

Report of the Medical Officer of Health on the public health and sanitary circumstances of Johannesburg.

Contributors

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M.O.H. Report,
1935—36.

City of Johannesburg.

REPORT of the MEDICAL OFFICER OF HEALTH on the PUBLIC HEALTH and SANITARY CIRCUMSTANCES of JOHANNESBURG during the Year 1st JULY, 1935—30th JUNE, 1936.

ARTHUR J. MILNE, M.B., Ch.B., D.P.H., D.T.M.

*Medical Officer of Health; Hon. Cons. Medical Officer of the Rand Water
Board; Lieut.-Colonel, Union Defence Force; Past President, South
African Health Officials' Association.*



JOHANNESBURG,

JULY, 1937.



JOHANNESBURG:

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Marshall and Rissik Streets.

1937



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Report of the Medical Officer of Health, 1935—1936.

Public Health Department,
Escom House,
Johannesburg,

July, 1937.

TO HIS WORSHIP THE MAYOR (Mr. Councillor D. W. MACKAY) and CITY COUNCILLORS OF THE CITY OF JOHANNESBURG.

GENTLEMEN,

I have the honour to present herewith my report of the health conditions of Johannesburg for the year 1935-36.

It is a pleasure to be able to record that the work of all members, professional, clerical and technical, of your Public Health Department has maintained the high level, which the recent Commission of Enquiry generally substantiates in its findings, befitting the largest city in the Union of South Africa. Personally and officially I desire to acknowledge their valued assistance, often in difficult situations, and their loyalty both to the Council which they serve and to myself.

A detailed record for the year of inspections, etc., undertaken by the inspectorate staff is submitted on page 42.

I also desire to express my thanks in particular to the occupant of the Mayoral Chair during 1935-36 (Councillor Maldwyn Edmund, J.P., M.P.), and to the members of the Public Health Committee who extended to me kindly assistance and courtesy, and to all other Heads and Sub-Heads of Departments for their willing co-operation and assistance.

The delay in the release of this Report is occasioned by the desirability of basing various rates on the 1936 Census figures, which have only recently come to hand.

I have the honour to be, Gentlemen,

Your obedient servant,

A. J. MILNE,
Medical Officer of Health.

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CITY OF JOHANNESBURG.

PUBLIC HEALTH COMMITTEE, 1935-1936:

Councillor M. Freeman (Chairman).
 Councillor J. Stevenson (Vice-Chairman).
 Councillor C. F. Beckett, M.P.C.
 Councillor L. Leveson (from 3-4-36).
 Councillor D. W. Mackay (to 27-3-36).
 Councillor Mrs. E. M. Pemberton.
 Councillor J. Walker.
 Councillor J. W. Watt.
 His Worship the Mayor (ex officio).

PUBLIC HEALTH DEPARTMENT.

STAFF.

Administrative and Office—

- 1 Medical Officer of Health: Arthur J. Milne, M.B., B.Ch., D.P.H., D.T.M.
- 1 Assistant Medical Officer of Health: Gordon D. Laing, B.Sc., M.B., Ch.B. (St. And.), D.P.H.
- 1 Chief Clerk: F. Thompson, Cert. R.S.I. (S.A.) (to August, 1935); E. M. Coetzee, Cert. R.S.I. (S.A.) (from August, 1935).
- 1 Typist Correspondent: Miss E. Oliver.
- 1 Licensing Clerk and Typist: Miss O. V. Joel.
- 1 Assistant Licensing Clerk and Typist: Miss G. N. Cocks.
- 2 Clerk-Typists: Miss M. K. Green (from 15-4-36); Miss M. S. Rae (from 22-5-36).
- 1 Junior Clerk: W. van Derau (to July, 1935); L. H. Samuels (from April, 1936).
- 1 Messenger: J. Boshoff.

Technical—

- 1 Bio-chemist: Harold Wilson, B.Sc. (Lond.), A.M.C.I.
- 1 Chief Chemical Assistant: J. A. McLachlan, M.Sc., A.M.I.Chem.E.
- 3 Assistant Chemists: E. G. White, B.Sc. (permanent from January, 1936), J. R. Gaillard, B.Sc., Miss F. M. Roberts (to August, 1935), and R. J. Wellsted, B.Sc.
- 1 Microscopist and Photographer: Miss K. Rosenberg (from September, 1935).
- 1 Clerk-Typist: Miss A. M. Stewart.

White Housing Staff—

- 1 Director of Housing: C. J. Crothall, M.I.A., A.M.I.S.E.
- 1 Housing Manageress: Mrs. M. K. Robertson (from 10-12-35).

Inspectorial Staff—

- 1 Chief Health Inspector: G. Bidwell, Cert. R.S.I. (Eng.).
- 2 Plans Inspectors: J. S. Russell, Cert. R.S.I. (S.A.); E. M. Coetzee, Cert. R.S.I. (S.A.) (to 31-7-35); A. H. Spargo, Cert. R.S.I. (S.A.).
- 23 District Health Inspectors:

H. H. Alexander.	R. W. G. Grant.	R. H. Pope.
H. Ballantyne.	E. C. Heather.	D. Smith.
A. Beale	W. G. Howarth.	J. Smith.
(left 14-3-36).	H. Hunter.	E. A. Smorenburg
J. A. Bell.	A. H. Maxwell.	(left 28-3-36).
J. Braden.	C. R. Morrison.	A. C. Wallace.
V. P. Devitt.	A. C. Ninow.	J. Wilson.
H. Dunston.	G. M. Parker.	C. H. S. Whitehead.
M. A. Elyat	A. Patterson.	C. C. Fowles.
(left 14-12-35).	J. S. Pitman.	

All Certificated Royal Sanitary Institute (S.A.).

3 Housing Inspectors appointed to deal with Insanitary Properties under the Slums Act, 1934 and Local Government Ordinance:

P. Squires, Cert. R.S.I. (S.A.).
T. Patterson, Cert. R.S.I. (S.A.).
R. C. Alderton, Cert. R.S.I. (S.A.).

2 Food and Drug Inspectors:

S. G. Russell, Cert. R.S.I. (S.A.).
I. J. Distiller, Cert. R.S.I. (S.A.).

5 Dairy Inspectors:

W. C. Watson, Cert. R.S.I. (S.A.).
G. Christie, Cert. R.S.I. (Eng.).
J. W. Forrett, Cert. R.S.I. (S.A.).
W. C. E. Lewis, Cert. R.S.I. (S.A.).
F. Smith, Cert. R.S.I. (S.A.).

Infectious Diseases and Disinfecting Station—

- 1 Infectious Diseases Inspector: A. C. Fraser, Cert. R.S.I. (S.A.).
2 Disinfecting Inspectors: H. J. Hancock and J. A. M. Bain.
1 Disinfecting Engineer: J. P. Jonas. Six native assistants.

Maternity and Child Welfare—

1 Pediatric Officer:

B. G. v. B. Melle, M.B., B.Ch. (Oxford), F.R.C.S.E.

2 Obstetric and Ante-Natal Officers:

W. H. Maxwell, M.A., M.B., L.R.C.P., F.R.C.S.
F. K. Te Water, M.B., B.Ch., L.R.C.P., F.R.C.S.E.

1 Senior Health Visitor:

C. Morisse.

1 Inspectress of Nursing Homes and Midwives:

D. T. Fricker.

12 Health Visitors:

- (1) M. G. Ferris.
- (2) E. Ide.
- (3) M. Craig.
- (4) G. K. Jordan.
- (5) T. G. White.
- (6) E. Orn.
- (7) L. W. Godfrey.
- (8) M. S. Wilson.
- (9) R. E. Smith.
- (10) E. M. Hart.
- (11) A. Siebert.
- (12) D. A. Smith.

All Trained General Nurses and Midwives and all certificated Health Visitors and School Nurses, Royal Sanitary Institute.

S.H.V., Cert. R.S.I. (S.A.), Sanitary (Health) Inspector.

(2) Cert. R.S.I. (S.A.), Sanitary (Health) Inspector and Meat and Food Inspection.

All Trained General Nurses and Midwives.

1 Relieving Health Visitor and Ante-Natal Nurse:

A. Marshall, Trained General Nurse and Midwife, and Certificated Health Visitor and School Nurse, Royal Sanitary Institute.

4 Ante-Natal Nurses:

- (1) D. E. B. Bell.
- (2) A. M. J. Lane.
- (3) M. E. Arnoldi.
- (4) Vacant.

All Trained General Nurses and Midwives. (1) and (2) Certificated Health Visitors and School Nurses.

1 Psychiatrist: J. T. Dunston, M.R.C.S., L.R.C.P., B.S., M.D.

1 Supervisor, Nursery Health Classes: Miss E. Brosius.

6 Assistants, Nursery Health Classes.

Fever Hospital—

- 1 Physician-in-charge: H. A. Loeser, M.D. (died 19-5-36).
- 1 Assistant Physician (Honorary): P. Bayer (M.D., M.R.C.P. (Acting Physician-in-charge from 19-5-36)).
- 1 Resident Medical Officer.

Nursing Staff:

- Permanent: 1 Matron, 5 Sisters.
- Temporary: 3 Staff Nurses, 17 Probationers.

Administrative: 1 Clerk.

- 1 Typist and Switchboard Attendant.

- General: 1 Handyman, 1 Gardener, 1 Cook, 1 Kitchenmaid, 1 Sewingmaid.
- 2 Housemaids, 3 Wardmaids, 23 Natives.

Venerical Diseases Clinic—

- 1 Director: H. Gluckman, M.R.C.S. (Eng.), L.R.C.P. (Lond.)
- 1 Clinic Orderly (Male).
- 2 Nursing Sisters.

Plague Rat-catching Staff—

- 1 Senior Rodent Inspector: R. J. Fox.
- 1 Junior Rodent Inspector: N. J. Smith.
- 10 Rat-catchers.
- 11 Rat-catching Youths

Report, 1st July, 1935—30th June, 1936.

CLIMATE AND RATEABLE VALUE.

Latitude.—26 degrees 11 minutes 44 seconds South.

Longitude.—1 hour 52 minutes 10 seconds East.

Mean Altitude.—5,850 feet.

Climate.—The days are bright and warm, the nights cool, and in winter often very cold. The following averages of Johannesburg records for thirty years are kindly supplied by H. E. Wood, Esq., Union Astronomer: Temperature, average maximum 70·1 degrees F., average minimum 49·7 degrees F.; highest recorded 93·6 degrees F. on 21st December, 1926, lowest recorded 20·8 degrees F. on 23rd July, 1926. Annual rainfall, 29·68 inches on 96 days. Relative humidity, 59·5 per cent. (average of sixteen years). Bright sunshine, 8·9 hours daily.

Area.—The area of the City of Johannesburg is 53,478 acres, the extreme length $11\frac{1}{2}$ miles, extreme breadth $9\frac{1}{2}$ miles, extent of perimeter $41\frac{1}{2}$ miles.

Annual Rateable Value.—As assessed in accordance with Ordinance 13 of 1928, and representing "the full and fair price or sum which the same would realise if brought at the time of valuation to voluntary sale," was at 31st December, 1935, £78,205,638.

The rate for 1935-36 was 5d. in the £ on land. Rate produced £587,511; Special Road Rate, 1d. in the £1 on land, produced £105,297. Total, £692,808.

In 1934-35 the valuation was: Land, £27,809,762; Improvements, £50,305,876.

POPULATION.

(Preliminary figures—Census, 5th May, 1936.)

		Males.	Females.	Total.
Europeans	...	126,213	124,425	250,638
Natives	...	149,160	41,706	190,866
Eurafricans	...	10,013	10,989	21,002
Asiatics	...	6,141	3,669	9,810
		291,527	180,789	472,316

BIRTHS.

From 1st July, 1935, to 30th June, 1936, the number of white births registered was 5,922, as compared with 4,379 and 5,100 in 1933-34 and 1934-35 respectively.

The *white birth-rate* was 23·63 per 1,000 for 1935-36, the two previous years being 19·72 and 21·5.

For England and Wales in 1935 the birth-rate was 14·7, in Pretoria 22·95, in Bloemfontein 18·21, in Capetown 18·09, in Pietermaritzburg 17·25, and in Durban 16·53 for 1935-36.

White Illegitimate Births.—These numbered 168, and constituted 2·84 per cent. of all births, as against 5·42 in Capetown, 3·53 in Pretoria, 3·4 in Durban, 0·84 in Pietermaritzburg, and 0·42 in Bloemfontein in 1935-36.

The native, asiatic and coloured births registered during 1935-36 numbered 2,171 as compared with 2,406 in 1933-34, and 2,160 in 1934-35. This number represents a birth-rate of 9.79. It is not permissible, however, to draw a comparison between the birth-rate of Europeans and non-Europeans, because firstly the registration of births of non-Europeans is known to be very incomplete, and secondly the ratio of females to males in the non-European population is very much lower than in the European population. In the one case it is as 1 : 2.93 and in the other as 1 : 1.01.

Non-European Population.—It is interesting to record that of the 190,866 natives in Johannesburg the City Council houses no less than 54,000 in its various native townships and single men's hostels. In pursuing a policy of providing such extensive housing accommodation for natives, the City Council is showing itself to be most long-sighted in slum elimination in Johannesburg, as a very considerable proportion of the slums of the City exist primarily on account of native occupation in the poorer areas. It is also encouraging to note that natives and their families respond in a marked degree to the efforts made in providing proper housing conditions in the Council's native townships, and particularly in the rapidly-growing Orlando Township, which is a model of its kind. The extension of housing accommodation for coloured and Asiatic occupation which the Council is in the process of fostering will also assist greatly in the future in slum clearance.

DEATHS AND DEATH-RATES.

The deaths herein referred to are those of persons who died within the extended Municipal Area as defined by Proclamations 13 of 1902 and 46 of 1903, corrected for Inward and Outward Transfers:—

DEATHS.

Year	Whites	Natives	Eurafricans	Asiatics	All Persons
1926-27	1,801	2,621	354	139	4,915
1927-28	1,858	2,696	440	137	5,131
1928-29	1,989	2,795	304	143	5,231
1929-30	1,942	3,115	339	172	5,568
1930-31	2,038	3,349	357	181	5,925
1931-32	2,070	3,309	356	183	5,918
1932-33	2,181	3,178	354	210	5,923
1933-34	2,264	3,872	380	194	6,710
1934-35	2,345	3,478	401	187	6,411
1935-36	2,731	3,281	567	222	6,801

DEATH-RATES.

