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ULVERSTON RURAL DISTRICT COUNCIL



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1944

THE UNIVERSITY OF CHICAGO PRESS

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ULVERSTON RURAL DISTRICT COUNCIL

TO THE CHAIRMAN AND MEMBERS OF THE
RURAL DISTRICT COUNCIL

ANNUAL REPORT


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ULVERSTON;
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TO THE CHAIRMAN AND MEMBERS OF THE RURAL DISTRICT COUNCIL.

Madam and Gentlemen,

I have the honour to submit the Annual Report for the year 1944, on the sanitary circumstances, administration and vital statistics of your district. It is shorter than would have been the case in peace-time to comply with the instructions of the Minister of Health that annual reports should be curtailed during the period of the war.

GENERAL STATISTICS.

Area (in acres). 127,485.

Population. 17,290.

Number of Inhabited Houses. 5,065.

Rateable Value. £75,802.

Amount produced by a Penny Rate. £299. 1s. 5d.

VITAL STATISTICS.

POPULATION.—With the cessation of hostilities in Europe the necessity to omit figures in respect of population came to an end. The population of the Rural District, as estimated by the Registrar General to the middle of each of the years from 1938 onwards, is given below, the annual increase, or decrease, being indicated by the figures within brackets.

1938,	15,950	(—)	1941,	18,920	(+1,950)
1939,	16,400	(+450)	1942,	18,360	(—560)
1940,	16,970	(+570)	1943,	17,560	(—800)
	1944,	17,290			(—270)

BIRTHS.—There were 308 births, 171 male and 137 female, giving a birth-rate of 17.8 per 1,000, compared with a rate of 15.2 in 1943. Nineteen of the total 308 births were of illegitimate children. There were, in addition, 5 still births.

DEATHS.—The number of deaths of residents registered in the district during 1944 was 240, 123 males and 117 females, giving a death-rate of 13.9 per 1,000.

CAUSES OF DEATH.

INFANTILE MORTALITY.—There were 12 deaths of infants under one year of age, 8 male and 4 female, giving an infantile mortality rate of 39 per 1,000 live births, which compares favourably with the rate of 41.05 in the Rural District last year and the rate of 46 in England and Wales in the year 1944.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER 2 YEARS OF AGE.—None.

MATERNAL MORTALITY.—No death was registered as due to, or associated with, maternal causes.

INFECTIOUS DISEASES.—No death from any of the ordinary infectious diseases was registered.

DISEASES OF THE HEART AND BLOOD VESSELS.—In 110 instances death was ascribed to diseases of the heart or blood vessels, namely :—Heart disease 73 ; intracranial vascular lesions 31 ; other diseases of the circulatory system 6.

CANCER.—Forty deaths were ascribed to cancer, brief particulars of which are given below :—

<i>Site of Disease.</i>	<i>Male.</i>	<i>Female.</i>
Buccal cavity and oesophagus	2	..
Uterus .. .. .	..	..
Stomach and duodenum ..	7	2
Breast	1	3
All other sites	11	14
	<hr/> 21	<hr/> 19

DISEASES OF RESPIRATORY SYSTEM.—There were 8 deaths from pneumonia ; 7 from bronchitis and 3 from other respiratory diseases.

OTHER CAUSES OF DEATH, were—influenza 4 ; acute infective encephalitis 1 ; diabetes 3 ; ulcer of stomach 1 ; appendicitis 2 ; other digestive diseases 3 ; nephritis 7 ; road traffic accidents 2 ; other violent causes 7 ; all other causes 19.

INFECTIOUS DISEASES.

INCIDENCE OF INFECTIOUS DISEASE DURING THE FIVE YEARS 1939-1942 COMPARED WITH THAT FOR 1944.

Disease	1939	1940	1941	1942	1943	1944		
						No. of Cases	Removed to Hospital	Died in Hospital
Scarlet Fever ..	14	14	7	22	15	31	30	
Diphtheria ..	14	6	22	8	3	1	1	
Typhoid and Paratyphoid Fevers	2		9	12		1	1	
Measles	3	353	58	89	98	102		
Whooping Cough	24	37	32	24	37	17		
Pneumonia ..	10	17	28	23	15	14		
Poliomyelitis ..		1						
Puerperal Fever or Pyrexia	1	1	3	1	2	5	3	
Ophthalmia Neonatorum		4						
Erysipelas ..	5	6	8	4	2	1		
Cerebro-spinal Fever		1	1	4	1	2	2	
Dysentery ..				1		2		
Totals ..	73	440	168	188	173	176	37	

SCARLET FEVER.—The disease was of the usual mild form which has prevailed throughout the country in recent years. Two non-civilian patients, admitted to the High Carley Isolation Hospital proved to be cases of German Measles, and not of Scarlet Fever.

Three cases occurred at the Catholic Convalescent Home, Boarbank Hall. I visited the home on two occasions to satisfy myself that all necessary precautions were being taken to prevent the spread of the disease, which was fortunately confined to the three cases, one of which was not a true case of scarlet fever.

CLOSURE OF AULTHURSTSIDE SCHOOL.—On the occurrence of scarlet fever at Broughton Mills in March among pupils attending the school, it was deemed advisable to close the school for a period extending from the 23rd March until the 3rd April. This rather unusual procedure was adopted in the hope that it might be instrumental in checking spread of the disease in an area in which it had not occurred for a considerable time, particularly as the homes of the children are, in most instances, widely separated from

one another, which precluded the probability of infection being carried from house to house. The fact that no further cases were notified from the area during the remainder of the year suggests that the procedure adopted attained the desired end.

CLOSURE OF HAWKSHEAD FOUNDATION SCHOOL.—On learning, on the 22nd August, that two boys had contracted scarlet fever at Hawkshead, one of whom was an evacuee and both of whom attended the Senior Department of the Foundation School, I visited Hawkshead with Mr. Bolton. Having obtained from the Headmaster a list of the scholars, who were absent on account of illness, we made inquiries at the homes of the children concerned. This led to the discovery of a third case of scarlet fever in a girl aged nine. The patient, who had not been seen by a doctor, was found ill in bed at a dairy farm. As her presence was liable to be a source of danger to the consumers of the milk, she was promptly removed to hospital.

