Circular 107

STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION

Groundwater Availability in Piatt County

by E.W. SANDERSON

ILLINOIS STATE WATER SURVEY
URBANA
1971

HOW TO USE THESE MATERIALS

This circular provides a summary of all available information on water wells and groundwater conditions in Piatt County. You can use these materials to find the possibilities of obtaining a dependable water supply at any location in the county.

First you will need the legal description (township, range, section, and portion of section) of your farm, home, or other location of interest. Then follow these steps.

1) Turn to appendix A and find your location (township, range, section) in the list of well numbers for existing wells.

2) Examine the records of all the wells in your section and in the adjoining sections. The depths of these wells, the water-bearing formations they tap, their nonpumping water levels, and other information give an immediate picture of existing water supplies, which is one indication of what is possible in your location of interest.

3) Continue to appendix B for the chemical quality of water in the existing wells in your location, which indicates the quality you may usually expect for the different depths and sources.

4) Now turn to the maps in the text which illustrate all of this information to show the possibilities for dependable wells throughout the county. Figures 9, 10, and 11 illustrate information for relatively shallow wells in the upper water-bearing deposits, figures 12, 13, 14, 15, and 16 give information for wells in the middle deposits, and figures 17> 18, 19, 20, and 21 provide information for deep wells in the lower deposits.

An example of actual use of these materials for a specific location is presented on page 45, preceding appendix A.

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CONTENTS

ILLUSTRATIONS

TABLES

GROUNDWATER AVAILABILITY IN PIATT COUNTY

by E. W. Sanderson

SUMMARY

Groundwater in Piatt County normally can be obtained from one of three primary water-bearing units within the glacial drift. The drift deposits consist of the Wisconsinan, Illinoian, and Kansan age glacial materials underlain by Pennsylvanian age bedrock formations.

The Wisconsinan age drift forms the present land surface in the county and contains scattered deposits of water-yielding sand and gravel that constitute the upper aquifer system. Wells tapping these deposits furnish about 17 percent of the county's current water supply.

The drift of Illinoian age contains fairly continuous layers of sand and gravel that are known as the middle aquifer system. These deposits furnish about 41 percent of the groundwater withdrawn in the county. Most of the domestic and farm wells in the county are finished in the middle glacial deposits.

The Kansan age glacial deposits are the basal drift materials that overlie the bedrock formations. A major valley carved into the bedrock surface crosses the central part of Piatt County and is filled with extensive sand and gravel deposits that constitute the lower aquifer system. About 42 percent of the county's water supply is pumped from this aquifer and wells capable of producing in excess of 1000 gallons per minute (gpm) can be developed.

Groundwater from the glacial deposits is hard (250 to 600 milligrams per liter) and normally contains objectionable concentrations of iron (1 to 5 mg/l). These undesirable constituents can be successfully removed with home or municipal treatment units.

The upper bedrock formations have been tapped by only a few wells, mostly in the southeastern portion of the county in the bedrock upland area. These wells produce only limited quantities of water and the water quality is generally poor, too "salty" for most domestic uses.

An estimated 1.7 million gallons of water is pumped from the aquifers of Piatt County each day to satisfy industrial, municipal, domestic, and rural needs. A much larger quantity of water, perhaps as much as 50 million gallons a day (mgd), could probably be withdrawn without overdevelopment. Maps and tables indicating the probable maximum depths of wells, water levels, chemical quality, and general groundwater conditions for each water-bearing unit at specific locations are presented to serve as a guide in the development and utilization of the groundwater resources of Piatt County.

INTRODUCTION

More than 500 requests for information concerning groundwater conditions in specific locations of Illinois are answered yearly by the Illinois State Water Survey. Approximately 40 percent of these requests are from individuals seeking advice on locating, developing, or treating home or farm groundwater supplies.

Many of these requests are answered with letter-type reports prepared jointly by the State Water Survey and State Geological Survey from available geohydrologic data in their basic record files. These reports, containing pertinent information on groundwater and geologic conditions at a specific site, permit meaningful appraisals for well construction which have saved considerable time, effort, and money in many cases. However, several thousand wells are constructed each year without the use of such information. If comprehensive summaries of groundwater conditions were available for all possible sites, great savings could result. This report presents such a summary for Piatt County, where fairly complex groundwater conditions exist.

Piatt County is located in the east-central part of the state (figure 1). It encompasses an area of 437 square miles and is mainly cultivated land. According to the 1970 census, the county has a population of 15,509 with about 9261 of the residents living in incorporated cities and villages. The county seat and largest city, Monticello, has a population of 4130.

The economy of the county is largely dependent on the production of farm crops such as corn, soybeans, and wheat. Among the larger industries in Piatt County are Viobin Corporation, General Cable, and Camp Creek Duck Farm, all located in Monticello.

Surface drainage from the northern part of the county is controlled largely by the Sangamon River and its two principal tributaries, Madden and Goose Creeks. In the southern third of the county, surface water flow is to the Kaskaskia River via Lake Fork and Okaw Creek drainage basins. In most years the flows of the smaller tributary streams which drain the higher land in Piatt County become very low or cease altogether during dry periods and are therefore unreliable as sources of water supply. Five potential reservoir sites on the larger streams in the county were investigated by Dawes and Terstriep (1966). These sites, if developed, could provide lake areas ranging in size from 70 to 780 acres.

Surface water has not yet been developed for water supply purposes in Piatt County because of the abundant groundwater resources readily available to wells throughout the county. It is probable that groundwater will continue to be the primary source of domestic, municipal, and industrial water supplies within this part of the state in the foreseeable future.

Information on the tributary streams in Piatt County is not readily available in published form. Agencies in Illinois that may have data on file for these streams include: Illinois State Water Survey, Urbana; Illinois Division of Waterways, Springfield; and the U. S. Geological Survey, Champaign. Discharge and chemical quality data for the Sangamon River at Mahomet in Champaign County, at Monticello in Piatt County, and at Oakley in Macon County can be obtained from Water Survey and U. S. Geological Survey publications and files at Champaign-Urbana.

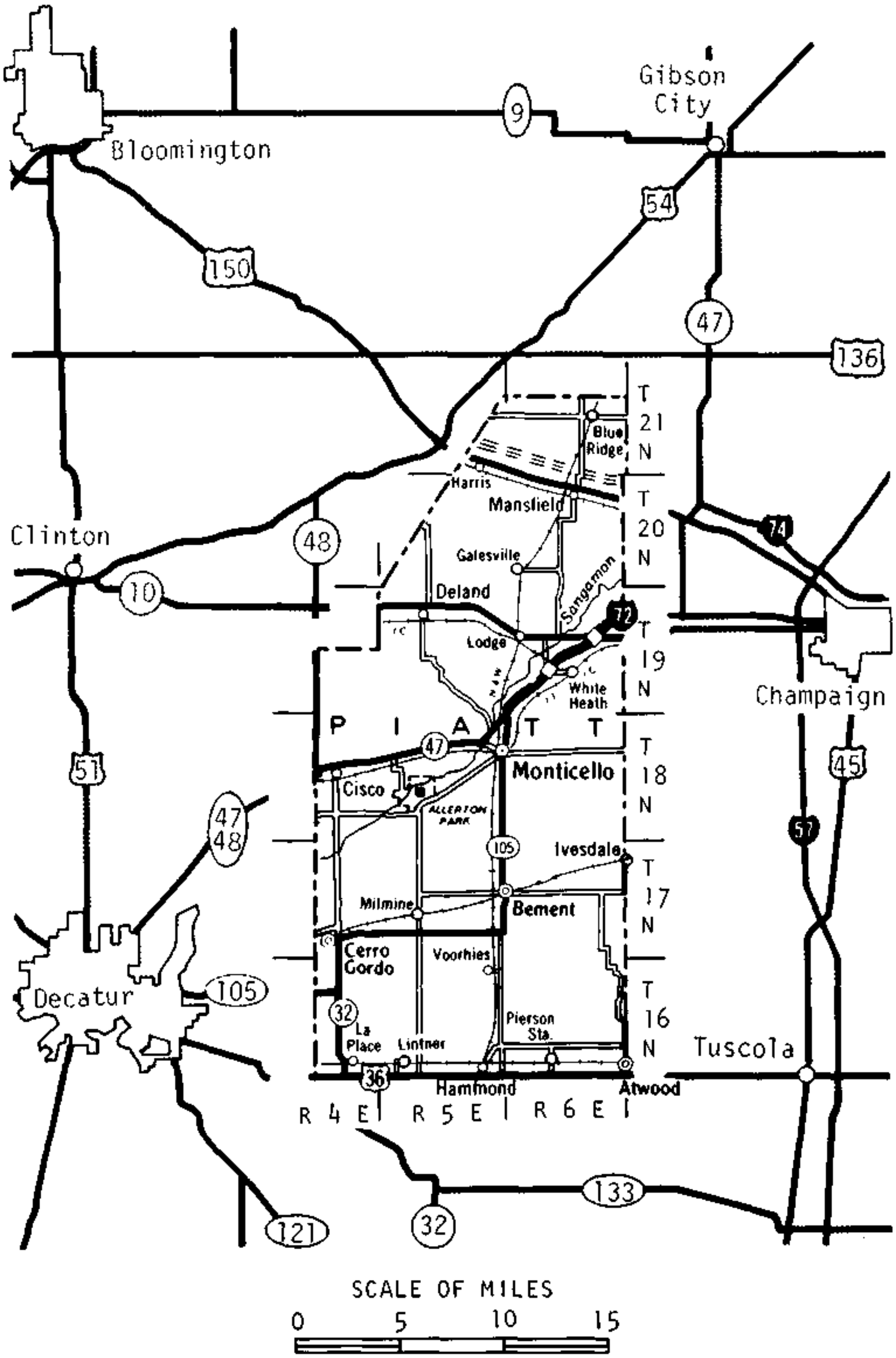


Figure 1. Location of Piatt County

This report summarizes groundwater conditions in Piatt County including pertinent geologic factors, occurrence and movement, temperature and chemical quality, and well development. Appendix A contains available records of all known wells, and appendix B lists the results of chemical analyses of water from all wells sampled.

This study is part of a continuing program of water-resource investigations being conducted by the Illinois State Water Survey under the general direction of Dr. William C. Ackermann, Chief, and H. F. Smith, Head of the Hydrology Section. The report was prepared under the direct guidance of William H. Walker. Grateful acknowledgment is made to the many well drillers, engineers, and public officials who provided invaluable information for use in this report. Special thanks are given to Ed Parilac, science teacher from Monticello, who conducted the house to house inventory of wells in Piatt County during the summer of 1967 which provided much of the basic data used in this report. Mrs. Dorothy Woller tabulated the well data, Mrs. Patricia A. Motherway edited the manuscript, and John W. Brother, Jr., and William Motherway, Jr., prepared the illustrations.

GEOLOGY

The geology of Piatt County is summarized in general terms in State Geological Survey Circular 248, *Groundwater Geology in East-Central Illinois,* and Circular 409, *Hydrogeology of Glacial Deposits of the Mahomet Bedrock Valley in East-Central Illinois.* The following brief discussion of geologic conditions in the county is taken largely from these publications. A more detailed definition of the geology in this portion of the state may be obtained from the State Geological Survey which is located on the University of Illinois Campus, Urbana.

Glacial deposits of Wisconsinan, Illinoian, and Kansan ages blanket all of Piatt County resulting in a relatively level plain broken only by isolated knobs, stream valleys, and long ridges formed at the front of the glaciers (end moraines). These features were developed long ago when the glaciers, nourished by snow accumulation in Canada, several times advanced across Piatt County and melted away leaving vast quantities of rock debris. In front of the ice, sediment-laden meltwaters escaped down valleys, partially filling them with outwash materials of sorted and stratified formations of clay, silt, sand, and gravel. Thick extensive till sheets of unsorted clay, silt, sand, and pebbles also were laid down under the advancing ice or dumped into place during melting. The thickness of the glacial deposits varies from about 100 to nearly 400 feet, the thicker sections being associated with the Champaign and Cerro Gordo end moraines and the bedrock valleys (figures 2 and 3)•

The upper glacial deposits (Wisconsinan) lie over all older materials and form the present day land surface of Piatt County. These deposits consist primarily of till except for thin narrow strips or areally limited pockets of sand and gravel. Thicker and more extensive occurrences of sand and gravel usually *are* found in the vicinity of the Champaign and Cerro Gordo moraines (figure 3a).

The surface configuration and elevation of the top of the middle glacial deposits (Illinoian) are shown in figure 4a. It should be noted that some evidence of a master preglacial (bedrock) valley system is reflected in the surface of the middle glacial deposits (figures 3b and 4a) . These middle glacial deposits consist of relatively impermeable till interbedded with fairly continuous

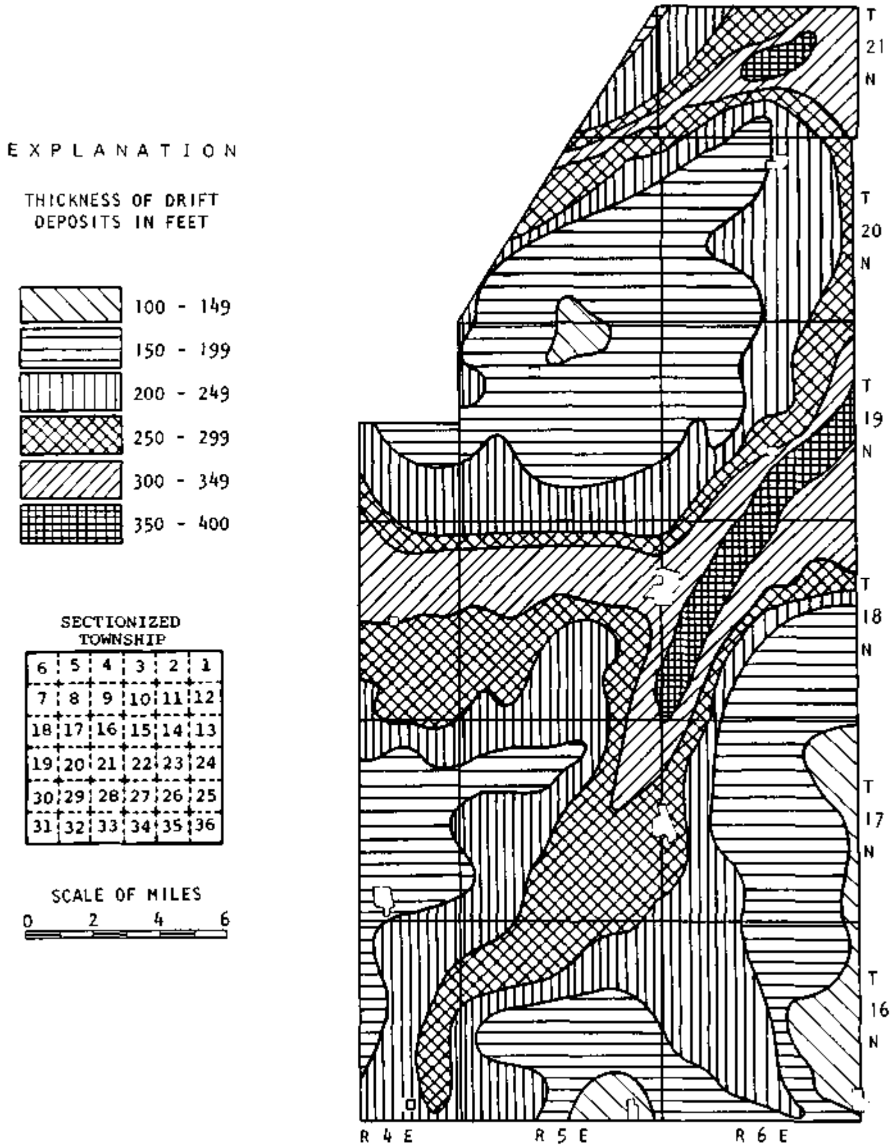


Figure 2. Thickness of glacial drift in Piatt County
(After Stephenson, 1967)

layers of sand and gravel. The thicker (10 to 50 feet) and generally more permeable sand and gravel zones within the middle drift section normally occur near the base of these materials. Several thinner, less continuous sand and gravel zones also are present in the upper part of these materials in several areas of the county.

Underlying the middle drift materials are the lower glacial deposits (Kansan). The surface configuration and elevation of the top of the lower deposits are shown in figure 4b. Definite evidence of the pregl.acial valley system is reflected in the surface of the lower drift section (figures 3b and 4b). The lower glacial deposits consist primarily of sand and gravel and are

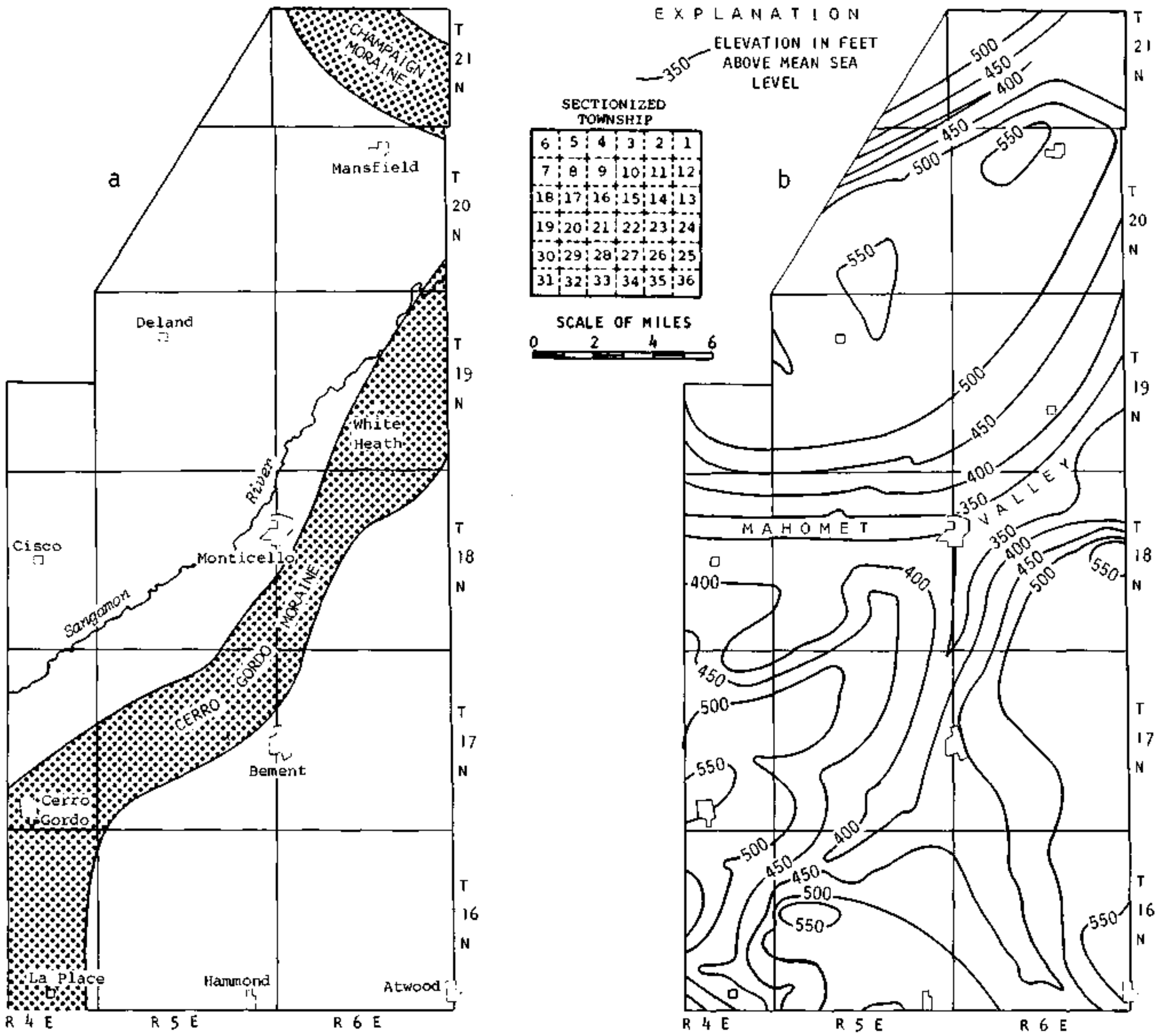


Figure 3. Location of glacial moraines (a) and bedrock surface map (b) of Piatt County (After Stephenson, 1967)

as much as 200 feet thick in the deeper parts of the bedrock valley. In the bedrock upland areas away from the valley, these sand and gravel deposits become thinner and may be absent at some locations.

The underlying bedrock formations in Piatt County are layers of consolidated rocks of Pennsylvanian age. These rocks consist of beds of shale, limestone, and sandstone arranged one upon the other; the top of these rocks is called the bedrock surface (figure 3b). Originally, the bedrock formations were unconsolidated materials, deposited over many years as sediments in shallow seas or bordering marshes. They were then buried and hardened into solid rock during the several million years after the seas retreated from the area.

