STATE OF ILLINOIS

WILLIAM G. STRATTON. *Governor*

GROUNDWATER RESOURCES IN LEE AND WHITESIDE COUNTIES

BY

ROSS HANSON

DEPARTMENT OF REGISTRATION AND EDUCATION

VERA ML BINKS, *Director*

STATE WATER SURVEY DIVISION

A. M. BUSWELL, *Chief*

URBANA, ILLINOIS

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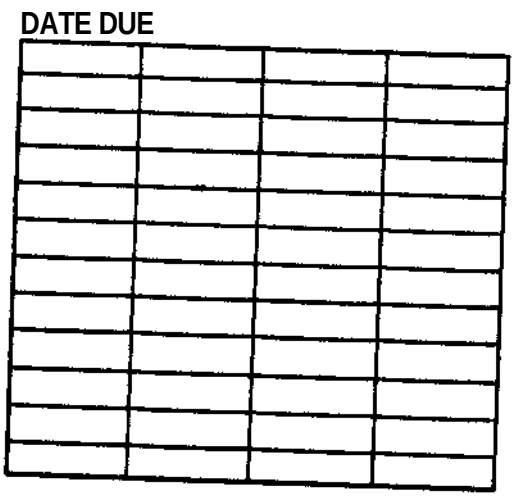

Hanson, Ross
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SUMMARY

This report is a continuation of a series of areal investigations of groundwater resources which is being conducted by the State Water Survey Division.

Available records are tabulated of 529 wells which penetrate the sandstone, limestone, and glacial drift aquifers. Daily pumpage from the aquifers in this Area was estimated in 1952 to average as follows:

Sandstone	-	5.5 million gallons
Limestone	-	1.6 million gallons
Glacial Drift	-	2.3 million gallons

It is to be understood that this Division does not have information on every well in the Area but all large capacity municipal and industrial wells are included plus numerous private wells. The wells not included herein would be only small-capacity domestic wells.

Fulton, Morrison, Dixon and Sterling have kept daily pumpage records. Fulton and Sterling showed relative reductions in the daily per-capita demand. Morrison and Dixon showed reductions until 1940 but in the 1940-1950 period there was a noticeable increase in the per-capita use.

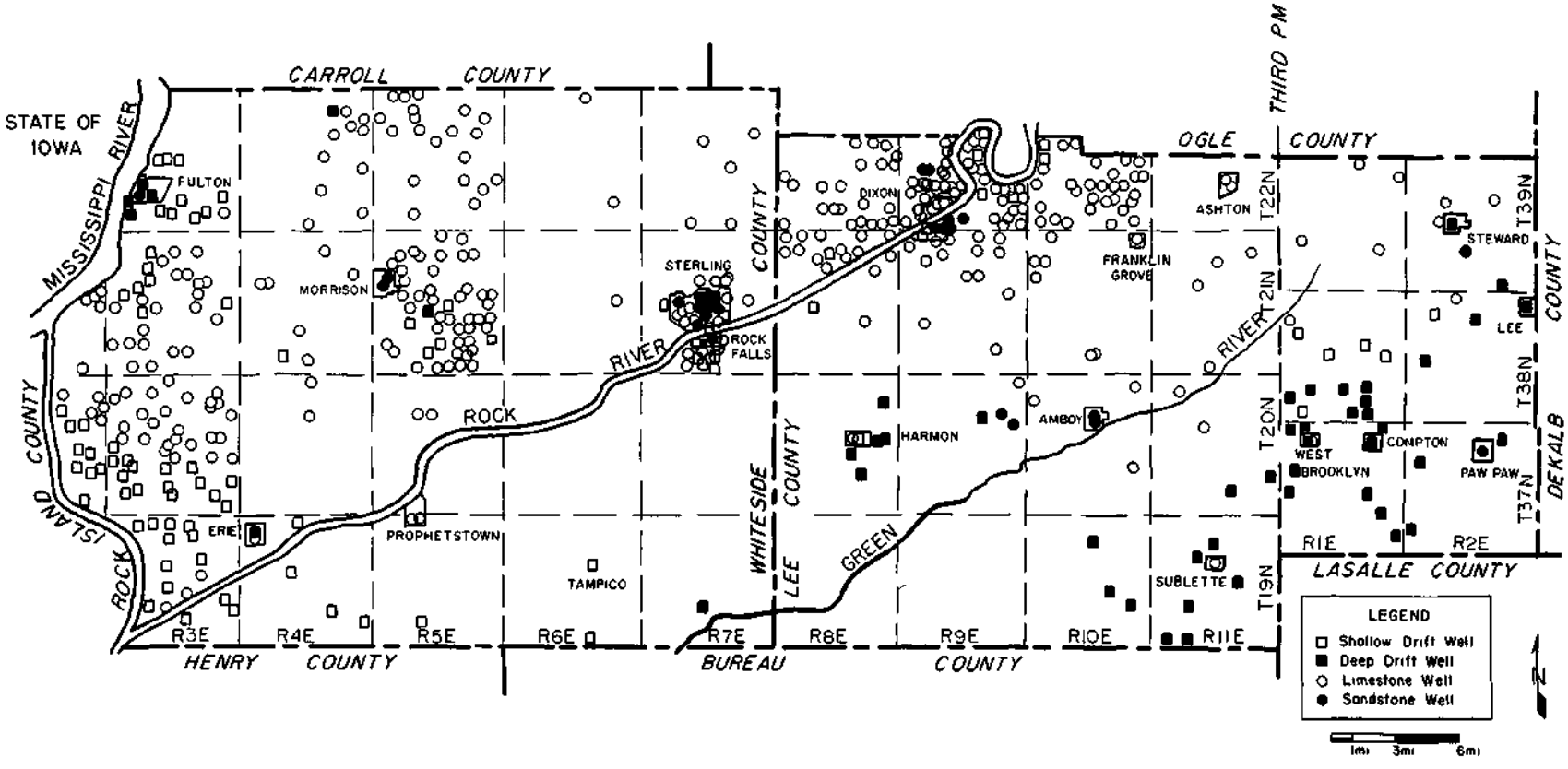


FIG. 2 -LOCATIONS OF WELLS IN LEE AND WHITESIDE COUNTIES

INTRODUCTION

This report of Groundwater Resources in Lee and Whiteside Counties is a continuation of a series of areal investigations by the Illinois State Water Survey of water resources within the State. These investigations were initiated by the Water Survey due to the constantly increasing number of requests, throughout the State, for information on the occurrence, availability and quality of groundwater supplies. These requests have become progressively more numerous not only because of the droughty conditions which have prevailed during the past two years but because of increased water uses in concentrated areas.

The areas thus far reported on are not connected, but have been selected because of the need for publishing specified areal material which should be helpful to well owners and drillers. It is hoped that making such material available will create interest on the part of well owners to keep more complete well records in order to facilitate the meeting of future well problems.

The Water Survey has records of 529 wells in the two counties - 241 in Lee County and 288 in Whiteside County. These are tabulated in Tables I and II. The wells penetrate one or more of four water-bearing formations which are referred to in this report as sandstone, limestone (dolomite), shallow and deep glacial drift.

Location of the Area

Lee and Whiteside Counties abut each other from east to west, respectively are located in the near northwest corner of the State (Figure 1). Carroll and Ogle Counties adjoin the Area on the north, DeKalb County on the east; LaSalle, Bureau and Henry Counties on the south; and Rock Island County and the Mississippi River form the western boundary.

Dixon is the seat and largest city of Lee County with a 1950 population of 11,468. Other municipalities within Lee County having groundwater supplies, have a combined population of 5910. The total population of the County is 36,451.

Morrison is the seat of Whiteside County with a population of 3531. Sterling and Rock Falls have a common distribution system supplying the largest municipal population in Whiteside County of 20,800. Other municipalities in Whiteside County having groundwater supplies have a combined population of 7337. The total population of Whiteside County is 49,330.

The combined population of the Area is 85,781. The total population of all municipalities having groundwater supplies amounts to 49,039 leaving a rural population of 36,742 which is dependent on private wells for water.

Acknowledgments

The investigation was made under the administration of Dr. A. M. Buswell, Chief of the State Water Survey Division and under the direction of H. E. Hudson, Jr., Head of the Engineering Subdivision who with H. F. Smith, Engineer, provided counsel during the progress of the work.

The discussion on the results of the chemical analyses was prepared by T. E. Larson, Head of the Chemistry Subdivision who arranged the data in Tables III and IV.

Members of the Survey staff, past and present, collected much of the information which is used in the preparation of this report.

Waterworks operators, well drillers and well owners have been very helpful in supplying technical and historical data.

Particular acknowledgment is made to the following for their cooperation and furnishing of records: J. W. Shipma, Superintendent of Fulton Water Department; Glen F. Coe, Manager Dixon Water Company, Harry E. Traum, Superintendent of Morrison Water and Sewage Department; J. C. Moomau, Manager and H. E. Hall, Superintendent, Northern Illinois Water Corporation at Sterling-Rock Falls.

Sources of Groundwater

Three sources of groundwater are known to occur in Lee and Whiteside Counties: (1) sandstone, (2) limestone (dolomite), (3) glacial drift.

Sandstone. The sandstone aquifers underlie the Area and are a source of water to municipal and industrial wells in Amboy, Dixon, Franklin Grove (new well), Paw Paw and West Brooklyn in Lee County and in Fulton, Morrison and Sterling in Whiteside County (Figure 2).

During production tests by the State Water Survey, these sandstones have been observed to yield 350 to 1000 gallons per minute. After some rehabilitation work in the two wells at the Dixon State Hospital in 1952, the No. 1 well was reported to produce 1475 gallons per minute with a drawdown of 42.0 feet after six hours pumping.

The pumpage from the sandstone wells at Fulton, Morrison, Sterling and Dixon is metered and accurate records are maintained. These pumpages, plus an estimate of the average daily withdrawal from other known sandstone wells in the two counties, amounted to an average 5.5 millions gallons daily, in 1952.

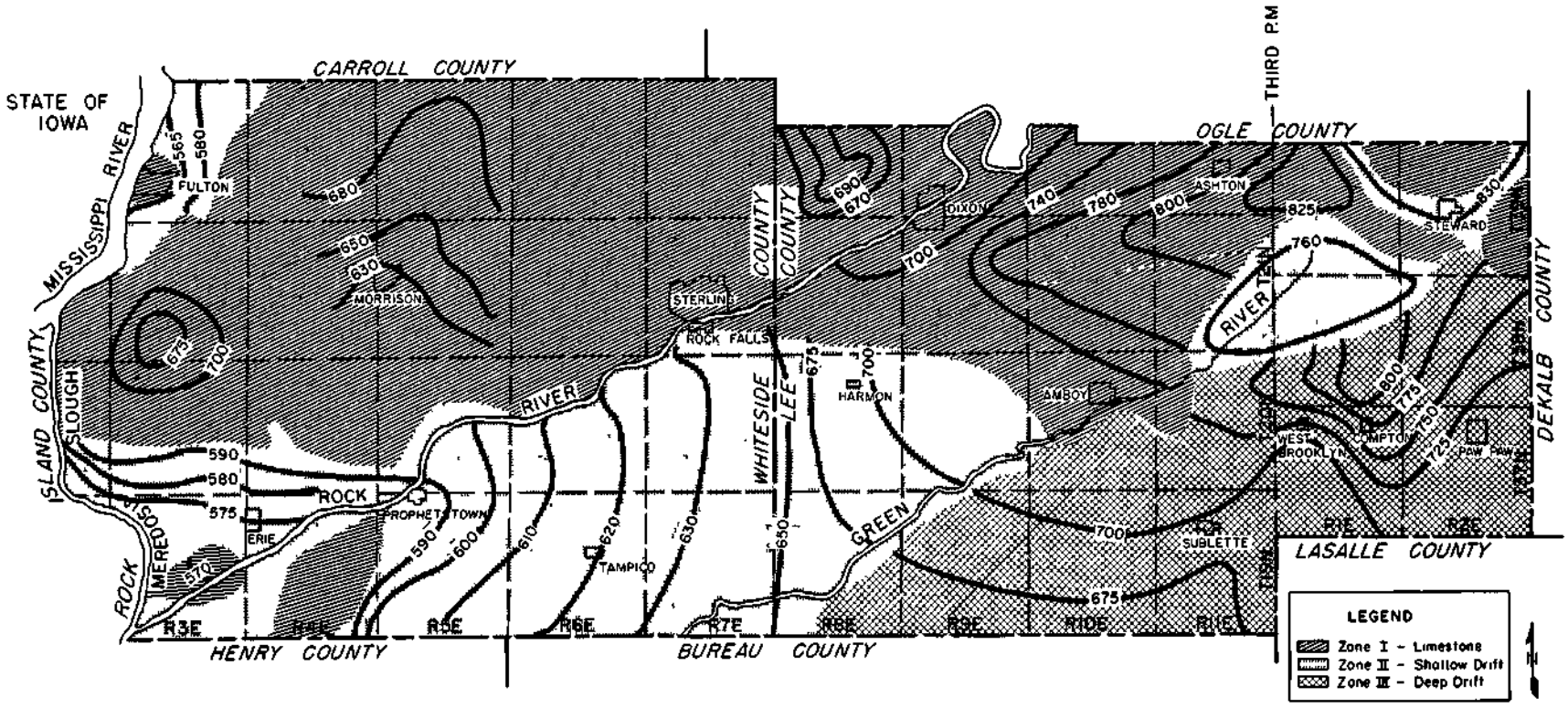


FIG. 3 - WATER SURFACE CONTOURS FOR DRIFT AND LIMESTONE

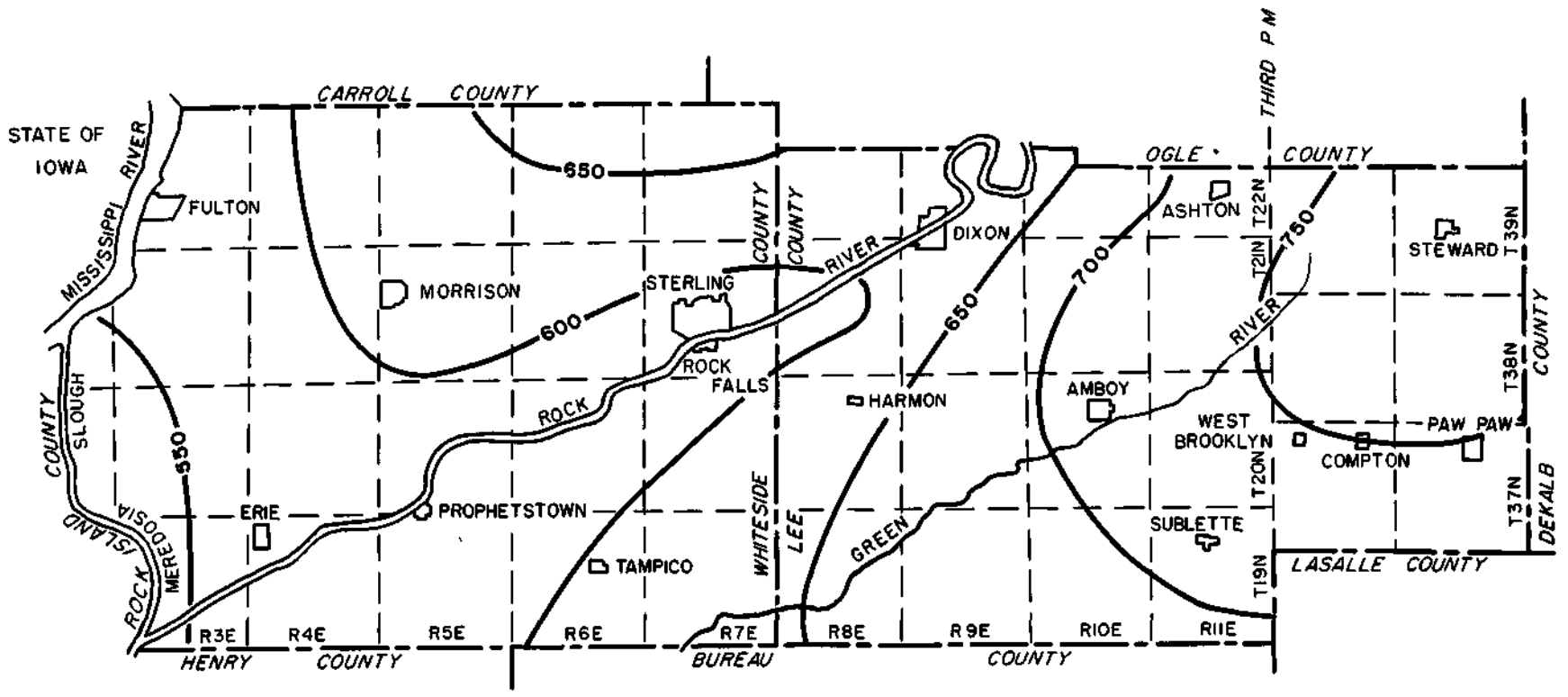


FIG. 4 - WATER SURFACE CONTOURS FOR SANDSTONE

Limestone. Wells producing water from limestone deposits are found in the northern part of the two Counties and in the southwestern part of Whiteside County (Figure 2).

Municipal wells at Ashton, Erie (old well), Franklin Grove (old well), Prophetstown and Sublette penetrate limestone. Yields from this aquifer are quite variable, dependent largely on the extent of crevicing. The specific capacities are ordinarily low and wells penetrating the limestone in this area are known to fall off considerably in their yields and are not regarded as dependable in sustaining yields for sizable supplies for municipal or industrial uses.

Erie constructed a new well into sand and gravel deposits in Septemher 1953 and Franklin Grove completed a new well into sandstone in September 1954.

Daily pumpage from the tabulated wells that are known to penetrate limestone was estimated to average 1.6 million gallons, in 1952.

Glacial Drift. Wells furnishing water from the glacial drift are found in the southern part of the two counties and in the eastern part of Lee County and western part of Whiteside County (Figure 2).

In some of the Area, particularly the eastern and southeastern parts of Lee County (Zone III, Figure 3) where the glacial drift has greater thickness, shallow dug wells have failed in recent years. In many such cases the wells have been deepened by drilling and installing a casing to a lower source in the drift. Some of these wells have been deepened to more than 300 feet. A number of wells were found which were drilled originally to the lower aquifer. The Compton and Lee municipal wells, penetrate this aquifer at 330 feet depth and are reported to yield 60 to 70 gallons per minute.

In Zone II (Figure 3) are found shallow wells where drive points are used extensively. The villages of Harmon and Tampico obtain water from points driven to depths of 20 or 30 feet. One large-acreage stock farm has a drive point in every pasture field.

Just south of Rock Falls some tubular wells have recently been developed in sand and gravel with yields of more than 500 gallons per minute. The new well at Erie was finished in sand and gravel at a depth of 162 feet and was reported to yield 964 gallons per minute, after 15 hours pumping, with a drawdown of 12 feet.

The Steward municipal well is finished in sand and gravel at 100 feet depth, and reportedly yields 40 gallons per minute.

Daily pumpage from the tabulated sand and gravel wells in the Area was estimated to average 2.3 million gallons, in 1952.

Groundwater Levels

The physical description of each well of record in the files of this Division is tabulated in Table I for Lee County and Table II for Whiteside County. A complete description of the well is not available in all cases. The information has come from various sources, particularly as to the farm and domestic private supplies. For municipal and industrial supplies the information has been received largely from owners, operators, engineers, well drillers, pump manufacturers or others directly interested in the particular supply.

Sandstone Water Levels. The water surface (piezometric) contours (Figure 4) have been plotted from data obtained from municipal and industrial sandstone supplies at Fulton, Morrison, Sterling, Dixon, Amboy, Dixon State Hospital and Green River Ordnance Plant (now abandoned). The contours at the outer edges of the Area coincide with the sandstone piezometric surface map which this Division has prepared for the northwest region of the State. The contour elevations are in feet above mean sea level.

Limestone Water Levels. The water surface contours (Zone I, Figure 3) for the limestone wells have been plotted from data furnished by well owners, drillers and engineers. The contour elevations are in feet above mean sea level and are based on information of depths to water in the wells. In some cases actual tape measurements were made and referenced to known elevations. The contours are drawn only where water level data have been available. No attempt was made to draw in contours in large areas where the data were deficient.