The circumstances associated with these cases of scarlet fever at Hawkshead suggested that an outbreak of the disease might readily follow if prompt preventive measures were not adopted, and it was decided to close the school for a period of ten days and to subject it, in the meantime, to fumigation and thorough cleansing. While the procedure adopted was not entirely successful in checking the spread of the disease—four further isolated cases occurred before the year ended, namely two in October, one in November and one in December—yet there was nothing approaching an outbreak of the malady.

DIPHTHERIA.—No fewer than 10 patients were removed to hospital from different parts of the Rural District on the suspicion that they might be suffering from diphtheria.

With the exception of a child, aged 4, who did not have diphtheria, all the patients were adults. Three service patients were admitted from camps in the area. Careful observation in hospital aided by bacteriological investigation of throat swabs, proved conclusively that only one of the ten patients admitted to hospital actually suffered from diphtheria. This patient was a young lady of 21 who had never been immunised against the disease.

Having regard to the great importance of early hospital treatment, it is always advisable, in cases of doubt about the diagnosis, to send the patient to hospital immediately without wasting valuable time in waiting for bacteriological confirmation of the diagnosis, which, in the event of the disease proving to be diphtheria, might very seriously prejudice the patient's chances of recovery.

The entire absence of diphtheria in children is noteworthy. How far this may be attributed to the Council's scheme of immunisation of children against the disease, time alone will show. By instituting a careful system of immunisation the Council have placed within the grasp of every parent in the Rural District the means of protecting his or her child from the dreadful consequences of attack by this very fatal disease. The protection of their children now rests in the parent's hands and the incidence of the disease in future years will, in very large measure, depend upon their willingness to avail themselves of the benefits of immunisation.

DIPHTHERIA IMMUNISATION.—During 1944 a total of 188 children completed the full course of immunisation, namely 119 under 5 years and 69 between the ages of 5 and 15 years. At the end of the year it was estimated that 55.1 per cent. of the child population under 5 years of age and 85.6 per cent. of children between the ages of 5 and 15, in schools maintained by the Lancashire County Education Authority had been protected against attack by diphtheria by means of immunisation.

It is satisfactory to be able to record that not a single case of diphtheria has occurred among the children immunised by Mrs. Macewen in the Ulverston Combined Sanitary District.

TYPHOID FEVER.—On the 19th July a young man, aged 24, was sent into the isolation hospital on the suspicion that he might be suffering from cerebro-spinal meningitis. The patient was found, on admission, to be very ill, but his symptoms were suggestive of one of the enteric fevers rather than of cerebro-spinal meningitis and further observation and bacteriological investigation confirmed the diagnosis of typhoid fever. The patient lived at Hawkshead and worked at a dairy farm in the vicinity, where he milked cows. Very careful enquiries failed to elicit the source of his infection, which is not at all surprising, as, when dealing with a single case, such inquiries may legitimately be compared to looking for a needle in a haystack! Typhoid fever had not occurred in the vicinity of Hawkshead for many years, nor was there any evidence to suggest that the patient might have contracted the disease in another area. It was reported, however, and amply confirmed, that the young man had been in the habit of drinking water whenever he was thirsty, from any stream or water course that happened to be handy, whatever its source or condition of cleanliness might be. Such irresponsible conduct rendered him peculiarly liable to contract typhoid fever, indeed it was not so much a question of "whether" but of "when" he would become infected.

From the many talks I have had with country people about their water supply, I imagine that a fairly wide-spread belief prevails that "running water is always safe to drink." I need hardly state that there is no truth whatever in this popular superstition. Running water is liable to be heavily polluted and cannot be drunk indiscriminately without grave danger to the health of the consumer as is illustrated by the facts to which allusion is made above.

The Hawkshead patient's association with a dairy farm, where he had taken a prominent part in the production of milk, gave rise to anxiety lest there might be a milk-borne outbreak of the disease. The farm and the patient's home were visited on many occasions to ensure that, if secondary cases occurred, they would not be overlooked, but, fortunately, no further cases occurred either at the farm, at the patient's home, or among the consumers of the milk.

MEASLES.—No cases of measles were notified in the first quarter of the year. In the second, third and fourth quarters, the numbers notified were 21, 19 and 62 respectively, making a total of 102. The monthly inci-

dence of the disease was :—April, 1 ; May, 4 ; June, 16 ; July, 14 ; August, 5 ; September, none ; October, 9 ; November, 25 ; December, 28. The number of cases notified in each parish was :—Allithwaite Upper 38 ; Allithwaite Lower 25 ; Urswick 11 ; Egton-with-Newland 8 ; Pennington 6 ; Colton 3 ; Osmotherley 2 ; Haverthwaite 2 ; Aldingham 2 ; and one in each of the following :—Broughton East, Torver, Holker Lower, Claife, and Staveley.

No death was registered as due to, or associated with, measles.

CEREBRO-SPINAL MENINGITIS.—Four cases of cerebro-spinal meningitis were notified and all the patients were admitted to High Carley Isolation Hospital. One, a farmer, was seriously ill, but made an uninterrupted recovery. The second, a small child of 5, gave rise to anxiety on account of persistent and uncontrollable vomiting, which necessitated constant medical and nursing supervision for many days. She finally recovered and was completely restored to health before her discharge. After a period of observation in hospital the third patient proved to be suffering from pneumonia and not from cerebro-spinal meningitis. On admission the fourth patient was found to be suffering from shock and concussion resulting from a recent accident. X-ray examination revealed the presence of a depressed fracture of the skull, and the child was transferred by ambulance, to the Manchester Royal Infirmary for operative treatment.

OUTBREAK OF SONNE DYSENTERY IN THE PARISH OF KIRKBY ASSOCIATED WITH THE BURLINGTON SCHOOL.—The return of sickness among school children for the week ended the 18th February, 1944, contained a note that among the scholars absent from the Burlington School were some suffering from sickness and diarrhoea. The inquiries which were at once instituted and continued for a considerable time, revealed the following facts :—

During the period from the 15th February until the 4th March, 43 persons suffered from illness characterised by sickness, abdominal pain and diarrhoea resembling Sonne dysentery. This diagnosis was confirmed by bacteriological examination of the stools in a considerable number of instances.