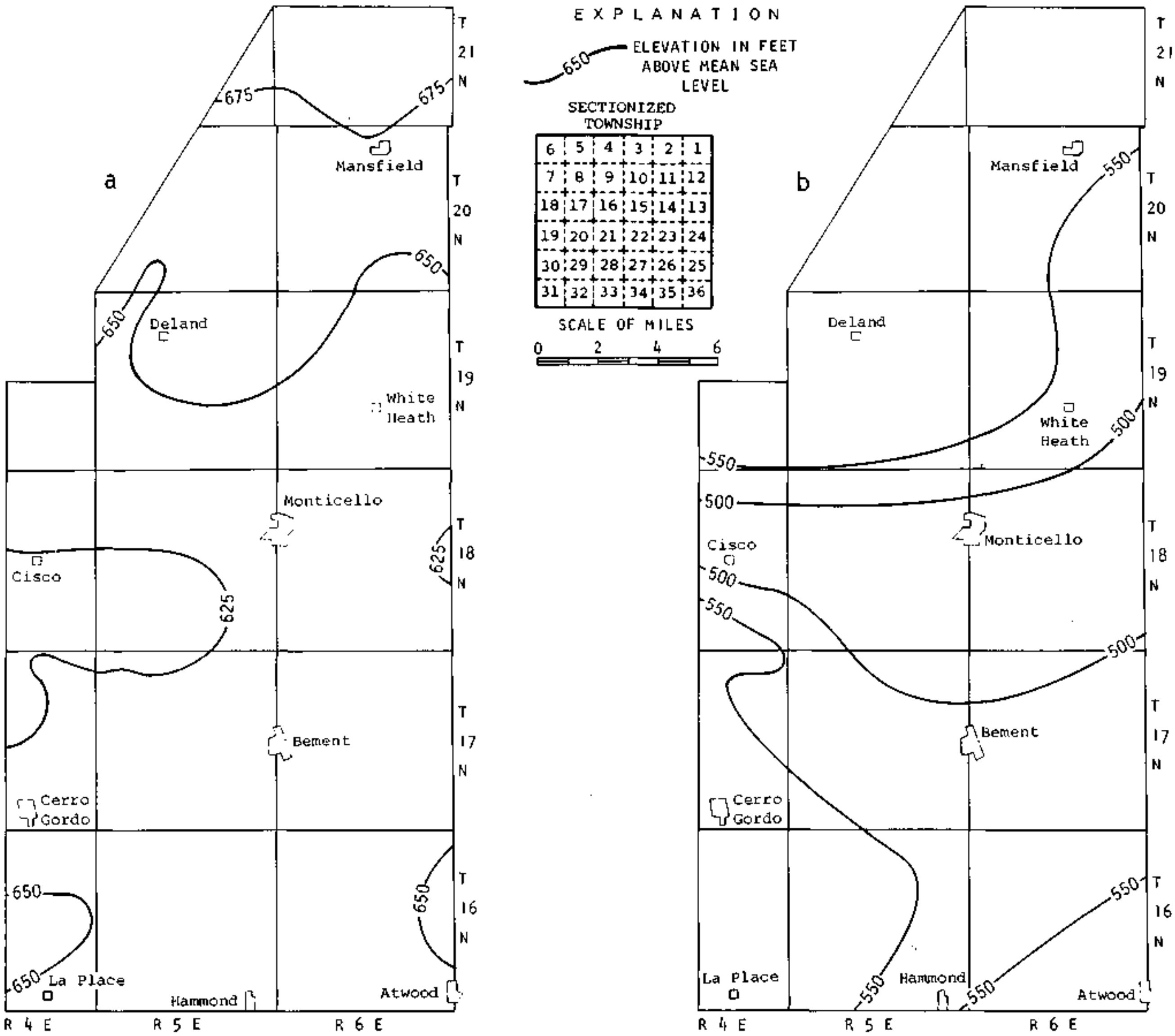


Figure 4. Surface configuration and elevation of the middle (a) and lower (b) glacial deposits (After Stephenson, 1967)

Erosion of the bedrock was not uniform through the county. In areas where soft shales and sandstone formations were exposed to weathering, valleys were formed by water and ice action, while hard sandstone and limestone formations in other areas resisted erosion and remained to form ridges and hills on the bedrock surface. The main feature in Piatt County is a wide deep valley, formed by the ancient Teays River which headed in the Blue Ridge Mountains in North Carolina, flowed northward into Ohio, then west across Indiana entering central Illinois near Hoopeston. In Illinois this valley is called the Mahomet Bedrock Valley, taking its name from the village of Mahomet located over the deepest part of the channel in Champaign County. It crosses the northwestern part of Champaign County just north of Champaign-Urbana, trends through the northeastern

GLACIAL DRIFT SECTION

	STAGE	FORMATION THICKNESS (FT) *(not to scale)*	SECTION	MATERIALS DRILLERS TERMS	WATER-YIELDING CHARACTERISTICS
UPPER GLACIAL DEPOSITS	WISCONSINAN	50 - 125		TILL, GRAVEL, SAND, SILT, LOESS	WATER-YIELDING FROM SCATTERED SAND AND GRAVEL DEPOSITS. WELL YIELDS FROM 3 - 10 gpm.
				LOESS	
				SILT, LOESS, PEAT	
MIDDLE GLACIAL DEPOSITS	ILLINOIAN	50 - 150		TILL, GRAVEL, SAND	WATER-YIELDING FROM SAND AND GRAVEL LAYERS THROUGHOUT MOST OF THE COUNTY. WELL YIELDS FROM 5 - 250 gpm.
				SILT, PEAT	
LOWER GLACIAL DEPOSITS	KANSAN	0 - 200		TILL, GRAVEL, SAND, SILT	WATER-YIELDING FROM EXTENSIVE SAND LAYERS IN CENTRAL PORTION OF THE COUNTY. WELL YIELDS IN EXCESS OF 1000 gpm ARE POSSIBLE.
	BEDROCK				

After Horberg (1953)

UPPER BEDROCK SECTION

SYSTEM	SERIES OR GROUP	FORMATION THICKNESS (FT) *(not to scale)*	GRAPHIC LOG	ROCK TYPE (DRILLERS TERMS)	WATER-YIELDING CHARACTERISTICS; DRILLING AND WELL CONSTRUCTION DETAILS
PENNSYLVANIAN	McLEANSBORO	0 - 1000		MAINLY SHALE WITH THIN LIMESTONE, SANDSTONE AND COAL BEDS (COAL MEASURES)	WATER-YIELDING CHARACTER VARIABLE. LOCALLY SHALLOW SANDSTONE AND CREVICED LIMESTONE YIELD SMALL SUPPLIES. WATER QUALITY USUALLY POOR IN PIATT COUNTY. MAY REQUIRE CASING.
	CARBONDALE	0 - 150			
	TRADEWATER CASEYVILLE	0 - 600			

After Selkregg & Kempton (1958)

Figure 5. Generalized graphic logs of glacial deposits and bedrock formations

part of Piatt County to Monticello, then westward and northwestward through Clinton in De Witt County to an intersection with the ancient Mississippi River near Delavan in Tazewel1 County. In Piatt County the valley is now completely filled with glacial deposits as previously discussed, and there is no surficial evidence of its presence.

Generalized graphic logs of the glacial deposits and upper bedrock formations of Piatt County are given in figure 5.

GROUNDWATER

Groundwater in Piatt County begins as precipitation which seeps downward into the ground through the soils. Figure 6a shows the generalized cycle of water movement from the atmosphere as precipitation to the surface and into the ground, and then away from the area either through the ground and in flowing streams or again into the atmosphere through transpiration of plants and evaporation.

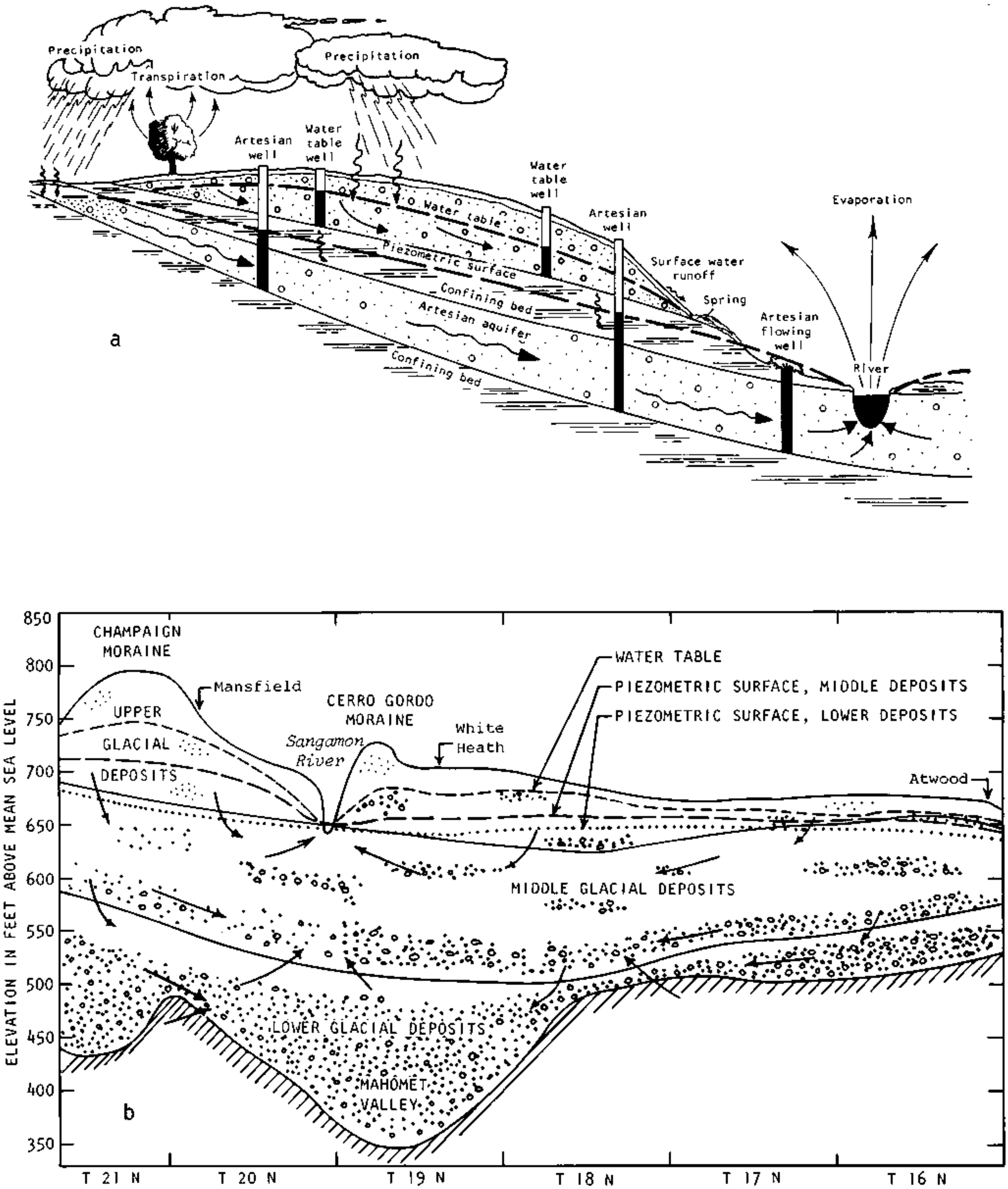


Figure 6. Cycle of water movement (a) and generalized groundwater movement in Piatt County (b)

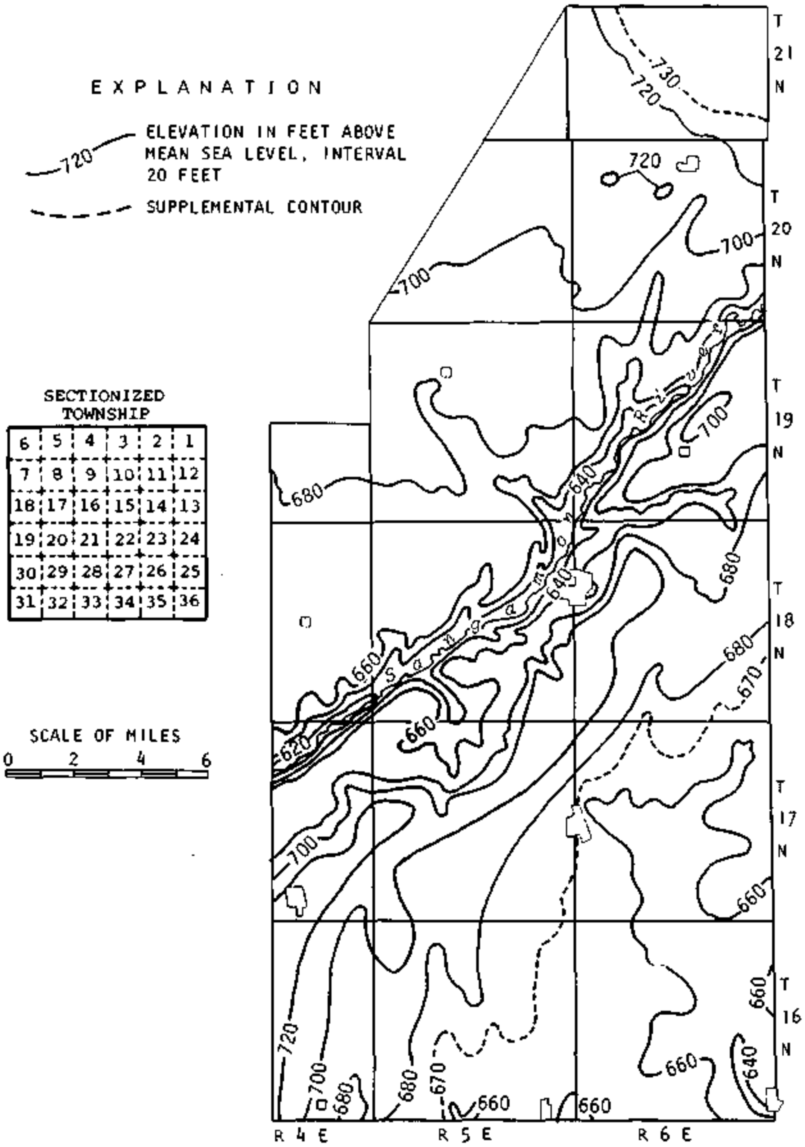


Figure 7. Approximate elevation of the water table

Occurrence and Movement

Water enters and filters slowly down through the ground until it reaches a level where all available voids are completely water-filled. Water thus contained in this zone of saturation is groundwater, and its upper surface is the water table. Figure 7 illustrates the general configuration of the water table surface in Piatt County. The water table normally lies some 5 to 10 feet below ground level in the lowlands along the streams (points of discharge) and from 15 to 25 feet below ground level in the upland areas. Seasonal fluctuations in the water table levels should be expected to range from 5 to 8 feet as is shown in figure 8. From this figure and other water level data in our files, it is evident that no permanent lowering of the water table has occurred in Piatt County.

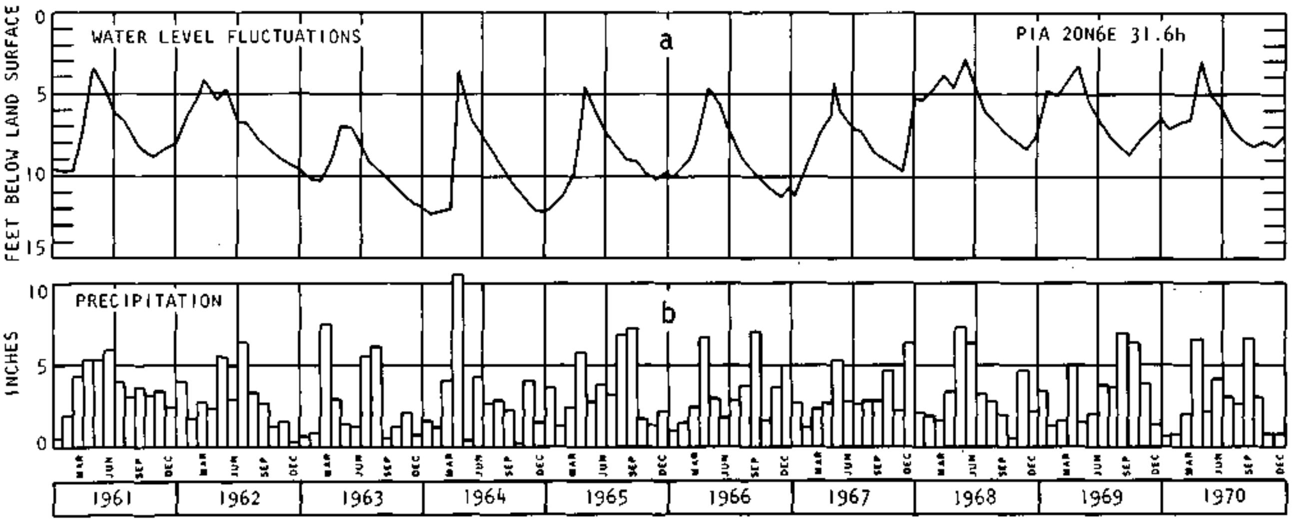


Figure 8. Water level fluctuations in 35-foot dug well southwest of Mansfield (a) and total monthly precipitation at Monticello (b)

In glacial drift deposits, water fills the voids between the soil particles that make up the formations. In bedrock, water occurs primarily in two ways--it is contained in the spaces between partially cemented grains of sandstone or in the fractures, bedding plains, and solution cracks of limestone formations. A saturated formation of sand, gravel, sandstone, or limestone that is capable of yielding water to wells in usable quantities is called an aquifer.

Under normal conditions, the upper glacial drift deposits are regularly recharged (refilled) by precipitation occurring in the immediate vicinity of the aquifer. Water continues to move freely downward under the influence of pressure and gravity to recharge the lower drift deposits and in some cases the underlying bedrock formations. However, layers of very dense (almost impermeable) materials separating water-bearing units may impede the downward movement of water. These layers, or confining beds, are usually clays or shales so compact that they cannot yield enough water to be classified as an aquifer. When such confining beds are present, water reaching the aquifer may come from a somewhat distant recharge area where the confining beds are missing or where the aquifer crops out at the land surface.

Water entering permeable formations in an outcrop or recharge area may become confined downslope beneath impermeable beds. Pressure is exerted on the groundwater in the confined aquifer by the weight of water at higher levels in the aquifer system. When a well penetrates such an aquifer downslope from the recharge area, the pressure forces the water to rise in the well above the top of the aquifer. The water in this instance is confined (or artesian) water, the well is an artesian well, and the upper surface of the water in the well is the piezometric surface of the aquifer. When the piezometric surface of the aquifer is above land surface, wells tapping the aquifer are flowing artesian wells (figure 6a).

Groundwater movement from recharge areas to discharge points is influenced by gravity and pressure differences. Major points of discharge include springs, lakes, streams, swamps, drainage tiles, and pumping wells. The rate of movement toward points of discharge may amount to a few hundred feet per year in unconsolidated materials to only a few feet per year in sandstone formations. Water may be held in bedrock aquifers for many years.

The general direction of movement of groundwater in Piatt County is illustrated in figure 6b. Precipitation falling in the upland areas near Mansfield and Bement infiltrates into the upper drift deposits where a portion of it is diverted to discharge into local streams and drainage ditches. The water not discharged locally continues to move downward to recharge the middle and lower drift deposits. Along with the general downward migration of water in these formations, there is movement downslope (on the piezometric surfaces) generally from the north, south, and east toward the central part of the buried Mahomet Valley and the present day Sangamon River Valley lowlands. Available hydrologic and chemical quality data also imply that water moves into the middle and lower aquifers in Piatt County from recharge areas immediately north and east of the county where the overlying deposits are thin. Near Monticello and downstream, the piezometric surfaces of the middle and lower deposits are slightly above or near land surface.

Chemical Character

The results of chemical analyses made by the State Water Survey usually are expressed in the metric weight system as milligrams per liter (mg/l). A milligram per liter is equivalent to a unit weight of a constituent in a million unit weights of water; thus, a water sample containing 1 mg/l of iron (Fe) would indicate 1 pound of iron in a million pounds of water. In order to express chemical dissociations and show water analyses graphically, chemically equivalent weights or equivalents per million are used. Equivalents per million are calculated by dividing the parts per million by the combining weight of the respective cation or anion. Analyses made by private chemical laboratories sometimes are reported in terms of grains per gallon (gpg). In the grain weight system of measure, one grain per gallon is considered a 1/7000 of a pound of a mineral dissolved in a gallon of water. One grain per gallon is equal to 17.1 milligrams per liter.

The sources and significance of the major dissolved elements and substances in the groundwater of Piatt County are shown in table 1. The U. S. Public Health Service drinking water standards for these major constituents also are included in the table. These standards have been accepted by the American Water Works Association as desirable limits for public water supplies, and should serve as a guide to owners of farm and home water supplies in evaluating the quality of their water.

As generally may be inferred from the information in table 1, the dissolved minerals in groundwater are derived chiefly from the earth materials through which the water flows. The soils and glacial materials above bedrock are particularly rich in calcium, magnesium, iron, and other minerals which are readily absorbed by the groundwater as it passes over and through these deposits. Calcium and magnesium are responsible for hardness of water, and iron causes reddish-brown staining. The natural chemical quality of groundwater is sometimes altered by highly mineralized surface water that seeps down along the casings in poorly constructed wells. This type of seepage also can result in bacterial pollution of the well and contamination of the aquifer.

Table 1. Major Dissolved Elements and Substances in Groundwater in Piatt County

Constituent and recommended upper limit[1]	Source	Remarks
Iron (Fe) 0.3 mg/l	Dissolved from common iron-bearing minerals present in practically all rocks, clays, and soils; may also be derived from iron pipes, pumps, and other equipment.	On exposure to air, iron oxidizes to a reddish-brown sediment. More than about 0.3 mg/l stains laundry and porcelainware reddish brown; objectionable for food and beverage processing. Small concentrations may be removed by water softeners, larger concentrations by chlorination or aeration and filtration.
Manganese (Mn) 0.05 mg/l	From soils and sediments. Less abundant in rocks than is iron.	Resembles iron in chemical behavior and has same objectionable features, except stains are brown to black. The same types of treatment used for iron are generally effective.
Nitrate (NO_3) 45 mg/l	Results from decayed organic matter such as that from barnyards, feedlots, manure piles, septic tank fields, as well as from silage juices and animal tissue. Usually occurs in waters from shallow wells of less than 50-foot depth, often as the result of poor well construction permitting drainage into the well at or near the surface.	Values higher than a few mg/l may suggest pollution. More than about 45 mg/l nitrate may cause methemoglobinemia (blue babies) when such water is used in preparation of infant feeding formulas. Nitrate poisoning of livestock has also been reported. Removal by demineralization is possible but usually prohibitive in cost.
Chloride (Cl) 250 mg/l	Dissolved from rocks and found in large amounts in ancient brines and sea water. Industrial and domestic waste also may contribute appreciable quantities to shallow aquifers.	In concentrations over about 250 mg/l chloride gives a salty taste to water and increases its corrosiveness. Concentrations over 1000 mg/l are very objectionable for domestic use; livestock tolerance is considerably higher.
Sulfate (SO_4) 250 mg/l	Dissolved from rocks and soils containing gypsum, iron sulfides, and other sulfur compounds. Present in waters from coal mine drainage and some industrial wastes.	Sulfate in water containing calcium forms a hard scale. In concentrations over about 750 mg/l sulfate in combination with sodium or magnesium has a laxative effect, most noted by infrequent users of the water.
Alkalinity [bicarbonate (HCO_3) and carbonate (CO_3)]	Results from action of carbon dioxide or acid in water on carbonate rocks such as limestone and dolomite.	Alkalinity is present almost entirely in the form of bicarbonates. In the presence of calcium, carbonates formed may produce a carbonate scale; they decompose on heating with release of carbon dioxide gas and attendant formation of calcium carbonate scale.
Hardness (as $CaCO_3$)	Caused by calcium and magnesium which occur in almost all rocks but especially in limestone, dolomite, and gypsum.	Before a lather will form, hard water precipitates soap, forming a sludge which causes deposits on bathtubs and is responsible for gray laundry and dingy glassware. Hard water also forms scale in boilers, hot water heaters, and pipes. Hardness normally can be removed by standard home water softening units.
Total dissolved minerals 500 mg/l	Includes all mineral constituents dissolved from rocks and soil.	Mineralization of more than 500 mg/l is normally detectable by taste; over 1000 mg/l is undesireable for most domestic purposes; livestock may tolerate concentrations up to 7000 mg/l.[2]

[1]U. S. Public Health Service. 1962. *Drinking water standards.* Publication No. 956.