Glacial Drift Water Levels. There are two well-defined aquifers in the glacial drift (Zones II and III, Figure 3). In Zone II the wells are shallow in depth and are either dug or are drive points. The villages of Tampico and Harmon obtain water from drive points at shallow depths.

In Zone III the wells are drilled to depths of 250 to 330 feet. Some of the wells in this zone were originally dug to shallow depths but were later deepened by drilling to a lower aquifer. No drive-point wells were found in this zone.

Pumpage and Gallons per Capita Demand

Four cities have complete pumpage records up to date. Dixon's records were started in 1915 and have been continuous. Sterling's records began with the year 1929, Morrison in 1931, and Fulton in 1940. These data, for each year of record, are shown in Table A.

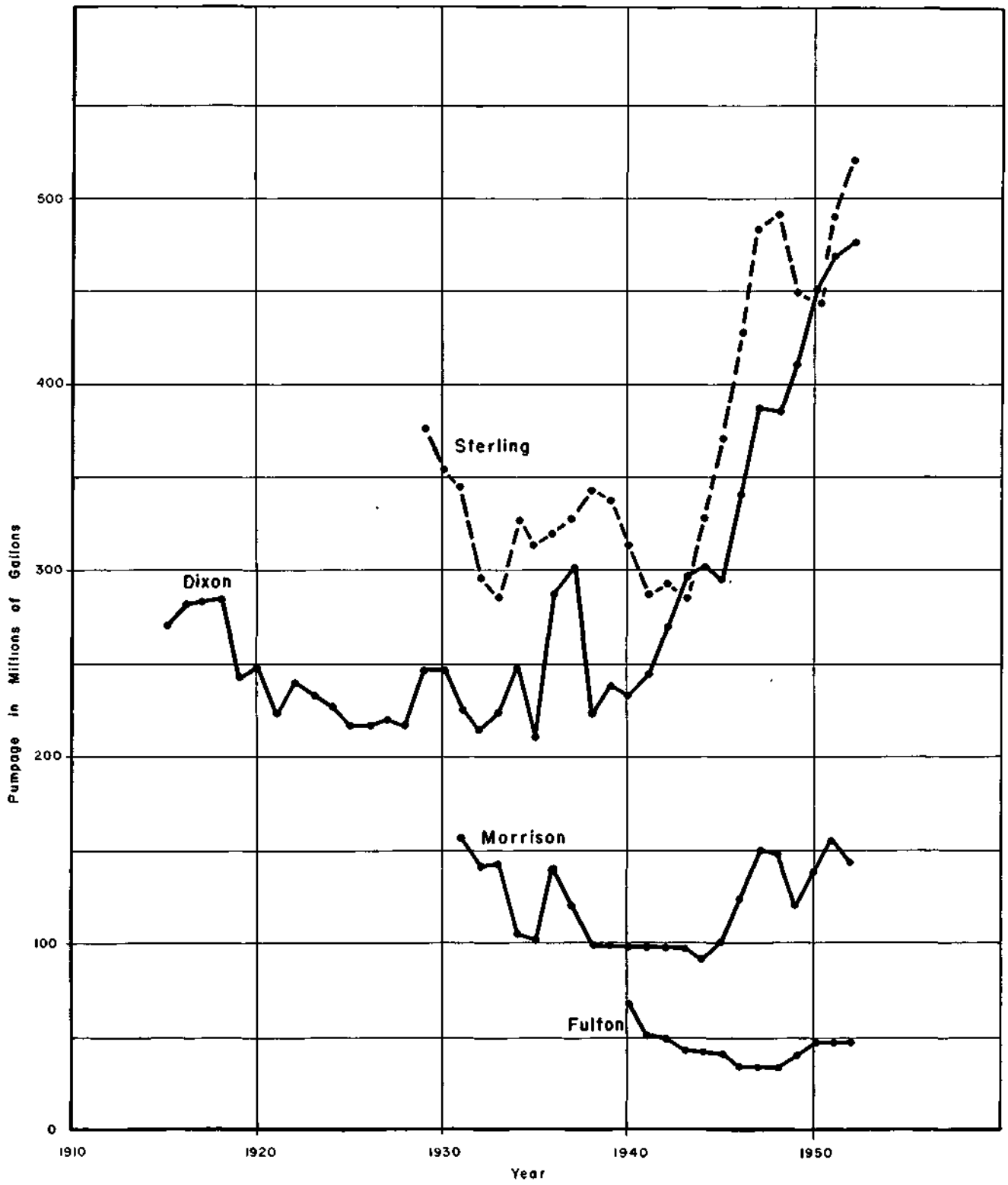


FIG. 5 - PUMPAGE RECORDS FOR MUNICIPAL WELLS
AT
DIXON, FULTON, MORRISON AND STERLING

Pumpage in the four cities has followed a similar pattern. The variations prior to the early 1940s are not dissimilar and beginning in the mid-1940s pumping in the four cities has shown a steady annual increase (Figure 5). An attempt has been made to explain the increased water use by comparing the increases in pumpage and population (Table B). The population figures are taken from the U. S. Census reports for each ten years. The daily per capita demand through 1940 showed a decrease for Morrison, Dixon and Sterling. Fulton showed a reduction through 1950. Morrison and Dixon showed considerable increases in the 1940-1950 period. Sterling showed a small increase for the same period.

TABLE A

ANNUAL PUMPAGE
FOR
FULTON, MORRISON, DIXON, STERLING

Year	Morrison	Dixon	Sterling	Year	Fulton	Morrison	Dixon	Sterling
	Million Gallons				Million Gallons			
1915		268		1934		105	248	326
1916		280		1935		101	208	313
1917		319		1936		138	287	321
1918		294		1937		120	304	328
1919		240		1938		100	220	342
1920		247		1939		98	238	337
1921		221		1940	69	98	231	311
1922		239		1941	51	97	241	287
1923		267		1942	48	98	265	292
1924		226		1943	44	97	294	286
1925		216		1944	41	92	302	330
1926		216		1945	40	99	294	369
1927		219		1946	34	122	339	422
1928		215		1947	33	149	386	483
1929		248	375	1948	33	148	384	492
1930		247	351	1949	40	119	410	449
1931	156	226	342	1950	46	139	446	444
1932	141	204	295	1951	45	153	468	491
1933	142	221	285	1952	46	144	474	519

TABLE B

WATER USE

POPULATION AND GALLONS PER CAPITA DEMAND
FOR
FULTON, MORRISON, DIXON, STERLING

Year	Fulton		Morrison		Dixon		Sterling	
	Pop.	gpcd.	Pop,	gpcd.	Pop.	gpcd.	Pop.	gpcd.
1920					8191	83		
1930			3067	139	9908	68	13905	69
1940	2585	73	3187	84	10671	59	16350	52
1950	2706	47	3531	108	11468	107	20800	58

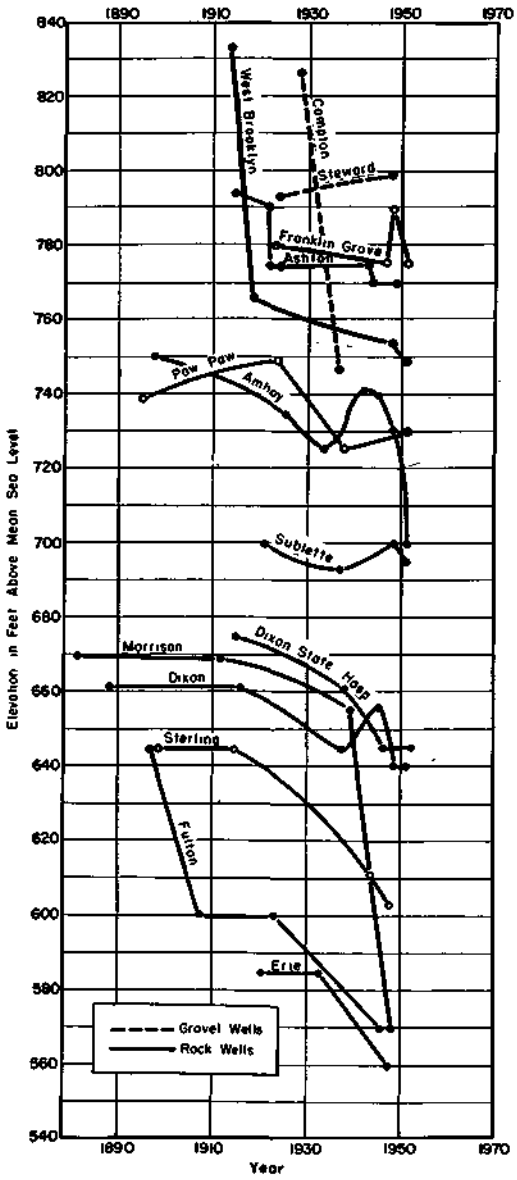


FIG. 6 - HYDROGRAPHS
MUNICIPAL WELLS

HISTORY OF PUBLIC AND INDUSTRIAL GROUNDWATER SUPPLIES IN LEE AND WHITESIDE COUNTIES

It is intended in this Report of Investigation to include all public, semi-public and industrial groundwater supplies in Lee and Whiteside Counties in the State of Illinois. There are also private well supplies included in this report on which many of the data have been taken from the Survey[1]s records plus additional data which have been collected during the several field trips made to the Area in the course of preparation of this report.

No new municipal supplies have been installed in either Lee or Whiteside County since 1950 but there are some new wells added to the then existing supplies. A description of each public groundwater supply within the State is given in State Water Survey Bulletin No. 40 published in 1950. In this Report of Investigation only a brief extract is given of the history of each public supply in Lee and Whiteside Counties prior to 1950 but all new information which has been made available subsequent to 1950 is included herein. A tabulation of all wells of private, public or industrial classification upon which some physical information has been obtained is shown in Table I, for Lee County and Table II for Whiteside County. The results of laboratory analyses of well waters are shown in Table III for Lee County and Table IV for Whiteside County. A key number is given to each laboratory analysis for cross reference to identify the well owner and the location of the well in Tables I and II, or the results of the analyses in Tables III and IV.

All elevations are in feet above mean sea level datum, obtained from the United States Geological Survey topographic maps. The 1950 population of each municipality is shown in parenthesis following its name. Hydrographs for 13 municipal and the Dixon State Hospital wells are shown in Fig. 6.

Amboy (2128)

A public water supply was installed for the City of Amboy in 1892. Water is obtained from two wells.

Well No. 1, or North Well, was drilled in 1892 to a reported depth of 2012 feet below a ground surface elevation of 750. The well is located near East Avenue between Main and Chester Streets and was reported to be cased with 10-inch pipe to 30.5 feet. The hole was 10 inches in diameter from 0 to 57 feet and six inches in diameter below 57 feet. A 5-inch liner was set between 1200 and 1400 feet. In 1932 Layne-North Central Company reported the well measured 357.5 feet deep.

Well No. 1 is maintained for emergency use. Water from the well is discharged directly to the mains.

Well No. 2 was drilled to a depth of 1100 feet in 1924, and is located 77 feet southeast of Well No. 1. It is reported to be 12 inches in diameter at the top and 6 inches at the bottom. Otherwise, the casing record is not known. All water from Well No. 2 i2 chlorinated, softened and treated for iron removal. A summary of laboratory analysis (No. 112906) of the water is given in Table III, key number 5.

The hydrograph for the Amboy city wells is shown in Figure 6.

Pumpage for the city of Amboy for May 1951 averaged 134,177 gpd.

Amboy Milk Company. The Amboy Milk Company, located about 400 feet southwest of the Amboy city wells, has a well drilled in 1939 to a depth of 1120 feet. The 12-inch casing was set to 80 feet and was cemented in place.

A production test was made by the State Water Survey on February 16-17, 1939. The non-pumping water level was three feet below the pump base and after 12 hours pumping at a rate of 560 gpm the drawdown was 133 feet.

In December 1947, Mr. A. L. Fluehr, Plant Engineer, reported that the non-pumping water level was 17 feet below the top of the well and, when pumping at a rate of 600 gpm, the drawdown was 130 feet. In June 1951 the pumping equipment consisted of: 167 feet of 6-inch column pipe; 5-stage, M. C, American Well Works (Shop No. 69089) water lubricated turbine pump over-all length 54 inches and rated at 600 gpm; 20 feet of 6-inch suction pipe; 167 feet of air line; 40 hp U.S. Motor.

In June 1951 the non-pumping water level was reported to be 52 feet and the drawdown was 90 feet when pumping at 600 gpm.

A summary of an analysis (Lab. No. 111085) of the water is given in Table III, key number 4.

Pumpage from the plant well is estimated to average 250,000 gpd per year but varies from 5 to 10 million gallons per month.

The Amboy Milk Company plant uses water from the city supply for boilers.

Green River Ordnance Plant. A number of wells into the St. Peter and Galesville sandstones were drilled in 1942 for the Green River Ordnance Plant, west of Amboy. Partial data on some of the wells are shown in Table No. I. Laboratory analyses (Nos. 93150, 93173, 93446) of the water are shown in Table III, key numbers 21, 26, and 25 respectively.

Lee County Nursing Home. Well No. 3 was drilled to depth of 330 feet in September 1953 for the Lee County Nursing Home, northwest of Eldena in Section 26, T. 21 N., R. 9 E. The well was cased with galvanized wrought iron casing from the surface to 80 feet below which the hole is open to 330 feet. Limestone was encountered at 33 feet.

A production test was made by Mr. R. H. Anderson, of C. K. Willett, Consulting Engineers, Dixon in October, 1953. The pump was set at 145 feet and with 150 feet of air line from three feet above the ground level (elevation 785). The water level before pumping was 48 feet and after two hours pumping at 96 gpm the drawdown was 44 feet. Pumping was then continued at an accelerated rate and after 5 1/2 hours at a final rate of 186 gpm the drawdown was 89 feet.

Ashton (913)

A public water supply was installed for the village of Ashton in 1915.

Water is obtained from a well drilled to a depth of 545 feet and located near Middle Street between Second and Third Streets. The ground elevation at the well is 810.

The well is reported to be cased with 12-inćh pipe to rock at 180 feet, below which the hole is eight inches in diameter. When the well was drilled for the village, it was assumed that it would be similar to the Chicago-Northwestern well, but little water was encountered at the same depth.

On March 19, 1942, the American Well Works Company made a production test and reported that, when pumping at a rate of 300 gpm, the drawdown was 147 feet from a non-pumping water level of 39 feet. The hydrograph for the Ashton Village well is shown on Figure 6.

A summary of an analysis (Lab. No. 113129) of the water is given in Table III, key number 19.

In June 1951, pumpage was estimated to average 70,000 gpd.

Chicago and Northwestern Railroad. The Chicago and Northwestern Railroad well, located about 500 feet west of the Ashton village well, was drilled, before the village well, to a depth of 247 feet, terminating in limestone. Rock was entered at 29 feet.

This well is connected to the village distribution system but valves and fittings may have deteriorated from rust.

In December 1947 pumpage was estimated to average 48,000 gpd.

Compton (321)

A public water supply was installed for the village of Compton in 1895.

Two wells were drilled to the same depth, 335 feet, and located in the village hall on the east side of Fourth Street between Main and Cherry Streets. At the top of the wells is a pit four feet in depth. The ground elevation is 982.

The East Well was reported to be three inches in diameter. In 1937 the pump failed and was removed. The well is not in use.

The West well, located eight feet from the East well was reported, in 1938, to be 315 feet deep and cased with 8-inch pipe from the surface to 300 feet, and 6-inch pipe from 300 to 307 feet, and 4 1/2-inch pipe from 307 feet to the bottom of the hole. On July 21, 1938, a production test was made by the American Well Works Company. It was reported that after 13 hours pumping at a rate of 70 gpm, the drawdown w'as 29 feet from a non-pumping water level of 235 feet.

A new pump was installed at that time with the column pipe lengthened to 290 feet. The hydrograph for the village well is shown in Figure 6.

A summary of an analysis(Lab. No. 113200) of the water is given in Table III, key Number 9.

In January, 1948, pumpage was estimated to average 23,000 gpd.

Dixon (11523)

A public water supply was installed for the city of Dixon in 1883 by the Dixon Water Company. Water was obtained from the Rock River. In 1888, two deep wells were drilled by J. P. Miller Artesian Well Company and located on the southerly bank of Rock River about 400 feet east of Artesian Avenue. The ground elevation is 662.

Well No. 1, East Well, was reported to be 1630 feet deep and cased with 8-inch pipe to a depth of 160 feet. In 1915 the well flowed, but the production rate was increased by installation of an air lift with 107 feet of 1 1/2-inch air pipe. The top of the well and the pump were located in a pit 10 feet deep. In 1938 the well was seldom used but could supply 500 to 600 gpm in emergency for a short period. In January, 1948, the centrifugal pump had been removed, and in June 1951 it was reported that the well must be reconditioned, before any extensive service could be expected.

Well No. 2, West Well, was located 150 feet west of Well No. 1 and was reported to be 1700 feet deep and cased with 8-inch pipe to 160 feet. Water was first pumped by air lift, then in 1916 a centrifugal pump was installed. In 1938 a turbine pump was installed with 40 feet of 5-inch column pipe. In June 1951, Well No. 2 was in service but it was reported that the well should be reconditioned.

Well No. 3 was drilled in 1914 to a depth of 1865 feet and located 400 feet west of Well No. 1. It was reported to be cased with 8-inch pipe to a depth of 645 feet below a surface elevation of 656. The top of the well is in a pit about 10 feet deep.

About 1938, the well was reported to have filled in to a depth of 1793 feet and in March 1944 the well was rehabilitated. The well was "shot" at three levels: 1427, 950, and 900 feet. An 18-inch casing was installed from the surface to 161 feet and a 16-inch liner was set between 327 and 546 feet. After the rehabilitation work, water flowed from the top of the well at a rate of about 40 gpm. The 3-stage Peerless turbine pump, now in place, was installed in June 1944 with 100 feet of 10-inch column pipe. In a production test by the driller on June 19, 1944, when pumping at a rate of 1145 gpm, the drawdown was 83 feet. On January 8, 1948, the non-pumping water level was 15 feet and after 4 hours pumping at a rate of 800 gpm, the drawdown was 67 feet.

In January, 1948, Well No. 3 furnished all of the demand except for occasional pumping from Wells No. 2 and 5.

Beginning on March 18, 1949, Well No. 3 was reconditioned by C. W. Varner, Dubuque, Iowa. It was reported that three shots of 350 lb. (250 lb. of 50%; 100 1b. of 40%) each were exploded at depth of 1325, 1220 and 970 feet. All shots were below the St. Peter sandstone, which was cemented out in the reconditioning work.

On November 26, 1948 the pump was set at 130 feet and on January 1, 1949, the pumping level was 102.5 feet with a drawdown of 87.5 feet. On July 22, 1949, the 3-stage Peerless pump had been reconditioned and was reinstalled with 130 feet of 10-inch column pipe and 130 feet of air line. In June 1951, Well No. 3 was in service.

Since reconditioning Well No. 3 water levels have been reported as given in Table C.

TABLE C

Water Levels in Well No. 3

Date	Water Level below Pump Base: Non-Pumping Feet	Pumping Feet	Drawdown Feet
7-22-49	15.0	69.0	54.0
12-31-49	15.0	72.0	57.0
3-17-51	17.0		
4- 2-51	15.0		
6- 1-51	15.0	91.0	76.0

A summary of an analysis (Lab. No. 113127) of the water of Well No. 3 is given in Table III, key number 3.

Well No. 4 was drilled in 1894 to a depth of 1700 feet and located 900 feet west of Well No. 1. The well was reported to be cased with 7-inch pipe to a depth of 160 feet below a surface elevation of 653.

Well No. 4 was put back in service in 1936 after having been out of service for about 12 years. In 1938, it was reported that it was used 24 hours daily with Wells No. 2 & 3 used to supply peak demand. In December 1947 Well No. 4 was not in service, and in June, 1951 it was reported that the centrifugal pump must be replaced by a different pump before service in this well could be restored.

Well No. 5 was completed in 1947 and located 25 feet south of East River Street and 350 feet west of Well No. 4. The well was drilled to 1700 feet but was "shot" and cleaned out to 1472 feet. The ground elevation at the well is 660'+. The hole was cased with 18-inch pipe, grouted in to a depth of 160 feet and a 16-inch liner was set between 330 and 420 feet.

