

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

Contributors

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City of Johannesburg.

REPORT of the MEDICAL OFFICER OF HEALTH on the PUBLIC HEALTH and SANITARY CIRCUMSTANCES of JOHANNESBURG during the Year 1st JULY, 1938—30th JUNE, 1939.

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 (retd.) Union Defence Force; Past President, South African Health Officials' Association; Chairman, Witwatersrand Epidemic Committee; President, Witwatersrand Mental Hygiene Society; Chairman, Witwatersrand Branch of S.A. Nursery School Association.

JOHANNESBURG,

APRIL, 1940.



Printed by
RADFORD, ADLINGTON, LTD.
Marshall and Rissik Streets
Johannesburg

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Report of the Medical Officer of Health, 1938—1939.

Public Health Department,

Escom House,

Johannesburg,

April, 1940.

TO HIS WORSHIP THE MAYOR (Mr. Councillor T. A. M. HUDDLE, J.P.) AND CITY
COUNCILLORS OF THE CITY OF JOHANNESBURG.

LADIES AND GENTLEMEN,

I have the honour to present herewith my report of the health conditions of Johannesburg for the year 1938-39.

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 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.

Major events during the year were the continuation and modification of the "Western Areas" Scheme, the completion of the Sub-economic Maurice Freeman and Pioneer Housing Schemes for Europeans, the commencement of the Lionel Leveson Residential Club for Girls, the distribution by the Department of State-Aided butter, the re-organisation of the Venereal Diseases Services, the extension of the Boundaries of the City, the rapid expansion of Native Medical Services, both curative and preventive, and the recording of vital statistics by "Hollerith" machines.

Notable statistical improvements are the lowest recorded death rates for Europeans, Natives and All Persons, a marked fall in the infantile mortality rate and a low maternal mortality rate, all indicating progress in measures of hygiene and sanitation.

A detailed record for the year of inspections, etc., undertaken by the inspectorate staff is submitted on page 57.

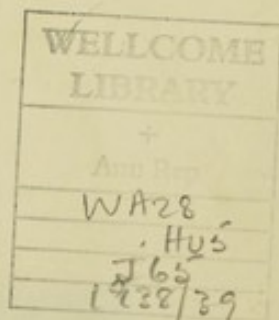
I also desire to express my thanks in particular to the occupant of the Mayoral Chair during 1938-39 (Councillor J. J. Page), and to the Chairman and Members of the Public Health Committee who extended to me kindly support and courtesy, and to all other Heads and Sub-Heads of Departments for their willing co-operation and assistance.

I have the honour to be, Ladies and Gentlemen,

Your obedient servant,

A. J. MILNE,

Medical Officer of Health.



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CITY OF JOHANNESBURG.

PUBLIC HEALTH COMMITTEE, 1938-1939.

Councillor L. Leveson (Chairman).
 Councillor D. Penry Roberts (Vice-Chairman).
 Councillor C. F. Beckett, M.P.C.
 Councillor N. T. Cowin, M.B.E.
 Councillor S. F. du Toit.
 Councillor D. H. Epstein, M.P.C.
 Councillor Mrs. S. E. Wordingham.
 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 Deputy Medical Officer of Health: Gordon D. Laing, B.Sc., M.B., Ch.B., D.P.H., D.T.M. & H.
- 1 Assistant Medical Officer of Health (Medical Division): J. W. Scott Millar, B.A., M.B., Ch.B., D.P.H.
- 1 Assistant Medical Officer of Health (Sanitation Division): B. S. Mundel, M.B., Ch.B., D.P.H.
- 1 Chief Clerk: E. M. Coetzee, A.M.I.S.E., Cert. R.S.I. (S.A.).
- 1 Accountant, 2 Bookkeepers, 9 Clerks, 4 Typists, 3 Junior Clerks, 4 Office Juniors, 1 Telephonist.

Bio-Chemical Division—

- 1 Bio-Chemist: Harold Wilson, B.Sc., A.M.C.I.
- 8 Chemists, 1 Microscopist and Photographer, 1 Clerk.

European Housing—

- 1 Director of Housing: Jno. S. Russell, A.M.I.S.E., Cert. R.S.I. (S.A.).
- 3 Housing Manageresses, 3 Handymen-Fumigators.

Inspectorate—

- 1 Chief Health Inspector: W. C. Watson, Cert. R.S.I. (S.A.).
- 7 Divisional Inspectors, 20 District Inspectors, 2 Anti-Rodent Measures Inspectors, 3 Housing Inspectors, 2 Food and Drugs Inspectors, 8 Dairy Inspectors, 1 Infectious Diseases Inspector, 4 Disinfecting Inspectors, 1 Disinfecting Engineer.

Maternity and Infant Welfare—

- 1 Pediatric Officer: B. G. von B. Melle, M.B., B.Ch., F.R.C.S.E.
- 1 Assistant Pediatric Officer: A. S. Strawbaun, M.R.C.S., L.R.C.P.
- 2 Obstetric and Ante-Natal Officers: W. H. Maxwell, M.A., M.B., L.R.C.P., F.R.C.S., and F. K. Te Water, M.B., B.Ch., L.R.C.P., F.R.C.S.E.
- 1 Psychiatrist (Nursery Schools): F. F. du Toit, M.B., Ch.B.
- 1 Senior Health Visitor: Miss G. K. Jordan.
- 1 Inspectress of Nursing Homes and Midwives, 12 Health Visitors, 5 Ante-Natal Nurses, 1 Senior Supervisor of Nursery Schools, 6 Nursery School Supervisors, 8 Assistant Supervisors of Nursery Schools, 1 Clinic Care-taker.

Health and Medical Services: Native Townships—

- 3 Medical Officers, 1 Dental Officer, 3 Health Visitors, 31 Native Nurses, 7 Native Clerk-Orderlies.

Fever Hospital—

- 1 Physician-in-charge: P. Bayer, M.D., Ch.B., M.R.C.P.
 1 Resident Medical Officer, 1 Matron, 5 Sisters, 3 Staff Nurses, 17 Probationer Nurses, 1 Clerk, 1 Typist, 15 Domestic, 25 Natives.

Special Treatment Centres (Venereal Disease)—

- 1 Director: Henry Gluckman, M.R.C.S., L.R.C.P.
 2 Clinic Orderlies, 2 Nursing Sisters.

Anti-Rodent Staff—

- 1 Rodent Inspector, 1 Junior Rodent Inspector, 16 Rat-catchers, 19 Rat-catching Youths.

Rest Rooms and Public Conveniences—

- 2 Supervisors and 38 Attendants.

SUMMARY OF STAFF EMPLOYED.

Europeans—

Permanent Salaried Staff	...	...	...	108
Temporary Salaried Staff	...	...	...	36
Daily-paid (Fixed Establishment)	...	...	...	43
Daily-paid (Temporary) ...	...	...	...	39
				226
Fever Hospital ...	...	...	...	45
Total	...	...	...	
				271

Natives (including Fever Hospital, 25)	...	...	104

Report, 1st July, 1938—30th June, 1939.

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-five years are kindly supplied by Dr. H. E. Wood, Union Astronomer: Temperature, average maximum 70·2 degrees F., average minimum 49·6 degrees F.; highest recorded 93·6 degrees F. on 21st December, 1925, lowest recorded 20·8 degrees F. on 23rd July, 1926. Annual rainfall, 29·59 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 55,356 acres, the extreme length $11\frac{1}{2}$ miles, extreme breadth $11\frac{1}{2}$ miles, extent of perimeter $44\frac{1}{2}$ miles.

Annual Rateable Value.—As assessed in accordance with Ordinance 20 of 1933, 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 30th June, 1939, £121,995,804.

The rate for 1938-39 was 4d. in the £1 on land. Rate produced £844,996. Special Road Rate, 1d. in the £1 on land, produced £193,744. Total £1,038,740.

In 1938-39 the valuation was: Land, £50,820,047; Improvements, £71,175,757.

POPULATION.

		(Census May 1936).	(Estimated 30th June, 1939).*
Europeans	...	252,718	285,400
Natives	...	191,032	220,900
Eurafricans	...	21,366	23,400
Asiatics	...	9,918	10,950
		<u>475,034</u>	<u>540,650</u>

* Including Pimville (12,000 Natives) and excluding Orlando (40,000 Natives).

BIRTHS.

From 1st July, 1938, to 30th June, 1939, the number of White Births registered was 6,843 (3,415 males, 3,428 females), as compared with 6,653 in 1936-37 and 6,595 in 1937-38.

The White Birth-rate was 23·98 per 1,000 for 1938-39, as compared with 25·36 in 1936-37 and 24·26 in 1937-38.

For England and Wales in 1938 the birth-rate was 15·1, in Pretoria 24·97, in Springs 29·06, in Bloemfontein 18·98, in Capetown 17·87, in Pietermaritzburg 18·73, in East London 17·8, and in Durban 19·9 for 1938-39.

White Illegitimate Births.—These numbered 142, and constituted 2·10 per cent. of all births, as against 3·23 in Pretoria, 0·56 in Springs, 2·9 in Durban, 0·74 in Pietermaritzburg, 1·98 in East London, and 2·69 in Bloemfontein in 1938-39.

The White birth-rate remains at a remarkably high level for a large industrial city, whilst the percentage of illegitimate births is also remarkably low for such a city.

The Native, Asiatic and Coloured Births registered during 1938-39 numbered 2,380 (992 Native, 707 Coloured, and 681 Asiatics), as compared with 2,455 in 1936-37, and 2,141 in 1937-38. This number represents a birth-rate of 9·40. 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 (1936 Census).

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 Outward Transfers:—

DEATHS.

Year	Whites	Natives	Eurafricans	Asiatics	All Persons
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
1936-37	2,686	3,181	513	207	6,587
1937-38	2,780	3,198	499	223	6,700
1938-39	2,606	3,324	493	228	6,650

DEATH-RATES.

DEATH-RATES (excluding non-residents)	White		Natives	Eur- africans	Asiatics	All Persons
	Gross	*Corrected for Age and Sex distrib.				
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
1936-37	10.24	—	16.11	23.24	20.15	13.38
1937-38	10.23	—	15.70	21.98	21.04	13.17
1938-39	9.13	—	15.05	21.07	20.82	12.30

* 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 respect of Europeans in the large cities and towns of the Union:—

Greater London (i.e., Metro- politan and City Police Districts)				JOHANNESBURG—			
10.2 (1938)				White	...	9.13 (1938-39)	
11.6 "				Natives	...	15.05 "	
9.6 (1938-39)				Eurafricans	...	21.07 "	
6.33 "				Asiatics	...	20.82 "	
9.71 "				All Persons	...	12.30 "	
7.96 "							
8.73 "							
9.7 "							
6.31 "							

Except in regard to South African Towns, these figures are taken from the Statistical Review of the Registrar-General for England and Wales, 1938.

The European death rate of 9.13 per thousand is much the lowest ever recorded in the City, is more than 1 per thousand lower than that of Greater London, approximately 2.5 per thousand lower than that of England and Wales, and lower than the principal coastal towns of the Union. This rate is a matter for congratulation and is definitely satisfactory for a large industrial centre. The native death rate also continues to decrease progressively and at 15.05 per thousand is also the lowest ever recorded for this section of the population and is deemed to be satisfactory. As stated in a previous report in this connection, there is every reason to ascribe this improvement to the Council's wise policy of continued and extensive rehousing of its native population in well-built and hygienically designed native townships and hostels. The death rate for "all persons" has also declined considerably, reflecting the improvement in the European and native rates.

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, 1936-37, 1937-38, 1938-39.

DISEASE		1936-37		1937-38		1938-39		DISEASE		1936-37		1937-38		1938-39	
		Deaths	Rates	Deaths	Rates	Deaths	Rates			Deaths	Rates	Deaths	Rates	Deaths	Rates
Enteric Fever ...	W.	15	0.057	20	0.07	14	0.05	Diseases of the Heart ...	W.	528	2.01	586	2.16	647	2.27
	N.	40	0.21	43	0.21	34	0.15		N.	222	1.12	291	1.43	209	0.95
	E.	4	0.18	4	0.18	2	0.09		E.	69	3.13	64	2.82	55	2.35
	A.	3	0.29	1	0.09	3	0.27		A.	21	2.04	36	3.40	20	1.83
Measles ...	W.	1	0.004	21	0.08	12	0.04	Acute Bronchitis ...	W.	31	0.12	21	0.08	10	0.03
	N.	11	0.06	7	0.03	10	0.04		N.	100	0.50	64	0.31	93	0.42
	E.	—	—	4	0.18	—	—		E.	18	0.82	11	0.49	12	0.51
	A.	1	0.10	3	0.28	1	0.09		A.	11	1.07	9	0.84	14	1.28
Scarlet Fever ...	W.	2	0.008	—	—	2	0.007	Chronic Bronchitis ...	W.	27	0.10	49	0.18	34	0.12
	N.	—	—	—	—	—	—		N.	11	0.06	18	0.09	41	0.19
	E.	—	—	1	0.044	—	—		E.	8	0.36	4	0.18	5	0.21
	A.	—	—	—	—	—	—		A.	5	0.48	5	0.47	3	0.27
Whooping Cough ...	W.	26	0.10	7	0.03	18	0.06	Pneumonia ...	W.	350	1.33	317	1.17	225	0.79
	N.	20	0.10	7	0.03	16	0.07		N.	921	4.67	970	4.76	730	3.30
	E.	4	0.18	—	—	3	0.13		E.	124	5.62	128	5.64	110	4.70
	A.	3	0.29	—	—	—	—		A.	61	5.94	65	6.13	54	4.93
Diphtheria and Croup ...	W.	13	0.050	7	0.03	13	0.05	Silicosis ...	W.	30	0.11	55	0.20	47	0.16
	N.	2	0.01	3	0.015	2	0.009		N.	4	0.02	8	0.04	4	0.02
	E.	2	0.09	2	0.09	1	0.04		E.	2	0.09	2	0.09	3	0.13
	A.	—	—	—	—	1	0.09		A.	—	—	—	—	1	0.09
Influenza ...	W.	46	0.18	53	0.20	35	0.12	Other Respiratory Diseases ...	W.	32	0.12	62	0.23	42	0.15
	N.	36	0.18	52	0.255	28	0.13		N.	21	0.11	26	0.13	22	0.10
	E.	5	0.23	2	0.09	3	0.13		E.	8	0.36	6	0.26	6	0.26
	A.	1	0.10	4	0.38	2	0.18		A.	3	0.29	4	0.38	4	0.36
Tuberculosis of Lungs ...	W.	43	0.164	40	0.15	52	0.18	Diarrhoea and Enteritis ...	W.	114	0.43	138	0.51	80	0.28
	N.	209	1.06	193	0.95	226	1.02		N.	474	2.40	461	2.26	433	1.96
	E.	42	1.90	40	1.76	38	1.62		E.	68	3.08	67	2.95	50	2.14
	A.	12	1.17	8	0.76	15	1.37		A.	20	1.95	26	2.45	24	2.19
Other Forms of Tuberculosis...	W.	14	0.053	13	0.05	14	0.05	Acute Nephritis and Bright's Disease ...	W.	95	0.36	131	0.48	95	0.33
	N.	43	0.21	88	0.43	85	0.38		N.	33	0.17	36	0.18	55	0.25
	E.	6	0.27	6	0.26	14	0.60		E.	11	0.49	10	0.44	12	0.51
	A.	3	0.29	2	0.09	2	0.18		A.	4	0.39	4	0.38	7	0.64
Cancer ...	W.	262	0.998	273	1.00	304	1.07	Congenital Malformation, Premature & Early Infancy	W.	171	0.65	167	0.61	152	0.53
	N.	31	0.16	32	0.16	39	0.18		N.	138	0.69	208	1.02	223	1.09
	E.	13	0.58	17	0.75	10	0.43		E.	27	1.22	29	1.28	39	1.66
	A.	6	0.59	1	0.09	5	0.45		A.	15	1.46	20	1.89	20	1.83
Meningitis ...	W.	23	0.09	6	0.02	16	0.06	Violent Deaths	W.	181	0.69	198	0.73	262	0.91
	N.	32	0.16	36	0.18	19	0.09		N.	434	2.20	373	1.83	518	2.34
	E.	3	0.14	3	0.13	1	0.04		E.	25	1.13	32	1.41	35	1.60
	A.	—	—	—	—	4	0.36		A.	4	0.39	5	0.47	12	1.10
Cerebral Haemorrhage and Softening	W.	52	0.019	23	0.08	19	0.07								
	N.	12	0.06	7	0.34	8	0.04								
	E.	12	0.54	4	0.18	6	0.26								
	A.	4	0.39	2	0.19	1	0.09								

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

(1) That during 1938-39 the chief factors of mortality were:—

(a) For Whites.—Heart diseases (647), cancer (304), violent deaths (262), pneumonia (225), premature birth and early infancy (152), nephritis (95),

diarrhoea and enteritis (80), tuberculosis of lungs (52), silicosis (47), other respiratory diseases (42), influenza (35), chronic bronchitis (34), cerebral haemorrhage (19), whooping cough (18), meningitis (16), enteric (14), other forms of tuberculosis (14), diphtheria (13), measles (12), and acute bronchitis (10).

(b) *For Natives*.—Pneumonia (730), violent deaths (518), diarrhoea and enteritis (433), tuberculosis of lungs (226), premature birth and early infancy (223), heart diseases (209), acute bronchitis (93), other forms of tuberculosis (85), nephritis (55), chronic bronchitis (41), cancer (39), enteric (34), influenza (28), other respiratory diseases (22), cerebro-spinal meningitis (19), whooping cough (16), measles (10), cerebral haemorrhage (8), and silicosis (4).

(c) *For Eurafrians*.—Pneumonia (110), heart diseases (55), diarrhoea (50), premature birth and early infancy (39), tuberculosis of lungs (38), violent deaths (35), other forms of tuberculosis (14), acute bronchitis (12), nephritis (12), cancer (10), other respiratory diseases (6), and cerebral haemorrhage (6).

(d) *For Asiatics*.—Pneumonia (54), diarrhoea (24), heart diseases (20), premature birth and early infancy (20), tuberculosis of lungs (15), acute bronchitis (14), violent deaths (12), nephritis (7), cancer (5), cerebro-spinal meningitis (4), and other respiratory diseases (4).

