

HD  
266  
.K42  
J4

UNIVERSITY OF KENTUCKY

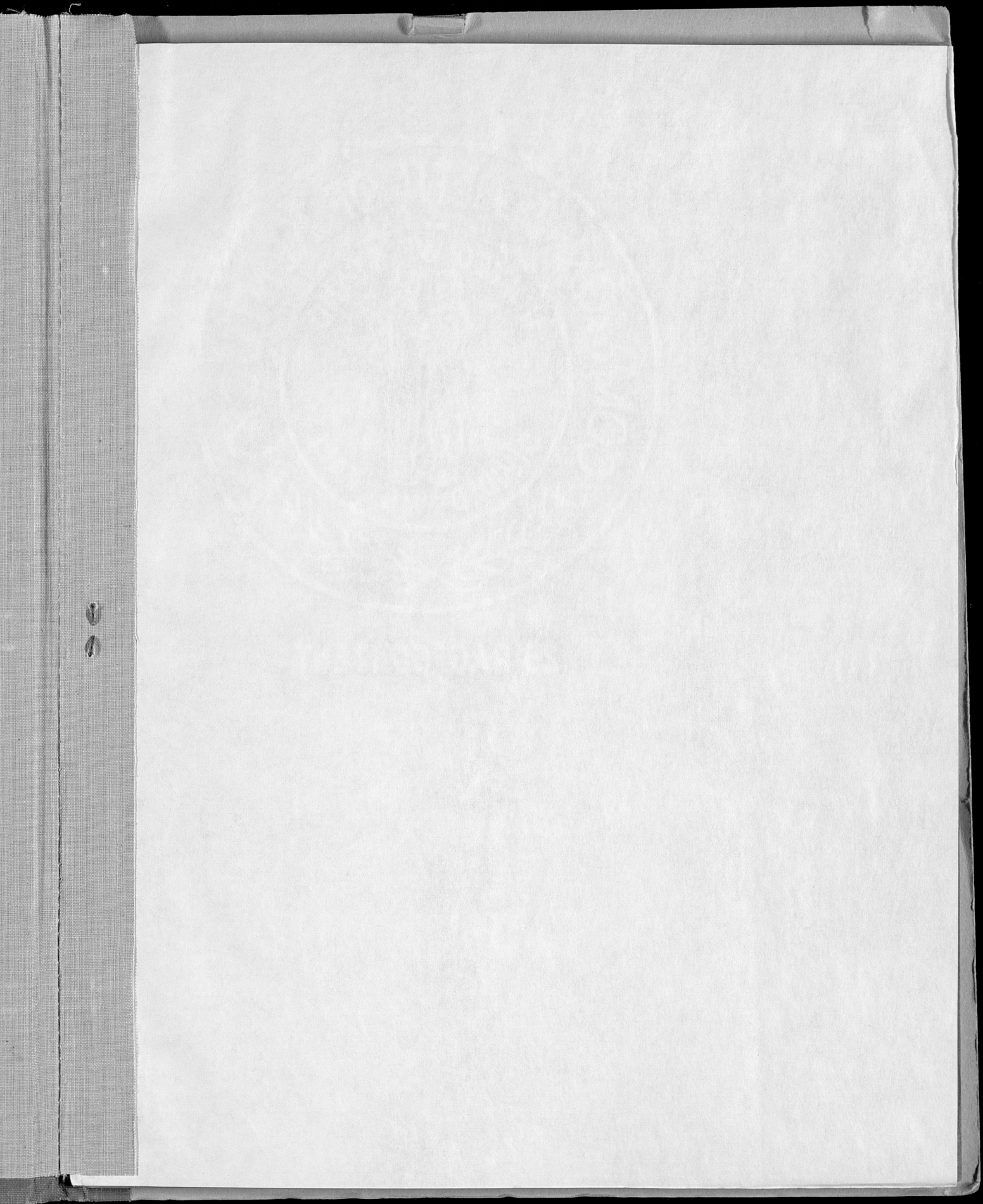


3 0425 4419952 5

REPORT OF THE REAL PROPERTY AND SANITARY SURVEY OF  
JEFFERSON COUNTY, KENTUCKY, 1939-1940

U.S. WORK PROJECTS ADMINISTRATION

Gaylord  
PAMPHLET BINDER  
Syracuse, N. Y.  
Stockton, Calif.





T

3.3

3

The Real Property and Sanitary Survey  
of  
JEFFERSON COUNTY,  
KENTUCKY

1939 - 1940

3.33

n 3



Report Of  
**THE REAL PROPERTY AND SANITARY SURVEY**  
of  
**JEFFERSON COUNTY, KENTUCKY**  
1939 — 1940

BY  
*U.S.*  
**THE WORK PROJECTS ADMINISTRATION**, *ky.*

(Official Project No. 665-43-3-320)

(Work Project No. 5544-56)

PUBLISHED BY  
**THE FISCAL COURT OF JEFFERSON COUNTY**

Under Direction Of  
**THE JEFFERSON COUNTY HEALTH DEPARTMENT**

**DR. JOHN D. TRAWICK**  
Health Officer

333.33  
Un3

JEFFERSON COUNTY BOARD OF HEALTH  
LOUISVILLE, KENTUCKY

**DR. ROBERTSON JOPLIN, CHAIRMAN**  
DR. J. B. LUKINS, VICE CHAIRMAN  
DR. LEE PALMER

DR. JOHN D. TRAWICK  
COUNTY HEALTH OFFICER

MRS. MARGARET H. LECOMPTE, SECRETARY

JUDGE MARK  
DR. JAMES H. P

kg 333.33 Un3  
United States Work Projects  
Report of the real property a  
HD266.K42 J4

To His Honor

Mark Beauchamp, County Judge

And to the  
Commissioners of the  
Fiscal Court

of  
Jefferson County, Kentucky

James Henning  
Joseph Muenninghoff  
Ben F. Ewing  
Robert A. Fihe,  
succeeding Commissioner Muenninghoff.

LIBRARY,  
UNIVERSITY OF KENTUCKY

Gentlemen:

Herewith is transmitted for your information and approval  
a compilation and summary of the data gathered by the re-  
cently completed survey of housing and sanitary conditions  
in Jefferson County, a work of great significance to the  
health of the citizens of this county, and we believe, a  
testimonial to the fidelity with which you serve their  
interests.

*John D. Trawick*  
Dr. John D. Trawick  
County Health Officer



ALTH

JUDGE MARK

DR. JAMES H. P

## ACKNOWLEDGMENT

In the following pages will be found data, compiled and gathered in condensed form, woven into a narrative of the recently completed Jefferson County Real Property and Sanitary Survey.

The vast accumulation of information and the proved high degree of accuracy in the completed pages could not have been long accomplished except through the earnest cooperation of all the persons and agencies concerned.

To the Work Projects Administration and to the Sponsors in the Court, the Health Department offers most sincere thanks for providing personnel and funds.

The Health Department of Jefferson County has long desired, but had little hope of ever obtaining, the information provided by this survey. With WPA cooperation the major obstacle of financial difficulty was reduced to a minimum, and the availability of trained dependable enumerators made the survey possible.

Procedure, field schedules and tabulations were planned and devised in entirety by the State Board of Health, County Board of Health, and WPA personnel. The survey was the first, of such a type, ever attempted on such a large scale. No standard plans or method of procedure such as those for the Real Property Survey were available.

Major factors in arriving at a successful achievement of this task were the ability and faithful interest of the persons employed, together with the interest and cooperation exhibited by the residents of Jefferson County. The fact that county residents are health minded was demonstrated by the manner in which enumerators were received. The survey was completed with no premise occupant refusing to give the required information.

Particularly do we owe gratitude and appreciation to the State Health Department and to Mr. F. Clarke Dugan, Chief Sanitary Engineer.

To Mr. Maurice L. Miller, former Sanitary Engineer, and Director of the survey, we gladly give tribute for vision and rare supervising ability.

To Mr. Warren Shallcross, Office Manager, for notable, clearheaded superintendance of a complicated task.

To the County Board of Education for their cooperation in opening the County Schools to the enumerators.

To every individual in the personnel, who served as inspector, clerk, compiler, draftsman or technician, we owe appreciation for earnest work well done.

Mr. Marshall F. Dumeyer has been detached from the survey and has been brought over into the Health Department personnel, and been given the title and office of Housing Inspector. His faithfulness as Supervisor of the WPA project proved him most capable to assume even a more responsible position in the Health Department. To him has been assigned the task of preparing this narrative, and the following pages carry his imprint in every line and tabulation.

497313

f.  
CKY  
and approval  
ed by the re-  
ary conditions  
ance to the  
believe, a  
rve their

awick  
Officer

## TABLE OF CONTENTS

	Page
Jefferson County Health Department . . . . .	1
Jefferson County, Kentucky . . . . .	1 - 2
Jefferson County Real Property and Sanitary Survey . . . . .	2 - 3
Definitions . . . . .	4 - 7
Field Schedules . . . . .	8 - 10
Operation Methods of Survey . . . . .	11 - 12
Real Property Survey . . . . .	14 - 28
Sanitary Survey . . . . .	30 - 44
Water . . . . .	30 - 38
Sewage Disposal . . . . .	38 - 41
Toilet Facilities . . . . .	41 - 43

In Ken  
health d

Before  
nts shou  
logical un

In vie  
ky. In  
States.  
or creati  
by the K

By 190  
that here  
was three  
y, North  
et fever,  
ction of  
cularly i  
ng of dai  
individual

The ge  
rmation of  
David Dale  
d limeston

Geolog  
his type o  
ems, perme  
ase direct  
r water.

As far  
gishness o  
rious to t  
t influenc  
ed to piles  
ne."

The "s  
Kliffe stat  
city witho

In 185  
rica," writ  
nearly ever

## THE JEFFERSON COUNTY HEALTH DEPARTMENT

In Kentucky originated the idea of administering public health in rural areas through health departments carrying especially trained personnel devoting full time to the work.

Before 1900, Dr. J. N. McCormack, State Health Officer of Kentucky, held that health departments should be a part of the governmental system, and that the County Health Department was a logical unit to establish. This belief remains generally accepted to the present day.

In view of this background it was natural that the idea was first given concrete form in Kentucky. In Jefferson County was organized the first full time county health department in the United States. That it may not have been the first in name is due to lack of legislation providing for creation and maintenance of full time health departments until such legislation was enacted by the Kentucky General Assembly in 1918.

By 1908, thanks to Dr. McCormack, Jefferson County had become health conscious to the extent that here was being maintained a thoroughly equipped, full time, County Health Department. This was three years prior to the opening of units in Yakima County, Washington, and Guilford County, North Carolina. Activities included control of tuberculosis, typhoid fever, diphtheria, and scarlet fever, smallpox and other communicable diseases; registration of births and deaths; collection of specimens for analysis by a laboratory, chemical and bacteriological; sanitation, particularly in schools and institutions; inspection of food and beverage establishments; mastitis of dairy cows and other milk control work, and the important duty of educating the public in individual and community health.

Page

- . . . . . 1
- . . . . . 1 - 2
- ey . . . . . 2 - 3
- . . . . . 4 - 7
- . . . . . 8 - 10
- . . . . . 11 - 12
- . . . . . 14 - 28
- . . . . . 30 - 44
- . . . . . 30 - 38
- . . . . . 38 - 41
- . . . . . 41 - 43

### JEFFERSON COUNTY, KENTUCKY

The geographic area known as Jefferson County, Kentucky, lies for the greater part over a formation of cracked, cavernous limestone. In his report of the geological survey of 1854, David Dale, State Geologist, says, "Jefferson County subsurface strata are composed of fractured limestone resting on black Devonian shale."

Geologists and sanitarians realize that most of the pollution of wells and springs is due to this type of geological formation. Surface waters and seepage from inadequate sewage disposal systems, permeate and penetrate these strata, carrying their cargo of potential sickness and disease directly into the cavernous, water-carrying limestone, from which numerous wells secure their water.

As far back as 1819, Dr. Henry McMurtrie in his "Sketches of Louisville" stated: "The malariousness of Beargrass Creek during the summer is, I have no doubt, productive of consequences serious to the health of inhabitants of this and adjacent towns predisposed to fevers by the influences of climate, marshes and decayed or decaying vegetable matters. They may be compared to piles of combustibles which need but the application of a single spark to rouse them into flame."

The "single spark" evidently struck and flared in 1822 - "the fever year." Judge Robert Kliffe stated that upon coming to Louisville to hold court he was told there was no house in the city without its sick or dead.

In 1850, Dr. Daniel Drake in his treatise on "Diseases of the Interior Valley of North America," writes, "Louisville under guidance of intelligent and efficient Boards of Health reform-nearly every element of bad sanitation provided by the physical geography of the site. Before

this the pestilence which prevailed was induced by ponds and careless habits of living." Benjamin Casseday in his 1852 "History of Louisville" says, "Fever, ague and more deadly ills made life a burden in Louisville in the early 1800's, and the city came to bear the name "Graveyard of the Ohio." However in 1833 when cholera swept the state with such deadly effect, Mr. Casseday states that Louisville "hardly knew of its presence," because of improved sanitary conditions.

Following this, Mr. Deering in his pamphlet of 1859 says that the cholera visitations of 1832, 1833 and 1849 that did hit Louisville originated each in identically the same city square and that when sanitary conditions in this area improved the cholera did not return.

It is obvious that efficient health supervision, which corrected many conditions including the cleaning up of "decayed and decaying vegetable matter," prevented the reappearance of cholera, and the elimination of ponds and swamps together with an educational campaign leading to the bettering of many "careless habits of living," were major factors in reducing the number of communicable disease cases having their origin in filth.