Upon completion of the well the non-pumping water level was 12 feet 4 inches below the top of the casing. In a production test, made by the driller, after 24-hour pumping at a rate of 1200 gallons per minute, the drawdown was 70 feet. The hydrograph for the Dixon wells is shown in Figure 6.

In June 1951, Wells 1 and 4 were not in service. Well No. 3 supplied all of the demand except for occasional pumping from Wells 2 and 5 which were maintained for emergency use only.

Figure 5 shows the annual pumpage for Dixon for the years 1915-1952 inclusive. For 1952 the total metered pumpage for Dixon averaged 1.295 mgd.

The following industries, having wells, are located within or in the vicinity of Dixon.

Beier Brothers Bakery. This bakery, located in the east part of Dixon has a well drilled in 1934 by R. H. Wadsworth, Dixon, to a depth of 110 feet and cased with 6-inch pipe to 12 feet. The top of the well is in the basement 12 feet below the street level elevation of 650.

A 6-stage Pomona turbine, rated at 50 gpm, is pumped for 10 hours daily at a rate of 10 gpm with a drawdown of three feet from a static level of 30 feet.

A summary of the analysis (Lab. No. 75304) of the water is given in Table III, key No. 14.

Borden Company. This plant located north of the Rock River in Dixon, at 830 Palmyra Road, has had seven wells.

The original well was constructed about 1910. Nothing is known as to the depth or type of construction. The well was abandoned years ago.

Well No. 1 is located at the plant on ground about elevation 660. It was reported to be 1450 feet deep. On January 31, 1948 the static water level was reported 45 feet and the pumping level was 88 feet. Well No. 1 has been discontinued.

Well No. 2, located west of the plant, is reported to be 1600 feet deep and on January 31, 1948 the water level was 50 feet. This well was in service in June 1951.

Well No. 3 was located 90 feet from Well No. 4 and has been discontinued. There is no pump in the well.

Well No. 4 is located in the Rock River bottomland southeast of the plant and on ground elevation of 640. The well is 189 feet deep and on January 31, 1948 the static water level was reported 25 feet below the surface and the pumping level was 45 feet.

The well is equipped with a Pomona turbine pump and in June 1951 was in service.

Well No. 5 is only a hole with no pumping installation.

Well No. 6 was completed in December 1948 by Layne Western Company, Chicago, to a depth of 200 feet and located in the bottomland southwest of the plant (elev. 640).

Pumping equipment included 40 feet of 6-inch column pipe; 10-inch, 3-stage Layne turbine pump, model RKFC, 3.0 feet in length; 10 feet of 6-inch suction with 6-inch bronze strainer; 10 hp, 1750 rpm G.E. Motor.

Wells 2, 4 and 6 were in service in June 1951 and total pumpage for the plant operation averaged 6000 gpd.

Bus Terminal. This building is located at the north end of the Peoria Avenue bridge over Rock River. The well was drilled in 1948 by R. Dresden & Son, Polo, to a depth of 105 feet and cased with 6-inch pipe to rock at 85 feet. The well is equipped with a jet pump and on June 5, 1951 the static water level was re-

ported to be 25 feet below a ground elevation of 660.

Pumpage is estimated to average 1000 gpd.

Coss Dairy. This business is located at 112 West Everett Street on the north side of Rock River. The well was drilled in 1930 to a depth of 205 feet and was cased with 6-inch pipe to rock at 85 feet (gr. elev. 660).

The pumping equipment includes a water lubricated Pomona turbine, rated at 60 gpm, with 45 feet of 3-inch column pipe. The pump was out of order in June 1951, because of lowering water level. Power is furnished by a 7 1/2 hp electric motor.

Pumpage is estimated to average 10,000 gpd. It was formerly 20,000 gpd before cooling was discontinued.

Columbus - McKinnon Chain Corporation (Dixon Division). This plant, located at 1200 W. 7th Street, has two wells which are located on opposite sides of the building at the rear.

Well No. 1 (east) was drilled about 1947 by R. Dresden, to a depth of 110 feet below a ground elevation of 690. A 1-hp Jacuzzi jet pump is installed which is used about 10 to 12 hours daily and pumpage is estimated to average 9000 gpd.

Well No. 2 (west) was drilled about 1949 by Dresden to a depth of 170 or 180 feet. The pump is a 1 hp Jacuzzi jet and is operated 24 hours daily.

Pumpage is estimated to average 15,000 gpd.

Dixon Airport. The airport is located about 1 1/2 miles east of Dixon on U.S. Route 30 (Alt.). The well was drilled in 1334 by R.H. Wadsworth, Dixon, to a depth of 175 feet and cased to the bottom with 6-inch pipe. The static water level was 47 feet below a surface elevation of 785.

The force pump cylinder was set at 109 feet.

A summary of an analysis (Lab. No. 74990) of the water is given in Table III, key number 36.

Dixon Country Club. The Dixon Country Club, located in the NE 1/4 Section 30, T. 22 N., R. 9 E, about one mile north of Dixon has a well drilled in 1950 by Stultz. The well is reported to be 340 feet deep and cased with 6-inch pipe. In June 1951 a pump had not been installed. Static water level at that time was reported to be 18 inches below a ground elevation of 760.

The Country Club has two other 6-inch wells each about 200 feet deep. Pumpage is estimated to average 1500 gpd for about seven months each year.

Dixon Ice and Fuel. This plant, located at 532 East River Street, has three wells, all similar in construction and equipment and spaced about 100 feet apart north and south. The wells are reported to be 110 feet deep, penetrating rock at five feet below a ground elevation of 660.

Each well is equipped with a 4-inch turbine pump, rated at 50 gpm, with 60 feet of column pipe. Static water level in June 1951 was reported 20 feet below the surface. One of the wells, on ground six or seven feet lower than the other two, flowed until about 1940.

Two pumps are operated 24 hours daily and the third one about 12 hours daily. Pumpage is estimated to average 170,000 gpd.

Eichlers. This store, located in the 300 block West First Street, has a well drilled by Dresden in 1948 to a depth of 145 feet. The water is used for air conditioning and pumpage is estimated to average 1500 gpd for seven months of the year.

Freeman Shoe Company, Plant No. 3. This plant, located at 1000 W. First Street, has a dug well, 30 feet in depth, and 36 inches in diameter. The well is lined with rubble.

Pumping equipment includes a Rath centrifugal pump, Serial Number 22963-1, Model 374 BF. Power is furnished by a 5 hp Leland electric motor.

The non-pumping water level is reportedly constant at 25 feet below the surface (elev. (680). The calculated inflow rate of 10 gpm. is based on recovery following a pumping period. Water is used for boilers, washing, toilets. City water is used for drinking.

Pumpage is estimated to average 2000 gpd.

Lawton Dairy. This plant, located at the north end of the Peoria Avenue bridge over Rock River, has a well drilled in 1943 to a depth of 120 feet. It is cased with 6-inch pipe to rock at 90 feet below a surface elevation of 660.

Static water level in June 1951 was reported to be 18 or 20 feet below the surface. A Pomona turbine pump is installed.

Pumpage is estimated to average 3000 gpd.

Lincoln Motel. This motel, located about one-half mile northwest of Dixon at the junction of Highways 26 and 52, has a well drilled in 1951 to a depth of 205 feet below a ground elevation of 730.

Pumping equipment includes a multi-stage jet (4 impellers) rated at 40 gpm and the static water level on June 5, 1951 was 50 feet below the surface.

The 24-unit Motel was not finished in June 1951, and pumpage records had not been made.

Medusa Portland Cement Company. This plant, located about 1 1/2 miles northeast of Dixon just north of Highway No. 2, has two wells.

One well, located at the office and used mainly for drinking water, is 90 feet deep. It is equipped with a plunger pump and 70 feet

of 4 1/4-inch discharge column.

Pumpage is estimated to average 2000 gpd.

The other well, located at the quarry one mile north of the plant, is reported to be 146 feet deep.

Both wells are six inches in diameter and in rock from the surface. The quarry well is equipped with a plunger pump and 60 feet of 1 1/2-inch discharge column. The water level in 1948 was reported to be 46 feet below the surface elevation of 660.

The water is used for drill holes at the quarry and pumpage is estimated to average 10,000 gpd.

Public Service Company of Northern Illinois. The garage well is reported to be 65 feet deep below a surface elevation of 680. It is equipped with a Peerless turbine pump rated at 100 gpm. Power is furnished by a 7 1/2 hp electric motor.

Water is used for washing cars and sanitary needs. Pumpage is estimated to average 2000 gpd. Some additional water is used from the Rock River.

A 6-inch well at the power plant was drilled in 1937 to a depth of 160 feet below a surface elevation of 545. A centrifugal pump was installed with 30 feet of suction and operated at a rate of 400 gpm with a drawdown of five feet. This well is reported to be out of service.

A summary of an analysis (Lab. No. 85933) of the water is given in Table III, key Number 38.

Reynolds Wire Company (Division of National Standard Company). This plant, located on East First Street just east of the Dixon Water Works has three wells.

The principal well, located at the northwest corner of the plant grounds, was drilled in 1939 to a depth of 100 feet and cased with 8-inch pipe to rock at 80 feet below a surface elevation of 660.

A Pomona turbine, rated at 85 gpm against 100 feet of head, is set at 170 feet. The non-pumping water level on June 6, 1951 was 25 feet below the surface. The water is used for rinsing and the electro-galvanizing process. The pump is operated 24 hours daily at full capacity.

Pumpage is estimated to average 120,000 gpd.

A second well is 40 feet deep and cased with 3-inch pipe. The centrifugal pump with 2-inch discharge is rated at 30 gpm against 50 feet of head. The pump is operated 24 hours daily, but when the rate exceeds 30 gpm, the pump breaks suction. The statement was made: "the heavy pumping from the Dixon city wells interferes with these (shallow) wells".

River water is used at a rate of 200 gpm for hot galvanizing and boilers.

A third well was drilled in 1930 to a depth of 40 feet and cased with 4-inch pipe. The well is no longer in use because the water, which was used for drinking at the plant and offices, developed an objectionable taste. City water is now used.

Standard Dairy Company. This business, located at 1114 South Galena Street, has a well drilled in 1931 by Jonah Stultz to a depth of 277 feet. The well is cased with 6-inch pipe to rock at 19 feet below which the hole is six inches in diameter to the bottom.

In June 1951 the Fairbanks-Morse cylinder pump was out for repairs and city water was being used. The water level was 120 feet below a surface elevation of 785.

About 6000 gpd is used when operating the pump.

A summary of an analysis (Lab. No. 112904) of water from this well is given in Table III, key number 34.

Dixon State Hospital

Water for Dixon State Hospital, located one mile north of Dixon in NE 1/4, Section 29, T. 22N., R. 9 E., is obtained from two wells.

Well No. 1 was drilled in 1915 to a depth of 1922 feet and located 200 feet north and 2300 feet west of the southeast corner of Section 21, T. 22 N., R. 9 E. When the well was completed the water level was three feet below a ground level of 680.

Well No. 2 was drilled in 1915 to a depth of 1780 feet and located 150 feet north of Well No. 1. When the well was completed, the water level was five feet below ground level. In September 1938, a production test was made by the State Water Survey Division. When pumping at a rate of 960 gallons per minute, the drawdown was 21 feet from a non-pumping water level of 21 feet below the pumphouse floor. On March 8, 1951, Well No. 1 was not in service, and the water level was 38.4 feet below ground level. The pump in Well No. 1 was then started and after three hours the water level was 93.6 feet.

Both wells were rehabilitated in 1952. The rehabilitation work was reported to consist of reaming out each hole to a 23-inch diameter, and installing an 18-inch casing from the surface to 200 feet. The annular space between the casing and the wall of the hole was pressure cemented. Each hole was reamed to 16-inch diameter from 200 to 420-foot depth and a 12-inch casing installed from the surface to 520 feet. The annular space between the 12-inch casing and the outer casings and between the 12-inch casing and the 16-inch hole was pressure cemented from the surface to 520 feet.

After this work was completed, a brief production test was made in Vell No. 1 by the State Water Survey Division on May 20, 1952. Well No. 1 was equipped with a Peerless turbine pump set at 120 feet with 120 feet of air line. Well No. 2 was equipped with a Pomona turbine pump set at 70 feet and 70 feet of air line. During the entire test the pump in Well No. 2 was operating at an estimated rate of 700 gpm. The water level in Well No. 1 was 34.0 feet below the surface and in Well No. 2 was 44.5 feet. After six hours pumping in Well No. 1 at 1475 gpm, the drawdown in Well No. 1 was 42.0 feet and in No. 2, due to No. 1 pumping, was 6.5 feet.

A summary of an analysis (Lab. No. 128882) of the water from Well No. 1 is shown in Table III, key number 2.

A summary of an analysis (Lab. No. 124893) of the water from Well No. 2 is shown in Table III, key number 1.

The hydrograph for the Dixon State Hospital wells is shown on Figure 6. In June 1951 pumpage was estimated to average 750,000 gpd.

Franklin Grove (741)

The public water supply system for the village of Franklin Grove was installed in 1902.

In June 1951, water was being obtained from two wells located about 50 feet apart in a north and south direction in the pump building in the center of the business district on the north side of South Street between Elm and Walnut Streets.

The older well, or South Well, was drilled in 1902 to a depth of 298 feet, below a ground elevation of 810 feet. The hydrograph for the South Well is shown in Figure 6. This well is the principal source of supply.

A summary of an analysis (Lab. No. 112905) of the water from the South Well is shown in Table III, key number 17.

The North Well was rehabilitated in 1950 by Pieper and Pieper in June 1951 was used about three days weekly. It was reported to yield as much as the South Well.

In December 1952 pumpage for Franklin Grove was estimated to average 35,000 gpd.

Well No. 3 was completed in September 1954 to a depth of 769 feet by C. W. Varner Well Drilling Company, Dubuque, Iowa. The well is located on North Street between Elm and Spring Streets or approximately 700 feet south and 950 feet east of the northwest corner of Section 1, T. 21 N., R. 10 E. The well is cased with 18-inchpipe from the ground Surface (elev. 810) to 36 feet and with 12-inch pipe from the ground surface to 150 feet. The annular space outside the 12-inch casing was cement-grouted by pressure. Below the 12-inch casing the hole was finished at 12 inches in diameter to the bottom.

A production test was made on September 28, 1954 by C. K. Willett Consulting Engineers, Dixon. Before pumping, the static water level was 40 feet. After three hours pumping at a rate of 165.2 gpm the drawdown was five feet. After the next three hours pumping at 252.1 gpm the drawdown was 8.5 feet. The final four hours pumping rate was 351 gpm with a drawdown of 14 feet.

Harmon (208)

The village of Harmon installed a public water supply in 1909. Water was obtained from a 5-inch tubular well drilled in 1909 to a depth of 532 feet below a ground elevation of 700.

In December 1916, the non-pumping water level was seven feet below the ground surface and, when pumping at 30 gallons per minute, the drawdown was about 60 to 65 feet. The well was reported to be abandoned about 1923.

A summary of an analysis (Lab. No. 36191) of the water from the above well is shown in Table III, key number 28.

The village now obtains water from eight 1 1/4-inch drive points located in two rows, the north row about eight feet south of the old well. The points are about 32 feet deep with a 2 1/2-foot length of screen at the bottom of each pipe.

A summary of an analysis (Lab. No. 112899) of the water is shown in Table III, key number 12.

Pumpage has been estimated to average 12,000 gallons per day. In June 1951 continuous pumping was necessary because the storage tank was in bad repair.

Lee (251)

Prior to 1904, a limited public water supply for the village of Lee was operated by a private company. Water was obtained from a 3-inch well reported to be 315 feet deep.

In 1904 the village had a well drilled to a depth of 335 feet penetrating a sand and gravel formation. The well is cased with 6-inch pipe from the surface to 235 feet and 4 1/2-inch pipe from 235 feet to the screen.

In February 1947, the existing pumping equipment was installed which includes 200 feet of 4 1/2-inch column pipe and a 6-inch, 23-stage Fairbanks-Morse oil-lubricated turbine pump rated at 65 gpm against a head of 320 feet.

A summary of an analysis (Lab. No. 112126) of the water is shown in Table III, key number 7.

In June, 1951, the pumpage was estimated to average 12,000 gallons per day.

Nelson (289)

The village of Nelson, located about seven miles southwest of Dixon, has no public water supply.

The Chicago and Northwestern Railroad has two wells, one at the depot and the other at the roundhouse. All water is now obtained from the roundhouse well which is 55 feet deep and 25 feet in diameter. Pumpage was estimated to average 1.2 million gallons per day.

Paw Paw (594)

A public water supply system was installed by the village of Paw Paw in 1891. In 1895 a second well was drilled to a depth of 1018 feet below a ground elevation of 928. The first well was then abandoned.

The casing record is reported as follows: 10-inch diameter from the surface to 133 feet; 8-inch from 100 to 402 feet; 6-inch from 345 to 454 feet 6 inches. The 6-inch casing was driven six inches in the limestone.

In February 1938 the pump which had been set at 250 feet broke off and dropped down in the well. This was reported to have been fished out. In June 1951 the pump assembly, which had been installed in August 1943, consisted of: 240 feet of 4-inch column pipe; 7-inch, 10-stage American Well Works oil-lubricated turbine pump No. 68675, rated at 180 gallons per minute against a head of 237 feet when operating at 1760 rpm; 10 feet of 4-inch suction pipe; 240 feet of air line; 15 hp U. S. Electric Company Motor No. 304148.

In December, 1953 the well pit in the pumping station had been filled in with earth and concreted over to avoid possible contamination. The hydrograph for the Paw Paw well is shown in Figure 6.

A summary of an analysis (Lab. No. 113131) of the water is shown in Table III, key number 8.

In December, 1953 usage was estimated to average 25,000 gallons per day, but the pumpage was estimated at 65,000 gallons per day due largely to leak losses and low pump efficiency.

Steward (270)

A water system was installed for the village of Steward about 1909 and since 1939 the system has been municipally owned. Water is obtained from an 8-inch well which is 100 feet in depth terminating in sand and gravel.

In 1951, the pump assembly, installed in April 1936, consisted of 50 feet of 4-inch column pipe; 6-inch American Well Works oil-lubricated turbine pump, No. 60572, rated at 40 gpm when operating at 345 rpm; the over-all length of the pump is 28 1/2 inches; 10 feet of 3 1/2-inch suction pipe; 50 feet bf air line; 5 hp General Electric Motor No. 5402060.

The hydrograph for the Steward well is shown on Figure 6. Pumpage in 1951 was estimated to average 10,000 gallons per day.

A summary of an analysis (Lab. No. 112900) of the water is shown in Table III, key number 22.

Sublette (290)

The village of Sublette installed a public water supply about 1893. A well drilled at that time, to an unreported depth, produced little water and was replaced in 1898 by a well drilled to a depth of 752 feet below a surface elevation of 920.

The casing record is: 10-inch pipe from the surface to 364 feet; 6-inch pipe from 364 to 443 feet; 6-inch hole from 443 to 752 feet.

In 1951 the pump assembly, installed in April 1936, consisted of: 250 feet of 5-inch column pipe; 7 7/16-inch, 11-stage Pomona turbine pump, No. N-768 rated at 100 gallons per minute against 250 feet of head at 1760 rpm, over-all length of the pump five feet 10 5/8 inches. (Note: In June 1951 an 11-stage Fairbanks-Morse Pomona turbine was on hand to replace the old turbine); 20 feet of 5-inch suction pipe; 250 feet of 1/4-inch air line; 15 hp Westinghouse Electric Motor No. 8105935 operating at 1767 rpm.

A summary of an analysis (Lab. No. 112898) of the water is shown in Table III, key number 24.

The hydrograph for the Sublette well is shown in Figure 6. Pumpage in April 1953 was estimated to average 20,000 gpd, but there are reportedly numerous leaks yet to be stopped.

Helbig Cheese Factory. This factory, located in Sublette, has a well which was drilled in 1940 to a reported depth of 317 feet below a surface elevation of 920. The well is cased to the bottom with 4-inch pipe and equipped with a Fairbanks-Morse plunger pump with the suction set at about 275 feet.

In 1951 the cheese factory was using about 2500 gallons per day.

West Brooklyn (194)

A water supply was installed for the village of West Brooklyn about 1898. A well, located near the southwest corner of the intersection of Third and Johnson Streets was drilled to a depth of 385 feet below a surface elevation of 983. The well was overhauled about 1903 because of sand cave-ins and in 1913 while repair work was being done, the pump rods were broken and the well then abandoned with the pump down in the well.