DEATH-RATES (excluding non-residents)	White		Natives	Eur- africans	Asiatics	All Persons
	Gross	*Corrected for Age and Sex distrib.				
1926-27	10.46	—	18.77	27.57	22.78	14.85
1927-28	10.50	—	18.52	31.16	21.39	14.96
1928-29	11.05	—	19.07	17.88	20.42	14.92
1929-30	10.67	—	21.62	18.83	22.93	15.72
1930-31	10.22	—	22.32	17.85	22.62	15.70
1931-32	10.01	—	21.84	17.45	22.60	15.35
1932-33	10.22	*10.83	20.55	25.28	21.00	15.11
1933-34	10.19	*10.80	23.32	26.48	18.74	16.25
1934-35	9.77	*10.35	19.03	27.27	17.64	14.31
1935-36	10.88	—	17.17	27.00	22.63	14.39

* Factor for correction 1.06.

DEATH-RATE IN BRITISH AND SOUTH AFRICAN CITIES.

Appended, for purposes of comparison, are particulars as to the "Death-rate per 1,000 from All Causes" in England and Wales, and in the large cities and towns of the Union:—

Greater London (i.e., Metro- politan and City Police Districts)			JOHANNESBURG—		
England and Wales	10.3 (1935)		Whites	...	10.88 (1935-36)
Durban	11.7 "		Natives	...	17.17 "
Bloemfontein	8.8 (1935-36)		Eurafricans	...	27.00 "
Capetown	7.83 "		Asiatics	...	22.63 "
Pretoria	10.68 "		All Persons	...	14.39 "
Pietermaritzburg	9.88 "				
	8.22 "				

Except in regard to South African towns, these figures are taken from the Statistical Review of the Registrar-General for England and Wales, 1935. The European death-rate is nearly 1 per 1,000 lower than that of the great towns of England and Wales, and taking into account the very large industrial expansion of the City in recent years may be regarded as satisfactory. The native death-rate is lower than it has ever been, while the death-rate for all persons, although very slightly higher than the previous year, is, with that exception, lower than it has been in the last decennium.

CAUSES OF DEATH.

The causes of and ages at death and the local distribution are analysed in the usual Tables for "Whites," "Natives," "Eurafricans" and "Asiatics" respectively. For reasons of economy, these voluminous tables have not, however, been printed, but are available for inspection.

FACTORS OF MORTALITY, 1933-34, 1934-35 AND 1935-36.

DISEASE		1933-34		1934-35		1935-36		DISEASE		1933-34		1934-35		1935-36	
		Deaths	Rates	Deaths	Rates	Deaths	Rates			Deaths	Rates	Deaths	Rates	Deaths	Rates
Enteric Fever ...	W.	32	0.14	16	0.06	16	0.06	Diseases of the Heart ...	W.	354	1.54	384	1.60	411	1.63
	N.	82	0.49	60	0.33	67	0.35		N.	207	1.24	188	1.02	144	0.75
	E.	6	0.41	3	0.20	2	0.09		E.	40	2.78	44	2.99	39	1.85
	A.	2	0.19	1	0.09	1	0.10		A.	21	2.02	27	2.84	23	2.34
Measles ...	W.	2	0.009	12	0.05	5	0.02	Acute Bronchitis ...	W.	25	0.11	13	0.05	25	0.099
	N.	6	0.03	4	0.02	7	0.03		N.	183	1.10	151	0.81	125	0.65
	E.	1	0.06	1	0.06	3	0.14		E.	14	0.97	17	1.15	22	1.04
	A.	—	—	1	0.09	2	0.20		A.	15	1.44	2	1.13	15	1.53
Scarlet Fever ...	W.	1	0.004	5	0.02	7	0.027	Chronic Bronchitis ...	W.	71	0.31	70	0.29	48	0.19
	N.	—	—	—	—	—	—		N.	39	0.23	50	0.26	15	0.07
	E.	—	—	—	—	1	0.047		E.	13	0.90	14	0.95	4	0.19
	A.	—	—	—	—	—	—		A.	4	0.38	8	0.75	7	0.71
Whooping Cough ...	W.	14	0.06	6	0.02	11	0.04	Pneumonia ...	W.	300	1.65	356	1.48	395	1.65
	N.	12	0.07	6	0.03	7	0.037		N.	1,131	6.81	1,078	5.90	973	5.091
	E.	1	0.06	1	0.06	4	0.19		E.	89	6.20	63	4.28	156	7.42
	A.	4	0.38	—	—	—	—		A.	40	3.86	51	4.81	66	6.72
Diphtheria and Croup ...	W.	16	0.07	23	0.09	14	0.05	Silicosis ...	W.	34	0.15	27	0.11	41	0.16
	N.	5	0.03	2	0.01	1	0.005		N.	5	0.03	6	0.03	10	0.05
	E.	2	0.13	—	—	2	0.09		E.	3	0.20	2	0.13	5	0.24
	A.	—	—	1	0.09	—	—		A.	—	—	—	—	1	0.10
Influenza ...	W.	41	0.18	30	0.12	135	0.53	Other Respiratory Diseases ...	W.	31	0.13	26	0.10	74	0.29
	N.	21	0.12	21	0.12	37	0.19		N.	25	0.15	33	0.17	43	0.22
	E.	2	0.13	3	0.20	6	0.28		E.	5	0.34	1	0.06	15	0.71
	A.	—	—	1	0.09	6	0.61		A.	3	0.28	3	0.28	9	0.91
Tuberculosis of Lungs ...	W.	63	0.28	62	0.25	60	0.23	Diarrhoea and Enteritis ...	W.	125	0.56	101	0.22	130	0.51
	N.	223	1.34	209	1.17	220	1.15		N.	772	4.65	540	2.95	537	2.81
	E.	25	1.17	33	2.14	43	2.04		E.	61	4.25	60	4.08	76	3.61
	A.	12	1.15	6	0.86	10	1.02		A.	38	3.67	29	2.73	24	2.44
Other Forms of Tuberculosis...	W.	6	0.02	5	0.02	7	0.027	Acute Nephritis and Bright's Disease ...	W.	89	0.40	127	0.52	110	0.43
	N.	40	0.24	35	0.19	45	0.23		N.	71	0.42	75	0.41	62	0.32
	E.	4	0.27	4	0.17	5	0.23		E.	15	1.04	3	0.20	9	0.43
	A.	—	—	2	0.18	2	0.20		A.	4	0.38	3	0.28	1	0.10
Cancer ...	W.	222	1.00	229	0.99	248	0.99	Congenital Malformation, Premature & Early Infancy	W.	144	0.64	161	0.67	167	0.66
	N.	28	0.16	26	0.14	25	0.13		N.	220	1.32	224	1.22	172	0.90
	E.	4	0.27	10	0.68	12	0.37		E.	30	2.09	39	2.65	45	2.14
	A.	6	0.51	8	0.75	2	0.20		A.	20	1.93	11	1.03	8	0.81
Meningitis ...	W.	23	0.10	40	0.16	19	0.07	Violent Deaths	W.	161	0.72	225	0.97	146	0.58
	N.	46	0.27	122	0.66	31	0.16		N.	411	2.47	368	2.01	365	1.91
	E.	5	0.34	3	0.20	2	0.09		E.	19	1.32	13	0.88	12	0.37
	A.	—	—	3	0.28	3	0.30		A.	6	0.57	1	0.09	7	0.71
Cerebral Haemorrhage and Softening	W.	67	0.30	83	0.34	77	0.30								
	N.	12	0.07	10	0.05	14	0.07								
	E.	10	0.68	8	0.68	9	0.42								
	A.	3	0.28	3	0.28	1	0.10								

The following observations are suggested by an inspection of this table:—

(1) That during 1935-36 the chief factors of mortality were:—

(a) *For Whites*.—Heart diseases (411), pneumonia (395), cancer (248), congenital debility (167), violent deaths (146), influenza (135), diarrhoea and enteritis (130), acute nephritis and Bright's disease (110), cerebral haemorrhage (77), other respiratory diseases (74), tuberculosis of lungs (60), chronic bronchitis (48), silicosis (41), acute bronchitis (25), meningitis (19), enteric fever (16), and diphtheria (14).

(b) *For Natives*.—Pneumonia (973), diarrhoea and enteritis (537), violent deaths (365), tuberculosis of lungs (220), congenital debility (172), heart diseases (144), acute bronchitis (125), enteric fever (67), acute nephritis and Bright's disease (62), other forms of tuberculosis (45), other respiratory diseases (43), meningitis (31), influenza (37), cancer (25), chronic bronchitis (15), and cerebral haemorrhage (14).

(c) *For Eurafrians*.—Pneumonia (156), diarrhoea and enteritis (76), congenital debility (45), tuberculosis of lungs (43), heart diseases (39), acute bronchitis (22), cancer (12), violent deaths (12), cerebral haemorrhage (9), and chronic bronchitis (4).

(d) *For Asiatics*.—Pneumonia (66), diarrhoea and enteritis (24), heart diseases (23), chronic bronchitis (15), tuberculosis of lungs (10), and congenital debility (8).

(2) That the comparison with the two previous years is as follows:—

(a) *As regards Whites*, the principal increases are in respect of heart diseases, 411 as compared with 384 in 1934-35 and 354 in 1933-34; pneumonia, 395 as compared with 356 in 1934-35 and 300 in 1933-34; influenza, 135 as compared with 30 in 1934-35 and 41 in 1933-34; silicosis, 41 as compared with 27 in 1934-35 and 34 in 1933-34; other respiratory diseases, 74 as compared with 26 in 1934-35 and 31 in 1933-34. The principal decreases are in respect of violent deaths, 146 as compared with 225 in 1934-35 and 161 in 1933-34; meningitis, 19 as compared with 40 in 1934-35 and 23 in 1933-34; and diphtheria, 14 as compared with 23 in 1934-35 and 16 in 1933-34.

(b) *As regards Natives*, the principal increases are in respect of influenza, 37 as compared with 21 in both previous years; other respiratory diseases, 43 as compared with 33 in 1934-35 and 25 in 1933-34. The principal decreases are in respect of pneumonia, from 1,078 in 1934-35 to 973; meningitis, from 122 to 31; congenital debility, from 224 to 172; and acute bronchitis, from 151 to 125.

(c) *As regards Eurafrians*, the principal increases are in respect of pneumonia, from 63 in 1934-35 to 156; acute bronchitis, from 14 to 22; and tuberculosis of lungs, from 33 to 43. The principal decrease is in respect of chronic bronchitis, from 14 to 4.

(d) *As regards Asiatics*, the principal increases are in respect of pneumonia, from 51 to 66; and acute bronchitis, from 2 to 15.

Acute lung conditions are still, as always they have been, the greatest bugbear in our general mortality rate. A total of 1,777 deaths from pneumonia and other acute lung conditions in all races is very high. Attributable as it is to the unusually great daily variation in temperature, these conditions scarcely come within the category of preventive.

INFANTILE MORTALITY, MATERNAL MORTALITY AND MATERNITY AND CHILD WELFARE MEASURES.

Infantile Mortality, i.e. deaths of infants under one year per each 1,000 births registered, was: Whites 74.13, Eurafrians 238.97, and Asiatics 175.26.

The following table shows the white infantile mortality rate in recent years:—

1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36
83.29	83.39	72.77	78.62	79.08	76.61	80.04	82.43	69.21	74.13

Taking into consideration the large influx of population from the country-side and the fact that the country-side parent is frequently little cognisant of mothercraft methods and their correct application, the rate is remarkably low, and indicates very clearly the advantages accruing from that extension of the Maternal and Child Welfare staff which the Council has at much pains and at considerable cost built up. Further extension is a project of the near future and with the advantages which will be obtained in the pursuit of the Council's Housing Schemes, particularly sub-economic schemes, one may, with some confidence, look forward to further substantial decrease in this infantile mortality rate in the future.

MATERNAL MORTALITY.

	Puerperal Sepsis per 1,000 Births		Other Causes per 1,000 Births		All Causes per 1,000 Births	
	Joh'burg	E. & W.	Joh'burg	E. & W.	Joh'burg	E. & W.
1926-27	1.72	1.59 (1926)	1.97	2.52	3.69	4.11
1927-28	3.33	1.56 (1927)	1.90	2.55	5.23	4.11
1928-29	1.49	1.79 (1928)	2.35	2.63	3.85	4.42
1929-30	1.07	1.80 (1929)	2.77	2.53	3.85	4.33
1930-31	1.42	1.92 (1930)	1.01	2.48	2.44	4.40
1931-32	1.05	1.66 (1931)	1.89	2.45	2.94	4.11
1932-33	1.55	1.61 (1932)	0.22	2.60	1.77	4.21
1933-34	3.65	1.82 (1933)	4.33	2.68	7.99	4.51
1934-35	2.15	1.95 (1934)	1.96	2.47	4.11	4.41
1935-36	2.70	1.61 (1935)	3.55	2.32	6.25	3.94

The Maternal Mortality for this year, i.e. 6.25 per thousand births, is regrettably high. It will be noted that causes other than Puerperal Sepsis account for no less than 3.55 of the figure of 6.25, and it may be mentioned that of the 21 deaths represented by this figure of 3.55, as many as 12 were due to so-called non-preventable conditions. It is hoped that the appointment in June, 1936, of an Inspectress of Nursing Homes and Midwives will be instrumental in reducing the maternal mortality rate in future years.

In this connection one desires to refer to the maternal mortality of cases of confinement attended by the Council's Ante-Natal Nurses. Since the inception of this service by the Council, which in reality is a District Midwifery Service, the Ante-Natal Nurses have attended in their confinements 2,403 mothers, often in the very poorest circumstances and unfavourable conditions, and there has not been a single maternal death. This result of this service is a striking example of and tribute to the efficiency of well-trained district midwives, whereas the general maternal mortality rate is very much a dis-tribute to the work and methods employed by nursing homes and practising midwives in Johannesburg.

MATERNAL AND CHILD WELFARE MEASURES.

1.—GENERAL SUMMARY—EUROPEANS.