[2]*Salinity and livestock water quality.* 1959. South Dakota State College Agricultural Experiment Station. Bulletin 481.

Groundwater from glacial deposits throughout the county is hard (250 to 600 mg/1), but normally hardness can be successfully removed by home water-softening units that are now readily obtainable, as well as by municipal units. The iron content of the water is usually between 1.0 and 5.0 mg/1, well above the recommended limit of 0.3 mg/1. Iron can be removed by units similar to home water softeners; however, for most domestic users, tolerance rather than removal is the usual practice. The chemical quality of water from the various glacial formations is discussed in more detail later in this report.

The chemical quality of water from the bedrock in Piatt County becomes more highly mineralized with depth. Chloride, sulfate, and sodium are normally present in larger concentrations than in drift water making it unsatisfactory for most domestic uses.

Water from wells throughout Piatt County contains varying quantities of carbon dioxide. Several wells between Cerro Gordo and Bement also have water known to contain methane gas. These gases are colorless, odorless, and tasteless. Methane gas is lighter than air whereas carbon dioxide is heavier. When methane gas is mixed with air in concentrations of 5 to 15 percent, it is highly explosive if ignited. Most dangerous points of concentration are in the well house, within the air cushion of pressure tanks, and in hot water heaters. All such points should be vented to the outside air if methane gas is detected in a water supply. All new wells constructed should be checked for methane gas by the driller before the installation is placed in service.

Further, no one should ever enter a large-diameter dug well without previously checking for the presence of methane gas or carbon dioxide, both of which can cause asphyxiation. These gases can be readily removed from water by standard aeration procedures.

Nitrates, or simple nitrogen compounds that occur in water as mineral constituents, are considered harmful to people, particularly children, if concentrated in drinking water supplies in excess of 45 mg/1. Nitrate poisoning of livestock has also been reported. Excessive concentrations of nitrate have been detected in only a few groundwater samples from Piatt County. Among wells sampled during the 1967 well inventory, 27 dug and bored wells (all less than 50 feet deep) contained more than 45 mg/1 nitrate.

Primary sources of the nitrate contamination in these wells were nearby septic tanks, old privies, or drainage from feedlots and pastures. Leachates (seepage) from these sources percolating through the soil or flowing overland to the wells have been determined to be the source of nitrate pollution in practically all such cases. Nitrogen fertilizers have not yet been demonstrated to be of importance in Illinois groundwater pollution. However, these may become a significant future source as larger quantities of nitrogen-rich fertilizers are applied to the soils of the state.

The treatment of water supplies containing nitrate poses a difficult problem. Boiling the water does not help, but rather results in concentrating the nitrate. Nitrates and similar mineral constituents such as chlorides and sulfates can be reduced or removed by demineralization, a process not economically desirable for private water supplies. It is usually easier to abandon the source of high nitrate water and develop a supply either at a location not susceptible to the nitrates or in another aquifer horizon.

Mineral analyses of groundwater from throughout the county are included in appendix B of this report.

Temperature

The temperature of groundwater varies with the location and depth of the aquifer, the origin and time of occurrence of recharge, and the proximity of the aquifer to bodies of surface water. In Piatt County the primary source of recharge is precipitation which enters the groundwater reservoirs mostly in the early spring and late fall when the precipitation is fairly cool. After infiltrating into the ground, little temperature change occurs because of the insulating effect of the surrounding earth materials. Groundwater temperatures range from about *5k* to 60 degrees Fahrenheit in the glacial deposits tapped in Piatt County (see appendix B). The samples indicating higher temperatures are not representative. In these cases, the higher temperatures are generally caused by the water being warmed in the pressure tank and piping system.

AQUIFERS

Aquifer selection for farm and domestic well construction in the past was often influenced by the quantity of water required, the type of drilling equipment available, and perhaps the amount of money the farmer or homeowner was willing to pay. In most cases, the shallowest water-bearing sand and gravel deposit encountered was capable of satisfying the relatively small water demands, could be easily developed, and provided the most economical solution to the water supply problem. However, with the increased use of water on the farm and in the home, higher yielding wells than those previously constructed are often required.

Throughout Piatt County there are two or three glacial aquifers, each containing one or more layers or zones of water-bearing sand and gravel. In many areas, the deeper deposits are more productive than the shallower sands and gravels currently being tapped. For these reasons, drilling for a farm and domestic well should continue until a satisfactory supply is obtained or until the underlying bedrock is encountered.

For larger capacity municipal or industrial wells, it is advisable to construct a test hole penetrating the entire drift section to determine the presence and relative potentials of the different glacial aquifers prior to completion of the final production well.

For either type of development, the services of a competent well driller experienced in constructing sand and gravel wells should be obtained to maximize the use of available resources. Drilling into the underlying bedrock formations is not generally recommended.

For the purposes of this study, the various water-bearing units are grouped into three general aquifer systems. The Wisconsinan age glacial deposits outlined by Horberg (1953) and Stephenson (1967) are hereafter designated as the upper glacial deposits or upper aquifer system.

The Illinoian age glacial deposits defined by Horberg (1953) and Stephenson (1967) underlie the upper glacial deposits and are termed the middle glacial deposits or middle glacial aquifer.

The third aquifer system, the Kansan age glacial deposits, underlie the middle glacial deposits and are called the lower glacial deposits or lower aquifer system.

A fourth aquifer system is the bedrock formations underlying the drift deposits throughout the county. These rocks are tapped by only a few wells that generally produce highly mineralized water, undesirable for most uses. Detailed discussions on the occurrence, water-yielding characteristics, and quality of water of each aquifer system are presented in the following sections.

Upper Glacial Deposits

Water-bearing sand and gravel deposits contained within the Wisconsinan drift section serve as a source of water for approximately 29 percent of the individual farm and domestic wells in the county. These deposits occur as scattered pockets in the upper portions of the aquifer, as deposits in the Champaign and Cerro Gordo end moraines, and as sheetlike deposits in the outwash areas of the moraines.

Development and Availability. Wells tapping the upper glacial aquifer are of three general types: dug, bored, and drilled. Records of approximately 450 large-diameter dug and bored wells were collected from Water Survey files and from the direct inventory conducted during the summer of 1967. These wells range in depth from 9 to 65 feet below ground level and are from *2k* to 60 inches in diameter. The nonpumping water levels of the large-diameter dug wells are usually about 5 to 20 feet below land surface (see *figure 7 for average water table elevation).* The depth to water in a dug well is influenced by the land surface topography -- deeper under the high ground and near land surface in the stream valleys -- and by seasonal variations in precipitation. Figure 8 illustrates these seasonal fluctuations in a dug well in Piatt County and shows that changes of 5 to 8 feet during a year are normal.

The yields of these wells are never large and are often barely adequate for domestic use. Most of these installations were constructed many years ago when water demands were small and mechanized drilling equipment was not always available. Today's larger water requirements often cannot be obtained from such wells, and the availability of aquifers suitable for drilled well development in Piatt County makes dug wells undesirable for most uses.

The Water Survey files include records of 80 drilled wells finished in the upper aquifer system. These installations range in depth from 25 to 120 feet. Most are located in the northeastern township on the Champaign moraine and in a southwest trending band south of the Sangamon River Valley on the Cerro Gordo moraine (see *figure Sa).*

Figure 9 shows the areas where drilled wells tapping the upper sand and gravel deposits are most likely possible and their probable maximum depth. In some locations more than one water-bearing zone may be present and could be penetrated before the maximum depths indicated would be reached. Only thin stringers of sand not suitable for drilled well construction are present in some areas. In these cases, drilling should continue to the underlying middle or lower glacial deposits.

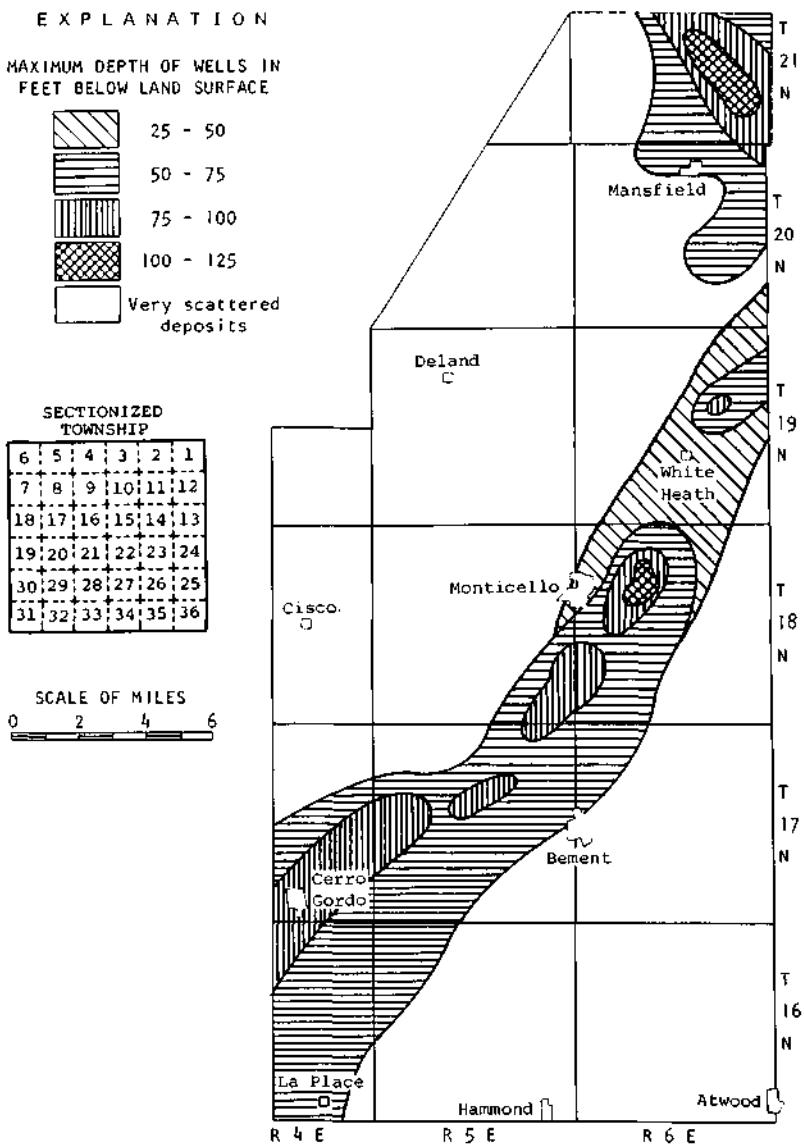


Figure 9. Probable maximum depth of drilled wells tapping upper glacial deposits

Farm and domestic drilled wells completed in this aquifer system range from 2 to 6 inches in diameter. However, well diameters between 4 and 6 inches are more desirable than the smaller wells because of the greater selection in types of pumps which can be used and the increased accessibility to the pump for inspection and repairs.

The nonpumping water levels of the drilled wells finished in the upper aquifer are shown in figure 10. The depths to water are to a large extent influenced by the land surface topography. Seasonal fluctuations as great as 5 to 8 feet may be experienced in the shallower wells and normally will be less in the deeper wells.

The yields of wells tapping the upper glacial deposits range from 3 gpm for farm and domestic wells (generally fixed by pump capacities) to 75 gpm and 70 gpm from the municipal wells at La Place and west of Cerro Gordo.

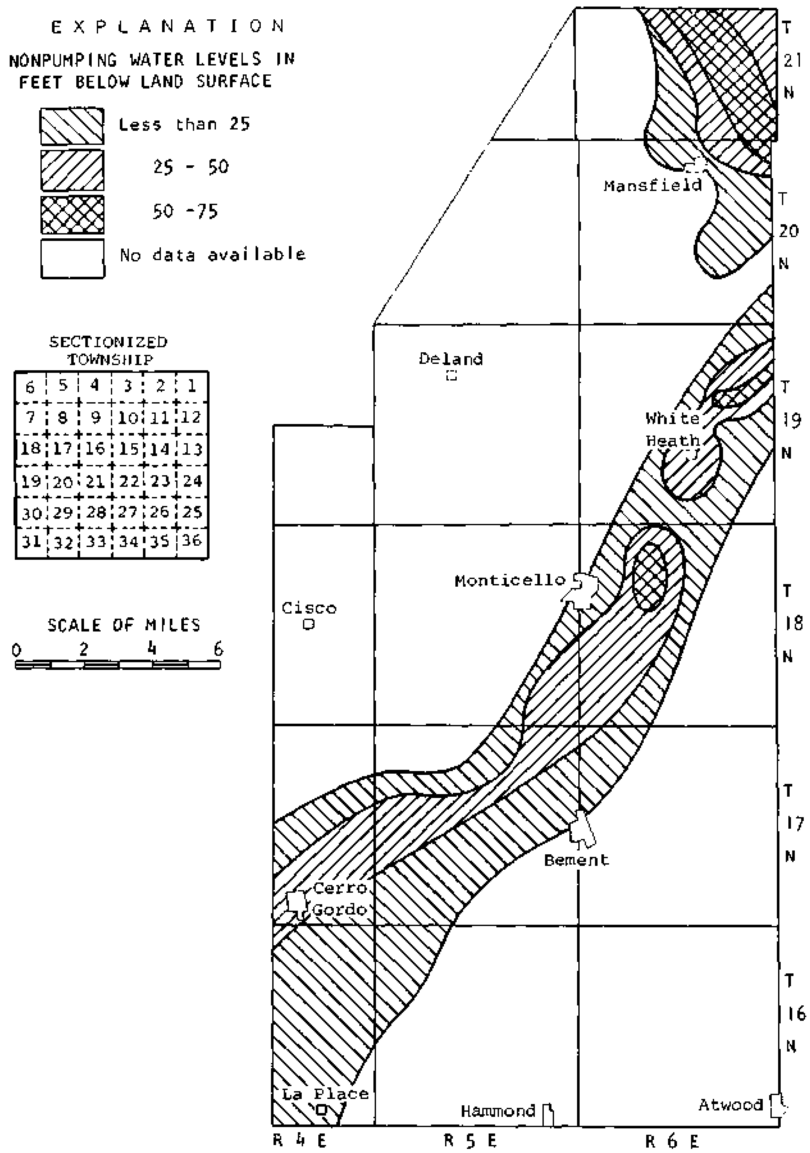


Figure 10. Nonpumping water levels in drilled wells tapping upper glacial deposits

Total groundwater pumpage from the upper glacial aquifer is an estimated 0.2 mgd. Larger quantities of water could probably be withdrawn without overdevelopment. Extensive test drilling, pumping tests, and aquifer evaluations would be required to accurately determine the groundwater potential in localized areas.

Chemical Character. The chemical quality of water from the upper glacial deposits varies considerably within Piatt County. Results of analyses of water from 75 dug wells and 14 drilled wells are included in appendix B. Typical analyses are shown graphically in figure 11.

Shallow dug wells that are protected from surface pollution usually produce water with a lower mineral content than the deeper wells drilled on the higher ground on the Champaign and Cerro Gordo moraines. Available chemical and hydrologic data suggest that the length of time the water has been in the ground, and

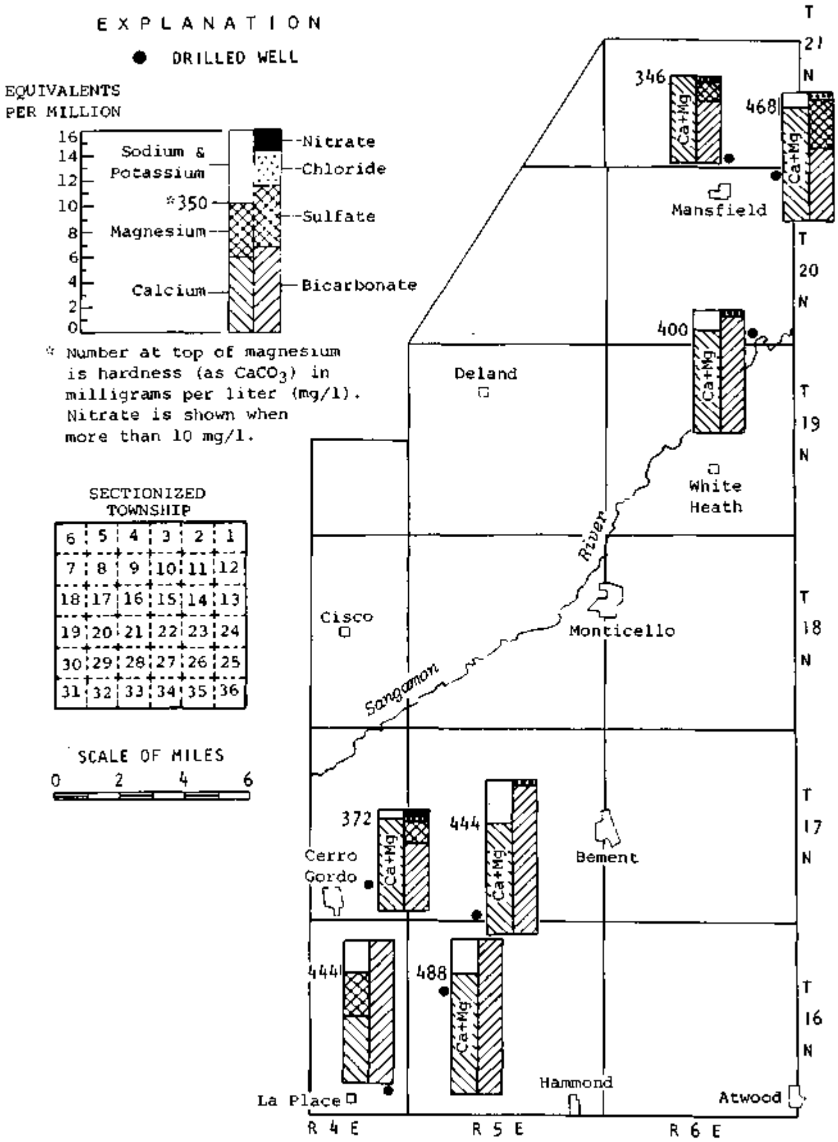


Figure 11. Typical chemical analyses of water from the upper glacial deposits

in contact with soil particles from which mineral constituents are dissolved, may account for most of the natural variation in the chemical constituents of water in this aquifer. Since water reaching deeper sand and gravel zones generally must percolate downward through a greater thickness of overlying materials, it would have experienced a longer period of residence during which minerals from the surrounding materials could be dissolved.

The results of analyses of water from the dug wells show a great variation in the chemical quality that is due primarily to local pollution from nearby surface sources. All of the wells are lined with bricks or stone to the land surface which permits percolating seepage, moving through the top soil or flowing overland, to readily enter the well. Leachates from nearby septic tanks, sewage disposal systems, old privies, or feedlots were found during the well inventory in 1967 to be the likely cause of the high nitrate content (more than 45.0 mg/l) in 27 dug and bored wells (*see appendix B*). Water from these 27 wells had nitrate concentrations of 45.4 to 494 mg/l. None of the drilled wells, even those less than 50 feet deep, were polluted with nitrates.

The total dissolved mineral content of water from the upper deposits generally ranges from about 300 to 600 mg/1 and usually is close to the recommended 500 mg/1 upper limit suggested by the U. S. Public Health Service. Mineral concentrations greatly in excess of about 600 mg/1 would suggest that pollution from surface sources may be occurring.

The hardness of water obtained from these deposits throughout the county ranges from moderately hard (250 mg/l) to extremely hard (500 mg/1). In all areas, the general quality of water from these deposits could be improved by the use of standard home water-softening units.

The iron content of water from most wells ranged from about 0.2 to 3.0 mg/1. An iron concentration above the 0.3 mg/1 upper limit recommended by the U. S. Public Health Service was present in 57 percent of the samples. Water containing iron above this limit usually causes staining of laundry and porcelain fixtures unless some type of iron removal equipment is used. Manufacturers of home water softeners advertise that these units will effectively remove as much as 5.0 mg/1 "dissolved" iron. However, the iron found in the water in Piatt County is normally in an insoluble state and in concentrations of about 2 mg/1 or more can create serious plugging problems in water softening units. The use of an oxidizing iron removal unit in conjunction with a water softener is usually required to provide continuous and effective treatment over a long period of time.

Middle Glacial Deposits

Sand and gravel deposits of Illinoian age serve as a source of water for approximately 56 percent of the farm and domestic wells in the county. Fairly continuous layers of water-bearing sands and gravels occur near the base of the Illinoian deposits throughout the county.