Following this accident in 1913, a 3-inch well at the Farmers Cooperative Elevator Company was put into service for the village. The well is 395 feet deep and equipped with an American Well Works 2-inch by 24-inch cylinder pump operating with an 8-inch stroke at 35 gpm. The pump is attached to 285 feet of 1 1/2-inch column pipe.

Well No. 2 was drilled in 1915-16 to a depth of 358 feet and located about three feet from the old village Well No. 1. In 1937 the well was repaired and deepened to 370 feet. The well was reported to be cased with 8-inch pipe from the surface to 280 feet, and with 6-inch pipe from the surface to 260 feet with 4-inch pipe from 257 to 305 feet; with 2-inch pipe from 256 to 314 feet; a 2-inch screen (60 mesh) from 314 to 334 feet and 1 1/4-inch screen (60 mesh) from 332 to 350 feet.

Well No. 3 was completed in 1948 to a depth of 650 feet and located 45 feet east of Well No. 1. The well was reported to be cased with 10-inch pipe from the surface to 492 feet penetrating two feet of sandstone and an 18-inch hole from 492 to 650 feet.

When the well was completed, the driller reported the static water level was 229 feet below the surface and the drawdown was 43 feet when pumping at a rate of 150 gpm.

A summary of an analysis (Lab. No. 113672) of the water is shown in Table III, key number 23.

The hydrograph for the West Brooklyn wells is shown on Figure 6. Pumpage for 1952 was estimated to average 20,000 gallons per day:

WHITESIDE COUNTY

Deer Grove (72)

The village of Deer Grove has no public water supply. Private wells, mostly dug, are from 20 to 40 feet in depth.

Chicago, Burlington and Quincy Railroad. The C. B. & Q. R. R. has a well located about 100 feet east of the depot in Deer Grove in Section 28, T. 19 N., R. 7 E. The well was completed in 1946, by Layne-Western Company, Chicago, to a depth of 50 feet, and is cased with 6-inch pipe. Some reports are that the well is gravel-packed.

The well is equipped with a Layne 3-stage turbine pump No. 11977, attached to 37 feet 2 inches of 4-inch column pipe. The over-all length of the pump is 2 feet 10 inches. An air line was installed but it is not in working order and the gage has been removed.

Water is pumped into an elevated tank at a rate of 100 gpm. Daily pumpage is estimated to be 40,000 gallons. The station agent reported that a thin vein of water-bearing sand and gravel was encountered at 15 feet and that the well was finished in the same type formation from 20 to 25 feet. The water level was estimated at 20 feet and it was reported that the well has never failed.

Erie (1180)

A public water supply was installed for the village of Erie in 1920, at which time Well No. 1 was drilled to a depth of 567 feet. The top of the well was eight feet below the ground level elevation 585 and a 10-inch casing extended from 8 to 175 feet, penetrating eight feet of rock. The diameter of the bottom hole is eight inches.

Water is pumped by two Kewanee triplex suction pumps, No. 75-Y and 75-R rated at 180 and 100 gpm respectively.

Water flowed over the top of the casing when the well was completed and in 1937 the water level was reported as being "close to the top". In October 1947 the lowest water level, that had been measured, up to date, was 26 feet below the top of the well. The well hydrograph is shown on Figure 6.

A summary of an analysis (Lab. No. 112153) of the water from Well No. 1 is given in Table IV, key number 23.

WellNo. 2 was completed in September 1953 by J. P. Miller Artesian Well Company, Brookfield.

A 6-inch test well was drilled first to a depth of 161 feet 5 inches with 20 feet of screen. A production test was made by the State Water Survey on April 14-15, 1953. For test purposes, a shaft-driven Peerless vertical turbine pump was operated from a Red Seal gasoline engine. The top of the bowls was set at a depth of 105 feet. After six hours pumping at a rate of 200 gpm the drawdown was 7.5 feet. Pumping was continued with intermittent motor trouble and after 17 hours at rates of 200 to 230 gpm the drawdown was 9.5 feet.

The permanent Well No. 2 was located about 150 feet northeast of the old Well No. 1, or approximately 264 feet north and 1221 feet west of the southeast corner of Section 6, T. 19 N., R. 4 E. The well was constructed to a depth of 171 feet below an elevation of 592. A 12-inch inner casing and 25 feet of screen, was set with the bottom of the screen at 162

feet. The hole was drilled to a diameter of 30 inches and the annular space between the 12-inch screen and the 30-inch hole packed with a graded gravel.

A production test was made on September 23, 1953 under the supervision of Mr. R. H. Anderson of C. K. Willett, Consulting Engineers, Dixon. Pumping was started at a rate of 378 gpm and gradually accelerated to 964 gpm, after 15 1/2 hours with a final drawdown of 12 feet from a static level of 17 feet.

A sample of water was collected for mineral analysis (Lab. No. 133002) summary of which is shown in Table IV, key number 21.

Supreme Dairy Products Company. This plant is located on the north side of the street across from the village hall in Erie.

Water is obtained from a 1 1/4-inch drive-point, the bottom of which is 26 feet below the surface elevation of 585. Water is pumped at a rate of about 25 gpm for five hours daily. Water levels are 11 to 16 feet below ground.

Water is used for cooling.

Fulton (2706)

A public water supply was installed by the city of Fulton about 1887.

Water was first obtained from a 6-inch well drilled in 1890 to a depth of .1246 feet below a surface elevation of 595.

Leverett, in his "Illinois Glacial Lobe" published in 1899 stated: "a flow of sulphurous water was struck at about 475 feet. Another flow was obtained from the Potsdam at 940 to 1050 feet. The head is sufficient to carry the water 60 feet above the surface. The estimated capacity is 300 gpm".

Later the free flow decreased and in 1913 a pump was installed. The well was subsequently abandoned.

Wells No. 2 and 3 were drilled in 1908 and 1931 to depths of 1260 and 1943 feet respectively.

In April 1950, a 4-stage turbine was installed in Well No. 3 and 80 feet of column pipe was added, making a total length of 170 feet of column. The pumping rate was then 750 gpm and the pumping level was maintained at 55 feet above the pump or 115 feet below the top of the well.

The old 2-stage unit from Well No. 3 was installed in Well No. 2.

In July 1951 the large reservoir was being lined with concrete after which the small reservoir would be abandoned.

Summaries of laboratory analyses 112869 and 112156 of the water from Well No. 2 are shown in Table IV, key numbers 1 and 3 respectively. A summary of laboratory analysis 112870 is given in Table IV, key number 2.

The hydrograph for the Fulton wells is shown on Figure 6, and the pumpage for each year 1940-1952 inclusive is shown on Figure 5. Pumpage for 1952 averaged 127,000 gpd.

American Agricultural and Chemical Company. This plant is located on the bank of the Mississippi River, in the NW 1/4 of Section 33, T. 22 N., R. 3 E. about three-fourths mile south of Fulton.

A well was constructed in 1947 to a depth of 43 feet. A 24-inch drive pipe was set from 0 to 18 feet. A 12-inch wrought steel casing was set from 0 to 22 feet with a 12-inch Johnson Everdur screen (no. 100 slot openings) set from 20 to 43 feet. The annular space between the screen and 24-inch hole was packed with 3/16-to 3/8-inch gravel. When finished the water level was 8.0 feet below the surface. Water levels vary with the river stage.

The well is equipped with an 8-inch, 5-stage Deming turbine pump (Fig. 4700) with bronze impellers; 20 feet of 5-inch column pipe; 5.0 feet of 4-inch suction pipe with strainer. The pump is rated at 250 gpm against a head of 115 feet. Power is furnished by a 10 hp, 1750 rpm U. S. Motor.

In July 1951, the pump had been in continuous operation for more than a year. About 300,000 gpd is used for cooling and processing acids.

A summary of an analysis (Lab. No. 112866) of the water from this well is given in Table IV, key number 47.

There are two other wells - both 2-inch drive points - located in the office building and shop building. The points are 44 feet deep and each equipped with a Deming suction pump rated at 1000 gallons per hour.

Morrison (3531)

The public water supply for Morrison was installed prior to 1880.

Water was first obtained from an artesian well, equipped with a deep-well pump. This supply became inadequate in 1881 and a spring, issuing from limestone, was developed. The artesian well was abandoned. In 1938 the flow from the spring was estimated at 220 gpm. The spring has not been in use since August 6, 1948 when the roof of the spring-house caved in. At the time the pumping rate averaged 70 to 80 gpm in a 24-hour period.

Wells No. 1 and 2 were drilled in 1897 and 1912 to depths of 1643 and 2048 feet respectively. Well No. 1 (east) was sounded in 1909 and reported to be 900 feet deep. In 1938 it was reamed and cleaned out to 1595 feet and cased" with 10-inch pipe to 137 feet. Further cave-ins necessitated cleaning out the well in 1940 after which the yield rate of 350 gpm

was reported with a drawdown of 76 feet from a non-pumping water level of 14 feet below the surface. The east well was taken out of service in 1951.

Well No. 2 (west) had a natural flow of about 88 gpm in 1944 and was pumped at rates of 750 to 800 gpm. The well has not been used since 1950 and is reported to be almost dry.

A summary of an analysis (Lab. No. 112154) of the water from the west well is shown in Table IV, key number 4.

Well No. 3 was drilled in Septemberl950 to a depth of 1625 feet by C. W. Varner Well Drilling Company, Dubuque, Iowa. The well is cased with a 24-inch pipe from two feet above to 95 feet below ground. A 21-inch casing is reported to be below the 24-inch pipe but the length of the 21-inch is not known. A 16-inch casing is grouted-in from two feet above to 485 feet below the surface. The hole is 15 1/4 inches in diameter to the bottom of the well.

The pumping equipment includes a Fairbanks-Morse "Pomona" water-lubricated turbine rated at 1000 gpm, against a head of 169 feet, set at 150 feet. Power is furnished by a 60 hp G. E. electric motor with a right-angle gear head connected to a 90 hp Sterling gas engine for emergency power.

The static water level was 77 feet with a drawdown of 37 feet when pumping at a rate of 1860 gpm. The drawdown was 19 feet when pumping at 1250 gpm.

The hydrograph for the Morrison wells is shown on Figure 6.

Annual pumpage lor Morrison for the years 1931-1952 inclusive is shown on Figure 5.

Pumpage for 1952 averaged 645,000 gpd.

Carnation Company. This Company, located in the westly part of Morrison, near the northeast part of the intersection of Wall and Heaton streets, has two deep wells, spaced 150 feet apart.

Well No. 1 was drilled in 1907 to a depth of 1006 feet, by L. Wilson, Chicago. The well was repaired in January 1950 by C. W. Varner, Dubuque, Iowa and is cased as follows:

12-inch casing, 0 (floor level) to 68 feet
10-inch casing, 0 (floor level) to 98 feet
8-inch liner - from 280 to 480 feet
6-inch liner - from 810 to 873 feet

Pumping equipment includes an air-lift with 2-inch air pipe and with 8-inch riser pipe to 92 feet, then reduced (8-inch by 6-inch reducer) to six inches from 92 to 281 feet. The pump is rated at 600 gpm. Power is furnished by a steam-driven compressor.

Water is used from this well at a rate of .600 gpm for seven or eight hours daily.

Well No. 2 was drilled in 1947 to a depth of 1101 feet by J. P. Miller Artesian Well Company, Brookfield. The casing and hole sizes were reported as follows:

28-inch casing from 0 to 102 feet
16-inch casing from 0 to 124 feet
12-inch liner from 290 to 488 feet
10-inch liner from 815 to 818 feet
10-inch hole from 815 to 1101 feet

When the well was finished in 1947 the water level was 60 feet below the surface. Pumping is by a Layne turbine pump rated at 600 gpm. Power is furnished by a 50 hp electric motor.

This well is used only occasionally because the other pump (Well No. 1) is operated more economically with steam power.

Prophetstown (1691)

The water works was installed by the city of Prophetstown in 1904. Water was obtained from two large diameter (8 feet and 16 feet) dug wells located on the bank of the Rock River in the northeastern part of town. Both wells were originally dug to a depth of 16 feet but in 1933 were deepened to 35 and 27 feet. Water levels varied with the river stage. During a flood in 1938, the wells were completely submerged. Subsequently the brick walls were heightened and a chlorinator installed.

Both wells were abandoned when, in 1944, a new well was drilled at High and East Second Streets. The well was drilled through sand and gravel to a depth of 193 feet and penetrating 42 feet of limestone to a total depth of 235 feet. The 10-inch casing extended from the surface (elevation 615) to 195 feet below which the hole was 10 inches in diameter.

The pumping installation consists of 80 feet of 5-inch column pipe; 8-inch, 6-stage American Well Works MC turbine pump No. 69871, rated at 250 gpm against 223 feet of head at 1750 rpm; the over-all length of the pump is 5 feet 3 inches, 20 feet of 5-inch suction pipe; 20 hp U. S. Motor.

In a production test made on March 15, 1944 it was reported that when pumping at 304 gpm, the drawdown was 26 1/2 feet from a non-pumping water level of 41.0 feet below the surface. Complete recovery occurred in two minutes after stopping the pump.

A summary of an analysis (Lab. No. 112155) of the water from this well is given in Table IV, key number 34.

Average daily pumpage in 1952 was estimated to average 130,000 gallons.

Eclipse Lawn Mower Company. This plant, located in Phrophetstown, has two wells. Well No. 1 was drilled in 1941 to a depth of 40 feet and cased with 5-inch pipe with an 8-foot length of Johnson brass screen in a "pea gravel" formation. The static water level was 24 feet below a surface elevation of 622. The water is used for drinking and sanitary needs.

Well No. 2 was completed in June 1942 by Neely and Schimmelpfenig, Batavia. The well is 188 feet deep and cased with 148 feet of 8-inch pipe and 40 feet of Johnson Armco-Iron wire-wound screen (No. 14 mesh). (Note: Before drilling Well No. 2, a 10-inch test well had been drilled to a depth of 1052 feet penetrating St. Peter sandstone at 902 feet. The well produced 10 gpm. After shooting the sandstone the well produced 50 gpm with a drawdown of 150 feet.)

When completed Well No. 2 was reported to produce 470 gpm with a drawdown of 35 feet from a non-pumping water level of 24 feet.

The pumping installation consists of: 80 feet of 6-inch column pipe; 8-inch, 11-stage Aurora Pump Company turbine pump No. 13249 rated at 350 gpm against 220 feet of head; over-all length of the pump 7 feet 3 inches; 30 feet of 6-inch suction; 117 feet 3 inches of air line; 30 hp G. E. motor.

A summary of an analysis (Lab. No. 112157) of the water from this well is given in Table IV, key number 42.

The daily pumpage is estimated to average 150,000 gallons.

Rock Falls (7983)

Rock Falls is supplied with water from Sterling.

Erection of the one-half million dollar sewage pumping station of the Rock Falls Sewerage Improvement was started in 1950 and located in the extreme southwest part of Rock Falls about two blocks east of Fourteenth Avenue Road or approximately 3000 feet south and 900 feet east of the northwest corner of Section 33, T. 21 N., R. 7 E.

In January 1951 the heavy inflow of groundwater into the excavation necessitated driving sand points and continuous pumping in order to dewater the hole so that the footings and foundation could be set. The ground surface elevation at the site is 637, the static water level surface was at elevation 630 (approximate) and the bottom of the excavation at elevation 611, as reported by Mr. R. H. Anderson of C. K. Willett, Consulting Engineers. It was reported that the pumpage rate from the drive points was estimated at 2500 gpm over several months period, but an accurate record of the discharge from the excavation was not kept.

Based on the data furnished by Mr. Anderson, and applying those data to the Darcy and Thiem equations for determining permeabilities of the formation, the results calculated were:

Darcy - P = 26900 gpd/sq. ft.
Thiem - P = 33000 gpd/sq. ft.

The coefficient of transmissibility (T) was calculated as:

Darcy - T - 538,000 gpd/ft.
Thiem - T - 660,000 gpd/ft.

In July 1953 some test drilling was done by Layne-Western Company, Aurora, for the Northern Illinois Water Corporation of Sterling. The location was approximately 3140 feet south and 2140 feet east of the northwest corner of Section 33 about one-quarter mile southeast of the Sewage Pumping Station. Well No. 5 was completed in November 1953 by Kelly Well Company to a depth of 68 feet. It was reported that the static water level was nine feet below the surface and when pumping at 500 gpm the drawdown was 18.5 feet. The well is 17 inches in diameter.

Analysis of a sample (Lab. No. 133299) showed the water from Well No. 5 to have 1.2 ppm iron; 272 ppm hardness and a total mineral content of 296 ppm.

The following industries, having wells, are located within or in the vicinity of Rock Falls.

Fort Dearborn Manufacturing Company. This Company, a division of the Chicago Metal Hose Corporation, is located on First Street just south of First Avenue. A tubular well was drilled in 1919 to a depth of 155 feet, and cased with 6-inch pipe to 35 feet.

Geyer Manufacturing Company. This plant located at 200 East Fourth Street, has an 8-inch tubular well drilled to a depth of 80 feet below a ground elevation of 640. The well is equipped with an A. Y. McDaniel jet pump No. 476.

About 10,000 gpd are used for cooling, drinking and sanitary needs.

International Harvester Company. This Company has a 25,000-gallon wooden elevated tank for fire protection. Water is from Sterling. A well, formerly used for drinking water has been abandoned for several years.

Charles O. Larson Company. This plant is located on U. S. Highway No. 30, about two miles southeast of Rock Falls, in the" NE 1/4 NE 1/4 Section 2, T. 20 N., R. 7 E. The well was drilled in early 1954, by Allabaugh Well Company, Rockford, to a depth of 85 feet, penetrating eight feet of limestone. The well was finished at 77 feet and cased with 57 feet of 10-inch id pipe and 20 feet of 10-inch od Johnson Red Brass screen (opposite 20 feet of sand and gravel). The top 11 feet of the screen has No. 80 slot openings and the bottom nine feet has No. 20 slot openings.

When completed, the driller reported a static level of nine feet below a surface elevation of 645 and after two hours test-pumping at 960 gpm the drawdown was 16 feet.

The permanent pump assembly, to be installed, consists of two Jacuzzi horizontal centrifugal pumps, of 100 and 200 gpm capacities, manifolded to one 5-inch suction pipe, 25 feet in length. The 100 gpm pump has a 3-inch in-

take and 2-inch discharge and is operated from a 5 hp electric motor. The 200 gpm pump has a 4-inch intake and a 3-inch discharge and is operated from a 10 hp electric motor.

Lawrence Park, a part of the Sterling and Colonna Park District, is located on an island in the Rock River at the west edge of Sterling and Rock Falls, and under the new bridge connecting the two cities.

There are two wells on the park grounds. A tubular well is reported to be drilled to 175 feet and cased with 6-inch pipe to 65 feet. The well is equipped with a centrifugal pump. Static water level is about 14 feet below the surface elevation of 640.

The water is used for drinking.

A well, 20 feet by 40 feet, was dug, in 1927, to rock at 35 feet. It is equipped with a Dayton-Dowd centrifugal pump rated at 300 gpm. The water level on June 28, 1951 was five feet below the surface (640).

It was reported that the well, when pumping at a rate of 300 gpm can be dewatered in eight hours but refills in two to three hours depending on the river stage.

Water from this well is used for the pool, showers and sanitary needs.

Parish-Alford Fence and Machine Company. This Company, a division of the Northwestern Steel and Wire Company, is located on First and Fifth Avenue extended. The well was drilled in 1940 by Allabaugh Well Company, Rockford, to a depth of 813 feet below a ground elevation of 630. The well was cased with 8-inch black iron pipe from the surface to 67 1/2 feet and with a 4 1/2-inch black iron liner from 160 to 370 feet.

The pumping equipment installed new in November 1950 consists of: 160 feet of 5-inch column pipe; 8-inch, 13-stage Aurora M. C. bronze turbine pump (Type DWT) rated at 200 gpm against 295 feet of head; 30 feet of 5-inch suction pipe with strainer; 160 feet of air line, 20 hp, 1750-rpm U. S. electric motor. This installation was reported to be identical with that in the well of Northwestern Steel and Wire directly across the Rock River in Sterling.