Year	Number of		Mothers referred to		Infants sent to Children's Hospital and O.P.D.	Infants Reported to Children's Aid Society	Mothers Attending		Cases Referred to Pediatric Officer	Ante-Natal Clinic	Assisted at Clinics
	First Visits	Re-visits	Maternity Hospital	Ante-Natal Nurse			Welfare Clinics	Health Visitors' Office			
1934-35 ...	3,394	8,822	163	421	320	26	44,850	319	1,426	2,294	12,428
1935-36 ...	4,124	8,784	348	385	237	33	43,634	286	1,351	2,575	11,891

2.—BIRTHS INVESTIGATED.

2.—BIRTHS INVESTIGATED.													
Year	Legitimate : 3,342		Illegitimate : 67		Full Time : 3,328		Premature : 81		Stillborn : 35				
1934-35 ...	...	...	...	...	...	...	...	...	...	...			
1935-36 ...	...	4,099	...	57	...	3,475	...	117	...	53			

Year	Attended by				Condition of Mother				Condition of Infant				Condition of Home					
	Doctor	Midwife		Friends	Good	Fair	Poor	Sick	Good	Fair	Poor	Sick	Dead	Good	Fair	Bad	Clean	Dirty
		Trained	Untrained															
1934-35 ...	847	2,581	796	49	3,259	93	7	35	3,232	74	7	15	81	2,719	527	58	3,348	46
1935-36 ...	1,215	3,038	1,065	25	3,935	113	14	41	3,942	59	11	14	130	3,464	554	37	3,978	53

† Unattended 8.

3.—METHODS OF FEEDING.

Year	Breast Milk	Cow's Milk	Tinned Milk	Breast and Complemental	Other Foods	Feeding Bottles				Comforter Used
						Pattern		Condition		
						Good	Bad	Good	Bad	
1934-35 ...	3,038	194	73	55	49	210	6	210	6	764
1935-36 ...	3,504	162	50	248	59	224	3	165	4	344

MATERNAL AND CHILD WELFARE MEASURES.

4.—NATIVE TOWNSHIPS.

First Visits	Re-visits	Welfare Clinics and Office Attendances	Feeding		Comforter Used
			Breast	Other	
Health Visitors 43	Health Visitors 4,037	7,984	828	34	135
Native Nurses 955	Native Nurses 13,170				

5.—EURAFRICANS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature.	Attended by		
						Trained Midwife	Untrained Midwife	Friends
678	1,481	585	101	631	8	110	486	73
								18

6.—ASIATICS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature	Attended by		
						Trained Midwife	Untrained Midwife	Friends
470	2,650	456	5	45	6	173	287	9
								—

Breast Feeding.—Whilst the percentage of breast-fed infants has fallen slightly, viz., from 89.5 per cent. in 1934-35 to 84.3 per cent. in the year under review, the percentage is still high. The decrease, if it can be attributed to any particular factor, might readily be ascribed to the importunities of artificial food merchants and the passivity of many medical men, who ought to know better, and possibly to the necessities of poor mothers who are increasingly becoming wage earners. It is most certainly not due to the teachings of the Welfare Staff of the Department, who consistently not only advocate but do their utmost to ensure breast feeding.

STAFF AND CLINICS.

The Council now employs one Senior Health Visitor, nine Health Visitors for European post-natal clinics, one Health Visitor for native clinics (with ten native qualified midwives), one Health Visitor for coloured clinics, and one Health Visitor for an Asiatic clinic, plus one Relieving Health Visitor. Expenditure on pasteurised milk, acidophilus milk and accessory foods for infants and mothers keeps on increasing and now amounts to the formidable total of approximately £4,000 per annum.

So far as the Ante-Natal Clinics held twice weekly at the New Market Clinic Building are concerned, it is interesting to note that the attendances continue to increase, viz., 2,575 in 1935-36 as against 2,294 in 1934-35. In this connection your M.O.H. desires to record his appreciation of the services of the Council's Specialist Obstetric Officers, Dr. W. H. Maxwell and Dr. F. te Water, and also of the services of your Pediatric Officer, Dr. B. G. v. B. Melle, at your Post-Natal Clinics.

The nett position to-day is that the Council provides weekly:—

1. Five Post-Natal Clinics for Europeans.
2. Four Post-Natal Clinics for Natives.
3. Two Post-Natal Clinics for Coloured Persons.
4. One Post-Natal Clinic for Asiatics.
5. Two Ante-Natal Clinics for Europeans.

Finally, your M.O.H. desires to record his appreciation of the loyal services of all members of this branch of his Department.

Pre-school Children.—Six Nursery Health classes were conducted by Miss Brosius, the Supervisor, and her assistants in Vrededorp, Jeppes, Ophirton, Newlands, Fordsburg, and Auckland Park. These classes were well attended and an interesting development is the holding of instructional classes for the mothers of the pre-school children attending the nursery classes. The mothers receive valuable advice from the Supervisor in the up-bringing of their pre-school children and it is gratifying to note that the mothers are extraordinarily keen to learn and put in practice the advice given. All the children are regularly examined by the Pediatric Officer and their mental condition and development is attended to by the Council's Psychiatrist (Dr. J. T. Dunston). The Psychiatrist also gives a course of instruction in Psychology and Psychiatry to the assistant teachers of these classes. The children attending these classes, all of whom are the children of indigent parents and between two and six years of age, are given simple health exercises and are instructed in such simple hygienic measures as head and body cleanliness, teeth cleaning, etc., etc., interspersed with occupational instruction, games, physical exercises and general kindergarten. They receive a daily ration of one-third of a pint of pasteurised milk and are weighed and have their body measurements taken at regular and frequent intervals.

Ante-Natal Nurses.—The Council employs four Ante-Natal Nurses, stationed at two Centres—Western and Central. These Ante-Natal Nurses are qualified general nurses and midwives. They extend ante-natal care to expectant mothers in the homes, shepherd these mothers to the Ante-Natal Clinics, arrange for their confinement in the Queen Victoria Maternity Hospital when desired, or themselves conduct the confinements in the homes. This branch of the work is

extending rapidly, and has become a great boon to poor expectant mothers, who in the past have had to submit in their confinements to the tender mercies of the crude and unqualified midwife.

Ante-Natal Clinics.—Two Ante-Natal Clinics are conducted on Tuesday and Friday afternoons at the New Market Buildings. The attendance, shown in the General Summary above, continues to increase. During the year the Ante-Natal Nurses attended 321 confinements, paid 3,123 post-confinement visits, and made 2,436 visits to expectant mothers in their homes prior to their confinements. Students of the Witwatersrand University attend both the Ante-Natal Clinics and the confinements conducted in the homes by the Ante-Natal Nurses. Such attendance is an integral part of the medical curriculum, and affords facilities to medical students, which they are increasingly taking advantage of. These facilities are also extended to pupil midwives receiving their training at the Queen Victoria Hospital. Pupil midwives are availing themselves of the facilities afforded with enthusiasm.

HEALTH PROPAGANDA.

The Department's activities on propaganda lines were continued during the year. The principal propaganda measures were:—

- (a) Distribution of leaflets on health subjects.
- (b) Preparation of new original posters illustrating various health subjects.
- (c) Distribution of booklets on health matters. These publications include "Facts about Ourselves," "Care of Mother and Child," "Your Health, Look into it" (a booklet dealing with every aspect of public health), "Prevention and Destruction of Rats and Mice," "The House or Typhoid Fly." It may be mentioned that by arrangement with the Registrar of Births and Deaths, a copy of the booklet "Care of Mother and Child" is handed to every person registering a birth.
- (d) Advertisements in the local papers at some cost, illustrating various public health matters. More especially was public attention called to clean milk production by means of illustrations, and the Press were good enough to elaborate by appropriate articles. Indeed, the Press have assisted greatly in this connection.

PNEUMONIA.

The death-rates per 1,000 from this disease are as follows:—

	Whites	Natives	Eurafricans	Asiatics	England and Wales
1926-27	1.13	4.68	6.07	5.73	0.82 (1926)
1927-28	1.47	5.09	4.46	5.30	0.94 (1927)
1928-29	1.50	5.48	3.29	7.00	0.78 (1928)
1929-30	1.74	7.03	4.77	7.66	1.10 (1929)
1930-31	1.39	7.03	4.55	5.75	0.69 (1930)
1931-32	1.55	7.16	4.60	6.17	0.80 (1931)
1932-33	1.42	6.26	5.92	6.20	0.73 (1932)
1933-34	1.65	6.81	6.20	3.86	0.74 (1933)
1934-35	1.48	5.90	4.28	4.81	0.71 (1934)
1935-36	1.65	5.09	7.42	6.72	0.66 (1935)

MINERS' PHTHISIS, ROCK DRILL PNEUMONIA OR SILICOSIS.

57 deaths (41 Whites, 10 Natives, 5 Eurafricans and 1 Asiatic) were registered during 1935-36, as compared with 35 (27 Whites, 6 Natives and 2 Eurafricans), and 41 (33 Whites, 5 Natives and 2 Eurafricans) in 1934-35 and 1933-34 respectively.

ORGANIC DISEASES OF THE HEART.

These heart affections include pericarditis, endocarditis, angina pectoris, valvular disease and other diseases of the circulatory system. The deaths recorded during the year 1st July, 1935, to 30th June, 1936, were 411 for Whites, as compared with 354 and 384 for the two previous years. This figure represents a rate of 1.63 per 1,000 as against 3.464 for England and Wales in 1935. For Natives the rate was 0.75; for Eurafricans, 1.83; and for Asiatics, 2.34.

DIARRHOEAL DISEASES.

The following are the mortality rates per 1,000 of population for the period under notice:—

	Whites	Natives	Eurafricans	Asiatics	England and Wales.
1926-27	0.99	3.02	4.74	3.11	0.21 (1926)
1927-28	0.59	2.32	4.67	2.96	0.15 (1927)
1928-29	0.63	2.52	3.00	1.42	0.16 (1928)
1929-30	0.65	3.33	2.72	2.53	0.17 (1929)
1930-31	0.78	4.10	3.10	3.87	0.13 (1930)
1931-32	0.49	3.22	2.59	3.20	0.13 (1931)
1932-33	0.68	3.39	4.07	3.10	0.14 (1932)
1933-34	0.56	4.65	4.25	3.67	0.13 (1933)
1934-35	0.42	2.95	4.08	2.73	0.12 (1934)
1935-36	0.51	2.81	3.61	2.44	0.12 (1935)

With the exception of the rate for Europeans which shows a slight increase over 1934-35, but is lower than many previous years, these rates show a gratifying decrease.

MALIGNANT DISEASE OR CANCER.

During 1935-36, the deaths from cancer numbered 285 Whites (including 37 non-residents), 37 Natives (including 12 non-residents), 14 Eurafrican and 2 Asiatics, as compared with 277 Whites (including 48 non-residents), 40 Natives (including 14 non-residents), 10 Eurafricans and 8 Asiatics in 1934-35 and 259 Whites (including 37 non-residents), 39 Natives (including 11 non-residents), 4 Eurafricans and 6 Asiatics in 1933-34.

Of the 285 Whites, 155 were males and 130 females, and 265 were over the age of 35 years, the rates being 0.99, 0.99 and 1.00 for the three years respectively, as compared with 1.587 per 1,000 for England and Wales in 1935.

In the following table is set forth the part of the body affected:—

	Whites			Natives			Eurafricans			Asiatics		
	1933-34	1934-35	1935-36	1933-34	1934-35	1935-36	1933-34	1934-35	1935-36	1933-34	1934-35	1935-36
Stomach	88	111	59	9	9	1	1	4	1	4	4	1
Womb	41	37	34	6	9	1	—	1	5	1	2	1
Breast	24	22	26	3	2	—	1	—	1	—	—	—
Liver	16	12	20	12	17	17	1	2	4	—	—	—
Neck and Throat ...	15	8	19	—	2	1	—	—	1	—	1	—
Mouth and Jaw ...	4	3	7	1	1	1	1	—	—	—	—	—
Tongue	8	5	5	—	—	1	—	—	—	—	—	—
Lung	11	15	9	1	1	2	—	—	1	—	—	—
Rectum	6	15	5	1	—	1	—	1	—	1	—	—
Prostate	15	13	11	1	—	—	—	—	—	—	—	—
Head and Face ...	2	5	6	—	—	—	—	—	—	—	—	—
Bladder	12	2	6	1	1	1	—	1	—	—	—	—
Bones	1	2	4	—	—	3	—	—	—	—	—	—
Abdomen	—	—	1	—	—	—	—	—	—	—	—	—
Colon	8	6	21	2	—	2	—	—	1	—	1	—
Peritoneum	—	—	2	—	—	1	—	—	—	—	—	—
Spleen	—	1	1	—	—	—	—	—	—	—	—	—
Legs and Feet ...	—	2	1	1	—	—	—	1	—	—	—	—
Hand and Arm ...	1	—	2	—	—	—	—	—	—	—	—	—
Penis	1	2	1	—	—	—	—	—	—	—	—	—
Testes	—	—	—	—	—	2	—	—	—	—	—	—
Chest	—	1	6	—	—	—	—	—	—	—	—	—
Eye	1	—	—	—	—	—	—	—	—	—	—	—
Kidney	1	2	4	—	—	1	—	—	—	—	—	—
Glands	—	2	6	—	—	—	—	—	—	—	—	—
Brain	—	3	10	—	—	—	—	—	—	—	—	—
Spine	—	2	3	—	—	—	—	—	—	—	—	—
Unspecified	4	6	16	1	—	2	—	—	—	—	—	—
Total	259	277	285	39	40	37	4	10	14	6	8	2

Whilst the incidence of Malignant Disease shows no material increase, it is still more than desirable that persons of 35 years or over should on the least suspicion seek skilled medical advice as consistently advocated by the National Cancer Association of South Africa.

MEASLES.

The death-rates per 1,000 were as follows:—

	1931-32	1932-33.	1933-34.	1934-35.	1935-36.
Whites	0.01	0.06	0.009	0.05	0.02
Natives	0.04	0.03	0.03	0.02	0.03
Eurafricans	0.14	0.21	0.06	0.06	0.14
Asiatics	—	0.10	—	0.09	0.20

VENEREAL DISEASE.

169 White and 2,235 Coloured cases of Syphilis and other venereal diseases from Johannesburg were treated at Rietfontein Hospital during the year 1935-36.

STATISTICAL REPORT OF DIRECTOR FOR PERIOD 1st JULY, 1935 TO 30th JUNE, 1936.