Development and Availability. Private farm and domestic drilled wells tapping the middle glacial deposits range in depth from about 50 feet in the lowland areas of the Sangamon River Valley to over 200 feet in the upland areas of the Champaign and Cerro Gordo moraines. Figure 12 illustrates the probable maximum depth that wells of this type may be expected to reach in this aquifer system.

The diameters of farm and domestic wells in this aquifer range from 2 to 6 inches, similar to the wells in the upper aquifer. Because these wells are deeper than those in the upper deposits, the larger selection in pump types and the accessibility for pump repair and maintenance afforded by the 4- and 6-inch wells become even more important. Municipal wells in the middle deposits are from 4 to 18 inches in diameter depending on the pump size requirements.

The nonpumping water levels of wells finished in the middle glacial aquifer are shown in figure 13. Seasonal water-level fluctuations in these deposits are insignificant since water stored in the overlying materials normally is available to the middle aquifer system during prolonged periods of drought. Figure 14 illustrates the mean water-level elevations that occur in wells finished in the middle glacial deposits. The general direction of movement of water in this

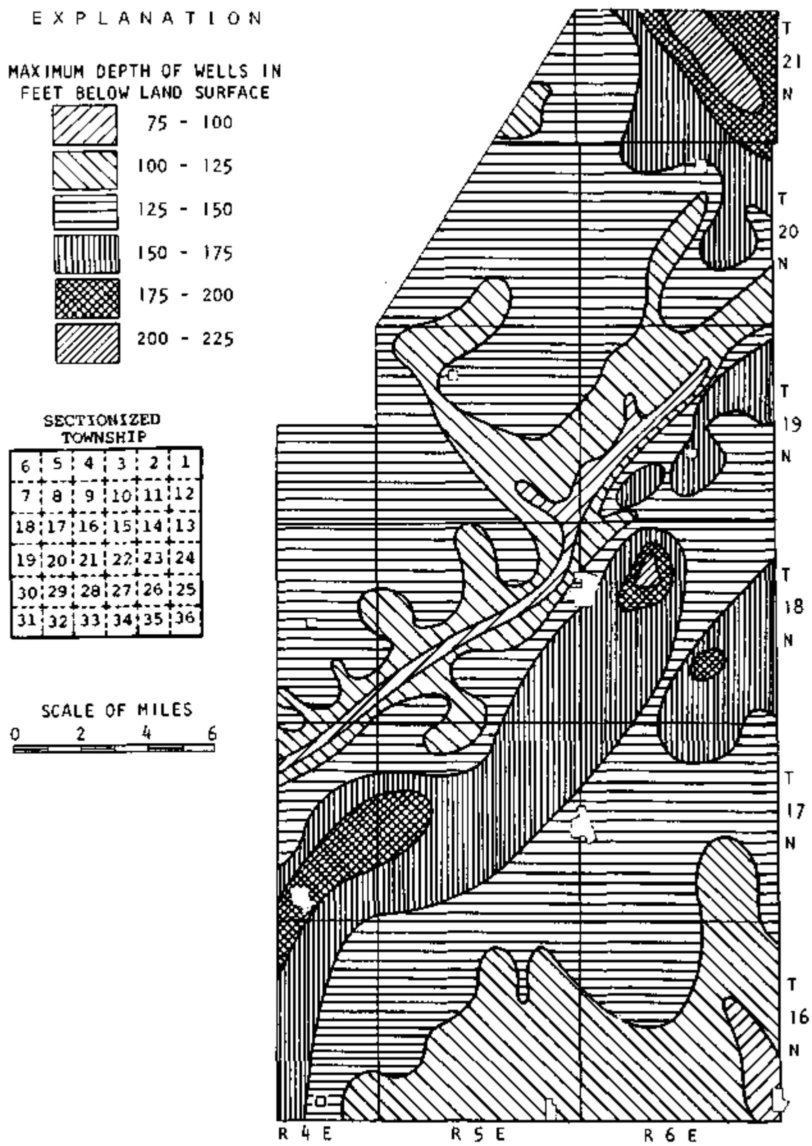


Figure 12. Probable maximum depth of drilled wells tapping middle glacial deposits

aquifer system also can be determined from this illustration since water flows downward and perpendicular to the individual contours.

The yields of wells tapping the middle glacial aquifer range from 5 gpm for the farm and domestic wells (generally limited by the installed pump capacity) to about 250 gpm for the larger capacity municipal wells finished in the thicker sections of sand and gravel. Municipal wells finished in the middle drift deposits at Atwood, Bement, Cisco, Deland, and Hammond produce approximately 26 percent of the current municipal pumpage in the county. Installed pump capacities in these municipal wells are 100 to 225 gpm, 250 gpm, 50 gpm, 30 gpm, and 130 to 150 gpm, respectively. Maximum well yields obtained from the middle aquifer throughout the county generally are limited to about 250 gpm.

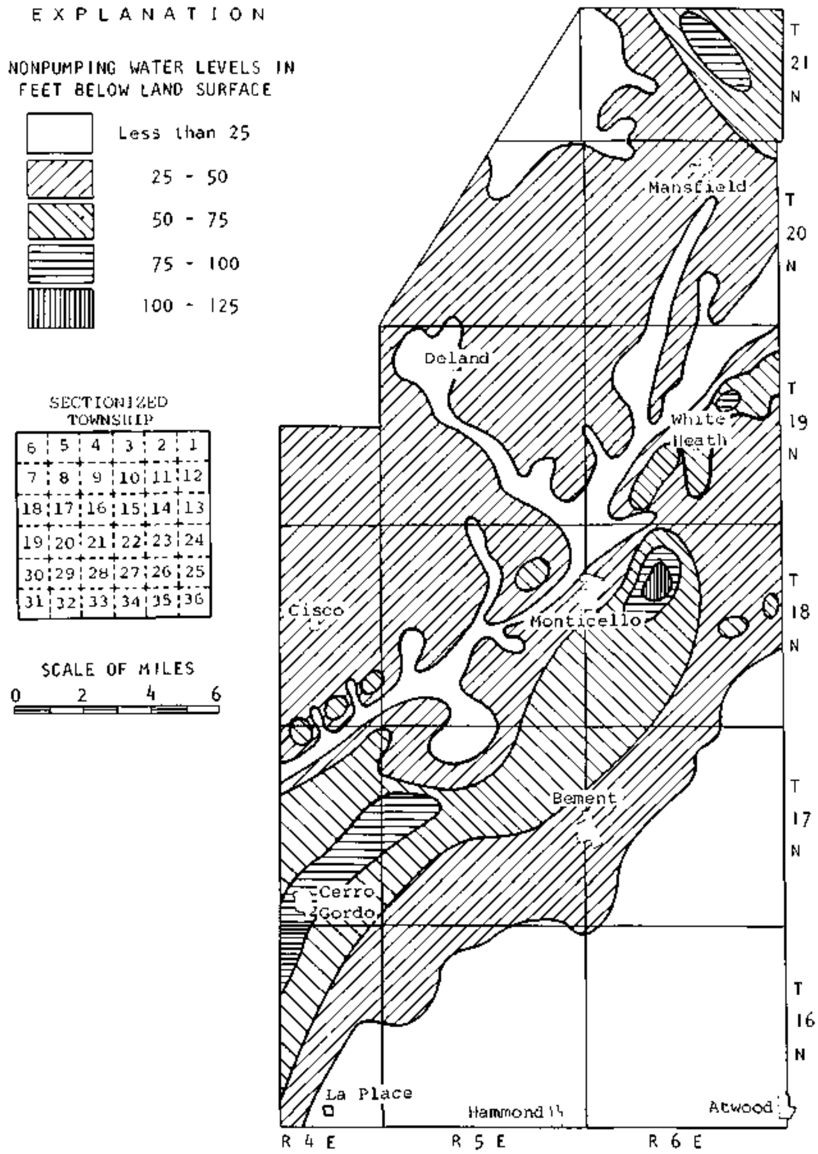


Figure 13. Nonpumping water levels in drilled wells tapping middle glacial deposits

Total groundwater pumpage from the middle glacial aquifer is estimated to be 0.6 mgd. Much larger quantities of water can be withdrawn without overdevelopment. The limited development of this aquifer system to date is largely due to the relatively small industrial and municipal demands for water. Test drilling, pumping tests, and aquifer evaluations would be required to accurately determine the groundwater potential in localized areas.

Chemical Character. The chemical quality of water from the middle glacial deposits is less variable than that from the upper deposits. In mist of the northern section and in the central part of the county over the buried Mahomet Bedrock Valley, the water is slightly less mineralized than water in the southern areas of the county. Results of analyses of 122 water samples from wells tapping

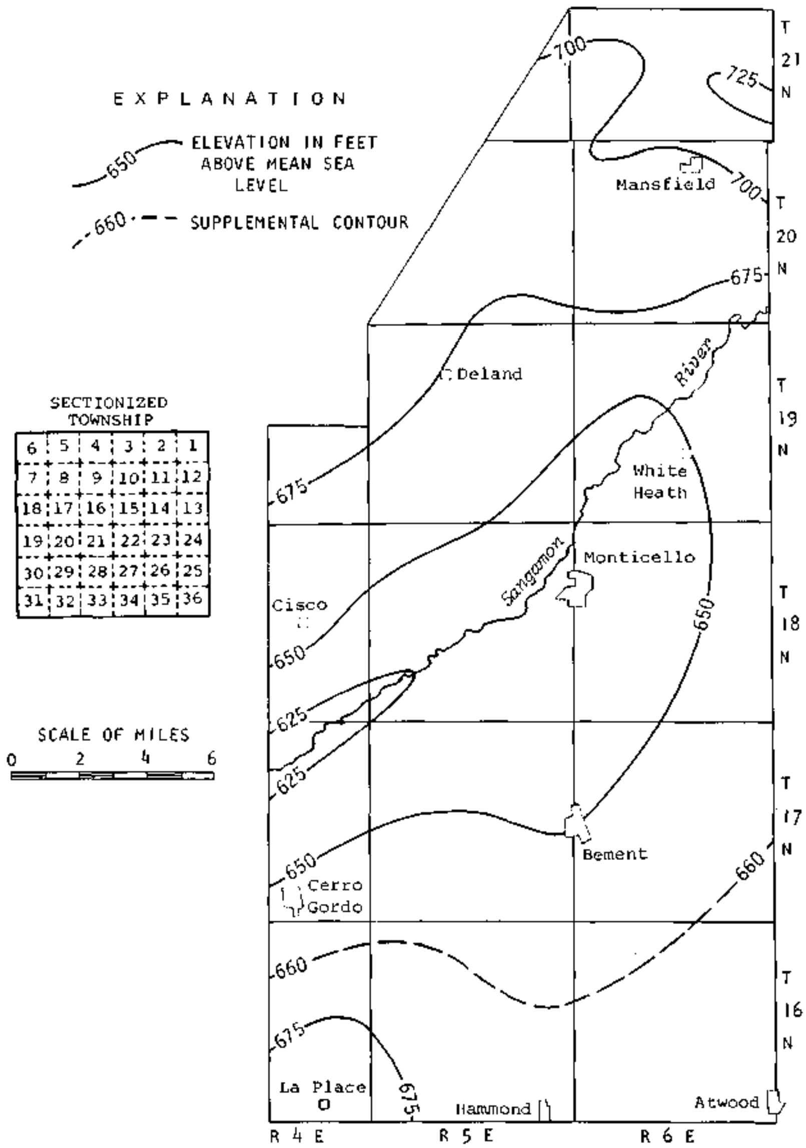


Figure 14. Elevation of nonpumping water levels in drilled wells tapping middle glacial deposits

the middle deposits are included in appendix B. Typical analyses are shown graphically in figure 15.

Available chemical and hydrologic data suggest that the variation in the chemical constituents in the water from this aquifer system can be explained by the source of the water and the period of time the water has been in contact with the soil particles. Less mineralized water, indicating a shorter period of residence, is usually found in areas of recharge and downgradient from them. More mineralized water, suggesting longer period of contact, is usually found in regions of groundwater discharge or where the water has percolated to deeper deposits from overlying materials.

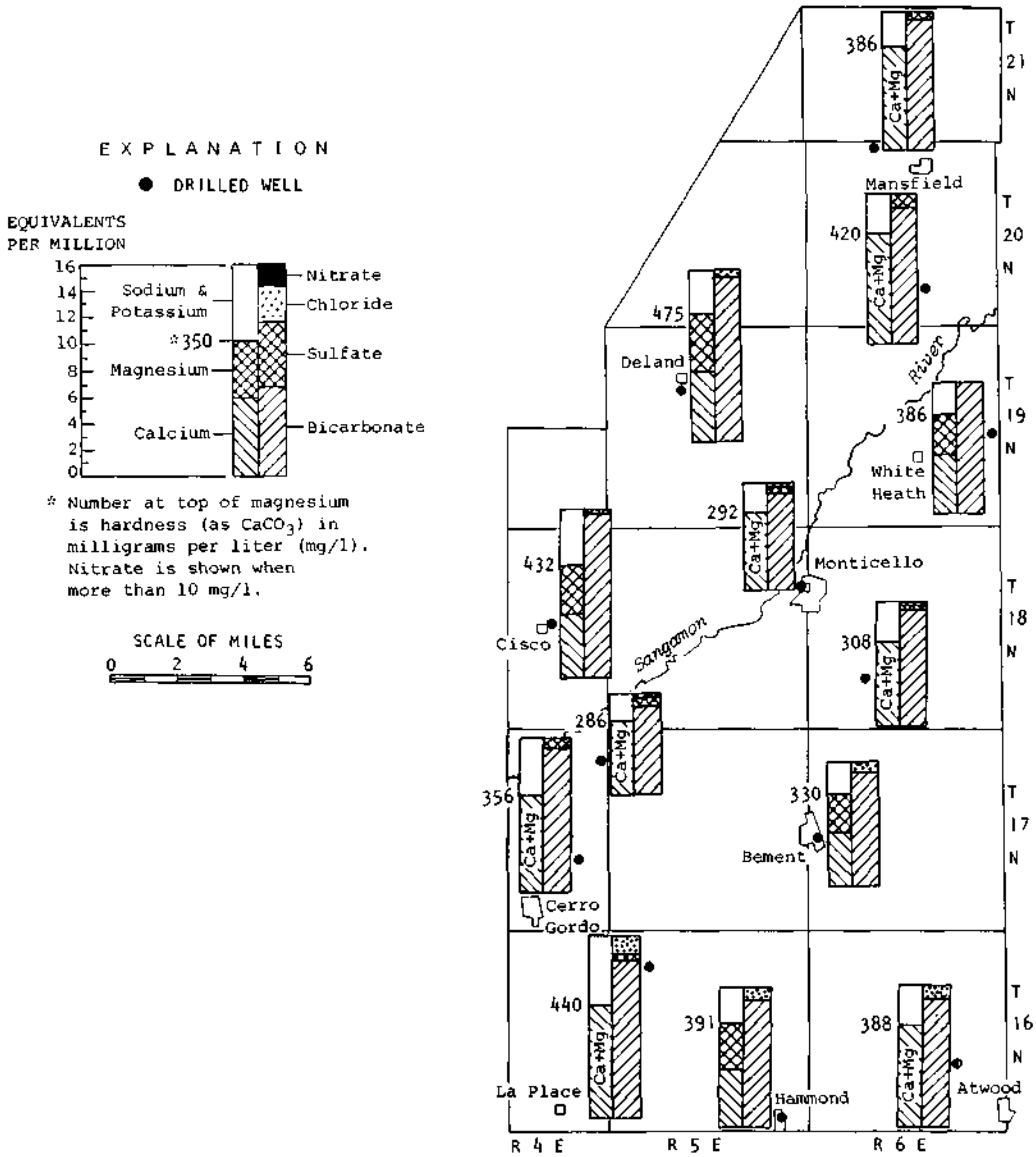


Figure 15. Selected chemical analyses of water from the middle deposits

South of Cerro Gordo and Bement and in the northwestern part of the county near Deland the water of the middle deposits is slightly more mineralized since much of it is from the upper glacial deposits percolating through thick sections of overlying till and has been in contact with the soil particles for a longer time period. The chloride content noted in several samples also suggests that some highly mineralized water contained in the bedrock formations is being discharged into these middle deposits where the underlying lower glacial deposits are thin or absent.

Water from much of the northern section near Mansfield and in the central part of the county over the buried Mahomet Valley is somewhat less mineralized. The available water level and quality data suggest that a significant portion of this water comes from recharge areas to the north and east of the county. In these areas, the overlying till beds are much thinner permitting the water to reach the thicker sections of the middle deposits in a shorter period of time.

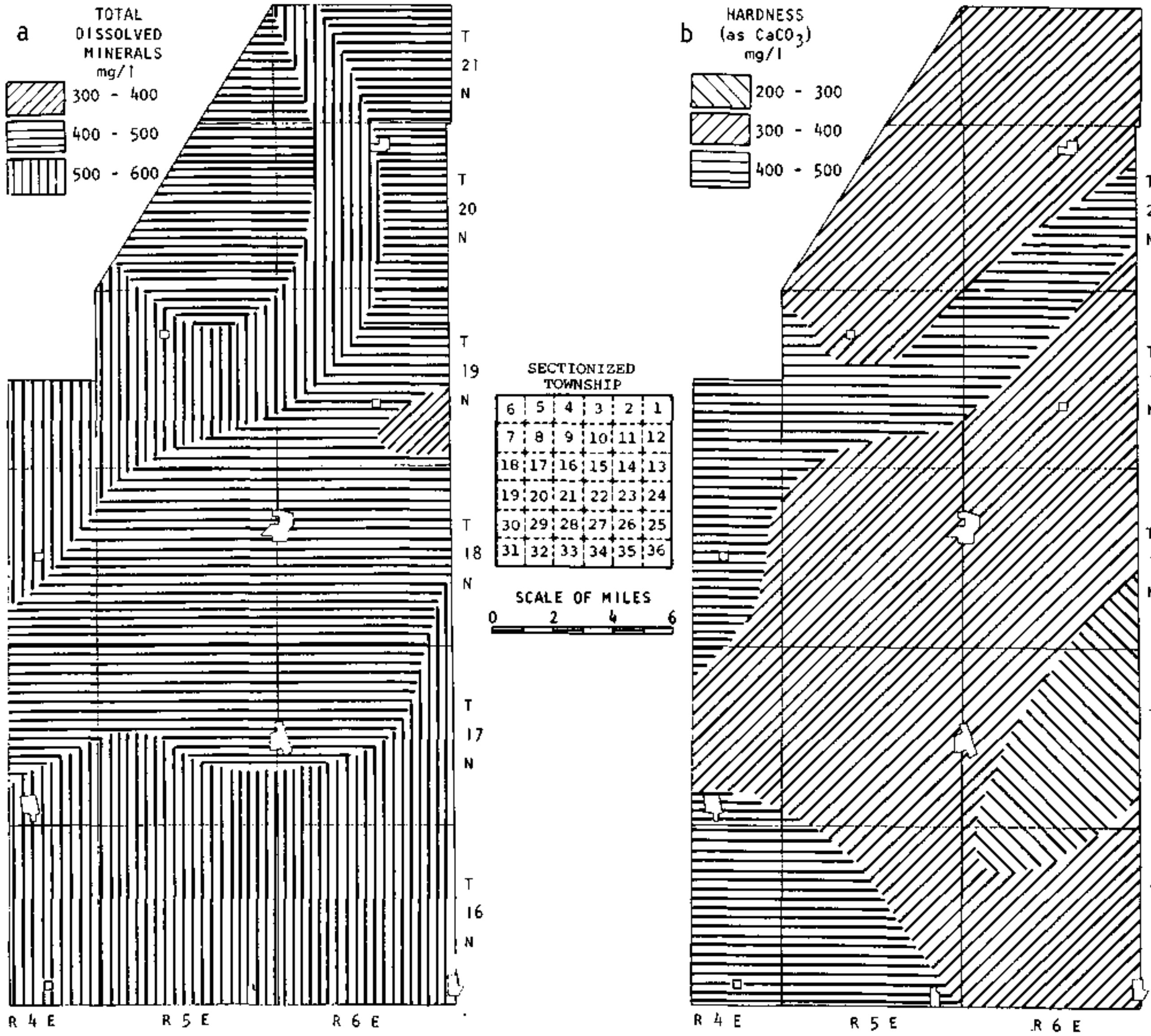


Figure 16. Probable total dissolved minerals (a) and hardness (b) of water from middle deposits

However, as this less mineralized water moves downgradient over the buried Mahomet Valley, it mixes with the more mineralized water moving in from the northwest near Deland and from the south near Cerro Gordo and Bement, increasing the mineral content. These patterns are indicated by figures 14, 15, and 16 which show that the expected mineral content generally conforms to the direction of water movement shown by the water level elevation map.

Total dissolved mineral concentrations of water from the middle glacial deposits are illustrated in figure 16a. The mineral content generally ranges from about 350 to 600 mg/l and usually is close to the recommended 500 mg/l upper limit suggested by the U. S. Public Health Service.

The hardness of water obtained from the middle deposits ranges from moderately hard (250 mg/1) to extremely hard (500 mg/1). Figure 16b suggests the probable hardness content which may be expected from this aquifer for any given location. In all areas, standard home water softening units could improve the general quality of water from these deposits.

The iron content of the water from the sampled wells generally ranged from about 1.0 to 5.0 mg/l; all samples contained more than the 0.3 mg/l recommended upper limit set by the U. S. Public Health Service. Water containing iron in such quantities usually causes severe staining of laundry and porcelain fixtures unless some type of iron removal unit is used.

Lower Glacial Deposits

Sand and gravel deposits of Kansan age serve as a source of water for approximately 15 percent of the farm and domestic wells in the county. Thick, permeable sections of sand and gravel occur as the fill materials of the ancient Mahomet Bedrock Valley. In the bedrock upland areas in the northwest (near Deland), southwest (near Cerro Gordo), and southeast (east of Bement), the lower permeable deposits may be thin and produce only limited quantities of water.

Development and Availability. Private farm and domestic drilled wells tapping the lower glacial deposits range in depth from about 140 to 345 feet below land surface in the main channel of the buried valley near Monticello and Cisco. Figure 17 illustrates the probable maximum depth that wells of this type may be expected to reach in this aquifer system. Larger capacity wells tapping the full thickness of the deposits in the bedrock valleys may range in depth from 250 to 340 feet below land surface.