The city of Louisville had, and still has, a Health Department, appointed by the Mayor, operating within the city limits. Since its inception the Jefferson County Health Department has devoted its full time, energy and ability to the bettering of conditions outside the limits of the City of Louisville. It is only through constant supervision, preventive inoculations, intensive work and constant educational enlightenment that the County Health Department has a fair opportunity of preventing Dr. McMurtrie's "single spark" from causing a conflagration among citizens in the county area where, as proven by this survey, many of the same, or worse, conditions still exist. In many of these areas the population is heavier than that of like sized areas in early Louisville and additional population adds materially to the prospect of the "spark" flaring anew.

Health Officers and sanitation experts cannot, unaided and alone, remedy existing conditions or prevent pollution of water sources and saturation of surface and subsurface strata by filth from inadequate sewage systems and privies. However the dangers from such conditions can be reduced to a minimum by constant supervisory control in conjunction with proper legislative action and the full cooperation of the county residents.

A knowledge of the geologic conditions, and a deep concern for the health of the people living in communities and in areas outside the reach of protected water supplies and adequate sewage disposal systems, gave rise to the earnest desire of the Board of Health of Jefferson County and the present Health Officer to determine what sanitary conditions actually were in the county, which could be disclosed only by careful survey of each and every premise.

To this end, Federal aid was sought, and through the Work Projects Administration were supplied funds of more than \$88,000, the Fiscal Court of the county readily supplying the sponsor's contribution, amounting to approximately \$20,000.

### THE JEFFERSON COUNTY REAL PROPERTY AND SANITARY SURVEY

The Jefferson County Health Department, holding the proud distinction of being the first full time Health Department in the United States, now has the additional distinction of being the only County Health Department which can accurately and immediately answer eighty-three questions regarding water, sewage disposal, toilet facilities and housing conditions for each and every premise in the county. This accomplishment was made possible by completion of the Real Property and Sanitary Survey, the field schedules, water analysis cards, maps, tabulations and records which are now a permanent and vitally important part of the files of the Health Department.

This survey was inaugurated and completed with approval of the Fiscal Court and placed

ts of living." Ben er the sponsorship of Dr. John D. Trawick, County Health Officer for the County Health Depart-  
eadly ills made life, and his staff, with the assistance of laboratory facilities of the State Department of  
me "Graveyard of the lth and the all-important cooperation of the Work Projects Administration which provided funds  
t, Mr. Casseday staturnish adequate and competent field workers, clerical people, laboratory assistants, drafts-  
y conditions. and supervisory personnel.

cholera visitations o The survey was officially opened on March 27, 1939, with a staff of sixty-seven (67) certi-  
r the same city square WPA workers and four noncertified supervisory employees, with Maurice L. Miller, at that  
t return. e Sanitary Engineer for the County Health Department, appointed as director of the enterprise.  
any conditions includ Miller has since resigned from the Department to enter private sanitary engineering and con-  
he reappearance of tant work. As the work progressed it was necessary to add additional WPA workers, the total  
al campaign leading ber employed reaching a peak of one hundred and nine (109) persons in July, 1939, and varying  
ducing the number of y slightly from that figure until the project neared completion in June of the current year.  
project was closed on July 25th, 1940, after sixteen months operation.

ointed by the Mayor, Data includes two field schedules, one containing sanitation information, the other real  
y Health Department erty data, for every structure, residential or otherwise, housing human beings in the entire  
outside the limits of nty outside the limits of the City of Louisville. Maps, charts and tabulations have been  
oculations, intensif wn and completed for the county as a whole, for each Sanitary District and for much smaller  
nt has a fair opport as, known as Enumeration Districts, this last named division enabling the department to supply  
n among citizens in study conditions in small specific areas or in heavily populated subdivisions and districts.  
nditions still exist ard file containing results of laboratory analyses of water samples from every water source  
eas in early Louisvll for drinking or cooking purposes is arranged in alphabetical order by user's name. This in-  
aring anew. mation is available by phone or mail request to any county resident.

remedy existing cond- At the close of the project as a Federal enterprise, the entire accumulated data was trans-  
subsurface strata by red officially to and became a part of the records of the Jefferson County Health Department.  
such conditions can Health Department now has the actual facts regarding every water source, its type and condi-  
n proper legislative on, every sewage disposal system, its type, condition and final discharge, and every privy, its  
e, condition and discharge, together with condition, type, number of rooms, residents and other  
tinent data for every structure in the county.

health of the people This survey, the first of its type ever attempted, was planned entirely by County and  
plies and adequate s- ate Health Officials and WPA administrative personnel and the results have been proved accurate  
h of Jefferson Count- l complete. Numerous inquiries have been received from doctors, health officials and sanitation  
ly were in the count- artments from all parts of the country, and one large University has requested complete details  
development and procedure and permission to use these as a part of their course in Sanitary  
Administration were eengineering.

supplying the spons- The following pages contain a narrative summary, with presentation of tables, indicating  
e results of the voluminous tabulations compiled from the actual field schedules. The Board of  
alth has long been aware that the serious conditions revealed by the survey existed, but never  
fore have they been able to present the factual evidence obtained by interview and observation,  
vering one hundred percent of all premises, water sources, sewage disposal systems, toilet  
ilities and housing data, contained in this report, and covering the entire area of the county  
tside the city limits.

## Y SURVEY

on of being the first  
stinction of being th  
ghty-three questions  
for each and every  
of the Real Property  
ations and records  
alth Department.  
al Court and placed

DEFINITIONS

REAL PROPERTY SURVEY

- Field Schedule**- The enumeration card which answered 28 questions pertaining to residential premises. (See page 8)
- Block List**- Field recapitulation form prepared during enumeration. (See page 10)
- Enumeration District**- A geographic area composed of a number of blocks bounded by definite streets or roads, used as a working area in the survey and for identification purposes.
- Sanitary District**- A geographic area used by the County Board of Health as one of three divisions of the county.
- Premise**- A residential structure.
- Block Tabulation**- A tabulation of all field schedules for one block.
- Residential Structure**- Any building containing living quarters even though other portions are used commercially or for industry.
- Dwelling Unit**- Any room or group of rooms used as a home. It was necessary that permanent cooking facilities be installed in order for a room or group of rooms to qualify as a separate dwelling unit.
- Monthly Rent**- The agreed tenant rental, the requested rental for vacancies and the estimated rental value on owner occupied premises.
- Converted Structure**- Any premise with a different number of dwelling units than was present in the original construction or where a business unit has been inserted.
- Non-Converted Structure**- Any premise with four or less dwelling units that cannot be classified in any other type. This includes tents, trailers, old army barracks, etc.
- Stories**- Full ceiling height. Where the top floor was cut into by the roof it was considered as a half story.
- Condition**
- Good** - No Repairs needed.
  - Minor Repairs** - Structurally sound, needs paint or paper, etc.
  - Major Repairs** - Need of immediate repair at considerable cost.
  - Unfit for Use** - Beyond repair or dangerous to health or safety.
- Flush Toilet**- An indoor toilet with running water.
- Bathing Unit**- A Bath tub or shower with running water.
- Rooms**- The number of complete, finished rooms. Hall, bathrooms and enclosed porches are not considered as rooms.
- Substandard**
- Physically** - When one, or more, of the following conditions exist: structure in need of major repairs, unfit for use, without toilet or bathing unit, without running water, or without gas or electricity.
  - Occupancy** - More than one and one half persons per room or with two or more families sharing one unit.
- Roomer**- A person, not related to the family, living in a dwelling unit and paying a specified rent.
- Extra Family**- A person or a family who would normally occupy a separate unit, now sharing one unit with the original family.

## SANITARY SURVEY

**Field Schedule** - The enumeration card answering 55 questions pertaining to the structure and sanitation facilities. (See page 9)

**Premise** - Any structure, residential or non-residential, housing human beings either as residents or workers.

**Drinking Water Sample** - Water obtained from a source used for drinking purposes. The specimen was collected in the standard sterile bottles used by the State Board of Health.

**Water Contaminated by Pollution** - Using water which analyzed as polluted or suspicious.

**Bacteriophage Coli** - Bacteria (colon bacilli) which normally inhabit the intestinal tract of men and animals and are passed out in large numbers with the excreta. Presence of B Coli warns that dangerous germs, such as typhoid, dysentery, etc., may be present. The presence of these colon organisms, in such small quantities of water as the sample, indicates potential danger to health in the total supply.

**Water Contaminated** - Presence of B Coli indicated.

**Water Suspicious** - No B coli; contains gas forming bacteria.

**Water Not Contaminated** - No harmful bacteria.

### **Water Systems**

**Private** - Located on and used only by the premise being enumerated.

**Community** - A water source owned and used by a community, or a private source used for community purposes.

**Public** - A water source located on a publicly owned property or a road right of way.

**Industrial** - A water source owned by an industry, the water being distributed through a private system.

### **Well Types**

**Drilled** - A well with a metallic pipe casing of from 4 to 8 inches in diameter, drilled into rock formation. The object of a drilled well is to pass through an impervious stratum into a pervious stratum beneath which water flows or rests upon another impervious stratum.

**Driven** - A well formed by driving a metallic pipe casing into a water bearing soil beneath the surface. The pipe is fitted with a perforated strainer allowing water to enter but excluding sand and gravel.

**Dug** - A well usually from 3 to 5 feet in diameter which has been dug to a comparatively shallow depth. It is lined with stone or brick and receives its water supply by seepage from the surface.

### **Water Treatment**

**Chlorinated** - Manual or automatic introduction of chlorine or one of its compounds.

**Filtered** - Water filtered by gravity, mechanical pressure or mechanical gravity filters.

Water passing through sand stratum is naturally filtered and was not recorded as filtered since this section refers to artificial filtration.

**Drainage Toward** - When there is a sloping of the earth from a drainage field, cesspool, etc., toward the water source.

**Distance from Barnyard** - The distance from the water source to the nearest point of cattle pen, cattle barn, barn, pig pen, manure pile or other probable source of pollution.

**Distance from Excreta Disposal** - The distance from water source to nearest point of privy, pit, septic tank, sinkhole, etc.

#### Pump Types

**Power** - Mechanically operated by electricity, water power, steam or gasoline. It may be of the reciprocal, plunger or centrifugal type.

**Pitcher** - Vacuum, not plunger, pump often requiring priming to start and usually used in shallow wells.

**Chain** - Rubber sucker attached to a continuous chain, operating through a tubing within the pump and extending into the water basin.

**Plunger** - A long tube projected into the water basin with a plunger, at bottom of tube, connected directly to the surface operating mechanism.

**Sand Bucket** - A cylindrically shaped metal container from 3 to 6 inches in diameter and 4 to 8 feet in length with a valve at the bottom. Raised or lowered by a rope connected to a winch or roll.

**Rope and Bucket** - Any type of bucket or pail used with a rope and lowered by hand or with a winch.

#### Sewage Disposal Systems

**Public Sewer** - City of Louisville system.

**Community** - Systems having 5 or more house connections, owned and operated by private or quasi-public corporations, towns, villages or municipalities other than Louisville.

**Grease Trap** - A small tile, metal or concrete basin installed for the sole purpose of skimming grease, soaps, or similar substances from the waste before it enters a septic tank, cesspool or drainage field.

**Septic Tank** - A tank with water-tight sides and bottom, with a definite inlet and outlet, constructed in the earth to provide for the collection of excreta. It may be constructed of concrete, brick, tile or metal and may or may not be divided into compartments. If there was no outlet the facility was enumerated as a cesspool.

**Cesspool** - A pit into which excreta or waste is discharged, primarily anerobic and without open discharge, unless of tight construction, in which case there may be an overflow.

**Drainage Field** - Series of farm tile constructed with open joints, laid in trenches in loose material such as cinders, rock or gravel, through which effluent from a septic tank or from other sources may drain and leach into the earth.

**Sinkhole** - Natural openings into the earth, directly connected with underground cavernous formation through which water may be flowing.

**Effluent Pit** - A hole dug in the earth the purpose of which is to collect effluent from a septic tank or drainage field. Wastes discharged into such a pit leach into the earth.

#### Vault Privy

**Septic** - A privy equipped with water tight tanks, usually provided with an exit pipe, near the top of the last compartment, through which overflowing liquid passes into the soil. Organic matter is decomposed, liquified or gasified by bacterial action.

**Chemical** - A privy equipped with water tight chemical tanks containing a solution of water



point of cattle pen,  
lution.

point of privy, pit,

oline. It may be of

usually used in

a tubing within the

bottom of tube,

in diameter and 4  
by a rope connected

ed by hand or with

ed by private or  
than Louisville.

le purpose of skim-  
nters a septic tank,

inlet and outlet,  
It may be  
divided into com-  
cesspool.

erobic and without  
ay be an overflow.

n trenches in loose  
om a septic tank or

ground cavernous

effluent from a  
ach into the earth.

n exit pipe, near  
sses into the soil.  
ion.

solution of water

and caustic soda or a similar chemical. Organic matter is decomposed chemically and bacteria are largely destroyed.

**Riser** - Seat or seats, with or without fly tight lids. The number of risers was determined by the number of openings.

**Urinals** - Metal, concrete or wood troughs or individual separate compartments. In the case of troughs, each 30 inches was considered a separate urinal.

**Superstructure** - Housing over a privy.

**Fly-tight** - A privy with the substructure so built that flies cannot enter. This necessitates automatic selfclosing seats and no opening to light in the pit of vault.