Twenty-one of the patients were males and 22 were females. Nine adults and 34 children were attacked. The ages of the children were :—(under 5 years) 7 ; (5—) 15 ; (10—) 10 ; (15 and over) 2. The number of households implicated was 24. There was one patient per house in 12 instances ; two per house in 8 instances ; three per house in 3 instances and six per house in one instance. With one exception, all the adults were either parents of children suffering from the complaint, or persons living in the same house as children who had contracted the illness.

Thirty-five of the total 43 patients had, either at school or at home, consumed milk from a local farm. Of the 8 patients who did not consume milk from this source 3 may have been secondary cases as they lived in the

same house as patients who had previously consumed milk from the farm in question. But as the farmer was the largest milk purveyor in the area, the large number of patients who had consumed his milk, did not afford conclusive evidence that it had been the vehicle by means of which the infection had been spread. Careful inquiries at the farm failed to reveal any source of infection. There was no history of recent illness among those who milked the cows or handled the milk. Specimens from each of the latter were, on two occasions, taken and submitted to bacteriological investigation with negative results in each instance,

Subsequent to the 4th March, a number of fresh cases were discovered, while some of the original patients had a renewal of their symptoms, whether due to relapse or to re-infection it was not possible to say. Observations of the circumstances associated with the handling and distribution of the milk to the scholars at the school, which, notwithstanding all that the Headmaster could do to effect improvement, still left much to be desired, led to the conclusion that, whatever the primary source of infection may have been, the school had become a centre for the continued spread of the malady. In these circumstances the signatures of two members of the Council were obtained to a notice requesting the School Authorities to close the school. It was closed from the 23rd March until the 6th April. The result was eminently satisfactory. No further cases of dysentery were reported.

The provision of milk and meals at school sometimes involves problems of real difficulty, particularly in war-time. Milk used for the purpose should be of the highest quality obtainable, preferably delivered at the school in sealed sterilized bottles of suitable size so as to enable each child to be given a bottle exclusively for its own use, the contents of which are not to be shared with anyone else. Scrupulous cleanliness is, of course, essential in everything connected with the serving of meals and in the washing of dishes used for school dinners. Most schoolteachers endeavour, often under very difficult conditions, to attain and maintain a high standard of hygiene in such matters, but they require the whole-hearted and understanding co-operation of school managers and others concerned to assist them in a task of fundamental importance to the health and well-being of the children.

SCABIES.—A considerable number of persons suffering from scabies were treated as out-patients at the High Carley Isolation Hospital.

LABORATORY FACILITIES.—Bacteriological investigations continue to be carried out, on behalf of the Council, at the Ministry of Health Emergency Pathological Service Laboratory established at the High Carley Sanatorium. I am indebted to Dr. Brundret, the Pathologist and Bacteriologist, for his very valuable co-operation in the investigation of many problems associated with the prevention and cure of disease.

TUBERCULOSIS.

NEW CASES AND MORTALITY DURING 1944							
Age Periods		NEW CASES				DEATHS	
		Respiratory		Non-Respiratory		Respiratory	
		M	F	M	F	M	F
Years.							
0—	..	..	..	..	..	..	..
1—	..	..	2	..	1	..	..
5—	..	1	..	..	1	..	..
10—	..	..	1	3	..	..	..
15—	..	..	1	1	..	..	..
20—	..	2	2	..	..	..	4
25—	..	2	6	..	1	2	1
35—	..	2	1	..	1	1	..
45—	..	5	..	..	..	..	1
55—	..	..	..	..	..	1	..
65 & upwards	..	..	..	1	..	..	1
Totals	..	12	13	5	4	4	6
		25		9		10	

34

11

SANITARY SUPERVISION.

Throughout the year under review, your Sanitary Inspectors continued to exercise supervision over the Sanitary circumstances of the areas assigned to their respective care. The aim and object of such work is, of course, to attain and maintain healthy environmental conditions for the inhabitants of the district. Always very important, it is never more so than in time of war, when all practicable steps should be taken to maintain the sanitary state of the district at as high a level as circumstances permit. This is no easy task when shortage of labour and materials has brought structural work of all kinds practically to a standstill and had rendered the execution of even minor repairs very difficult. It is most disheartening for householders and officials alike to have to wait, sometimes for many months, before even the most urgent and necessary repairs receive attention. Notwithstanding these difficulties much useful work was accomplished by your Sanitary Inspectors to which their monthly reports to the Public Health Committee bore abundant testimony.

In a rural area in which so many persons are engaged in dairy farming, the hygiene of shippens and dairies and measures to promote the production of clean milk must occupy a foremost place. In this sphere much useful work has been done by both your Sanitary Inspectors in preparing schemes for the provision of water supplies and drainage for farm steadings and for improving and adapting farm buildings to render them suitable to the needs

of milk production. In addition, Mr. Bolton, has now completed a survey of dairy farms, with a detailed report on each, in the Townships of Coniston, Torver, Blawith, Hawkshead, Skelwith, Claife, and Colton, and hopes to be able to survey those in the remaining Townships of the Northern Area of the Rural District in due course.

Surveys of the housing conditions in the Townships of Cartmel and Broughton West were also undertaken with a view to ascertaining the approximate number of houses that might be recommended for demolition under the Housing Acts when peace is restored and conditions have become sufficiently normal to admit of such action being taken. In carrying out these surveys no attempt was made to classify the houses into categories in the manner suggested in the third report of the Rural Housing Sub-Committee of the Central Housing Advisory Committee and in the Ministry of Health Circular 64/44 which did not come into our hands until after the surveys had been completed.

RAINFALL.

I am very much indebted to Mr. C. J. Chapman for placing at my disposal his carefully compiled statistics of the local rainfall obtained, over a long period of years, from readings of rain gauges in the grounds of his residence, Pengwerne, at Kilner Park, Ulverston.

ANNUAL RAINFALL 1924-1944.

1924	55.79	1929	52.47	1934	51.05	1939	44.60
1925	50.34	1930	52.50	1935	54.34	1940	47.65
1926	53.59	1931	55.69	1936	48.33	1941	38.38
1927	56.52	1932	54.79	1937	42.75	1942	49.05
1928	71.12	1933	40.11	1938	56.03	1943	59.09
		1944	55.75				

The average annual rainfall for the 20 years 1924—1943 was 51.74. The quarterly averages for the same period appear below for purposes of comparison with those of 1944.

QUARTERS.