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

(a) *As regards Whites*, the principal *increases* are in respect of violent deaths, 262 as compared with 198 in 1937-38 and 181 in 1936-37; heart diseases, 647 as compared with 586 in 1937-38 and 528 in 1936-37; cancer, 304 as compared with 273 in 1937-38 and 262 in 1936-37; and tuberculosis of lungs, 226 as compared with 193 in 1937-38 and 209 in 1936-37. The principal *decreases* are in respect of pneumonia, 225 as compared with 317 in 1937-38 and 350 in 1936-37; diarrhoea and enteritis, 80 as compared with 138 in 1937-38 and 114 in 1936-37; nephritis, 95 as compared with 131 in 1937-38 and 95 in 1936-37; other respiratory diseases, 42 as compared with 62 in 1937-38 and 32 in 1936-37; influenza, 35 as compared with 53 in 1937-38 and 46 in 1936-37; chronic bronchitis, 34 as compared with 49 in 1937-38 and 27 in 1936-37; and premature birth and early infancy, 152 as compared with 167 in 1937-38 and 171 in 1936-37.

(b) *As regards Natives*, the principal *increases* are violent deaths, 518 as compared with 373 in 1937-38 and 434 in 1936-37; tuberculosis of lungs, 226 as compared with 193 in 1937-38 and 209 in 1936-37; acute bronchitis, 93 as compared with 64 in 1937-38 and 100 in 1936-37; chronic bronchitis, 41 as compared with 18 in 1937-38 and 11 in 1936-37; nephritis, 55 as compared with 36 in 1937-38 and 33 in 1936-37; premature birth and early infancy, 223 as compared with 208 in 1937-38 and 138 in 1936-37. The principal *decreases* are pneumonia, 730 as compared with 970 in 1937-38 and 921 in 1936-37; heart diseases, 209 as compared with 291 in 1937-38 and 222 in 1936-37; diarrhoea and enteritis, 433 as compared with 461 in 1937-38 and 474 in 1936-37; influenza, 28 as compared with 52 in 1937-38 and 36 in 1936-37; and cerebro-spinal meningitis, 19 as compared with 36 in 1937-38 and 32 in 1936-37.

(c) *As regards Eurafrians*, the principal *decreases* are pneumonia, 110 as compared with 128 in 1937-38 and 124 in 1936-37; and diarrhoea and enteritis, 50 as compared with 67 in 1937-38 and 68 in 1936-37. The principal *increase* is premature birth and early infancy, 39 as compared with 29 in 1937-38 and 27 in 1936-37.

(d) *As regards Asiatics*, the principal *decreases* are in respect of heart diseases, 20 as compared with 36 in 1937-38 and 21 in 1936-37; and pneumonia, 54 as compared with 65 in 1937-38 and 61 in 1936-37.

In my annual report for 1937-38 the likelihood of a future diminution in the case mortality for pneumonia was suggested on account of the more general employment of drugs of the sulphonamide group. This prognostication would appear to be borne out to a considerable extent by the decrease in deaths from pneumonia in all races, the decreases being in the case of Europeans from 317 to 225, in the case of natives from 970 to 730, in the case of Eurafrians from 128 to 110, and in the case of Asiatics from 65 to 54; violent deaths for all races show a deplorably considerable increase to the extent of 219 additional deaths and they amount now to approximately 12.5 per cent. of all deaths. Unfortunately, public health measures do not give relief from this factor of death causation.

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 49.83, Eurafrians 223.48 and Asiatics 135.10.

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

1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
78.62	79.08	76.61	80.04	82.43	69.21	74.13	64.63	57.47	49.83

In the last annual report a substantial decrease in future years in the Infantile Mortality Rate was confidently predicted, but the actual fall in the rate has even exceeded one's expectations. The present rate, just under 50 per thousand births, is again the lowest recorded in the history of the City and is an improvement of 7.64 deaths per thousand births on the figure for the previous year. It represents an appreciable saving of child life achieved jointly by the Council through its extensive provision of child welfare clinics and by the untiring efforts of all members of the Council's Child Welfare Staff, under the capable leadership of the Senior Health Visitor. It is distinctly a matter for commendation and congratulation.

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.
1929-30	1.07	1.73 (1929)	2.77	2.43	3.85	4.16
1930-31	1.42	1.84 (1930)	1.01	2.38	2.44	4.22
1931-32	1.05	1.59 (1931)	1.89	2.36	2.94	3.95
1932-33	1.55	1.55 (1932)	0.22	2.49	1.77	4.04
1933-34	3.65	1.75 (1933)	4.33	2.57	7.99	4.32
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
1936-37	1.05	1.34 (1936)	3.00	2.31	4.05	3.65
1937-38	1.06	0.94 (1937)	1.36	2.19	2.43	3.13
1938-39	2.05	0.86 (1938)	1.75	2.11	3.80	2.97

This rate is somewhat higher than the previous year particularly in respect of the mortality from puerperal sepsis, but can still be regarded as a satisfactory maternal mortality rate. In the absence in the City of a sufficiency of maternity hospital beds a really low rate can scarcely be expected, and it is trusted that in the near future the Provincial authorities will remedy, by additions to the existing accommodation, the present insufficiency of lying-in beds.

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 Attendances at		Cases Referred to Pediatric Officer	Attendances at Ante-Natal Clinic.	Assisted at Clinics
	First Visits	Re-visits	Maternity Hospital	Ante-Natal Nurse			Welfare Clinics	Health Visitors' Office			
1937-38 ...	5,989	14,701	466	383	308	71	56,173	75	1,126	3,339	11,842
1938-39 ...	6,292	15,259	315	336	215	91	60,431	102	864	3,670	14,789

2.—BIRTHS INVESTIGATED.

Year	Legitimate : 5,879	Illegitimate : 34	Full Time : 5,757	Premature : 156	Stillborn : 131
1937-38 ...	...	...	...	...	...
1938-39 ...	6,240	82	6,107	215	138

Year	Attended by				Condition of Mother				Condition of Infant				Condition of Home			
	Doctor	Midwife Trained	Midwife Untrained	Friends	Good	Fair	Poor	Sick	Good	Fair	Sick	Dead	Good	Fair	Bad	Dirty
1937-38 ...	2,586	4,713	963	28	5,458	267	93	23	5,666	77	16	165	5,082	690	201	41
1938-39 ...	2,722	5,104	1,141	22	5,934	238	60	18	6,010	85	8	174	5,688	510	45	59

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	
1937-38 ...	4,803	251	139	414	133	245	5	499	10	587
1938-39 ...	5,191	286	104	476	95	667	3	623	2	601

MATERNAL AND CHILD WELFARE MEASURES.

4.—EURAFRICANS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature	Attended by			
						Trained Midwife	Untrained Midwife	Friends	No One
892	2,167	680	218	855	43	272	576	12	18

5.—ASIATICS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature	Attended by			
						Trained Midwife	Untrained Midwife	Friends	No One
666	2,790	655	17	653	19	292	364	11	1

STAFF AND CLINICS.

In addition to the Staff employed in connection with Health and Medical Services in the Native Townships, the Council now employs one Senior Health Visitor, nine Health Visitors for Europeans, one Health Visitor for coloureds, and one Health Visitor for Asiatics, 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 £5,000 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., 3,670 in 1938-39 as against 3,339 in 1937-38. 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. K. de Water, and also of the services of your Pediatric Officers, Dr. B. G. v. B. Melle and Dr. A. E. Strawbaun at your Infant Welfare Clinics.

The nett position to-day is that in addition to the Clinics conducted at the Council's Native Townships the Council provides weekly:—

1. Eight Infant Welfare Clinics for Europeans.
2. Two Infant Welfare Clinics for Coloured Persons.
3. One Infant Welfare Clinic for Asiatics.
4. 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, who have pulled their weight admirably.

Pre-School Children.—Six Nursery Schools were conducted by Miss E. Brosius, the Senior Supervisor, and her assistants in Vrededorp, Jeppes, Ophirton, Newlands, Fordsburg and La Rochelle. The school previously established at Turfontein was transferred to La Rochelle on 1st November, 1938. These schools were well attended and an interesting development is the holding of instructional classes for the mothers of the pre-school children attending the nursery schools. 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. F. F. du Toit). The Psychiatrist also gives a course of instruction in Psychology and Psychiatry to the Supervisors and Assistant Supervisors of these schools. The children attending these schools, 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.

Dental care of pre-school children is a particular object. All pre-school children attending the Nursery Schools are taken by the Supervisor to the Dental Section of the School Clinic. The sight of these toddlers going gaily in our motor-van with the Supervisor to the School Clinic, and at the Clinic opening their small mouths to the sympathetic dental officers without the smallest qualm is a spectacle which requires to be seen to be realised and is a tribute to their faith in their Supervisors and the kindness of the dental officers.

Since 1st July, 1936, the Provincial Education Department has subsidised the Council's Nursery Schools to the extent of £3 per pupil per annum with a limit of subsidy of 50 per cent. of the wages of the teaching (supervising) staff. It is only proper that the Provincial Education Department should so subsidise, especially as Principals of schools whereat new scholars are received at school age are fairly unanimous in their opinion that it is quite easy amongst entrants to recognise the Nursery Schools entrants from their physical conditions and mental outlook. The subsidy amounts approximately to £700 per annum.

Ante-Natal Nurses.—The Council employs five Ante-Natal Nurses, stationed at 158 End Street, Doornfontein. 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 399 confinements, paid 4,511 post-confinement visits, and made 2,330 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.

SUPERVISION OF PRACTISING MIDWIVES AND NURSING HOMES.

A full-time Inspectress of Midwives and Nursing Homes is employed.

(a) *Administration of Regulations regarding Persons Practising Midwifery:*

The number of midwives listed in accordance with the above-quoted regulations is as follows:—

	1st July, 1938.	Removed from list during year.	Listed during year.	30th June, 1939.
European, certificated ...	269	53	81	297
European, uncertificated ...	52	12	—	40
Non-European, certificated ...	22	4	9	27
Non-European, uncertificated ...	34	6	—	28
	—	—	—	—
	377	75	90	392
	—	—	—	—

The registers of all listed midwives and the midwifery bags of all uncertificated midwives were examined each quarter, and the midwifery bags of certificated listed midwives were examined in October, 1938, and April, 1939. At the time of these inspections every effort was made to ensure that practising midwives knew and understood the regulations regarding persons practising midwifery.

All notified cases of Puerperal Sepsis (139) were investigated and disinfection of midwives and their appliances was carried out in all such cases. Throat swabs were taken of all nurses, etc., in contact with Puerperal Sepsis cases, and where

the result of such swabs indicated the presence of Haemolytic Streptococci, the necessary action was taken to prevent any spread of infection until negative swabs had been obtained.

During the year three successful and one unsuccessful prosecutions were instituted against midwives for contravention of the Regulations Regarding Persons Practising Midwifery, the Local Government Ordinance (Transvaal), No. 11 of 1926, and the Public Health Act, No. 36 of 1919, as amended.

(b) *Nursing Homes.*

At the commencement of the period under review there were thirty-two private hospitals and nursing homes, and at the 30th June, 1939, there were thirty-two, one having closed down, one—the Princess Alice Hospital—having been taken over by the Johannesburg Hospital Board, and two new institutions having opened up.

All plans submitted for alterations and additions to nursing homes were carefully examined, and frequent consultations took place with owners, architects and builders, with satisfactory results. During the year under review there has been a decided general improvement in the management of nursing homes in the City and it is pleasing to record that in the majority of the institutions better facilities for sterilisation of infected articles have been provided.

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 and periodicals; 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.
- (e) In collaboration with the Native Affairs Department the Department arranged a health exhibit for the Bantu people during the last week (Bantu Health Week) in October, 1938. This exhibit, which consisted principally of Child Welfare and Nutritional subjects, aroused a good deal of interest and was very well attended by Bantu of both sexes and by many children.

The Department's Bi-Annual Health Exhibit was staged as usual during the Easter Show Week of the Witwatersrand Agricultural Society. On this occasion the various sections of the exhibit included Child Welfare methods, an Ante-Natal Clinic, a Dairy section, a Nutritional exhibit, a Meat and Other Foods section, and a section depicting the dangers of the Common House Fly. The exhibit attracted considerable crowds and was very well demonstrated by members of the Inspectorate and Maternal and Child Welfare staffs, who ungrudgingly gave up a good deal of their time to demonstrating, both in the evenings and on the Easter Public Holidays.

PNEUMONIA.

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

	Whites	Natives	Eurafricans	Asiatics	England and Wales
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)
1936-37	1.33	4.67	5.62	5.94	0.69 (1936)
1937-38	1.17	4.76	5.64	6.13	0.72 (1937)
1938-39	0.79	3.30	4.70	4.93	0.63 (1938)

The fall in this Rate has been commented on elsewhere.

MINERS' PHTHISIS, ROCK DRILL PNEUMONIA OR SILICOSIS.

Fifty-five deaths (47 Whites, 4 Natives, 3 Eurafricans and 1 Asiatic) were registered during 1938-39, as compared with 65 (55 Whites, 8 Natives and 2 Eurafricans), and 86 (30 Whites, 4 Natives and 2 Eurafricans) in 1937-38 and 1936-37 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, 1938, to 30th June, 1939, were 647 for Whites, as compared with 586 and 528 for the two previous years. This figure represents a rate of 2.27 per 1,000 as against 3.791 for England and Wales in 1938. For Natives the rate was 0.95; for Eurafricans, 2.35; and for Asiatics, 1.83.

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
1929-30	0.65	3.33	2.72	2.53	0.18 (1929)
1930-31	0.78	4.10	3.10	3.87	0.14 (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	0.14 (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)
1936-37	0.43	2.40	3.08	1.94	0.12 (1936)
1937-38	0.51	2.26	2.95	2.45	0.12 (1937)
1938-39	0.28	1.96	2.14	2.19	0.12 (1938)

The fall in this Rate is remarkable, is reflected in the fall in the Infantile Mortality Rate, and is commented on elsewhere.

MALIGNANT DISEASE OR CANCER.

During 1938-39, the deaths from cancer numbered 355 Whites (including 51 non-residents), 51 Natives (including 12 non-residents), 12 Eurafricans (including 2 non-residents), and 5 Asiatics, as compared with 320 Whites (including 47 non-residents), 49 Natives (including 17 non-residents), 19 Eurafricans (including 2 non-residents) and 1 Asiatic in 1937-38 and 296 Whites (including 34 non-residents), 52 Natives (including 21 non-residents), 13 Eurafricans and 6 Asiatics in 1936-37.

Of the 355 Whites, 204 were males and 151 females, and 332 were over the age of 35 years. The rate (excluding non-residents) was 1.07 for 1938-39, 1.00 for 1937-38, and 0.99 for 1936-37 as compared with 1.665 per 1,000 for England and Wales in 1938.

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

	Whites			Natives			Eurafricans			Asiatics		
	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39
Stomach	85	94	93	6	5	6	3	8	3	1	1	2
Womb and Ovaries	34	41	38	8	9	6	4	4	2	—	—	—
Breast	24	23	26	2	—	2	1	2	1	1	—	1
Liver	19	21	19	19	20	17	1	3	—	1	—	—
Neck and Throat ...	11	8	9	2	1	1	—	—	—	1	—	—
Mouth and Jaw ...	3	5	8	1	2	2	—	—	1	—	—	1
Tongue	4	4	6	1	1	2	1	—	1	—	—	—
Lungs	16	20	33	3	2	2	—	1	—	—	—	1
Rectum	10	16	16	—	—	2	—	—	—	—	—	—
Prostate	11	17	22	3	2	1	1	1	1	—	—	—
Head and Face ...	11	3	7	—	2	2	1	—	—	—	—	—
Bladder	7	10	9	2	2	1	—	—	1	—	—	—
Bones	3	—	—	—	—	—	—	—	—	—	—	—
Abdomen	2	2	6	1	—	—	—	—	—	—	—	—
Colon	21	19	29	—	2	2	—	—	—	2	—	—
Peritoneum	—	—	2	—	—	1	—	—	—	—	—	—
Spleen	—	—	—	—	—	—	—	—	—	—	—	—
Legs and Feet ...	4	2	2	—	—	2	—	—	—	—	—	—
Hand and Arm ...	1	—	1	—	—	—	—	—	—	—	—	—
Penis	—	1	—	—	—	—	—	—	—	—	—	—
Testes	—	2	1	—	—	2	—	—	—	—	—	—
Chest	—	4	—	—	1	—	—	—	—	—	—	—
Heart	1	1	—	—	—	—	—	—	—	—	—	—
Kidneys	3	3	6	1	—	1	—	—	—	—	—	—
Glands	8	14	11	1	—	2	—	—	1	—	—	—
Brain	2	2	—	—	—	—	—	—	—	—	—	—
Spine	3	1	—	—	—	—	—	—	—	—	—	—
Unspecified	13	7	11	2	—	1	1	—	1	—	—	—
Total	296	320	355	52	49	51	13	19	12	6	1	5

Whilst the incidence of Malignant Disease shows a slight 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:—

	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.
Whites	0.05	0.02	0.003	0.08	0.04
Natives	0.02	0.03	0.05	0.03	0.04
Eurafricans	0.06	0.14	—	0.18	—
Asiatics	0.09	0.20	0.09	0.28	0.09

MEDICAL SERVICES: NATIVE TOWNSHIPS.

I. HISTORY OF THE SERVICES.

Although the Council is responsible for the health of all sections of the community, curative services generally are considered to be a function of the Provincial Administration working through the medium of hospital boards. The native population forms the single exception to this generalisation in that the Council is empowered under the Natives (Urban Areas) Act to undertake the provision of certain curative medical services for natives resident in its own Native Townships.

Every effort has at all times been made to confine the curative services to residents in the Townships and on the whole this has been successful. Occasionally, however, non-resident natives receive treatment by giving a township address—a practice which is very difficult to check.

(a) *Curative Services.*

For some years dispensary medical services have been available to residents in the four Native Townships under the control of the City Council. These services were, until recently, under the control of the Manager of the Non-European and Native Affairs Department.

Pimville, being the oldest Township, was the first to receive attention. In 1927 arrangements were made with the late Dr. Croghan to hold dispensary sessions at Pimville. Later, in 1929, he became a part-time employee of the Non-European and Native Affairs Department and the services were extended to Eastern Native Township and Western Native Township. When Orlando was established, about seven years ago, a dispensary was opened for the benefit of the residents.

So far reference has been made to the "out-patients" service only, but from the commencement patients too ill to attend at the surgery were seen by the Doctor in their own homes and, if necessary, sent into hospital.

In 1933 a small hospital, the gift of the late Mrs. Corlett, was built at Orlando. Accommodation was provided for 11 patients, including children, and it is used mainly for maternity cases and sick children.

The nursing staff consisted entirely of native nurses resident in the townships. They staffed the Orlando Hospital and the dispensaries, nursed medical and surgical cases in their homes where necessary and conducted confinements in the patients' homes or at the Orlando Hospital.