**Power pump** - A power driven pump used to eject water from a basement or cellar and discharge it at a higher level.

Form B

DWELLING SCHEDULE

DATE \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ E.D. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_
ENUMERATOR \_\_\_\_\_ STREET \_\_\_\_\_ APARTMENT NO. OR LOCATION \_\_\_\_\_
STRUCTURE NUMBER \_\_\_\_\_

I. ENTIRE STRUCTURE
A. TYPE OF STRUCTURE
1. Single Family Detached
2. Single Family Attached
3. Two Family Side by Side
4. Two Family Two Decker
5. Three Family Three Decker
6. Four Family Double Two-Decker
7. Apartment
8. Business with Dwel. Units
9. Other Non-Converted
10. Partially Converted
11. Completely Converted
B. IF CONVERTED
1. Orig. Type
2. Yr. Converted
C. BUSINESS UNITS
1. None
2. No. of Units
D. EXTERIOR MATERIAL
1. Wood
2. Brick
3. Stone
4. Stucco
5. Other
E. STORIES
Number
F. BASEMENT
1. No
2. Yes
G. YEAR BUILT
H. GARAGE
1. No
2. Yes
I. CONDITION
1. Good Condition
2. Minor Repairs
3. Major Repairs
4. Unfit for use
5. Under Const.
IF OWNER OCCUPIED
J. VALUE OF ENTIRE PROPERTY \$
K. NO. MAJOR STRUCTURES INCLUDED IN VALUE
L. ENCUMBRANCE
1. Mortgage or Land Contract
2. No Encumbrance
M. FOR OFFICE USE
Persons per Room
1.
2.
3.
4.
5.
6.

II. THIS DWELLING UNIT
A. OCCUPANCY
1. Owner
2. Tenant
3. Vacant
B. DURATION
1. Time lived here
2. Length of Vacancy
C. MONTHLY RENT \$
D. INCLUDED IN RENT
1. Furniture
2. Garage
3. Heat
4. Hot Water
5. Light
6. Cook. Fuel
7. Mch. Refrig.
8. Refrig. Fuel
E. TOTAL ROOMS
Number
F. FLUSH TOILETS
Number
G. BATHING UNITS
Number
H. RUNNING WATER
1. Hot and Cold
2. Cold Only
3. None
I. HEATING
1. Cent. Steam or Hot Water
2. Cent. Warm Air
3. Other Installed
4. None Installed
J. LIGHTING
1. Electric
2. Gas
3. Other
K. COOKING
1. Electric
2. Gas
3. Other Installed
4. None Installed
L. REFRIG. EQUIPMENT
1. Electric
2. Gas
3. Ice
4. None
M. NUMBER AND AGE OF ALL PERSONS
Total
Under 1 year
1-4
5-9
10-14
15-19
20-64
65 and over
N. RACE OF HOUSEHOLD
1. White
2. Negro
3. Other
O. ROOMERS
Number
P. EXTRA FAMILIES
1. No. Extra Fam.
2. No. Persons

REAL PROPERTY SURVEY FIELD SCHEDULE

0

1. Orig. Type	H. GARAGE	Persons per Room	7. Mech. Refrig. <input type="checkbox"/>	K. COOKING	P. EXTRA FAMILIES
2. Yr. Converted	1. No <input type="checkbox"/>	1. _____ 4. _____	8. Refrig. Fw. <input type="checkbox"/>	1. Electric <input type="checkbox"/>	1. No. Extra Fam. _____
7873	2. Yes <input type="checkbox"/>	2. _____ 5. _____	E. TOTAL ROOMS	2. Gas <input type="checkbox"/>	2. No. Persons _____
		3. _____ 6. _____	Number	3. Other Installed <input type="checkbox"/>	
				4. Mx Installed <input type="checkbox"/>	

Form Y-1

JEFFERSON COUNTY, KENTUCKY

S.D. \_\_\_\_\_ SOURCE

NAME \_\_\_\_\_ FARM  E.D. \_\_\_\_\_ ENUMERATOR \_\_\_\_\_

ADDRESS \_\_\_\_\_ NON-FARM  BLOCK \_\_\_\_\_ WATER USERS \_\_\_\_\_

LOCATION \_\_\_\_\_ OTHER  PREMISE \_\_\_\_\_ DATE \_\_\_\_\_ OCCUPANTS \_\_\_\_\_

WATER I		SEWERAGE II		PRIVIES III		R.P.S. DATA IV	
A. TYPE WATER SUPPLY	1. POSITION OF TOP	A. TYPE OF SEWAGE DISPOSAL	1. CONSTRUCTION OF SEPTIC TANK	P. DISCHARGE OF COMMUNITY SEWER	A. KIND OF PRIVY	A. NUMBER AND AGE OF ALL PERSONS UNDER 1 Yr.	
1. Bottled	1. Above Surface	1. Sewer	1. Metal	1. Public Sewer	1. Vault	1 - 4	
2. City	2. At Surface	2. Septic Tank	2. Concrete	2. Comm. Disp. Plant	2. Pit	5 - 9	
3. Well	3. Below Surface	3. Cesspool	3. Brk.-Tile-Stone	3. Stream	3. Surface	10 - 14	
4. Cistern	4. None	4. Drainage Field	4. Other	4. Sinkhole	4. None	15 - 19	
5. Spring	7. CONSTR. OF TOP	5. Sinkhole	J. CONSTRUCTION OF CESSPOOL	5. Surface	5. Plain	20 - 24	
6. Stream	1. Concrete	6. Surface	1. Earth	6. Other	6. & Over	25 & Over	
7. Other	2. Stone	7. Stream or Pond	2. Concrete	C. DISCHARGE OF SEPTIC TANK			
B. KIND OF SYSTEM	3. Wood	8. Other	3. Brk.-Tile-Stone	1. Drainage Field	0. OVERFLOW PIPE	B. TOTAL ROOMS	
1. Private	4. Other	B. KIND OF SYSTEM	4. Other	2. Effluent Pit	1. Yes	Number	
2. Community	K. DRAINAGE TOWARDS WATER SOURCE FROM	1. Private	K. CONSTRUCTION OF EFFLUENT PIT	3. Stream	2. No	C. PERSONS PER ROOM	
3. Public	1. Drainage Field	2. Community	1. Earth	4. Sinkhole	D. OVERFLOW DISCHARGE	Number	
4. Industrial	2. Cesspool	3. Public	2. Brk.-Tile-Stone	5. Other	1. Stream or Pond	D. RACE OF HOUSEHOLD	
C. LOCATION OF SUPPLY	3. Pit	4. Other	L. CONDITION OF SEPTIC TANK	R. DISCHARGE OF DRAINAGE FIELD	2. Surface	1. White	
1. Inside Struct.	4. Effluent Pit	C. GREASE TRAP	1. Good	1. Surface	3. Pit or Tank	2. Negro	
2. Outside Struct.	5. Barnyard	1. Yes	2. Overflowing	2. Effluent Pit	4. Sinkhole	3. Other	
3. Carry Contnrs. FROM	6. Terrain	2. No	3. Overloaded	3. Stream	E. RISERS	E. OCCUPANCY	
S.D. _____ B.D. _____	7. Awey	D. OVERFLOW PIPE	M. CONDITION OF CESSPOOL	4. Sinkhole	1. Number	1. Owner	
Blk. _____ Frm. _____	L. WATER TREATMENT	1. Yes	1. Good	5. Other	2. Concrete	2. Tenant	
D. TYPE OF WELL	1. Chlorinated & Filtered	2. No	2. Overflowing	6. No Discharge	3. Brick or Tile	3. Vacant	
1. Drilled	2. Chlorinated & Not Filtered	E. OVERFLOW DISCH.	3. Overloaded	S. DISCHARGE OF SUMP PUMP	4. Wood	F. DURATION	
2. Driven	3. Not Chlorinated & Filtered	1. Stream or Pond	F. SUMP PUMP	1. Sewer Disp. Sys.		1. Occupied	
3. Dug	4. Not Chlorinated & Not Filtered	2. Surface	1. Power Driven	2. Street	G. CONDITION	2. Vacant	
E. DEPTH OF WELL	5. Water Sample	3. Pit or Tank	2. Water Ejector	3. Stream	1. Good		
1. Power	6. No	4. Sinkhole	3. None	4. Sinkhole	2. Minor Repairs		
2. Pitcher	N. TURBID	G. DRAINAGE FIELD	N. CONDITION OF DRAINAGE FIELD	5. Surface	3. Major Repairs		
3. Chain Sucker	1. Yes	1. Yes	1. Good	6. Other	4. Unfit For Use		
4. Plunger	2. No	2. No	2. Overflowing	O. DISCHARGE OF CONSTRUCTED IN	5. Under Constr.		
5. Sand Bucket	3. No	3. No	3. Overloaded	1. Loose Soil	1. Inside-No.		
6. Rope & Bucket	4. No	H. EFFLUENT PIT	O. CONDITION OF EFFLUENT PIT	2. Tight Soil	2. Outside-No.		
F. STORAGE TANK	D. CONDITION OF WATER	1. Yes	1. Good	U. LTR. DRAINAGE FLD.	3. Over 5 Feet		
1. Yes	1. Polluted	2. No	2. Overflowing	_____ Ft.	4. Over 5 Feet		
2. No	2. Not Polluted	H. SOURCE-DIST. FROM	3. Overloaded	I. SUPERSTRUCTURE, CONDITION	I. BATHING UNITS		
	3. Suspicious	1. Premise _____ Ft.		1. Good	Number		
	4. Lab. No.	2. Barnyard _____ Ft.		2. Fair	1. Hot & Cold		
		3. Ex. Disp. _____ Ft.		3. Bad	2. Cold Only		
					3. None		

SANITARY SURVEY FIELD SCHEDULE





Premise occupants were left a card carrying the identification numbers of their premise and water sources, together with the telephone number of the survey's main office, and advised that they could obtain the results of the water analysis by telephone. All water samples were deposited daily at the laboratory of the State Board of Health and analysis cards containing results were filed numerically, by identification numbers, in the survey office. An average of 25 persons per day called to ask for results of water analysis during the course of the enumeration.

When enumeration of a block was completed all cards, together with the block lists and sketch maps, were submitted to the field Clerk who checked each item on all forms for errors or omissions, returning the entire block to enumerators if such errors were found or submitting the block to the Squad Leader if complete.

The Squad Leader, after spot checking a logical number of premises in the block, submitted all schedules to the main office for coding, checking and filing to await tabulation.

When field work was completed the personnel was reduced to sixty workers. These men included the original office force, draftsmen, supervisory employees and enumerators with the best records as to accuracy and most experience in clerical or statistical detail. This group was divided in half and one section rigidly trained and instructed in Real Property Survey tabulation the other in the tabulation of Sanitary tables.

Tabulators worked in two-man teams with a supervising clerk checking the work of two teams. The Real Property block tabulation was made in as nearly numerical sequence as possible. Each team was assigned an entire Enumeration District on the Real Property tabulation, completing all of the eighteen basic tables before being assigned another district. This procedure was changed on Sanitary tabulation due to its complicated nature. One or more teams were assigned to one particular table and upon its completion were given the same table for another Enumeration District. In this manner the tabulators became more efficient and obtained far more schooling on their particular table than if it had been arranged so they would have to know procedure for all of the eleven tabulations. Every sort and count was checked by both tabulators and the supervising clerk. The efficiency and high degree of accuracy obtained by this method was evident from entries made on check sheets. Many totals can be checked against those of from two to seven other tables and no team of tabulators knew the correct answer for any item until submitting their totals to the Project Supervisor who entered them on the check sheet, for that particular Enumeration District. Only on a few occasions was it necessary to re-sort, check or count any group of cards.

Recapitulations of blocks, Enumeration Districts, Sanitary Districts and for the county as a whole were made by supervisory personnel.

Summary sheets for water, sewage and toilets were tabulated by block to assist draftsmen in preparing maps.

All of these thousands of field schedules, tabulations and maps are now a permanent part of the files in the County Health Department where they have been in constant use and have, to date, supplied much valuable information to official and court agencies.

bers of their premise  
office, and advised  
l water samples were  
s cards containing  
ffice. An average of  
course of the enumera-

the block lists and  
l forms for errors or  
ound or submitting the

in the block, submit-  
t tabulation.

orkers. These men in-  
erators with the best  
l. This group was  
erty Survey tabulation

g the work of two tea  
as possible. Each  
ation, completing all  
procedure was changed  
re assigned to one  
her Enumeration  
far more schooling  
o know procedure for  
ulators and the super  
method was evident fro  
From two to seven othe  
submitting their  
at particular Enumera  
r count any group of

s and for the county

to assist draftsmen

now a permanent part  
t use and have, to

# THE REAL PROPERTY SURVEY

## THE REAL PROPERTY SURVEY

Housing conditions have a direct influence on the health of a community. People are healthy and happy where housing is standard and sanitary while reverse conditions exist where housing is poor.

Among the conditions which contribute to poor housing and influence the health of inhabitants are poor condition of structure allowing vermin to enter through holes and cracks and permitting rain to enter, causing dampness; inadequate lighting and ventilation; lack of adequate sanitary conveniences and pure water, and overcrowding.

Bad housing is not confined to one class of people since it exists among the average homes and those of the wealthy as well as the poor. Lack of ventilation; outside privies; filthy streets, lanes, alleys and yards, and improper disposal of wastes and refuse --- all adversely affect health.

Several factors in rural housing differ from those of urban dwellings, due to the nature of the area and the purposes to which a premise may be devoted. For the purposes of enumeration premises were divided into three classes. "Farm" premises were defined as residential premises devoted to agricultural or stock raising purposes. "Non-farm" premises were defined as those used for residential purposes located on parcels not devoted to farm pursuits, and "Other" premises those occupied by commercial or industrial establishments in addition to residential quarters or units.

With the approval of the WPA and the sponsor, three items were eliminated from enumeration and tabulation on "Farm" premises; (1) the question "Value of Entire Property" is meant to include "the entire structure and land on which it is built, including the land which properly goes with the structure" and since many farms cover a large number of acres, it is obvious that answers would not be comparable with those for other type premises. (2) in rural areas it is possible that an owner will mortgage only a part of his entire property and for that reason "Encumbrance" was not noted on "Farm" premises. (3) data for "Monthly Rent" on "Farm" premises would, in many instances include extensive acreage. Using the rental figure under such conditions would destroy the purpose of the question, therefore the paragraph was left open on "Farm" field schedules.

With the above exceptions all instructions contained in "Technique for a Real Property Survey," were followed.