20 year average :

11.87	9.25	14.30	16.32
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1944 :

8.37	11.43	15.99	19.96
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It will be seen that 1944 was a relatively wet year, only 5 of the previous 20 years having been wetter. While the rainfall in the first quarter of 1944 was below, that in the remaining three quarters was above, and in the last quarter much above, the 20 year average.

WATER SUPPLIES.

The circular of the Ministry of Health on the preparation of Annual Reports for 1944 requires the Medical Officer of Health to state for the year:—

- (i) "whether the water supply of the area and of its several parts has been satisfactory (a) in quantity, (b) in quality ;
- (ii) where there is a piped supply, whether bacteriological examinations were made of the raw water, and, where treatment is installed of the water going into supply, if so, how many and the results obtained ; the results of any chemical analyses ;
- (iii) where the waters are liable to have plumbo solvent action, the facts as to contamination by lead, including precautions taken and number and results of analyses ;
- (iv) action in respect of any form of contamination ;
- (v) particulars of the proportion of dwelling-houses and the proportion of the population supplied from public water mains (a) direct to the houses and (b) by means of stand-pipes."

In the Annual Report for 1943 the water supplies of the Rural District, and of its several parts, were described in detail and at considerable length. It will be unnecessary in this report to cover the same ground again.

As already stated, the rainfall in 1943 was abundant, and, for that reason, complaints about scarcity of water, save in a few outlying areas, were relatively few.

AREA OF RURAL DISTRICT SUPPLIED FROM ULVERSTON URBAN DISTRICT COUNCIL'S WATER WORKS AT CASTLE HILL, PENNINGTON.—The area of the Rural District, comprising the Townships of Aldingham, Urswick, Pennington and Osmotherley is supplied with water from the Ulverston Urban District Council's Water Works at Castle Hill, where water derived from the Barrow-in-Furness Corporation's Pennington reservoir is subjected to filtration and chlorination before distribution in mains belonging to the Rural District Council.

Bacteriological examination of the filtered and chlorinated water gave uniformly good results. It was subjected to such examination on ten occasions, and, in each instance, the samples were reported, to be free from coliform organisms in 100 c.c. This was the more satisfactory as the raw water in the Pennington Reservoir was found to be heavily polluted during the autumn months. The reservoir derives its water supply mainly from two streams, one known as Rathmoss Beck and the other as "Sheep Wash." Laboratory reports on the samples taken, expressed in terms of the probable number of coliform organisms per 100 c.c., gave the following results :—

		<i>Probable number of coliform organisms per 100 c.c.</i>
15th September.	Raw water from Pennington reservoir	180+
16th September.	Water after filtration and chlorination	0
20th September.	Raw water from Pennington Reservoir	180+
	Water after filtration	0
	Water after filtration and chlorination	0

6th October	Raw water from Pennington Reservoir	17
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	8
	Water after filtration and chlorination	0
24th October.	Raw water from Pennington Reservoir	180+
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	180+
28th October.	Water after filtration and chlorination	0
21st November.	Raw water from Pennington Reservoir	180+
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	180+
	Water after filtration and chlorination	0

PARTS OF RURAL DISTRICT PROVIDED WITH WATER FROM THE BARROW CORPORATION'S SEATHWAITE SUPPLY. Some of the houses in the Townships of Broughton West and Kirkby are provided with water from the Barrow Town Council's Seathwaite supply, which is derived from the River Duddon. This water also afforded evidence of pollution during the autumn months. The pollution was not constant, but intermittent, in character as is shown by the results of bacteriological investigation of samples taken from the Seathwaite main (before boosting), on the undernoted dates. The laboratory results were expressed in terms of the number of coliform organisms per 100 c.c. and were as follows:—
6th Sept., 85 ; 15th Sept., 180+ ; 17th Sept., 5 ; 18th Sept., 3 ; 19th Sept., 3 ; 20th Sept., 0 ; 21st Sept., 0 ; 26th Sept., 0 ; 29th Sept., 180+ ; 2nd Oct., 0 ; 10th Oct., 0 ; 17th Oct., 0 ; 25th Oct., 0 ; 31st Oct., 0 ; 9th Nov., 0 ; 15th Nov., 1 ; 22nd Nov., 0 ; 5th Dec., 0 ; 11th Dec., 0.

The position of a Medical Officer of Health of areas supplied with water by another Authority is not a easy one as he has no control over the gathering grounds, reservoirs, filtration and chlorinating plants or mains of the Authority which supplies the water. Fortunately no difficulty was experienced in securing close co-operation with the Barrow officials concerned.

On the 6th September I met Dr. Forrest at the High Carley Laboratory where the whole position was discussed. In view of the very serious consequences liable to ensue from a polluted water supply it was agreed that the Ministry of Health Regional Office, Manchester, should at once be informed of the situation to enable them to take whatever action they deemed requisite in the circumstances. In the absence on sick leave of Mr. Diamond, the Barrow Gas and Water Engineer, Dr. Forrest put me in touch with Mr. Gabbatt, who has since been appointed to Mr. Diamond's post.

I kept in close touch with Mr. Gabbatt. We pooled information on the results of bacteriological examination of water samples and other relevant matters, often consulted over the telephone and sometimes met on the gathering grounds or at the water works to discuss matters on the spot. I should like to place on record my appreciation of Mr. Gabbatt's kindness, courtesy and consistent helpfulness during a period which was not unnaturally a very anxious one for us both.

The Ministry of Health Regional Office, Manchester, was first informed of the polluted condition of the water on the 6th September and were subsequently informed from time to time, of the course of events. Dr. Marshall, the Department's Regional Medical Officer and Mr. Malony, the Regional Engineer, visited Barrow-in-Furness on the 10th October and made an inspection of the Corporation's gathering grounds and water works. They conferred with me on the subject on the evening of the 11th October.

Representatives of the Corporation were, I understand, subsequently invited to discuss the matter with officers of the Ministry of Health in London. I am indebted to Dr. Forrest for the following information in respect of subsequent events, which he kindly sent me in a letter dated the 23rd February, 1945. "At our conference with the Ministry it was recommended that an outside Consultant should be appointed with wide powers to survey the whole water undertaking, and he has now been appointed and commenced work. The Town Clerk informs me that there has also been appointed an independent Analyst and that they are now both carrying out their Survey. You will appreciate, however, that we are regularly sampling the water from the reservoirs, and so far as Barrow is concerned there is no *B. Coli* in any of the weekly samples. We are also chlorinating regularly."