From time to time the number of dispensary sessions was increased according to the needs of each township. Finally, it was realised that the employment of a full-time medical staff was necessary to cope with the work.

(b) *Preventive Services.*

Side by side with the services outlined above, the Public Health Department developed Child Welfare Clinics. These were conducted once weekly in each township by a Health Visitor employed by the Public Health Department. Special cases were referred to the Assistant Pediatric Officer. The Health Visitor supervised the Child Welfare activities of the native nurses in all four townships and also supervised their other activities to some extent.

The native midwives held Ante-Natal Clinics once weekly in each township. Their bags and registers were inspected at intervals by the Inspectress of Nursing Homes and Midwives, who also exercised general supervision to ensure that the regulations were observed.

II. TRANSFER OF SERVICES TO MEDICAL OFFICER OF HEALTH.

As the population of the townships increased, more facilities were provided, but it finally became apparent that complete re-organisation of the services with a full-time medical staff and increase of other staff was necessary.

It was also realised that facilities should be provided in each township for the treatment of Venereal Disease and Tuberculosis, and that dental services were necessary.

The whole question was carefully considered by the Heads of the two Departments concerned and it was decided to recommend to Council that the administration of the services be transferred to the Public Health Department; that three full-time Medical Officers and a full-time Dentist be engaged and that the Health Visitor and native nursing staff be increased. It was further recommended that native clerk-orderlies should be appointed and that no fees should be charged except a fee of 1s. for first visits of the Medical Officers to the homes of patients—this to prevent abuses.

These recommendations were accepted by the Council and control of the services passed to the Medical Officer of Health as from the 1st January, 1939. The part-time medical staff carried on until the three Medical Officers and the Dental Officer assumed duty on the 1st March, 1939.

As from this date dispensary sessions were held daily in each township except Eastern Native Township, where sessions were held on alternate days. Weekly clinics were established at each centre for the treatment of Venereal Disease and Tuberculosis, and pre-existing clinics were re-organised and extended. The Dental Officer treated casual patients at all four townships and instituted a schools' service by the examination of pupils at the Creche and certain schools in Orlando.

There was an immediate increase in attendances at all centres and an appreciable increase from month to month. This may be attributed partly to the increased facilities, but no doubt the fact that the services were free was an important factor.

It soon became apparent that the existing buildings were entirely inadequate for the extended services and towards the end of the period under review the staff was working under great difficulties owing to the relatively cramped quarters. It was also realised that the staff was insufficient and that two more Medical Officers, another Dental Officer and extra Health Visitors were required.

Steps are being taken to increase the staff and to provide adequate buildings. New Clinic buildings at Pimville and Orlando should be ready towards the end of the year and at Western Native Township a little later.

Records.—A careful record of each patient is kept at all clinics on cards specially designed for the purpose. A system has been introduced whereby the record cards of a patient attending more than one clinic can readily be obtained for the Medical Officer if he requires them.

Staff.—The following table indicates the increases in staff between 31/12/38 and 30/6/39:—

	Orlando.	Pimville.	E.N.T.	W.N.T.	Total.
Native Nurses, 31/12/38 ...	18	2	2	2	24
Native Nurses, 30/6/39 ...	21	4	2	4	31
Native Clerk Orderlies, 30/6/39 ...	4	1	1	1	7

During the same period three full-time Medical Officers and a full-time Dentist were engaged and the number of Health Visitors was increased from one Health Visitor to three Health visitors for all townships.

Statistics.—The following statistics indicate the extent of the services rendered to the community, numbering some 70,000 souls, with which this section of the Department's activities is intended to deal, and although they show that considerable improvement has been effected, both from the preventive and curative aspects, it should be realised that without a considerable increase in the staff employed, combined with the provision of proper hospital facilities, they must inevitably remain inadequate. It is desired to emphasise that the provision of such facilities is the duty of the Provincial Administration and that were the

Council relieved of the necessity of undertaking curative services it could carry out very much better its true function of Preventive Medicine. Under present circumstances the financial contribution towards such services which the Council advisedly can bear must be limited, with the result that just by so much as it bears the burden for the curing of disease so must its efforts in the preventive sphere be limited.

Period 1st March, 1939 to 30th June, 1939.

(a) Consultations at Clinics:

	Orlando.	Pimville.	E.N.T.	W.N.T.	Totals.
Dispensary ...	11,982	4,556	644	5,486	22,668
Venereal Disease ...	2,554	827	207	711	4,299
Tuberculosis ...	82	36	6	89	213
Child Welfare ...	1,734	615	630	2,015	4,994
Ante-Natal ...	517	350	88	177	1,132
Post-Natal ...	5	31	23	17	76
Totals ...	16,874	6,415	1,598	8,495	33,382

(b) Home Visits:

	Orlando.	Pimville.	E.N.T.	W.N.T.	Totals.
Medical Officer ...	781	342	82	641	1,846
Health Visitor ...	289	163	213	192	857
Native Nurses ...	12,401	2,275	3,806	3,170	21,652
Native Orderlies ...	351	293	—	171	815
Totals ...	13,822	3,073	4,101	4,174	25,170

(c) Dental Treatment:

	Orlando.		Pimville.		E.N.T.		W.N.T.		Totals.	
	ch.	ad.	ch.	ad.	ch.	ad.	ch.	ad.	ch.	ad.
Examinations ...	250	—	—	—	—	—	—	1	250	1
Fillings, etc. ...	104	8	—	3	—	1	1	14	105	26
Extractions ...	485	1,902	95	1,005	57	390	324	1,342	961	4,639
Totals ...	839	1,910	95	1,008	57	391	325	1,357	1,316	4,666

III. CONFINEMENTS ATTENDED BY NATIVE MIDWIVES 1/3/39 TO 30/6/39.

	Orlando.	Pimville.	E.N.T.	W.N.T.	Totals.
1939. March ...	58	—	11	—	69
April ...	28	13	14	13	68
May ...	69	16	10	15	110
June ...	61	22	5	13	101
Totals ...	216	51	40	41	348

VENEREAL DISEASES.

1. RACES AND TYPES OF VENEREAL DISEASE.

An analysis of the statistics from the "Centre" at the non-European Hospital (where Coloureds, Asiatics and Bantus are treated) will show that of the new patients presenting themselves for treatment during the course of the year only 12 (all females) out of a total of 419 were diagnosed as suffering from gonorrhœa. In the native townships the number of patients treated for gonorrhœa is comparatively negligible. This compares with 670 gonorrhœal cases and 380 syphilitic cases treated at the Centre for Europeans during the same period.

I am convinced that these figures do not reflect the true position as between Europeans and non-Europeans. The discrepancy may be partly explained by the fact that non-Europeans are less observant and more tolerant and therefore not so ready to seek treatment and partly by the fact that more of the non-European cases are treated in Rietfontein Hospital. The matter requires further investigation owing to the importance of ensuring that all cases are treated.

2. CAUSES OF SPREAD.

Two factors favouring the spread of Venereal Disease among non-Europeans are the housing conditions and the differences in moral standards. Much has been done to improve the housing conditions of all races, including non-Europeans, but a great deal still remains to be done.

3. EUROPEANS.

(a) *Attendances of Patients.*—Detailed figures for the period 1st July, 1938, to 30th June, 1939, are given in the Statistical Summary which follows this section of the report.

Two hundred and eighty-six fewer new patients were seen at the European "Special Treatment Centre" during the year under review as compared with the previous year. The total attendances, however, exceeded the previous year's figure by 894 and the number of doses administered increased by 892.

These facts point to a satisfactory position in two respects. Firstly, the average attendance per patient was somewhat greater than in the previous year, and secondly, patients suffering from syphilis have continued with injections for a longer period.

(b) *European "Special Treatment Centre."*—At this "Centre" clinics were held as follows:—

Males:

Monday, 7.30 p.m.

Wednesday, 5.0 p.m.

Friday, 1.0 p.m. (Injections).

Women and Children:

Tuesday, 4.30 p.m.

Friday, 4.30 p.m.

Intermediate Treatment.—During the year under review, arrangements were completed whereby male patients can attend daily at the "Centre" at specified hours for Intermediate Treatment. A part-time assistant has been appointed to be on duty at the "Centre" during these sessions.

This clinic is situated in the centre of the buildings of the General Hospital. While the administration is separate from that of the hospital, the nurses in attendance are members of the hospital staff and there is close co-operation between the two institutions. Patients may conveniently be referred from hospital out-patients to the "Centre" and vice versa. As the result of a financial arrangement arrived at some years ago between the General Hospital and the City Council, this "Centre" enjoys also, in addition to the above, "Nursing Services," Dispensing and Clerking services.

(c) *Clinical Assistant.*—The services of a clinical assistant have been available at the "Centres" throughout the period under review. This has contributed materially towards efficiency and has also relieved the Director of a certain amount of routine work and thus enabled him to concentrate on the organization of the general scheme of "Venereal Diseases Services" for central areas and also for the various native townships.

(d) *Instructions on Venereal Disease at the "Centre."*—As in the past, courses of instruction have been given at the "Centres" to the following groups:—

1. Fifth and sixth year Medical and Dental Students of the University of the Witwatersrand.
2. Members attending the Diploma 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.

4. NON-EUROPEANS.

Until recently "Out-Patient" treatment of non-Europeans was confined to the "Special Treatment Centre" at the non-European Hospital except for the treatment provided at the Princess Alice and Nokuphila Hospitals. These latter institutions are also supplied with free drugs by the Union Government Health Department on the recommendation of the Medical Officer of Health, and the clinics which do not form an integral part of the Council's scheme are subject to supervision by the Medical Officer of Health through the Director of the "Special Treatment Centres."

These services were recently implemented by the establishment in March, 1939, of clinics in the four native townships under the control of the City Council in connection with the medical services for native residents referred to elsewhere in this report. Further reference is made to these clinics in (b) hereof.

(a) *Special Treatment Centre, Non-European Hospital—Attendances of Patients.*—The work at the "Special Treatment Centre" in the Non-European Hospital has, during this year, increased materially. This is seen in:—

1. The number of New Patients—419 as against 248.
2. Total Attendances—4,090 as against 2,390.
3. Number of Doses Administered—3,674 as against 1,907.

Expansion.—Originally, this "Centre" was intended to cope with the few female cases referred to it from the various hospital departments. These cases, in the past, were referred, as a routine measure, to the Rietfontein Hospital for in-patient treatment. Originally, only one clinic was held weekly for this purpose. As time went on, the work at this "Centre" increased, partly because a great many more women hailing from different areas presented themselves for diagnosis and treatment, and also because the clinic became popular with male non-European patients. To meet the new position three clinics weekly were established. Arrangements are now being completed to raise the number to four clinics, and also to provide more suitable accommodation and equipment to deal with this increased work.

Treatment is provided at this clinic for all non-Europeans (including Coloureds, Asiatics and Bantus). With regard to the relationship with the Non-European Hospital, the same remarks apply as to the European "Special Treatment Centre."

(b) *Clinics in the Council's Native Townships—Attendances of Patients.*—The figures given in the following summary of attendances will indicate that the policy of establishing these clinics in March, 1939, was fully justified. There was an immediate response on the part of the natives, and attendances have increased from month to month. The expansion has not been at the expense of attendance at the Non-European Hospital "Centre" since the figures for that

centre have increased as compared with last year. In other words the attendances at the township clinics are a nett gain in the treatment of Venereal Diseases in Johannesburg.

SUMMARY OF ATTENDANCES: NATIVE TOWNSHIP CLINICS.

1939.	Orlando.	Pimville.	Eastern.	Western.	Totals.
March ...	262	22	32	40	356
April ...	477	66	28	15	586
May ...	621	287	35	179	1,122
June ...	1,194	452	112	477	2,235
Totals	2,554	827	207	711	4,299

Number and Site of Clinics.—Clinics are held twice each week in Orlando, Pimville and Western Native Township, and weekly in Eastern Native Township. Treatment is confined to the Bantu races.

The clinics form an integral part of the medical services in the townships. Patients attending Dispensary or other clinics who are proved or suspected to be suffering from Venereal Disease are referred to the Special Clinics for further investigation and treatment. This refers particularly to the Ante-Natal Clinics, where the question of Venereal Disease is closely investigated in all patients.

Tracing of Contacts and Follow-up of Patients.—In the native townships it is the duty of the native nurses and clerk-orderlies, under supervision, to trace contacts and to follow-up patients with a contagious infection who have defaulted before receiving sufficient treatment. On the whole the response is good.

(c) *Clinics at Princess Alice and Nokuphila Hospitals.*—Figures for attendances are not available for the period under review, but it is known that treatment at these centres is a valuable addition to the efforts of this Department. Arrangements have now been made for records to be kept of attendances, etc., at these Clinics.

5. RIETFontein HOSPITAL.

In-patient treatment for all races is provided at Rietfontein Hospital at the expense of the City Council. Only contagious cases or cases with complications requiring hospital treatment are admitted. During the year under review 138 Europeans (73 Syphilis, 60 Gonorrhœa and 5 Gonorrhœal Ophthalmia), and 2,763 Natives and Coloureds (2,201 Syphilis, 541 Gonorrhœa, and 21 Gonorrhœal Ophthalmia) were admitted to Rietfontein Hospital from the Johannesburg Municipal Area.

Patients for admission are not necessarily sent in through the Venereal Disease Clinics, but may be sent in direct by such institutions as the Non-European Hospital, Princess Alice Hospital, the Pass Office, etc.

6. STAFF.

Before the establishment of the Clinics in the Council's native townships the position as regards staff was as follows:—

- (a) A "Director of the Special Treatment Centre" who was also in general charge of all the above measures and who obtained from time to time without additional cost to the Council such medical assistance as he required and as was approved by the Medical Officer of Health.
- (b) Nursing staff and male orderlies for the "Special Treatment Centre."
- (c) The Resident Medical Officer of the Fever Hospital who assisted the Director in the services as and when his duties at the Fever Hospital permitted.

With the establishment of the Clinics in the Council's native townships, three full-time Medical Officers were appointed. Included in their duties is the

executive work in connection with Clinics. In this they are assisted by three full-time European Health Visitors, who devote part of their time to the Venereal Disease Services.

NATIVE STAFF (PART-TIME ON VENEREAL DISEASE WORK).

	Orlando.	Pimville.	Eastern.	Western.
Native Nurses ...	3	2	1	1
Native Clerk-Orderlies ...	4	2	1	2

As the result of the establishment of the Venereal Diseases Clinics in the Council's native townships and the expansion of the work at the "centres" for Europeans and non-Europeans at the General Hospital, it became essential to reorganise the Venereal Diseases Services, and the City Council, in April, 1939, agreed to the proposals and recommendations of your Medical Officer of Health which are as detailed hereunder, and will be put into effect as early as possible during the present year (1939-40):—

(i.) The present Director of "Special Treatment Centres" to be appointed as Director of the Venereal Diseases Services conducted by the Council.

(ii.) A Specialist Venereologist to be appointed as Assistant to the Director.

(iii.) A Clinical Assistant (a lady Doctor) to be appointed in an honorary capacity.

(iv.) An additional part-time Orderly, possessing special knowledge and training in Venereal Diseases, to be appointed for duty at the "centre" at the Non-European Hospital.

(v.) "Intermediate Treatment" for females, under the supervision of a specially trained nurse, to be inaugurated at the European "centre" at the General Hospital; negotiations in this connection are now proceeding with the General Hospital authorities.

Your Medical Officer of Health considers it essential, in concluding this item in connection with the Council's Venereal Diseases Services, to acknowledge the valued co-operation during the year of Dr. Henry Gluckman, Director of the Council's "Special Treatment Centres," particularly in connection with the establishment of the new Clinics in the Council's native townships and the expansion of the "Venereal Diseases Services."

STATISTICAL REPORT OF DIRECTOR OF "SPECIAL TREATMENT
CENTRES" FOR PERIOD 1st JULY, 1938, TO 30th JUNE, 1939.

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
1,073	15,870	876	399	1,350	7,379

2.—ATTENDANCES AND DISEASES.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhoea		Syphilis		Soft Chancre		Not V.D.		Gonorrhoea		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
561	109	239	141	9	—	8	6	4,957	881	5,443	3,495	9	—	9	3

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

Clinic						Institute										Total Number of Specimens Examined
Gonococci		Spirochaetes		Others		Gonococci		Spirochaetes		Wasserman Test						
+	-	+	-	+	-	+	-	+	-	+++	++	+	-	?		
163	155	—	—	33	48	65	92	—	—	321	17	17	364	—	1,275	

Venereal Clinic at Non-European Hospital (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
419	4,090	113	—	912	3,674

2.—ATTENDANCES AND DISEASES.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhoea		Syphilis		Soft Chancre		Not V.D.		Gonorrhoea		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
—	12	65	342	—	—	—	—	—	20	406	3,245	—	—	—	—

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

Clinic.				Institute											Total Number of Specimens Examined.
Gonococci		Others		Gonococci		Spirochaetes		Wasserman Test					Others		
+	-	+	-	+	-	+	-	+++	++	+	-	?	+	-	
-	-	-	-	-	-	-	-	43	37	26	3	4	-	-	113

OPHTHALMIA NEONATORUM AND GONORRHOEAL OPHTHALMIA.

CASES NOTIFIED.

	1936-37.	1937-38.	1938-39
Ophthalmia Neonatorum—			
Whites	93	86	124
Natives	40	22	44
Eurafricans	10	40	50
Asiatics	2	6	3
	145	154	221
Gonorrhoeal Ophthalmia—			
Whites	4	1	3
Natives	1	3	7
Eurafricans	1	—	4
Asiatics	—	—	—
	6	4	14
All Cases—			
Whites	97	87	127
Natives	41	25	51
Eurafricans	11	40	54
Asiatics	2	6	3
	151	158	235

The considerable increase in cases of ophthalmia is believed to be due to the notification of practically all cases on account of the control over maternity homes exercised by the Inspectress of Midwives and Nursing Homes.

NOTIFIABLE INFECTIOUS DISEASES.

During the year under notice, 2,855 cases were notified, viz., 1,501 amongst Whites, 1,176 amongst Natives, 143 amongst Euraficans, and 35 amongst Asiatics. Of these cases 472 were imported (13 White, 417 Native, 9 Eurafican and 2 Asiatic).

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.

1,283 Houses and 29,427 articles (including 2,438 mattresses) of clothing, bedding, etc., were disinfected.

SMALLPOX.

Five cases of Smallpox (one imported) were reported during the year:—

(a) July, 1938. On the night of 1st July, 1938, a suspect case of smallpox was notified to the Department; the diagnosis was confirmed the following day and the patient—a European male adult who resided in Kenilworth—was removed to Rietfontein Hospital. All contacts who were traced were vaccinated. Some of the contacts were placed in quarantine in their homes and the others were kept under medical surveillance. A public vaccination station for Europeans and non-Europeans was opened at Rosettenville Government School; the total number of persons vaccinated was 207 (166 Europeans and 41 non-Europeans).