Venereal Clinic (European).

1.—SUMMARY.

Out Patients		Specimens		Salvarsan	
No. of New Patients	Total Attendances	No. sent to Institute	No. Examined at Clinic	No. of Patients treated with 606 or Substitutes	No. of Doses Administered
1,381	12,395	826	540	930	4,526

2.—ATTENDANCES AND DISEASES.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Gonorrhœa		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
850	157	221	143	2	—	—	—	4,165	1,061	3,607	2,170	9	—	—	—

3.—LABORATORY. NUMBER OF SPECIMENS EXAMINED AND RESULTS OF EXAMINATION.

Clinic						Institute										Total Number of Specimens Examined
Gonococci		Spirochaetes		Others		Gonococci		Spirochaetes		Wasserman Test						
+	-	+	-	+	-	+	-	+	-	+++	++	+	-	?		
254	250	—	—	16	20	51	60	—	—	329	21	7	358	—		

Venereal Clinic (Non-European: Females and Children Only).

1.—SUMMARY.

Out Patients		Specimens		Salvarsan	
No. of New Patients	Total Attendances	No. sent to Institute	No. Examined at Clinic	No. of Patients treated with 606 or Substitutes	No. of Doses Administered
137	1,381	18	—	199	1,047

2.—ATTENDANCES AND DISEASES.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Gonorrhœa		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
—	4	—	153	—	—	—	—	—	6	—	1,218	—	—	—	—

3.—LABORATORY. NUMBER OF SPECIMENS EXAMINED AND RESULTS OF EXAMINATION.

Clinic.				Institute												Total Number of Specimens Examined.
Gonococci		Others		Gonococci		Spirochaetes		Wasserman Test					Others			
+	-	+	-	+	-	+	-	+++	++	+	-	?	+	-		
-	-	-	-	-	-	-	-	11	31	5	22	-	-	-	69	

REMARKS.

1. ATTENDANCES OF PATIENTS.

European Centre.—As compared with the previous year there is very little difference in the number of new patients who sought advice and treatment at this centre during the period under review.

The same applies to the total attendances.

2. RENOVATION.

During the year the Special Treatment Centre was entirely renovated.

3. GENERAL.

As in the past, courses of instruction have been given at your European Centre to the following groups:—

- (1) Fifth and Sixth year medical and dental students of the University of the Witwatersrand.
- (2) Members attending the Department of Public Health Course of the University.
- (3) The ladies who are taking the Health Visitors' and School Nurses' Course under the auspices of the Witwatersrand Technical College.

HENRY GLUCKMAN, M.R.C.S., L.R.C.P.,

Director, Johannesburg City Council's
"Special Treatment Centres."

OPHTHALMIA NEONATORUM AND GONORRHOEAL OPHTHALMIA.

CASES NOTIFIED.

	1933-34.	1934-35.	1935-36.
Ophthalmia Neonatorum—			
Whites	17	27	36
Natives	7	6	4
Eurafricans	2	2	1
Asiatics	—	2	6
	<u>26</u>	<u>37</u>	<u>47</u>
Gonorrhoeal Ophthalmia—			
Whites	3	3	2
Natives	—	—	2
Eurafricans	—	—	3
Asiatics	—	—	—
	<u>3</u>	<u>3</u>	<u>7</u>
All Cases—			
Whites	20	30	38
Natives	7	6	6
Eurafricans	2	2	4
Asiatics	—	2	6
	<u>29</u>	<u>40</u>	<u>54</u>

The increase in cases notified shows a not undue increase, but possibly more meticulous notification.

NOTIFIABLE INFECTIOUS DISEASES.

During the year under notice, 2,075 cases were notified, viz., 1,217 amongst Whites, 776 amongst Natives, 47 amongst Eurafrians, and 35 amongst Asiatics.

These occurrences are discussed elsewhere in this Report.

The procedure adopted in regard to notified infectious diseases, disinfection, etc., has been the same as recorded in previous years.

1,913 houses and 29,528 articles of clothing, bedding, etc., were disinfected.

SMALLPOX.

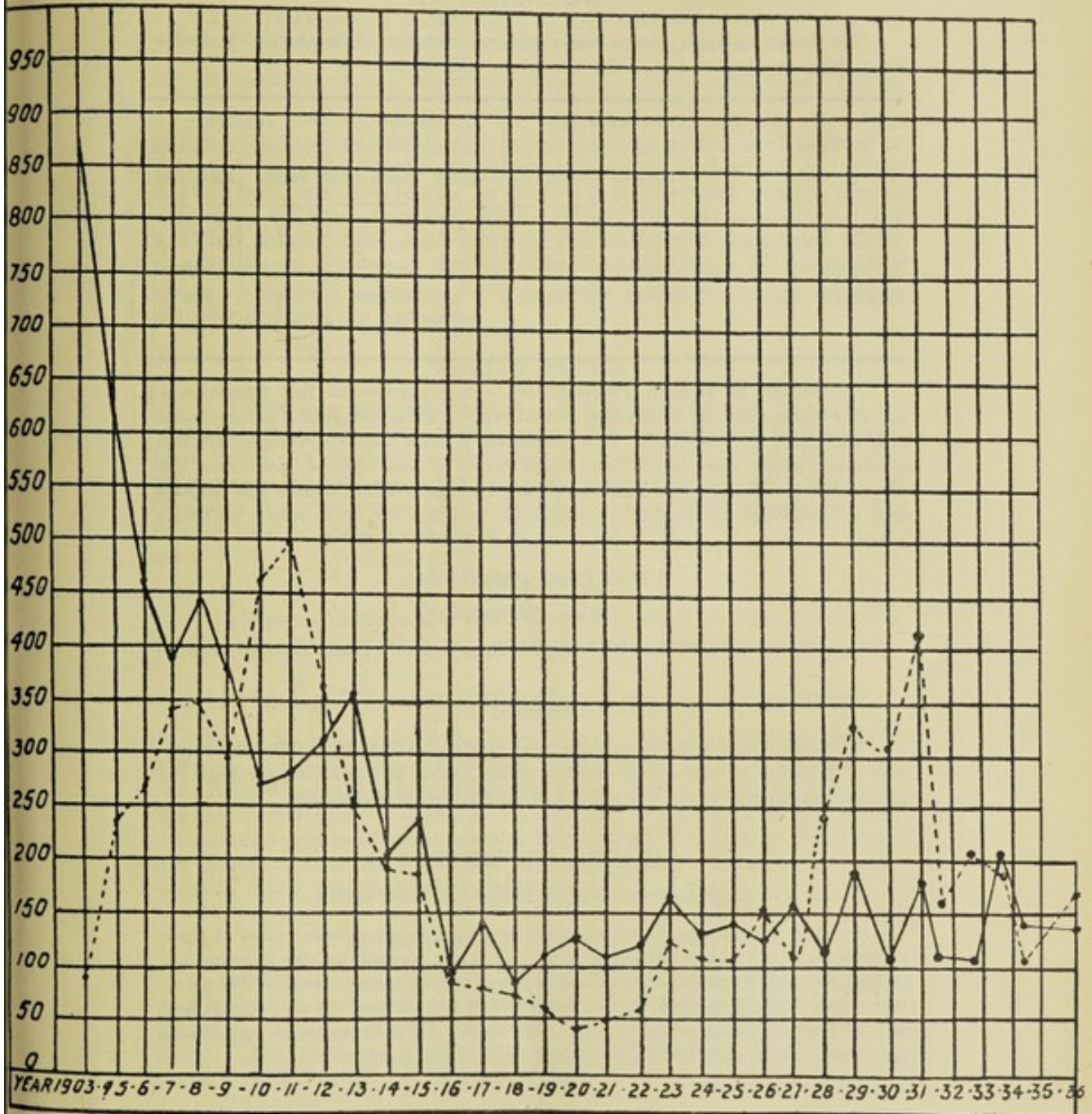
No case of this disease was reported during the year.

ENTERICA.

In the following is set forth the number of cases, and deaths, together with the case-rate per cent. and the death-rate per 1,000, and the death-rate for England and Wales.

	1933-34				1934-35				1935-36			
	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate
Whites	202	32	15.84	0.14	139	16	11.51	0.06	137	16	11.68	0.06
Natives	180	82	45.55	0.49	104	60	57.69	0.33	166	67	40.36	0.35
Eurafrians	16	6	37.50	0.41	11	3	27.27	0.20	11	2	18.18	0.09
Asiatics	3	2	66.66	0.19	6	1	16.66	0.09	7	1	14.28	0.10
England and Wales ...				0.006 (1933)				0.004 (1934)				0.004 (1935)

YEARLY INCIDENCE OF ENTERIC FEVER IN THE 33 YEARS,
1903-4 TO 1935-36.



Whites—Continuous Line.

Natives—Dotted Line.

There is nothing in this incidence to comment on except its continued lowness.

ERYSIPELAS.

74 White, 17 Native and 2 Asiatic cases of Erysipelas were notified in 1935-36, as compared with 58 White and 14 Native in 1933-34 and 77 White, 12 Native and 2 Asiatic cases in 1934-35.

MENINGITIS.

The following table shows the registered number of deaths, with death-rates, from meningitis during the triennium 1933-36:—

			1933-34		1934-35		1935-36	
			Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
Whites	...	...	23	0.10	40	0.16	19	0.07
Natives	...	...	46	0.27	122	0.66	31	0.16
Eurafricans	...	...	5	0.34	3	0.20	2	0.09
Asiatics	...	...	—	—	3	0.28	3	0.30

The failure of Medical Practitioners to notify cases of this disease was severely commented on in the last annual report, when 168 deaths occurred and only 145 cases were notified. It is gratifying to note that the warning has had a salutary effect, since in the year under review the number of deaths was but 55 and the number of cases notified amounted to 148. These figures also indicate that the incidence has decreased considerably and that the death rate is markedly lower.

INFANTILE PARALYSIS.

(Acute Poliomyelitis.)

No cases were reported in 1935-36 as compared with 4 White cases in 1934-35.

LEPROSY.

53 Native and 1 Eurafrian cases were notified in 1935-36. With the exception of 1 Native all cases were infected before arrival in the Municipal Area and all were transferred to the Government Leper Institute in Pretoria.

PLAGUE PREVENTION.

No cases of plague occurred during the period under review.

A safety zone continues to be maintained at an approximate radius of three miles beyond the Municipal boundaries. This has necessitated the carrying out of field rodent destruction in 29 distinct areas, totaling many thousands of acres. 950 Capex Cartridges, 551 lbs. Cyanogas, 123 lbs. Wheat, 20 lbs. Sugar, and 20 ozs. Strychnine have been used in this work. In addition, other large areas have been surveyed. 4,975 veld rodents were found dead.

CITY RODENT WORK.

310 visits of inspection have been made by the City Rodent Staff; 197 premises, including bioscopes, theatres, grain stores, furniture stores, cafés, restaurants, refuse tips, and private houses were specially dealt with and advice given for the destroying of rodents and rendering premises rodent-proof.

As a result of these measures, the owners of many large buildings now constantly employ rat-catchers.

Stocks in grain stores and the Municipal Market have been frequently "turned over," and numbers of rats have been destroyed by trained Municipal dogs.

All rodents found dead, all rodents obtained from railway trucks and a proportion of trapped rats are sent to the South African Institute for Medical Research for bacterial examination. During the year 1935-36, of the 18,953 rats and 1,107 mice caught, 3,270 or 17.25 per cent., were so examined; none were plague infected. 815 rats were supplied to the Witwatersrand University for experimental purposes.

8,221 Trucks conveying produce have been examined at the Kazerne and Newtown Railway Siding. Municipal dogs are employed in this work.

All hares coming into the Municipal area have been seized and destroyed.

Owing to rodent infestation of the Council's Native Townships of Orlando and Pimville, one rat-catcher and two rat-catching youths were engaged in February, 1935, to deal with the former and one rat-catcher and two youths in May, 1935, with the latter. In Orlando Township 6,561 visits to houses were made, 3,013 houses treated, 30½ lbs. wheat, 370½ lbs. cyanogas used, and 5,760 rats caught. In Pimville, 6,034 visits to houses were made, 2,881 houses treated, 363 lbs. cyanogas, 55½ lbs. wheat used and 3,750 rats caught. In addition anti-rodent measures have been carried out in the surrounding areas including Kliptown and Nancefield.

SCARLET FEVER.

In 1935-36 there were 683 White, 3 Native, 3 Eurafrican and 1 Asiatic cases of this disease. There were 7 deaths among the White population, the death-rate being 0.027. In the two previous years the cases notified were 395 White, 2 Natives and 4 Eurafricans in 1933-34 and 854 White, 3 Natives, and 1 Eurafrican in 1934-35, the mortality rate being 0.004 and 0.02 per 1,000 respectively. The rate per 1,000 in England and Wales for 1935 was 0.014.

TYPHUS.

Two imported Native cases were reported in 1935-36, as against 2 cases in 1933-34 and 4 White, 2 Native and 3 Asiatic cases in 1934-35.

DIPHTHERITIC DISEASE, INCLUDING MEMBRANOUS CROUP.

The occurrence of diphtheritic disease in 1935-36 numbered 170 (157 Whites, 6 Natives, 5 Eurafricans and 2 Asiatic), in 1933-34 222 (211 Whites, 9 Natives and 2 Eurafricans), and in 1934-35 148 (132 Whites, 12 Natives and 4 Eurafricans). The case mortality for Whites being 8.91, 7.84 and 7.40 per cent. for the respective years in order mentioned above, and the death-rate per 1,000 was 0.07 in 1933-34, 0.09 in 1934-35, and 0.05 in 1935-36, as compared with 0.086 for England and Wales in 1935. This death-rate for 1935-36 is unusually low.

PUERPERAL SEPTICÆMIA, ETC.

In 1935-36 56 cases (30 White, 17 Natives, 6 Eurafricans and 3 Asiatics) were reported, as compared with 60 (39 White, 16 Natives and 5 Eurafricans) in 1934-35 and 65 cases (38 White, 18 Natives, 7 Eurafricans and 2 Asiatics) in 1933-34. The death-rate for 1935-36 was 2.70 per 1,000 births for Whites, as against 1.61 in England and Wales in 1935.

ANTHRAX.

One White case of this disease was notified in 1935-36 (patient recovered).

INFLUENZA.