CARTMEL VALLEY WATER SUPPLY.

The area of the Rural District comprising the Townships of Allithwaite Upper and Lower, Holker Upper and Lower, Broughton East, and Staveley, together with Newton and Lindale are supplied, for the most part, with water derived from the Grange Urban District Council's water works near Newton. Throughout the year the water was good in quality, and, though the quantity in the reservoirs fell, at times, to undesirably low levels, no shortage occurred. Difficulty was however occasionally experienced in maintaining an adequate supply to houses at the highest levels in the Rural District.

The results of bacteriological examination of the water are given below :-

	24 Apr.	9 Aug.	26 Oct.	3 Nov.	15 Dec
Prob. no. of coliform organisms per 100 c.c.	0	0	1	0	1
Plate count after 2 days at 37°C. colonies per 1 c.c. . .	0	0	5	not given	2
Plate count after 3 days at 22°C colonies per 1 c.c. . .	54	250	730	not given	300

As stated in last year's Annual Report, shortage of water has, from time to time, been experienced in areas supplied by the Grange water works due to low rainfall coinciding with increasing demand. Indeed the need for augmenting the supply has been apparent for many years. In 1928 the Rural District Council purchased land, known as Simpson Ground, in the vicinity of the Grange catchment area, with a view to providing a water supply of their own and employed a consultant engineer to prepare a scheme for the purpose. This scheme formed the subject of a local inquiry held by

an Engineering Inspector of the Ministry of Health on the 10th April, 1929. While the Ministry of Health were satisfied of the need for augmenting the supply of water, it appeared to them that the scheme would involve duplication of mains of considerable length used jointly by the Rural District Council and the Grange Urban District Council. For this reason and because it appeared probable that the Grange Council might also require an additional supply of water in the near future, the Ministry suggested that there would be considerable advantage if the two Local Authorities were to combine, by the formation of a Joint Water Board, or otherwise, for the purpose of increasing the supply and of utilising the distribution scheme jointly.

The formation of a joint water board remained in abeyance until recently, when discussion of a scheme to augment the water supply prepared on behalf of the Grange Council by Mr. H. B. Ward, brought the question to the fore once more.

Briefly the more important of Mr. Ward's proposals are to increase storage at the Grange water works by the construction of a third impounding reservoir on an area of approximately 11 acres on Simpson Ground Moss in Chapel House Plantation and to intercept and divert water from the Way Beck into the new reservoir. The site of the proposed reservoir is eminently suitable for the purpose, being a saucer like formation surrounded by hills. The reservoir will have a capacity of 45 million gallons, which will more than double the existing storage capacity at the Grange Water Works and so enable water to be conserved during periods of heavy rainfall instead of running to waste as heretofore.

On these proposals being submitted by the Grange Council to the Ministry of Health with a view to the Department's sanction being obtained, the Rural District Council felt obliged to lodge formal objection to the scheme. The subsequent negotiations need not be entered into.

In the public interest, it is to be hoped that agreement may be reached without any further delay. The provision of a more abundant water supply is a matter of urgent necessity and it is important that everything should be in readiness so as to permit of work being commenced on the construction of the new reservoir as soon after the cessation of hostilities as circumstances permit. An extended and more adequate system of filtration will also be necessary, while the relaying of certain lengths of water main cannot be much longer postponed.

WATER SUPPLY SCHEMES.

GAWTHWAITE WATER SCHEME.—At the February meeting of the Public Health Committee it was recommended that tenders be invited for the carrying out of a scheme prepared by the Engineer for the supply of water to a farm house and nine other houses situated at Gawthwaite.

POST-WAR WATER SUPPLY SCHEMES.

As a result of consideration of Circular 2899 of the Ministry of Health relative to applications by Local Authorities for loan sanction for the acquisition of land for the purpose of water supply, sewerage and sewage disposal,

post-war works, the Council submitted to the Ministry of Health the following water supply schemes which it is proposed to construct after the war, namely:- Lakeside, Blawith, Coast Road, Outgate.

LAKESIDE.—During August complaints were received from occupiers of houses at Lakeside regarding the shortage of water. It was found on investigation that various small gravitation water supplies had given out. This will always be liable to happen in times of drought and the provision by the Council of a public water supply to this area is a matter of urgent necessity.

At the September meeting of the Public Health Committee the Clerk reported receipt of letters on the subject from Sir Ian Fraser and the Ministry of Health. Two schemes have been prepared for the provision of a public water supply to Lakeside and Finsthwaite; one from High Dam and the other from Bortree Tarn. The latter appears to have been under the consideration of the Ministry of Health at the outbreak of war. *See (3) below.*

BLAWITH.—There is no public supply in this Township, water being obtained from wells and springs, some of which are liable to fail in dry weather. A scheme for a gravitation supply was prepared for the village and district by your Engineer. It was proposed to convey water from Beacon Tarn to Blawith and to extend the main to High and Low Nibthwaite and further to connect it with the Egton-cum-Newland supply at Lowick Bridge, should this be found necessary. This scheme was not carried out, but *see (3) below.*

WATER SCHEMES GENERALLY.

At the monthly meeting of the Public Health Committee held on the 14th December, 1944, it was recommended:

- (1) That a Sub-Committee of the Public Health Committee be appointed for the purpose of giving full consideration to the question of water supply within the Ulverston Rural District, with special consideration to water schemes which might rank for Government grants.
- (2) That the Sub-Committee be constituted by Councillors N. Armstrong, R. D. Barton, M. Edwards, W. R. Owen, C. E. C. Shawfield, W. A. Shewan, E. T. Skemp, J. B. Smalley, J.P., Sir T. S. Tomlinson, J.P., C.A., and B. S. Willis, together with the Chairman and Vice-Chairman of the Public Health Committee.
- (3) That the Clerk and Engineer do proceed with the work of preparing up-to-date data and plans for the Lakeside and Blawith schemes (both of which have been in abeyance for some years) in readiness for submission to the Ministry of Health.

At the following monthly meeting of the Council, held on the 21st December, 1944, it was resolved that Councillor Captain W. W. Reed, R.N., be appointed a Member of the Sub-Committee.