(b) August, 1938. On 17th August, 1938, two cases of smallpox were notified to the Department. Both patients who resided at Pimville Location were native female adults. The patients and close contacts were removed to Rietfontein Hospital; all other direct contacts were vaccinated and placed under medical surveillance. A public vaccination station was opened in the Location and two mobile squads were put into service. The total number of persons vaccinated was 2,304 (37 Europeans and 2,267 non-Europeans). No further case occurred.

(c) October, 1938. On 2nd October, 1938, a European male adult case of smallpox was notified to the Department. The patient had been admitted to the General Hospital on 25th September, 1938; he was a final year medical student who had visited Rietfontein Hospital during the previous fortnight and had examined and handled smallpox patients. He had been successfully vaccinated as a child and re-vaccinated more than once during the twelve months prior to taking ill, but unsuccessfully.

The smallpox patient and a patient in one of the adjoining beds were removed to Rietfontein Hospital for isolation. The patient in the other adjacent bed was considered to be too ill to be removed to Rietfontein, and was isolated at the General Hospital. The medical and nursing staffs and visitors to the ward were vaccinated, also the relatives and friends with whom the patient had been in contact immediately prior to his admission to hospital. No further case occurred.

(d) February, 1939. On the night of 3rd February, 1939, a suspect case of smallpox was notified to the Department; the patient was removed to Rietfontein Hospital and diagnosis was confirmed on 4th February, 1939, as "convalescent smallpox in about the fourth week." The patient—a native female adult—arrived from Evaton, Transvaal, on Sunday, 22nd January, 1939, and was concealed in a servant's room at a private dwelling in Kensington. All contacts were vaccinated. The direct contacts were placed in quarantine in the house and all other contacts were kept under medical surveillance. No further case occurred.

The total expenditure incurred in connection with the cases referred to above was £184 16s.

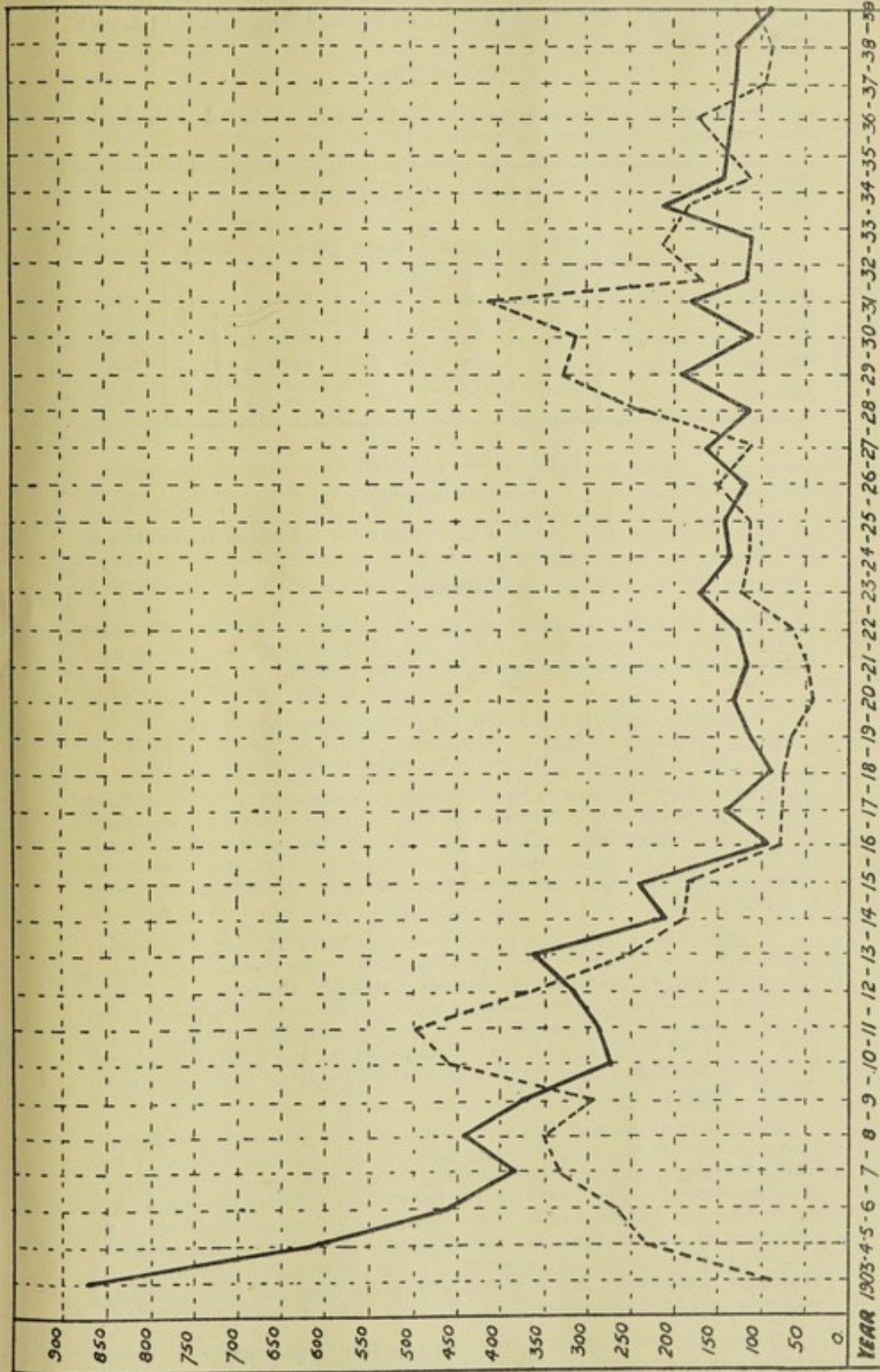
ENTERICA.

In the following table 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.

	1936-37				1937-38				1938-39			
	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate
Whites	128	15	11·72	0·057	124	20	16·13	0·07	83	14	16·87	0·05
Natives	98	40	40·82	0·20	91	43	47·25	0·21	101	34	33·66	0·15
Eurafricans ...	13	4	30·77	0·22	12	4	33·33	0·18	12	2	16·66	0·09
Asiatics	13	3	23·07	0·29	6	1	16·66	0·09	3	3	10·00	0·27
England and Wales ...				0·006 (1936)				0·005 (1937)				0·004 (1938)

The number of European cases is the lowest on record.

YEARLY INCIDENCE OF ENTERIC FEVER IN THE 36 YEARS, 1903-4 TO 1938-39.



Whites—Continuous Line.

Natives—Dotted Line.

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

ERYSIPELAS.

Sixty-one White, 17 Native, 5 Eurafrican and 2 Asiatic cases of Erysipelas were notified in 1938-39, as compared with 85 White, 25 Native, 5 Eurafrican and 1 Asiatic cases in 1937-38 and 94 White, 33 Native, 4 Eurafrican and 1 Asiatic cases in 1936-37.

MENINGITIS.

The following table shows the registered number of deaths, with death-rates from meningitis during the triennium 1936-39:—

			1936-37		1937-38		1938-39	
			Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
Whites	...	...	23	0.08	6	0.02	16	0.06
Natives	...	...	32	0.16	36	0.18	19	0.09
Eurafricans	...	...	3	0.13	3	0.13	1	0.09
Asiatics	...	...	—	—	—	—	4	0.36

INFANTILE PARALYSIS.

(Acute Poliomyelitis.)

One White case was reported in 1938-39 as compared with 3 White cases in 1937-38.

LEPROSY.

Sixty-four Native and 1 European cases were notified in 1938-39. All except 5 Native cases were infected before arrival in the Municipal area, and all were transferred to the Government Leper Institute in Pretoria.

PLAGUE PREVENTION AND ANTI-RODENT ACTIVITIES.

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 20 distinct areas, totalling many thousand acres. 317 lbs cyanogas, 32 lbs. wheat, and 11 ozs. strychnine have been used in this work. In addition, other large areas have been surveyed. 3,040 Veld rodents were found dead.

Owing to rodent infestation of the Council's Native Townships of Orlando and Pimville, one rat-catcher and two rat-catching youths are employed to deal with the former and one rat-catcher and two youths with the latter. In Orlando Township, 5,923 visits to houses were made, 2,717 houses treated, 391 lbs. cyanogas used, and 6,392 rodents found. In Pimville, 4,450 visits to houses were made, 2,096 houses treated, 278 lbs. cyanogas used, and 2,928 rodents found. In addition, anti-rodent measures have been carried out in the surrounding areas, including Kliptown and Nancefield.

In addition to the staff employed in the veld and at Orlando and Pimville Townships the following staff is engaged in anti-rodent activities in the city: Two Health Inspectors, who are suitably qualified for the work, are employed—mainly in the commercial and industrial areas of the city—in enforcing the provisions of the Government Rodent-proofing Regulations; five ratcatchers work under the supervision of the five Divisional Health Inspectors working in the residential suburbs; two anti-rodent gangs operate in the Eastern and Western Native Townships respectively; and a mobile anti-rodent gang has been established for general duty throughout the city.

During the period under review the two Inspectors engaged on rodent-proofing activities made 676 visits and served 105 notices. The premises visited included bioscopes, theatres, grain stores, furniture stores, cafés, restaurants, hotels, general dealers, etc., and, in addition to the visits specified, numerous

interviews with owners, architects and builders took place. Sixty-seven certificates were issued in terms of Clause 3 (b) of the Regulations regarding the Prevention of Rodent Infestation of Buildings and Premises in Urban Areas.

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

During the year, 6,418 houses were inspected, 2,232 houses were treated, 350 lbs. of cyanogas were used and 3,210 rodents found in Eastern Native Township; 6,351 houses were inspected, 4,159 houses were treated, 297 lbs. of cyanogas were used and 2,221 rodents found in Western Native Township where repairs were effected by the responsible Department to 175 dwellings to prevent the ingress of rodents.

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

All rodents found dead where gassing operations have not recently been carried out and a proportion of trapped rats and "gassed" rats are sent to the South African Institute for Medical Research for bacterial examination. During the year 1938-39, of the 30,523 rodents killed and trapped, 3,295 or 10.8 per cent. were so examined; none was plague infected.

SCARLET FEVER.

In 1938-39 there were 727 White, 1 Native and 1 Asiatic cases of this disease. There were 2 deaths among the European population, the death-rate being 0.447. In the two previous years the cases notified were 487 Whites, 2 Eurafricans and 4 Asiatics in 1937-38, and 512 Whites, 2 Natives, and 1 Eurafrican in 1936-37, the mortality rate for Whites being nil and 0.008 per 1,000 respectively. The rate per 1,000 in England and Wales for 1938 was 0.009.

TYPHUS.

No typhus was reported in 1938-39, as against 1 imported Native case in 1937-38 and 1 Native case in 1936-37.

DIPHTHERITIC DISEASE, INCLUDING MEMBRANOUS CROUP.

The occurrence of diphtheritic disease in 1938-39 numbered 301 (275 Whites, 14 Natives, 6 Eurafricans and 1 Asiatic), in 1937-38 218 (203 Whites, 10 Natives, 2 Eurafricans, and 3 Asiatics), and in 1936-37 221 (207 Whites, 6 Natives, 6 Eurafricans and 2 Asiatics). The case mortality for Whites being 4.72, 6.28 and 3.45 per cent. for the respective years in order mentioned above, and the death-rate per 1,000 was 0.05 in 1938-39, 0.03 in 1937-38, and 0.05 in 1936-37, as compared with 0.071 for England and Wales in 1938. This death-rate for 1938-39 is unusually low.

PUERPERAL SEPTICÆMIA, ETC.

In 1938-39 115 local cases (70 Whites, 34 Natives, 5 Eurafricans and 6 Asiatics) were reported, as compared with 84 (51 Whites, 15 Natives, 10 Eurafricans and 8 Asiatics) in 1937-38 and 103 cases (52 Whites, 41 Natives, 9 Eurafricans and 1 Asiatic) in 1936-37. The death-rate for 1938-39 was 1.90 per 1,000 births for Whites, as against 0.86 in England and Wales in 1938.

ANTHRAX.

No case of this disease was notified in 1938-39.

INFLUENZA.

The number of registered deaths from influenza during the year was 35 Whites, 28 Natives, 3 Eurafricans and 2 Asiatics.

ENCEPHALITIS LETHARGICA.

One Eurafrican case was notified in 1938-39, as against 1 White and 1 imported Native case in 1937-38 and 2 White and 2 Native cases in 1936-37. 2 White and 1 Native deaths were registered.

TUBERCULOSIS.

Appended is a statistical summary of the mortality from tuberculosis in Johannesburg for the years 1936-37, 1937-38, and 1938-39:—

DEATH-RATE PER 1,000.

	Pulmonary Phthisis			Other Forms of Tuberculosis		
	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39
Johannesburg—						
Whites	0.164	0.15	0.18	0.053	0.05	0.05
Natives	1.05	0.95	1.02	0.21	0.43	0.38
Eurafricans	2.40	1.76	1.62	0.36	0.26	0.60
Asiatics	1.26	0.76	1.37	0.19	0.19	0.18
England and Wales ...						
	1936	1937	1938	1936	1937	1938
	0.583	0.584	0.532	0.109	0.111	0.103

It is difficult to obtain an accurate, or even an approximate, idea of the prevalence of tuberculosis in Johannesburg. The notifications should give an indication of the incidence of the disease, but it is a universal experience that notification is never complete, but is always an understatement of the true position. This is due largely to the nature of the disease, for the onset and development is insidious and patients often do not consult a doctor until the condition is well advanced. Frequently the condition cannot readily be diagnosed in the early stages.

The following is a comparative table of the notifications of tuberculosis for the years 1929—1939:—

TABLE I.

Year	Whites	Natives	Eurafricans	Asiatics
1929-30	10	621	7	1
1930-31	22	400	6	1
1931-32	13	367	—	4
1932-33	13	425	6	2
1933-34	21	295	14	4
1934-35	34	331	17	—
1935-36	20	250	11	4
1936-37	28	275	15	5
1937-38	19	310	34	3
1938-39	87	428	46	8
	267	3,702	156	32

The most striking feature of this table is the disproportionately high number of notifications of native cases as compared with European cases, having regard to the fact that the European population has always been larger than the native population during the period.

That the notification of European cases falls far short of the incidence a reference to Table II will show. It will be noted that the number of deaths from tuberculosis greatly exceeds the number of notifications, in some cases by more than 3 to 1. The single exception to this is in the year under review, in which the number of notifications, for the first time, exceeds the number of deaths. This is probably partly due to the appointment of a Health Visitor, whose duties are confined to the investigation and follow-up of tuberculosis cases, and partly to the greater co-operation of medical practitioners as a result of an appeal by this Department.

Whether the greatly increased number of notifications for 1938-39 (viz. 85) represents the true incidence of tuberculosis among Europeans in Johannesburg, it is early yet to say, but probably it does not.

The number of Asiatic and Eurafrikan deaths from tuberculosis still exceeds the number of notifications, but there appears to be a tendency to improvement in this respect.

TABLE II.

Year	Whites		Natives		Eurafrikan		Asiatics	
	Notifi- cations	Deaths	Notifi- cations	Deaths	Notifi- cations	Deaths	Notifi- cations	Deaths
1929-30 ...	10	74	631	243	7	30	1	8
1930-31 ...	22	75	400	261	6	27	1	8
1931-32 ...	13	71	367	256	—	19	4	10
1932-33 ...	13	58	425	249	6	22	2	10
1933-34 ...	21	69	295	263	14	29	4	12
1934-35 ...	34	67	331	244	17	37	—	8
1935-36 ...	20	67	250	265	11	48	4	12
1936-37 ...	28	57	275	252	15	48	5	15
1937-38 ...	19	53	310	281	34	46	3	10
1938-39 ...	87	66	428	311	46	52	8	17
	267	657	3,702	2,625	156	358	32	110

With regard to natives, the number of notifications consistently exceeds the number of deaths, but any conclusions drawn from this apparently very satisfactory state of affairs are apt to be fallacious.

Mining natives represent a large section of the native population and the mining authorities are very meticulous about notifying all cases of tuberculosis diagnosed. These cases are usually discovered early and are repatriated before they qualify for the mortality statistics. An analysis of the statistics among the non-mining native population would almost certainly reveal a large excess of deaths over notifications.

Enough has been said to indicate that it is not possible to arrive at the true incidence of tuberculosis in Johannesburg for any of the races who make up the population but that energetic action is called for cannot be doubted.

Deaths.—The following table gives the death rates for tuberculosis over a period of 10 years:—

Year	Whites	Natives	Eurafrikan	Asiatics
1929-30 ...	·39	1·65	1·66	1·06
1930-31 ...	·37	1·74	1·35	1·00
1931-32 ...	·34	1·68	·92	1·23
1932-33 ...	·26	1·60	1·56	1·00
1933-34 ...	·30	1·58	1·44	1·15
1934-35 ...	·27	1·36	2·31	1·04
1935-36 ...	·25	1·38	2·27	1·22
1936-37 ...	·22	1·27	2·17	1·46
1937-38 ...	·20	1·38	2·02	·85
1938-39 ...	·23	1·40	2·22	15

The death rate for all races fluctuates a good deal, but comparing the five year period 1929-34 with the period 1934-39, it will be noted that there is a tendency for the European and Native rate to drop and the Eurafrikan and Asiatic rate to rise.

The actual figures are as follows:—

Year.	Whites.	Natives.	Eurafrikan.	Asiatics.
1929-34 ...	·33	1·65	1·39	1·09
1934-39 ...	·23	1·36	2·20	1·22

The causes of prevalence and spread lie in unsatisfactory housing conditions and poverty, combined with late notification or neglected notification. Of 57 consecutive European cases investigated 21 lived under overcrowded conditions, 25 shared a bed with relatives, etc., and 38 shared a bedroom when first investigated.

The housing conditions of non-Europeans (other than mining natives) are on the whole much worse than those of the Europeans. Every effort is being made to improve these conditions, but it will take a long time to catch up on the need. Added to this, the hospital accommodation for non-European cases (particularly) is very inadequate. The waiting list for Rietfontein Tuberculosis Hospital is never less than 50, and patients urgently needing treatment and isolation often have to wait two months before they can be admitted. By the time a bed can be arranged, many have died, having in the meantime had every opportunity of spreading infection, and others cannot be traced.

The accommodation at the Non-European Hospital is equally limited and patients who are admitted are overcrowded in wards, not without risk to other patients, and have to be discharged prematurely.