The number of registered deaths from influenza during the year was 135 Whites, 37 Natives, 6 Eurafricans and 6 Asiatics.

ENCEPHALITIS LETHARGICA.

One Native case was notified in 1935-36 as against 3 in 1933-34 and nil in 1934-35. 4 White deaths were registered, 3 being imported.

TUBERCULOSIS.

Appended is a statistical summary of the mortality from tuberculosis in Johannesburg for the years 1933-34, 1934-35 and 1935-36:—

DEATH-RATE PER 1,000.

	Pulmonary Phthisis			Other Forms of Tuberculosis		
	1933-34	1934-35	1935-36	1933-34	1934-35	1935-36
Johannesburg —						
Whites	0.28	0.25	0.23	0.02	0.02	0.027
Natives	1.34	1.17	1.15	0.24	0.19	0.23
Eurafricans	1.15	2.14	2.05	0.27	0.17	0.24
Asiatics	1.15	0.86	1.02	—	0.18	0.20
England and Wales ...	1933 0.690	1934 0.635	1935 0.605	1933 0.137	1934 0.128	1935 0.113

Notification of Tuberculosis.—445 notifications were received during 1935-36, namely, in regard to 25 Whites, 405 Natives, 11 Eurafrians, and 4 Asiatics.

The incidence in Natives is practically confined to Natives employed on the Mines.

ISOLATION HOSPITALS.

Fever Hospital.—The number of White cases treated at the Fever Hospital in Johannesburg was 665 as compared with 716 in 1934-35, as follows: Scarlet fever 334, diphtheria 160, erysipelas 61, measles 24, enteric fever 1, meningitis 45, chicken-pox 3, whooping-cough 1, mumps 11, German measles 17, typhus 2, influenza 1, anthrax 1, cerebral haemorrhage 1, broncho-pneumonia 1, syphilis 1, malaria 1. The total number of patient days was 14,959.

The cost of the upkeep of the Fever Hospital for 1935-36 was £16,133 4s. 8d.

Springkell Sanatorium.—31 non-miners suffering from tuberculosis were being treated at Springkell Sanatorium on 1st July, 1935, and 51 fresh cases were sent there during 1935-36. 10 patients died and 41 left. The cost of treatment of these cases was £5,139 4s.

Rietfontein Hospital.

The following non-European cases of infectious diseases were removed for treatment to Rietfontein Hospital, viz.:—

Eighty-seven cases of chicken-pox, 27 cases of measles, 26 cases of diphtheria, 56 cases of mumps, 2 cases of whooping-cough, 5 cases of scarlet fever, 2 cases of German measles, and 4 cases of ringworm. The cost of these services was £435 6s.

AMBULANCE REMOVALS.

During the period under review, 18 White cases and 188 Coloured were removed to Rietfontein Hospital, 553 White cases to the Fever Hospital, and 79 White cases to the General Hospital. In addition, 27 White patients were removed to the Children's Hospital, 57 patients to the Non-European Hospital, 30 Whites to Springkell Sanatorium, 54 White and 1 Asiatic to Private Hospitals, 21 to Municipal Compound Hospital, 64 to Fever Hospital Annexe, and 5 cases were transferred to private dwellings. Nine cases were also removed from outside districts at the request of, and on payment by, the local authorities concerned.

NURSING HOMES.

There are 24 registered nursing homes in Johannesburg, all of which are periodically inspected by the Inspectress of Nursing Homes and Midwives and the Technical Medical Staff.

LIVE STOCK MARKET AND PUBLIC ABATTOIR.

The following figures have been kindly supplied by the Director, Abattoir and Live Stock Market:—

During 1935-36 1,156,296 animals passed through the Live Stock and Quarantine Yards, and 130,677 cattle, 407,183 sheep, etc., 16,763 calves and 116,048 pigs, or a total of 670,671 animals, were slaughtered at the Abattoir; 1,434,588 lbs. imported meat was inspected, and 1,530,609 lbs. meat was condemned.

FOOD AND DRUG INSPECTOR'S REPORT.

Foods Condemned.

The following foods were condemned by the Food and Drugs Inspectors: 97,345 lbs. fish; 319 cases and 178 lbs. smoked, salted or cured fish; 89 cases and 1,212 tins fish; 14 bottles olives; 185 tins and 3 cases of vegetables; 602 tins of meat; 12½ barrels salt herrings and herrings in oil; 178 lbs. dates; 8,630 lbs. bananas; 180 lbs. oysters; and 8 bags boer meal.

During the period under review they passed at Kazerne 323,526 lbs. of ham and bacon, 10,121,874 lbs. of fish, 2,322,424 lbs. smoked, salted or cured fish, 6,067 lbs. game, 12,421 lbs. dressed poultry, 1,003 lbs. meat (including polonies, sausages, etc.), and 8,137 lbs. biltong.

Morning Market.

Inspections of incoming foodstuffs for sale by auction.—Passed: 62,550 birds and dressed poultry, 6,660 lbs. fish, and 347 lbs. ham and bacon. Condemned: 2,880 dressed poultry; 2,790 lbs. fish, 247 lbs. bacon, 14 bags potatoes, 70 cases cherries.

Two vendors were prosecuted for exposing for sale dressed poultry, which was unfit for human consumption, and were fined £5 and £10 respectively. A butcher was prosecuted for a similar offence, exposing unfit hams and bacon for sale, and was fined £5.

Daily morning inspections have been made throughout all sections. Odd quantities of lard, honey, fruit, etc., from outside consignors have been examined and dealt with accordingly.

In conjunction with the Rodent Staff, observations have been kept for certain small game for the purpose of confiscation and destruction under the Plague Regulations. The Market Master has acted promptly on all suggestions for the better handling and layout of all bulk fish and poultry for sale by auction.

Analysis of Foods, etc.

Milk.—Appended is a tabulated summary of milk samples taken from local milkshops, depots and delivery vehicles and, on behalf of the Union Government, on railway stations in the Municipal area:—

	1933-34	1934-35	1935-36
Number of Samples taken ...	694	645	686
Number deficient in Solids-not-Fat	81	} 53	54
Number deficient in Fat ...	26		
Number of Prosecutions ...	42	32	50
Amount of Fines ...	£118	£64	£111

Food and Drugs.—The following is a summary of samples of foodstuffs taken by the local authority and on behalf of the Union Department of Public Health, which were examined at the Government Laboratories:—

Article.	Genuine or Pure.	Below standard or adulterated.
Coffee	7	—
Ice Cream	11	7
Squashes	2	2
Polonies	24	8
Yeast	4	—
Salad Oil	14	—
Olive Oil	2	—
Cream Cheese	1	1
Skim Milk Cheese	2	1
Flour	8	8
Aerated Waters	13	2
Paregoric Elixir	1	—
Digitalis	6	—
Aspirin	1	—
Kaffir Corn Meal	1	—

Twenty-one prosecutions.

Fines £24 15s.

As the result of a letter from the Secretary for Public Health, *re* a case of suspected belladonna poisoning, samples were taken from 8 bags of boer meal, and the analytical report thereof disclosed the presence (in all 8 bags) of mydriatic alkaloids, which are derived, among other sources, from belladonna and stramonium. The meal was seized and destroyed.

The number of examinations of milk and foodstuffs is equal to 3.13 per 1,000 of the white population.

General.

Water Supply.—Six new borehole water supplies for two bakeries, one mill, one stockyard, one block of rooms, and one dairy were disallowed for human consumption and for use in the preparation of foodstuffs on account of pollution indicated on analysis. Occasional water complaints have been investigated but were found in every case to have arisen on account of long standing without use or a disturbance of pipes by the Council's water branch; arrangements were made for flushing, and this procedure cured these troubles.

All known boreholes supplying blocks of flats or business premises have now been tested, except in the cases of uncompleted premises, which are being kept under observation so that tests may be made before the water is brought into general use.

Blown Tinned or Hermetically-sealed Foodstuffs.

Inspections have been made in all the wholesale and large retail grocery establishments, and also a number of smaller general dealers. All foodstuffs have been carefully examined. Periodic inspections indicate that the possibility of the sale to the public of blown containers is very remote.

Five general dealers were prosecuted for having blown tins in their possession, and fines varying from £2 to £10 were imposed, or £23 in all.

A fishmonger was prosecuted for having smoked fish, stored or exposed for sale, that was unfit for human consumption, and was fined £5.

A consignment of smoked sprats contained in hermetically-sealed tins was found to be blown, and from information obtained from the agent the various wholesale grocers who had purchased the sprats were visited, and in all, 43 cases and 16 dozen tins were seized and destroyed.

Food and Drugs Act.

Observations and inspections have been maintained throughout the year in connection with the above Act. Labelling of foodstuffs is now satisfactory and where infringements, through ignorance of the requirements of the Act, were encountered, warning notices were served and followed up.

Regular milk sampling over the whole city has been carried out from the numerous milkshops, depots, delivery vehicles, tearooms, grocers, etc., and at railway stations, on behalf of the Secretary for Public Health.

Periodic inspections have been carried out in all factories and other places where foodstuffs are manufactured, stored and handled.

The harmonious co-operative working with the Dairy Section has been very useful.

S. G. RUSSELL,
Senior Foods and Drugs Inspector.

MILK SUPPLIES AND DAIRY INSPECTION.

(a) INSPECTION OF DAIRIES INSIDE THE MUNICIPAL AREA.

Local Milk Affairs.

The population of Johannesburg has considerably increased during the period under review, consequently the demand for milk has been much greater than heretofore. It has been ascertained that the daily quantity of milk required for local requirements is approximately 26,150 gallons, which represents an increase of 1,925 gallons over the corresponding period of last year. The increased supply has been obtained from sources outside the Council's area, yet under Municipal Control, and it is interesting to note that of the quantity increased referred to, 1,775 gallons arrived by road transport and the remaining 150 gallons by rail.

Locally, the producing dairies are 17 less than were in existence last year, but as those were small concerns the larger firms took over their milk rounds, so that locally produced milk still remains at approximately 5,000 gallons daily. Of the 26,150 gallons of milk used daily in the city, only about one-fifth is subjected to pasteurisation, or other forms of heat treatment, which goes to show that the local householder generally prefers the delivery of milk in its raw state to that which has been treated.

With reference to the prevalence of producing dairies in areas which have recently become residential, the Regional Planning Committee has submitted its recommendations to the Council in regard to the zoning of such places in the future, but the difficulty to be faced is that of dealing with those at present existing, and in this respect nothing has yet been decided upon.

New Dairy By-laws.

The Council's new Dairy By-laws were presented to the Provincial Executive for approval, but their promulgation was objected to by certain traders, other than licensed dairymen. The Administrator has decided to appoint a Commissioner to hear the objectors, and also the claims of the Council in support of the proposed by-laws, and for such purpose a date convenient to the parties concerned is being arranged. The objectors handle about ten per cent. of the city milk supply, and it is considered that their methods of handling and distribution are unsatisfactory, consequently powers are sought whereby milk shall only be sold in or from licensed dairies.

Yearly Competitions for Gold Medal and Certificates of Merit Awards.

These competitions are conducted in conjunction with the Council's system of score-card inspection of dairies, which takes place during each quarter of the year. To be eligible to compete, each dairyman must have obtained in his particular section an average quarterly score of at least 90 per cent. over the yearly period. In addition, marks are awarded for bacterial purity of milk and the absence of visible dirt in samples taken during the ordinary course of sale or distribution.

In each of the four sections of the competition gold medals are awarded for:

- (a) Conduct of Dairy.
- (b) Bacterial Milk Purity.

Certificates of Merit are awarded to the dairymen who obtain at the least 80 per cent. of the total marks available.

Conduct of Dairy: Awards in the City Producer Retailer Section.

One Gold Medal. Thirteen Certificates of Merit. Four competitors failed to gain awards.

Conduct of Dairy: Awards in Producer Retailer Section (Outside Area).

One Gold Medal. Nineteen Certificates of Merit. Seven competitors failed to gain awards.

Conduct of Dairy: Raw Milk Depot Section.

One Gold Medal. Twenty-four Certificates of Merit. Nine competitors failed to gain awards.

Conduct of Dairy: Milk Pasteurising Depot Section.

One Certificate of Merit. Two competitors failed to gain awards.

This section suffers through the absence on the railway system of refrigerated trucks for milk transportation from distant sources.

Bacteriological Results of Competition Milk Samples for which Gold Medals were Awarded.

Raw Milk: City Producer Retailer Section, 4,230 micro-organisms per c.c.

Raw Milk: Outside Producer Retailer Section, 6,260 micro-organisms per c.c.

Raw Milk: Raw Milk Depot Section, 14,300 micro-organisms per c.c.

Note.—Certified milk is generally regarded as milk which does not contain more than 50,000 micro-organisms per cubic centimetre.

Presentation of Awards.

The presentation of Gold Medal and Certificate of Merit awards was made by the Chairman (Councillor M. Freeman) of the Public Health Committee, at a well-attended meeting of dairymen, who assembled in the City Hall for this purpose.

Competitions for the year ended 30th June, 1936.

Seventy-five dairy firms have qualified to enter these competitions.

Typhoid Carrier Tests.

Two hundred and thirty-two native dairy employees were subjected to the Widal and Complement Fixation blood tests, and of this number 21 were returned either as "doubtful," "weakly positive," or "positive reactors." These employees were removed to the Municipal Native Hospital for observation and treatment. No typhoid cases traceable to a milk supply occurred during the year.

Tests for the Presence of Visible Dirt in Milk.

Eight hundred and eighty-three tests were made for the presence of visible dirt in milk obtained during the course of sale or distribution, with the following classification:—

1. Good—Where no dirt was visible on the test wads	...	758
2. Fair—Where dirt was visible in a minor degree	...	105
3. Bad—Where dirt was highly visible	...	20
		883

For selling dirty milk 17 firms were fined sums totalling £62 10s., and the number of warning notices served was 37.

Milk Propaganda.

The dairy staff occupied a section of the successful Health Exhibition held in the City and Selborne Halls under the promotion of the "Rand Daily Mail." A feature of the Exhibition was the Milk Bar, which was well patronised and favourably commented upon by all concerned. Demonstrations on milk matters were made and suitable pamphlets on the value of milk were distributed. Thanks are due to all sections of the local Press for the assistance given in furthering the cause of greater milk consumption. Students in public health and visitors from other centres are frequently conducted over dairies in and adjacent to this City.