COAST ROAD WATER SUPPLY.—The provision of a public water supply to this area has been under consideration during the year under review. Application, dated the 21st June, was received from Mr. G. Hadwin

of Newbiggin for extension of the water supply to his two farms, known as Kendall Farm and High Farm, Newbiggin. He suggested that the extension should be made from Moat Farm, but, as this was not considered practicable, your Engineer was instructed to review and report upon the original scheme for laying a water main from the Barrow-in-Furness boundary at Whitehall to Newbiggin. A report was at the same time called for on the housing conditions at Newbiggin.

When these reports were received—one prepared by your Engineer on the proposed Coast Road Water Supply and Newbiggin sewerage and the other by Mr. Harrison on the Sanitary conditions of Newbiggin—they were referred to a Sub-Committee for consideration and report. Members of the Sub-Committee subsequently visited Newbiggin to see the conditions for themselves.

Sunbrick, Newbiggin and the Coast Road area are at present dependent for their water supply upon shallow wells some of which are liable to pollution and to admixture with sea-water during storms and exceptionally high tides. Samples of water taken by Mr. Harrison from the four wells at Newbiggin on the 5th April, 1943, and 31st July, 1944, yielded the following results, stated in terms of the probable number of coliform organisms per 100 c.c.

	Well No. 1	Well No. 2	Well No. 3	Well No. 4
5th April, 1943 . .	0	180+	180+	90
31st July, 1944	0	180+	180+	180+

These results indicate that, notwithstanding its unsuitable position in close proximity to foul drainage, Well No. 1 was, at the time when the samples were taken, the only well yielding water that was fit to drink. Water from the remaining three wells was heavily polluted, as the figures indicate, and the Council recommended at their monthly meeting, held on the 21st December, 1944, that under the provision of Section 140 of the Public Health Act, 1936, application be made to the Court for the serving of summonses on the owners of 3 wells at Newbiggin, requiring the closure of the said wells or the restriction of the use of the water obtained therefrom, which is unfit for human consumption.

At the same meeting of the Council, I reported that a sample of water taken from the Newbiggin Well No. 1 on the 19th December, had afforded evidence of pollution. As the well was the main source of supply to the hamlet and as its closure would have left the inhabitants without any means of water supply, it was suggested that they be advised to boil all water from the well which was to be employed for domestic use.*

I further reported that representative samples taken from other sources of water supply in the Coast Road area had likewise yielded unsatisfactory

* Subsequent samples taken from the well on the 2nd and 7th February showed the water to be heavily polluted. On each occasion the probable number of coliform organisms per 100 c.c. was 180+. Further, those in the sample taken on the 7th February were shown to be of the Faecal type thus fully justifying the advice given to the inhabitants to boil the water.

results when subjected to bacteriological examination. Three were heavily polluted, the probable number of coliform organisms per 100 c.c. being 180+ in each instance. Pollution of the remaining two sources of supply was not so heavy, the probable number of coliform organisms per 100 c.c. being 5 and 8 respectively.

In view of these results, I suggested that, as a precautionary measure, all the inhabitants of the Coast Road Area should be advised to boil all water used for domestic purposes.

The Council having resolved that the Medical Officer of Health be authorised to take such steps in the matter as he may deem necessary, notices advising the inhabitants to boil their water were issued on the following day.

At the monthly meeting of the Public Health Committee held on the 14th December, 1944, your Engineer submitted a scheme for the supply of water to the houses along the Coast Road. The scheme provided for a connection to be made to the Barrow Corporation's 4-inch water main at Whitehall and the laying of a 4-inch main to Newbiggin and Seed Hall with branches from Goadsbarrow to "The Moorings" and another branch to the hamlet of Newbiggin.

The estimated cost of laying a main from Whitehall to Goadsbarrow with a branch to "The Moorings" was £1,400 and of laying a main from Goadsbarrow to Seed Hall with a branch to Newbiggin, a further £1,130, making a total of £2,530. This scheme was approved by the Public Health Committee and, at the following monthly meeting of the Council held on 21st December, it was resolved :—

"That the Engineer be instructed to expedite the preparation of the scheme, approved at the last meeting of the Public Health Committee, for the supply of water to the houses along the Coast Road with branch mains to "The Moorings" and the hamlet of Newbiggin, with a view to the said scheme being submitted to the Ministry of Health at an early date for the purpose of seeking a Government contribution thereto."

OUTGATE.—The hamlet of Outgate in the Township of Hawkshead is supplied by a well sunk in a field, water is drawn by means of two public pumps. The provision of a piped water supply is very much required.

Among the other places in the Rural District not yet provided with a water supply, the following merit the early consideration of the Council :—

BOUTH.—This hamlet comprising some 50 houses is dependent upon 3 pumps, not easily accessible to some of the houses. The provision of a piped water supply is a matter of urgent necessity.

SKELWITH.—I am not at all happy about the conditions obtaining in some parts of this Township in which development appears to have taken place in rather a haphazard fashion. There is no public water supply. The private water supplies and means of sewage disposal to individual houses do not, in some instances, appear to have received adequate

attention at the time when the plans of the houses were submitted for the Council's approval.

When the houses were few and far between this may have been a matter of less consequence than it has since become owing to the number of new houses built in recent years by persons anxious to enjoy the unrivalled natural beauty of the district. Instances have come under observation of householders obtaining their water supply from a runlet on the lower slopes of a hill, which, in the course of its descent, may have passed in fairly close proximity to cesspools, septic tanks or other possible source of pollution from houses built at higher levels. Water to be used for drinking purposes ought not to be obtained from an area of land containing cesspools or septic tanks. I suggest that in future no plans for dwelling houses in this area should be passed by the Council until the site has been inspected by the Public Health Engineer to ascertain whether an adequate supply of pure water is available for the proposed dwelling and that the disposal of sewage can be effected without detriment to the water supply of existing houses in the vicinity. The Council would also be well advised to endeavour to find an abundant source of pure water at a sufficiently high level to admit of a gravitation supply being provided for the area as a whole as soon as circumstances permit. The present position is unsatisfactory and not free from danger to the public health.

PUBLIC CLEANSING.

This very important service received careful consideration during the course of the year. House refuse was formerly removed quarterly under contract, the contractor usually being a local farmer working under the direction and supervision of the Sanitary Inspector. The system does not appear to have been very satisfactory and left much to be desired in certain directions. Shortly after the outbreak of war difficulty was experienced in obtaining contractors in certain parts of the district and the Council had to adopt a system whereby the removal of house refuse in these parts of the district was carried out by direct labour with the aid of hired vehicles. Later, the Council purchased a Karrier "Bantam" Refuse Collector at a cost of £600 and the vehicle was put into commission on the 1st January, 1944.