When completed in 1940, the static water level was 30 feet below the surface and when pumping at 250 gpm the drawdown was 20 feet. After the new pump was installed in 1950 the water level was 105 feet and while pumping at a rate of 200 gpm the drawdown was below the air line.

Pumpage is estimated to average 200,000 gpd.

Russell, Burdsall and Ward, This plant, located at Second Street and Avenue "A" has a well drilled in April 1921 to a depth of 363 feet below a surface elevation of 630. The well is cased with 8-inch pipe to 18 feet and with 6-inch pipe from 18 to 65 feet.

The pumping equipment includes a Size 6 Aurora turbine pump, Type T H M B set with the bottom of the pump at 142 feet; 30 feet of 4-inch suction pipe; 5 hp, 1450rpm electric motor.

Sterling Soy Bean Mill. This plant, located at the east end of Tenth Street, has a tubular well drilled in 1947 to a depth of 108 feet below a surface elevation of 640.

Water was encountered at 97 feet. On June 28, 1951 the water level was 26 feet.

The well is cased with 6-inch pipe and equipped with a Deming jet pump rated at 50 gpm, with the jet set at 68 feet. Power is furnished from a 1 hp electric motor.

Water is used for the boilers, drinking and processing. Pumpage is estimated at 3000 gpd.

Riverside Nursery. The Riverside Nursery, located in the SW 1/4 SW 1/4 Section 26, T. 21 N., R. 7 E. about one-half mile east of Rock Falls installed a water system in 1953. Water is pumped from one 6-inch and five 2-inch sand points, each 25 feet deep, into a collecting reservoir. The ground surface elevation is 645 . A Carver centrifugal pump, rated at 550 gpm is installed.

The non-pumping water level is 16 feet below the surface and water is pumped at a rate of 200 gpm for 10 to 12 hours daily.

Sterling (12817)

The waterworks system for the city of Sterling was installed in 1885 and is owned and operated by the Northern Illinois Water Corporation. Four wells are in service and are described in State Water Survey Bulletin No. 40 published in 1950. The data in Table D were reported in April 1951.

TABLE D

Well Number	Depth to Water Level: Non-pumping Feet	Depth to Water Level: Pumping Feet	Drawdown Feet	Pumping Rate GPM	Specific Capacity gpm/ft D.D.
1	58	84	26	380	14.6
2	42	83	41	342	8.3
3	55	87	32	330	10.3
4	48	78	30	480	16.0

Pumping rates were checked on the Sparling meters as follows:

Date	Well Number	Pumping Rate G.P.M.
April 4, 1951	1	380
April 8, 1951	2	345
April 5, 1951	3	320
April 10, 1951	4	470

A summary of an analysis (Lab. No. 118203) of the water from Well No. 1 is given in Table IV, key number 8.

A summary of an analysis (Lab. No. 118293) of the water from Well No. 2 is given in Table IV, key number 7.

A summary of an analysis (Lab. No. 118204) of the water from Well No. 3 is given in Table IV, key number 9.

A summary of an analysis (Lab. No. 112805) of the water from Well No. 4 is given in Table IV, key number 5.

From 1940 to 1950, the number of customers increased from 3700 to 5000 and over the same period pumpage increased from 0.8 to 1.3 mgd.

The hydrograph for the Sterling wells is shown on Fig. 6.

Annual pumpage for the years 1929-1952 inclusive are shown on Fig. 5. Pumpage for the year 1952 averaged 1.42 mgd.

The following industries having wells, are located within, or in the vicinity of Sterling.

A & S Dairy. The well at the A & S Dairy, 421 Locust Street, was drilled in 1930 to a depth of 160 feet and cased with 8-inch pipe to 120 feet. The ground surface elevation at the well is 660.

In 1949 the drop pipe was lowered 20 feet but no water4evels were reported. The Pomona turbine pump operates at 140 gpm for six hours daily. About 500 gallons per hour are used for the remaining 18 hours daily. Total water pumped is estimated to average 60,000 gpd.

Borden Cheese Company. This plant located at the west edge of town on the south side of Alt. U. S. 30, has one tubular well and two cisterns.

The tubular well was drilled in 1907 by L. Wilson, Chicago to a depth of 1000 feet and deepened in 1920 to 1407 feet. It is cased with 6-inch pipe. The surface elevation is 640. The well flowed until about 1920. During the deepening work in 1920, when the drill reached 1247 feet, the flow rate was 130 gpm. At 1275 feet an open crevice was encountered and the flow rate was 200 gpm. At 1409 feet, the flow rate was 257 gpm.

The well is equipped with 70 feet of 3-inch column pipe; 14-stage Fairbanks-Morse-Pomona turbine pump rated at 140 gpm; an air line of unknown length. Power is furnished by an electric motor.

Water from this well is used for cooling and drinking. A summary of the analysis (Lab. No. 113670) of the water from this well is given in Table IV, key number 6.

A dug well is located in the river bottom south of the plant. The well is 30 feet in diameter, 20 feet deep and lined with brick. The water level June 27, 1951 was 11.0 feet below the ground elevation of 630. Water from this well is used for cooling and boilers.

Near the tubular well there is a 53 by 23-foot dug well which is 7.5 feet deep and lined with 15 inches of concrete. This is used as a reservoir for return water stored for fire protection.

Pumpage for the plant is estimated to average 140,000 gpd.

Coca Cola Bottling Company. This plant, located at 205 Third Avenue, has a well drilled in 1932 to a depth of 110 feet and deepened in 1937 to 210 feet. It is cased with 6-inch pipe to 30 feet, and equipped with an Aurora turbine pump set at 150 feet. Power is furnished by a 30 hp electric motor. The ground surface elevation is 665 and in 1932 the water level was reported to be 28 feet below the surface.

It is estimated that 10,000 gpd is used for 160 days per year for bottling.

DeAnne's. This dress shop, located at 401 Locust Street, has a well drilled to a depth of 110 feet and cased to rock at 20 feet. The well is equipped with an Aurora centrifugal pump rated at 1000 gallons per hour with 20 feet of suction pipe. The water is used for air conditioning.

Pumpage is estimated to average 4000 gpd per year.

Grebner's Shoe Store. This store, located at 10 W. Third Street, has a well drilled in July 1939 to a depth of 97 feet. Rock was encountered at 20 feet. The well is equipped with an Aurora shallow well centrifugal pump, rated at 325 gallons per hour, with 22 feet of suction pipe. The water level in July 1951 was reported to be 14 feet below the surface.

Pumpage is estimated to average 1200 gallons per day per year.

Hey Brothers. This plant, located at 214 E. Third Street, has two wells. The surface elevation is 670.

One well, drilled in 1917 to 132 feet, is cased. with 8-inch pipe from the surface to the rock at 32.5 feet and with 6-inch pipe from the surface to 33.0 feet.

The other well, drilled in 1931 to 85 feet was deepened to 400 feet in 1937. It is cased with 8-inch pipe.

Not as much water has been used since 1950 because of the installation of evaporating condensers.

Total pumpage from both wells is estimated to average 1500 gpd.

Illinois Northern Utilities Company. This Company has two wells, one of which is located south of the C. & N. W. R. R. and a pit 250 feet east of the foot of Broadway. This well is reported to be eight inches in diameter and 125 feet deep. A summary of an analysis (Lab. No. 88753) of the water from this well is given in Table IV, key number 31.

The other well, located approximately 241 feet south of Miller Street and 129 feet east of Bass Street, was drilled in 1939 by Gray Well Company, Chicago, to a depth of 1580 feet. The well is reported to be cased with 18-inch pipe to 15 feet and 10-inch pipe to 351 feet cemented with pure neat grout. The hole is reduced to 10 inches in diameter at 351 feet and to eight inches at 780 feet where 20 feet of 8-inch liner was installed. The elevation of the top of the well is 630.5.

A production test was made by the driller when the well was 779 feet deep. When pumping at 60 gpm the water was lowered from 11 to 150 feet. On December 27, 1939, when final depth of 1580 feet was reached, a production test was made. When pumping at a rate of 515 gpm, the drawdown was 28.3 feet from a static of 11 feet. On December 10, 1947, the non-pumping water level was reported to be 32 feet.

A summary of an analysis (Lab. No. 88742) of the water from this well is given in Table IV, key number 10.

The pumping equipment consists of: 70 feet of 6-inch column pipe; 7 5/8-inch, 10-stage American Well Works turbine pump. No. 63213, rated at 300 gpm, over-all length of pump 6 feet 11 3/4 inches; 20 feet of 5-inch suction pipe; 70 feet of 1/4-inch brass pipe air line; electric motor.

Lawrence Brothers Manufacturing Company. This factory, located at the east side of the north end of the First Avenue highway bridge, has a well that was drilled in 1947 by Allabaugh Well Company, Rockford, to a depth of 762 feet and cased with 10-inch pipe from the surface to 63 feet and an inner casing of 8-inch pipe from the surface to 243 feet. The surface elevation is 640. The hole below the casing was eight inches in diameter to the bottom. When completed the well was equipped with an 8-inch American Well Works turbine pump with 150 feet of 5-inch column pipe and 30 feet of suction pipe. In a, production test the maximum yield was reported 45 gpm.

The well was then shot with 80 quarts of nitro-glycerin. Over a period of five to eight weeks, it was reported that "a carload of sandstone was removed". In a subsequent production test the yield rate was 125 gpm with a drawdown of 95 feet from a static level of 55 feet. In January 1952, the pump was pulled and repaired and in November 1952 the pumping rate was a little less than when drilled.

In August 1953, the well had been deepened, by Allabaugh, with a 6-inch hole from 750 to 1646 feet after installing a 6-inch liner from 650 to 750 feet.

The 7 5/8-inch, 13-stage American Well Works turbine pump was installed with 100 feet of 5-inch column pipe and 10 feet of suction pipe with strainer. Power is furnished by a 20 hp electric motor.

Most of the water yield was reported from 1450 to 1600 feet.

In a production test it was reported by the driller that when pumping at 250 gpm the drawdown was five feet from a static level of 50 feet.

Pumpage is estimated to average 5000 gpd.

National Manufacturing Company. The well at this plant, located on the west side at the north end of the First Avenue bridge, was drilled in 1915 to a depth of 155 feet and deepened in 1930 to 850 feet, below a surface elevation of 640. It was cased with 10-inch pipe from the surface to 60 feet, with 8-inch pipe from the surface to 80 feet and with 6-inch pipe from the surface to 200 feet below which the hole was six inches to the bottom.

The well has not been in service for several years. In July 1951 the water level was measured 16.0 feet below the top of the well, which is at approximate elevation 640.

Northwestern Steel and Wire Company. This plant, located south of the C. & N. W. R. R. between Avenues B and K, has two wells in service.

One well was drilled in 1940 by Gray Well Company, Chicago, to a depth of 760 feet and cased with 12 1/2-inch pipe to 23 feet and 8-inch pipe to 347 feet. Both casings are cemented from the surface. The hole is eight inches to the bottom.

When completed, the well was tested and a yield of 465 gpm was reported with a drawdown of 145 feet from a static level of 18 feet below the surface.

On June 20, 1945 the non-pumping water level was reported at 38.5 feet and after one-half hour pumping at 225 gpm the drawdown was 65.0 feet.

In April 1949, the pump was overhauled and reinstalled. The pumping equipment consists of: 160 feet of 5-inch column pipe; 8-inch, 13-stage M. C. Aurora turbine, No. 26016, rated at 200 gpm at 295 feet of head; 30 feet of 5-inch suction pipe with strainer; 160 feet of air line; 20 hp U. S. electric motor.

On April 9, 1949 the static water level was reported to be 78.1 feet and after pump-

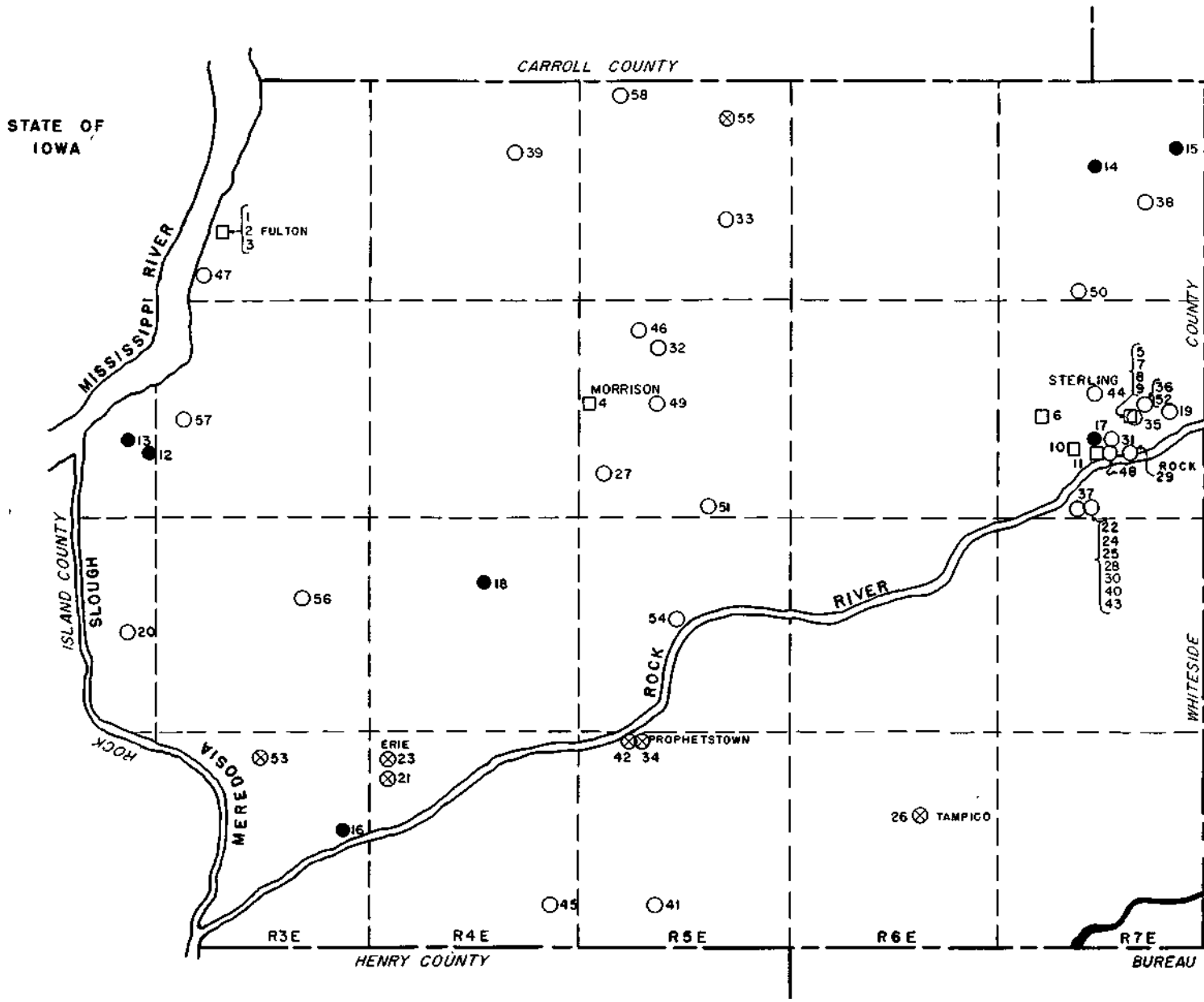
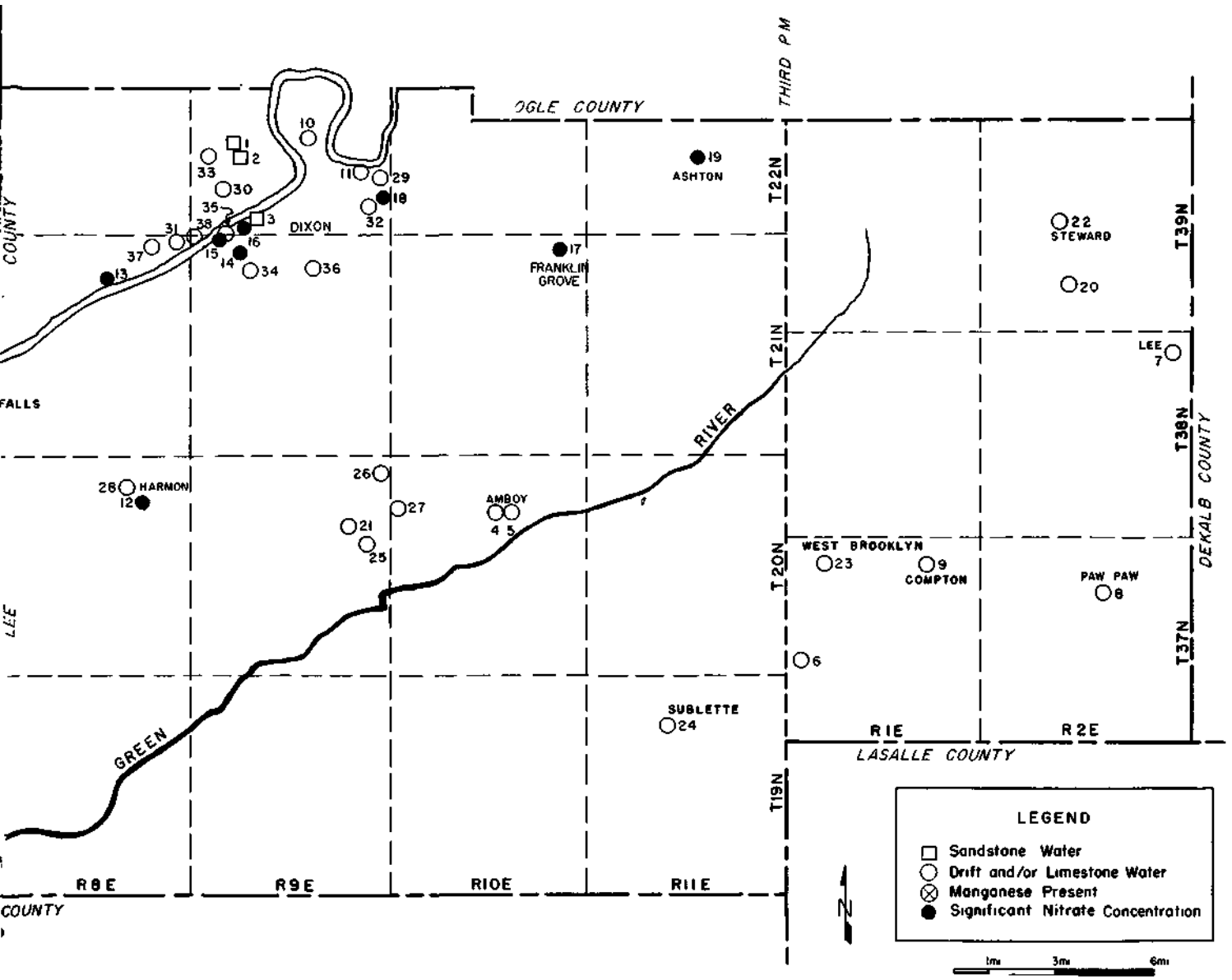


FIG. 7 - LOCATIONS OF WELLS WITH KEY NUMBERS



TO CHEMICAL ANALYSES IN TABLES III AND IV

ing 50 minutes at 200 gpm the drawdown was 68.0 feet. In 1951 this pump was being operated 24 hours daily.

A summary of an analysis (Lab. No. 88741) of the water from this well is given in Table IV, key number 11.

A well was drilled, at the Bar Mill plant in 1952, to a depth of 707 feet, below a surface elevation of 640. When tested, it is reported that the yield was 50 gpm with a 200-foot drawdown from a static level of 50 feet.

The well was deepened in August 1952, by J. P. Miller Artesian Well Company, from 707 to 1636 feet and cased with 12-inch pipe from the surface to 28 feet; with 8-inch pipe from the surface to 371 feet, and cemented in place. From 371 to 1636 feet the hole is eight inches in diameter.

In a production test by the State Water Survey, after pumping at 600 gpm for five hours, the drawdown was 24 feet from a static water level of 50 feet.

Peoples Ice and Coal Company. This plant located at the foot of Second Avenue on the north side of the C. & N. W. R. R., has had three 8-inch wells. Two of the wells, originally 1250 and 175 feet deep, have been abandoned. The third well was drilled in 1940 to a depth of 174 feet and cased with 8-inch pipe to 25 feet. The lower 15 feet were drilled in crumbly shale and it was reported that that section was filled with gravel.