The diameters of farm and domestic wells in this aquifer range from 2 to 6 inches, similar to the wells in the middle aquifer. Because these wells are generally deeper than those in the upper and middle deposits, the larger selection in pump types and the accessibility for pump repair and maintenance afforded by the 4- and 6-inch wells become even more important. Municipal and industrial wells in the lower deposits are from 8 to 20 inches in diameter depending on the pump size requirements.

The nonpumping water levels of wells finished in the lower glacial aquifer are shown in figure 18. Seasonal water-level fluctuations in these deposits are insignificant since water stored in the overlying materials normally is available to the lower aquifer system during prolonged periods of drought. Figure 19 illustrates the mean water-level elevations that occur in wells finished in the lower glacial deposits. The general direction of movement of water in this aquifer system also can be determined from this illustration since water always flows downward and perpendicular to the individual contours.

The yields of wells tapping the lower glacial aquifer range from 5 gpm for the farm and domestic wells (generally limited by the installed pump capacity) to about 2500 gpm for one of the Decatur standby wells located south of Cisco. Municipal wells finished in the lower drift deposits at Cisco, Mansfield, Monticello, and Robert Allerton Park produce approximately 68 percent of the current municipal pumpage in the county. Installed pump capacities in these municipal wells are 110 gpm, 180 to 250 gpm, 425 to 1000 gpm, and 30 gpm, respectively. The Decatur standby wells are equipped with 1400 and 2500 gpm pumps. Maximum well yields from the lower aquifer generally are limited to about 2000 gpm.

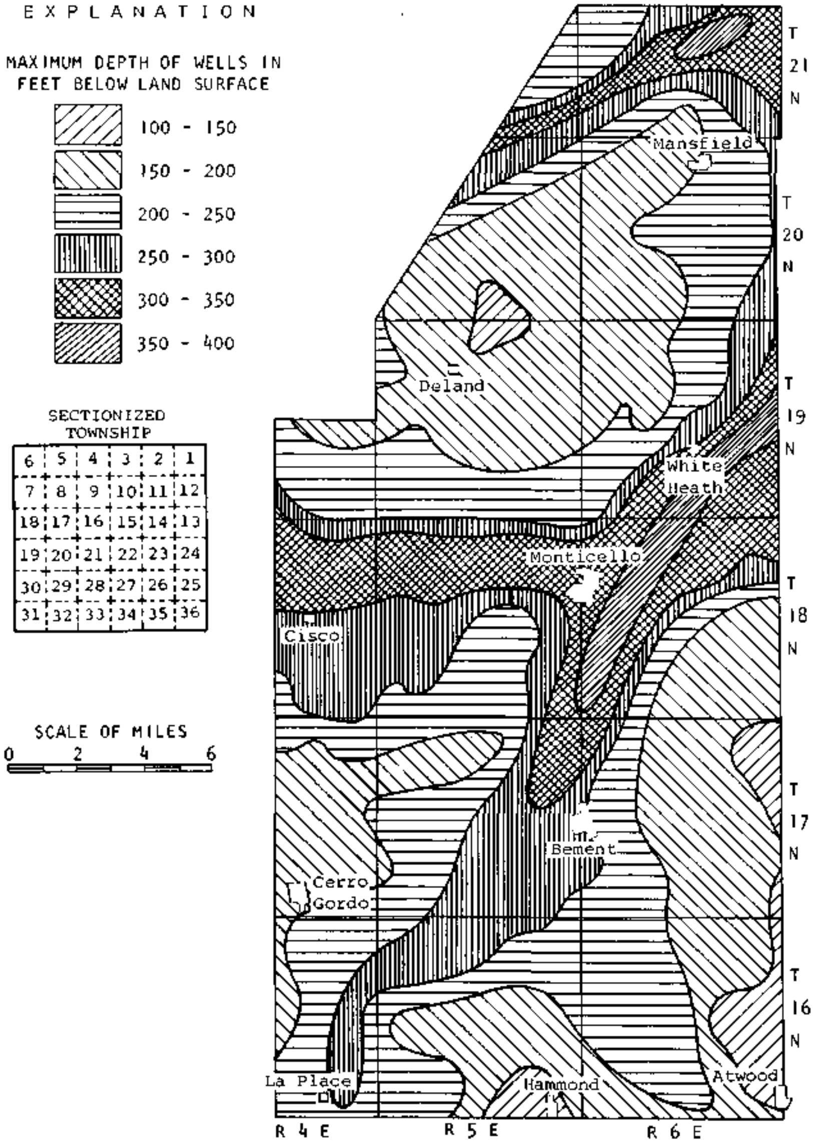


Figure 17. Probable maximum depth of welts tapping the lower glacial deposits

Total groundwater pumpage from the lower glacial aquifer is estimated to be 0.9 mgd. Much larger quantities of water can be withdrawn without overdevelopment particularly in the areas overlying the main channel of the Mahomet Bedrock Valley. These deposits offer great potential for support of the economic growth of Piatt County.

Chemical Character. Water quality data for the lower glacial deposits are not available for the southern and northwestern areas of the county. Data for the central and northeastern areas show the chemical quality to be generally more consistent than that from the middle aquifer in these areas. Results of analyses of 56 water samples from wells finished in the lower deposits are included in appendix B. Typical analyses are shown graphically in figure 20.

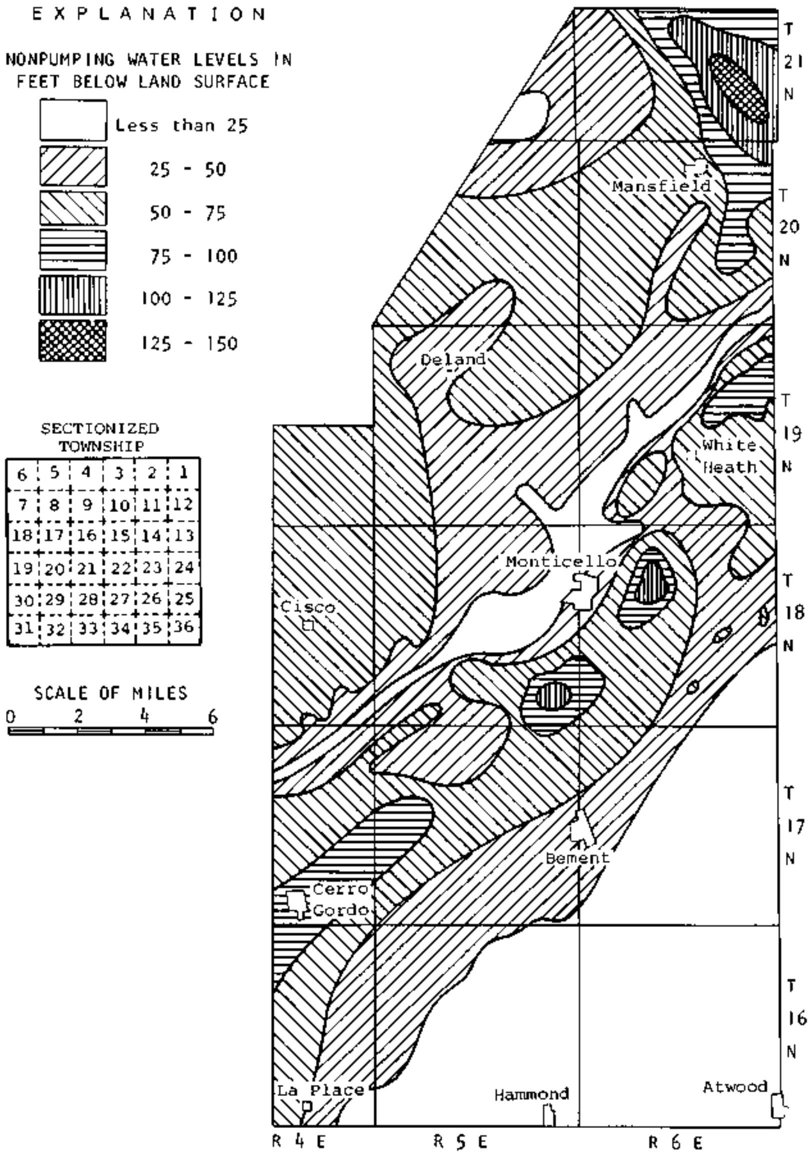


Figure 18. Nonpumping water levels in drilled wells tapping lower glacial deposits

The available data suggest that much of the water in the lower deposits along the northern side of the buried Mahomet Valley from Cisco to Mansfield is derived from leakage through the overlying upper and middle deposits. Also, the chloride content of several samples suggests that some highly mineralized water from the bedrock formations is being discharged into the drift deposits in this area.

In the central part of the valley system the water is somewhat less mineralized. Water-level data indicate that the water reaching these thick sand and gravel deposits has moved westward from the recharge area just east of the county. As it continues west-southwest across Piatt County the mineralization increases because of the greater contact time and the movement of water from the north into the thicker deposits. These general patterns are illustrated in figures 19,

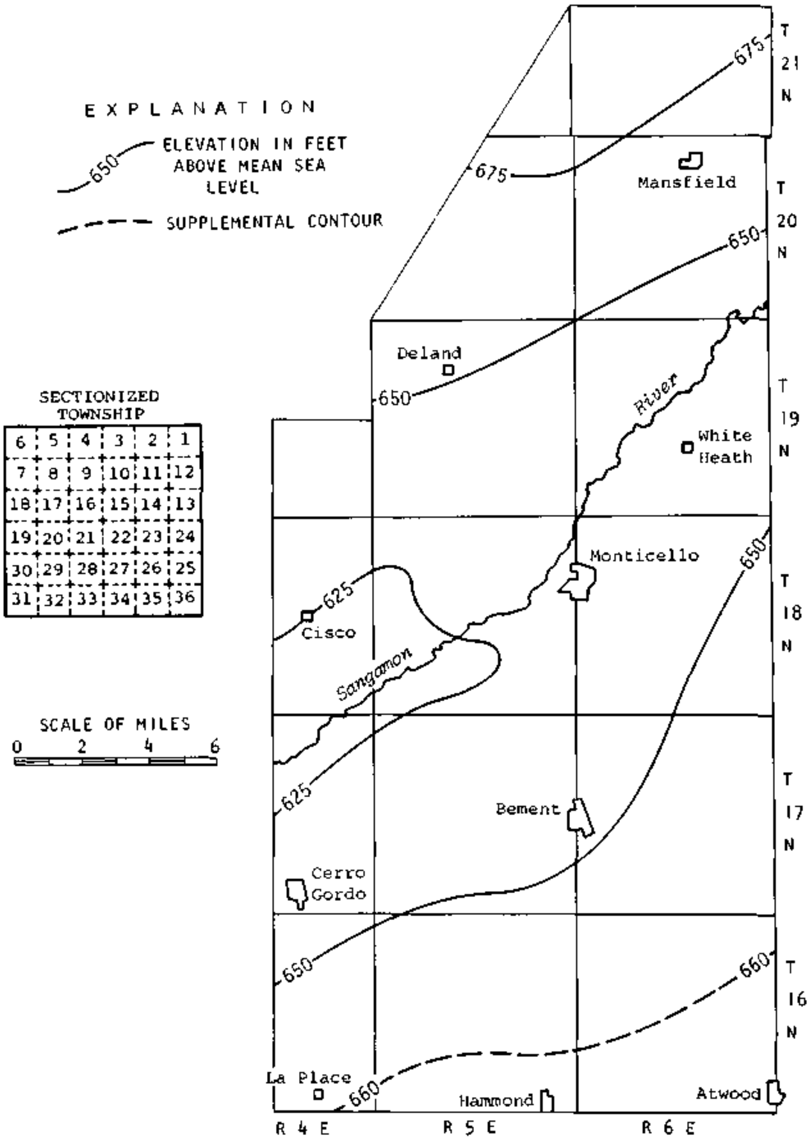


Figure 19. Elevation of nonpumping water levels in wells tapping lower glacial deposits

20, and 21 which show that the expected mineral content generally conforms to the direction of water movement indicated by the water-level elevations.

Total dissolved mineral concentrations of water from the lower glacial deposits are illustrated in figure 21a. The mineral content of water from this aquifer system is usually between 350 mg/l and 500 mg/l.

The hardness of water obtained from the lower deposits ranges from moderately hard (250 mg/1) to very hard (400 mg/1). Figure 21b suggests the probable hardness content which may be expected from this aquifer. In all areas, standard home water softening could be used to improve the quality of water from these deposits.

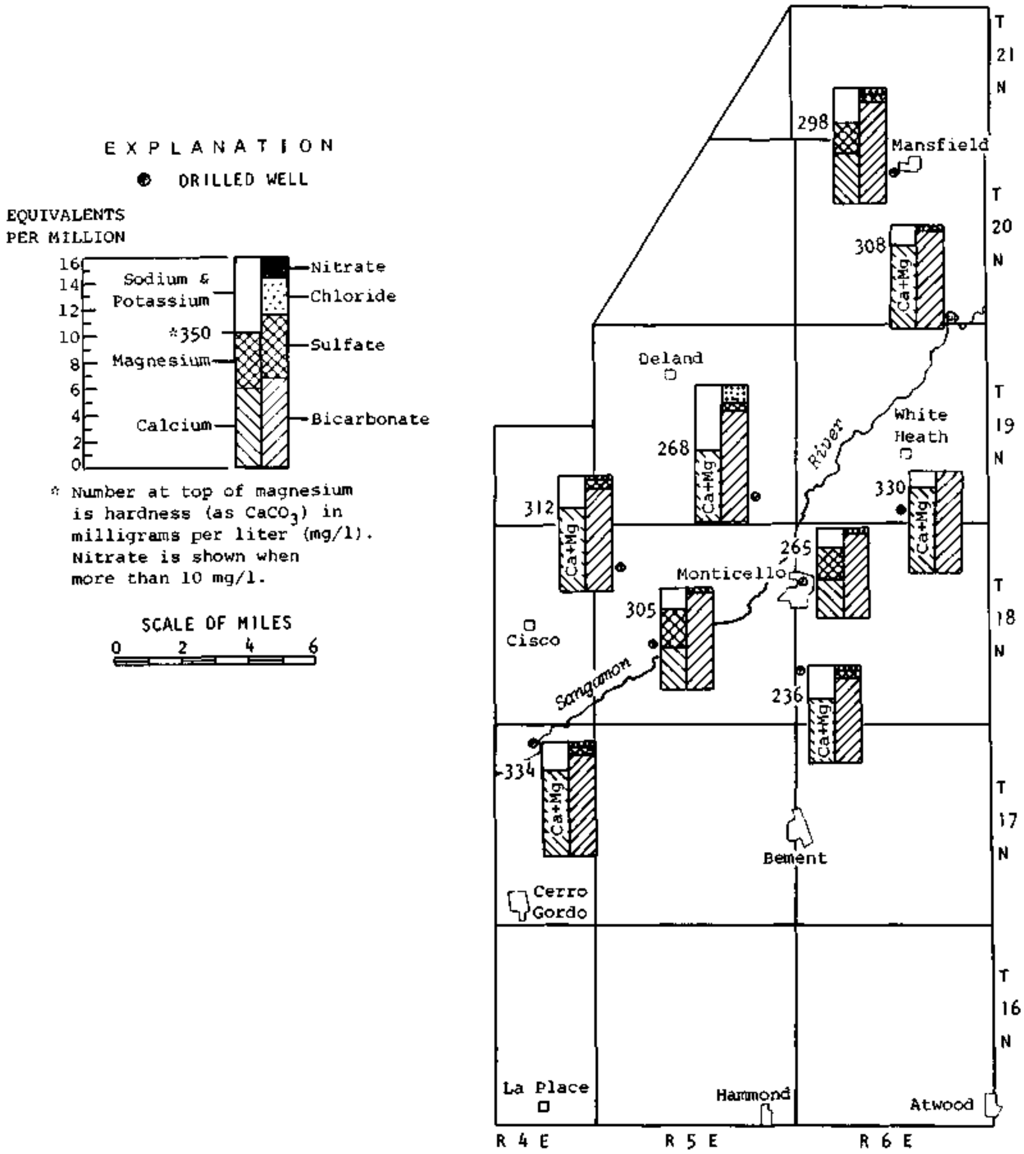


Figure 20. Selected chemical analyses of water from the lower deposits

The iron content of the water generally ranges from about 1.0 to 4.0 mg/l. Ninety-three percent of the samples had iron concentrations above the 0.3 mg/1 recommended upper limit. An iron removal unit used in conjunction with a water softener is usually the most satisfactory method for treating water of this quality.

Bedrock Formations

The upper bedrock formations in Piatt County consist of Pennsylvanian age rocks (*see figure 3b for surface configuration).* These rocks consist principally of shale with only a few thin layers of water-yielding sandstone and creviced limestone. Less than 1 percent of the recorded wells have been drilled into the bedrock formations.

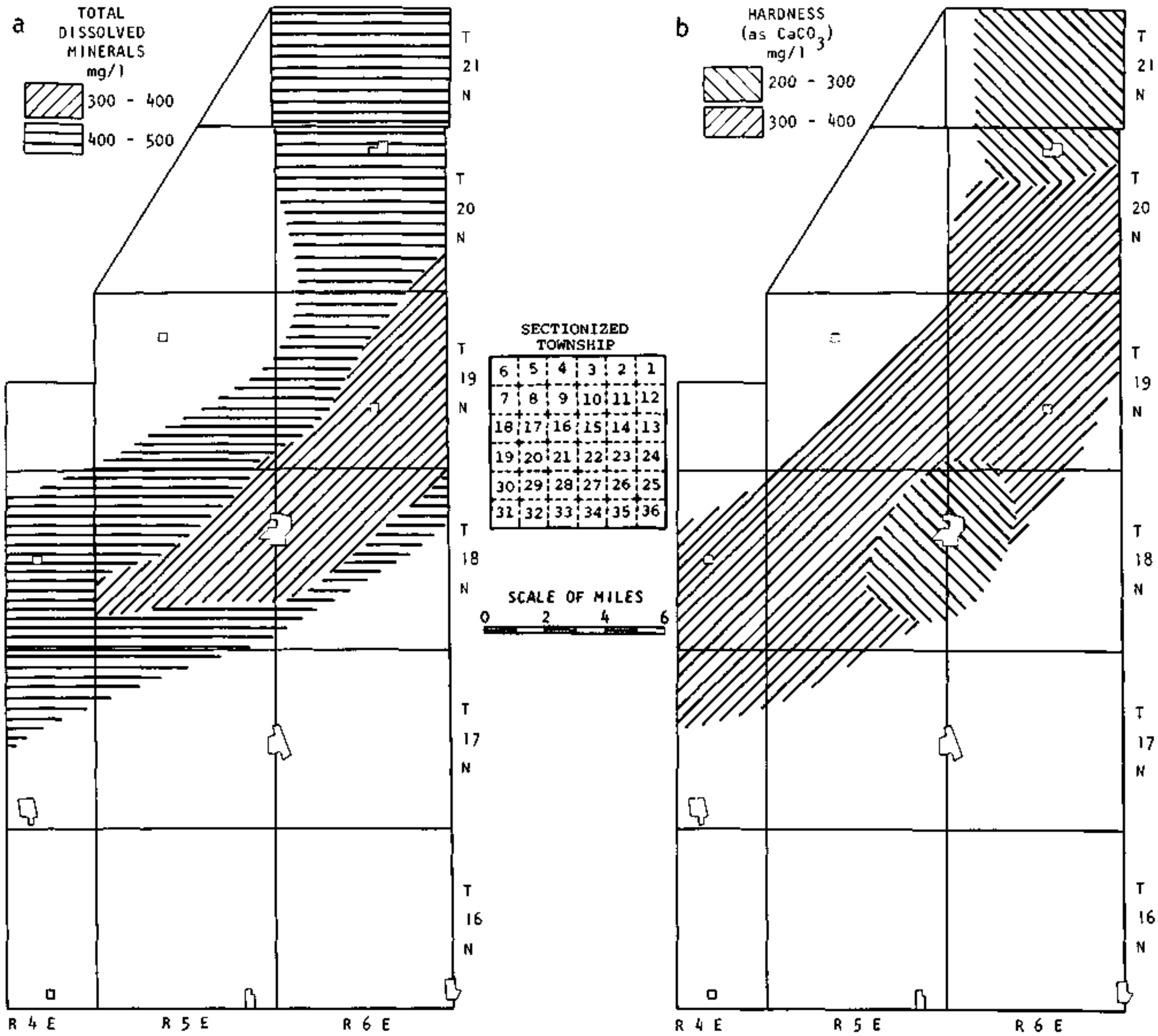


Figure 21. Probable total dissolved minerals (a) and hardness (b) of water from lower deposits

Development and Availability. Nearly all of the bedrock wells have been drilled in the southeastern area of the county in a bedrock upland area and range in depth from about 150 to 275 feet. Production from these wells is limited and is usually less than 5 gpm. In Piatt County, the bedrock formations are not considered to be a dependable source of good quality water and drilling into these rocks is not recommended.

Chemical Character. The available chemical analyses show the water to be highly mineralized, too "salty" for household uses. In most cases, these bedrock aquifers are sandwiched between relatively impermeable beds of shale, coal, and fire clay so that free exchange of water between these formations and the upper glacial drift has not occurred. Thus, the water has been contained in these rocks for many, many years and is very highly mineralized.

WELLS

Types and Drilling Methods

Wells may be classified into types according to the method used in sinking the hole into the ground. The three types commonly found in Piatt County are dug or augered, bored, and drilled. The type of well constructed for a given location depends on the aquifer to be tapped and the needs and economic limitations of the user.

Dug or augered wells 2 to 5 feet in diameter are commonly used where water-bearing materials are not highly permeable (cannot transmit much water) and where they are less than 40 or 50 feet below land surface. Many of the large-diameter wells in use today are very old wells which were excavated with hand tools and lined with uncemented brick or stone. These wells are often subject to contamination by surface seepage and may be unsuitable for domestic use.