At the March meeting of the Public Health Committee it was recommended that a sub-committee be appointed for the purpose of considering the question of formulating a scheme for the central collection of house refuse within the Ulverston Rural District. The Sub-Committee called for, and were furnished with, a report prepared jointly by your Sanitary Inspectors. The report showed that, at the time when it was prepared, 3817 houses were provided with a house refuse removal service—a figure which represented 85 per cent. of the premises which the Sub-Committee considered ought properly to be included in any centralised scheme which may be decided on. Further the report of the Sanitary Inspectors indicated that collections of house refuse were deposited in 24 depots and 2 "dumps," but that, if a central collection scheme were instituted, the number of depots could be

reduced to 15 and the 2 " dumps " abolished with resultant saving in rent and maintenance costs.

The Sub-Committee held five meetings at which careful consideration was given to the various aspects of house refuse removal in the Rural District, both from the point of view of the existing incomplete sectionalised scheme and in relation to a possible comprehensive service.

The more important conclusions contained in the Sub-Committee's report (dated 16th November, 1944) are :—

1. That the existing semi-contract system of house refuse removal is unsatisfactory and too costly in comparison with the service rendered. It is inadequate and too haphazard to meet present needs of the inhabitants of the built-up portions of your district as a whole. Further, the known difficulties of the system are likely to increase rather than diminish whilst costs will almost certainly increase.
2. That it is desirable that a scheme of centralised house refuse collection directly under the control of the Council should operate in parts of the Council's district (to be determined) thereby ensuring a more complete, regular and efficient collection without any appreciable increase upon present costs.
3. That if a central collection scheme is decided upon, the House Refuse (Central Collection) Committee should consider the terms of Section 72 of the Public Health Act, 1936, with the object of prescribing and recommending to the Council the area from which house refuse removal is to be undertaken and, if thought fit, to make Byelaws for such area. Byelaws may also be made requiring the occupiers of premises to remove house refuse, etc., in that part of the Council's district where no undertaking has been given for the performance of the service.
4. That for the efficient working of a central collection scheme it will be necessary for an additional Karrier " Bantam " Refuse Collector to be purchased, it being considered that this type of special vehicle is best suited to the district.
5. That immediate steps be taken to acquire property in Ulverston capable of affording proper covered lock-up accommodation for the Council's vehicles together with workshop, store and petrol pump.

It was resolved at the December meeting of the Council :—

That the scheme prepared by the House Refuse (Central Collection) Committee, of centralised house refuse collection directly under the control of the Council, to operate in parts of the Council's district (to be determined) thereby ensuring a more complete, regular and efficient collection, be approved, and that every effort be made to put the suggested scheme into operation on the 1st April, 1945.

That the Clerk do endeavour to arrange for the purchase of an additional Karrier " Bantam " Refuse Collector at an estimated cost of £600, and that he do seek the sanction of the Ministry of Health to the borrowing of the said sum of £600 in order that the Council may raise a loan or loans for the purchase of the vehicle should this course be deemed desirable.

That immediate steps be taken to acquire property in Ulverston capable of affording proper covered lock-up accommodation for the Council's vehicles, together with workshop, store and petrol pump.

That the question of prescribing the area in which house refuse removal is to be undertaken, pursuant to Section 72 of the Public Health Act, 1936, be approved in principle and that the House Refuse (Central Collection) Sub-Committee be requested to prepare the necessary particulars prescribing such area in accordance with the terms of their Report, and submit the same direct to the Council.

DAIRIES AND COWSHEDS.

There are some 600 cowkeepers in the district engaged in the production of milk for sale, 290 of whom are producer-retailers. There are 5 producers of Tuberculin Tested milk and 17 of Accredited Milk.

The only pasteurising plant in your district is the one at Lindal, operated by the Barrow-in-Furness and District Dairy Farmers (Co-operative) Society Ltd. Pasteurised milk from this plant is supplied mainly to schools in the Ulverston Urban Area.

Your Sanitary Inspectors have, as already stated, done much to promote the production of clean milk, not only by routine visits to the farms for the purpose of giving any necessary advice or assistance, but also by inducing owners or tenants to effect improvements in the condition of their farmsteads either by the provision of new buildings or by structural alterations of one sort or another. The summary below indicates the work of this nature which has either been carried out, is in course of construction, or for which plans have been prepared during the course of the year under review. The prevailing shortage of labour has, of course, retarded progress in many directions.

New Cowsheds	.. .. .	8
Cowsheds reconditioned or reconstructed		7
Provision of dairies	.. .. .	17
Provision of Receiving Rooms	.. .. .	11
Provision of Sterilizing Rooms	.. .. .	8
Water Supplies	.. .. .	14
Drainage Schemes	.. .. .	6

While there are a number of really good farmsteads and some at which conditions are satisfactory, or reasonably satisfactory, there are still too many at which the standard falls far short of modern requirements. Many of the shippens are old stone-built structures, often with lofts above; some are defective in air-space, some in height, some in lighting and ventilation and some in internal arrangements. Defective floors and drainage arrangements are all too common, while the internal surfaces of the walls are often rough, uneven and difficult to maintain in an adequate state of cleanliness. Such conditions cannot fail to exert adverse influence on the health of the dairy herds and should be remedied as soon as circumstances permit.

In some instances there is no separate dairy in which milk can be cooled and stored. The farmhouse kitchen, scullery or wash-house is not infrequently used for the purpose in contravention of the Milk and Dairies Order, 1926. Some improvement in this respect has been effected during the course of the year as the above figures in respect of the provision of dairies indicate, but much still remains to be done. In the meantime it cannot be too strongly emphasised that in the event of an inmate of the farm-house contracting infectious disease, the keeping or cooling of milk or the cleansing of milk utensils in the kitchen, scullery or wash-house is a procedure fraught with danger to the health of consumers of the milk.