## B L O C K   T A B U L A T I O N

The Block Tabulation recapitulation presents a picture of many housing facts for the county as a whole.

There are 17,384 major structures in the area outside the city limits. The following table divides them by type:

Residential without business	15,540
Residential with business	333
Commercial	420
Industrial	648
Public and Institutional	443

Of the 15,873 residential structures, 363 were being constructed at time of enumeration.

Much of the data shown by the Block Tabulation will not be discussed at this time since it is in condensed form and is broken down into greater detail in the tables which will be discussed later.

The paragraph on Duration of Occupancy reveals that 44.5% of the owners have occupied their present residence less than five years and that 80.1% of the tenants have resided in their present premise less than five years.

Of the 15,731 dwelling units, 14,815 are occupied by white families and the balance of house Negro residents. The total population is 59,629.

There are 1,402 structures used for business purposes either entirely or in part.

Residential premises are divided by type as follows:

Farm	3,735
Non-farm	11,439
Other	699

## T A B L E   T A B U L A T I O N

TABLE I

### STRUCTURES UNDER CONSTRUCTION BY TYPE OF STRUCTURE, DWELLING UNITS UNDER CONSTRUCTION BY TYPE OF STRUCTURE, BY NUMBER OF ROOMS, BY MONTHLY RENT

This tabulation reveals what is perhaps the most amazing housing fact, with reference to county dwellings, resulting from the survey.

The actual number of units "under construction" is 367. However a later table lists 439 structures built in 1939, occupied at the time of enumeration. To this total of 806 must be added an undetermined, though obviously large, number of additional units under construction not included in the tabulation because of rapid progress of enumeration.

Field work started at the city limits in April 1939, and by the latter part of the following month had progressed well into the county. During this period a large amount of residential construction was begun in suburban areas. It is estimated that an additional five hundred construction units, not included in the tabulations, were started in this and later periods. This estimated five hundred additional units with those units under construction at the time enumeration was made would indicate a total of 1,305 residences built in 1939 as compared to 1,187 built in 1938.

There was also revealed in actual tabulation that only 3,340 residential structures were built in the county from January, 1935, through September, 1939. It has, therefore, been proved

that, in the past five years, seventy percent of county residential construction developed in the last two years, indicating a recent and most unusual exodus from the city to the county.

The following is an extract from the "number of rooms" and "monthly rent" columns of this tabulation. The "rooms" data included "Farm" premises although the rental information excluded them for reasons explained earlier in this report.

<u>Number of rooms</u>	<u>Units</u>	<u>Pct.</u>	<u>Monthly Rent</u>	<u>Units</u>	<u>Pct.</u>
No Report	2	.6	No Report	90	-
3 rooms or less	56	15.3	\$10 or less	16	6.0
4 " "	90	24.5	10 to \$19.99	53	19.8
5 " "	99	26.9	20 to 29.99	38	14.2
6 " "	65	17.7	30 to 49.99	72	26.8
7 " "	32	8.7	50 to 99.99	79	29.5
8 " or more	23	6.3	100 or more	10	3.7
Total Units	367		Total Units	358	

Percentage figures on "monthly rent" were based on total units exclusive of "No Reports" since the large number of "No Report" items would reduce the other percentages below the true value.

It is interesting to note that the major part of Under Construction units contain more than five rooms indicating that population figures should increase in at least average proportion with the increase in building. Three hundred and forty six of the new units are single family dwellings.

The fact that 60% of the new units carry a rental value of \$30 per month or more indicate that modern, substantial homes are in the majority.

With the county area receiving this unprecedented increase of residential units and population the problem of securing pure water, proper sewage disposal and adequate toilet facilities increases in importance and magnitude.

TABLE 2  
 CONVERTED STRUCTURES BY TYPE OF CONVERSION BY  
 YEAR CONVERTED

This table presents additional proof that the population of the county area is rapidly increasing. In the five-year period from 1935 through 1939 a total of 283 residential structures was converted either partially or completely, and in 254 instances the conversion increased the number of dwelling units. These 254 structures, originally containing 254 units, were so converted as to provide 522 total dwelling units. These units, in addition to the 3,707 residential premises built during the period, reveal an amazing growth.

The following table illustrates the activity in conversions:

Structures converted 1884 through 1934 (50 years)	179
Structures converted 1935 through 1939 (5 years)	283

There were 4 conversions with no report on year converted.

Over a fifty six-year period, 61.3% of the conversions, made to provide additional dwelling units, were made in the last five years.

ion developed in  
to the county.  
"v" columns of this  
formation excluded

Pct.  
6.0  
19.8  
14.2  
26.8  
29.5  
3.7

ive of "No Reports"  
below the true value.  
nts contain more  
t average propor-  
nts are single

nth or more indicat  
tial units and popu  
e toilet facilities

y area is rapidly  
sidential struc-  
conversion increas  
units, were so con-  
he 3,707 residential

de additional dwell-



TABLE 3  
STRUCTURES BY TYPE OF STRUCTURE, BY NUMBER OF STORIES,  
BASEMENT, GARAGE, AND YEAR BUILT

Tabulation by type of structure indicates that single family residences predominate in the county area.

<u>Type</u>	<u>NUMBER</u>	<u>PCT.</u>
Single Family	13,963	90.0
Multi-Family	138	.9
Apartments	33	.2
With Business	275	1.8
Other Non-Converted	635	4.1
Converted Structures	466	3.0
Total Residential Structures	15,510	100.0

This tabulation includes "Farm" premises but does not include homes under construction at time of enumeration.

Basements and garages tabulated:

<u>BASEMENT</u>			<u>GARAGE</u>		
Yes	No	No Report	Yes	No	No Report
7,765	7,714	31	11,764	3,762	24

This table indicates "year built" by each year from 1920 through 1939 to date of enumeration. In this twenty-year period the outstanding years for residential construction were 1925 with 809, 1929 with 804, 1937 with 871, and 1938 with 1187. As stated in the discussion of Table 1, there is no doubt but that a complete count of houses built in 1939 would exceed the 1938 total.

The number of structures erected in the past ten years provides an interesting tabulation.

<u>Year Built</u>	<u>Number</u>
1939 (9 mos.)	806 *
1938	1,187
1937	871
1936	490
1935	353
1934	276
1933	196
1932	236
1931	259
1930	674
Total 1930 - 1939	5,348

\* Includes "under construction."

A later table reveals that of all the residential structures in the county, 10,527 of them were built from 1859 or before, through 1929, therefore, when Under Construction residences are included, the following ratio is presented:

<u>RESIDENCES BUILT</u>	<u>NUMBER</u>	<u>PCT.</u>
1930 - 1939 (10 years)	5,348	33.7
1859 or before - 1929 (over 60 years)	10,527	66.3

Fifty eight percent of all residential premises were found to be of one story construction, 41.2% were from one and one half to two story and 0.8% are larger structures. Comparable

ees predominate in

under construction

Report  
24

g to date of enumer-  
tructions were 1925  
e discussion of 1925  
exceed the 1939

interesting tabulati

county, 10,527 of  
struction residences

one story construc-  
uctures. Comparabl  
1.3  
1.7  
1.7  
1.3



findings in the City of Louisville survey of 1938 were 62.1%, 35% and 2.9%.

TABLE 4

OWNER OCCUPIED STRUCTURES BY VALUE OF PROPERTY, BY TYPE OF STRUCTURE, BY CONDITION, DEBT STATUS, AND NUMBER OF ROOMS IN STRUCTURE

This table included only five types of structures: single-family; two-family, side by side; two-family, too decker; three-family, three decker, and four-family, double two-decker. The tabulation is for only owner occupied premises of those types of which there is a total of 7,127. Since 7,087 of these are single-family a few brief statistics for that type will cover this particular table. Encumbrance tabulation reveals:

Mortgaged	3,642
Free of Encumbrance	3,364
No Report	81

The following tabulation of owner-occupied, single-family residences indicates value does not include "Farm" premises on which no valuation was enumerated:

No report	16
\$1,999 or less	1,437
2,000 to 3,999	1,877
4,000 to 5,999	1,477
6,000 to 7,999	1,193
8,000 to 9,999	514
10,000 to 14,999	312
15,000 to 20,999	153
Over \$30,000	108

The average value is \$5,497, a much larger figure than the \$3,679 average valuation revealed for single-family, owner-occupied residences in Louisville, by the Real Property Survey of 1938.

TABLE 5

STRUCTURES BY TYPE OF STRUCTURE, BY CONDITION BY YEAR BUILT

The principal interest of this table lies in the statistics on Condition since type of structure and year built have been discussed in previous tables. The table is divided into several sub-tables making a separate tabulation for owners and non-owners. All tabulations include "Farm" premises.

	TOTAL	PCT.	OWNER	PCT.	TENANT	PCT.
Good Condition	8,793	57.9	6,632	66.3	2,341	42.5
Minor Repairs	4,898	31.6	2,750	27.5	2,148	39.0
Major Repairs	1,492	9.6	592	5.9	900	16.4
Unfit for Use	147	.9	31	.3	116	2.1
Totals	15,510	100.0	10,005	100.0	5,505	100.0
Total Owner Occupied			10,005	64.5%		
Total Non-Owner					5,505	35.5%

The percentage of owners is much larger in the county area than in the city. The Louisville Real Property Survey of 1938 indicated only 50.6% owner occupied residences.

The following table compares condition of residential premises in the county, with those of those in the city. Figures for the city are taken from the 1938 Louisville Real Property Survey.

9%.

TYPE  
OF

y; two-family, side by  
ly, double two-decker,  
ch there is a total of  
or that type will cover

ences indicates value

9 average valuation  
the Real Property Sur

condition since type of  
ble is divided into  
s. All tabulations in

TENANT	PCT.
2,341	42.5
2,148	39.0
900	16.4
116	2.1
5,505	100.0

n the city. The  
ed residences.  
a the county, with the  
ville Real Property

COUNTY 1939

	No.	Pct.
Good Condition	8,973	57.9
Minor Repairs	4,898	31.6
Major Repairs	1,492	9.6
Unfit for Use	147	.9
Total	15,510	

CITY 1938

	No.	Pct.
	29,101	45.2
	28,151	43.7
	6,420	10.0
	737	1.1
Total	64,409	

Although the city proper has a population approximately SIX times greater than that of the area outside the city boundaries, the number of city residential units is only FOUR times larger than that of the county.

TABLE 6

STRUCTURES BY TYPE OF STRUCTURE BY CONDITION  
BY EXTERIOR MATERIAL

Comparison of condition by exterior material, by use of totals derived from this tabulation, presents the following data:

	TOTAL	GOOD COND.	PCT.	MINOR REP.	PCT.	MAJOR REP.	PCT.	UNFIT FOR USE	PCT.
Wood	10,570	5,075	48.0	4,068	38.5	1,288	12.2	139	1.3
Brick	2,971	2,689	90.5	232	7.8	47	1.6	3	0.1
Stone	503	453	90.1	39	7.7	10	2.0	1	0.2
Stucco	667	478	71.7	164	24.6	24	3.6	1	0.1
Other	791	273	34.5	392	49.6	123	15.5	3	0.4
No Report	8	-	-	-	-	-	-	-	-

By using statistics from the Louisville Real Property Survey, a comparison by exterior material is presented.

COUNTY

	No. Structures	Pct.
Wood	10,570	68.2
Brick	2,971	19.2
Stone	503	3.2
Stucco	667	4.3
Other	791	5.1
No Report	8	-

CITY

	No. Structures	Pct.
	44,756	69.5
	16,200	25.1
	485	0.7
	2,104	3.3
	859	1.4
	11	-

TABLE 7

DWELLING UNITS BY TYPE OF STRUCTURE BY NUMBER OF  
PERSONS PER ROOM BY NUMBER OF CHILDREN

This is the first time that the figures for premises are subdivided into dwelling units. The 15,510 residential premises in the county contain 15,731 dwelling units. Major interest in this table lies in the data on "persons per room" and distribution of children.

Persons per room data is separated into the six divisions shown in the following presentation table:

Persons per room	Total Units	Pct.	OWNER UNITS	Pct.	Tenant Units	Pct.
.50 or less	4,883	31.1	3,666	36.6	1,217	21.2
.51 to .75	3,858	24.5	2,638	26.4	1,220	21.3
.76 to 1.00	3,673	23.3	2,166	21.6	1,507	26.3
1.01 to 1.50	1,853	11.8	943	9.4	910	15.9
1.51 to 2.00	935	5.9	388	3.9	547	9.6
2.01 or more	529	3.4	204	2.1	325	5.7
Totals	15,731	100.0	10,005	100.0	5,726	100.0

Over-crowding is one of the factors in determining substandard housing conditions. Any unit housing 1.51 or more persons per room is considered a substandard dwelling. When the definition is applied, 9.3% of Jefferson County units are substandard from this factor alone with only 6% of owner-occupied units, but 15.3% of tenant-occupied units affecting the total figures.

The distribution of figures is presented in the same type of table in order that comparisons can be made. Children are defined as persons under fifteen years of age.

NUMBER OF CHILDREN	TOTAL	PCT.	OWNER	PCT.	TENANT	Pct.
No children	7,981	50.7	5,528	55.3	2,453	42.8
1 child	3,442	21.9	2,089	20.9	1,353	23.6
2 children	2,229	14.2	1,304	13.0	925	16.2
3 or 4 children	1,588	10.1	840	8.4	748	13.1
5 or more children	491	3.1	244	2.4	247	4.3
Totals	15,731		10,005		5,726	

An interesting comparison is again possible by use of information obtained in the 1938 survey of Louisville:

	OWNERS		TENANTS	
	City	County	City	County
Pct. with children	34.7	44.7	42.2	57.2
Pct. with more than 1.51 persons per room	3.9	6.0	13.9	15.3

When the fact that Louisville has the average city's share of slums, boarding-houses, and tenements is considered, it is surprising to find the county area revealing a larger percentage of overcrowded units.