Current methods for constructing large-diameter wells involve the use of a rotary bucket drilling rig for the excavating process. A large cylindrical bucket with auger type cutting blades on the bottom is rotated until the bucket is loaded with the materials being excavated. When full, the bucket is raised and swung aside to be dumped. Sections of precast large-diameter porous concrete tile are then placed to case the hole. This type of operation has proven most successful in areas where clay formations are present and caving of overlying materials into the bore hole is at a minimum.

Bored wells 6 to 18 inches in diameter were commonly sunk prior to 1930 when home and farm demands were relatively small. Water enters this type of well only through the bottom opening which limits its yield capabilities. Because the bored well has a small capacity for receiving and storing water from the aquifer, it usually is inadequate for present-day water demands.

Continuous-flight spiral augers are normally used to construct bored wells. This method of drilling is also limited to regions where sufficient clay is present so that the bore hole will not cave in.

Drilled wells, which are most common in Piatt County, may be constructed by the cable-tool or hydraulic-rotary methods. In the cable-tool method, the earth materials are broken into small fragments by the alternate raising and dropping of a heavy chisel-edged bit, and these fragments are removed from the hole at intervals by a bailer. In unconsolidated formations, an open hole is maintained by driving a stringer of casing as drilling progresses. After the aquifer has been penetrated, a well screen usually is placed opposite the water-bearing formation, the casing pulled upward to expose the screen, and the screen sealed to the casing.

In the conventional hydraulic-rotary method, the drill pipe with a bit attached to the lower end is rotated to break the material into small particles. A thin mud is pumped through the drill pipe, out through openings in the bit, and up. to the surface through the space between the drill pipe and the walls of the hole. The circulating mud thus removes the drill cuttings and prevents caving by plastering and supporting the formations penetrated with a thin mud cake on the bore wall until the final well casing and screen are placed in the hole.

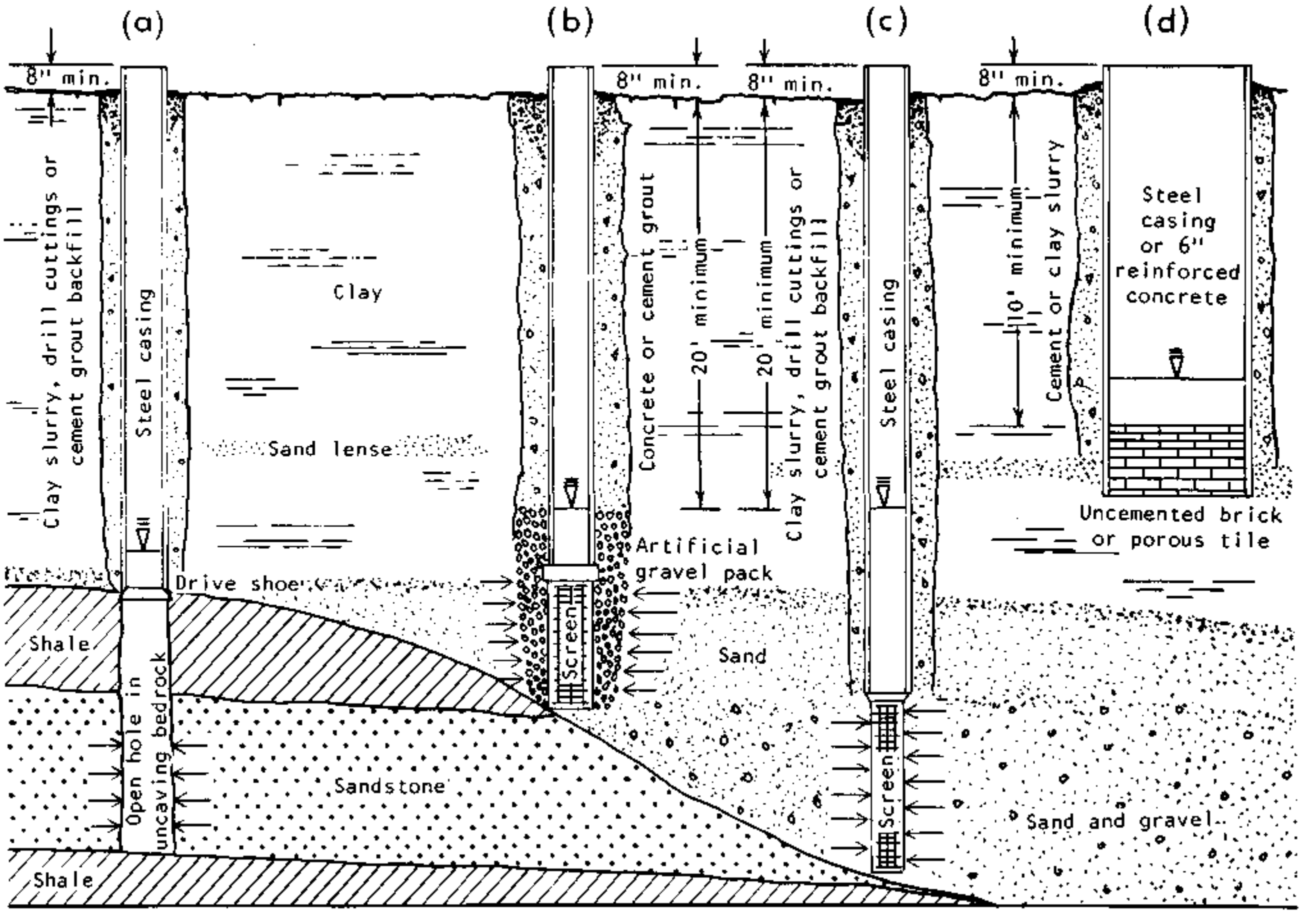


Figure 22. Construction features used in Piatt County wells

In reverse hydraulic-rotary drilling, the flow of the drilling fluid is reversed from that in the conventional rotary method. The drilling fluid, usually a relatively clear water rather than mud, moves slowly down through the opening between the drill pipe and the bore hole, picks up formation cuttings loosened by the drill bit, enters the drill pipe through holes in the bit, and by suction pumping moves to a surface pit where the cuttings settle. From there the clear water is again circulated down the hole. The fluid level in the hole must be kept at ground level at all times, since the difference in pressure between the water column in the hole and that in the aquifer prevents caving of the hole until the final well casing with attached screen is installed.

Construction Features

Construction features vary with the type of well and the characteristics of the aquifer to be utilized. Some of the features commonly employed in various types of wells in the county are casing, screening, gravel packing, and grouting (figure 22). These features, along with those for a dug well shown in detail in figure 23, are recommended by the Division of Sanitary Engineering, Illinois Department of Public Health. They are designed to minimize contamination from the surface. Detailed requirements are given in the rules and regulations of the Illinois Water Well Construction Code.

Casing. Wells are cased to maintain an open hole and to assist in protecting the quality of the water supply. Wells penetrating bedrock aquifers are

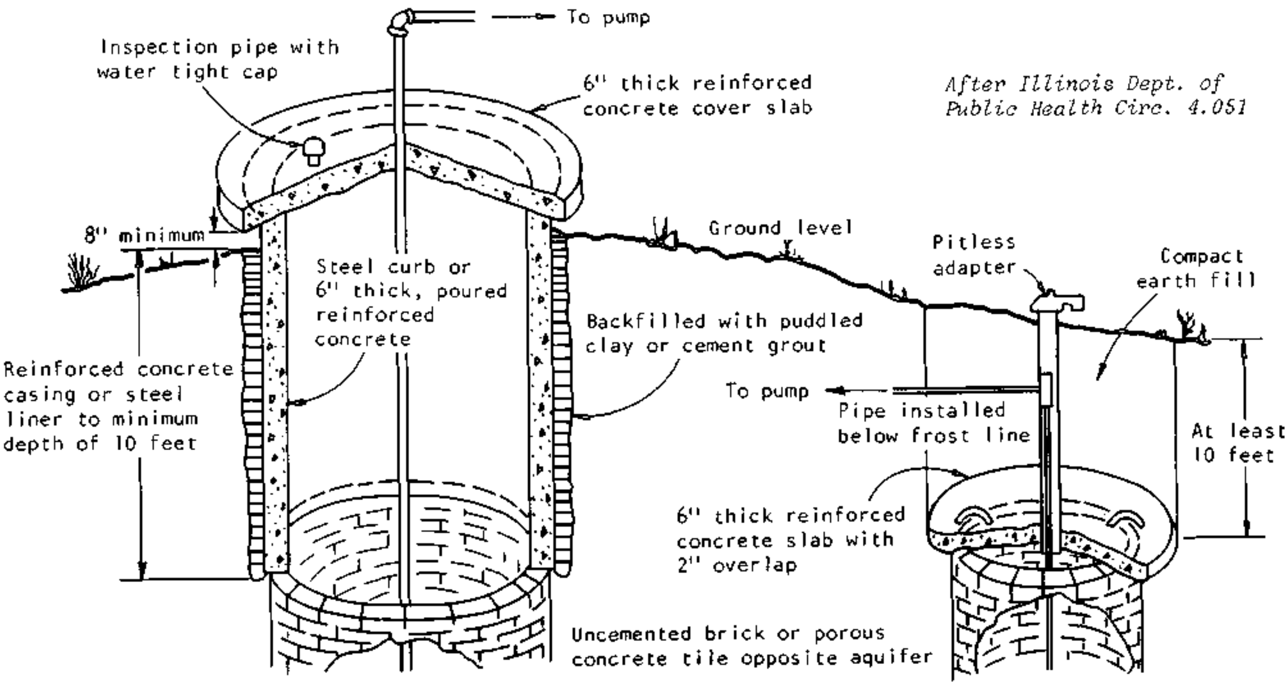


Figure 23. Recommended construction features for large-diameter dug wells

cased opposite the overlying unconsolidated materials (figure 22a) and opposite any bedrock formations subject to caving. Drilled wells tapping water-bearing sand and gravel deposits are cased to the top of the well screen (figures 22b and c). Steel casing is used in drilled wells and some large-diameter dug wells; bored and dug wells may be cased with 6-inch thick reinforced concrete from at least 8 inches above ground level to a minimum depth of 10 feet below land surface with the lower portion usually lined with clay or porous concrete tile or uncemented brick (figures 22d and 23). Pitless adapter units or surface well seals are normally used to provide sanitary protection to small-diameter wells equipped with steel casings. Sanitary protection for bored and dug wells also may be provided by placing a concrete slab at a point at least 10 feet below ground level and by filling in above the slab with compacted earth (figure 23).

Screening. Most successful drilled wells tapping sand and gravel are equipped with a length of commercially made well screen placed opposite the water-bearing formation (figures 22b and c). A properly selected and installed screen is designed to retain the aquifer material yet permit water to freely enter the well. Torch-cut and hand-sawed slotted casing sometimes is substituted for commercially made well screens because of the cheaper initial cost; this practice is not recommended because the openings in such a casing are usually too large to retain the aquifer material and too few to allow free water flow into the well. Most wells so equipped have a history of silt or sand pumping, low yield, and short production life, thus often proving to be more costly on a long-term basis than the well equipped with a commercially made screen.

Wells finished in bedrock aquifers not subject to caving do not require well screens.

Gravel Packing. Drilled wells finished in sand and gravel (figure 22c) usually are equipped with a screen that will retain the coarser 30 to 60 percent of the aquifer material immediately adjacent to the well screen; the remaining fine grains *are* removed from this area by surging, pumping, and bailing. This development practice causes a layer of coarse materials (a natural gravel pack) to accumulate around the screen. If the aquifer is uniformly fine-grained (figure 22b) and the natural development methods are not possible, an artificial gravel pack envelope at least 6 inches thick may be required around the outside of the screen to prevent migration of fine material into the well. The grain size of this gravel pack should be about five times as large as the average grain size of the water-bearing material.

Some drillers partially fill the well casing with large-diameter gravel in an attempt to hold back the aquifer and term this gravel packing. This procedure is a very poor substitute for a true gravel pack, as it greatly reduces the yield-capability of the well and usually permits fine-grained materials to move into the well to plug it up or "chew up" the pump.

Grouting. The annular space between the casing and the bore hole must be sealed to minimize the chance of contamination from the surface. In drilled, dug, or bored wells (figures 22a, c, d) a clay slurry or cement grout must be used to seal the opening between the casing and the upper part of the bore hole. For artificial gravel-pack wells (figure 22b), a cement or concrete grout is required to insure an adequate seal. Minimum depths for grouting depend on the materials penetrated at the well site and vary from 10 feet for dug wells to 20 or more feet for the drilled wells.

Disinfection

New wells, or old installations after rehabilitation, usually are bacterially contaminated and should be disinfected before being placed in service. After the disinfection is completed, the well should be sealed to safeguard against future contamination. The Division of Sanitary Engineering, Illinois Department of Public Health, recommends disinfection procedures using a *strong chlorine laundry bleach.* (5.25 percent chlorine). The correct amount to use can be determined from table 2, as explained in the instructions which follow.

1) Measure the depth of water in the well if possible. (Considering the well full of water will be satisfactory in most cases since a slight overdose does no harm.)

2) Determine the amount of laundry bleach (from table 2) and mix it in about 10 gallons of water. For example, a 6-inch diameter well with 75 feet of water would require 3 cups of laundry bleach.

3) Pour this solution into the well between the casing and the drop pipe. (This may involve raising the pump about 4 inches to allow sufficient space for the addition of the solution and for the placement of a sanitary well seal.)

4) Connect one or more hoses from faucets on the discharge side of the pressure tank to the top of the well, and while pumping the well, let water from these flow back into the well for at least 15 minutes. Then open each faucet in the system and let the water run until a chlorine odor or taste is detected. Close all faucets. Seal the top of the well casing.

5) Let stand for several hours, preferably overnight.

6) Operate the pump, discharging water from all outlets until all chlorine odor and taste disappears. Faucets on fixtures discharging to septic tank systems should be throttled to a low flow to avoid overloading the disposal system.

Chlorine always should be used outside or in well-ventilated places because breathing the fumes is dangerous. In heavy concentrations, chlorine also is harmful to the skin and clothing.

Additional instructions on safe water supplies from wells can be obtained from the Division of Sanitary Engineering, Illinois Department of Public Health, Springfield.

Table 2. Recommended Chlorine Dosages for Well Disinfection

Diameter of well (*inches*)	Amount of chlorine (*cups*) for given depth of water in well (*feet*) 5	10	25	50	75	100
2	0.5	0.5	0.5	0.5	0.5	0.5
3	0.5	0.5	0.5	0.5	1.0	1.0
4	0.5	0.5	0.5	1.0	1.5	2.0
6	0.5	0.5	1.0	2.0	3.0	4.0
8	0.5	1.0	2.0	3.5	5.5	7.0
10	1.0	1.5	3.0	6.0	9.0	12.0
12	1.0	2.0	4.0	8.0	12.0	16.0
18	2.0	3.5	9.0	18.0	27.0	36.5
24	3.0	6.5	16.0	32.5	48.5	64.5
30	5.0	10.0	25.0	50.5	76.0	----
36	7.0	14.5	36.0	72.5	----	----
48	13.0	26.0	64.5	----	----	----
60	20.0	40.3	----	----	----	----

Methods of Pumping Water

Most wells in Piatt County are equipped with electrically driven pumps of the suction, jet, cylinder, or turbine types. Suction pumps can be used only where the pumping level is less than about 18 feet. For greater lifts, deep-well jet, cylinder, or vertical and submersible turbine pumps are required. Farm and domestic pumps generally are of the deep-well jet, cylinder, or submersible turbine types. Sizes of commercially available submersible pumps limit their use to wells with minimum inside diameters of 4 inches. Large-capacity municipal and industrial wells in the county utilize both the submersible and vertical turbine type pumps.

SUMMARY OF MUNICIPAL WATER SUPPLIES

Municipalities and industries in Piatt County use about 1.1 mgd of water from wells. All of these wells tap sand and gravel aquifers in the glacial drift deposits. Cerro Gordo and La Place are the only municipalities with wells tapping the upper aquifer system. The villages of Atwood, Bement, Cisco, Deland, and Hammond have wells finished in the middle aquifer system. The major portion of pumpage from the middle deposits occurs at Atwood and Bement which pump about 100,000 and 125,000 gpd, respectively. Cisco, Mansfield, Monticello, and Allerton Park obtain water from the lower aquifer system. Most of the withdrawal from the lower deposits is at Monticello which pumps about 500,000 gpd.

Monticello, the only city furnishing significant industrial supplies, has an average per capita consumption of about 120 gpd. All other towns in Piatt County average about 70 gallons per person per day.

The municipal water supply wells described in this section should provide a general indication as to the quantity of water that could be obtained from other installations in areas where similar aquifer conditions are present. In the following summaries, population figures are taken from the 1970 census; pumpage or consumption figures are the most recent available and in most cases are for 1970. Data on wells and pumps are the most recently reported information in our files.

Atwood

The village of Atwood (population 1264) uses two wells as a source of municipal water supply. These are located in the east part of town which is in Douglas County. They tap water-bearing sand and gravel in the middle (Illinoian) deposits.

The older well (No. 1) was drilled in 1935 by John Bolliger and Sons, Fairbury, to a depth of 97 feet. It is a 24-inch gravel-packed well with a 12-inch inner casing and 17 feet of No. 187 (0.187 inch) slot Cook screen. When completed, the well produced from 132 gpm to 190 gpm with a maximum drawdown of 32.5 feet from a nonpumping water level of 11.5 feet (specific capacity = 5.8 gpm/ft of drawdown). The well is reportedly equipped with a 225-gpm Fairbanks-Morse vertical turbine pump.

The new well (No. 2) was constructed in 1960 by the Layne-Western Company, Aurora, to a depth of 96 feet. It is a 28-inch gravel-packed well with a 10-inch inner casing and 15 feet of No. 8 slot Layne stainless steel screen. Upon completion, it produced from 207 to 244 gpm for 22 hours with a maximum drawdown of 34.5 feet from a nonpumping water level of 19 feet (specific capacity = 6.5 gpm/ft of drawdown). The well is equipped with a 100-gpm Jacuzzi vertical turbine pump.

Average daily pumpage is reported to be about 100,000 gallons.

Analysis of a sample collected from Well No. 2 showed the water to have a hardness of 379 mg/l, total dissolved minerals of 470 mg/l, and an iron content of 1.6 mg/l.

The water is aerated, settled, filtered, softened, and chlorinated before passing to the elevated tank and into the distribution system. Fluoridation was started in October 1970.

Bement

The village of Bement (population 1638) uses two wells, located on the east side of town, as a source of municipal supply. The wells are finished in the middle (Illinoian) sand and gravel deposits.

The older well (No. 1) was drilled in 1937 by the Layne-Western Company, Aurora, to a depth of 139 feet below ground level. It is a gravel-packed well with an 18-inch diameter inside casing and 30 feet of Layne shutter screen with No. 7 and No. 5 openings. Upon completion, the well was pumped at a rate of 550 gpm for 10 hours with a drawdown of 49 feet from a nonpumping water level of 32.5 feet (specific capacity =11.2 gpm/ft of drawdown).

Well No. 2 was originally drilled for the Wabash Railway Company to a depth of 163 feet. It is a gravel-packed well with an 18-inch diameter inside casing and 50 feet of Layne shutter screen. Both wells are equipped with 250-gpm Layne vertical turbine pumps.

The average daily pumpage is reported to be 125,000 gallons.

Analysis of a sample collected from Well No. 1 (appendix B, Lab. No. 145092) showed the water to have a hardness of 330 mg/l, total dissolved minerals of 450 mg/l, and an iron content of 0.5 mg/1.

The water is aerated, settled, filtered, softened, fluoridated, chlorinated, and pH adjusted before passing to the elevated tank and into the distribution system.

Cisco

The village of Cisco (population 358) uses two wells, located in the north-west part of town, as a source of water supply. One well taps the middle (lllinoian) sand and gravel deposits and the other is apparently finished in the lower (Kansan) deposits.

The older well (No. 2) was drilled in 1950 by A. L. Stice, Danville, to a depth of 113 feet. It is a 10-inch well with 8 feet of Johnson well screen. The upper 4 feet has No. 20 (0.020 inch) slot openings and the lower 4 feet has No. 40 (0.040 inch) slot openings. Upon completion, the well was pumped at a rate of 80 gpm for 21.3 hours with a drawdown of 31.8 feet from a nonpumping water level of 45.3 feet (specific capacity = 2.5 gpm/ft of drawdown). A 50-gpm Myers submersible pump is installed in the well.

The other well (No. 3) was drilled in 1958 by Otis Woollen, Wapella, to a depth of 213 feet. It is a 10-inch well with 8 feet of well screen. A 110-gpm Myers submersible pump is installed in the well.

Average daily pumpage is reported to be approximately 30,000 gallons.

Analysis of a sample collected from Well No. 2 (appendix B, Lab. No. 123280) showed the water to have a hardness of 432 mg/1, total dissolved minerals of 657 mg/1, and an iron content of 12.0 mg/1.

The water is aerated, settled, chlorinated, filtered, and softened before passing to the elevated tank and into the distribution system. Fluoridation was started in June 1970.

CerroGordo

The village of Cerro Gordo (population 1368) obtains most of the municipal water supply from two wells, located about 1.5 miles west of town in Macon County. A third well is maintained for emergency use. The wells are finished in the upper (Wisconsinan) sand and gravel deposits.

One well (No. 6) was drilled in October 1968 by the Layne-Western Company, Aurora, to a depth of 25 feet. It is a gravel-packed well with a 16-inch casing and 5 feet of 16-inch No. 6 slot stainless steel Layne shutter screen. When completed, the well was pumped at an average rate of 119 gpm for 3 hours and 45 minutes with a final drawdown of 7.33 feet from a nonpumping water level of 10.67 feet (specific capacity = 16.2 gpm/ft of drawdown). The long-term safe yield of the well is estimated to be 70 gpm (101,000 gpd). A 100-gpm Layne turbine pump is installed in the well.