Facilities for special hospital treatment are provided at Springkell for Europeans and at Rietfontein Tuberculosis Hospital for natives. Cases are admitted to these institutions as necessity arises and when there is accommodation, but too many are discovered so late that the maximum benefit is not derived from hospitalisation.

In March, 1939, Tuberculosis Clinics were established in the Council's Native Townships. Patients receive out-patient treatment and contacts are followed up and examined wherever possible. Much of the good work that is done at these clinics is nullified by lack of hospital facilities.

On the 9th January, 1939, a Health Visitor was appointed whose duties are confined to the investigation and follow-up of tuberculosis cases. She is concerned mainly with European, Eurafrian and Asiatic cases, but also with native cases resident outside the mines or the Council's Native Townships. It is difficult to assess the value of this appointment over such a short period, but the great increase in the number of notifications of European cases is certainly significant.

ISOLATION HOSPITALS.

Fever Hospital.—The number of White cases treated at the Fever Hospital in Johannesburg was 752 as compared with 717 in 1937-38, as follows: Scarlet fever 350, diphtheria 289, erysipelas 29, measles 8, meningitis 48, chicken-pox 4, mumps 6, German measles 4, other cases 14. The total number of patient days was 20,480.

The cost of the upkeep of the Fever Hospital for 1938-39 was £14,801 13s. 5d.

Springkell Sanatorium.—26 non-miners suffering from tuberculosis were being treated at Springkell Sanatorium on 1st July, 1938, and 61 fresh cases were sent there during 1938-39. 17 Patients died and 31 left. The cost of treatment of these cases was £5,978 9s. 6d.

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

Twenty-one cases of chicken-pox, 6 cases of measles, 8 cases of diphtheria, 1 case of mumps, 1 case of erysipelas, 6 cases of smallpox, and 3 smallpox contacts. The cost of these services was £170 14s.

AMBULANCE REMOVALS.

During the period under review, 1,283 cases of Infectious Disease were removed by the Department's ambulances, which travelled 20,786 miles.

LIVE STOCK MARKET AND PUBLIC-ABATTOIR.

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

During 1938-39 1,485,545 animals passed through the Live Stock and Quarantine Yards, and 147,433 cattle, 562,044 sheep, etc., 21,573 calves and 122,721 pigs, or a total of 853,771 animals, were slaughtered at the Abattoir; 2,548,850 lbs. imported meat was inspected, and 2,039,574 lbs. meat was condemned.

FOOD, DRUGS AND DISINFECTANTS INSPECTOR'S REPORT.

Milk.

ANALYSIS OF FOODS, DRUGS, ETC.

Appended is tabulated summary of milk samples taken from local milkshops, depots and in the course of delivery, and on behalf of the Union Government at railway stations within the Municipal Area of Johannesburg:—

	1936-37	1937-38	1938-39
Number of samples taken ...	892	961	827
Number deficient in solids-not-fat: 8% to 8.4% ...	281=31.5%	296=30.80%	245=29.6%
Number of Prosecutions ...	116=13%	100=10.40%	78=9.43%
(a) Added water ...	92 }	69 }	42 }
(b) Deficient in milk-fat ...	24 }	31 }	36 }
Amount of Fines ...	£661 12 6	£535 10 0	£432 0 0

Food and Drugs.

The following is a summary of samples of foodstuffs and drugs taken by the Local Authority and on behalf of the Union Department of Public Health:—

Article.	Number of Samples.	Below Standard or Adulterated.	Fines.
Minced Meat ...	164	18	£94 10 0
Boerwors ...	41	7	36 0 0
Sausage ...	11	2	15 0 0
Polony ...	16	3	10 0 0
Biltong ...	1	—	—
Dripping ...	1	—	—
Lard ...	3	—	—
Ice Cream ...	37	6	36 0 0
Skim Milk ...	2	—	—
Butter Milk ...	2	—	—
Pea Nut Butter ...	1	—	—
Cream Cheese ...	2	2	7 0 0
White Cheese ...	1	1	5 0 0
Cream ...	5	—	—
Vegetable Fat ...	2	—	—
Mixed Ghee ...	2	2	15 0 0
Vegetable Ghee ...	1	—	—
Cheese Paste ...	1	—	—
Chocolate Coating ...	1	—	—
Honey ...	8	2	—
Aerated Mineral Waters ...	19	—	—
Fruit Juices, Squashes, etc. ...	10	—	—
Synthetic Frozen Delight ...	2	—	—
Tea ...	3	3	9 0 0
Dried Pears ...	2	2	6 0 0
Dried Apple Rings ...	1	1	3 0 0
Egg Macaroni ...	2	—	—
Macaroni ...	1	—	—
Coffee Mixture ...	6	—	—
Coffee ...	1	—	—
White Pepper ...	4	—	—
Cayenne Pepper ...	1	1	1 0 0
Mixed Cayenne Pepper ...	1	1	7 10 0
Tomato Sauce ...	2	—	—
Worcester Sauce ...	2	—	—
Baking Powder ...	2	—	—
Bran ...	1	—	—
Salad Oils ...	22	6	33 0 0
Castor Oil ...	1	—	—
Apricot Chutney ...	1	—	—
Lemon Barley Water ...	1	—	—
Liquid Paraffin ...	1	—	—
Soaps ...	6	—	—
Peroxygen ...	1	—	—
Tincture of Strophanthus ...	4	—	—
Canned Ox Tongues ...	1	—	—
Fruit Salts ...	1	—	—
Total ...	402	57	£278 0 0

There were an additional four prosecutions for contraventions of Act No. 13 of 1929.

(a) Milk Regulation 32 (a). False information ...	£3 0 0
(b) Section 32 (1) (b). Refusing to sell a sample ...	10 0 0
(c) Section 32 (1) (b). Refusing to sell a sample ...	3 0 0
(d) Regulation 5 (5). Labelling Soda Water Fountain ...	1 0 0
	£17 0 0

The number of samples taken under the Food, Drugs and Disinfectants Act is equal to 4.32 per 1,000 of European population.

MILK SAMPLES—SOLIDS-NOT-FAT BELOW 8.5 PER CENT.

As reported for the years 1936-37 and 1937-38, the unsatisfactory standard for milk-solids-not-fat remains practically unchanged. 29.60 per cent. of the total milk samples were below the standard of 8.5 per cent.

No prosecutions were instituted in these 245 samples, but as this matter is now being dealt with by the Superintendent of Dairying, Union Department of Agriculture, who is advised in the case of samples where the milk-solids-not-fat fall below 8.5 per cent., it is to be hoped that in the near future there will be a considerable improvement in the quality of the milk.

The classification of these samples below standard are as follows:—

8 samples contained 8.0% solids-not-fat.			
26	..	..	8.1% solids-not-fat.
37	..	..	8.2% solids-not-fat.
72	..	..	8.3% solids-not-fat.
102	..	..	8.4% solids-not-fat.

Milk Adulterations.

The percentage of adulterated milk samples again shows a satisfactory decrease.

The position with regard to the sale of adulterated milk at Orlando and Pimville Native Townships is unsatisfactory. Of the 43 samples taken, 15 were adulterated, which is equal to 34.88 per cent.

With increased sampling in the native townships during the coming year, an improvement can be expected, provided that the Courts inflict heavier penalties than in the past.

In a number of recent cases, the native milk hawkers were fined £1 or seven days, suspended for three months on good behaviour. In one of these cases the milk was adulterated with as much as 60 per cent. of added water, and a penalty of this nature cannot, therefore, be expected to act as a deterrent to adulterators.

A maximum penalty of £50 is provided for in the Act for offences of this nature.

The reduction in the number of milk samples during the year is due to the fact that on instructions from the Union Health Department no samples were taken at railway stations since September, 1938.

It is to be hoped that a new system of sampling will be introduced during the coming year.

Minced Meat.

The position with regard to the adulteration of minced meat by the addition of preservatives has considerably improved as is reflected in the following figures:—

Year.	No. of Samples.	Adulterated.	Percentage Adulterated.
1936-37	135	50	37.0%
1937-38	117	23	19.7%
1938-39	164	18	11.0%

Prior to the year 1936-37, it was a universal practice amongst butchers to add sodium sulphite crystals to minced meat. This preservative retarded decomposition and masked putrefaction and gave stale meat a bright fresh reddish appearance. As this was a contravention of the Food, Drugs and Disinfectants Act, No. 13 of 1929, all butchers were circularised and warned with regard to this.

It will be seen by the above figures that there is a sharp decline in the percentage of adulterations and it is expected that these figures will be considerably reduced during the coming year.

Condemned Foodstuffs.

The following foodstuffs were condemned by the Food and Drugs Inspectors:

Fish, 20,381 lbs.; Anchovies, 334 lbs.; Cured Fish, 464 lbs. and 151 cases; Crayfish, 57 cases; Herrings, 123 barrels; Rolled Mops, 300 lbs. in jars; Fish Roe, 130 lbs.; Meat, 3,576 lbs.; Polony and Sausages, 318 lbs.; Poultry, 1,326 lbs.; Bacon, 155 lbs.; Lard, 78 lbs.; Currants, 750 lbs.; Litakrust 13 cases; Macaroni, 30 lbs.; Cheese, 310 lbs., 1 case, 53 packets; Mushrooms, 80 lbs. and 2 cases; Butter Beans, 12 bags; Cucumber, 49 tins; Pickles, 120 lbs.; Tomatoes, 153 boxes; Sweets and Chocolates, 124 boxes; Biscuits, 7 tins; Rice, 75 lbs.; Dried Fruits, 80 lbs., 2 boxes, 2 bags; Bread, 39 loaves; Blown tins:—Assorted, 2,885 and 48 cases; Tomato Puree, 195; Fish, 1,869 and 1 case; Glazed Cherries, 256; Pickles, 200; Rabbit, 88; Meat, 59; Sauerkraut, 16; Jam, 213; Beans, 60; Sausages, 297; Peas, 8.

Morning Market.

Inspection of incoming foodstuffs exposed for sale by auction:—

Crayfish, 600 lbs.; Dressed Poultry, 51,388; Fish-in-Ice, 5,930; Smoked Fish, 2,478; Buck, 890; Guineafowl, 736; Cheese, 1,200 lbs.

All Fruit and Vegetables are examined daily.

Condemned Food from Market.

Paw-paws, 126 boxes; Grapefruit, 735 pockets, 112 boxes; Lemons, 359 pockets, 300 boxes; Avocado Pears, 60 boxes; Oranges, 1,548 pockets, 83 boxes; Naartjes, 687 boxes; Apples, 113 boxes; Pears, 145 boxes; Peaches, 26 boxes; Grapes, 206 boxes, 52 baskets; Cape Gooseberries, 167 boxes; Grenadillas, 20 pockets, Plums, 20 baskets; Potatoes, 8 bags; Peas, 30 pockets; Pumpkins, 6 bags; Cabbages, 100 bags; Melons, 16 cases; Carrots, 7 bags; Tomatoes, 756 boxes; Mushrooms, 1 case; Buck, 4 carcasses; Guineafowl, 2; Hams, 30 lbs. and 3 Hams; Dates, 10 boxes; Raisins, 1 box; Cheese, 82 lbs.; Pressed Dried Fruit, 55 packets; Fish, 2,780 lbs.; Crayfish, 240 lbs.; Salted Fish, 2 cases; Pickles, 2 bottles; Live Poultry, 6; Dressed Poultry, 3,868; Giblets, 3 cases.

Early morning inspections are made daily throughout all sections of the market and all foodstuffs exposed for sale are examined, and unsound foodstuffs are dealt with accordingly.

Three market agents were prosecuted for exposing unsound fruit for sale, which was unfit for human consumption and were fined £20 in all.

Two stallholders were prosecuted for being in possession of unsound poultry, and were fined £7 10s. and £5 respectively.

A general dealer was fined £7 10s. for consigning unsound smoked fish to the auction section market.

During the period under review, the following foodstuffs were passed at Kazerne:—

Fish-in-Ice	...	...	...	13,967,659 lbs.
Smoked Fish	...	...	...	1,032,584 lbs.
Meat, Game, Biltong	...	...	...	72,794 lbs.
Polonies	...	*	...	26,794 lbs.
Bacon and Hams	...	...	...	481,632 lbs.
Oysters, Crayfish and Shrimps	...	...	...	13,195 lbs.

Blown Tins of Hermetically Sealed Foodstuffs.

Inspections are periodically made at all wholesale and large retail grocery establishments and also a number of the smaller grocery stores.

Three general dealers were prosecuted for being in possession of blown tins, and were fined £18 in all.

Periodic inspections indicate that the sale to the public of food contained in blown tins is becoming exceedingly difficult.

Strict supervision over butcher shops resulted in 12 Butchers and 3 kaffir eating-house keepers being fined £109 10s. and £25 respectively, or £134 10s. in all, for being in possession of meat which was unfit for human consumption.

For introducing and being in possession of unstamped meat, two butchers and a hotel-keeper were fined £17 in all.

For exposing unsound food for sale, six general dealers were fined £34 10s. in all, whilst a general dealer was fined £5 for being in possession of unsound poultry.

Food Manufacturing Premises.

Regular inspections have been made at these premises during the year.

One large factory has been completed whilst two other factories are constructing new premises.

Two factories are carrying out extensive alterations and factories generally are becoming more modernised.

Indian Fruit Market.

There has been a slight improvement in the handling of fruit in this area, but, nevertheless, several warnings have had to be issued to fruiterers carrying on business in the vicinity.

Conveyance of Foodstuffs in the Streets.

Special attention has been paid to the conveyance of foodstuffs. Several warnings have been issued to persons failing to take adequate measures to protect foodstuffs from contamination during transit.

Food and Drugs Act.

Observations and inspections continue to be made throughout the year in connection with the above Act. All the wholesale chemists and a number of retail chemists are visited during the year to see that they comply with the requirements of the Act.

Numerous interviews are held with manufacturers.

Food Poisoning.

An outbreak of food poisoning was investigated at a boarding-house. Seventeen of the twenty-six European occupants and also the four native servants were found to be suffering with the usual symptoms of food poisoning, i.e., diarrhoea, vomiting, high temperature, rapid pulse, ague and aches in the limbs.

On investigation it appeared that home-made chocolate pudding had been the infective agent, but unfortunately a sample of the pudding could not be obtained.

Samples of all the ingredients from which the pudding was made were examined at the South African Institute of Medical Research with negative results.

A number of mice were caught at the boarding-house and submitted for examination, with the result that *B. enteritidis* Gaertner was isolated from the liver, heart, blood and spleen of one mouse.

A similar organism was isolated from the vomit and faeces of the patients.

The evidence points to the chocolate pudding being infected with the excreta of an infected mouse.

The thanks of this Department are due to the Chief Government Analyst and his Staff and the Director of the South African Institute for Medical Research and his Staff for their assistance and co-operation.

I. J. DISTILLER.
Senior Food and Drugs Inspector.

MILK SUPPLIES AND DAIRY INSPECTION.

(a) INSPECTION OF DAIRIES INSIDE THE MUNICIPAL AREA.

The demand for milk to meet the requirements of the City continues to show an appreciable increase amounting to 1,828 gallons per day as compared with the corresponding period of last year.

Apart from normal causes, much of this increased gallonage is attributable to the convenience afforded the public by the carton milk container which is sold by almost every tearoom-keeper in the City, who, as a licensed purveyor in terms of the Dairy By-laws, is permitted to sell milk under certain conditions.

Sources of the City Milk Supply as at June, 1939.

	Gals.
(a) Gallonage of milk arriving daily by road from outside producers	15,250
(b) Gallonage of milk arriving daily by rail from outside producers	14,730
(c) Gallonage of milk produced at local dairies	4,057
Total	<u>34,037</u>

There has been a slight decrease in the gallonage of milk arriving by means of private road transport, which is, however, more than balanced by the increase in the amount of milk arriving by rail.

This decrease is explained by the fact that producers are railing their product whenever and wherever possible for economic reasons.

Producing Depots.

There has been a substantial increase in the gallonage of milk pasteurised or subjected to a form of heat treatment; this increase is likewise in a measure due to the use of the carton container, the larger depots being more suitably placed to undertake cartoning of large quantities of milk.

Local Producing Dairies.

During the year 13 local producers have ceased to operate either voluntarily or have been refused the renewal of their licences on account of structural deficiencies or as a result of their record of contraventions of the by-laws.

The slight decrease of 415 gallons per day in the quantity of milk produced locally does not appear to be in proportion to the number of local producers who have ceased to operate within the Municipal Area during the year under review.

This is explained by the fact that milk rounds attached to such premises are not allowed to lapse with the business, but are immediately purchased by existing producing dairies in a position to undertake the increased business.

At present there are 56 licensed producing dairies operating within the Municipal Area with an approximate total of 1,876 cows, being 206 cows less than last year.

Sale of Milk in Sealed Containers.

The daily gallonage of milk sold in waxed parchment containers continues to increase.

At present there are 818 licensed purveyors selling 5,935 gallons of milk in cartons daily; to meet the requirements of this particular section of the trade, 40,000 locally manufactured cartons are used daily in addition to the several thousand imported cartons.

Amendment to the Dairy By-laws.

Owing to the difficulty of discriminating between the legitimate dairy employee on his distribution rounds and the milk hawker, certain additional powers, which it was considered would assist the Dairy Branch in its efforts to eliminate this very undesirable distribution of milk, were sought and approved.

The amendments referred to were given effect by Administrator's Notice No. 546 of September, 1938, and are included as additions to Chapter IV., Section 40, of the Council's Dairy By-laws, which now require the possession of a Card of Authority by all persons while employed on the delivery or distribution of milk within the Municipal Area.

These Cards of Authority, which are issued in blank free of charge to the licensee, must bear the name and pass number of the employee if a native, the name and address of the dairy and the signature of the employee, have proved of valuable assistance to the Department in the efforts to combat the activities of the illegal milk hawker.

Score Card System of Dairy Inspection.

As mentioned in the previous report, the improvement in general dairying practice in the City had advanced to such an extent as to warrant the redrafting of the score card in order to conform to the higher standard and to induce a still further advance in handling methods and milk purity.

Scoring under this amended system, which specially recognises the provision of suitably connected fittings and facilities for hand and bodily cleanliness of employees, good protective and distribution methods, and mechanical cooling and storage apparatus, was commenced in January, 1939, thus only two scorings during the period under review have been possible, but nevertheless a pleasing improvement has resulted, notably in the provision of cleansing facilities and improved protective measures during delivery of retail milk.

Milk Propaganda.

This important factor in the work of your Dairy Branch continues to receive due consideration.