Senneff-Herr Company. This plant, located at 208 Fourth Avenue, has a well which was drilled in 1940 to a depth of 265 feet and cased with 8-inch black pipe from the surface to 35 feet. The yield rate was reported 10 gpm.

In June 1941, the well was deepened by Allabaugh Well Company, Rockford, to 650 feet and a 6-inch liner, with well packer, was set from 130 to 330 feet. In a production test September 29, 1941 the driller reported that, when pumping at 60 gpm the drawdown was 50 feet from a static level of 40 feet below a surface elevation of 670. The pumping equipment includes an Aurora turbine pump, 9F888 rated at 60 gpm with 100 feet of column pipe and 10 feet of 4-inch suction pipe.

A summary of an analysis (Lab. No. 113669) of the water from this well is given in Table IV, key number 17.

Pumpage is estimated at 2500 gpd.

Sinissippi Park, located along the north bank of Rock River at the east edge of Sterling, is a part of the Sterling and Colonna Park District. A well was drilled in February 1950 by Forder-Schilling to a depth of 265 feet and cased with 8-inch pipe to rock at 32 feet.

Pumping equipment includes a Red Jacket jet pump with the jet set at 100 feet. The pump is rated at 60 gpm. Power is furnished by a 5 hp electric motor.

The water level on June 28, 1951 Was 40 feet below the surface elevation of 670.

Sterling State Police Headquarters, District 1. The State Police Headquarters for District 1 is located on Alt. Route 30 about one-half mile east of Sterling.

Two wells are located at the station. Very little information is available on the older well other than that it is 90 feet deep. A summary of an analysis (Lab. No. 86367) of the water from this well is given in Table IV, key number 52.

Well No. 2 was completed in March 1952 by Layne-Western Company to a depth of 476 feet below a ground elevation of 700. A 10-inch drive pipe was set from the surface to 31 feet and a 6-inch casing from the surface to 301 feet. The bottom 20 feet of the 6-inch casing was cemented-in.

In a production test, after 24-hours pumping at a rate of 11 gpm the drawdown was 130 feet from a static level of 94 feet below the surface.

A summary of an analysis (Lab. No. 128175) of the water from this well is given in Table IV, key number 36.

Stutzke Hardware Store. This store, located at 407 Locust Street, has a well drilled to a depth of 110 feet, and equipped with an Aurora centrifugal pump with 22 feet of suction pipe. In July 1951 the static water level was 14 feet below the surface.

The pump is rated at 325 gallons per hour and is used for eight hours daily for air conditioning.

Wahl-Clipper Corporation. This plant, located at 407 East Third Street, has a well drilled to a depth of 420 feet and cased with 8-inch pipe to 35 feet, below which the hole is six inches in diameter to the bottom.

In 1948 when pumping at 40 gp-m the drawdown was 44 feet from a static water level of 58 feet.

The well is equipped with an Aurora turbine pump, rated at 60 gpm, set at 200 feet. Power is furnished by a 7 l/2 hp U. S. electric motor.

Pumpage is estimated to average 7000 gpd.

Tampico (760)

A public water supply was installed by the village of Tampico about 1912.

Water is obtained from twenty-four 2-inch drive points. These are described in detail in State Water Survey Bulletin No. 40.

A summary of an analysis (Lab. No. 112513) of the water from the Tampico wells is given in Table IV, key number 26.

Pumpage is estimated to average 60,000 gpd.

RESULTS OF CHEMICAL ANALYSES

Chemical analyses of the waters from 38 wells in Lee County have been made by the State Water Survey. The location of these Lee County wells are shown in Figure 7, and referenced by a key number given to each well. The key number is also shown with the laboratory analysis number in Table I to identify the well owner and again in Table III where the results of the analyses are shown.

Chemical analyses of the waters from 58 wells in Whiteside County have been made by the State Water Survey. The location of these Whiteside County wells are shown on Figure 7 and referenced by a key number given to each well. The key number is also shown with the laboratory analysis number in Table II to identify the well owner and again in Table IV where the results of the analyses are shown.

The results of chemical analyses, Table III for Lee County and Table IV for Whiteside County, are expressed in parts per million (ppm). Parts per million refers to pounds per million pounds of water or grams per 1000 liters of water. Such results can be converted to grains per gallon (gpd) by dividing by the factor 17.2. The parts per million results can be converted to equivalents per million by dividing by the equivalent weight of the particular ion. The results for hardness, alkalinity and non-carbonate hardness are expressed in equivalent terms of calcium carbonate. Since the pH of nearly all samples was less than eight, no carbonate alkalinity existed and the alkalinity exists actually as bi-carbonate.

Total Dissolved Solids

The total mineral content includes all the mineral ingredients in the water. These ingredients originated largely by the solution of the chloride, nitrate, sulfate, and carbonate salts of calcium, magnesium, ammonium and sodium. On solution of each or any of these ingredients however, the component parts of each salt exist in the water as separate entities and bear no relation to the original combination.

Water with a high mineral content may have a salty or brackish taste, of an intensity which depends on the concentration and kind of minerals in solution.

The Public Health Service Drinking Water Standards for Interstate Carriers (1946) states that water should not contain more than 500 ppm total dissolved solids, but if such water is not available 1000 ppm may be permitted. A mineralization of 1000 ppm can be faintly tasted.

Hardness

Hard water is caused primarily by the presence of calcium and magnesium in the water. The hardness of 88.7% of 532 of the Illinois public groundwater supplies is greater than 200 ppm and 60.2% have a hardness greater than 300 ppm.

Iron and Manganese

Two out of every three well water supplies in Illinois contain 0.4 ppm iron or more. Manganese is present in a concentration of 0.2 ppm in 14.4% of 506 public ground water supplies.

Fluorides

The fluoride content of waters has been reported to be associated with both dental caries and mottled tooth enamel or dental fluorosis. The incidence of dental caries is low for water supplies containing 1 to 1.5 ppm of fluoride, or more, and is high for water supplies containing 0 to .5 ppm fluoride. On the other hand, the incidence of darkened or mottled teeth is increasingly high for water supplies containing 1.5 or more ppm. fluorides, and is low for water supplies containing less than 1.0 ppm fluoride.

Nitrates

Excessive nitrate concentrations in water may cause "blue babies" when such water is used in the preparation of infant feeding formulas. Serious cases of methemoglobinemea in adults have also been attributed to this. An upper safe limit has tentatively been set as 44 ppm. (as NO_3) by the National Research Council. At least one supply in Illinois, however, contains more than 80 ppm and has been in use for a number of years with no reported difficulty from this cause. This subject is under constant consideration by the State Department of Public Health at the present time.

Chloride and Sulfate

The presence of high chloride and sulfate concentrations are direct indications of high total mineral content. Chloride and sulfate salts are generally quite soluble in water at

normal temperatures, although the solubility of calcium sulfate at temperatures approaching boiling reduces to the point where all of the calcium and sulfate are not compatible in solution. The incompatibility of calcium and sulfate at elevated temperatures is not as great as the incompatibility of calcium and carbonate.

The presence of high chloride and sulfate content producing waters of high mineral content is responsible for greater electrical conductivity. This in turn enhances corrosive properties of water, particularly with respect to iron and greatly accelerates the galvanic corrosive effect on iron when coupled with copper bearing metals.

Chlorides are detectable by taste when present in concentrations of 400 to 500 ppm. or more.

Alkalinity

In most ground waters in Illinois, the alkalinity is in the range of 200 to 400 ppm. and in general is associated with 20 to 50 ppm free carbon dioxide. The free carbon dioxide in the water is usually not more than that which is necessary to maintain the solubility of calcium in these waters.

Methane

Methane gas is present in a number of ground water supplies and on several occasions has caused severe explosions. This gas is colorless, odorless, and tasteless. It is lighter than air, inflammable, and when released from the water and mixed in concentrations of 5 to 15% with air the resultant mixture is highly explosive on ignition. If water containing this gas is passed through a pressure tank it is possible for the air cushion to contain a high proportion of methane. In such cases the vent or the release of accumulated gas in the pressure tank should extend outdoors and should not be vented inside of the building. An inside vent can easily lead to the 5 to 15% mixture with air in the room in which the pressure tank is located. Methane gas can readily be removed from water by standard aeration procedures.

The occurrence of methane in groundwater appears to be limited to supplies which obtain their water from the unconsolidated beds above the bedrock. On a few occasions such gas has been obtained from wells yielding water from limestone where the limestone presumably has been fed from the overlying unconsolidated deposits.

DISCUSSION OF WATER QUALITY

In Lee and Whiteside Counties, water from wells penetrating the deeper sandstones at depths greater than 750 feet (Wells No. 1-3 in Lee County and 1-11 in Whiteside County, (Tables III and IV respectively) are noted to have a hardness ranging from 271 to 328 ppm and a total mineral content ranging from 308 to 357 ppm. The alkalinities are slightly less than the hardness ranging from 248 ppm to 300 ppm. All samples from these wells contained a significant concentration of sulfate, very low nitrate and variable chloride content. The fluoride content ranged from 0.1 to 0.6 ppm, the silica content from 10 to 15 ppm. There is little or no ammonia present, manganese is absent, but iron, may on occasions be found in a concentration of as much as 0.7 ppm.

Two samples from shallow wells in Lee County (No. 10 and 11) were noted to have an exceptionally low mineral content and hardness at the time of collection of the sample.

Exceedingly high hardness (400-600 ppm was noted in samples from 15 wells (No. 12 to 18 in Whiteside County and 12 to 19 in Lee County). These waters usually are noted to contain unusually high nitrate and/or considerable sulfate concentrations. The chloride contents were also frequently noted to be relatively high. Where determined, the fluoride content did not exceed 0.5 ppm. Waters from the remaining wells appear to have a normal hardness ranging from 200 to 390 ppm with the exception of four wells located in the southeastern part of Lee County. The median hardness for the wells penetrating drift and limestone is 300 ppm.

With the exception of the waters obtained from the deeper sandstone, the iron contents are greater than 0.3 ppm in 56% of the samples.

Manganese is present in appreciable concentrations, (greater than 0.1 ppm) in wells located primarily in the southern half of Whiteside County.

No samples in the region were noted to be of exceptionally high mineral content nor of exceptionally high fluoride content.

TABLE I

LEE COUNTY - WELLS
Private, Public and Industrial

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd.
T 19N R 10E											
Section 10, NW l/4	1941	247	3	860	150	gravel	12	farm			
Section 23, NW				920	230	gravel	12	farm			
Section 24, SW	1949	313	3	870	194	gravel		farm			
T 19N R 11 E											
SUBLETTE	1898	752	10-6*	920	220	rock	90	public	112898	24	12
Halbig Cheese	1940	317	4	920	225?	gravel		indus.			3
Section 9, NE l/4	1944	301	3	940	240	gravel	12	farm			
Section 14, SW	1943	367	3	880		gravel		farm			
Section 20, SE		328	3	883	10	gravel		farm			
Section 31, NE		218	3	860	150	gravel		farm			
Section 32, NE		293	3	850		gravel		farm			
T 20N R 8E											
Section 12, NW	1944	53	5			gravel		farm			
Section 13, SW	1943	133	6	710	5	gravel	15	farm			
Section 14, SE	1939	143	6	700	60	gravel		farm			
HARMON'	1909	532	5		7	rock	30	public	36191	28	

*Diameter reduced from 10 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 20N R 8E (Cont'd)											
HARMON	1923	32	1 1/2	700		gravel		public	112899	12	16
Section 22, NE 1/4	1946	55	6	705		gravel	8	farm			
Section 26, NW	1943	75	6	690	14	gravel	10	farm			
T 20N R 9E											
Green River, O. P., P-1	1942	371	24	792	33	rock	400	indus.	93173	26	
Green River, A-2	1942	425	10	753	+1	rock	410	indus.	93150	21	
Section 10, SE 1/4	1946	85	3	750	36	gravel	15	farm			
Green River, P-2	1942	479	16	755	5	rock	476	indus.	93446	25	
T 20N R 10E											
Section 1, NW 1/4	1912	70	6	795	20	rock		farm			
Green River, A-1	1942	430	10	788	28	rock	595	indus.	93075	27	
Amboy Milk Co.	1938	1120	12	750	52	rock	600	indus.	111085	4	250
AMBOY NO. 2	1924	1100	12	750	88	rock	265	public	112906	5	134
Section 24, SW 1/4	1940	110	6	770		rock		farm			
T 20N R 11E											
Section 5, SE 1/4		70	3	815	55	rock		farm			
Section 16, NW		90	3	765	23	rock		farm			

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T ZON R HE (Cont'd)											
Section 25, NE	1946	298	3	920	177	gravel	7	farm			
Section 27, SE	1948	301	3	900	188	gravel	15	farm			
T 21N R 8E											
Section 1, NE l/4	1936	202	4	720	5	rock		farm	81436	31	
Section 1, SW	1861	65	48-6*	720	15	rock		farm			
Section 2, NE	1905	185	6	760	125	rock		farm	80724	37	
Section 3, SW	1918	95	6	745	75	rock		farm			
Section 4, NW		160	48-6*	755	60	rock		farm			
Section 5, SW		80	48-6*	680	19	rock		farm			
Section 5, NW	1940	84	6	740		rock		house			
Section 6, NW	1867	105	6	720	50	rock		farm			
Section 6, SW	1931	135	8	760	80	rock		farm			
Section 9, NW		16	48	670	12	gravel		farm			
Section 9, SE		48	48-6*	680	30	rock		farm			
Section 10, NE	1902	104	6	650	76	rock		farm	80725	13	
Section 11, NW	1908	75	6	660	35	rock		farm			
Section 11, SE	1930	176	6	680	86	rock		farm			
C & N. W. R.R., Nelson		35	300	676	5	gravel		boilers			12

*Diameter reduced from 48 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 8E (Cont'd)											
Section 23, SW	1943	212	6	700	30	rock		farm			
Section 27, SW	1947	70	6	700		rock		farm			
T 2IN R 9E											
Section 2, NE l/4	1931	285	8	795	35	rock		farm			5
Section 2, SE	1880	80	48-6*	805	35	rock		farm			
Section 3, NE		70	48-6*	780	15	rock		farm			
Dixon Airport	1934	175	6	785	47	rock		Airport	74990	36	
Beier Bros.	1934	110	6	650			10	indus.	75304	14	
Columbus-McKinnon	1949	180	-	690	30			indus.			24
Freeman Shoe		30	36	680	25 '	gravel		indus.			2
Public Serv. Co. of Nor. Ill.	1937	160	6	545	15	rock	400	indus.	85933	38	
B. F. Shaw Ptg. Co.		80	6	660				indus.	130762	15	
Mable Shaw		217							81205	16	
Standard Dairy	1931	277	6	720	120	rock		indus.	112904	34	6
Section 6, NW	1922	220	6	650	18	rock		farm	80680	35	
Section 8, NW	1943	150	6	770	98	rock		farm			
Section 10, SE	1945	111	5	787		rock		farm			
Section 10, SW	1943	100	6	787		rock		farm			
Section 13, W l/2	1942	90	4	800	30	rock		farm			

*Diameter reduced from 48 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21 N R 9E											
Section 20, SW	1941	66	4	740	30	rock		farm			
Lee County Nursing Home	1953	330	8	785	48	rock	186	sem1-public			5
T 21N R 10E											
FRANKLIN GROVE-South	1902	298	10	810	35	rock	100	public	112905	17	30
FRANKLIN GROVE-North	1924	150	10	810	31	rock	100	public			
FRANKLIN GROVE-3	1954	769	12	810.	40	rock	350	public			
Section 5, SW l/4	1922	166	6	790	40	rock		farm			
Section 5, NW		60	6	795	40	rock		farm '			
Section 7, SW	1924	65	6	805	35	rock		farm			
Section 7, NW		85	6	800	50	rock		farm			
Section 7, NW	1922	124	5	790	45	rock		farm			
Section 34, NW l/4	1905	118	60-5*	.820	48	rock		farm			
Section 34, NW		138	60-5*	825	50	rock		farm			
T 21N R HE											
Section 2, SE- 1/4		90	6	830	25	rock		farm			
Section 10, NW		60		830	6	rock		farm			
Section 16, NW	1941	80	6	820	25	rock	20	farm			
Section 34, SW	1942	128	4	780	flow	rock	3	farm			

*Diameter reduced from 60 to 5 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock' '	Capa-city gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22 N R 8E											
Section 13, SE l/4	1860	200	6	805	150	rock		farm			
Section 13, NW	1924	164	4	800	134	rock		farm			
Section 14, NE	1865	170	6	819	140	rock		farm			
Section 15, NE		200	6	800	140			farm			
Section 19, SE	1901	116	6	760	46	rock		farm			
Section 23, NW		160	6	780	126			farm			
Section 24, NE		180	6	740	80	rock		farm			
Section 24, NW		235	48-6*	802	20			farm			
Section 26, SW	1908	186	6	795	90			farm			
Section 27, NW	1945	217	6	760	72	rock	25	farm			
Section 28, NW	1908	98	6	750	50			farm			
Section 30, NE	1885	128	8	750	78			farm			
Section 31, SE	1865	116	8	726	60	rock		farm			
Section 33, NE l/4		165	5	770	55	rock		farm			
Section 33, NE		75	5	770	70	rock		farm			
Section 34, SE	1860	75	6	780	50	rock		farm			
Section 34, NW		70	48-6*	770		rock		farm			
Section 35, SE	1890	100	6	740	70	rock		farm			

*Diameter reduced from 48 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 8E (Cont'd)											
Section 35, SW	1902	110	6	760	85	rock		farm			
Section 36, NE	1926	127	6	770				farm			
Section 36, SE	1898	140	6	720	100	rock		farm			
Section 36, SW	1880	96	6	772	61	rock		farm			
T 22N R 9E											
Section 9, SE l/4	1850	65	60	700	57	rock		farm			
Section 9, SE	1900	54	6	720	34	rock		farm			
Section 9, SW	1878	104	60-6*	720	50	rock		farm			
Section 10, SW	1905	167	6	760	60	rock		farm			
Section 14, SE	1925	108	6	700	64	rock		farm			
Section 14, SE	1932	70	6	690	44	rock		farm	80603	10	
Section 14, NW	1834	20	60-1 l/4**	655	15	gravel		farm			
Section 16, SE	1900	132	6	760	110	rock		farm			
Section 16, NW	1900	160	6	765	125	rock		farm			
Section 17, SE	1942	60		670	32	rock		farm			
Section 20, NE	1931	25	72	650	spring	rock		farm			
Section 20, NE	1933	335	6	700	40	rock		farm	80595	33	

*Diameter reduced from 60 to 6 inches
**Diameter reduced from 60 to 1 l/4 inches

TABLE 1 CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd.
T 22N R 9E (Cont'd)											
Section 20, SW	1915	173	6	800	160	rock		farm			
Dixon State Hospital-1	1915	1922	23	680	34	rock	1475	public	128882	2	
Dixon State Hospital-2	1915	1780	23	680	34	rock	700	public	124893	1	684
Section 22, SE	1920	75	6	710	15	rock		farm			
Section 22, SW	1880	25	60	640	21	gravel		farm			
Section 22, NW	1900	115	6	665	20	rock		farm			
Section 23, NE	1931	72	6	690	37	rock		farm	80602	11	
Section 23, NE	1923	72	5	700	27	rock		farm			
Section 23, SE	1873	100	60-6*	700	50	rock		farm			
Section 24, SE	1931	18	2	675	9	gravel		farm	80698	29	
Section 24, SE	1879	60	48-5**	690	23	rock		farm			
Section 24, NW	1907	96	6	680	12	rock		farm			
Section 24	1939	95	5	660	25	rock		farm			
Section 25, NE	1916	94	4	690	20	rock		farm	80746	18	
Section 25	1940	77	4	720	24	rock	10	farm			
Section 25, SW	1870	255	60-4***	740	59	rock		farm	80747	32	
Section 26, NE	1850	130	6	780	15	rock		farm			