In the circumstances which obtain at many of the farms it is not easy to attain, and maintain, a high standard of cleanliness in the production of milk, particularly where facilities for the supply of abundant hot water are lacking, as they too often are. The position has been aggravated during the war years by inability to obtain adequate labour and by the greater acreage which has had to be brought under the plough as a war-time necessity. Notwithstanding all these handicaps a determined effort is being made by the vast majority of cowkeepers to produce milk of as high a quality as circumstances permit. The lot of the farmer, during the period of hostilities, has been beset by many practical difficulties, which he has managed to surmount in one way or another. This has often entailed strenuous work from early morning until late at night. No member of the community has played a worthier or more vital part in the war effort—one which, notwithstanding the occurrence of unsuitable weather conditions and some bad harvests, has, fortunately for the nation, been crowned by a very large measure of success.

EVACUATION.

The reception, billeting and subsequent care of large numbers of evacuees from London and areas in the South of England involved much work on the part of the local W.V.S. organisations and officials of the Council—work which was very willingly undertaken and afforded excellent results. The first organised party of unaccompanied children arrived by special train at Ulverston Railway Station about noon on the 7th July. They were conveyed by motor car or bus, in a downpour of very heavy rain, to the Grammar School, where they had a meal and were subjected to medical examination before being distributed to billets in the Urban and Rural Districts.

The second organised party of unaccompanied children was conveyed by rail direct to Barrow-in-Furness, which was reached on the evening of Thursday, the 13th July. The children spent the night in Barrow in two large schools, where, by arrangement with Dr. Forrest, the Medical Officer of Health of Barrow, they were medically examined on the following morning by your Medical Officer of Health and Mrs. Macewen with the assistance of Dr. Forrest and his staff. The examination was commenced at 8-30 a.m. in order to enable those, whom it was proposed to billet in outlying parts of the Rural District, to reach their destinations before nightfall.

The arrangements made by Dr. Forrest were admirable in every respect and the assistance afforded by him and his staff was greatly appreciated.

With few exceptions the children were found to be healthy and wonderfully clean, particularly having regard to the fact that many of them had slept in shelters for weeks on end. It was obvious that great care had been taken by the Authorities in the Evacuation Areas from whence they came to subject any child requiring cleansing to appropriate treatment prior to departure. A number of cases of scabies were discovered. Most of them had already undergone treatment in the evacuation areas, but in one or two instances a complete "cure" had not been effected and it was deemed advisable to subject the children to further treatment, which, through the good offices of Dr. Forrest, was carried out prior to their departure from Barrow.

On the completion of the medical examination, the children were conveyed by bus from Barrow to the Ulverston Grammar School for distribution to their billets in the Ulverston Urban and Rural Districts. The billeting of the children in the villages, hamlets and scattered homes of the Rural District—an area extending to some 200 square miles—involving long-distance transport by bus or motor car was no easy task. It was organised and carried out with conspicuous success by your Clerk and Billeting Officer, Mr. T. K. Robinson, with the help of Mrs. Ward, Centre W.V.S. Organiser and her staff. The kindly north-country people welcomed the children to their homes notwithstanding the very serious personal inconvenience that this often entailed, and cared for them, throughout their stay, as though they had been their own. I had many opportunities of observing how happy the children were in their new homes, where they entered into country life with zest and enjoyment.

The unaccompanied children billeted in the Rural District on the 7th and 14th July, 1944, numbered 164 and 152 respectively. In addition, private arrangements having been made for the accommodation, the billeting allowance was granted in respect of 57 unaccompanied children, 102 mothers with 167 children and 28 other adults—a total of 670.

MEAT INSPECTION.

Home-killed meat supplied to butchers in the Rural District of Ulverston and in the Urban Districts of Ulverston and Grange is derived from animals slaughtered in a Central Slaughterhouse, established by the Ministry of Food

for the purpose in the Gill, Ulverston. The Slaughterhouse is under the direct control of officers of the Ministry of Food, but the inspection of meat is, by arrangement with that Department, carried out by a rota of inspectors, comprising the Council's Sanitary Inspectors, Mr. Harrison and Mr. Bolton, and the Ulverston Urban Inspector, Mr. Smith, under the supervision of your Medical Officer of Health.

A number of minor improvements were effected at the Slaughterhouse during the course of the year. A new floor was laid in the slaughtering chamber and better electric lighting and offal hanging facilities were provided in the hanging room. Notwithstanding these improvements, the structure and fittings of the slaughterhouse and the conditions in which the inspection of meat has to be carried out, still leave a great deal to be desired.

AMBULANCE FACILITIES.

In addition to the ambulance for infectious diseases maintained by the Ulverston Joint Hospital Board and garaged at the High Carley Isolation Hospital, the Ulverston Joint Ambulance Committee own and operate an ambulance for accidents and non-infectious cases, which serves the Ulverston Urban and Rural Districts. The Committee are at present endeavouring to obtain a new ambulance which will be very useful for the long-distance journeys that have frequently to be undertaken to convey patients to hospitals in Manchester and elsewhere. There are reciprocal arrangements for help in case of need with Dalton and Grange in each of which a motor ambulance is maintained for the use of the inhabitants of the district.

CONCLUSION.

During the present year, 1945, your Sanitary Inspector, Mr. Harrison, left the service of the Council to take up another appointment. In these circumstances, the Council determined that their remaining Sanitary Inspector, Mr. Bolton, should be the Senior Sanitary Inspector.

I should like to place on record my appreciation of, and grateful thanks for, the very valuable assistance and loyal support I have invariably received from Mr. Bolton. Throughout my official life, I have been in close touch with Sanitary Inspectors and their work, but I have never known a better officer than Mr. Bolton, nor one more capable of coping with the manifold problems and many practical difficulties inseparable from the discharge of the duties of Sanitary Inspector in a large rural district.

My thanks are also due to your Public Health Engineer, Mr. Walker, for his much appreciated and ever ready assistance and co-operation.

This is the second, and the last, annual report I shall have the honour to present. Owing to conditions resulting from the exigencies of war, it has not been possible, during my relatively brief period of office, to do all I should like to have done to promote the public health.

I regard it as a privilege to have been temporary Medical Officer of Health of the Ulverston Combined Sanitary District as it has afforded me opportunity of becoming acquainted with the independent, self-reliant and very kindly inhabitants of the Furness Peninsula. I never worked among people I admired, or liked, more. They are deserving of the very best services that Councils and officials can render.

I am, Madam and Gentlemen,

Your obedient servant,

HUGH A. MACEWEN.