The newest well (No. 7) was drilled in August 1971 by the Layne-Western Company, Aurora, to a depth of 31 feet. It is a gravel-packed well with a 16-inch casing and 10 feet (from 19 to *2k* feet and 26 to 31 feet) of 16-inch No. 7 slot stainless steel Layne shutter screen. When completed, the well was reportedly pumped at a rate of 130 gpm for 6.5 hours with a drawdown of 3.33 feet (specific capacity = 39.0 gpm/ft of drawdown). This well is scheduled to be placed in service during the fall of 1971 and will be equipped with the 100-gpm Layne turbine pump that has been in service in Well No. 5. Well No. 5 will be abandoned and plugged.

Well No. 3, the emergency well, was drilled in 1949 by Otis Woollen, Wapella, to a depth of 27.5 feet. The well is 8 inches in diameter and has 10 feet of 50 (0.050 inch) slot Johnson Everdur screen. It is reportedly equipped with a 75-gpm pump.

Average daily pumpage is estimated to be about 80,000 gallons.

Analysis of a sample collected from Well No. 7 showed the water to have a hardness of 414 mg/l, total dissolved minerals of 510 mg/l, and a trace of iron.

The water is pre-chlorinated, settled, filtered, softened, post-chlorinated, and fluoridated before entering the distribution system.

Decatur (Macon County)

The city of Decatur (population 87,895) has two wells for emergency use located in Piatt County, about 2 miles southeast of Cisco near the Sangamon River. They are finished in the lower (Kansan) sand deposits contained in the buried Mahomet Valley.

Wells No. 1 and 2 were constructed in 1954 by the Layne-Western Company, Aurora, to depths of 243.5 and 252 feet, respectively. Both wells are 20-inch gravel-packed wells with 90 feet of 16-inch stainless steel well screen with No.

70 (0.070 inch) and No. 50 (0.050 inch) slots, respectively. Production tests were conducted on the completed wells as indicated below:

Well No.	Pumping rate (*gpm*)	Length of test (*hr*)	Drawdown (*ft*)	Nonpumping water level (*ft from land surface*)	Specific capacity (*gpm/ft*)
1	1400	8.5	71	+2.5	19.7
2	2500	7.1	22	-13.3	113.7

Wells No. 1 and 2 are equipped with 1400-gpm and 2500-gpm Byron-Jackson submersible turbine pumps, respectively.

The wells have not been used since construction.

Analysis of a sample collected from Well No. 2 (appendix B, Lab. No. 138932) showed the water to have a hardness of 324 mg/l, total dissolved minerals of 404 mg/l , and an iron content of 2.6 mg/1.

Deland

The village of Deland (population 4l8) uses four wells, located on the west edge of town, as a source of water supply. The wells tap the middle (Illinolan) sand and gravel deposits.

The older well (No. 1) was drilled in 1935 by Cummings, Gardner, to a depth of 83 feet. It is a 26-inch gravel-packed well with a 12-inch inner casing and 5.5 feet of 12-inch screen with No. 60 (0.060 inch) slots. Upon completion, the well was pumped at a rate of 65 gpm for 9 hours with a drawdown of 45.5 feet from a nonpumping water level of 18 feet (specific capacity = 1.4 gpm/ft of drawdown). The well is equipped with a 30-gpm Burk submersible pump.

Another well (No. 3) was drilled in 1952 by Otis Woollen, Wapella, to a depth of 81 feet. It is a 6-inch well equipped with 5 feet of No. 25 (0.025 inch) slot Cook well screen. Upon completion, the well reportedly produced 30 gpm for 2 hours with a drawdown of 37 feet from a nonpumping water level of 32 feet (specific capacity = 0.8 gpm/ft of drawdown). A 30-gpm Burk submersible pump is installed in the well.

The other two wells (Nos. 4 and 5) were drilled in 1961 by Mashburn Bros., Maroa, to depths, of 79.5 and 79 feet, respectively. No. 4 is a 6-inch well equipped with 3.3 feet of No. 40 (0.040 inch) slot Johnson well screen exposed to the water-bearing formation. Upon completion the well produced from 20 to 32.5 gpm for 6.8 hours with a drawdown of 38.8 feet from a nonpumping water level of 30.8 feet (specific capacity = 0.84 gpm/ft of drawdown). The long-term safe yield of Well No. 4 is estimated to be 20 gpm (28,800 gallons a day). The well is equipped with a 30-gpm Burk submersible pump and reportedly produces about 25 gpm.

Well No. 5 is a 4-inch well equipped with 3 feet of No. 18 (0.018 inch) slot Johnson well screen. It is equipped with a 30-gpm Burk submersible pump but only produces an estimated 10 gpm.

Average daily pumpage is estimated to be about 27,000 gallons.

Analysis of a sample collected from Well No. 1 (appendix B, Lab. No. 152582) showed the water to have a hardness of 475 mg/l, total dissolved minerals of 655 mg/l, and an iron content of 2.4 mg/1.

The water is aerated, settled, filtered, softened, chlorinated, fluoridated, and pumped to the elevated tank and into the distribution system.

Hammond

The village of Hammond (population 502) uses two wells, located in the northwest part of the village, as a source of municipal supply. The wells tap the middle (Illinoian) sand and gravel deposits.

The older well (No. 1) was drilled in 1934 by L. R. Burt, Decatur, to a depth of 87 feet. It is a 26-inch gravel-packed well with a 12-inch inner casing and 15.5 feet of Cook well screen. Upon completion, the well was pumped at rates from 175 to 390 gpm with a maximum drawdown of 44.8 feet from a nonpumping water level of 11 feet (specific capacity = 8.7 gpm/ft of drawdown). The well is equipped with a 150-gpm Fairbanks-Morse turbine pump.

Well No. 2 was drilled in 1957 by Swartz and Biggs, Atwood, to a depth of 87 feet. It is a 6-inch well located about 45 feet north of Well No. 1. Upon completion, the well was reportedly pumped at a rate of 150 gpm with a drawdown of 18 feet from a nonpumping water level of 11 feet (specific capacity = 8.3 gpm/ft of drawdown). A 130-gpm submersible turbine pump is installed in the we11.

Average daily pumpage is reported to be about 25,000 gallons.

Analysis of a sample collected from Well No. 2 (appendix B, Lab. No. 150301) showed the water to have a hardness of 391 mg/1, total dissolved minerals of 518 mg/1, and an iron content of 6.6 mg/1. Hydrogen sulfide gas is also reported to be present.

The water is aerated, settled, filtered, softened, the pH adjusted, fluoridated, chlorinated, and pumped to the elevated tank and into the distribution system.

La Place

The residents of the unincorporated community of La Place are to be furnished water by a not-for-profit corporation, La Place Waterworks, Inc. Each water customer (101 in 1971) is a member of the corporation, and supervision of the system is vested in a board of seven directors elected from the membership. One well located at the north edge of town is the source of water supply. It is finished in the upper (Wisconsinan) sand and gravel aquifer.

The well was constructed in July 1970 by Hayes Drilling Company, Champaign, to a depth of 55.4 feet. It is a gravel-packed well with a 4-inch inner casing and 8 feet of 18 (0.018 inch) slot Johnson stainless steel screen. During the production test, the well was pumped at a rate of 49 gpm for 3 hours with a drawdown of 9.8 feet from a nonpumping water level of 3.25 feet (specific capacity = 5.0 gpm/ft of drawdown). The long-term safe yield of the well is estimated to be 75 gpm (108,000 gallons a day). A 50-gpm pump will be installed in the well.

The distribution system and treatment plant will be constructed during the summer of 1971.

Analysis of a sample (appendix B, Lab. No. 182507) showed the water to have a hardness of 436 mg/1, total dissolved minerals of 537 mg/l, and an iron content of 7.1 mg/1.

The water will be aerated, settled, filtered, chlorinated, and fluoridated before passing to the distribution system and into the 30,000 gallon elevated storage tank.

Mansfield

The village of Mansfield (population 870) uses two wells located in the west part of town as a source of water supply. The wells tap the lower (Kansan) sand and gravel aquifer.

The older well (No. 2) was drilled in 1953 by the Layne-Western Company, Aurora, to a depth of 210 feet. It is a 22-inch gravel-packed well with an 8-inch inner casing and 10 feet of No. 4 slot Layne shutter well screen. Upon completion, the well was pumped at a rate of 175 gpm with a reported drawdown of 18.7 feet from a nonpumping water level of 59 feet (specific capacity = 9.4 gpm/ft of drawdown). The well is equipped with a 180-gpm Peerless turbine pump.

The other well (No. 3) was originally drilled in 1913 for the Wabash Railroad. It is reportedly a gravel-packed well 194.5 feet deep with a 10-inch inner casing. A 250-gpm Layne turbine pump is installed in the well.

Average daily pumpage is reported to be about 75,000 gallons.

Analysis of a sample collected from Well No. 2 (appendix B, Lab. No. 133136) showed the water to have a hardness of 298 mg/1, total dissolved minerals of 426 mg/1, and an iron content of 1.1 mg/1.

The water is fluoridated and pumped to the elevated tank and into the distribution system.

Monticello

The city of Monticello (population 4130) uses three wells, located in the central part of the city, as a source of water supply. The wells are finished in the lower (Kansan) sand deposits of the buried Mahomet Valley.

The oldest well (No. 1) was drilled in 1916 to a depth of 209 feet. In 1957 the well was rehabilitated and deepened to 228 feet by the Layne-Western Company, Aurora, and is now an 8-inch well with an effective 15 feet of well screen. It is equipped with a 425-gpm Layne vertical turbine pump.

Well No. 2 was drilled in 1927 by Mike Ebert, Washington, to a depth of 212 feet. It is a 12-inch well with 16 feet of Cook well screen exposed to the water-bearing formation. In 1938, the well reportedly produced 298 gpm with a drawdown of 20 feet from a nonpumping water level of about 30 feet (specific capacity = 14.9 gpm/ft of drawdown). A 450-gpm Worthington vertical turbine pump is installed in the well.

Well No. 4 was drilled in 1958 by the Layne-Western Company, Aurora, to a depth of 263 feet. It is a 34-inch gravel-packed well with a 12-inch inner casing and 20 feet of No. 6 Layne shutter stainless steel screen. Upon completion, the well was pumped at rates of 770 to 1005 gpm with a drawdown of 13 feet from a nonpumping water level of 34 feet (specific capacity = 72.4 gpm/ft of drawdown). A 1000-gpm Aurora vertical turbine pump is installed in the well.

Average daily pumpage is reported to be approximately 500,000 gallons.

Analysis of a sample collected from Well No. 4 (appendix B, Lab. No. 153660) showed the water to have a hardness of 265 mg/l, total dissolved minerals of 356 mg/l, and an iron content of 1.6 mg/1.

The water is aerated, settled, chlorinated, filtered, softened, fluoridated, and discharged to the elevated tank and into the distribution system.

Robert Allerton Park

The Robert Allerton Park has one well, located about 1 mile west of Allerton House, as the principal source of water supply. It is finished in the lower (Kansan) sand and gravel deposits.

The well (No. 2) was drilled in 1949 by J. Bolliger and Sons, Fairbury, to a depth of 209 feet. It is an 8-inch well with 10 feet of No. 40 (0.040 inch) slot Johnson well screen. Upon completion, the well was pumped at rates of 27 to 40 gpm for 4 hours with a final drawdown of 68 feet from a nonpumping water level of 38.4 feet (specific capacity = approximately 0.5 gpm/ft of drawdown). A 30-gpm Peerless turbine pump is installed in the well.

The average daily pumpage is reported to be approximately 4000 gallons.

Analysis of a sample (appendix B, Lab. No. 144134) showed the water to have a hardness of 305 mg/1, total dissolved minerals of 387 mg/1, and an iron content of 1.0 mg/1.

The water is aerated, settled, filtered, and fluoridated before being discharged to the elevated tank and into the distribution system.

White Heath

The residents of the unincorporated community of White Heath are furnished water by a not-for-profit corporation, White Heath Waterworks, Inc. Each water customer (90 in 1971) is a member of the corporation, with supervision of the system vested in a board of seven trustees elected from the membership. One well located about 0.25 mile north of town is the source of water supply. It is finished in the lower (Kansan) sand and gravel aquifer.

The well was constructed in August 1969 by Sims Drilling Company, Savoy, to a depth of 233 feet. It is a 6-inch well with 9 feet of No. 15 (0.015 inch) and 4 feet of No. 20 (0.020 inch) slot Johnson red brass screen. During the production test, the well was pumped at a rate of 75 gpm for *2k* hours with a drawdown of 11.65 feet from a nonpumping water level of 80.29 feet (specific capacity = 6.4 gpm/ft of drawdown). A 50-gpm Jacuzzi submersible pump is installed in the well.

The supply was placed on line March 5, 1970, and in early 1971 the average daily pumpage was estimated to be 14,500 gallons.

Analysis of a sample (appendix B, Lab. No. 179299) showed the water to have a hardness of 326 mg/l, total dissolved minerals of 421 mg/l, and an iron content of 1.6 mg/l.

The water is fluoridated, aerated, settled, filtered, and chlorinated before passing to the distribution system and into the 20,000 gallon pressure storage tank.

EXAMPLE USE OF MATERIALS

The following brief discussion illustrates how the tables and maps in this circular may be used to evaluate the groundwater conditions at any given location in the county. Assume that a well is desired for a dependable farm water supply (5 to 10 gpm) in the Southwest corner of Section 3, Township 18 North, Range 5 East, Willow Branch Township, Piatt County (PIA l8N5E-3.8a).

A quick search of the data tabulated in appendix A shows three wells located in the section of interest. Two are drilled wells tapping the middle glacial deposits at depths of 68 and 119 feet with reported nonpumping water levels of 10 and 30 feet below ground level, respectively. The third well is a dug well with a drilled extension finished in the middle deposits at a depth of 90 feet.

Records of 36 additional wells located in the adjoining sections (18N5E-2, 4, 9, 10, and 11 and 19N5E-33, 34, and 35) are also tabulated in appendix A. Twenty of these wells tap the middle deposits between depths of 68 and 126 feet and have reported nonpumping water levels from 25 to 60 feet below ground level. Four wells are finished in the lower deposits at depths of 186 to 240 feet and have reported nonpumping water levels from 40 to 90 feet below ground level. The remaining 12 wells consist of 11 dug wells from 18 to 54 feet deep and 1 bored well with a drilled extension to a depth of 163 feet. No records of wells tapping the underlying bedrock formations are recorded in the general area of interest.

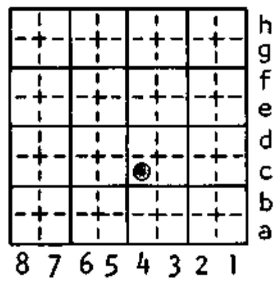
Most of the wells near this location are 2 or 4 inches in diameter and are equipped with lengths of commercially made screen designed to hold back the aquifer materials yet permit free entry of water into the well. Available information suggests that 3 or more feet of water-bearing sand (and screen) are normally required to insure an adequate farm supply. Although many of the wells now in use in Piatt County are 2 inches in diameter, increased water usage and ease of pump maintenance make 4- or 6-inch wells more desirable.

The chemical quality of water from each aquifer is illustrated in appendix B. Water from a 118-foot well in Section 4 tapping the middle glacial deposits contained 4.0 mg/l iron, 316 mg/l hardness, and 477 mg/l total dissolved minerals (Lab. No. 172341). A sample from a 195-foot well in Section 7 finished in the lower deposits shows the water to contain 2.1 mg/1 iron, 312 mg/1 hardness, and 451 mg/1 total dissolved minerals (Lab. No. 168128).

Maps in the text indicate that a satisfactory farm well can probably be developed from either the middle or lower glacial formations. A drilled well less than about 125 feet deep (figure 12) with a nonpumping water level near 25 feet below ground level (figure 13) should be obtainable from the middle deposits. Total dissolved minerals would be expected to range between 400 and 500 mg/1 (figure 16a) with a hardness content between 300 and 400 mg/1 (figure 16b). If no deposits worthy of development are encountered at these depths, drilling into the lower deposits is recommended. A well tapping these materials should have a maximum depth of 300 feet (figure 17) with a nonpumping water level of about 40 feet below ground level (figure 18). Total dissolved minerals and hardness content would be expected to range between 400 and 500 mg/1 and 300 and 400 mg/1, respectively (figures 21a and b).

APPENDIX A - RECORDS OF WELLS

The well-numbering system used in this report is based on the location of the well, and uses the township, range, and section for identification. The well number consists of five parts: county abbreviation (PIA), township (T), range (R), section, and coordinate within the section. Sections are divided into rows of 1/8-mile squares. Each 1/8-mile square contains 10 acres and corresponds to a quarter of a quarter of a quarter section. A normal section of 1 square mile contains 8 rows of 1/8-mile squares; an odd-sized section contains more or fewer rows. Rows are numbered from east to west and lettered from south to north as shown in the diagram.



Piatt County
T18N, R5E
Section 23

The number of the well shown is PIA 18N5E-23.itc. Where there is more than one well in a 10-acre square they are identified by arabic numbers after the lower case letter in the well number. Any number assigned to the well by the owner is shown in parentheses after the location well number.

In the listing of wells owned by municipalities, the place-name is followed by V, T, or C in parentheses to indicate whether it is a village, town, or city, except where the word City is part of the place-name.

Owners are listed according to the most current information available -- the 1967 plat book and recent well records for Piatt County.

Symbols and abbreviations shown indicate the following:

→ = constructed before year given, exact date unknown
* = test hole not developed as well
** = abandoned well
drl = drilled well
bor = bored well
drl-GP = drilled well, gravel packed

The types of wells and methods of construction used in Piatt County, their susceptibility to surface contamination, and methods of disinfection are discussed in the text of this report.

