower House Farm, Goosnargh, on the 5th May, 1957, and (b) Barnsfold Reservoir inlet channel on the 10th November, 1957 :—

Physical Characteristics.

(a) A clear water, with slightly yellowish appearance. Free from odour and deposit. pH., 7.0

(b) A clear and slightly yellowish-brown water, free from odour and deposit. p.H., 6.2

Analytical Returns	Sample (a)	Sample (b)
	Expressed in parts per 100,000	
Total Solids	11.2	6.0
Total Hardness	5.2	6.30
Temporary Hardness	2.4	1.00
Permanent Hardness	2.8	1.30
Chlorides	1.75	1.45
Nitrous Nitrogen	Nil	Nil
Nitric Nitrogen ... ..	.020	.06
Ammoniacal Nitrogen ... ..	.0007	0.024
Albuminoid Nitrogen ... ..	.013	0.005
Oxygen absorbed in four hours at 27°C. ... ..	.156	0.10
Toxic Metals	Nil	Nil
Free Chlorine ... ..	.004	

Residual chlorine in the channel sample amounted to 0.60 parts per million.

BACTERIOLOGICAL EXAMINATION

Description of Samples.

- (1) Lower House Farm, 24th March, 1957.
- (2) Barnsfold Inlet Channel, 7th July, 1957.
- (3) The Horns Inn, Goosnargh, 1st September, 1957.

B.Coli aerogenes.

	1.	2.	3.
After 48 hours incubation at 37°C.			
Probable number B.Coli per 100 m.l.	0	0.	0.
After 24 hours incubation at 37°C.			
Probable number B.Coli per 100 m.l.	0	0.	0.

Plate Count.

Number of colonies developing on yeastrel agar in 48 hours when incubated at 37°C. per m.l.

16 colonies 5 colonies 10 colonies

Remarks.

- (1) The bacteriological condition of this water is entirely satisfactory. At the time of sampling showed a residual chlorine of 0.04 parts per million.
- (2) The organic quality of this sample is satisfactory. Residual chlorine was present to the extent of 0.7 parts per million.
- (3) The bacteriological examination of this water is satisfactory.

Distribution and Maintenance.

The routine work carried out by the Department under this heading is summarised as follows :—

Number of inspections at consumers' premises	...	...	...	...	700
Number of stopcocks cleaned	...	...	...	...	60
Number of sieves cleaned	...	...	...	...	132
Number of mains fittings (valves, hydrants, etc.) repaired	...	...	...	...	17
Number of mains flushed	...	...	...	...	445
Number of service leakages repaired	...	...	...	...	88
Number of service connections made to mains (excl. re-connections)	...	...	...	...	376
Number of fittings re-washed	...	...	...	...	1,784
Number of burst mains repaired	...	...	...	...	93
Number of covers refixed	...	...	...	...	93
Number of meters changed	...	...	...	...	22

The increase in the number of fractured mains was caused largely by Contractors working on the new Motorway and on housing sites under construction.

The total length of mains laid during the year was 5,210 yards compared with 1,325 yards last year, and 1,764 yards in 1955.

This was made up of :—

New Mains to serve development.

Booths' Farm Estate, Melrose Avenue, Harrison Road Estate, Northway, Hurstway, Heaton Mount Avenue, Nooklands Estate, Banksfield Avenue, Birchwood Avenue, Marlborough Drive	2,543 yards.
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Replacement of old mains.

Grimsargh Improvement Scheme—Cow Hill to the Longridge Road—6" diameter A.C. pipe replacing 4" cast iron	626 yards.
Black Bull Lane, Scott's Farm to Queen's Drive 6" asbestos cement main replacing 4" cast-iron main	326 yards.
Robinson Street—Fowler Street area, 3" cast iron main (part scheme)	101 yards.

Motorway Diversions.

204 yards of 4" spun iron and 43 yards 4" steel tubes in concrete duct at Pinfold Farm, Fulwood Row, 241 yards of 6" spun iron and 242 yards of 6" spun iron in Garstang Road, 302 yards of 5" spun iron and 260 yards 9" spun iron over Broughton Hall Bridge, and 79 yards 12" spun iron and 160 yards 7" spun iron, together with 42 yards each of 12" and 8" screwed steel tubes through a 42" diameter concrete culvert at Fulwood Row	1,615 yards.
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All mains were thoroughly sterilised before being put into service.

The total length of mains in the Statutory Area is now 72.2 miles.

All air valves and sluice valves on trunk mains were serviced during the year.

At Barnsfold the gathering grounds, intakes, reservoirs and buildings were maintained in good condition, the Venturi K.M. meters were overhauled by the makers, and all repairs and replacements to the chlorinating equipment were carried out by the Water Bailiff.

Afforestation.

As discussions held in the early part of the year indicated that there was a strong possibility that afforestation may adversely affect the volume of run-off from the gathering ground, it was decided that no further trees should be purchased for the Nursery until more evidence was available, but the 10,430 spruce ready for transplanting were removed to the high ground on the Fell.

The total number of trees is now approximately 223,000.

Metered Supplies.

As the majority of suitable properties were metered in 1955 few new meters were required. The total number of premises metered excluding Whittingham Hospital, is now 288 in addition to which there are 113 troughs and 22 small supplies covered and 3 master meters, making a total of 426 meters in use.

Investigation of Future Supplies.

Messrs. C. Isler & Co. Ltd. commenced sinking a 12" to 8" diameter trial borehole at a site some 670 yards south of Haighton Reservoir during the week ending 26th January, and by the last week in April had reached the specified depth of 400 feet. All doubts as to the existence of waterbearing sandstone in such close proximity to Haighton were dispelled when the Bunter Sandstone was encountered after drilling through 140 feet of Glacial Drift and was thereafter proved to a further 260 feet the bore still being in sandstone at the final depth of 400 feet. The bore was lined with 12" diameter steel tubes for the first 42 ft and a further 146 feet of 8" diameter were placed to support the Drift.

A 72 hour continuous test pumping, as required by the Ministry, was carried out and the Geologist's conclusion drawn from this was—"The results of the test pumping on the 8" diameter trial hole, whilst not spectacular, nevertheless suggest that, providing the site is properly developed, quantities of the order of 750,000 g.p.d. to 1,000,000 may reasonably be expected."

I considered these results to be quite satisfactory, and sufficiently good to ensure Fulwood area's supply for the next 25 to 30 years.

The full scheme prepared was for a 24" diameter borehole and a softening plant at Haighton, but in view of the Ministry of Housing and Local Government circular on Regrouping of Water Undertakings no further action has been taken on this project.

In conclusion I wish to thank the Chairman and Vice-Chairman of the Waterworks Committee for their co-operation and the outside staff who have given me every assistance in carrying out the work of the Department.

I am,

Your obedient Servant,

NORMAN HOLMES,

Waterworks Engineer.

As the majority of surface projections were noticed in 1905 the low water was exposed. The total number of specimens was 1000. The specimens were 1.5 to 2.0 inches in length and 0.5 to 1.0 inches in diameter. The specimens were 1.5 to 2.0 inches in length and 0.5 to 1.0 inches in diameter.

Investigation of Future Supplies

At the time of the investigation the water was 12 to 15 feet below the surface at a site some 275 yards south of the station. The water was 12 to 15 feet below the surface at a site some 275 yards south of the station. The water was 12 to 15 feet below the surface at a site some 275 yards south of the station.

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