TABLE 8

DWELLING UNITS BY TYPE OF STRUCTURE BY CONDITION BY DURATION OF OCCUPANCY

Duration of occupancy varies greatly in relation to owner or tenant occupancy. The following table illustrates and compares the difference in the two types of residents. There were 2 "No.Reports" on Duration of Occupancy.

OCCUPANCY	TOTAL	PCT.	OWNER	PCT.	TENANT	PCT.
Less than 6 months	1,809	11.5	674	6.7	1,135	19.8
6 to 11 mos.	1,615	10.3	602	6.0	1,013	17.7
1 yr. - 1 yr. 11 mos.	2,031	12.9	1,081	10.8	950	16.6
2 yrs - 2 yrs 11 "	1,672	10.6	944	9.4	728	12.7
3 " - 4 " 11 "	1,910	12.2	1,149	11.5	761	13.3
5 " - 9 " 11 "	2,218	14.1	1,549	15.5	669	11.7
10 " - 19 " 11 "	3,027	19.2	2,660	26.7	367	6.4
20 " or more	1,447	9.2	1,344	13.4	103	1.8
Totals	15,729		10,003		5,726	

A comparison of vacant units by length of vacancy and condition of unit is of interest. There were 3 "No Reports" on this item.

LENGTH OF VACANCY	TOTAL	GOOD COND.	MINOR REPAIRS	MAJOR REPAIRS	UNFIT FOR USE
Less than 1 month	175	126	22	27	-
1 month	149	111	27	11	-
2 months	110	68	32	9	1
3 - 5 months	98	54	31	11	2
6 - 8 months	77	36	19	18	4
9 - 11 months	13	9	2	-	2
1 yr. - 1 yr. 11 mos.	80	31	21	16	12
2 yrs - 2 yrs 11 "	47	13	9	16	9
3 years or more	70	16	11	20	23
Totals	819	464	174	128	53



conditions. Any  
When the defini-  
alone with only  
l figures.  
er that compari-

TABLE 9

DWELLING UNITS BY NUMBER OF PERSONS IN UNIT BY TYPE OF STRUCTURE, HEATING EQUIPMENT, LIGHTING EQUIPMENT, COOKING EQUIPMENT, REFRIGERATION EQUIPMENT, NUMBER OF ROOMERS, NUMBER OF PERSONS PER ROOM AND PLUMBING EQUIPMENT

Distributions of persons per unit is presented in the following table; the percentage revealed for Louisville in the 1938 survey is shown for comparison.

Pct.  
42.8  
23.6  
16.2  
13.1  
4.3

Persons per Unit	County		City	
	Units	Pct.	Units	Pct.
1	631	4.0	6.7	
2	3,907	24.8	28.1	
3	3,696	23.5	22.9	
4	3,031	19.3	17.4	
5	1,902	12.1	10.7	
6	1,106	7.0	6.0	
7	651	4.2	3.2	
8 or more	807	5.1	4.0	
Totals	15,731	100.0	100.0	

d in the 1938

It will be noted that 67.6% of all units are occupied by families of from 2 to 4 persons. In the group of "8 or more" there are 203 units with 9 persons and 144 units each housing 10 persons, in addition to 84 units containing 11 or more persons each, with a total of 994 persons in the last named units.

ding-houses,  
larger percent-

Tabulation of facilities and utilities are also of interest.

ancy. The  
ents. There

HEAT		LIGHT	
Type	Units	Type	Units
Central Steam	985	Electric	13,136
Central Warm Air	5,987	Gas	21
Other	8,666	Other	2,565
None	84	No Report	9
No Report	9		

PCT.  
19.8  
17.7  
16.6  
12.7  
13.3  
11.7  
6.4  
1.8

COOKING		REFRIGERATION	
Type	Units	Type	Units
Electric	1,031	Electric	8,435
Gas	4,823	Gas	207
Other	9,662	Ice	5,636
None	199	None	1,427
No Report	16	No Report	26

s of interest.

The 1938 Real Property Survey of Louisville tabulated only .4% of all units using electricity for cooking purposes. The data above indicates that 6.6% of county units are equipped with electrical cooking. This is no doubt because of the fact that many areas have access to electrical power although no gas is available. Owners occupy 85.7% of the units using electricity for cooking purposes.

UNFIT  
FOR USE

The table also indicates that 7,538 dwelling units have one or more private flush toilets and bathing units. Vacant units were not included in this particular tabulation.

-  
-  
1  
2  
4  
2  
12  
9  
23  
53

TABLE 10

DWELLING UNITS BY MONTHLY RENT BY PLUMBING EQUIPMENT, HEATING EQUIPMENT,  
LIGHTING EQUIPMENT, REFRIGERATION EQUIPMENT, YEAR BUILT, NUMBER OF  
ROOMERS AND RACE OF HOUSEHOLD

Farm premises were not included in this tabulation since actual rent or rental value is the major factor. The table is composed of four pages, separating owners, tenants and vacancies with a recapitulation sheet for all groups.

The interesting facts disclosed by a study and comparison of the owner and tenant tables are many and varied. Since the tabulations cannot be reproduced here in entirety, the following tables present the most pertinent data.

TOILET AND BATHING FACILITIES

("Toilet" refers to flush toilets, privies were tabulated as "none")

	<u>Owners</u>	<u>Pct.</u>	<u>Tenants</u>	<u>Pct.</u>
At least 1 private toilet and bathing unit	5,044	65.7	1,751	40.6
1 toilet, less than 1 bathing unit	64	0.8	74	1.7
Shared toilet, no bath	66	0.9	148	3.4
No toilet, no bath	2,504	32.6	2,346	54.3
Totals	7,678		4,319	

RENT, OR RENTAL VALUE

<u>Monthly Rent</u>	<u>Owners</u>	<u>Pct.</u>	<u>Tenants</u>	<u>Pct.</u>
\$4.99 or less	64	.9	179	4.2
5.00 - 9.99	425	5.5	802	18.6
10.00 - 14.99	706	9.1	930	21.6
15.00 - 19.99	867	11.3	624	14.5
20.00 - 24.99	700	9.0	403	9.3
25.00 - 29.99	708	9.2	294	6.8
30.00 - 39.99	1,006	13.1	309	7.2
40.00 - 49.99	940	12.3	425	9.8
50.00 - 74.99	1,452	19.0	298	6.9
75.00 - 99.99	444	5.9	38	.9
100.00 or more	357	4.7	11	.2
No Report	9		6	
Totals	7,678		4,319	

LIGHTING FACILITIES

	<u>Owners</u>	<u>Pct.</u>	<u>Tenants</u>	<u>Pct.</u>
Electric	7,168	93.4	3,581	82.9
Gas	4	0.05	6	0.2
Other	503	6.5	726	16.8
No Report	3	0.05	4	0.1

TABLE 11

NUMBER OF DWELLING UNITS BY MONTHLY RENT, BY NUMBER OF ROOMS, BY TYPE OF  
STRUCTURE, NUMBER OF PERSONS, FURNITURE INCLUDED IN RENT, DURATION OF  
OCCUPANCY, NUMBER OF CHILDREN, EXTRA FAMILIES, NUMBER OF PERSONS IN EXTRA  
FAMILIES, AND CONDITION

This table is little more than a recapitulation of several other tabulations and might be considered a review of previous tabulations.

The data on size of dwelling units as to number of rooms with reference to owners and

tenants if of interest.

Since the tabulation involves monthly rent, "Farm" premises are not included.

NUMBER OF ROOMS

	<u>Total Units</u>	<u>Owners</u>	<u>Tenants</u>
1 room	358	96	127
2 "	898	249	535
3 "	1,516	586	857
4 "	2,832	1,443	1,266
5 "	3,207	2,231	865
6 "	1,889	1,472	360
7 "	993	793	170
8 or more	973	808	139
Totals	12,666	7,678	4,319

The figures above reveal the fact that owner-occupied residences are considerably larger on the average than those rented by tenants. Only 12.1% of owner occupied residences have 3 rooms or less, while 35.2% of tenant dwelling units are of that size and although 40.0% of units occupied by owners have 6 rooms or more, only 15.5% of tenant-occupied units are in that category.

TABLE 12

DWELLING UNITS BY OCCUPANCY, BY CONDITION,  
BY PLUMBING EQUIPMENT, AND NUMBER OF CHILDREN

Condition of residential structures was discussed in Table 5. Procedure for a Real Property Survey states that all units within a structure should be enumerated as in the same condition as that shown for the structure. No attempt will be made here to indicate condition by unit because of that fact.

Other statistics presented by this table are a recapitulation and combination of data discussed on previous tables and would add nothing of further value to this summary report, although it is important in a detailed tabulation.

TABLE 13

DWELLING UNITS BY PERSONS PER ROOM, BY CONDITION, BY  
ROOMERS, AND NUMBER OF PERSONS BY AGE

Comparison of owner and tenant units with reference to "persons per room" was presented in the summary of Table 7. However the "Persons per Room" data revealed by this tabulation uses "Condition of Unit" as a factor and is presented here because of its unusual disclosures. "Farm" units are included.

PERSONS PER ROOM

CONDITION OF UNIT

	<u>Good</u>	<u>Pct.</u>	<u>Minor Rep.</u>	<u>Pct.</u>	<u>Major Rep.</u>	<u>Pct.</u>	<u>Unfit for Use</u>	<u>Pct.</u>
.50 or less	3,525	38.6	1,070	21.3	267	18.0	21	21.0
.51 to .75	2,588	28.4	1,055	21.0	206	13.9	9	9.0
.76 to 1.00	1,978	21.7	1,357	27.0	321	21.7	17	17.0
1.01 to 1.50	689	7.6	880	17.5	272	18.4	12	12.0
1.51 to 2.00	259	2.8	433	8.6	227	15.3	16	16.0
2.00 to more	87	0.9	229	4.6	188	12.7	25	25.0
Totals	9,126		5,024		1,481		100	

Using the United States Housing Authority definition, a dwelling unit is occupancy substandard when there is an average of 1.51 or more persons per room. By abstracting, from the above, units to which this condition is applicable, the following results are presented.

<u>Persons per room</u>	<u>Dwell. Units Good Cond.</u>	<u>Dwell. Units Need Min. Rep.</u>	<u>Dwell. Units Need Major Rep.</u>	<u>Dwell. Units Unfit for Use</u>
1.51 or more (Occupancy-substandard)	3.7%	12.2%	28.0%	41.0%

It will be noted that as the condition of unit grows worse the percentage of occupancy-substandard, overcrowded units materially increases.

When a dwelling unit was definitely beyond repair or obviously dangerous to the health or safety of inhabitants, then, and only then, was it enumerated as unfit for use. Jefferson County has 100 occupied residences in that condition, and in 41 instances such premises are overcrowded with 25 of the 41 housing more than two persons for each room.

The number of units by Number of Roomers in the unit has been condensed into the following table:

<u>Number of Roomers</u>	<u>Total</u>	<u>Pct.</u>	<u>Owners</u>	<u>Pct.</u>	<u>Tenants</u>	<u>Pct.</u>
No roomers	15,253	96.9	9,701	97.0	5,552	96.9
1 roomer	368	2.3	224	2.2	144	2.5
2 to 4 roomers	102	0.7	73	0.7	29	0.5
5 to 10 roomers	8	0.1	7	0.1	1	0.1
Totals	15,731		10,005		5,726	

The 1938 survey in Louisville shows that about 5% of each occupancy group in the city contained units with roomers. It will be noted that the county percentage is 3% for each group.

Tabulation of total persons by age groups presents the following summary:

<u>Age of Person</u>	<u>Total</u>	<u>Pct.</u>	<u>Owner</u>	<u>Pct.</u>	<u>Tenant</u>	<u>Pct.</u>
Under 1 year	1,036	1.7	497	1.3	539	2.4
1 to 4 years	3,927	6.6	1,948	5.2	1,979	9.0
5 to 9 years	5,253	8.8	2,959	7.9	2,294	10.4
10 to 14 years	5,792	9.7	3,472	9.2	2,320	10.5
15 to 19 years	4,993	8.4	3,173	8.5	1,820	8.2
20 to 64 years	36,548	61.3	23,813	63.5	12,735	57.6
65 years and over	2,080	3.5	1,653	4.4	427	1.9
Totals	59,629		37,515		22,114	

Previous tables have indicated that tenant dwelling units, when compared with owner occupied, (a) have a higher percentage of overcrowding, Table 7; (b) fewer and less adequate sanitary facilities, Table 10; (c) occupy lower rental class units, Table 11, and (d) dwell in residences with fewer rooms as an average, Table 12.

These statistics are of importance since the above table divulges the fact that among owner families, 23.6% of the occupants are children less than 14 years of age, while 32.3% of the tenant population are children under 14 years of age.

TABLE 14

DWELLING UNITS BY OCCUPANCE, BY NUMBER OF PERSONS PER ROOM, BY NUMBER OF EXTRA FAMILIES

In the Louisville Real Property Survey, owner-occupied dwelling units contained more extra families, contrary to general belief, than did tenant occupied. The same holds true in the county area, since 3.7% of the owners share their unit with one or more extra families, and only 2.6% of the tenant-occupied dwelling units contain additional family groups.

The following table, grouping owners and tenants, presents the manner in which these extra families reflect upon the "Persons per Room" conditions.

UNITS WITH EXTRA FAMILIES

<u>Persons per room</u>	<u>Units</u>
.50 or less	37
.51 to .75	91
.76 to 1.00	193
1.01 to 1.50	135
1.51 to 2.00	56
2.01 or more	24

It is obvious that extra families are housed in 80 dwelling units which are occupancy-substandard. Owners occupy 30 of these units and the remaining 50 are tenant units.

TABLE 15

DWELLING UNITS BY OCCUPANCY, BY NUMBER OF PERSONS  
PER ROOM, BY ROOMS AND MONTHLY RENT GROUPS

This tabulation is not actual, but is derived from Tables 11-B and 11-C. While it is of importance in the completed volume of statistical information it is not essential to this summary report.