Special Reports, Court Attendances, etc.

Number of special reports furnished to the M.O.H. or A.M.O.H.	82
Number of attendances at Public Health Committee Courts	15
Number of prosecutions for contravention of by-laws	45
(Convictions 43. Discharged 2. Fines paid £109.)	
Number of plans dealt with in connection with dairies	37
Number of complaints received	30
Number of dairies where structural improvements were made	27

Producing Dairies and Stockyards.

Number of applications received or inspected for licences	...	115
Number of dairies scored	...	78
Number of dairies where less than 5 cows are kept, not scored	...	7
Number of dairies where licences have lapsed or been abandoned	...	9
Number of applications for dairy licences refused by Public Health Committee	...	10
Number of dairies licensed but no cows being kept	...	3
Number of dairies and stockyards trading, but for which no applications for licences yet received	...	8
		115

The owners of the last-mentioned places refuse to apply for dairy licences so long as the Dairy By-laws remain *ultra vires*.

Raw Milk Shops and Pasteurising Depots.

Number of milk shop licences applied for or dealt with	...	148
Number of milk pasteurising depots	...	6
		154

In conclusion it should be stated that the working of the dairy staff has been considerably retarded through the absence of suitable by-laws, and it is hoped that the promulgation of the new dairy by-laws will not be unduly delayed. A survey of the conditions under which milk is handled and sold at premises not licensed as milk shops has been prepared for the information of the Commissioner appointed to decide on the reasonableness or otherwise of the powers asked for by the Council, to govern the city milk supply.

W. C. WATSON,

Senior Dairy Inspector.

*(b) INSPECTION OF DAIRIES OUTSIDE THE MUNICIPAL AREA.**Number and Situation of Dairy Farms.*

The total number of dairy farms from which milk was supplied during the year under review is 396, an increase of 26 over the preceding year. These farms are situated in the districts of Standerton, Ermelo, Bethal, Heidelberg, Pretoria, Middelburg, Witwatersrand, Vereeniging, Krugersdorp, Rustenburg, Ventersdorp, Lichtenburg, Potchefstroom and Klerksdorp, in the Transvaal, and Heilbron, Kopjes, Parys, Kroonstad and Harrismith districts in the Orange Free State.

Milk Introduced Daily into Johannesburg.

The quantity of milk introduced daily into Johannesburg from dairy farms outside the Municipal Area was approximately 21,150 gallons. Of this supply, some 11,250 gallons were consigned by rail to stations within the City, whilst about 9,900 were delivered by road transport.

Approximately 17,150 gallons of milk were supplied daily to owners of milk depots and milk shops, while about 4,000 gallons were delivered direct to the consumer by dairy farmers licensed to retail milk in Johannesburg.

The approximate amount of milk used daily in Johannesburg was 26,150 gallons, of which 80 per cent. was supplied from sources outside the city. These figures show an increase of 1,925 gallons per day over the corresponding period of last year.

Farmer-owned Milk Distributing Depots.

Twenty-six dairy farmers have established their own milk distributing depots within the city, through which 4,400 gallons of milk were retailed daily to the public.

Applications by Dairy Farmers for Permits to Introduce Milk into Johannesburg.

Applications received	...	404
Applications granted	...	396
Refused or withdrawn	...	8

A permit to introduce, within the Municipality, milk or fresh cream produced on any premises outside the Municipality may be granted for any period not exceeding one year, and all permits expire on the 31st of December of the year for which they are granted. No permit is issued unless all the requirements of the Council's by-laws are complied with.

Applications by Dairy Farmers for Licences to Retail Milk in Johannesburg.

Applications received	...	...	...	...	58
Applications granted	...	...	...	...	58

Licences to retail milk within the city are taken out by dairy farmers, who find it more profitable to sell direct to the consumer than to deliver in wholesale quantities to milk depot owners.

Inspection of Farm Dairies.

Regular and systematic inspections were carried out on all dairies in which milk was produced and supplied to Johannesburg.

The results of these inspections were carefully recorded and any infringement of the Dairy By-laws dealt with immediately.

The number of inspections made was 1,869, an increase of 106 over the preceding year. Plans drawn in accordance with the requirements of the Council's Dairy By-laws were supplied gratuitously to dairy farmers contemplating the construction of buildings for dairying purposes.

Score-card Inspections.

Under this system 45 farm dairies, licensed to retail milk in Johannesburg, were scored quarterly. The scores ranged from 76 to 94 per cent.

Control of Milk Supplies.

Periodical inspections were made at all railway stations inside Johannesburg and on the main roads leading to the City, of all supplies of milk consigned to Johannesburg. Five supplies from unpermitted sources were discovered; further supplies from these sources were immediately prohibited.

Tests for Visible Dirt in Milk.

This test, which is applied by passing a pint of milk through a cotton wool pad of small area, thereby arresting and rendering visible all solid impurities, was applied to 569 consignments of milk arriving at railway stations within the city or at the source of production.

The results were:—

Clean	...	...	...	...	462
Fair	...	...	...	...	92
Dirty	...	...	...	...	15

Fifteen farmers were warned by letter that proceedings for cancellation of their permit would be instituted without further notice should they in future introduce into Johannesburg milk containing visible dirt.

Typhoid Carrier Test.

One hundred and thirty-one persons (one white and 130 natives) engaged in the production or handling of milk, submitted themselves to the Widal Test. Eight natives were found to be positive carriers of typhoid. All were removed from the dairy premises on which they were employed to the Municipal Native Hospital for treatment.

We wish to express our appreciation of the efficient manner in which the great majority of dairy farmers endeavour to produce pure, wholesome milk of good quality for the Johannesburg market. There are, however, a small number of Europeans engaged in milk production, who seem to regard dairying as a business, in which cleanliness need not be practised, and the maximum gain may be obtained without attention or expenditure.

We desire to thank the railway officials at Johannesburg, Mayfair and Jeppe Stations for their willing assistance and co-operation in connection with the testing and inspection of milk on railway property.

G. CHRISTIE.

JAS. W. FORRETT.

Farm Dairy Inspectors.

WATER SUPPLY.

Water is supplied in bulk by the Rand Water Board to the City Council. The Council controls the distribution of water throughout the city and owns the reticulation. The following table shows the quantity and percentage of water pumped from various sources by the Rand Water Board and is taken from the Thirty-first Annual Report of the Chief Engineer, Rand Water Board:—

Source	Total Quantity Pumped during Year ending 31st March, 1936	Percentages
	Gallons	
From Zwartkopjes	341,818,000	3.29
From Zuurbekom	1,922,655,000	18.49
From Vaal River	8,134,609,000	78.22
Grand Total	10,399,082,000	100.00

The length of the mains within the Municipal Area is now 608.854 miles; 28.485 miles have been added during 1935-36, while during the same period 3,529,764,100, or 10,624,000 gallons of water per day, were supplied to consumers connected to same.

CHEMICAL AND BACTERIOLOGICAL EXAMINATIONS.

One hundred and seventy-seven chemical and 599 bacteriological samples of water were taken for examination during the year 1935-36, also 39 chemical and 31 bacteriological samples from private boreholes and wells, 10 from swimming baths, and 2 from Klipspruit Dam.

It is desired to acknowledge the obligation of the city to the officials of the Rand Water Board, who have at all times been assiduous in securing an adequate and pure supply of water to the city and in the area of their reticulation.

SEWERAGE.

The City Engineer has kindly supplied the following information:—

On 30th June, 1936, there were 439.75 miles of sewers and 61 miles of 4in. house connections completed.

On the same date 41,744 premises had been connected.

The Council's Sewerage System now includes outfalls to the Council's Sewage Farm at Klipspruit, and to the new Sewage Disposal Works at Antea (Langlaagte) for the Western Basin, Cydna (Melrose) for the North-eastern Basin, Bruma (South Kensington) for the Eastern Basin, and Delta for the North-western Basin.

REPORT OF BIO-CHEMIST.

SEWAGE DISPOSAL.

During the year the flow of sewage to all the works has increased. This is to be accounted for by the intense building activity in almost all areas, and by the new connections to the sewerage system served by the recently completed Delta sewage disposal works.

Klipspruit Works.

The average daily flow to these works was 4,993,181 gallons, being an increase of 468,181 gallons over the previous year.

This may be accounted for by the increase in density of population in the centre of the city due to the construction of large blocks of flats, and general increase in population.

The revenue produced from grazing was £9,394, and the total from all sources £10,041, showing an increase of £2,281 over that of the preceding year.

During the year 1,080 acres have been ploughed, disked, and harrowed by mechanical means, and 15,000 lbs. of Italian rye grass seed sown. Unfortunately, 75 acres of young grass was destroyed by the army worm, which may decrease grazing for the coming year.

The work of lining earth effluent carriers with semi-circular concrete channels each 3 feet long was continued, 2,796 channels being made and 2,504 being laid, bringing the total length of concrete line effluent carriers up to 26.01 miles.

The experimental digester at Klipspruit has been fed with crude sewage sludge only during the year, the dose being 5 per cent. of digester contents daily. The colder weather of May and June greatly impeded digestion, the pH value dropped, and the odour was worse, indicating that digestion was insufficient. The digester is to be operated with a proportion of night-soil added to the raw sludge.

For the purpose of obtaining data for the reconstruction of the treatment works erected nearly 30 years ago, the construction of a pilot plant has been authorised by the Council. The work is well advanced, and should be ready for operation at an early date. The plant consists of a screen, hopper-bottom vertical flow sedimentation tank circular in plan, measuring weirs, automatic dosing syphon, and a 40ft. diameter percolating filter (bacteria bed) approximately 6 feet deep.

Adjacent to this plant there has been erected a Prüss type totally enclosed filter, for which remarkable results are claimed by the suppliers. The diameter of the covered filter is 40 feet, its depth exceeds 12 feet, the tank effluent is pumped to the distributor, and air is introduced into the compartment by means of a fan.

By operating the two types of percolating filters side by side, using the same tank effluent, under the same conditions, the comparative merits can be accurately ascertained.

The information obtained will be invaluable when consideration is given to the design of the units of the proposed new works at Klipspruit.

Antea Works.

During the year construction of the extensions mentioned in the last annual report and two new 100ft. diameter circular bacteria beds have been completed.

A forced ventilating system and ozone-producing apparatus for deodorising the foul gases exhausted by this system from the sedimentation tank house have been installed.

Construction of an open, earth-sided concrete slab lined, secondary digester has been started.

The two original 100ft. diameter bacteria beds have taken the flow, on an average 160,000 gallons per day, giving a dosage of approximately 50 gallons per cubic yard per day, and the effluent has been satisfactory, especially considering the strength of the sewage.

Bruma Sewage Works.

The operation curves for the activated sludge plants at these works are appended, and examination of these curves will reveal points of interest that would require pages of description.

The activated sludge plants at these works were installed to produce a partially purified and inodorous liquid to be further treated at high rates of application on the existing rectangular percolating beds.

Elimination of odour from the percolating beds having become of supreme importance, the operation of the activated sludge plants has had to be modified to achieve this object.

It has not been found possible to operate a straightforward partial treatment process under Johannesburg conditions without giving rise to serious aerial nuisance. Freedom from objectionable smell has, up to the present, only been obtained by the use of highly nitrifying sludge, and this, of course, involves the production of a highly oxidised effluent. It has been necessary, therefore, to adopt a dual treatment process in order to obtain a partially treated effluent without smell.

The main plant was operated to give complete treatment to some 650,000 gallons of settled sewage per day. Twenty-five per cent. of the aeration capacity has been used for reconditioning of sludge. A completely stable and highly nitrified effluent has been produced.

The surplus sludge from the main plant, which also contains much of the humus from the percolating beds, is gravitated to the small diffused air unit of 95,000 gallons capacity, where partial treatment is given to a further quantity of settled sewage. The whole of the sludge from this overloading plant is then pumped back to waste into the raw sewage channel, prior to the Dorr Settlement Tanks.

The flow of settled sewage to the overloading plant has to be varied according to the condition of the activated sludge coming from the large plant, and it is of interest to note that observation of the behaviour of this overloading plant gives a most reliable indication of the state of activity of the sludge on the main plant, for falling off in quality of the effluent in the overloading plant usually slightly precedes noticeable deterioration of sludge in the large plant.

As much settled sewage as can be treated without appreciable objectionable smell is treated in the overloading plant, approximately 200,000 gallons per day having been treated.

During the peak flow, a small amount of settled sewage passes into the primary effluent, which then consists of a mixture of completely treated, partially treated, and untreated settled sewage; the resulting mixture creates no serious smell at the percolating beds.

The amount of surplus sludge passing from the main plant (as well as its quality) determines the amount that can be treated without smell in the overloading plant.

Humus from the percolating beds has been found to act in a similar manner to activated sludge, and a considerable amount of humus is pumped from the humus separating tank into the main activated sludge plant.

Although it was at first hoped that the humus would assist in settling the activated sludge, this result has not been obtained, but the benefits due to dilution with the filter effluent, the increased output of the overloading plant, as well as the elimination of humus beds and treatment of all aerobic sludges together prior to digestion, justifies the installation of permanent pumping plant to return humus and some filter effluent.

When the exhausted waste sludge, plus humus from the overloading plant, is passed into the raw sewage, there is no sudden gassing and formation of serious and objectionable scum on the preliminary settlement tanks, and further, the surplus sludge can be withdrawn from use in any desired amount without upsetting digester capacity.

For the greater part of the year the activated sludge in the main plant has been in the condition known as "bulked."

An unidentified mould fungus, with much branched and mechanically strong hyphae, has persisted nearly all the year, in spite of trial doses of bleaching powder, lime and gas liquor.

The bacterial filament "*Sphaerotilis*" was present most of the time, but only occasionally did it cause trouble.

The fine frail filaments of *Sphaerotilis* usually diminished on increased aeration, the first noticeable effect being the tangling of threads into ropes or bunches. No feasible amount of agitation could, however, roll up the much thicker and stronger fungal hyphae.

At times the rising of the sludge in the final settlement tanks caused trouble by passing over the sills with the effluent, and various means were tried to prevent or remedy this. Addition of clay soil did not give improved settlement, and of the other means tried the most effective was to pull away a greatly increased volume through the sludge outlets, and to recirculate this through the aeration plant.