*Diameter reduced from 60 to 6 inches
**Diameter reduced from 48 to 5 inches
***Diameter reduced from 60 to 4 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd.
T 22N R 9E (Cont'd)											
Medusa P. C.		146	6	660	46	rock		indus.			10
Section 28, SE	1860	48	3	675	8	rock		farm			
Section 28, SE	1900	60	6	680	40	rock		farm			
Section 28, SW	1914	98	5	720	25	rock		farm			
Dixon C.C.	1950	340	36	760	2	rock		Club			2
Lincoln Motel	1951	205		730	50	rock		Semi-public			
Section 29, SE	1890	165	6	780	60	rock		farm	80596	30	
Section 29, SE	1932	212	6	785	110	rock		farm			8
Section 29, SW		70	48-6*	775	50	rock		farm			
Section 29, SW		210	6	780	70	rock		farm			
Section 30, SE	1928	72	6	720	30	rock		farm			
Section 30, SE	1880	175	6	726	75	rock		farm			
Section 30, SE	1910	125	6	700	50	rock		farm			
Section 30, SW	1928	240	6	740	70	rock		Club			2
Borden No. 2		1600		660	50	rock		indus.			
Borden No. 4		189		640	25			indus.			
Borden No. 6	1948	200	10	640				indus.			6
Section 31, NE	1929	72	6	720	28	rock		farm			

*Diameter reduced from 48 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 9E (Cont'd)											
Section 31, NE	1905	150	6	700	100	rock		farm			
DIXON No. 1	1888	1630	8	662	flowed	rock		abandoned			
DIXON No. 2	1888	1700	8	661		rock		public			
DIXON No. 3	1914	1865	18	656	15	rock		public	113127	3	1030
DIXON No. 4	1894	1700	7	653							
DIXON No. 5	1947	1472	18	660	12	rock		public			
Section 32, NE	1940	140	4	720	110	rock					
Section 32, NW	1942	152	6	720	100	rock					
Section 32	1949	133		730		rock					
Bus Term.	1948	105	6	660	25	rock		indus.			1
Coss Dairy	1930	205	6	660	22	rock		indus.			10
Dixon Ice		110		660	20	rock		indus.			170
Lawton Dairy	1943	120	6	660	20	rock		indus.			3
Reynolds Wire Co.		30	3	660	10	gravel		indus.			
Reynolds Wire Co.	1939	100	8	660	30	rock		indus.			120
Reynolds Wire Co.	1930	40		680	10			indus.			1
Section 35, NE	1880	80	60-6*	790	35	rock		farm			
Section 35, NW	1940	170	6	780	70	rock	20	farm			

*Diameter reduced from 60 to 6 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 9E (Cont'd)											
Section 35	1941	135	6	780	83	rock	15	farm			
Section 36		62+	60-6*	780	40	rock		farm			
T 22N R 10E											
Section 17, NE l/4	1941	95	6	764	30	rock	15	farm			
Section 17, NW		85	48-5**	720	28	rock					
Section 18, NW		18	60	680	14	gravel		farm			
Section 18, SW		22	48	675		gravel		farm			
Section 19, NW		70	60-6*	700	18	rock		farm			
Section 22, NW	1904	100	8	760	80	rock		farm			
Section 23, NE		60	6	825	40	rock		farm			
Section 23, SW		125	6	825	100	rock		farm			
Section 24, SW	1898	150	6	820	100	rock		farm			
Section 24, SW	1900	120	6	820	100	rock		farm			
Section 24, NW		60	6	840	40	rock		farm			
Section 25, SW		90	5	829	48	rock		farm			
Section 25, SW		80	6	810	60	rock		farm			
Section 26, NE		170	6	825	48	rock		farm			

*Diameter reduced from 60 to 6 inches
**Diameter reduced from 48 to 5 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd.
T 22N R 10E (Cont'd)											
Section 26, SE		84	6	810	64	rock		farm			
Section 26, NW		84	6	822	80	rock		farm			
Section 27, NE	1895	170	6	805	60	rock		farm			
Section 27, SE	1899	84	6	800	68	rock		farm			
Section 27, NW	1902	110	6	800	90	rock		farm			
Section 28, NW	1914	153	8	760	23	rock		farm			
Section 28, NW	1907	150		780		rock		farm			
Section 30, NE	1880	165	48-5*	760	130	rock		farm			
Section 31, NE	1899	85	6	720	38	rock		farm			
Section 31, SE		28	60	740		rock		farm			
Section 32, SE	1880	104	6	780	54	rock		farm			
Section 32, SW	1894	37	6	735	9	rock		farm			
Section 34, NW	1898	129	6	800	100	rock		farm			
Section 35, NE		50	8	815		rock		farm			
Section 35, SW	1921	175	6	805	19	rock		farm			
Section 36, SW	1854	50	8	816	40	rock		farm			
T 22N R 11E											
ASHTON	1915	545	5	810	39	rock		public	113129	19	70

*Diameter reduced from 48 to 5 inches

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Drilled Year	Well Depth ft.	Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd.
T 22N R 11E (Cont'd)											
C. & N. W. R. R.	1900	249		810	35	rock		locomotive			20
T 37N R 1E											
Section 2, NE 1/4	1946	326	3	960	190	gravel	10	farm			
Section 5, NW	1946	261	3	900	128	gravel	16	farm			
Section 6, NE	1944	249	3	850	124	gravel	20	farm			
WEST BROOKLYN	1898	660	5	983	229	rock	100	public	113672	23	15
Section 8, SE	1940	391		980	300	gravel	12	farm			
Section 10, NW	1945	366	3	1010	285	gravel	10	farm			
COMPTON	1895	335	8	982	235	gravel	70	public	113200	9	23
Section 18, NE	1941	365		980	270	gravel	12	farm			
Section 19/ NW		326						private	117326	6	
Section 23, NW	1945	333	3	915	187	gravel	15	farm			
Section 26, NE	1944	330	3	950	201	gravel	15	farm			
Section 36, NE	1944	328	3	910	181	gravel	12	farm			
T 37N R 2E											
Section 2, SW 1/4	1947	331	5	940	248	gravel	4	farm			
PAW PAW	1895	1018	10	928	188	rock	80	public	113131	8	40
Section 30, SW	1944	336	3	920	201	gravel	6	farm			

TABLE 1 CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd-
T 38N R 1E											
Section 7, SE 1/4	1952	206	6	780		rock		farm			
Section 15, SE	1948	32	3	810	5	gravel	15	farm			12
Section 18, NE		25	3	780	5	gravel		farm			
Section 21, NW	1948	30	3	770	5	gravel	16	farm			
Section 23, NE	1940	40		825	8	gravel	10	Fill. Sta.			2
Section 27, SE	1941	205		880	75	gravel	15	farm			
Section 28, SE	1944	229	3	820	65	gravel	15	farm			
Section 29, SW	1944	172	3	800	47	gravel	15	farm			
Section 31, NW	1940	59	3	800	28	gravel	15	farm			
Section 31, SE	1946	30	3	800	18	gravel	10	farm			
Section 34, NE	1945	225	3	920	98	gravel	15	farm			
Section 34, SW	1950	214	3	850	94	gravel	15	farm*			
Section 34, SE	1944	131	3	940		gravel	19	farm			
T 38N R 2E											
LEE	1904	335	6	940	188	gravel	65	public	112126	7	12
Section 4, NW 1/4	1947	387		850		rock		farm			
Section 5, SW		30	3	780	6	gravel		farm			
Section 10, NW		2 06	6	840	60	gravel		farm			
Section 19, NE	1947	94	3	850	69	gravel	15	farm			

TABLE I CONTINUED
LEE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Key No.	Pumpage 1000s gpd.
T 39N R 1E											
Section 1, SE l/4	1942	107	5	825	12	rock	20	farm			
Section 3, NE	1939	300	6	790	4	rock	35	farm			
Section 20, SW	1945	141	6	830		rock		farm			
Section 26, NE		113	6	840	14	rock		farm			
T 39N R 2E											
Section 11, SW l/4	1944	500	6	920	150	rock	25	farm			
Section 17, SE	1913	320	12	860	40	rock	30	locomotive			
Section 17, SE	1914	28	8	860	13		50	locomotive			
STEWARD	1909	100	8	823	26	gravel		public	112900	22	10
Section 28, NE	1948	470	6	920	80	rock		farm	132448	20	2
Section 35, SE	1951	345	6	930	175	gravel		farm			

TABLE II

WHITESIDE COUNTY - WELLS
Private, Public and Industrial

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory No.	Analysis Key No.	Pumpage 1000s gpd-
T 19N R 3E											
Section 3, NE l/4		20	1 l/4	580	8	gravel		farm			
Section 3, SE		40	1 l/4	580	10	gravel		farm			
Section 4, SE		15	1 l/4	575	5	gravel		farm	80732	53	
Section 5, NE		20	1 l/4	580	8	gravel		farm			
Section 11, SW		16	1 l/4	585	10	gravel		farm			
Section 14, SW	1924	65	6	580	15	rock		farm	80733	16	
Section 16, NE		16	1 l/4	575	6	gravel		farm			
Section 21, NE		18	1 l/2	580	12	gravel		farm			
Section 24, SW		20	1 l/4	580	18	gravel		farm			
Section 25, NE		16	1 l/4	580	10	gravel		farm			
Section 26, NW		32	6	580	14	rock					
Section 27, NE		63	6	580	12	rock		farm			
Section 27, SE		16	1 l/4	580	8	gravel		farm			
Section 28, NE		20	1 l/4	580	8	gravel		farm			
T 19N R 4E											
Section 4, NE l/4	1941	42	6	580	7	gravel	10	farm			
ERIE No. 1	1920	567	10	586	26	rock		public	112153	23	45

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd
T 19N R 4E (Cont'd)											
ERIE No. 2	1953	171	12	586	17	gravel	700	public	133002	21	
Supreme Dairy Products Co.		26	1 1/4	586	11	gravel	25	indus			8
Section 16		25	1 1/4	590	10	gravel		farm			
Section 25, SE		18	1 1/4		14	gravel			132445	45	
Section 26, NW		35	1 1/4	615	19	gravel		farm			
T 19N R 5E											
PROPHETSTOWN	1944	235	10	615	41	rock	304	public	112155	35	110
Eclipse Lawn Mower No. 1	1941	40	5	622	24	gravel		indus			
Eclipse Lawn Mower No. 2	1942	193	10	622	24	rock	470	indus	112157	42	10
Section 28, SW 1/4		14	11/2	619	10	gravel			132446	41	
T 19N R 6E											
TAMPICO	1947	30	2	645	13	gravel	160	public	112513	26	60
Section 34, SE 1/4		20	1 1/2	630	15	gravel		farm			
T 19N R 7E											
C.B. &Q. R. R., Deer Grove	1946	50	6	647	20	gravel	100	locom.			3
T 20N R 2E											
Section 1, SE 1/4	1895	100	5	720	45	rock		farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gprn.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 20N R 2E (Cont'd)											
Section 2, SE	1902	43	5	680	16	rock		farm			
Section 11, SE		22	1 l/4	610	6	gravel		farm			
Section 12, SE	1906	106	5	650	63	rock		farm			
Section 12, SE	1903	106	5	650	60	rock					
Section 13, NE	1924	132	5	620	65	rock		farm			
Section 13, NW	1896	32	1 l/4	610	14	gravel		farm			
Section 14, NE		18	1 l/4	580	12	gravel		farm			
Section 24, NW	1902	31	1 l/4	590	12	gravel		farm			
Section 24, NW		45	1 l/4	590		gravel			80847	20	
Section 25, NE		32	1 l/4	600	8	gravel		farm			
Section 25, NW		27	1 l/4	580	25	gravel		farm			
Section 36, SW		20	1 l/4	575	10						
T 20N R 3E											
Section 1, SW l/4		100	5	720	45	rock		farm			
Section 4, NE	1928	206	5	720	71	rock		farm			
Section 4, SW	1913	66	5	740	35	rock		farm			
Section 6, SE	1922	92	5	720	60	rock		farm			
Section 7, NW	1927	44	5	720	18	rock		farm			
Section 8, SE		180	5	680	110	rock		farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 20N R 3E (Cont'd)											
Section 9, NE	1922	102	5	740	50	rock		farm			
Section 10, NE	1896	65	6	700	45	rock		farm			
Section 11, NE		60	5	720	40	rock		farm			
Section 11, NE	1910	74	5	720	45	rock		farm			
Section 12, NW		100	5	700	60	rock		farm			
Section 12, SE		100	5	720	70	rock		farm			
Section 13, SW	1904	40	5	640	15	rock		farm			
Section 14, SE		88	6	680	56	rock		farm			
Section 15, SW	1874	103	36-5*	680	48	rock		farm	80616	56	
Section 15, SW	i920	100	5	620	100	rock		farm			
Section 16, NW	1913	175	5	700	100	rock		farm			
Section 17, SE	1904	199	5	640	90	rock		farm			
Section 18, NE	1893	97	5	630	45	rock		farm			
Section 18, SE		80	5	600	36	rock		farm			
Section 19, SW		30	1 l/4	600	10	gravel		farm			
Section 19, SE		30	1 l/4	600	10	gravel		farm			
Section 20, NW		34	1 l/4	620	26	gravel		farm			
Section 21, NE		150	5	640	85	rock		farm			

*Diameter reduced from 36 to 5 inches

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Key No.	Pumpage 1000s gpd.
T 20N R 3E (Cont'd)											
Section 21, NE		120	5	640	77	rock		farm			
Section 22, NE		120	6	620	80	rock		farm			
Section 22, SW		100	6	610	80	rock		farm			
Section 23, SE	1903	83	5	610	50	rock		farm			
Section 24, SE	1906	111	5	600	50	rock		farm			
Section 25, SE		20	1 1/4	600	10	gravel		farm			
Section 26, SW		23	1 1/4	590	12	gravel		farm			
Section 27, NE		20	1 1/4	595	7	gravel		farm			
Section 28, NE		30	1 1/4	600	20	gravel		farm			
Section 29, NW		22	1 1/4	600	10	gravel		farm			
Section 30, NE		30	1 1/4	600	15	gravel		farm			
Section 30, NE		30	1 1/4	600	15	gravel		farm			
Section 31, NE		30	1 1/2	590	10	gravel		farm			
Section 32, NW		25	1 1/4	580	15	gravel		farm			
Section 33, NE		16	1 1/4	590	6	gravel		farm			
Section 34, NE		16	1 1/4	590	8	gravel		farm			
Section 35, NE		30	1 1/4	590	10	gravel		farm			
Section 36, SW		30	1 1/4	595	10	gravel		farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 20N R 4E											
Section 3, SW l/4		48		600	9	rock					
Section 10, SW		90	6	620		rock		farm	74807	18	
T 20N R 5E											
Section 16, SW l/4	1940	70	6			rock		farm			
Section 16, SE	1940	60	6	610		rock		house	88758	54	
T 20N R 7E											
Section 2, NE l/4 NE l/4	1954	77	10	645	9	gravel	960	indus.			
T 21N R 2E											
Section 24, SW l/4	1930	87	5	630		rock		garage	80617	13	
Section 24, SW	1933	91	5	630	59	rock		house			
Section 24, SW	1919	136	5	630	50	rock		house			
Section 25, NE		100	5	660	60	rock		house	80300	12	
Section 36, SE	1907	100	72-5*	600	20	rock		farm			
T 21N R 3E											
Section 2, SW l/4		50		680	25	rock	2	farm			
Section 3, SW	1901	82		600	42	rock	2	farm			
Section 4, SW		16	1 l/4	580	10	gravel	2	farm			
Section 9, SW		16	1 l/4	580	10	gravel	2	farm			
Section 9, SW		25	1 l/4	580	15	gravel	2	farm			

* Diameter reduced from 72 to 5 inches

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 3E (Cont'd)											
Section 10, NW	1919	145	6	620	72	rock	2	farm			
Section 10, SE	1927	86	5	680	40	rock	2	farm			
Section 11, SW	1901	97	5	680	40	rock	2	farm			
Section 13, NW	1916	62	6	710	30	rock	2	farm			
Section 14, NE	1926	56	5	710	14	rock	2	farm			
Section 14, SE		56		720	15	rock	2	farm			
Section 16, SW		18	1 1/4	610	10	gravel	2	farm			
Section 16, SW		90	5	665	40	rock	2	farm			
Section 17. SW		16	1 1/4	580	10	gravel	2	farm			
Section 19, NE		42	5	580		rock	2	farm	80846	57	
Section 20, NW		70	6	580	35	rock	2	farm			
Section 20, NW		15	1 1/4	580	10	gravel	2	farm			
Section 23, NW	1905	68	5	720	50	rock	2	church			
Section 24, NE				720	30	gravel	2	farm			
Section 24, SW	1896	128	48-.6*	720	63	rock	2	farm			
Section 29, NE	1905	71	5	700	40	rock	2	farm			
Section 29, SW	1914	115	5	700	70	rock	2	farm			
Section 29, SE	1896	94	5	740	40	rock	2	farm			

*Diameter reduced from 48 to 6 inches

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1 000s gpd.
T 2 1N R 3E (Cont'd)											
Section 30,, SE		48	5	610	16	rock	2	farm			
Section 32,, SW	1927	43	5	680	flow	rock	2	farm			
Section 33, SW	1901	62	5	680	flow	rock	2	farm			
Section 34, NE		50	4 1/2	720	50						
Section 34,, NW	1900	63	5	740	35	rock	2	farm			
T 21N R 4E											
Section 3, SE 1/4	1940	82	6	680		rock		farm			
Section 12, SE	1942	117	6	660		rock		farm			
Section 17, NW	1942	104	6	620		rock		farm			
Section 18,, NE		60	6	600	20	rock		farm			
Section 28,, NE		50		670	17	rock		farm			
Section 32, NE		20		610		gravel		farm			
Section 34, NW	1951	188	6	630	100	rock		farm			
T 21N R 5E											
Section 2, NW 1/4	1890	100	5	720	50	rock		farm			
Section 3, NW		48	4	700	18			farm			
Section 3, NW				670	flow			farm			
Section 5, SE	1915	137	5	700		rock		farm	80551	46	

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Wells Drilled Year	Wells Depth ft.	Wells Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 5E (Cont'd)											
Section 6, SW	1918	92	5	700	80	rock		farm			
Section 7, NE	1915	65	4	680	32	rock		farm			
Section 7, SE	1921	52	4	660	30			farm			
Section 8, NW	1890	120	6	700	70			farm			
Section 8, SW		101		700	66			farm			
Section 9, NW	1903	202	5	710	50	rock		farm	80552	32	
Section 9, SE	1907	140	5	680	70	rock		farm			
Section 10, NW	1913	100	5	715	60	rock		farm			
Section 11, NE		60		700	20	rock					
Section 11, NW	1908	90	5	700	50	rock		farm			
Section 13, SW	1898	70	4	710	20	rock		farm			
Section 13, SE	1884	85	6	720	40	rock		farm			
Section 14, SW	1913	70	5	720		rock		farm			
Section 14, SW	1893	80	4	710	35	rock		farm			
Section 16, SW		30	6	640	17		10	house	132447	49	
Section 16, SE	1888	155	4	650	15	gravel		farm			
Section 16, SE		105	6	660	11	gravel		farm			
Section 17, NW	1908	108	5	700	48	rock		farm			
Section 17, SW	1922	80	5	680	50	rock		farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 5E (Cont'd)										
MORRISON (East)	1897	1643	10	670	14	rock	350	public		
MORRISON (West)	1912	2048	12	670	50	rock	400	public 112154	4	319
MORRISON No. 3	1950	1625	16	670	77	rock	1000	public		
Carnation Co. No. 1	1907	1006	10	700		rock		indus		
Carnation Co. No. 2	1947	1101	28	700	50	rock	600	indus		50
Section 20, NE		150		640		rock		farm		
Section 20, SE		14	72	645	5	gravel		farm		
Section 21, NE	1914	76	5	665	20	rock		farm		
Section 22, NE	1880	25		690	20	gravel		farm		
Section 22, SW	1906	70	5	680	40	rock		farm		
Section 22, SE		48		680	22			farm		
Section 23, SE	1917	96	5	700	20	rock		poor farm		3
Section 24, NE		87	5	700	22	rock		farm		
Section 24, SW	1890	105	5	700	25	rock		farm		
Section 24, SE		110		710	30	rock		farm		
Section 25, NE		27	1 1/2	700	10	gravel		farm		
Section 25, NE	60		5	700	24	rock		farm		
Section 26, NE	1928	40	5	660	20	rock		farm		
Section 26, NW	1903	40	5	670	30	rock		farm		