In this connection two dairy exhibits were staged, one at the Rand Agricultural Show and the other, a new departure, at the Bantu Exhibition conducted by the Native Affairs Department in co-operation with your Department.

In addition to the aforementioned exhibitions and the distribution of pamphlets regarding milk treatment and storage in the home, special milk propaganda among natives was undertaken by means of the distribution to all dairies and farm producers of a specially prepared pictorial poster bearing appropriate captions.

Departmental Plans and Specifications.

The Council's dairy plans and specifications continue to be much in demand and have been supplied on request to numerous Local Authorities, Government Schools of Agriculture and editors of the farming journals.

Pasteurising Depots.

There has been a marked improvement in premises and pasteurising and general equipment in many of the pasteurising depots operating in the City.

During the period under review several firms engaged in this section of the milk industry have completed, or are in the course of completing, structural and equipment improvements amounting to many thousands of pounds.

Typhoid Carrier Tests.

Thirty-six dairy employees were subjected to Widal or Complement Fixation Blood Tests.

These tests were carried out at the request of employers of dairy labour, and for particular departmental investigation purposes.

*Inspections, Special Reports, etc.**Local Dairies and Milkshops.*

Number of inspections	...	...	...	...	6,738
„ „ special reports furnished to the Medical Officer of Health	...	...	...	...	71
„ „ milkshops	...	...	...	...	125
„ „ milkshop licences refused	...	...	...	...	7
„ „ producing dairies (including five stockyards)	...	...	...	...	61
„ „ producing dairies abandoned or licences refused	...	...	...	...	13
„ „ notices served	...	...	...	...	364
„ „ plans examined	...	...	...	...	25
„ „ attendances at Public Health Licensing Court	...	...	...	...	49
„ „ milk sediment tests taken (street, milkshops, dairies, milk purveyors)	...	...	...	...	1,750
„ „ sediment tests—good	...	...	...	...	1,590
„ „ sediment tests—fair	...	...	...	...	129
„ „ sediment tests—bad	...	...	...	...	31
„ „ warnings given <i>re</i> sediment tests	...	...	...	...	110
„ „ prosecutions instituted under the Council's By-laws or Public Health Act	...	...	...	...	73
„ „ amount of fines paid	...	...	...	...	£198 5 0
„ „ private cow-keepers' licences issued	...	...	...	...	7

Milk Purveyors.

Number of licensed milk purveyors	...	...	...	...	818
Gallons sold daily in waxed parchment cartons	...	...	...	...	5,935
Number of milk purveyors' licences abandoned or refused	...	...	...	...	25

Analysis of Court Proceedings.

Offence.	No.	Convictions.	Discharged.
Selling milk in unsealed containers	3	3	—
Dirty milk	31	30	1
Selling milk without a licence	6	6	—
Sale of goods not allowed in a milkshop	1	1	—
Exposing milk to contamination	5	5	—
Dirty premises	4	4	—
No name on delivery vehicle	10	10	—
No card of authority	2	2	—
Transferring milk in a street	3	3	—
Stacking bottle carriers in such a manner as to contaminate the bottles	2	2	—
Keeping cows without a licence	1	1	—
Using wicker baskets for drainage of bottles	1	1	—
Fly breeding	2	2	—
Cans not suitably labelled	2	2	—
Total	73	72	1

In conclusion, I wish to acknowledge with many thanks the courtesy and willing co-operation afforded your dairy staff by the majority of those engaged in or interested in the milk supply and its supervision in the City.

(Signed) W. C. E. LEWIS,
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 510—an increase of 95 over the preceding year. These farms are situated in the districts of Standerton, Bethal, Ermelo, Heidelberg, Witbank, Pretoria, Witwatersrand, Vereeniging, Krugersdorp, Rustenburg, Ventersdorp, Lichtenburg, Potchefstroom, Klerksdorp, Settlers, in the Transvaal; Coalbrook, Wolvehoek, Heilbron, Greenlands, Kopjes, Parys, Kroonstad, Hennenman, Bethlehem, Harrismith, Ladybrand, in the Orange Free State; and Estcourt, Natal.

Milk Introduced into Johannesburg.

The quantity of milk introduced daily into Johannesburg from dairy farms outside the Municipal Area was approximately 29,980 gallons—an increase of 2,243 gallons over the preceding year. Of this supply some 14,730 gallons were consigned by rail to stations within the city, whilst about 15,250 were delivered by road transport.

The approximate amount of milk used daily in Johannesburg was 34,037 gallons, of which 88 per cent. was supplied from sources outside the City. These figures show an increase of 1,828 gallons per day over the corresponding period of last year.

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

Applications received	...	...	...	...	510
Applications granted	...	...	...	...	440
Applications refused	...	...	...	...	6
Applications abandoned and held over	...	...	...	...	64

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

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

Applications received	...	...	...	...	48
Applications issued	...	...	...	...	47
Application held over	...	...	...	...	1

Licences to retail milk within the City are taken out by dairy farmers to enable them to trade direct with the consumer. Licensees must be in possession of a permit to authorise the introduction of milk or milk products into the Municipal Area.

Inspection of Farm Dairies.

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

All inspections were recorded, and any infringement of the Dairy By-laws dealt with.

The number of inspections made was 1,673.

Plans drawn in accordance with the requirements of the Council's Dairy By-laws were supplied to dairy farmers contemplating the construction of buildings for dairying purposes.

Control of Milk Supplies.

Periodical inspections were made at Railway Stations inside Johannesburg and on the Main Roads leading to the City of all supplies of milk consigned to Johannesburg.

The supplies of milk from unpermitted sources was immediately prohibited.

Tests for Visible Dirt.

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 500 consignments of milk arriving at Railway Stations within the City, or at the source of production. The results were:

Clean	...	...	...	...	465
Fair	...	...	...	...	30
Bad	...	...	...	...	5

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

Refrigeration of Farm Milk Supplies.

Progress continues to be made on the refrigeration side of the City's milk supply. There are now 72 plants in daily use, as against 47 for the preceding year.

The temperatures and condition of the milk arriving in the City are very satisfactory.

Milk is arriving from sources over 200 miles distant from the City, and it is evident that distance is not a deterrent when advantage is taken of refrigerating methods and suitable train facilities.

We wish to express our appreciation of the co-operation by which the majority of dairy farmers endeavour to produce pure, wholesome milk of good quality for the Johannesburg market.

We also desire to thank the officials at the Railway Stations for their willing assistance and co-operation in connection with the testing and inspection of milk on Railway property.

J. W. FORRETT,

D. SMITH,

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-fourth Annual Report of the Chief Engineer, Rand Water Board:—

Source	Total Quantity Pumped during Year ending 31st March, 1939	Percentages
	Gallons	
From Zeurbekom	1,797,444,000	11·47
From Vaal River	13,869,054,000	88·53
Grand Total	15,666,498,000	100·00

The length of the mains within the Municipal Area is now 746·704 miles; 28·624 miles have been added during 1938-39, while during the same period 5,217,998,700, or an average of 14,293,000 gallons of water per day, were supplied to consumers connected to same.

CHEMICAL AND BACTERIOLOGICAL EXAMINATIONS.

One hundred and seventy-eight chemical and 613 bacteriological samples of water were taken for examination during the year 1938-39, also 43 chemical and 52 bacteriological samples from private boreholes and wells, also 62 bacteriological and 62 chemical samples from boreholes and wells on dairying premises in the Klipspruit area.

Four new borehole water supplies were condemned, as also six well-water supplies, as being unfit for human consumption on account of pollution indicated on analysis.

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.

The Medical Officer of Health is also Honorary Medical Officer of Health of the Rand Water Board.

SEWERAGE.

The City Engineer has kindly supplied the following information:—

On 30th June, 1939, there were 656 miles of sewers and 120 miles of 4in. house connections completed.

On the same date 52,784 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 THE BIO-CHEMIST.

SEWAGE DISPOSAL WORKS.

The average daily flow of sewage to the five disposal works was 10,864,020 gallons for the year under review, showing an increase of 653,104 gallons as compared with that of the preceding year.

	Population (Census, 1936).	Estimated (30th June, 1939).
European	250,638	285,400
Non-European	221,316	243,250

Contributing population to the sewage disposal works (estimated):—

European	260,000
Non-European	110,000

Works.	Daily Average Flow (Gallons).
Klipspruit	6,921,296
Antea	332,348
Bruma	1,702,000
Cydna	902,376
Delta	1,006,000

Comparative charts, showing the volumes of sewage treated at, and analyses of the sewage reaching, and effluents produced at, the different disposal works, and a table of the average analyses for the year are given in the statistical section of this report.

Klipspruit Works.

The daily average flow to these works has increased by 368,599 gallons as compared with last year.

During the year some smaller properties, those belonging to Messrs. Thompson, Hobbs and Collins, adjoining Olifantsvlei, were purchased.

In July, 1938, the old screens, detritus pit, and sedimentation tanks were put out of commission, and the new Venturi flume, screens, detritus channels and sedimentation tank were brought into operation as completed. The gradual bringing into use of the recently constructed sludge digestion tanks was commenced in March, 1939. Approximately 20,000 gallons of digested sludge from Antea was introduced.

Two 100-ft. diameter percolating filters were brought into operation in April, 1939, and since then, others as completed. At present the effluent from these beds is being led on to land falling towards Herrington Spruit. When pipe lines now being constructed are completed, this effluent will be conveyed to Olifantsvlei, and to the Orlando Power Station Dam.

During the year 662 acres have been ploughed and re-ploughed, and 1,300 acres have been disced, harrowed and rolled by mechanical means.

The work of lining earth effluent carriers with semi-circular concrete channels, each 3-ft. long, was continued. 1,268 channels were made; of these 1,070 were laid, and 1,489 old channels were removed from area IA and relaid on other areas of the farm. The total length of concrete lined effluent carriers is now 30.7 miles.

The new screens, detritus tanks and sedimentation tanks, produce a tank effluent less septic and offensive than was produced by the old plant, and the amount of settleable solids in the tank effluent irrigated over the farm is now almost negligible.

Because of the fresher state of the tank effluent, there is already marked diminution of the offensive smell which characterised Klipspruit Sewage Farm, and further improvement is to be expected when partial treatment can be given prior to irrigation.

The yearly averages of weekly chemical analyses show that the sewage arriving at Klipspruit was slightly weaker than last year's averages, but this sewage, because of night-soil from unsewered areas and trades waste, particularly abattoir waste, gas liquor and yeast factories waste, is very difficult to treat.

The four new 100-ft. diameter percolating filters which have been completed have been dosed at about 200 gallons per cubic yard per day, which is a high rate for this difficult sewage, but since the filter effluent is for the present irrigated over land, only partial purification is required.

KLIPSPRUIT SEWAGE WORKS RECONSTRUCTION.

The construction work, which was commenced during the previous year, continued to make satisfactory progress.

Of the eight sedimentation tanks which comprise this unit, four had already been constructed. The remaining four were completed and put into operation. A house was built over the screens, and several small improvements which a study of the plant operation has revealed were effected. This unit is now complete and is functioning in an efficient manner.

Eight of the sixteen primary sludge digestion tanks have been completed and these are being utilised to prepare a quantity of ripe sludge which will be necessary for the operation of the unit. As soon as sufficient digested sludge is available the remaining eight primary digestors and the eight secondary tanks will be put into operation. All these tanks are almost complete, requiring only a few minor additions before being used.

Four of the eight percolating filters which are to supply Orlando Power Station with purified effluent have been completed and are functioning satisfactorily. Work on the remaining four filters and on the two humus tanks which are to operate in conjunction with these filters is progressing rapidly. Provision has been made for these filters to be readily converted into colloids dosed at very high rates and, if the experiments that are to be conducted should prove this to be the most efficient method of treatment, this alteration will be effected later.

The two experimental filters which were described in last year's report have been almost completed, requiring only to be filled with media.

It is the intention to utilise portion of the effluent from Klipspruit Sewage Works for irrigation of parts of the farm Olifantsvlei, which was recently purchased by the Council for sewage treatment purposes.

Work was commenced on a pipe line which will connect the two farms and which will be capable of discharging about five million gallons of effluent per day. About 4,000 feet of this pipe have been completed, and it is anticipated that the whole line will be completed by October, 1939.

In addition, another pipe line approximately 8,000 feet in length is required to convey the purified effluent to the dam at Orlando Power Station. Provision has been made for an ultimate maximum rate of flow of seven and a half million gallons per day. Excavations for this line have just commenced, and though the effluent is required at the Power Station by May, 1940, it is likely that it will be available before the end of the year 1939.

Antea Works.

During the year a residence was built on the work's property for the Manager, and also a permanent compound for the native labourers.

The heating system, consisting of sludge gas-fired water heater, hot water circulating pump, and hot water pipes in the primary Birmingham type digestion tanks was put into commission. Considerable improvement in sludge digestion, indicated by the condition of the digested sludge and supernatant liquor, has resulted.

Although the flow to these works has increased, the standard effluent has improved. The bacteria bed loading is just over 50 gallons per cubic yard per day.

Bruma Works.

During the year a new hand-operated screen detritus pit, small pre-aeration unit, and three 25-ft. diameter hopper bottomed upward flow sedimentation tanks were brought into operation, and one of the old mechanically cleaned sedimentation tanks put out of commission. Better sedimentation has resulted as will be seen by the analysis. The flow has increased by 170,382 gallons per day as compared with last year.

Two new primary circular sludge digestion tanks with floating steel gas collectors have also been completed, and put into operation. The sludge gas production for the year was 43,563,900 cubic feet. The gas engine alternator set produced 837,432 kilowatt hour units, giving an increase of 170,382 units as compared with last year. Condensers were installed to increase the power factor of the air compressor motors and thus increase the allowable output of the alternator. The units generated represent 78 per cent. of the power requirements of these works.

The gas engine alternator set ran for 94.5 per cent. of the time.

Cydna Works.

The sewage reaching these works continued to be weaker than that flowing to any of the other works. Towards the end of the year, as there was ample secondary sludge digestion capacity, one of these tanks was connected to form a balancing tank to the screened sewage, so as to relieve peak flow conditions in the sedimentation tanks. Considerable improvement has resulted not only in the operation of the sedimentation tanks, but also in the filter bed and humus tank performances.

Delta Works.

Extensions that have been completed and put into commission comprise two aeration units, two separating tanks, and four open secondary sludge digestion tanks.

The performance of the plant has been satisfactory, considering the difficulties that were caused to operation by alterations and additions.

A high speed electrically driven centrifugal pump has been installed for delivering effluent to higher portions of the land for irrigation.

RESEARCH ON SEWAGE PURIFICATION.

Operation of the pilot plant at Klipspruit has been continued, the settled sewage fed to the 40-ft. diameter open filter was warmed by heat exchange coils coupled to an old steam boiler, and this filter was thus enabled to give summer time results during the winter; the rate treated during the previous winter with unwarmed sewage was only about one-third the summer time rates.

Experiments with the eight temperature controlled 12-inch diameter model filters were continued, and it was clearly shown that between 95 degrees and 100 degrees Fahrenheit nitrification is greatly retarded; these trials are being continued in the hope of establishing thermophilic nitrifying organisms.

The study in ventilation on two 6-in. pipe filters has been continued, and it has been found that high concentrations of the order of 5 per cent. to 8 per cent. of carbon dioxide in the atmosphere within the filter are necessary to retard the action of the filter.

A laboratory study of a carbon balance on a model activated sludge plant was published in "The Sewage Works Journal" of America, by Messrs. Wilson and McLachlan, Biochemist and Assistant Biochemist.

Part II of "Investigations on Percolating Filters" by the City Engineer, Dr. Hamlin, and the Biochemist, Mr. Wilson, was presented by Mr. Wilson to the Summer Conference of the Institute of Sewage Purification at Glasgow in July, 1938.

Algal Growth in Yeoville Reservoir.

Dosing with copper sulphate at the rate of 0.15 parts per million by weight was again maintained continuously throughout the year in the old reservoir, and at the slightly lower rate of 0.1 part per million in the new reservoir.

The blue-green alga phormidium was, as in previous years, the predominant growth requiring copper sulphate dosage.

A heavy infection by larvæ of flying midges was experienced during the summer; these worm-like larvæ were found in large numbers in the sludge in the bottom of the reservoirs and, passing into the service mains, were a source of anxiety to householders. The midge was identified as a species of Chironomae by the South African Institute for Medical Research and considered harmless in all its stages of development.

About 100 goldfish from the clean water experimental ponds at the Cydna Biochemical Laboratory were released in the reservoirs, and within a week no larvæ were to be found in the sludge. Some weeks later larvæ again were found in small numbers, but did not become sufficiently numerous to cause undue anxiety.

Since the larvæ were found in large numbers on the inlet screens, it must be assumed that these came with the bulk supply rather than from eggs deposited in the reservoir.

The new automatic doser for copper sulphate has been in operation for more than a year, giving great satisfaction. This apparatus, designed by Mr. Ellen, Foreman, and made in the workshops of the Water Branch, is so simple, yet so effective, that it may commend itself to other municipalities having to apply continuous doses of copper sulphate or other chemicals.

A detailed description of this apparatus is appended.

Automatic Doser for Copper Sulphate.

This consists of an 8½-in. diameter glass bowl fitted to a copper stand, and capable of holding 24 hours' supply of copper sulphate.

The bowl is ribbed on the inside with copper strips to distribute the copper sulphate, and the period of solution is regulated by a fine water spray, which can be adjusted to cover any period required.

The solution passes through a $\frac{3}{4}$ in. hole in the bottom of the bowl on to a copper tray, to which water is fed through a $\frac{1}{4}$ in. pipe. This solution then passes over a 2in. weir direct into the supply from the pumping main, so that it is evenly distributed through the water in the reservoir.

The whole apparatus is enclosed in a weather-proof case and is re-charged with copper sulphate every 24 hours.

The method of dosing is a great improvement on the old method, under which a native added a certain quantity of copper sulphate every hour, and works continuously and satisfactorily.

Swimming Baths.

Particular care was taken during the season to keep the water in the swimming pools distinctly alkaline, because from previous seasons' experience and experience reported elsewhere, complaints of smarting eyes are common if the water is allowed to become only very faintly acid.

No complaints of smarting eyes were received, thus the increased amount of soda crystals used was justified.

A table showing the chemical analyses of the contents of the various baths at the beginning and end of the season is given in the statistical section of this report.

Gas Works.

A chemist has been continuously employed at the Gas Works Laboratory chiefly on routine tests for efficiency of plant operation.

The decolourisation of tar acids by thiosulphate washing was the most important of the minor researches carried out during the year.

Kaffir Beer.

Routine testing of the beer daily for alcohol content has been carried out during the year.