Since rising in the settlement tanks was usually due to liberation of minute gas bubbles, a careful study of the rising and settlement of sludge was made.

Mr. J. A. McLachlan, in a paper to the Institute of Sewage Purification of Great Britain in July, 1936, gave a summary of the work done to June, 1936. This work is being continued and will be the subject of further publications.

As a temporary measure the drainage from the ash beds, receiving the digester supernatant liquor as well as from the humus and the digested sludge drying beds, has been allowed to mix with the secondary effluent, which has, therefore, been deteriorated in quality and has occasionally been unstable and of high Biochemical Oxygen Demand.

The secondary effluent is, however, used for irrigation and is entirely soaked away on land, thus the quality was not important.

The drainage from these beds is to enter the low-level sewer and will be pumped into the main sewage inlet.

During the year the 105-kilowatt gas engine alternator set has run for 7,849 hours, producing 519,956 kilowatt hour units, which, at .375 of a penny per unit, amounts to more than £800, this more than covering the capital costs and running charges, excluding labour charges which are incurred by the air compressing plant.

The gas production, when corrected for altitude, has been approximately one cubic foot per person per day. The primary digestion tank capacity, from which the gas is collected, is about 1.5 cubic feet per person of the contributing population, and the digesting sludge has constantly been maintained at a temperature of above 80°Fahr. by circulating hot water, from a gas-fired water-heater, in coils in the digestion tanks. The heating system has consumed less than 20 per cent. of the gas production.

Cydney Works.

The flow to these works has increased by over 40 per cent., as compared with the previous year. This necessitated extra primary and secondary filter bed areas and further humus tank capacity. During the year under review, two additional 100ft. diameter primary filter beds, similar to those previously built, were constructed, bringing the total up to eight. Four secondary sand filters and an additional humus tank were completed and put into commission.

Delta Works.

The flow to these works has rapidly increased during the year from less than 150,000 gallons per day to over 500,000 gallons per day. At this rate the aeration units should be working at full load by the end of the coming year. Tests have proved the design capacities correct, and all the units have functioned satisfactorily.

The fungal hyphae and sphaerotilis filament, noted in the Bruma activated sludge, was usually present in the Delta activated sludge.

In the colder months of May and June a finer filament of *Beggiatoa* type, motile and full of sulphur granules, was present as well as sphaerotilis.

Towards the end of the year under review, the sludge gas production has been such that the gas-engine alternator set has been run for approximately 12 hours per day, taking the full load of the works, and on occasions this set has proved a valuable standby when the external electricity supply has been cut off due to summer lightning storms. When the flow of sewage has reached 1,000,000 gallons per day, the majority of the electrical current consumed on the works should be produced by this gas engine alternator set.

WATER SUPPLY.

Algal Growths in Yeoville Reservoirs.

The blue-green filamentous alga *Phormidium* has been present almost throughout the year in the old (smaller) reservoir, and was only held in check by continued dosage with copper sulphate.

The dosage with copper sulphate could be discontinued only from 31st October to 7th November, 1935, when vigorous growth ceased.

Except for this, and the undermentioned periods, 0.2 parts per million of copper sulphate were added at the inlet weir of the old reservoir. From 20th December to 5th February the dosage was increased to 0.4 parts per million, and for 24 hours only on 6th February 0.52 parts per million were added to kill a most vigorous growth. Again on 21st March very vigorous growth necessitated 0.4 parts per million being added for 24 hours.

In the new (larger) reservoir 0.2 parts per million of copper sulphate was sufficient to prevent serious growth.

The unicellular alga *Cosmarium* persisted throughout the year as a thin layer on the walls of both reservoirs.

Early in the year careful examination was made to ascertain if copper in detectable amount passed into the service mains. On evaporation of 10 litres (2½ gallons) of water to dryness it was not possible to chemically detect copper in the residue even by the most delicate new spot test reagents.

It is thus to be presumed that all the copper except perhaps for infinitesimal traces must be precipitated as copper hydrate to remain in the sediment deposited in the reservoir.

Analyses of this sediment in previous years have shown that copper does accumulate in the deposit in the reservoir.

SWIMMING BATHS.

Visits were made and samples were taken for analysis at the ten public swimming baths about every ten days during the season September to March inclusive.

The unsatisfactory behaviour of the automatic dosers for aluminium sulphate and soda caused great difficulty to the baths' staffs, and it was necessary to revert to the old simple solution and gravity feed tanks.

Copper sulphate to the extent of 0.5 parts per million had to be used several times during the season to destroy growths of algae.

A table of chemical analyses made at the beginning and end of the season, together with the bacteriological examination made by the South African Institute for Medical Research, is included in the statistical section.

CHEMICAL EXAMINATION OF THE WATER FROM THE MUNICIPAL SWIMMING BATHS, JOHANNESBURG. SEASON 1935-36.
Examined at the Municipal Bio-Chemical Laboratory, Cydina.

BATH	Time Taken	Position Taken	Free Chlorine	Total Chlorine	pH	Alkalinity	SOLIDS		Total Hardness (Pps. CaCO ₃)	Oxygen (absorbed in 4 hours)	Nitrous	Nitric	N Ammon.	Albd.	B.O.D.	SO ₂	Fe ₂ O ₃ + Al ₂ O ₃	CaO	MgO	Remarks.*
							Total	Loss on Ignition												
Ellis Park - B	10.30 a.m.	Outlet	0.1	1.0	7.3	0.9	16.82	3.23	10.8	0.03	nil	0.08	trace	0.04	0.04	4.26	0.06	2.13	1.00	Strong "urine" stench. Charring.
- E	11.0 a.m.	"	trace	4.0	7.3	0.7	21.00	5.34	10.0	0.09	nil	0.07	0.01	0.02	0.08	5.60	0.32	3.02	0.47	
Malvern - B	9.45 a.m.	"	trace	2.1	7.2	1.9	18.30	4.32	17.0	0.05	nil	trace	0.04	0.03	0.05	3.10	0.75	2.95	1.30	Slight odour.
- E	9.45 a.m.	"	0.2	9.0	7.3	0.7	30.88	8.90	18.5	0.09	trace	0.17	trace	0.01	0.06	5.60	0.64	7.25	1.26	Slight charring.
Mayfair - B	11.20 a.m.	"	nil	0.8	7.3	2.4	16.92	5.42	18.5	0.03	nil	0.03	trace	0.05	0.02	2.88	0.12	3.20	2.20	Slight odour.
- E	9.45 a.m.	"	trace	5.3	7.3	1.2	29.24	6.92	16.0	0.07	nil	0.12	0.02	0.01	0.08	7.30	0.50	5.00	2.33	Slight charring.
Milner Park - B	12.15 p.m.	"	nil	1.6	7.3	2.5	20.12	6.82	20.5	0.04	nil	0.03	trace	0.05	0.03	4.68	0.57	4.03	2.30	Slight odour.
- E	10.0 a.m.	"	0.1	10.5	7.3	1.3	44.73	10.68	22.5	0.11	nil	0.14	0.02	0.03	0.09	11.20	0.72	8.34	2.39	Slight charring.
Paterson Park - B	10.45 a.m.	"	nil	1.6	7.3	1.9	15.90	5.90	16.0	0.04	nil	trace	trace	0.05	0.03	2.09	0.18	2.17	1.80	Slight odour.
- E	11.10 a.m.	"	0.3	5.5	7.3	0.4	29.11	5.90	11.0	0.11	nil	0.07	0.04	0.03	0.09	10.00	0.22	4.00	0.75	Slight charring.
Pioneer Park - B	12.50 p.m.	"	0.2	2.7	7.2	1.8	19.42	8.00	16.5	0.17	nil	0.02	0.04	0.05	0.08	5.40	0.11	3.03	1.80	Slight odour.
- E	10.15 a.m.	"	0.3	9.8	7.3	1.1	39.53	9.36	20.0	0.07	nil	0.09	0.01	0.02	0.10	10.80	0.48	7.61	1.48	Slight charring.
Rhodes Park - B	9.30 a.m.	"	nil	1.4	7.1	2.0	14.72	4.24	16.0	0.04	nil	0.01	trace	0.01	0.07	1.96	0.84	2.03	1.80	Slight odour.
- E	10.30 a.m.	"	0.3	11.0	7.3	0.9	41.97	8.64	20.5	0.09	nil	0.15	0.01	0.02	0.05	10.80	0.42	8.12	0.85	Slight charring.
Turffontein - B	12.30 p.m.	"	0.5	3.3	7.2	1.9	20.06	4.28	16.0	0.04	nil	0.02	0.02	0.04	0.08	2.94	0.22	3.73	2.20	Slight odour.
- E	9.25 a.m.	"	0.2	9.0	7.3	0.7	32.36	9.62	17.5	0.08	nil	0.11	0.01	0.01	0.11	8.80	0.67	6.13	1.32	Slight darkening.
Yeoville - B	10.40 a.m.	"	nil	2.0	7.0	1.6	18.92	4.42	18.5	0.03	nil	0.01	trace	0.02	0.06	4.48	0.61	1.86	1.50	Strong "urine" stench. Much charring.
- E	11.0 a.m.	"	0.2	6.4	7.4	1.4	49.90	7.18	14.5	0.13	nil	0.06	0.11	0.04	0.11	20.40	0.44	5.71	0.96	
Zoo Lake - B	12.50 p.m.	"	0.3	2.2	7.3	1.2	18.32	4.53	19.2	0.05	nil	0.02	trace	0.04	0.01	8.62	0.26	2.84	1.90	Slight urinous odour.
- E	10.15 a.m.	"	0.3	7.4	7.4	1.0	31.84	7.46	18.5	0.05	nil	0.15	0.01	0.02	0.03	8.00	0.38	5.86	2.37	Slight charring.

Free Chlorine expressed as parts per million.

* Alkalinity " expressed as c.c.s. $\frac{N}{10}$ HCl per 100 c.c.s. sample, to methyl orange indicator.

Other results expressed as parts per 100,000.

B = Samples taken at beginning of season.

E = Samples taken at end of season.

*Remarks: These refer to the odour on evaporation of 1,000 ccs. of the sample almost to dryness; and then to the results on ignition of the dry solids. The remarks apply to "E" only. In the case of "B" there was no smell or charring.

BACTERIOLOGICAL EXAMINATION AT END OF SEASON.
By the South African Institute for Medical Research.
Johannesburg (Season 1935-36.)

Bath.	Organisms per c.c., growing at 37°C.	Bacillus Coli in 10 c.c.	Spreading Colonies.
Ellis Park	8	Not isolated	Very scanty.
Malvern	8	Not isolated	Scanty.
Mayfair	6	Not isolated	Few.
Milner Park	9	Not isolated	Few.
Paterson Park	5	Not isolated	Scanty.
Pioneer Park	10	Not isolated	No spreading colonies.
Rhodes Park	6	Not isolated	No spreading colonies.
Turffontein	4	Not isolated	No spreading colonies.
Yeoville	8	Not isolated	Few.
Zoo Lake	2	Not isolated	Very scanty.

SEWAGE DISPOSAL.

TABLE OF CHEMICAL ANALYSES FOR YEAR 1st JULY, 1935, TO 30th JUNE, 1936.
Average of Weekly Analyses: Parts per 100,000.

	Oxygen absorbed in 3 mins.	Chlorine in Chlorides.	Oxygen absorbed in 4 hrs.	Settleable Solids. ccs./litre.	Nitrous N.	Nitric N.	Ammon. N.	Albd. N.	Bio-Chemical Oxygen Demand 5 days test.	% Purification: Screened Sewage to Final Effluent
										On Oxygen Abs. in 4 hours. On Albd. N.
ANTEA WORKS:										
Screened Sewage	6.36	12.8	16.95	15.1	—	—	9.05	2.02	—	—
Tank Effluent ...	3.70	13.4	9.86	0.8	—	—	9.81	1.20	—	—
Primary Effluent	1.55	13.4	4.18	3.3	0.31	3.18	4.25	0.72	—	—
Secondary Effluent	0.59	13.3	1.62	—	0.09	4.06	2.89	0.22	1.84	80.1
BRUMA WORKS:										
Screened Sewage	3.98	16.7	11.69	18.1	—	—	7.29	1.57	—	—
Tank Effluent ...	2.85	17.4	8.10	1.2	—	—	7.11	0.93	—	—
Primary Effluent	1.09	18.1	3.04	3.0	0.26	3.63	1.05	0.71	—	—
Secondary Effluent	0.80	17.7	2.06	0.2	0.12	4.43	4.48	0.41	3.03	82.4
CYDNA WORKS:										
Screened Sewage	4.00	10.3	13.80	12.6	—	—	6.76	1.76	—	—
Tank Effluent ...	2.67	10.4	9.17	2.1	—	—	6.83	1.21	—	—
Primary Effluent	1.20	10.4	3.69	4.4	0.17	2.98	2.08	0.62	—	—
Secondary Effluent	0.36	10.5	1.09	—	0.05	2.77	1.32	0.15	1.35	92.1
DELTA WORKS:										
Screened Sewage	2.74	8.1	8.33	9.5	—	—	5.32	1.20	—	—
Tank Effluent ...	1.77	9.1	4.57	1.3	—	—	6.10	0.80	—	—
Diffused Air Effluent	0.83	8.8	1.95	0.2	0.47	3.98	2.24	0.28	2.51	—
Final Effluent	0.77	8.7	1.71	—	0.46	4.39	1.79	0.22	1.49	79.5
KLIPSPIJIT FARM:										
Screened Detritus-free Sewage	8.88	23.0	26.78	16.7	—	—	10.54	3.00	—	—
Primary Tank Effluent	6.84	21.3	18.56	7.1	—	—	10.27	1.97	—	—
Secondary Tank Effluent	6.40	21.9	16.25	3.6	—	—	10.97	1.44	—	—
Effluent to Homestead Farm	1.36	41.6	3.92	—	Trace	0.51	4.00	0.36	3.29	85.4
Effluent from Harrington's Spruit Filter	0.80	46.2	2.26	—	0.08	1.23	1.83	0.30	2.13	91.6
										80.0

MINES SANITATION.

The usual procedure has been carried out in regard to systematic inspections of the mining properties in the Johannesburg area.

This work has included inspections of Native compounds, hospitals and locations, married and single White quarters, contractors' compounds, brickfields, dairies and cowsheds, Native eating houses, stone crushing works, mine boarding houses, railway stations and quarters, pumping and power stations, disposal of refuse, the sanitary arrangements at the various works and the supervision of the daily cleaning up and scavenging at all places and premises on the surface.