TABLE 16

DWELLING UNITS BY OCCUPANCY, BY RACE, BY NUMBER OF ROOMS, BY MONTHLY RENT,  
NUMBER OF PERSONS, CONDITION, AND NUMBER OF PERSONS PER ROOM, AND DWELL-  
ING UNITS BY NUMBER OF PERSONS IN UNIT, BY NUMBER OF PERSONS PER ROOM

This table is the first summarization pertaining to Negro dwelling units. However, it cannot be used in a discussion of county-wide data since its primary value is for study of specific heavily Negro-populated areas. In order to be included in the tabulation of Table 16 it was necessary for an Enumeration District to contain 200 or more Negro units or have at least a 10% Negro population. Enumeration Districts meeting these conditions are far in the minority and a large number were omitted from this tabulation because of that fact. Negro units and population will be discussed in Table 17.

TABLE 17

DWELLING UNITS BY OCCUPANCY, BY RACE, BY MONTHLY RENTAL,  
BY ADEQUACY, BY NUMBER OF PERSONS

Since this table involves monthly rental it was again necessary to exclude "Farm" units. The tabulation presents data pertaining to adequacy of all occupied dwelling units.

	TOTAL UNITS	WHITE UNITS			NEGRO UNITS		
		Total	Owner	Tenant	Total	Owner	Tenant
Physically substandard	4,255	3,724	1,979	1,745	531	275	256
Occupancy substandard	159	158	109	49	1	1	0
Physically and Occu- pancy substandard	975	862	360	502	113	41	72
Total substandard	5,389	4,744	2,448	2,296	645	317	328
Total standard	6,608	6,559	4,892	1,667	49	21	28
Grand Total	11,997	11,303	7,340	3,963	694	338	356

It must be remembered that "physically substandard" was determined by applying the United States Housing Authority definition. Since this definition was designed to fit urban

residences it is only fair to note that many county dwellings tabulated as substandard were in that category because of lack of running water, flush toilets, electric or gas lights or other factors either impossible to obtain by rural homes or obtainable only at considerable expense.

There are 694 Negro dwelling units indicated in this tabulation. These are "non-farm" units and, since the block tabulation indicated 916 Negro households, there are 222 "farm" units occupied by colored families.

It is natural to expect a higher rental average among white "non-farm" rural residents than among Negro. However, the percentages revealed by this table are more surprising than expected, since 52.2% of Negro units rent for less than \$10.00 per month while only 9.9% of white units are in that rental bracket.

Only 3.9% of the Negro units rent for more than \$25.00 although 55.3% of white units have that value. This would indicate that the great majority of Negro county residents are evidently in the lowest income class.

A tabulation of total premises which are occupancy-substandard reveals a serious condition of overcrowding among Negro units.

	<u>White</u>	<u>Pct.</u>	<u>Negro</u>	<u>Pct.</u>
Total Occupancy-substandard	1,020	9.0	114	16.4

TABLE 18

VACANT DWELLING UNITS BY MONTHLY RENTAL, BY ADEQUACY,  
BY NUMBER OF ROOMS

There were 377 substandard and 292 standard dwelling units in the 669 non-farm units vacant at the time of the survey. One-room units predominated among total vacancies, as indicated by the following room and rent table.

	<u>Total</u>	<u>1</u> <u>room</u>	<u>2</u> <u>rooms</u>	<u>3</u> <u>rooms</u>	<u>4</u> <u>rooms</u>	<u>5</u> <u>rooms</u>	<u>6</u> <u>rooms</u>	<u>7</u> <u>rooms</u>	<u>8</u> <u>or more</u>
No Report	9			3	2	2	1		1
4.99 or less	26	10	15	1					
5.00 to 9.99	125	38	41	29	12		5		
10.00 to 14.99	104	23	34	21	24				
15.00 to 19.99	80	30	11	9	14	13	3		
20.00 to 24.99	37		3	3	14	10	3	2	2
25.00 to 29.99	39	8	1	3	8	12	5	2	
30.00 to 39.99	67	23	4	2	11	13	10	1	3
40.00 to 49.99	87		4	1	31	36	9	6	
50.00 to 74.99	75	3	1	1	6	21	20	15	8
75.00 to 99.99	16					2	1	4	3
100.00 or more	4			1					3
Totals	669	135	114	74	122	111	57	30	26

This concludes the summarization and comment on the eighteen basic Real Property tabulations. Since the comparisons that could be made are practically endless, this report has stressed only what appeared to be the most important and pertinent information.

The complete set of tabulations, in minute detail are a part of the permanent files of the County Health Department.

were in  
or other  
expense.  
on-farm"  
arm" units

esidents  
than  
9% of

units  
s are

us condi-

units  
as indicat-

e

ty tabula-  
has stress-

files of

# THE SANITARY SURVEY

## W A T E R

No better words could be found as a preface to this chapter than those of Milton J. Rosenau, in his book entitled "Preventive Medicine and Hygiene."

In the sixth edition of this book, so widely acknowledged as authoritative by the medical and health professions, Rosenau states: "The general improvement in our water supplies should not lull us into a false sense of security. Eternal vigilance over methods of control for water supplies and water purification must ever be practiced.... many large epidemics have been traced to individual instances of pollution. .... outbreaks due to water are usually caused by the contamination of surface supplies."

In his "Memorial History of Louisville," J. Stoddard Johnston says, "Co-important with the air we breathe, as an element in life, is the water we drink. When population thickens the problem of pure water increases in proportion to its number and density. The drainage of surface waters and wastes become matters of greatest importance for the preservation of health, the prevention of epidemics and the spread of infectious diseases. The problem of a healthful water supply rapidly assumes gravity as the population advances from a single farm to a hamlet. Springs and wells become impure as part of the vehicle of drainage, and a source of water supply must be sought free from contamination by local causes. Hence the attention of men in civilized countries was early directed to pure water for drinking purposes and domestic uses and this was done long before drainage or other hygienic devices were considered necessary. Next to the pyramids and their great temples, the ancients expended more labor and expense upon their aqueducts to convey pure water to their homes than for any other object.

"The modern supply of Rome is still conveyed through conduits which date back to the Caesars. Rome was supplied by fourteen aqueducts, the longest which was sixty two miles, a portion of which was conveyed for several miles on a chain of arches 109 feet in height."

In writing on "Water Supplies," in the "Manual for Sanitary Inspectors," published by the Canadian Public Health Association, Dr. A. E. Berry, M. A. Sc., C. E., Ph. D., makes these statements:

"The fact that water is such an every-day requirement for domestic purposes makes it essential that it be readily obtainable. Likewise, the knowledge that it can carry disease-producing bacteria and be responsible for a number of diseases makes it imperative that it be safe. When these bacteria enter the human body sickness may follow. The diseases spread in this way are typhoid, paratyphoid, dysentery and diarrhoea. Water-bourne diseases do not result from odours or any other method except by the entrance of the germs into the body, in water, milk or food. They multiply in the intestinal tracts of human beings.

"Water is not a food for these bacteria but merely a vehicle for their transmission from one person to another. The danger of typhoid fever and other water-borne diseases is always present in an unprotected water supply." For example, Dr. Berry records an incident where fifteen cases of typhoid developed from a well used at a fairground. Investigation proved pollution came from a nearby sewer. In another instance ten cases of typhoid came from one well. Investigation proved that pollution, from above the well, followed the surface of an underground rock formation and gained entrance into the water. In both of these cases the water was clear and palatable, and had been used for long periods without serious complaints.

Dr. Berry mentions the fact that rural supplies are polluted from two sources, (a) from the underground waters and (b) from surface drainage.

Underground pollution may travel a great distance and results from contamination introduced far from the affected water supply. This is especially true through fissured limestone



J.  
 e medical  
 should  
 or water  
 a traced  
 the  
 with  
 ans the  
 - sur-  
 .th, the  
 l water  
 Springs  
 must be  
 countries  
 e long  
 s and  
 convey  
 the  
 a por-  
 d by the  
 e strave-  
 It  
 se-  
 s be  
 in this  
 .t from  
 lk or  
 n from  
 ys pres-  
 teen  
 on  
 ivesti-  
 rock  
 and  
 from  
 ntro-  
 one



formation. (Such limestone formation is typical of Jefferson County.)

Surface pollution results where drainage from the soil, from rain water or pump splashings, is carried directly into the well by loose or poorly constructed tops or sides.

The following pages present data obtained from tabulation of field schedule information pertaining to water sources. Trained men used sterile containers in taking samples from every source of drinking water in the county. These samples were then submitted daily to the laboratory of the State Board of Health where they were analyzed. The results were recorded and entered on the field schedule representing the premise from which the sample was taken.

At least one confirmation of the water analysis was taken on 70% of all samples and a second confirmation was taken if the first two samples differed in laboratory analysis. Every precaution was used to assure the accuracy and authenticity of this water analysis. Although the Health Department has long been aware of the dangerous condition of Jefferson County water sources, the full realization was not evident until the results indicated in the following summary were obtained.

Water supplies in the county area have reached a point where it is no longer safe to drink from unprotected wells, springs and other water sources without first boiling or treating such water. Cisterns are equally dangerous when surface or subsurface waters can drain or filter into the basin. All water, from whatever source, except city supply, should be treated before drinking.

TABLE I

ALL WATER FACILITIES, BY TYPE, BY PREMISES AFFECTED BY WATER POLLUTION, BY TYPE AND CONDITION OF WATER, WITH RESIDENTS AND POPULATION AFFECTED, FOR EACH TYPE OF PREMISE, SYSTEM AND SOIL

This table is in minute detail, separating Sources and Supplies, dividing the premises by type (farm, non-farm and other), the soil into Loose and Tight and the kind of water into Private, Community, Public and Industrial, with a recapitulation for each type of premise, soil, water and for the totals.

Water which upon laboratory analysis contained either B Coli or gas forming bacteria is considered as polluted throughout this report.

The table reveals the following Premise and Population information for the County as a whole, indicating the premises affected by pollution.

Type	PREMISES		Aff. by		POPULATION			
	Number	Pct.	Poll.	Pct.	Residents	Pct.	Aff. by Poll.	Pct.
Farm	3,735	22.0	2,977	79.7	15,555	26.1	12,648	81.3
Non-Farm	11,439	67.2	3,776	33.0	42,845	71.6	14,408	33.6
Other	1,839	10.8	593	32.2	1,229	2.1	539	43.9
Totals	17,013	100.0	7,346	43.2	59,629	100.0	27,595	46.2

Included in the total of 17,013 premises there are 6,717 using City Water as a primary supply. Since samples of City Water were not taken, except where a water-driven sump pump was installed, the large number of premises immediately surrounding the city limits having City Water available greatly reduced the percentage affected by pollution for the county as a whole. If the statistics for City Water are deducted from the totals, the following results:

Number of Premises	Affected by Pollution	Pct.
10,296	7,290	70.8

As stated above, samples of City Water were taken only when a water-ejector sump pump was installed on the premise, and no samples were taken of bottled commercial water. A total of

6,919 "No Reports" is due to Wells, Cisterns, Springs, etc.

Sources were Cisterns, Springs, etc. following table presents

SOURCES

PRIVATE

Polluted  
Suspicious  
Not Polluted  
No Report

COMMUNITY

Polluted  
Suspicious  
Not Polluted  
No Report

PUBLIC

Polluted  
Suspicious  
Not Polluted  
No Report

INDUSTRIAL

Polluted  
Suspicious  
Not Polluted  
No Report

TOTALS 19,109  
Poll. 5,251  
Susp. 3,213  
N. Poll. 3,737  
No Rpt. 6,908

It is interesting to note that B. Coli. Treatment methods are used at private sources.

There are 2,346 premises, either by city or private premise. The following

TOTAL SUPPLIES 2,466

This table presents information taken, used by premises for various purposes.

Sources are divided as follows:

Type Premise	Total
Farm	5,251
Non-Farm	11,439
Other	1,839
Totals	19,109

The tabulation

6,919 "No Reports" is comprised of 6,134 on City Water, 11 Bottled, and the balance of 774 were due to Wells, Cisterns, Springs, etc., being dry or having broken pumps at the time of enumeration.

Sources were separated by types into City, Bottled, Wells (Drilled, Driven and Dug), Cisterns, Springs, Stream or Pond, and Other, the last classification including natural impounding basins, swamps, miscellaneous drainage ways, and other places where water might collect. The following table presents data on each type of source by type of water.

SOURCES	TOTAL SOURCES	CITY	WELLS	CISTERNS	SPRINGS	STREAM OR POND						
PRIVATE	11,010	-	6,003	4,412	579	16						
Polluted	4,563	-	2,163	1,962	429	9						
Suspicious	2,773	-	1,058	1,611	99	5						
Not Polluted	2,935	-	2,419	497	18	1						
No Report	739	-	363	342	33	1						
COMMUNITY	1,601	-	1,199	285	116	1						
Polluted	671	-	430	153	87	1						
Suspicious	356	-	227	104	25							
Not Polluted	559	-	534	22	3							
No Report	15	-	8	6	1							
PUBLIC	6,459	6,375	55	26	2	1						
Polluted	17	3	2	11	1							
Suspicious	80	52	14	14								
Not Polluted	215	186	28	1								
No Report	6,147	6,134	11		1	1						
INDUSTRIAL	39		39									
Polluted												
Suspicious	4		4									
Not Polluted	28		28									
No Report	7		7									
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.						
TOTALS	19,109	100	6,375	100	7,296	100	4,723	100	697	100	18	100
Poll.	5,251	27.5	3	-	2,595	35.6	2,126	45.0	517	74.2	10	55.6
Susp.	3,213	16.8	52	.8	1,303	17.9	1,729	36.6	124	17.8	5	27.8
N. Poll.	3,737	19.5	186	2.9	3,009	41.2	520	11.0	21	3.0	1	5.5
No Rpt.	6,908	36.2	6,134	96.3	389	5.3	348	7.4	35	5.0	2	11.1

It is interesting to note that Industrial sources were, without exception, free of B Coli. Treatment methods used on the majority of these sources could easily be installed on many private sources.