A method of rapid brewing worked out in the laboratory was tried on a larger scale at the Village Deep Compound Brewery on April the 16th and 17th, when it was shown that the complete brew could be made in 24 hours.

Mr. W. Murray Crone, B.Sc., Glasgow, A.I.C., commenced duty as Microbiologist on 24th April, 1939, and at once commenced on the study of the organisms found in Kaffir Beer brewing.

The malting properties of different varieties of Kaffir Corn, kindly provided by the Potchefstroom Agricultural College Research Department, has been commenced.

GENERAL.

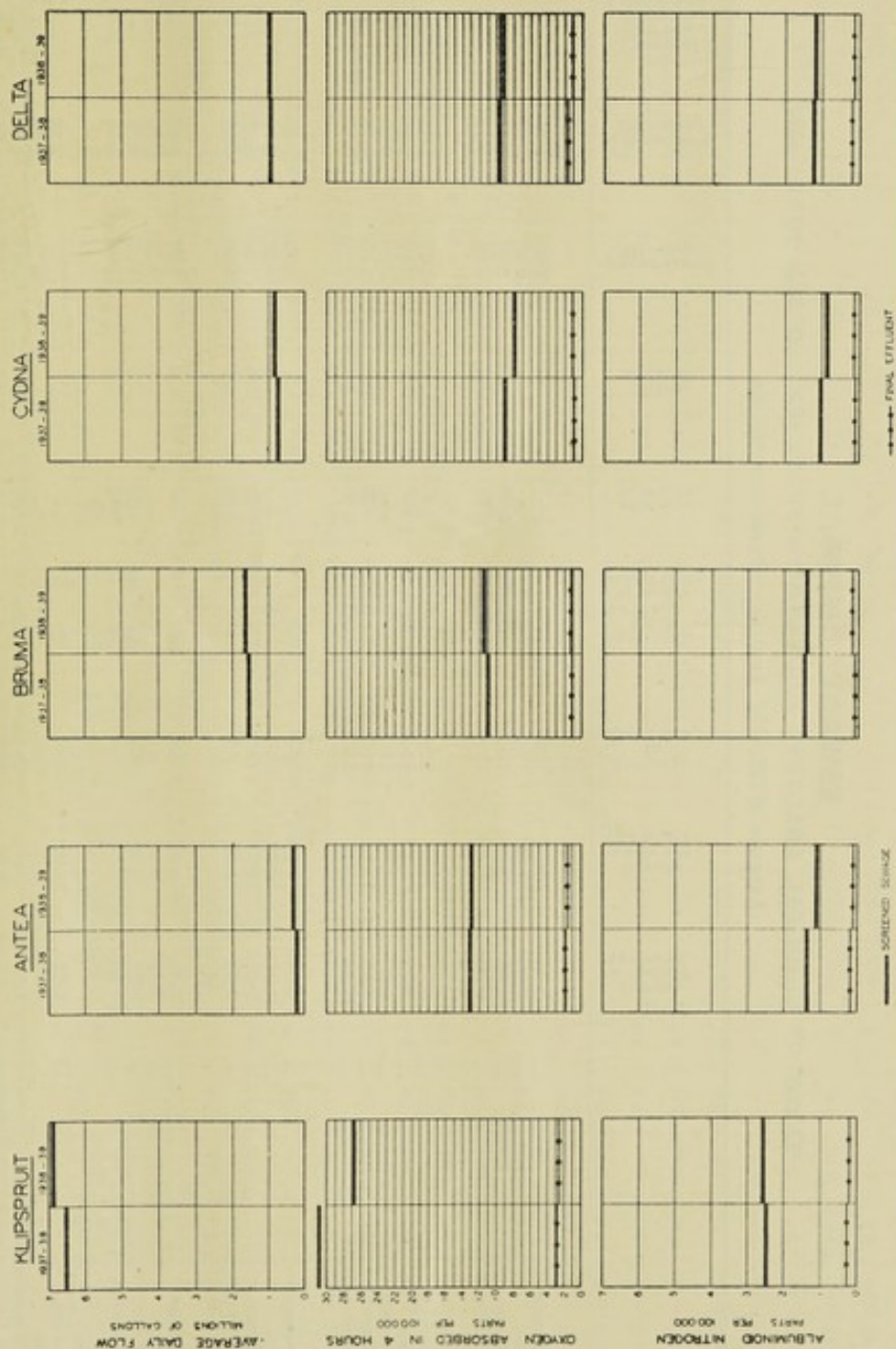
There has been a considerable expansion during the year of the service rendered to all Departments of the Municipality by the Laboratory Division.

Freer use of the Laboratory Division made by other Departments has followed from the Council's resolution, placing all chemical and biological services under the Biochemist.

On the death of Mr. Billborough, who as a private practitioner had made the fuel examinations for the Controller of Stores and Buyer for some 25 years, the work was taken over by the Laboratory Division in November, 1938.

H. WILSON,
Bio-Chemist.

CITY OF JOHANNESBURG GRAPHS SHOWING AVERAGE FLOWS & ANALYSES AT THE VARIOUS SEWAGE DISPOSAL WORKS



SEWAGE DISPOSAL.
TABLE OF CHEMICAL ANALYSES FOR YEAR 1st JULY, 1938, TO 30th JUNE, 1939.
Average of Weekly Analyses: Parts per 100,000.

	Oxygen absorbed in 3 mins.	Oxygen absorbed in 4 hours.	Chlorine in Chlorides	Settleable Solids (cc./litre 1 hour)	Imhoff Cone (1 hour)	Nitrous Nitrogen.	Nitric Nitrogen.	Ammoniacal Nitrogen.	Albuminoid Nitrogen.	Bio-Chemical Oxygen Demand 5 days' test.	Per cent. Purification Screened Sewage to Final Effluent.	On Oxygen absorbed in 4 hours.	On Albuminoid Nitrogen.
Antea Works:													
Screened Sewage	3.87	13.13	11.3	13		—	—	7.10	1.17	—	—	—	—
Tank Effluent	2.78	8.31	11.2	0.6		—	—	6.60	0.70	—	—	—	—
Primary Effluent	1.18	3.72	11.8	3.6 H.		0.29	3.3	2.35	0.44	—	—	—	—
Secondary Effluent	0.56	1.54	11.5	trace		0.22	3.4	1.94	0.13	1.53	83.3	83.9	83.9
Bruma Works:													
Screened Sewage	3.72	11.67	12.8	41		—	—	5.77	1.46	—	—	—	—
Tank Effluent	2.73	7.17	13.9	0.9		—	—	5.97	0.65	—	—	—	—
Primary Influent	1.87	5.06	14.1	1.0		—	—	3.83	0.65	—	—	—	—
Primary Effluent	1.44	4.11	14.3	4.6 H.		0.25	2.1	1.92	0.78	—	—	—	—
Secondary Effluent	0.44	1.21	14.1	0.2		0.05	1.8	1.19	0.17	1.27	89.6	83.4	83.4
Cynda Works:													
Screened Sewage	2.38	8.10	7.8	8		—	—	5.10	0.93	—	—	—	—
Tank Effluent	1.97	6.36	8.1	2.5		—	—	4.45	0.73	—	—	—	—
Primary Effluent	1.00	3.03	8.2	2.5 H.		0.19	3.6	1.24	0.38	—	—	—	—
Secondary Effluent	0.35	1.01	8.2	—		0.06	3.1	1.05	0.14	0.85	87.5	88.0	88.0
Delta Works:													
Screened Sewage	3.30	9.68	8.4	40		—	—	5.01	1.25	—	—	—	—
Tank Effluent	2.25	5.57	9.0	1.6		—	—	5.26	0.72	—	—	—	—
Primary Effluent	0.89	2.30	8.6	18 A.S.		0.32	1.4	1.92	0.32	—	—	—	—
Secondary Effluent	0.43	1.14	8.5	trace		0.27	2.2	1.46	0.18	1.41	88.2	85.6	85.6
Klipspruit Farm:													
Screened Sewage	8.73	27.02	17.7	21		—	—	7.71	2.63	—	—	—	—
Tank Effluent	5.46	15.91	16.8	2.1		—	—	6.71	1.42	—	—	—	—
Effluent to Homestead Farm	1.31	3.63	28.2	trace		0.05	0.8	2.41	0.31	4.61	86.6	88.2	88.2
Effluent from Harrington Spruit Filter	0.93	2.59	32.3	—		0.04	2.3	1.83	0.21	3.01	90.4	92.0	92.0

H = Humus. A.S. = Activated Sludge.

CHEMICAL EXAMINATION OF THE WATER FROM THE MUNICIPAL SWIMMING BATHS, JOHANNESBURG, SEASON 1938/1939.

Examined at the Municipal Bio-Chemical Laboratory, Cydn.

Free Chlorine expressed as parts per million.

"Alkalinity" expressed as ccs. — HCL per 100 ccs. 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: Refer to total solids on ignition.

BATH.	Time Taken.	Free Chlorine.	Total Chlorine.	pH.	Alkalinity.	SOLIDS.			Total Hardness.	Oxygen (absorbed in 4 hours.)	Nitrite Nitrogen.	Nitrate Nitrogen.	Ammoniacal Nitrogen.	Albuminoid Nitrogen.	B.O.D.	SO ₂	Fe ₂ O ₃ + Al ₂ O ₃	CaO.	MgO.	Remarks.
						Total Soluble.	Loss on Ignition.	Total												
Ellis Park -	B 10.35 a.m.	Trace	1.4	7.9	1.6	15.02	4.90*	5.2	0.12	nil.	0.048	0.013	0.013	0.013	0.05	3.10	0.26	3.36	1.67	* Slight charring. Opening day of season.
	E 10.45 a.m.	0.1	6.6	7.8	1.1	28.86	8.72	9.8	0.06	n	0.06	0.005	0.006	0.006	0.11	3.9	0.27	4.79	0.48	
Malvern	B 10.45 a.m.	nil.	1.6	7.7	1.6	15.57	4.41*	8.6	0.13	nil.	0.028	0.005	0.006	0.006	0.069	2.62	0.49	2.66	1.36	* Slight charring. Opening day of season.
	E 8.30 a.m.	0.4	8.0	8.0	1.5	34.40	5.07	6.7	0.04	—	0.076	0.005	0.010	0.010	0.14	4.3	0.20	3.51	0.38	Slight charring; no odour.
Mayfair	B 11.40 a.m.	0.1	1.4	8.0	2.0	17.43	5.80*	6.9	0.11	nil.	0.044	0.010	0.010	0.010	0.09	2.80	0.31	3.30	1.74	* Slight charring. Opening day of season.
	E 4. 0 p.m.	Trace	5.2	7.5	0.9	22.21	5.06	8.0	0.05	nil.	0.08	0.003	0.006	0.006	0.07	3.1	0.47	3.03	0.38	
Milner Park -	B 12.50 p.m.	0.5	1.6	7.9	2.2	16.43	5.78*	7.4	0.08	nil.	0.052	0.008	0.008	0.118	0.11	1.00	0.31	4.17	2.66	* Much charring. Opening day of season.
	E 3.55 p.m.	nil.	10.8	7.5	1.8	34.74	5.47	11.5	0.05	nil.	0.13	0.007	0.011	0.011	0.13	4.3	0.34	5.33	0.51	Slight charring.
Paterson Park	B 1.20 p.m.	0.1	2.2	7.6	1.5	15.65	4.45*	9.0	0.08	nil.	0.024	0.006	0.011	0.069	3.61	0.30	0.30	2.81	1.36	* Slight charring. Opening day of season.
	E 8. 5 a.m.	0.3	7.6	7.9	1.8	29.59	4.15	8.3	0.05	—	0.104	0.005	0.008	0.008	0.15	3.5	0.18	3.81	0.45	
Pioneer Park	B 11. 0 a.m.	Trace	1.7	8.0	1.8	18.07	5.78*	7.4	0.11	nil.	0.036	0.009	0.018	0.018	0.12	3.10	0.36	3.84	1.81	* Much charring. Opening day of season.
	E 10.10 a.m.	0.6	10.9	7.8	1.4	39.16	7.73	12.5	0.04	nil.	0.16	0.016	0.008	0.10	6.1	0.38	0.38	5.96	0.63	
Rhodes Park -	B 11. 0 a.m.	2.0	2.6	7.4	1.3	17.41	5.77*	9.0	0.06	nil.	0.032	0.016	0.013	0.046	3.94	0.27	0.27	2.89	1.46	* Some charring. Opening day of season.
	E 8.45 a.m.	0.3	8.1	8.0	2.7	37.81	8.59	6.7	0.02	nil.	0.136	0.003	0.009	0.009	0.14	4.30	0.35	2.66	0.54	
Turfont'n	B 11.20 a.m.	1.0	1.9	8.0	1.7	17.97	5.86*	6.5	0.17	nil.	0.036	0.009	0.013	0.013	0.07	2.8	0.83	3.56	1.63	* Charring. Opening day of season.
	E 9.50 a.m.	0.4	10.2	7.8	2.1	37.02	6.59	8.8	0.06	nil.	0.12	0.009	0.006	0.006	0.03	2.7	0.67	3.78	0.52	
Yeoville	B 1. 0 p.m.	0.1	2.2	7.7	1.7	16.39	4.51*	9.0	0.09	nil.	0.028	0.003	0.003	0.003	0.046	3.61	0.27	2.88	1.38	* Charring. Opening day of season. Considerable charring.
	E 11.45 a.m.	Trace	4.9	8.0	2.3	25.82	6.18	7.4	0.06	nil.	0.06	0.004	0.005	0.005	0.12	2.7	0.26	3.78	0.45	
Zoo Lake -	B 12.25 p.m.	0.2	2.4	8.0	1.9	18.20	5.92*	7.8	0.10	nil.	0.040	0.008	0.017	0.017	0.09	3.10	0.38	3.67	1.50	* Much charring. Opening day of season.
	E 8.45 a.m.	0.3	10.1	7.8	1.7	30.33	6.82	7.9	0.04	nil.	0.24	0.019	0.005	0.005	0.10	4.3	0.20	2.98	0.56	

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, Native and Coloured persons have been visited, inquired into and reported on in the usual way.

SLUMS AND INSANITARY PROPERTIES.

SLUMS ACT.

At the commencement of the period under review, the Department was dealing with 292 properties under the Slums Act, and during the year action was instituted in terms of the said Act in respect of 181 properties situated in the following townships:—Vrededorp, 91; Bertrams, 31; Ferreira's, 3; Lorentzville, 5; Doornfontein, 3; Jeppes, 4; City and Suburban, 1; Johannesburg, 19; North Doornfontein, 1; Rosettenville, 1; Turffontein, 7; Turffontein West, 1; Fordsburg, 8; Klipriviersberg, 3; Parktown North, 1; Rosettenville Extension, 2.

On the 30th June, 1939, the position with regard to the 473 properties concerned was as follows:—

- (a) Properties declared slums and such declaration rescinded after the premises had been demolished or reconstructed, 94 (North Doornfontein, 2; Vrededorp, 2; Jeppes, 6; Fordsburg, 17; Booysens Reserve, 1; City and Suburban, 1; Bertrams, 3; Ferreira's, 3; Johannesburg, 6; Springfield, 25; Forest Hill, 1; Lorentzville, 6; Doornfontein, 6; Wolhuter, 1; Denver, 7; Rosettenville, 2; Turffontein, 3; Norwood, 1; Rosettenville Extension, 1).
- (b) Properties declared slums, further action to be taken to be decided, 68 (in Albertsville).
- (c) Properties declared slums, reconstruction or demolition in progress, or notices to be served under Section 5 (1) (a) and (b), 232 (North Doornfontein, 1; Vrededorp, 152; La Rochelle, 3; Jeppes, 4; Klipriviersberg, 3; Fordsburg, 7; Turffontein West, 2; City and Suburban, 1; Bertrams, 14; Marshalls, 1; Ferreira's, 3; Johannesburg, 12; Springfield, 11; Lorentzville, 2; Doornfontein, 1; Farm Cyferfontein, 1; Denver, 3; Kenilworth, 1; Turffontein, 7; Newtown, 1; Parktown North, 1; Rosettenville Extension, 1).
- (d) Properties demolished or reconstructed as the result of undertakings given by owners, 10 (Jeppes, 1; City and Suburban, 2; Johannesburg, 2; Doornfontein, 3; Rosettenville, 1; Turffontein, 1).
- (e) No undertakings were accepted from owners during the period under review.
- (f) Number of properties in respect of which evidence has been heard by the Public Health Committee, and its decision reserved, 44 (Vrededorp, 32; Ferreira's, 2; Johannesburg, 7; Doornfontein, 3).
- (g) Properties to be acquired by the Council by agreement or expropriation, 25 (North Doornfontein, 3; Bertrams, 18; Lorentzville, 4).

It will be seen from the foregoing that the number of properties being dealt with in terms of the Slums Act at the close of the year under review is 344.

Included in the 473 properties dealt with during the year there are included 25 properties (Vrededorp 24, Doornfontein 1) in respect of which action had been previously instituted and where it was found expedient to resubmit same to the Public Health Committee for reconsideration.

During the year 14 houses of "ill repute" situated in the central area were dealt with under the Slums Act.

3,180 insanitary properties were inspected during the year under review.

EUROPEAN HOUSING.

The Department has under its jurisdiction the control and administration of the Council's European Housing Schemes.

At the end of the period under review three separate schemes for Sub-economic Housing were completed and the main details of each scheme are given hereunder:—

(a) JAN HOFMEYER TOWNSHIP.

This is the first European Sub-economic Scheme undertaken by the Council, and it was completed for occupation during February, 1937.

The township is situated on the Brixton Ridge on an open site to the north-west of the City proper, with a good hygienic aspect and well placed for quick access to the main industrial and business areas.

The estate consists of 194 houses of three main types, 47 per cent. of which have two bedrooms and 53 per cent. have three bedrooms. In addition to the sleeping apartments each house has a living room with a gas heater, a kitchen fitted with a gas cooker, sink and ventilated food cupboard; a bathroom with bath and wash-hand basin; a water closet, and a brick storage shed in the yard.

The houses are of brick construction with corrugated iron roofs. Each cottage stands on its own plot of ground of an average size of 50 feet wide and 75 feet deep, and which is completely fenced.

The estate is completely sewered and provided with the City's electricity, gas and water services.

The rentals are 10s. per week for the two-bedroom units and 12s. 6d. per week for those with three bedrooms.

Layout and other amenities.

This estate is provided with children's playgrounds fully equipped, a sports ground and various other open spaces. A sum of £6,000 has been sanctioned for a communal hall within the township, and organised communal social and recreational activities among the tenants will be encouraged. In addition this building is designed to include accommodation for a nursery school and an Infant Welfare Clinic as well as the estate offices, repair workshop and native quarters, etc.