All plans submitted in regard to new, or additions and alterations to existing housing accommodation, drainage or other sanitary requirements have been examined by the Medical Officer of Health and amended when necessary.

All cases of infectious disease among White, Natives and Coloured persons have been visited, inquired into and reported on in the usual way.

SLUMS AND INSANITARY PROPERTIES.

During the year under review, no Closing Orders were obtained under the Local Government Ordinance, No. 11 of 1926, the Public Health Committee having given instructions to proceed with insanitary properties under the Slums Act, No. 53 of 1934. Various properties were dealt with under Closing Orders, which had been previously obtained, and these properties were either reconstructed or applications for Demolition Orders were made to the Courts.

As a result, 25 Demolition Orders were obtained and the number of properties reconstructed and demolished was 40, in the following areas:—

PROPERTIES RECONSTRUCTED:

Johannesburg 1, Doornfontein 2, Fordsburg 2, Ophirton 1, Ferreira's 1, Spes Bona 2, Farm Doornfontein No. 24 2, Bertrams 1, Burghersdorp 1, Klipriviersberg 1.

PROPERTIES DEMOLISHED:

Johannesburg 6, Malay Location 3, Doornfontein 1, Newtown 1, Fordsburg 3, Ferreira's 3, Ophirton 1, Bertrams 1, Burghersdorp 1, New Doornfontein 1, Wolhuter 1, Booysens 1, Turffontein 1, Farm Doornfontein No. 24 2.

Two properties are still under reconstruction.

Slums Act.

The number of properties dealt with as Slums under the Slums Act, No. 53 of 1934, was as follows: Vrededorp 70, Fordsburg 16, La Rochelle 10, New Doornfontein 1, Klipriviersberg 1, Jeppe 1, Regents Park 1, Wolhuter 1, North Doornfontein 1, City and Suburban 1.

The numbers of families requiring to be rehoused are:—

VREDEDORP:	KLIPIVIERSEERG:
127 European.	17 Coloured.
NEW DOORNFONTEIN:	JEPPE:
1 Asiatic.	2 European.
10 Coloured.	REGENTS PARK:
FORDSBURG:	1 European.
54 European.	WOLHUTER:
4 Asiatic.	5 European.
1 Coloured.	CITY AND SUBURBAN:
LA ROCHELLE:	7 European.
12 European.	NORTH DOORNFONTEIN:
1 Asiatic.	5 European.
1 Coloured.	

The number of insanitary properties dealt with under the Slums Act, 1934, since its promulgation and up to 30th June, 1936 is as follows:—

Prospect Township 69, Vrededorp 68, New Doornfontein 61, Bertrams 38, Fordsburg 20, La Rochelle 11, Jeppe 6, West Turffontein 5, Kensington 3, Farm Doornfontein No. 24 3, North Doornfontein 3, City and Suburban 3, Meyer and Charlton 2, Regents Park 2, Booysens Reserve 2, Ophirton 2, Wolhuter 1, Paarlshoop 1, Klipriviersberg 1, Marshalls 1, Bellevue 1, Judiths Paarl 1. Total 304.

These properties were dealt with as follows:—

1. Number of properties declared Slums, 155.

(a) Declarations rescinded after the removal of nuisances by demolition or reconstruction 35. (New Doornfontein 27, Fordsburg 4, Meyer and Charlton 2, City and Suburban 1, Wolluter 1.)

(b) Acquired by Council for Sub-Economic Housing Scheme 37 (Bertrams.)

(c) Work being carried out in terms of Notices served under Section 5 (1) 12. (New Doornfontein 5, Fordsburg 6, North Doornfontein 1.)

(d) Action postponed pending Government's decision regarding coloured occupation in Prospect Township 71. (Prospect Township 69, Farm Doornfontein No. 24 2).

2. Number of properties in respect of which the owners undertook to put the premises in order 36. (New Doornfontein 28, La Rochelle 5, Klipriviersberg 1, Vrededorp 1, Jeppe 1).

The nuisances on the 28 properties in New Doornfontein were abated by demolition or reconstruction; the reconstruction work is in progress on the remaining properties.

3. Number of properties in respect of which evidence has been heard by the Public Health Committee and its decision reserved 50. (Vrededorp 43, La Rochelle 4, Fordsburg 2, Regents Park 1).

4. Number of properties reported on in terms of Section 1 (2) of the Act in respect of which evidence has not yet been heard by the Public Health Committee 61. (Vrededorp 22, Fordsburg 8, Jeppe 5, West Turffontein 5, Kensington 3, North Doornfontein 2, City and Suburban 2, La Rochelle 2, Booyens Reserve 2, Ophirton 2, Bertrams 1, New Doornfontein 1, Farm Doornfontein No. 24 1, Regents Park 1, Paarlshoop 1, Marshalls 1, Bellevue 1, Judiths Paarl 1).

5. Sundry properties 2. These 2 properties are in Vrededorp. In the one case the premises were demolished before evidence was heard by the Public Health Committee. In the other case, this item was withdrawn from the Slums Court, and has been dealt with under the Local Government Ordinance.

HOUSING SCHEMES.

EUROPEANS.

A. *Jan Hofmeyr Township.*

During the year under review the construction of the Council's first sub-economic housing scheme was commenced on a site on the Brixton Ridge immediately north-west of Vrededorp. With the gracious consent of the Minister of Public Health, this new township has been named Jan Hofmeyr Township.

When completed this model township will comprise 194 houses each containing bedrooms, living room, kitchen (with ventilated food cupboard), bathroom and water closet, with a brick storage shed in the year.

Each house is to be built on a site approximately 75ft. by 50ft. The number of houses is made up as follows:—

66 detached houses with 2 bedrooms (type A),

102 detached houses with 3 bedrooms (type B),

26 semi-detached houses with 2 bedrooms (type F.)

The rents to be charged are 10s. and 12s. 6d. per week for houses containing 2 bedrooms and 3 bedrooms respectively.

Gas is to be provided for cooking and heating at the special reduced rate of 3s. 4d. per thousand cubic feet, while electric current is to be provided at standard rates, i.e. 4d. per unit for each room for the first 6 units and thereafter ½d. per unit.

As the 30th June, 1936, 13 houses were completed and occupied; it is anticipated that the remaining houses will be completed before the end of 1936.

B. *Future Schemes.*

In view of the obvious necessity for the provision of further sub-economic housing schemes for Europeans, the Council is considering the establishment of further townships similar to Jan Hofmeyr Township, and has already agreed in principle to two schemes, one at Bertrams on the site of an area which

has been dealt with under the Slums Act, 1934, and the other at Glenesk, which is situated immediately south of the township of Springfield. These two additional schemes will provide accommodation for approximately 230 families.

The Council has realised that the success of these housing schemes will depend largely upon efficient control and management by properly qualified officials, and have appointed as Director of Housing Mr. C. J. Crothall, and as Housing Manageress, Mrs. M. K. Robertson.

Consideration is also being given to provision of hostels for working girls who cannot afford to pay ordinary economic rates for board and lodging.

The provision of a communal hall in connection with each white housing scheme is also receiving attention, the fact being recognised that the building of houses for the poorer class of citizens does not end the responsibility of the local authority.

NATIVES.

The Council has under control in its native locations, 5,926 houses, and in its hostels for single native men and women, has 5,193 beds for males and 130 beds for females. A further 2,000 houses are to be built at Orlando Township in the near future, and an additional block for housing single male natives is at present under construction at the Wolhuter Native Men's Hostel.

COLOURED.

The Council also has under consideration the provision of housing for coloured people, and negotiations are proceeding for the purchase of a site approximately 200 acres in extent which is situate immediately inside the western municipal boundary and adjoining the southern boundary of the Western Native Township.

INSPECTION OF PLANS.

As predicted in last year's report, the work of inspection of plans increased considerably. No less than 10,594 plans were approved, as against 6,962 the previous year, which figures show an increase of more than 50 per cent., and the estimated value of the work has increased accordingly. The figures for the year ending 30th June, 1936, are £8,740,801 as against £5,840,155 for 1935, an increase of £2,900,646. At present no diminution in the volume of work is apparent, and the figures quoted constitute a record.

All plans submitted to the Council through the City Engineer are passed on to your Medical Officer of Health for examination *re* all matters relating to drainage, lighting, ventilation, open space, licensing, etc. The provisions of the Factory Act, Native Labour Regulations (1911), Natives (Urban Areas) Act, Slums Act, Town Planning Ordinance, all receive necessary consideration before plans can be finally approved.

The majority of the drawings are returned for amendments and are, therefore, handled twice or three times.

As extensive slum clearance work is now proceeding under the Slums Act, the system is particularly valuable, especially in cases of partial demolition and rebuilding, as the closest co-operation exists between the officials concerned, enabling great improvements to be effected.

The co-ordination and organisation of work and the cordial relations existing between the City Engineer's staff, the Inspector of Factories, the Municipal Native Affairs Department, and the Plans Inspection staff is gratifying.

Many architects and their assistants, builders, plumbers and owners avail themselves of the opportunities given to discuss improvements and amendments, and the qualified and valuable advice given is duly appreciated.

The difficult problem of preventing some considerable amount of skilful circumvention of the By-laws has engaged the attention of your Medical Officer of Health and plans staff, and the measures to be adopted will, it is hoped, soon have a marked effect in planning of certain types of domestic buildings in specified areas.

In addition to the ground covered by the Special Inspectors, the District Inspectorate Staff have accomplished 193 inspections in connection with repairs to buildings, and 1,570 inspections in connection with unauthorised buildings.

ANNUAL RECORD OF DUTIES PERFORMED BY DISTRICT INSPECTORS ONLY.

From 1st July, 1935, to 30th June, 1936.

INSPECTIONS.	
BUILDINGS—	INFECTIOUS DISEASES—
Repairs to 193	Contacts 74
Unauthorised 1,570	Vaccination —
	Licensing Court Hours 362
CLOSETS AND URINALS—	LICENSED PREMISES—
Inspected 14,838	Aerated Water and Ice
Additional Provided 314	Factories 122
French Drains 220	Asiatic Eating Houses ... 30
Dwellings—Routine Visits .. 6,726	Bakeries 1,401
Dwellings—Survey 8,751	Barbers' Shops 675
Factories 380	Bioscopes 78
Business Buildings 1,348	Boarding Houses 528
INTERVIEWS—	Butchers' Shops 2,827
Owners, Agents, etc. ... 2,384	Cowsheds 6
Native Housing 1,784	Dairies 9
Reports 1,530	Garages 187
NUISANCES—	General Dealers 7,538
Animals 345	Hawkers and Pedlars ... 530
Drainage 781	Hotel Dining Rooms ... 177
Fly 301	Ice Creameries 87
Manure 687	Kaffir Eating Houses ... 1,962
Mosquito 48	Laundries 398
Poultry 281	Lodging Houses 51
Rats 283	Milk Shops 86
Refuse 3,472	Noxious Trades 2,022
Slopwater 714	Nursing Homes 165
Smoke 205	Private Cows 8
Stables 805	Restaurants 1,111
Stormwater 152	Tea Rooms 1,905
Unspecified 2,097	NOTICES SERVED—
Service Complaints 320	Statutory 3,899
Wells 44	Others 3,510
CYANIDE FUMIGATIONS—	Prosecutions 352
Supervised 2,251	Attendance at Court
INFECTIOUS DISEASES—	(Hours) 362
Cases Investigated 1,043	Special Duty 286

LICENSED PLACES.

From 1st July, 1935, to 30th June, 1936, 4,981 applications for licences of various kinds have been dealt with, the premises in question being in all cases carefully examined as to sanitary requirements.

	1935-36		
	Granted	Refused or not taken out	Total
1. Tea Shops, Eating Houses, Restaurants, etc.	1,102	111	1,213
2. Dairies	186	29	225
3. Milk Shops	175	18	193
4. Butchers' Shops	624	71	695
5. Bakers and Confectioners	153	128	281
6. Permits to introduce Milk	512	60	572
7. Kaffir and Asiatic Eating Houses	178	43	221
8. Nursing Homes	26	11	37
9. Laundries	64	6	70
10. Ice Creameries	426	5	431
11. Noxious or Offensive Trades	339	56	395
12. Aerated Water and Ice Factories	40	—	40
13. Hairdressers and Barbers	379	57	436
14. Lodging House	3	—	3
15. Hawkers and Pedlars of Foodstuffs	49	120	169
	4,256	725	4,981

PROSECUTIONS.

Three hundred and twenty persons were prosecuted, involving 336 charges, for various breaches of the Public Health Act, Local Government Ordinance, Food and Drugs Act, Slums Act, and Public Health By-laws.

Of the 336 charges, 318 convictions resulted, and fines aggregating £820 15s. were imposed. Particulars are appended:—

Offence	Race			Total
	Whites	Natives and Coloured	Asiatics	
Dirty and Verminous Premises	53	31	57	141
Fumigation By-laws	5	—	—	5
Fly Breeding	10	—	2	12
Insufficient Sanitary Accommodation	17	1	1	19
Contravention of Closing Orders	1	—	2	3
Slums Act	3	—	—	3
Adulterated Milk	37	—	—	37
Dirty Milk	14	1	1	16
Transferring and Dipping Milk	2	—	2	4
Food and Drugs Act	4	—	—	4
Unsound and Adulterated Foodstuffs	18	—	11	29
Food Exposed to Contamination	11	4	2	17
Unsound and Unstamped Meat	1	—	2	3
Dirty Food Stores	6	1	23	30
Dairy By-laws	9	—	—	9
Butchery By-laws	2	—	—	2
Kaffir Eating House By-laws	2	—	—	2
	195	38	103	336
RESULTS—				
Convicted and Fined	175	33	96	305
Convicted and Cautioned	10	2	1	13
Dismissed	5	2	6	13
Withdrawn	—	1	—	1
Orders Granted	3	—	—	3
.. .. (no Fine)	1	—	—	1
	195	38	103	336
AMOUNT OF FINES	£484 10 0	£71 5 0	£265 0 0	£820 15 0

This work is supervised by the Medical Officer of Health, under whose directions proofs of evidence, summonses, subpoenas and charge-sheets are prepared and handed to the Council's Solicitors.