There are 2,340 premises, with no source of their own, dependent upon supplies from other premises, either by carrying containers or piping the water from the source of a neighboring premise. The following data results from the tabulation of supplies used by these premises.

TOTAL SUPPLIES USED	POLLUTED	SUSPICIOUS	NOT POLLUTED	NO REPORT
2,466	728	375	981	382

This table presents the fact that from a total of 2,084 supplies, on which samples were taken, used by premises without sources of their own, 1,103, or 52.9% are unfit for drinking purposes.

Sources are divided, by type premise, in the following manner:

Type Premise	Total Sources	City	Total	WELLS					Cistern	Spring	Other
				Drilled	Driven	Dug					
Farm	5,913	170	3,070	1,633	563	874	2,117	550	6		
Non-Farm	11,780	5,523	3,744	1,513	1,554	677	2,392	116	5		
Other	1,416	682	482	253	173	56	214	31	7		
Totals	19,109	6,375	7,296	3,399	2,290	1,607	4,723	697	18		

The tabulation of condition of well water by type of well is also important.

Type Well	Total	Pct.	Poll.	Pct.	Suspicious	Pct.	Not Poll.	Pct.	No Rpt.
Drilled	3,399	46.6	1,232	38.4	779	24.3	1,197	37.3	191
Driven	2,290	31.4	245	11.3	211	9.8	1,705	78.9	129
Dug	1,607	22.0	1,118	72.7	313	20.3	107	7.0	69
Totals	7,296	100	2,595	37.6	1,303	18.9	3,009	43.5	389

The low incidence of pollution in driven wells can be attributed to the fact that wells of this type are usually located in sand areas where the sand acts as a filter and a natural means of purification. In time, as population increases, these wells also will become polluted in proportion to the extent of sewage and filth necessary for the sand to absorb.

TABLE 2  
CONDITION OF WATER, BY TYPE AND DEPTH OF WELL, BY GEOLOGICAL FORMATION, FOR EACH TYPE OF PREMISE

By the use of maps prepared by the Kentucky Geological Survey of 1931, all cards enumerating wells were coded to represent the formation in which the well shaft terminated. This included fourteen separate formations beginning with Alluvium and continuing through the Brassfield Limestone strata. The following table is the total section for all types of wells of all depths in the various formations:

GEOLOGICAL FORMATION	TOTAL	POLLUTED	SUSPICIOUS	NOT POLLUTED	NO REPORT
Total	7,296	2,595	1,303	3,009	389
Alluvium	384	274	78	13	19
Sand	2,380	172	194	1,871	143
Rosewood Shale	12	10	1		1
Kenwood Sandstone	12	8	3	1	
New Providence Shale	248	179	38	24	7
New Albany Shale	395	220	88	70	17
Sellersburg Limestone	212	104	59	45	4
Jeffersonville "	365	177	94	79	15
Louisville "	1,333	559	335	366	73
Waldron Shale	194	73	39	76	6
Laurel Dolomite	583	232	132	189	30
Osgood Formation	364	153	77	113	21
Brassfield Limestone	814	434	165	162	53

Condition of water, by depth of well, without regard to formation, tabulated as follows, the percentage figures based on totals exclusive of No Reports.

DEPTH	TOTAL		POLLUTED		SUSPICIOUS		NOT POLLUTED		NO REPORT
	No.	%	No.	%	No.	%	No.	%	No.
Under 20 ft.	652		463	74.2	134	21.5	27	5.3	28
20 to 29 ft.	726		499	71.8	145	20.9	51	7.3	31
30 to 39 ft.	574		320	58.8	121	22.2	103	19.0	30
40 to 49 ft.	1,025		340	34.8	209	21.4	428	43.8	48
50 to 59 ft.	1,188		276	24.3	163	14.3	698	61.4	51
60 to 75 ft.	2,108		453	22.9	312	15.7	1,216	61.4	127
Over 75 ft.	1,023		244	25.7	219	23.1	486	51.2	74
TOTALS	7,296		2,595	37.6	1,303	18.9	3,009	43.5	389

It will be noted that as the depth increases, the percentage of pollution decreases. This is evident in every depth grouping with the exception of "Over 75 ft." Since no plumb lines nor sounding devices were used on the survey, there is a possibility that some wells, known to be of more than usual depth, were enumerated in the last group when they actually were between 60

and 75 ft. in depth.

All tables were started it was decided the Real Property Survey

CON  
B

Statistics from wells and cisterns. The figures are based on to

TREATMENT OF WATER

- TOTAL  
1. Chlorinated & Filtered  
2. Chlorinated & Not Filtered  
3. Not Chlorinated & Filtered  
4. Not Chlorinated & Not Filtered  
5. No Report

The fact that or ing from carelessness, the serious possibilitie

Laboratory analy treatment still indicate receiving treatment ind Not Polluted, while othe difference of 10% and 5% and is a possible remedy responsible for numerous organisms in the small s bacilli is potentially o

The results of t which are presented excl

The simple treat easily polluted from sur

Cistern tabulat

and 75 ft. in depth.

TABLE 3

All tables were planned and printed while field work was in progress. After tabulation started it was decided that this table was almost an exact duplicate of Tables 7, 12, and 13 in the Real Property Survey, and for that reason it was discarded.

TABLE 4

CONDITION OF WATER, BY TYPE OF SOURCE, BY KIND OF SYSTEM,  
BY TREATMENT OF WATER, FOR EACH TYPE PREMISE AND SOIL

Statistics from this table reveal some interesting information regarding treatment of wells and cisterns. The following section presents the tabulation for total wells. Percentage figures are based on totals exclusive of "No Reports."

TREATMENT OF WATER	Total		Polluted		Suspicious		Not Poll.		No Report
	No.	%	No.	%	No.	%	No.	%	No.
TOTAL	7,296	100	2,595	37.6	1,303	18.9	3,009	43.5	389
1. Chlorinated & Filtered	80	1.1	20	26.3	19	25.0	37	48.7	4
2. Chlorinated & Not Filtered	44	.6	10	22.7	8	18.2	26	59.1	
3. Not Chlorinated & Filtered	150	2.1	44	30.4	36	24.8	65	44.8	5
4. Not Chlorinated & Not Filtered	7,018	96.2	2,521	37.9	1,238	18.6	2,880	43.5	379
5. No Report	4				2		1		1

The fact that only 3.8% of all wells are treated in any manner presents a problem arising from carelessness, ignorance due to lack of knowledge, negligence, or an utter disregard for the serious possibilities of ill health and epidemics through the spread of water-borne diseases.

Laboratory analysis revealed, as shown, that water from 27.9% of the wells receiving treatment still indicated the presence of B Coli. However, 37.9% of the water from those not receiving treatment indicated a like condition. In the same manner, treated wells show 48.3% Not Polluted, while others analyze as only 43.5% Not Polluted. While it is true there is only a difference of 10% and 5% in the two categories it is evident that treatment does reduce pollution and is a possible remedy well worth consideration when one contaminated water supply could be responsible for numerous cases of water-borne diseases or several deaths. The presence of colon organisms in the small samples taken by the survey indicates the water containing such colon bacilli is potentially dangerous.

The results of treatment were especially evident in the case of Dug Wells, the totals of which are presented exclusive of "No Reports" on water condition.

	DUG WELLS		
	Total	B Coli Present	Pct.
Treated	33	20	60.6
Not Treated	1,504	1,098	73.0

The simple treatments enumerated reduced presence of B Coli in water from Dug Wells, so easily polluted from surface drainage, by 12.4% as compared to like water with no treatment.

Cistern tabulations reveal a slightly greater benefit from treatment:

	CISTERNS		
	Total	B Coli Present	Pct.
Treated	1,233	482	39.1
Not Treated	3,138	1,641	52.3

TABLE 5  
 CONDITION OF WATER BY TYPE OF WELL AND CISTERN, BY POSITION  
 OF TOP, BY DRAINAGE TOWARDS SOURCE FROM, FOR EACH TYPE  
 OF PREMISES AND SOIL

Back in 1885 the "Louisville Courier Journal" published an interesting paper entitled "All's Well," written by Dr. J. N. McCormack, at that time secretary of the State Board of Health. He was endeavoring to answer the question "Shall the Pumps be Abolished?" with reference to Louisville. Dr. McCormack, speaking of his examination of these wells, said in part, "Nearly all the wells are located near the curbing and in many cases depressions in the gutter are filled with a semi-liquid muck. Upon examination of the inside of the well this same filthy fluid could be seen trickling down the wall next to the gutter. This is common in all old wells and it is necessary to remove from 12 to 18 inches of muck from each of these wells every year or eighteen months.

Dr. McCormack further stated, "There is a greater danger of contamination of these wells, from surrounding soil.

"Every well may be said to drain a circumjacent region which may be represented as an inverted cone, with its apex at the bottom of the well and its base at the surface of the ground. The diameter at the base will depend on the depth of the well and the character of the soil.

"In most instances such an area would include several vaults, cesspools and filth. The following forcible and instructive instance of the fouling of wells from a source above their level is quoted from the report of Mr. Child, Officer of Health for certain districts in Oxfordshire, England:

"In consequence of the escape of the contents of a barrel of petroleum or bonzaline which had been buried in an orchard, a circuit of wells 60 feet below and 250 or 300 yards distant became so affected that the occupiers of 15 houses, containing 82 inhabitants, were for ten days unable to use the water for drinking or cooking. The cattle of one of the proprietors, moreover, refused to drink at the spring where they were accustomed to drink.

Had this soakage been sewerage instead of petroleum, who can doubt that the result might have been wholesale water-poisoning, and an outbreak of typhoid fever?"

The following table presents data on drainage flow towards wells and cisterns.

Drainage toward from	Wells	Cisterns
Drainage Field	14	8
Cesspool	16	5
Privy	248	117
Effluent Pit	20	11
Barnyard	353	143
Terrain	3,703	1,460
Drainage away from	3,518	3,215

Since any one well or cistern can receive drainage from several objects or facilities, the totals are greater than the total number of wells and cisterns.

Tabulation of wells and cisterns by position of top, in relation to drainage, is presented in the following table:

Drainage toward from  
 Drainage Field  
 Cesspool  
 Privy  
 Effluent Pit  
 Barnyard  
 Terrain  
 Drainage away from

Act  
 Posi  
 Above  
 At S  
 Below  
 No T

CONDITIO  
 OF TOP  
 EXCR

The previous table  
 certain possible causes of  
 data.

D1  
 No  
 Un  
 25  
 50  
 75  
 100

D1  
 No  
 Un  
 25  
 50  
 75  
 10  
 No

D1  
 Un  
 25  
 50  
 75  
 10  
 No

CONDITIO  
 AND CON

This table was de  
 top construction on pollu

This tabulation i  
 types, Drilled, Driven, a  
 following table presents

<u>Drainage toward from</u>	<u>Above Surface</u>		<u>At Surface</u>		<u>Below Surface</u>		<u>No Top</u>	
	<u>Wells</u>	<u>Cisterns</u>	<u>Wells</u>	<u>Cisterns</u>	<u>Wells</u>	<u>Cisterns</u>	<u>Wells</u>	<u>Cisterns</u>
Drainage Field	9	4	3	4	1		1	
Cesspool	3	2	2	2	9		2	1
Privy	141	86	73	25	12	3	22	3
Effluent Pit	10	5	3	5	7	1		
Barnyard	223	115	78	26	18	1	34	1
Terrain	1,833	1,066	760	312	689	44	421	38
Drainage away from	2,888	2,898	413	257	104	16	113	44

Actual number, wells and cisterns, by top position.

<u>Position of top</u>	<u>Wells</u>	<u>Pct.</u>	<u>Cisterns</u>	<u>Pct.</u>
Above Surface	4,769	65.4	4,003	84.7
At Surface	1,193	16.3	577	12.2
Below Surface	796	10.9	61	1.3
No Top	538	7.4	82	1.8

TABLE 6

CONDITION OF WATER, BY TYPE OF WELL AND CISTERN, BY POSITION OF TOP, BY DISTANCE OF SOURCE FROM PREMISE, BARNYARD AND EXCRETA DISPOSAL, FOR EACH TYPE OF PREMISE AND SOIL

The previous table dealt with drainage. This tabulation concerns the distance between certain possible causes of pollution and the well or cistern. The following table presents that data.

<u>Distance from Premise</u>	<u>Wells</u>	<u>Cisterns</u>
No Distance (Inside)	1,117	480
Under 25 ft.	3,556	3,598
25 - 49 ft.	1,094	265
50 - 74 ft.	429	91
75 - 99 ft.	189	59
100 ft. or more	911	230
<u>Distance from Barnyard</u>		
No Distance	218	151
Under 25 ft.	357	218
25 - 49 ft.	550	328
50 - 74 ft.	625	378
75 - 99 ft.	321	276
100 ft. or more	1,445	1,029
No Barnyard	3,780	2,343
<u>Distance from Excreta Disposal</u>		
Under 25 ft.	321	271
25 - 49 ft.	1,706	1,220
50 - 74 ft.	1,984	1,363
75 - 99 ft.	1,110	691
100 ft. or more	2,060	1,133
No Excreta Disposal	115	45

TABLE 7

CONDITION OF WATER, BY TYPE OF WELL AND CISTERN, BY POSITION AND CONSTRUCTION OF TOP, FOR EACH TYPE OF PREMISE AND SOIL

This table was devised so that it might give a possible indication of the effect of the top construction on pollution of wells and cisterns from surface sources.

This tabulation is similar to all previous tables since it divides wells into the three types, Drilled, Driven, and Dug. For the purpose of briefing this data into summary form the following table presents the tabulation of total wells.