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s and.
T 21N R 5E (Cont'd)											
Section 26, SW	1890	60	4	670	30	rock		farm			
Section 26, SE	1888	60	4	660	30	rock		farm			
Section 27, NW	1908	70	5	680	60	rock		farm			
Section 27, SW		35		675	20	gravel		farm			
Section 30, SE	1913	118	5	625		rock		farm	80553	27	
Section 32, NW	1888	40	5	640	20	rock		farm			
Section 33, NE		12		670	10	gravel		farm			
Section 33, SW	1890	75	4	660	20	rock		farm			
Section 34, SW	1888	95	4	660	50	rock		farm			
Section 34, SE	1892	60	4	660	30	rock		farm	80554	51	
Section 35, NE	1888	75	5	660	30	rock		farm			
Section 35, NE	1912	70	5	660	30	rock		farm			
Section 35, NW	1918	90	5	660	30	rock		farm			
Section 35, SW	1913	80	5	660	30	rock		farm			
Section 35, SE		80	5	640	30	rock		farm			
T 21N R 6E											
Section 13, SW 1/4	1941	60	6	660		rock		farm			
T 21N R 7E											
Section 14, SW 1/4		78	6	685	27	rock		private			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gprn.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 7E (Cont'd)											
Police Radio No. 1		90							86367	52	
Police Radio No. 2	1952	476	10	TOO	94	rock	11		128175	36	2
Section 16, SE		120		680		rock		private	88749	44	
STERLING No. 1	1886	1434	20	642	48	rock	470	public	118203	8	425
STERLING No. 2	1897	1725	20	642	46	rock	380	public	118293	7	425
STERLING No. 3	1901	1830	8	642	45	rock	400	public	118204	9	425
STERLING No. 4	1909	1630	20	645	64	rock	500	public	118205	5	425
A & S Dairy	1930	160	8	660	30	rock	140	indus			60
Borden	1920*	1409	6	640	29	rock	140	indus	113670	6	140
Borden		20	360	640	11	gravel					
Coca Cola	1937	210	6	665	28	rock		indus			3
De Anne's		110		665		rock		indus			4
Grebner's Shoe Store	1939	97		665	14	rock		indus			3
Hey Bros.	1917	132	8	670				indus			
Hey Bros.	1937	400	8	670		rock		indus			15
I11. North Util.		125	8			rock		indus	88753	31	
I11. North. Util.	1939	1580	18-10**	631		rock	500	indus	88742	10	

* Drilled in 1907 to 1000 ft., Deepened to 1409 ft. in 1920

**Diameter reduced from 18 to 10 inches

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. ft.	Ground Elev. MjSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory Analysis No.	Key No.	Pumpage 1000s gpd.
T 21N R 7E (Cont'd											
Lawrence Bros.	1953*	1646	8	640	55	rock	260	indus			5
National Mfg.	1930	850	10	640	16	rock		indus			2
Senneff-Herr	1941	650	8	670	40	rock	60	indus	113669	17	3
Stutzke Hardware		110		660	14	rock		indus			1
Wahl-Clipper Corp.		420	8	670	58	rock	60	indus			7
Section 22, NW		63						private	88762	35	
Sinissippi Park	1950	260	8	670	48	rock	50	semi-public			
Northwest St. & Wire	1952	1636	12	625	50	rock	600	indus			250
NorthwestSt. & Wire #3	1940	760	12 1/2		18	rock	465	indus	88741	11	
Peoples Ice & Coal Co.	1940	174	8	625		rock	30	indus			18
Section 23, NE	1934	600	8	680				private	112152	19	
ROCK FALLS											
Riverside Nursery	1953	25	6 and 2	645	16	gravel	200	indus			
Section 27, NE	1940	32	4	640	8	rock	10	private	88760	29	
Section 27, NW	1940	50	4	640	22	rock	10	private	88763	48	
Ft. Dearborn Mfg. Co.	1919	155	6	630		rock		indus			
Geyer Mfg. Co.		80	8	640				indus			10
Lawrence Park	1927	35	240	640	5	gravel	300	semi-public			3

*Drilled in 1947 to 762 ft., Deepened to 1646 ft. in 1953

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capa-city gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 21N R 7E (Cont'd)											
Lawrence Park		175	6	640	14	rock		semi-public			
Parish-Alford	1940	815	8	630	105	rock	250	indus			200
Russell, Burdsall & Ward	1921	363	8	630	10	rock		indus			
Sterling Soy Bean Mill	1947	108	6	640	26		3	indus			3
Section 33, SE	1951	20	240	637	7	gravel	2500	private	131173	43	
Section 33, SE		18				gravel		private	131174	25	
Section 33, SE		22				gravel		private	131175	40	
Section 33, SE		23				gravel		private	131176	22	
Section 33, SE		21				gravel		private	131177	28	
Section 33, SE		20				gravel		private	131178	24	
Section 33, SE		57				gravel		private	133093	30	
Section 33, SW		198				rock		private	133095	37	
T 22N R 3E											
Section 12, SW l/4		18	1 l/4	600	4	gravel		farm			
Section 14, NW		30	1 l/4	590	8	gravel		farm			
Section 14, SE		18	1 l/4	590	7	gravel		farm			
Section 15, SE		25	1 l/4	580	7	gravel		farm			
Section 22, NW		15	1 l/4	580	8	gravel		farm			
Section 22, NW		15	1 l/4	580	5	gravel		farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 3E (Cont'd)											
Section 25, SW		25	1 1/4	590	4	gravel		farm			
Section 27, SE		25	1 1/4	580	12	gravel		farm			
FULTON No. 2	1908	1260	8	600	30	rock	200	public	112156	3	
									112869	1	92
FULTON No. 3	1931	1943	16	600	45	rock	500	public	112870	2	
Amer. Agri. Chem. Co.	1947	44	12	580	8	gravel	250	indus	112866	47	300
Amer. Agri. Chem. Co.		44	2	580	8	gravel	10	indus			
Amer. Agri. Chem. Co.		44	2	580	8	gravel	10	indus			
Section 34, NE		30	1 1/2	590	12	gravel		farm			
Section 34, NW		18	1 1/4	590	6	gravel		farm			
Section 35, NE		30	1 1/4	595	12	gravel		farm			
Section 35, NW		30	1 1/4	595	12	gravel		farm			
Section 36, NW		50	6	600	30	rock		farm			
T 22N R 4E											
Section 2, SW 1/4		40	48	720	37	gravel		farm			
Section 2, SE		150		800	50	rock		farm			
Section 11, SW	1939	46	6	680		rock		farm	88748	39	
Section 12, NE		90		740	60	rock		farm			
Section 12, NW		60		740	25	rock	2	farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 4E (Cont'd)											
Section 15, SE	1900	125	4	720	90	rock	2	farm			
Section 24, NE	1888	122	4	800	100	rock	2	farm			
Section 27; NE	1890	90	4	750	70	rock	2	farm			
Section 34, SW	1890	55	5	700	30	rock	2	farm			
Section 36, NE	1897	65	4	740	60	rock	2	farm			
T 22N R 5E											
Section 2, SW l/4	1895	135	5	740				farm	80918	55	
Section 5, NE		240		760	25			farm			
Section 5, NW	1926	103	6	720	30	rock		farm	80917	58	
Section 5, SE	1864	72	4	720	30			farm			
Section 6, NE		65	6	730	55			farm			
Section 7, NW		80	6	740	50			farm			
Section 7, SE	1860	59	60	720	50			farm			
Section 8, NE		84	6	720	60			farm			
Section 9, SW	1941	90	6	720	40	rock		farm			
Section 10, SE		80		720	50			farm			
Section 11, SE		136	6	780	100	rock		farm			
Section 12, NW	1919	110	6	720	60	rock	2	farm			
Section 14, SW	1919	203	6	720	103	rock	2	farm			

TABLE II CONTINUED
WHITESIDE COUNTY WELLS

Location	Well Drilled Year	Well Depth ft.	Well Diam. in.	Ground Elev. MSL.	Depth to Water ft.	Well finished in gravel or rock	Capacity gpm.	Use	Laboratory Analysis No.	Laboratory Analysis Key No.	Pumpage 1000s gpd.
T 22N R 5E (Cont'd)											
Section 16, NE		128		720	54	rock		farm			
Section 20, SE	1898	60	4	740	30	rock		farm			
Section 23, SW	1890	90	4	700		rock		farm	80944	33	
Section 24, SE	1884	120	6	750	60	rock		farm			
Section 25, NW		100	5	720	70			farm			
Section 26, SE		45		660	25	rock		farm			
Section 32, NE	1913	95	5	700	63	rock		farm			
T 22N R 6E											
Section 3, NE 1/4	1941	280	6	860	120	rock		farm			
Section 25, SW	1948	470	6	746		rock		farm			2
T 22N R 7E											
Section 12, SW 1/4	1940	176	6	730		rock		farm	88757	15	
Section 16, NE	1940	130	6	815		rock		farm	88764	14	
Section 23, NW	1940	100	6	780		rock		farm	88755	38	
Section 33, SW	1940	125	7	780				farm	88756	50	
Section 35, SW	1948	392	6	690		rock					2

TABLE III

LEE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity	Total Hardness	Residue	pH	Carbon Dioxide	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4	(as $CaCO_3$)				CO_2	°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		ppm	
1	124893	1780	520*	0.4	0	62.1	33.3	0.1	8.1	14.0	0.5,	6	0.2	17.5	284	293	310			
2	128882	1922	520*	0.5	0	62.9	34.6	0.1	8.5	10.2	0.6	7	0.3	20.2	288	300	314			57.0
3	113127	1865	546*	0.6	Tr.	66.9	34.0	0.1	4.1	14.4	0.3	2	Tr.	13.2	300	307	308			57.4
4	111085	1120	80*	1.7							0.1	3		18.9	352	369	382	7.3	45	53
5	112906	1100		1.9	0	91.4	39.6	0.5	6.9	20.9	0.1	9	Tr.	41.1	352	392	421			55
6	117326	326		1.8								2			276	155	290			
7	112126	335	335	0.4	0	29.5	18.1	0.4	38.9	15.0	0.6	2	0.8	2.5	228	149	240	7.8	10	52
8	113131	1018	545	0.2	0	40.3	23.2	0.6	19.6	15.0	0.4	1	0.1	2.3	236	196	238			54.2
9	113200	315		1.2	0	46.5	20.6	0.4	30.8	19.9	0.5	1	0.2	0	268	202	284			52
10	80603	70	14	0.2	0	11.0	5.7	0.01	4.1	14.0		0	2.6	-	58	51	78			
11	80602	72	16	2.5	0	15.0	2.29	0.06	6.0	6.0		10	3.6	29.8	12	47	91			
12	112899	32	32	2.5	0.1	120.2	55.8	0.3	16.1	19.6	0.1	36	0.1	218.0	288	530	682			53
13	80725	104	13	0.5	0	104.0	50.3		11.0	13.0		18	71.0	17.5	364	467	480			
14	75304	110	12	0.0	0	93.4	47.3		33.6	10.0		29	32.7	103.2	326	428	550			
15	130762	30		0.1								30			328	508	566			

* Cemented

TABLE III CONTINUED
LEE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity (as $CaCO_3$)	Total Hardness	Residue	pH	Carbon Dioxide	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4					CO_2	°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		ppm	
16	81205	217		0.4	0	101.0	51.8		15.9	10.0		28	22.1	150.6	286	466	616			
17	112905	298	60	1.2	0.1	103.8	44.6	Tr.	9.4	19.0	0.1	19	1.4	91.1	340	443	493			
18	80746	94	94	0.1	0.2	97.4	39.3		12.2	15.0		13	21.2	61.3	332	405	460			
19	113129	545	180	Tr.	0	88.9	47.7	Tr.	3.0	19.0	0.1	18	42.9	78.0	284	419	470			52.2
20	132448	470	100	2.1							0.6	1	1.1		288	228	294			53
21	93150	425	84	1.8	0	69.6	16.9	0.5	30.6	16.0		1	1.5	0.8	308	244	326	7.2	36	51.5
22	112900	135		0.8	0	65.3	25.3	0.2	5.3	24.6	0.2	2	0.1	7.6	268	267	292			
23	113672	660	495	5.5	Tr.	55.4	32.5		14.0	14.8	0.3	2	0.2	3.7	296	273	295			52
24	112898	752	443	2.5	0	62.6	28.8	1.1	6.0	18.8	0.2	1	0.1	1.6	288	275	306			53.6
25	93446	479	113	1.6	0	68.0	27.3	0.5	10.6	14.5		2	0.4	7.0	296	282	315	7.1	44	52
26	93173	371	236	3.0	Tr.	73.3	24.6	0.4	22.3	17.0		1	1.8	2.5	328	284	338	7.1	48	52
27	93075	430	161	2.5	Tr.							2			292	287	306			
28	36191	532		0.6		66.6	32.3	2.8	21.4	6.6		6	1.2	0.5	336	298	348			
29	80698	18		1.0	0	70.0	31.3	0.01	5.3	10.0		1	2.6	28.1	266	304	311			
30	80596	165	165	0.9	0	69.0	38.0	0.03	6.2	9.0		12	32.0	28.2	270	328	373			
31	81436	202	150	2.8	0	74.2	34.9		4.4	10.0		2	6.2	8.0	322	329	346			
32	80747	255	45	0.2	0	77.0	37.1		2.5	9.0		1	2.7	4.7	342	345	343			
33	80595	355	12	0	0	74.8	39.0	0.06	7.6	13.0		6	13.3	29.4	314	347	383			

TABLE III CONTINUED
LEE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity	Total Hardness	Residue	pH	Carbon Dioxide	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4	(as $CaCO_3$)				CO_2	°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		ppm	
34	112904	277	19	1.8	0	87.3	31.9	0.5	0	22.6	0.1	2	0.2	3.7	344	350	346			
35	80680	220	25	0.1	0	84.0	34.7	0.01	9.4	8.0		2	2.6	2.3	366	353	369			
36	74990	175	175									0			374	360				
37	80724	185	14	0.3	0	77.8	41.8		6.4	12.0		7	39.0	37.1	310	366	388			
38	85933	160		0.8		89.1						0			354					56

TABLE IV

WHITESIDE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity	Hardness	Residue	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4	(as $CaCO_3$)			°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
1	112869	1500		0.1								5			268	271	311	58
2	112870	1943		0.7								8			264	278	315	58
3	112156	1260	337	0.0	0.0	59.6	31.0	Tr.	1.6	12.3	0.4	5	2.2	22.0	248	277	308	58
4	112154	2048	1132	0.0	0.0	64.6	32.7	Tr.	1.6	13.5	0.1	8	0.8	35.2	264	296	292	65
5	118205	1630	198	0.5	0.0	58.3	33.7	Tr.	11.5	12.4	0.3	23	0.2	19.5	256	284	340	
6	113670	1380	900	0.3							0.3	5		21.2	288	310	325	60.5
7	118293	1725	127	0.5	0.0	67.9	33.9	Tr.	9.9	12.7	0.1	42	0.2	23.0	248	310	357	
8	118203	1434	103	0.3	0.0	66.3	37.6	Tr.	1.4	12.5	0.2	13	0.6	27.6	276	320	333	
9	118204	1830	132	0.1	0.0	69.5	36.9	Tr.	3.7	13.1	0.3	21	0.6	26.7	276	326	353	
10	88742	1580	351	0.1	0.0	62.6	35.1	0.3	7.4	11.8		5	0.9	14.8	294	328	300	
11	88741	760	347	0.5	0.0	55.9	20.2	0.9	53.6	11.5		27	1.3	8.4	294	223	366	58.0
12	80300	100		Tr.	0.0	90.9	41.7	-	1.8	10		15	53.2	27.8	310	399	410	
13	80617	87	5.5	Tr.	0.0	113.4	54.6	0.01	50.9	14.0		48	75.0	119.3	366	507	705	
14	88764	130	37	0.6								71			364	533	759	
15	88757	176	35	0.5								25			500	540	644	
16	80733	65		0.3	0	134	59.7	0.1	102.3	12.0		98	212	137	352	581	1082	
17	113669	650	260	0.1							0.1	34		199.7	388	583	732	55.5

TABLE IV CONTINUED
WHITESIDE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity	Hardness	Residue	Temperature
				Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4	(as $CaCO_3$)			
		ft	ft	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	°F
18	74807	90	55									99		58	428	600	814	
19	112152	600		0.4								9		74.3	264	121	381	
20	80847	45	0	0.1	0	31.6	12.3	Tr.	5.1	4.0		6	12.4	23.0	98	129	166	
21	133002	171	162	0.1	0.9	52.9	17.8	Tr.	7.	21.4	0.3	10	18.4	20.1	172	206	245	54
22	131176	23	23	Tr.							0.1	10	17.6		136	212	253	
23	112153	567	175	0.3	1.6	54.6	18.2	Tr.	0	25.1	0.2	10	20.1	24.3	156	212	245	
24	131178	20	20	Tr.							0.1	6	5.1		172	226	254	
25	131174	18	18	Tr.							0.1	12	15.9		152	236	261	
26	112513	30	30	0.3	0.2	64.0	21.7	Tr.	14.7	16.4	0.2	4	6.5	83.5	184	250	334	53.5
27	80553	118	118	Tr.	0.1	66.2	20.7	0.03	20.0	8.0		1	2.0	3.3	288	251	279	
28	131177	21	21	1.7							0.1	5	1.4		216	260	278	
29	88760	32	14	0.4								7			196	261	297	
30	133093	57		2.2							0.2	6	0.6		228	264	289	
31	88753	125		2.0								10			256	265	324	
32	80552	202	202	Tr.	Tr.	59.9	31.0	0.02	13.1	7.0		1	8.0	0	298	277	301	
33	80944	90	70	0.5								25			500	540	644	
34	112155	235		0.3	0.3	70.9	25.9	Tr.	0.7	28.3	0.1	1	1.5	3.1	280	284	306	52
35	88762	63		1.3								8			274	288	328	

TABLE IV CONTINUED
WHITESIDE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity (as $CaCO_3$)	Hardness	Residue	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4				°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
36	128175	476	301	1.6								8			296	294	335	55.2
37	133095	198		6.3							0.2	5	0.5		276	296	315	
38	88755	100	100	7.5								3			306	299	334	
39	88748	46	46	5.2		69.3	30.7					2		6.8	310	300	319	
40	131175	22	22	0.1							0.1	14	11.3		224	304	334	
41	132446	14	14	0.6								5	0.7		228	316	332	57
42	112157	193	148	0.4	0.7	77.1	30.4	Tr.	0.7	29.0	0.4	1	3.3	2.9	312	318	344	53
43	131173	20	20	Tr.							0.1	11	15.7		240	320	352	
44	88749	120		2.9								4			350	323	390	
45	132445	18	18	0.4								32	Tr.		164	324	373	53
46	80551	137	90	0	0	81.5	32.3	0.0	5.8	8.0		1	2.3	1.6	394	336	336	
47	112866	43		0.1								5			164	336	397	53.8
48	88763	50	18.5	0.2								11			238	348	377	
49	132447	30	23								0.1	1	2.8		392	352	401	53
50	88756	125	38	0.0								1			370	359	408	
51	80554	60	40	2.7	0.1	92.2	31.4	0.01	22.1	9.0		25	2.0	49.0	320	360	432	
52	86367	90		0	0	82.8	37.8	Tr.	6.7	18.0		13	2.9	39.6	314	362	403	
53	80732	15	0	0.4	1.6	95.2	30.9	0.05	25.7	10.0		37	5.1	79.8	282	365	453	

TABLE IV CONTINUED
WHITESIDE COUNTY WELL WATERS - CHEMICAL ANALYSES

Key Number	Laboratory Number	Depth	Casing	Iron	Manganese	Calcium	Magnesium	Ammonium	Sodium	Silica	Flouride	Chloride	Nitrate	Sulfate	Alkalinity (as $CaCO_3$)	Hardness	Residue	Temperature
		ft	ft	Fe	Mn	Ca	Mg	NH_4	Na	SiO_2	F	Cl	NO_3	SO_4				°F
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
54	88758	60	25									19			308	374	448	
55	80918	135	100	3.4	0.2	93.0	32.4	2.4	8.3	12.0		5	1.3	1.0	406	390	403	
56	80616	103	20									22		10.0	318		406	
57	80846	42	7.5									2		25.0	302		358	
58	80917	103	32									3		12.0	276		304	

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Urbana

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