All streets are now made, tarred, kerbed and channelled for stormwater drainage. Young trees have been planted on the sidewalks and on open spaces. Gardening is fully encouraged by the provision of manure and sludge for fertilising, a free water supply up to 3,750 gallons per house and an annual competition for money prizes.

The township presents a cheerful and bright appearance with the active interest in gardening throughout and can be regarded as a good example of a model garden village.

Effects.

This being the oldest scheme and now under occupation for almost 2½ years, it has been possible to assess the value and effects of facilities which are designed to foster the rehabilitation of the low-income families.

There is indisputable evidence that the improved environment and the provision of comfortable, sound accommodation at rentals which are reasonably within the reach of the small wage-earners, is proving highly beneficial from the point of view of general health, outlook and comparative prosperity. More particularly are the improved conditions perceptible among the children who frequently have been accustomed previously to somewhat restricted movement in depressing and often insanitary atmospheres. Financial rehabilitation is also evident among a number of the tenants, and the Council is considering the provision of an economic scheme which will enable these families to undertake the purchasing of their own homes on a suitable long term repayment basis.

(b) MAURICE FREEMAN HOUSING SCHEME.

This is one of two later schemes undertaken by the Council and full occupation was completed during April, 1939.

In essence this may be regarded as a "clearance scheme" as the site was previously occupied by a conglomeration of insanitary rooms and dwellings rented mainly by coloured people.

The site is situated in the suburb of Bertrams about one mile, as the crow flies, to the east of the City proper. The ground is approximately 20 acres in extent and was purchased by the Council on a private agreement basis. The slum properties were demolished and in place thereof a well designed sub-economic scheme was constructed. This procedure had the effect of converting a particularly bad blighted area, in the midst of a moderately good residential area, into a modern, self-contained residential section appropriate to the surroundings and providing much needed accommodation for the European families employed within a reasonable distance of this locality.

The scheme at the present stage consists of 70 houses, 30 of which have two bedrooms and 40 having three bedrooms; in addition there are four blocks of flats or maisonnettes, comprising 36 with two bedrooms and 12 with three bedrooms; the total accommodation being for 118 families.

As a result of experience gained with the earlier Jan Hofmeyr scheme a number of improvements was incorporated in the construction of the dwellings and maisonnettes, such as the provision of a slow combustion stove (in addition to the gas cooker in the kitchen), which provides hot water to the bathroom and the kitchen sink; larger rooms; the elimination of vermin harbourage by dispensing with wood skirtings and providing metal picture rails; improved permanent ventilation; terrazo tops to sinks and a clothes cupboard in the main bedroom.

In the maisonnettes central hot water supply is provided to baths, basins, sinks and wash troughs, which latter are situated on the back verandahs of each unit. Clothes drying is carried out on washlines in a central courtyard around which the two-storeyed buildings are arranged in the form of a quadrangle.

Each house is on its own fenced plot, approximately 45 by 75 feet.

A large park and children's playground is provided for and is at present being laid out. Streets are all made, tarred, kerbed and channelled for stormwater drainage.

£4,000 has been provided for the erection of a communal hall, administration offices and the building includes accommodation for a nursery school.

The rentals for the various types of accommodation in this scheme are as follows:—

For two-bedroom detached house	...	12s. 6d. per week.
For three-bedroom detached house	...	15s. 0d. per week.
For two-bedroom maisonnette	...	15s. 0d. per week.
For three-bedroom maisonnette	...	17s. 0d. per week.

The increase in rentals against those for Jan Hofmeyr Township is due to the enhanced building costs and the improvements in the individual units.

Certain strips of ground contiguous to the east and south sides of the estate are occupied by slum premises which are being dealt with under the Slums Act. The ground is being purchased by the Council for the purpose of expanding the housing scheme at some future date. A portion of this area on the east side of the scheme has in fact been set aside for the construction of a residential club for working girls to accommodate 100 residents.

Although this scheme is comparatively new, there is already every indication of it being a success as a means for the rehabilitation of wage-earners on the sub-economic level.

(c) PIONEER HOUSING SCHEME.

This is the second of the two newer schemes and is situated in the southern suburbs on a portion of the suburb of Glenesk, within walking distance of a rapidly expanding industrial area. The site is approximately 18 acres in area and was formerly open ground which was purchased outright by the Council.

The accommodation consists of 96 houses, of which 43 have two bedrooms, 45 have three bedrooms, and eight have four bedrooms.

In addition there are three blocks of maisonnettes, containing a total of 24 self-contained units, of which there are 18 with two bedrooms and 12 with three bedrooms, accommodation being provided for a total of 120 families.

The constructional details and improvements are similar to those of the Maurice Freeman Scheme, the two being built almost simultaneously.

The occupation of this scheme was completed during June, 1939.

A communal hall, including administrative offices, repair workshop and native quarters, etc., is provided and the building was completed during May, 1939. This provision is much appreciated by the tenants, and early efforts have been made to organise activities of communal interest. The Council is providing equipment in the form of seating, tables and a piano, etc.

The layout includes a children's playground, school site and open spaces. The planting of trees and the development of gardens on open areas is also being arranged.

The scheme includes the provision of a residential club to accommodate 50 working girls. The building is now nearing completion and it is anticipated that it will be functioning towards the end of 1939.

The rentals for the different types of accommodation are the same as that for the Maurice Freeman Scheme except that there are eight houses with four bedrooms, for extra large families, in this scheme only, and the weekly rental therefor is 17s. 6d.

FINANCIAL DETAILS.

Capital outlay to 30/6/39.

	Jan Hofmeyr Township.	Maurice Freeman Housing Scheme.	Pioneer Housing Scheme.
Amount allowed for layout of parks and open spaces	£4,750	£4,750	£2,250
Amount allowed for communal halls, offices, etc.	£6,000	£4,000	£3,000
Estimated total Capital Outlay	£130,410	£172,250	£120,500

In view of the fact that the redemption payments on the loans for any particular scheme do not commence until such scheme is completed, it is not possible at the present stage to give an accurate indication of the annual losses incurred in each case.

In each of the three schemes the following conditions are applicable:—

Water is supplied free to each accommodation unit up to 3,750 gallons per month; consumption beyond this allowance must be paid for by the consumer at the standard rate of 2s. 11d. per 1,000 gallons.

Gas is provided for cooking and living room heating in each unit at a reduced charge of 3s. 4d. per 1,000 cubic feet and is paid for through a slot meter.

Electricity is supplied for lighting and domestic power, such as ironing, etc., at the standard rate of 6 units at 4d. per unit for each room (bedrooms and living room) and ½d. per unit for the balance. Payment is made through the slot meter system.

Sewerage is provided throughout and all streets are made, tarred, kerbed and guttered.

FUTURE EXPANSION AND AN INDEX OF THE NEED THEREFOR.

The demand for adequate housing provision may be assessed to some extent from the results of a complete survey of insanitary properties in Johannesburg which was undertaken by the Department during the latter portion of 1936 and the early portion of 1937. This survey was completed during March, 1937, and the results are indicated on the following schedule:—

Number of Families to be Displaced from Insanitary Properties.

A. European Families	...	...	6,735
B. Asiatic Families	...	...	874
C. Coloured Families	...	...	2,747
D. Native Families	...	...	5,497

At the time of the completion of the above schedule, Jan Hofmeyr Township was fully occupied.

In so far as the Europeans are concerned it may be accepted that a fair proportion of the number of families to be displaced will constitute those eligible for sub-economic housing.

A different form of assessing the demand for sub-economic housing is an analysis of the number of applications which have been received since the inauguration of the schemes in Johannesburg up to the end of the period under review.

Such an analysis, however, can only be regarded as an approximation of recorded requirements and cannot be considered as an accurate estimation from which may be deduced the full extent of the demand.

ANALYSIS OF APPLICATIONS FOR HOUSING UP TO 30/6/39.

Total number received	3,239
Total number of families housed, including replacements for removals	502
Total number of applications regarded as having lapsed through lost contact, duplications, family changes, high earnings, etc.	1,192
Total number of applications regarded from the declarations on the application form as eligible cases	1,408
Total number of applications from families of two persons only (accommodation not provided)	137

From the knowledge of the slum conditions in the City and based on the information provided by the survey of insanitary premises, it is estimated that the provision of a further 2,000 accommodation units would meet requirements for some years to come. The rehousing of so large a number of families will not only facilitate slum clearance, but will also ease the pressure of the present demand for accommodation, which is in private hands, at rents within the range of families on low wage levels.

The City Council will provide for future expansion requirements by means of a scheme on a far larger scale than has been undertaken heretofore.

This scheme is known as the Klipriviersberg Estate Housing Scheme, arranged on a site having an area of approximately 310 acres of land forming portion of the Klipriviersberg Estate Small Holdings.

This site is situate to the south-east of the City, in a moderately high position with a slight general fall to the north.

The ground was purchased at a cost of approximately £83,000, and it is intended to establish a sub-economic housing scheme with accommodation for approximately 2,000 families. Consideration has also been given to the inclusion of appropriate accommodation for aged persons comprising married couples or companions.

RESIDENTIAL CLUBS FOR WORKING GIRLS.

In addition to the residential club for 50 girls now under construction in the Pioneer Housing Scheme, the Council has approved of the principle of establishing similar institutions in different parts of the City accessible to areas in which there are employed a large number of females who are likely to require such accommodation.

At the present stage the preliminary work is in hand for the construction of one club to accommodate 100 girls in the Maurice Freeman Housing Scheme, at an estimated cost of £21,750, and another in the suburb of Langlaagte, to the west of the City, for 50 girls, at an estimated cost of £11,900.

It is anticipated that the control of these clubs will be vested in the City Council, which will be guided by an Advisory Committee, comprising representatives of organisations carrying out similar work or familiar with the conditions appertaining to the employment and housing of female workers.

PERSONNEL.

At the present stage of development of the housing schemes the required personnel for efficient administration is as follows:—

- (a) A Director of Housing.
- (b) Two Housing Manageresses.
- (c) Three full-time handymen, one on each estate, with native assistants.

An interesting feature in connection with the work of the specially trained Manageresses is the inauguration of a scheme by the Government, acting in co-operation with certain of the larger local authorities. This scheme provides

for the employment of a woman manager, who holds the Certificate of the Society of Women Housing Estate Managers, London, and who is trained under the well-known Octavia Hill System.

A three years' agreement has been entered into with one of these trained Manageresses (Miss D. E. Miskin), whose principal duty it will be to train students in Johannesburg for social welfare and estate work in connection with the Council's Housing Schemes. These trainees, who are paid by the Government at approximately £10 per month, will be interchangeable over a period of two years, between large towns or cities where a certificated and Octavia Hill trained Manageress is employed, as at Cape Town, etc. The ultimate aim is to produce in South Africa from these highly qualified trainees a supply of efficient women managers capable of administering to the best advantage housing schemes of local authorities duly approved by the Central Housing Board and the Administrator of the Province.

CURTAILMENT OF FUNDS.

A regrettable feature involved with the anticipated expansion of housing provision is the curtailment of Government funds for sub-economic housing during the financial year ending 31st March, 1940. The allocation of the amounts which has been made for the various schemes will not appreciably affect the three existing schemes, but so far it has not been possible to proceed with the construction of any accommodation in the larger Klipriviersberg Estate Scheme, which was regarded as most suitable for the early provision of much needed expansion.

The allocations for Girls' Residential Clubs are also restricted, and it will be possible to proceed with only the three clubs previously described herein.

It is hoped that representations which the City Council will make for increased allocations will be successful to the extent of obtaining further grants to allow of at least partial expansion, particularly for sub-economic housing.

COLOURED HOUSING.

Coronation Township for Coloured Persons.

During the previous year the Council purchased approximately 200 acres of ground adjacent to the southern boundary of the Western Native Township for the purpose of establishing a housing scheme for Eurafricans, at a cost of about £41,000 for the land. The full scheme approved by the Central Housing Board makes provision for the erection of 900 houses of varying capacity and design, together with communal centre, parks, schools, church and hospital sites. The total estimated cost approved by the Administrator is £680,000.

As the first section of development, 250 houses of different design and capacity are under construction, and it will depend on the success of this experiment in housing for Eurafricans whether future expansion will be on similar lines.

NATIVE HOUSING.

The Council has under its control in its native locations, 8,830 houses, and in its hostels for single native men and women has 6,766 beds for males and 130 beds for females.

At the end of June, 1939, the Council housed approximately 75,000 natives in its various locations and 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 Manager of the Council's Non-European Housing and Native Administration Department reports that "at one time not more than 12 per cent. of natives evacuated from slum areas actually took up residence in locations and hostels. This figure is now 100 per cent., and in the present abnormal conditions obtaining, the demand is so keen that many subterfuges are employed by them to secure municipal accommodation."

ASIATIC HOUSING.

In addition to the activities detailed in the foregoing paragraphs the Council has now under consideration the provision of housing accommodation for Asiatics.

INSPECTION OF PLANS.

During the year under review 8,128 plans were approved, as against 9,175 the previous year; the estimated value of the work for the year ending 30th June, 1939, was £6,549,882 as against £8,392,688 for 1938, a decrease of £1,842,806.

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 and is acknowledged.

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 much 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 adopted have had 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 274 inspections in connection with repairs to buildings, and 268 inspections in connection with unauthorised buildings.

ANNUAL RECORD OF DUTIES PERFORMED BY DISTRICT INSPECTORS ONLY.

From 1st July, 1938, to 30th June, 1939.

This page, indicating as it does the mass activities of the Inspectorate Staff of the Department, is generally passed by—as being an incongruous mass of figures—by the public, the Press and those in authority. But in a way it is highly illuminating to those who wish to know the extent of the activities of the Staff of the Health Department of a large city. Including Licensing Inspections enumerated in the following table on "Licensed Places," it means that the Inspectorate Staff of the Department made 76,893 visits to various premises in the course of the year. That figure substantiates a claim to meticulous and comprehensive inspection of premises by the Inspectorate Staff of the Department, and, it is thought, leaves little leaven to the bread of those who exclaim that they haven't seen a Health Inspector or Sanitary Inspector for years.

INSPECTIONS.			
BUILDINGS—		INFECTIOUS DISEASES—	
Repairs to	274	Contacts	538
Unauthorised	268	Vaccination	5
CLOSETS AND URINALS—		LICENSED PREMISES—	
Inspected	5,301	Aerated Water and Ice Factories	144
Additional Provided	175	Asiatic Eating-houses	100
French Drains	282	Bakeries	1,575
Dwellings—Routine Visits ..	7,806	Hairdressers	1,068
Dwellings—Survey	2,799	Cinemas	272
Factories	1,790	Boarding-houses	1,135
Business Buildings	1,075	Butcheries	4,462
Native Housing	787	Cowsheds	11
Interviews—Owners, Agents, etc.	3,380	Dairies	42
Reports	1,822	Garages	502
NUISANCES—		General Dealers	12,754
Animals	458	Hawkers and Pedlars	1,376
Drainage	1,003	Hotel Dining-rooms	312
Fly	436	Ice Creameries	104
Manure	725	Kaffir Eating Houses	3,184
Mosquito	236	Laundries	689
Poultry	606	Lodging-houses	88
Rats	842	Milk Shops	6
Refuse	4,344	Noxious Trades	3,435
Slopwater	1,099	Nursing Homes	97
Smoke	227	Private Cows	106
Stables	972	Restaurants	1,961
Stormwater	702	Tea Rooms	2,811
Unspecified	1,150	NOTICES SERVED—	
Service Complaints	690	Statutory	3,106
Wells	562	Others	2,939
CYANIDE FUMIGATIONS—		Prosecutions	189
Supervised	3,983	Attendance at Court (Hours)	282
INFECTIOUS DISEASES—		Licensing Court (Hours)	286
Cases Investigated	1,428	Special Duty	372

LICENSED PLACES.

From 1st July, 1938, to 30th June, 1939, 6,809 applications for licences of various kinds have been dealt with, the premises in question being in all cases carefully examined as to sanitary requirements.

	Granted	Refused or not proceeded with	Total
1. Tea Rooms, Hotel Dining-rooms, Boarding-houses, Restaurants, etc. ...	1,239	133	1,372
2. Dairies and Cowsheds ...	127	27	154
3. Milk Shops and Milk Purveyors ...	1,097	118	1,215
4. Butcheries ...	627	85	712
5. Bakers and Confectioners ...	150	51	201
6. Permits to introduce or receive Milk ...	510	190	700
7. Kaffir and Asiatic Eating-houses ...	180	72	252
8. Nursing Homes ...	36	7	43
9. Laundries ...	84	19	103
10. Ice Cream Vendors and Manufacturers ...	759	52	811
11. Noxious or Offensive Trades ...	394	85	479
12. Aerated Water and Ice Factories ...	23	5	28
13. Hairdressers and Barbers ...	406	25	431
14. Lodging-houses ...	2	—	2
15. Hawkers and Pedlars of Foodstuffs ...	103	137	240
16. Private Cowkeepers ...	5	10	15
17. Upholsterers and Mattress Makers ...	40	11	51
	5,782	1,027	6,809

PROSECUTIONS.

Three hundred and eighty-nine persons were prosecuted involving 431 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 431 charges, 418 convictions resulted, and fines aggregating £1,670 5s. were imposed. Particulars are appended:—

Offence	Race			Total
	Whites	Natives and Coloured	Asiaties	
Failure to provide wholesome Water Supply ...	6	11	1	18
Dirty and Verminous Premises ...	11	1	3	15
Fumigation By-laws ...	8	—	1	9
Fly Breeding ...	14	—	1	15
Insufficient Sanitary Accommodation ...	14	—	—	14
Nuisances (Dirty Yards, etc.) ...	35	6	35	76
Dirty and Adulterated Milk ...	93	20	3	116
Food and Drugs Act ...	38	1	3	42
Unsound and Adulterated Foodstuffs ...	27	1	9	37
Food Exposed to Contamination ...	31	—	5	36
Unsound and Unstamped Meat ...	15	1	6	22
Slums Act ...	1	—	—	1
Obstruction ...	2	1	1	4
Unlicensed Premises ...	4	6	—	10
Midwifery Regulations ...	3	—	—	3
Not Classified ...	10	2	1	13
	312	50	69	431
RESULTS—				
Convicted and Fined ...	300	49	69	418
Convicted and Cautioed ...	3	—	—	3
Dismissed ...	5	1	—	6
Withdrawn ...	4	—	—	4
	312	50	69	431
AMOUNT OF FINES ...	£ 1,240 5 0	117 10 0	312 10 0	1,670 5 0

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