Construction of Top	Wells	Pct. Poll.	Cisterns	Pct. Poll.
Concrete	3,492	44.5	2,723	79.2
Stone	154	70.0	47	72.3
Wood	2,422	62.8	1,600	86.2
Other	690	63.3	271	79.0

A study of the complete table also reveals a difference in the percentage of pollution of wells with wood tops, by the three types of wells. Drilled wells with wood coverings were only 20.0% polluted, while the percentage of pollution in dug wells with wood tops increased to 90.6%. This does not, of course, necessarily mean that top construction had that great an effect upon water condition; however, since one major object of the survey was to reveal the possible factors contributing to pollution, the figures are well worth study and consideration.

TABLE 8

CONDITION OF WATER, BY DEPTH AND TYPE OF WELL AND CISTERN  
BY TYPE OF PUMP, FOR EACH TYPE OF PREMISE AND SOIL

It is common knowledge that some types of pumps are more likely than others to contribute to water pollution. This tabulation was designed in order that some possible indication might be shown as to the pumps' effect on water condition.

The tabulation is divided into pages separating the three types of premises and the two types of soil, with the same scale for various depths of wells as that used in Table 2.

This summary report presents only the total section for all types of premises and both types of soil, comparing the type of pump with the condition of water. Water which analyzes as "Suspicious" (containing gas forming bacteria) is included in the pollution column.

Type of Pump	Total Wells	Poll.	Pct.	Total Cisterns	Poll.	Pct.
Power	1,599	493	30.8	1,248	985	78.9
Pitcher	519	411	79.3	1,120	929	82.9
Chain Sucker	130	122	93.8	1,080	908	84.1
Plunger	3,562	1,545	43.4	233	192	82.4
Sand Bucket	630	541	85.9	4	4	100.0
Rope and Bucket	856	786	91.8	1,038	837	80.6

A detailed and intensive study of this table will be made in an effort to determine to what extent the pumps of various types are a factor in pollution.

SEWAGE DISPOSAL

Sewage in sections used for residential purposes, contains highly organic and odoriferous wastes from homes in the area. These wastes include those from human bodies, carrying germs and organisms responsible for many and varied diseases, and can be easily responsible for the pollution of water sources both on and beneath the earth's surface.

There are several hundred sinkholes, natural openings connecting with water-bearing strata in the cavernous limestone formation, in Jefferson County, into 251 of which, raw sewage is being poured daily. It is not difficult to realize the results of such action when we visualize the yawning mouth of a sinkhole gulping its goodly portion of fecal matter, organisms of many types, and dangerous filth down into the underground water course where it is carried along until suction from the pumps of wells bring it back to the surface in the water used by your family and your neighbors' families, for drinking purposes.

Stream pollution is another major argument in support of controlled sewage disposal. Streams often become so saturated with waste that the load is too great to be carried away. Highly offensive odors, destruction of fish life, and pollution of water sources are the inevitable results of such conditions.







Safeguarding water supplies, prevention of nuisances, and protection of public health are the primary objectives in a controlled system of sewage disposal.

Tables 9 and 10 present interesting and, considering this is the year 1940, astounding revelations as to the ancient and antiquated methods of sewage disposal being used by the majority of the premises in the suburban and rural parts of Jefferson County.

TABLE 9  
KIND OF SEWAGE SYSTEM, BY TYPE AND CONDITION, BY METHOD OF EFFLUENT DISCHARGE, BY FINAL EFFLUENT DISCHARGE, FOR EACH TYPE OF PREMISE AND SOIL

The 17,013 premises, including all types, Residential, Commercial, Institutional, etc., are using 17,433 systems for the disposal of sewage. The following table indicates the type of systems in use.

Type System	No. in Use	Pct.
Public Sewer	282	1.6
Community Sewer	1,497	8.6
Septic Tank, Grease Trap	3,971	22.8
Septic Tank, No Grease Trap	1,507	8.7
Cesspool, Grease Trap	140	0.8
Cesspool, No Grease Trap	1,100	6.3
Drainage Field, Grease Trap	25	0.1
Drainage Field, No Grease Trap	137	0.8
Sinkhole	251	1.5
DEPOSIT ON SURFACE	8,371	48.0
Stream or Pond	126	0.7
Other	26	0.1

FINAL DISCHARGE

	Public Sewer	Sinkhole	Stream	Surface	Other	None	Comm. Disp. Plant
Number	1,505	585	468	8,711	69	6,025	71
Pct.	8.6	3.4	2.7	49.9	0.4	34.6	0.4

"None" indicates no definite discharge and can include leaching or periodical cleaning.

The most significant fact is obvious. The survey by accurate count has established the fact that 48% of all premises have no means of sewage disposal other than depositing all wastes on the earth's surface, and that other systems using surface as final discharge increase the percentage to 49.9%, or practically one half the total for final discharges. Add to this the fact that 584 sinkholes and 468 streams serve as final receptacles for sewage discharge and that the contents of 6,025 effluent pits, drainage fields, etc., leach into the earth, and one reason for the high percentage of pollution, in wells and cisterns, is obvious.

Sewers, septic tanks, cesspools and drainage fields were enumerated with reference to condition. If the system was in good working order and of sufficient capacity, the field schedule indicated that fact and the system was tabulated as in good condition. If the field schedule indicated the system or any unit therein was overloaded or overflowing, it was tabulated as being in bad condition.

The following table presents the results of that tabulation.

Type of System	Total	Good Cond.	Pct.	Bad Cond.	Pct.
Sewer	1,779	1,737	97.7	42	2.3
Septic Tank, with Grease Trap	3,971	3,557	89.6	414	10.4
Septic Tank, without "	1,507	605	40.1	902	59.9
Cesspool, with Grease Trap	140	106	75.7	34	24.3
Cesspool without "	1,100	616	56.0	484	44.0
Drainage Field with Grease Trap	25	19	76.0	6	24.0
Drainage Field without "	137	78	56.9	59	43.1

It will be noted that Grease Traps are evidently an important factor in the condition of systems. In order to picture more definitely the obvious effect of a Grease Trap relative to condition of the system, the following table is presented:

	Total	Good Cond.	Pct.
Systems with Grease Trap	4,136	3,682	89.0
Systems without Grease Trap	2,744	1,299	47.3

There were 15,337 private, 1,712 community, and 384 public systems included in the 17,437 systems in use at the time of the survey.

TABLE 10

KIND OF SEWAGE SYSTEM, BY TYPE OF PREMISE, BY TYPE AND CONDITION OF SEWAGE SYSTEM, BY RACE OF HOUSEHOLD, BY USERS AND PREMISES

Table 10 is not of importance in a summary discussion. Since it deals only with the residential premises, however, interesting comparisons can be made between the complete tabulation and that of Table 9.

The table does indicate, however, that the 15,510 county residential premises are using 19,910 systems with a total of 61,154 users, 58,091 of whom are white residents with the remaining 3,063 are Negroes. The total users exceed population figures presented earlier in this report since, where there was more than one type of sewage disposal system, all residents of a premise were tabulated as users of each separate system.

TOILET FACILITIES

The survey divided privies into three major classifications including the most primitive toilet facilities, the pit privy consisting merely of an excavation, the vault privy with a water-tight receptacle permitting no leaching, and surface privies, which included those using cans or metal containers and those which overhang brooks, streams or drainage ways.

Vault privies were further divided into three types, septic, chemical and plain.

TABLE 11

TOILET FACILITIES, BY KIND OF SYSTEM, BY NUMBER OF USERS, BY FACILITIES AND CONDITION OF SYSTEM, FOR EACH TYPE OF PREMISE AND SOIL

Distribution of total toilet facilities, by type, is presented in the following table:

	Total	Vault	Pit	Surface
Privies	8,550	503	4,378	3,669
Inside Flush Toilets	8,094			
Outside Flush Toilets	24			
Total Facilities	16,668			



LEGEND  
INSANITARY PRIVIES  
PERCENT SYMBOLS

□	0%
□	1%
□	3%
□	5%
□	7%
□	10%
□	15%
□	20%
□	30%
□	40%
□	50%
□	60%
□	70%
□	80%
□	90%
□	100%

INSANITARY PRIVIES MAP  
JEFFERSON COUNTY KENTUCKY  
SANITARY SURVEY OF 1939  
BY  
W.P.A. AND JEFFERSON COUNTY HEALTH DEPT.  
DR. JOHN D. TRAWICK, COUNTY HEALTH OFFICER

Vault pri  
his group war  
as with No Dis  
The follie  
Number  
Risers  
Urinals

Only 1,18  
in no protectio  
sects. Privy s  
in 3,830 (44  
ad condition.

The follie  
position of e  
Over Sur  
3,901

TYPE  
KIT

The flirs  
enumeration.  
not yet been  
lree, sewage d  
city water an  
of residenti  
liable.

It is of  
blic tank syst  
The lowe  
ained whenever  
er analysis 1

It is a  
lution of cit  
The sur  
riety.

LIBRARY  
UNIVERSITY OF KENTUCKY

Vault privies consisted of 288 Septic, 52 Chemical and 163 Plain. The overflow discharges in this group were distributed: 5 to streams, 98 to surface, 18 to pits or tanks, and 13 to sinkholes with No Discharge for the remaining 369.

The following is a tabulation of number of Risers and Urinals for all privies.

<u>Number of Risers or Urinals</u>	<u>1</u>	<u>2</u>	<u>3 or more</u>	<u>None</u>
Risers	3,587	4,688	258	17
Urinals	123	62	18	8,347

Only 1,183 or 13.8% of all privies were found to be fly-tight, leaving a total of 7,367 with no protection against flies and the consequential danger of food contamination from those insects. Privy superstructures were in good condition in 2,620 (30.6%) instances, in fair condition in 3,830 (44.8%) of the privies, while the remaining 2,100 (24.6%) were enumerated as being in bad condition.

The following table concludes the summary presentations for privies with a tabulation of position of excreta in relation to the surface.

<u>Over Surface</u>	<u>Pct.</u>	<u>At Surface</u>	<u>Pct.</u>	<u>Less than 5 feet</u>	<u>Pct.</u>	<u>Over 5 feet</u>	<u>Pct.</u>
3,901	45.5	670	7.9	2,495	29.2	1,484	17.4

TABLE 12

UNDER CONSTRUCTION AND SUMP PUMPS

TYPE OF WATER SUPPLY, BY CONDITION OF WATER, TYPE OF SEWAGE DISPOSAL, BY KIND OF SYSTEM, TYPE OF TOILET FACILITIES, BY CONDITION, FOR EACH TYPE OF PREMISE. SUMP PUMP BY NUMBER AND TYPE, BY CONDITION OF WATER, OF WATER EJECTOR TYPES BY DISCHARGE

The first section of this tabulation related only to premises under construction at time of enumeration. The information was naturally far from complete since in many cases facilities had not yet been installed and workmen were not aware of what would ultimately serve as water source, sewage disposal system and toilet facility. The fact that 192 sources were determined to be city water and that 346 flush toilets were being installed indicates that the greater percentage of residential construction is in the suburban area where many of the city facilities are available.

It is of interest also to note that only 32 new premises have access to the city sewer. Septic tank systems were being installed in 204 instances.

The lower section of the table provides data on sump pumps. Samples of city water were obtained whenever a premise was using a sump pump of the water-ejector type. The results of the water analysis in such cases was:

Total Water Ejector Pumps	257	
City Water Polluted	4	1.7%
City Water Suspicious	53	21.7%
City Water Not Polluted	187	76.6%
No Report	13	

It is apparent that the cross connection of a sump pump and city water mains can cause pollution of city water supply.

The survey found a total of 1,458 sump pumps, 1,201 of which were of the power driven variety.

497313

Sump Pump discharges were tabulated as follows:

Discharge to	
Sewer	31
Septic Tank	901
Cesspool	31
Street	232
Stream	12
Sinkhole	12
Surface	233
Other	3
No Report	3

---

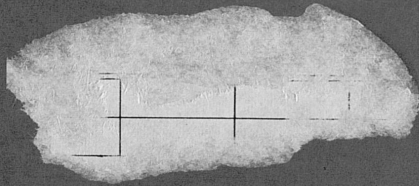
This concludes the summarization and discussion of the tabulations involving data on sanitation factors.

While it is true that the actual enumeration took place, and reveals exact conditions as they existed, some eighteen months prior to the publishing date of this report, the picture cannot have changed materially in that time.

The unprecedented increase in county residential construction continues, and time would have no effect on the condition of water sources unless the steady increase in population should tend to pollute underground flow to an even greater extent. The sewage problem is one of the largest health menaces confronting Jefferson County. Since there are no State laws, and since the Fiscal Court, under existing statutes, cannot appropriate funds for sewer installations, many densely populated and unincorporated districts are unable to install sewers. Citizens living in such areas are being deprived of a major necessity for the enjoyment of a clean healthful existence. In one particular area of beautiful new homes, ranging from \$10,000 to \$25,000 in value, the inhabitants are unable to sit on front porches due to the sewage stench arising from drainage ways into which raw sewage is entering both directly and by infiltration. Under such conditions it is impossible for underground water tables to remain free of pollution.

Pending proper legislation, the Health Department is endeavoring through a progress of inspections, advice, and community education to arouse public interest in such problems. The new Sanitary District law could be a solution for unincorporated areas, and with the cooperation of communities working as a unit. These dangerous conditions could be controlled.

Throughout this report it has been our purpose to present only such pertinent and significant data as will be of general interest. However, the more than 4,000 statistical tables are a permanent part of the County Health Department files, and are available to official or governing bodies interested in any particular community or specific area.



Call No. 333.33  
Un3  
Accession No. 497313

**LIBRARY**  
**UNIVERSITY OF KENTUCKY**

DEMCO

s as  
can-  
  
uld  
ould  
e  
ce  
  
alth-  
OO  
g  
er  
  
of  
e  
tion  
  
gnif-  
are  
ern-