Appendix A. Records of Wells

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T16N, R4E																
1.1e1	Helen I. Crowe**	1895	drl	104+	2	--	--	--	709	30	--	--	--	--	Sand & gravel at 104±	Shasteen
1.1e2	Helen I. Crowe	+1907	dug	26.9	42	--	--	--	708	5.4	--	--	--	--	--	--
1.1e3	Helen I. Crowe	1939	drl	158	4	5	--	--	708	--	--	--	--	--	--	Woollen
1.6a1	Chester Cox	+1905	dug & drl	113	--	--	--	--	710	--	--	--	--	--	Sand at 113	--
1.6a2	Chester Cox	1910	dug & drl	115	42-3	--	--	--	710	35	--	--	--	--	Sand at 115	Hendricks
1.8h	Gail Baer	1910	dug	55	36	--	--	--	719	20	--	--	--	--	Sand at 55	Shasteen
2.1a	Ruth Klink**	1941	drl	168.5	4	3	4	.040	709	37	106	3	.03	2	Dirty sand, 106-109; sand & gravel, 167-168.5	Woollen
2.4a	Ruth Klink**	1908	drl	117	3	6	--	--	712	--	--	--	--	--	Sand at 117	Grubb
2.4h1	Thomas McHatton	+1908	dug	40	--	--	--	--	720	--	--	--	--	--	--	--
2.4h2	Thomas McHatton	+1908	dug & bor	57	--	--	--	--	720	--	--	--	--	--	Sand, 36-40	--
2.4h3	Thomas McHatton	1895	dug & drl	67	48-2	--	--	--	720	30	--	--	--	--	Sand & gravel at 67	Turney
2.8a	Lee Klink	+1917	dug	15-18	--	--	--	--	725	7	--	--	--	--	--	--
2.8h1	Reid Voelcher	1924±	dug & drl	190	48-3	--	--	--	730	10-30	--	--	--	--	Sand & gravel at 140	--
2.8h2	Reid Voelcher	1932	drl	190	12	--	--	--	730	8	--	--	--	--	Sand at 190	Woollen
3.1c	Mabel Myers, et al.	+1917	dug	34.6	36	--	--	--	726	5.4	--	--	--	--	--	--
3.1d	Mabel Myers, et al.	1944	drl	72	4	3	4	.025	725	30	20	6	.3	1	Sand & gravel, 70-72	Woollen
3.8d1	R. E. Jones, et ux.**	+1896	dug	20	42	--	--	--	740	12	5.5	6	1.1	1	Sand & gravel at 20	--
3.8d2	R. E. Jones, et ux.	1918	drl	100+	3	--	--	--	740	--	--	--	--	--	Sand at 100+	--
3.8e	R. E. Jones, et ux.	1944	drl	94	4	3	4	.025	740	37	3	5	1.7	2	Sand & gravel, 91-95	Woollen
3.8h	Clarence Krall	1922	dug & drl	56	48-16-8	--	--	--	727	11-5	--	--	--	--	Sand & gravel at 56	Webb
10.1a	Era Clarkson	+1942	bor	35.6	12	--	--	--	720	4.3	--	--	--	--	--	--
10.5a	Era Clarkson	1915	drl	144	3	--	--	--	730	50	--	--	--	--	Sand at 144	Grubb
10.8f	Marie Wood	+1905	drl	152	2	--	--	--	739	--	--	--	--	--	Sand at 152	--
11.2a	Mary Dennis Estate	+1905	dug	60	42	--	--	--	710	30	--	--	--	--	Sand & gravel at 60	--
11.8b	W. E. Joynt	--	dug	45.7	54	--	--	--	720	7.3	--	--	--	--	--	--
11.8h1	Lottie B. Cook**	+1900	dug & drl	90±	42-2	--	--	--	722	30	--	--	--	--	Sand & gravel at 90±	--
11.8h2	Lottie B. Cook	+1932	dug	60	20	--	--	--	722	--	--	--	--	--	--	--
13.1f	Louis S. Cripe	+1915	drl	97	2	--	--	--	702	40	--	--	--	--	Sand at 97	Grubb
13.2a	Gertrude Still Est.	+1910	dug & drl	65	48-2	--	--	--	700	10	--	--	--	--	--	--
13.8h1	Donald McClellan**	1885	dug	60	30	--	--	--	702	18	--	--	--	--	Sand at 60	--
13.8h2	Donald McClellan	--	dug	17	30	--	--	--	702	5.8	--	--	--	--	--	--
14.1c1	Marjorie Grove	--	dug	36.5	48	--	--	--	702	4.2	--	--	--	--	--	--
14.1c2	Marjorie Grove	--	drl	--	4	--	--	--	702	--	--	--	--	--	--	--
14.1f1	Marjorie Grove	--	dug	37.5	36	--	--	--	704	5.2	--	--	--	--	--	--
14.1f2	Marjorie Grove	1941	drl	81	4	3 4	4 4	.014 .025	704	35	39	5	.1	2	Sand, 44-67, 72-81	Woollen
14.8b	I. C. Robinson	+1905	dug & drl	125	48-2	--	--	--	717	--	--	--	--	--	Sand & gravel at 125	--
14.8g1	Era Clarkson	--	dug	51.5	48	--	--	--	719	5.3	--	--	--	--	--	--
14.8g2	Era Clarkson	--	dug	37.4	48	--	--	--	719	4.3	--	--	--	--	--	--
14.8g3	Era Clarkson	1931	bor	112	12	--	--	--	719	30	--	--	--	--	Sand & gravel at 112	Duggan
14.8g4	Era Clarkson	1940	drl	121	4	3	3.75	.040	719	50	30	--	--	--	Sand & gravel, 118-121	Woollen
15.1d	Mrs. C. R. Groves	+1907	dug & drl	125	42-2	--	--	--	715	10-20	--	--	--	--	Sand & gravel at 125	--
15.5d	Eva A. Tatman	1944	drl	130	4	--	--	--	725	70	20	6	.3	1	Sand & gravel, 127-130	Woollen
15.8d	Eva A. Tatman	1895	drl	135	2	--	--	--	730	60	--	--	--	--	Sand at 135	--
15.8h1	A. W. Derr	1915	bor	60	12	--	--	--	735	30	26	4-5	--	.5	Sand, 30-60	--
15.8h2	A. W. Derr	+1917	dug	24	60	--	--	--	735	10-12	--	--	--	--	--	--
15.8h3	A. W. Derr	1940	drl	160	4	4	3	--	735	80	--	--	--	--	Sand & gravel, 130-133, 155-160	Woollen
22.1f1	Floyd F. Rhoades	+1930	bor	119	10-6	--	--	--	715	60	22	4	.2	.5	Sand & gravel at 119	Webb
22.1f2	Floyd F. Rhoades	1932	bor	132	10	--	--	--	715	45	--	--	--	--	Sand & gravel at 132	Duggan
22.8a1	Helen Post	--	dug	15.6	52	--	--	--	732	4.4	--	--	--	--	--	--
22.8a2	Helen Post	1900	drl	97	2	--	--	--	732	40	--	--	--	--	--	Baker
22.8g1	Helen Post	--	dug	14.9	48	--	--	--	732	5.2	--	--	--	--	--	--
22.8g2	Helen Post	--	dug	17.3	24	--	--	--	732	7.6	--	--	--	--	--	--
22.8g3	Helen Post**	1905	drl	96	2	--	--	--	731	40	--	--	--	--	--	Reese
23.1d1	C. F. Shively	1880	dug & drl	100	42-3	--	--	--	704	6.2	--	--	--	--	--	Reeves
23.1d2	C. F. Shively	1905	dug	21.8	48	--	--	--	704	6.4	--	--	--	--	Sand at 21.8	Shively
23.1d3	C. F. Shively	1962	drl	158	2.5	--	--	.010	704	--	--	--	--	--	Sand, 155-158	Lentz
23.4h1	Bert Linthicum	+1917	dug	37.3	42	--	--	--	710	6	--	--	--	--	Sand at 37.3	--
23.4h2	Bert Linthicum	+1927	dug	48.6	42	--	--	--	710	5.8	--	--	--	--	Sand	--
23.8c	H. F. Ridgeley, Jr.	1890	dug & drl	120	42-2	--	--	--	712	30-40	--	--	--	--	Sand at 120	--
24.5f1	W. J. Grady	--	dug	25	48	--	--	--	692	10	--	--	--	--	Sand & gravel at 25	--
24.5f2	W. J. Grady	1860	dug	50	42-10	--	--	--	692	15	--	--	--	--	Sand at 50	Shively
24.5f3	W. J. Grady	1941	drl	102	4	3	4	.025	695	70	25	5	.2	2	Sand & gravel, 100-102	Woollen
24.6b	Mabel Myers, et al.	--	dug	37.2	36	--	--	--	703	4.5	--	--	--	--	--	--
24.8h	W. J. Grady	+1926	dug	25	--	--	--	--	705	--	--	--	--	--	--	--
25.3a	Edmond L. Sawyer	1966	bor	41.7	18	--	--	--	691	14	--	--	--	--	--	Hector
25.3e1	Paul Davis	--	dug	28.3	42	--	--	--	691	4.3	--	--	--	--	--	--
25.3e2	Paul Davis	--	drl	85	4	--	--	--	691	--	--	--	--	--	--	--
25.8e	Lewis Hull	+1904	dug & drl	60	42-3	--	--	--	695	12.1	--	--	--	--	Sand & gravel at 60	--
26.1d1	Jack L. Watkins	--	dug & drl	50	42-2	--	--	--	700	5.1	--	--	--	--	Sand & gravel at 50	--
26.1d2	Jack L. Watkins	--	dug	26	60	--	--	--	700	5.6	--	--	--	--	--	--
26.1e1	Lyle Van Horn	--	dug	36	48	--	--	--	700	15	--	--	--	--	--	--
26.1e2	Lyle Van Horn	--	dug	68	42	--	--	--	700	10	--	--	--	--	--	--
26.8b	Otis Curry	1947	bor	52.9	24	--	--	--	712	9	--	--	--	--	--	--
26.8c	Otis Curry	1946	bor	48	24	--	--	--	712	1.8	--	--	--	--	--	--
26.8d1	Nikle Siera	--	bor	58	12	--	--	--	715	4.7	--	--	--	--	--	--
26.8d2	Otis Curry	+1890	dug	43.4	36	--	--	--	712	5.2	--	--	--	--	--	--
27.1e1	Lyle Van Horn	1911	bor	44	12	--	--	--	716	20	--	--	--	--	--	Reese
27.1e2	Lyle Van Horn	1915	bor	70	12	--	--	--	715	30	--	--	--	--	Sand & gravel at 70	Webb
27.1e3	Van Horn Hybrids	1968	drl	81	4	8	4	.010-.012	716	22	10	10	1.0	1.5	Sand, 73-81	Sims
27.8b	W. S. Miller	--	dug & bor	87	42-8	--	--	--	733	40	--	--	--	--	Sand & gravel at 87	--
27.8g1	R. H. Groff	1908	drl	108	4	--	4	--	732	8	--	--	--	--	Sand at 108	--
27.8g2	R. H. Groff	1911	bor	32	8	--	--	--	732	8	--	--	--	--	--	--
27.8g3	R. H. Groff	1951	drl	95.5	3	--	--	.012	732	--	--	--	--	--	--	Lentz

Appendix A (Continued)

Well number	Owner	Well: Year con-structed	Well: Type	Well: Depth (ft)	Well: Diam-eter (in)	Screen: Length (ft)	Screen: Diam-eter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Draw-down (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T16N, R4E (Continued)																
34.1e	Carl Hite	--	bor	51.5	12	--	--	--	714	4.9	--	--	--	--	--	--
34.7c	Jennie Alexander	1899	drl	112	4	--	--	--	728	30	--	--	--	--	Sand at 112	--
34.8e1	Jennie Alexander	--	drl	97	4	--	--	--	731	--	--	--	--	--	--	--
34.8e2	Jennie Alexander	1917	bor	84	12	--	--	--	731	60	--	--	--	--	--	--
35	Ed Craviston	1961	drl	48	4	5	2	.025	--	12	8	8	1.0	6	Sand & gravel, 42-48	Fleming
35.3d1	La Place Public School	+1929	drl	36	--	--	--	--	700	--	--	--	--	--	--	--
35.3d2	La Place Public School	+1929	dug	30	--	--	--	--	700	--	--	--	--	--	--	--
35.3d3	La Place Public School	1931	dug & drl	55	48-3	--	--	--	700	14	--	--	--	--	Sand & gravel, 50-55	Traxler
35.4d	Dr. J. Clark	+1915	dug	12	--	--	--	--	700	--	--	--	--	--	--	--
35.4f1	The Church of the Brethren	1958	drl	59.1	4	3.5	2	.010	700	--	--	35	--	--	Sand, 47.7-59.1	Lentz
35.4f2(I)	La Place	1970	drl-GP	55.4	4	8	4	.018	700	3.25	9.8	49	5.0	3	Sand, 44-50; sand & gravel, 50-55.4	Vaughn
35.5c	Isabel V. LaForge	1915	drl	139	3	--	--	--	700	20	--	--	--	--	Sand at 139	--
35.8e	Carrie Hamman	+1917	dug	40	42	--	--	--	712	--	--	--	--	--	--	--
36.4g1	Isabelle Tenbrook	1924	drl	32.7	3	--	--	--	685	+1.7	--	--	--	--	Sand at 32.7	Traxler
36.4g2	Isabelle Tenbrook	1964	bor	40.8	18	--	--	--	690	7.7	--	--	--	--	Sand at 40.8	Hector
36.4h	Jerald Crickman	--	drl	32.1	3	--	--	--	680	+.5	--	--	--	--	Sand at 32.1	--
36.5a1	Elizabeth Hawthorne	--	dug	17.8	48	--	--	--	680	6.7	--	--	--	--	--	--
36.5a2	Elizabeth Hawthorne	--	dug	21.8	48	--	--	--	680	10.8	--	--	--	--	--	--
36.5a3	Elizabeth Hawthorne	--	bor	45.1	10	--	--	--	680	23.7	--	--	--	--	--	--
T16N, R5E																
1.1a	Francis C. Bodman	1921	drl	204	3	--	--	--	677	14	--	--	--	--	Sand at 165; rock at 204	Poundstone
1.1d	Industrial Water Supply Co.	--	drl	277	--	--	--	--	670	--	--	--	--	--	*	Layne-Western
1.2h1	E. R. Lamb	1925	drl	140	3	--	--	--	677	30	--	--	--	--	Sand at 140	Poundstone
1.2h2	E. R. Lamb	1925	drl	100	3	--	--	--	677	30	--	--	--	--	Sand at 100	Poundstone
2.5f1	Robert Allerton Est.	1917	drl	161	3-2	4	--	--	682	20	--	6	--	2	Sand, 100-120; sand & gravel at 161	Traxler
2.5f2	Robert Allerton Est.	1953	drl	120	4	--	--	--	682	--	--	--	--	--	--	Woollen
3	Paul D. Cooper	+1916	dug	68	--	--	--	--	--	--	--	--	--	--	Sand at 68	--
3	A. Ohler	+1916	dug & drl	80	--	--	--	--	--	--	--	--	--	--	Sand & gravel at 80	--
3.4h	Robert Allerton Est.	--	drl	--	3	--	--	--	692	--	--	--	--	--	--	--
4.1h1	Gladys Woodward	--	dug	20.8	39	--	--	--	697	4.7	--	--	--	--	--	--
4.1h2	Gladys Woodward	--	drl	110	2	--	--	--	697	--	--	--	--	--	Sand at 110	--
4.1h3	Gladys Woodward	1916	drl	80	4	--	--	--	697	20	--	--	--	--	Sand at 80	Grubb
4.8f	Earl Larrick	1913	drl	100	3	--	--	--	691	30+	--	--	--	--	Sand at 100	Poundstone
5.1d	Helen & Harriet Wise	--	drl	110+	2	--	--	--	690	50+	--	--	--	--	Sand at 110+	Grubb
5.8a1	H. L. Shinneman	1963	drl	167	--	--	--	--	711	--	--	--	--	--	*Dirty sand & gravel, 57-61, 137.5-142	Hayes
5.8a2	H. L. Shinneman	1963	drl	60	4	--	--	--	711	--	--	--	--	--	*Sand, 45-48	Hayes
5.8a3	H. L. Shinneman	1963	drl-GP	135	4	8.5	4	.018	711	34	--	40	--	7	Sand & gravel, 87-90; sand, 114-135	Hayes
5.8h1	Pearl Bloomer	1898	dug & drl	50	36-1.5	--	--	--	706	25	--	--	--	--	Sand at 30	--
5.8h2	Pearl Bloomer	1898	dug	39.3	36	--	--	--	706	4.5	--	--	--	--	--	--
5.8h3	Pearl Bloomer	--	dug	33	44	--	--	--	706	4.6	--	--	--	--	--	--
6.1a	H. L. Shinneman	--	dug	38.3	36	--	--	--	712	5.7	--	--	--	--	--	--
6.1f1	J. E. Henebry	--	dug	33.3	36	--	--	--	703	2.8	--	--	--	--	--	--
6.1f2	J. E. Henebry	1913	dug & drl	111	42-3	--	--	--	703	4.6	--	--	--	--	Sand at 111	Grubb
6.1g	Howard Reed	--	dug	23.3	36	--	--	--	705	6.1	--	--	--	--	--	--
6.8b	H. L. Shinneman	1903	drl	129	2	--	--	--	710	30	--	--	--	--	Sand at 129	Grubb
6.8h1	Dorthy Cripe	--	dug	51.8	48	--	--	--	711	6.4	--	--	--	--	--	--
6.8h2	Dorthy Cripe	1897	drl	140	4	--	--	--	711	40.5	--	--	--	--	Sand & gravel at 140	--
7.2a	J. L. Tallman	--	dug	25.9	38	--	--	--	702	3.6	--	--	--	--	--	--
7.3h	Benton Mueller	1918	dug	43.8	42	--	--	--	709	6	--	--	--	--	--	--
7.8f	John R. Ruddock	1921	drl	121	3	--	--	--	705	17	--	--	--	--	Sand & gravel, 116-121	Traxler
8.1f	E. E. Huffington	--	dug	28.5	42	--	--	--	688	23.3	--	--	--	--	--	--
8.2h1	Harry S. Funk	1905	dug	32	42	--	--	--	690	11.4	--	--	--	--	--	--
8.2h2	Harry S. Funk	1912	dug & drl	47	48-2	--	--	--	690	3-12	--	--	--	--	Sand at 47	Grubb
8.7h1	Harry S. Funk	+1917	dug	21.2	36	--	--	--	702	6.2	--	--	--	--	--	--
8.7h2	Harry S. Funk**	1905	dug & drl	70	48-2	--	--	--	705	30	--	--	--	--	Sand at 70	--
8.7h3	Harry S. Funk	--	dug	37.9	48	--	--	--	702	6.1	--	--	--	--	--	--
9.7d	Clyde Clow	1860	dug	23.8	48	--	--	--	689	6.2	--	--	--	--	Sand & gravel at 23.8	--
9.8d	Clyde Clow	1908	dug	32	36	--	--	--	688	5-10	--	--	--	--	--	--
9.8h	Fred Durbin	1860	dug	30	42	--	--	--	685	15	--	--	--	--	--	--
10.6h1	Robert Allerton Est.	1931	dug & drl	38	36-2	--	--	--	685	6.6	--	--	--	--	Sand at 38	Gift
10.6h2	Robert Allerton Est.	1931	dug & drl	70	36-2	--	--	--	685	7	--	--	--	--	Dirty sand at 70	Gift
10.6h3	Robert Allerton Est.	+1942	drl	65	3	--	--	--	685	--	--	--	--	--	--	--
11.2h	Margaret Winkel	1931	drl	90	--	--	--	--	680	--	--	--	--	--	--	--
11.5h	Robert Allerton Est.	1917	drl	44	3	4	--	--	684	6-10	--	--	--	--	Sand at 44	Traxler
12.1c	Dorothy Moore	1900	bor & drl	70	6-2	--	--	--	679	17	--	--	--	--	Sand & gravel at 70	Braught
12.1e1	Alfred Moore**	--	dug & drl	80	48-6	--	--	--	680	12	--	--	--	--	--	--
12.1e2	Alfred Moore	1963	drl	75	4	4	4	.018	678	13	--	12.5	--	--	Sand & gravel, 70-75	Swartz
12.8e	J. P. Ford Estate	1913	dug & drl	140	48-3	--	--	--	680	15.7	--	--	--	--	Sand & gravel at 140	Woods
13	C. E. Van Vleet	--	dug & bor	50-60	42-?	--	--	--	--	12	--	--	--	--	--	--
13.4a	Mrs. W. P. Stauder	--	dug	22.5	36	--	--	--	671	16.6	--	--	--	--	--	--
13.8e	Mrs. Hugh Ruddock	1900	dug & drl	125-150	42-2	--	--	--	672	6.7	--	--	--	--	--	--
14.1h	Marjorie Heerdt	1890	dug	--	48	--	--	--	675	20	--	--	--	--	--	--
14.2a	R. & C. Davis	1890	dug & drl	50	36-2	--	--	--	676	5-28	--	--	--	--	Sand at 50	--
14.5a1	Maxine Clifford	1910	dug & bor	60	72-18-12	--	--	--	680	6-15	--	--	--	--	Dirty sand at 60	--
14.5a2	Maxine Clifford	--	dug & bor	43	48-12	--	--	--	677	2.9	--	--	--	--	--	--
15.6c	Kenneth E. Evans	1926	drl	28.5	3	--	--	--	690	5	18	--	--	--	Sand & gravel at 28.5	Traxler
										10	13	3	.2	--		

Well number	Owner	Well				Screen			Land surface elevation (ft above msl)	Non-pumping water level (ft)	Draw-down (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
		Year con-structed	Type	Depth (ft)	Diam-eter (in)	Length (ft)	Diam-eter (in)	Slot size (in)								
T16N, R5E (Continued)																
16.3g	Marie F. Palmer	1922	bor & drl	85	12-6	--	--	--	685	15	--	--	--	--	Sand & gravel at 85	Duggan
16.3h1	Marie F. Palmer	1890	dug	32	48	--	--	--	685	6	--	--	--	--	Dirty sand and gravel at 32	--
16.3h2	Marie F. Palmer	1890	dug	32	48	--	--	--	685	6-12	--	--	--	--	--	--
17.1d	Bertha Peterson	1944	drl	114	4	--	--	--	685	15	85	4	.1	4	Sand at 114	Woollen
17.2h	Jennie Born	1907	drl	87	2	3.2	--	--	692	15-17	--	--	--	--	Sand, 77-87	Grubb
17.6h	W. A. Born Est.**	1905	drl	65.5	3	--	--	--	695	25	--	--	--	--	Sand at 65.5	Grubb
17.8h	W. A. Born Estate	--	drl	40	6	--	--	--	700	--	--	--	--	--	--	--
18.1b	Marie F. Palmer	--	dug & drl	50	42-2	--	--	--	695	20	--	--	--	--	Sand & gravel at 50	Foster
18.8d	Elbert Peterson	1940	drl	102	4	3	3.75	.025	702	35	30	5	.2	--	Dirty sand & gravel, 67-75; sand & gravel, 100-101.5	Woollen
18.8e	Elbert Peterson	--	dug & drl	60	42-2	--	--	--	702	3-20	--	--	--	--	Sand at 60	--
18.8g	Fred Born	1890	dug & drl	65	42-2	--	--	--	702	20	--	--	--	--	Sand & gravel at 65	--
19.1b	Lester Berry	1890	dug & drl	82	42-2	--	--	--	691	10.1	--	--	--	--	--	--
19.4h1	Annie Dilatush	1921	drl	53.5	3	6	--	--	701	48	--	--	--	--	Sand & gravel at 53.5	Traxler
19.4h2	Annie Dilatush	1959	drl	78	4	--	--	--	701	20	--	--	--	--	--	Mashburn
19.8a1	Willard Cripe	1913	dug	29	36	--	--	--	695	5.2	--	--	--	--	--	Cripe
19.8a2	Willard Cripe	--	dug	16.4	48	--	--	--	695	3.3	--	--	--	--	--	--
19.8f1	C. Earl Evans	--	dug	31	24	--	--	--	703	5.7	--	--	--	--	--	--
19.8f2	C. Earl Evans	1956	drl	--	--	--	--	--	703	--	--	--	--	--	--	Mashburn
20.1b	Oscar Beery	1942	drl	104	4	3	4	.025	680	6	20	8	.4	2	Sand & gravel, 99-104	Woollen
20.1e	Esther McLaughlin	1931	dug & drl	50	48-2	--	--	--	682	4-24	--	--	--	--	Sand & gravel at 50	--
20.6h1	Paul Hamman	1950	drl	94	2.5	13.8	--	.010-.012	690	--	--	--	--	--	Dirty sand, 40.2-42.7; sand, 84.8-89, 93.2-94	Lentz
20.6h2	Paul Hamman	1951	drl	51	2.5	9.3	--	.010	690	--	--	--	--	--	--	Lentz
21.1a1	Lewis Estate	1931	bor	75	12-6	--	--	--	675	10	--	--	--	--	Sand & gravel at 75	Duggan
21.1a2	Lewis Estate	1967	drl	140	4	--	--	--	675	--	--	--	--	--	--	Swartz
21.1f1	Mabel Hobart	--	dug	27.5	36	--	--	--	680	13.6	--	--	--	--	--	--
21.1f2	Mabel Hobart	1956	bor	56	18	--	--	--	680	--	--	--	--	--	--	--
21.4h	Mabel Hobart	1919	dug & drl	35	42-3	--	--	--	682	10-20	--	--	--	--	Sand & gravel at 35	Traxler
22.1f1	Margaret Wolfe	--	bor	50	6	--	--	--	675	12	--	--	--	--	Sand & gravel at 50	--
22.1f2	Margaret Wolfe	--	dug	27.5	42	--	--	--	677	5.5	--	--	--	--	--	--
22.5h1	Mary Winings	1890	dug & drl	45	42-2	--	--	--	680	15	--	--	--	--	Sand & gravel at 45	--
22.5h2	Mary Winings	1917	dug & drl	47.5	42-2	--	--	--	680	12	--	--	--	--	Sand & gravel at 47.5	Traxler
22.8c	Ira Barnes	+1927	dug	22.5	36	--	--	--	680	7	--	--	--	--	--	--
23.3a1	Marjorie Allman	1905	dug & drl	60	42-2	--	--	--	675	10	--	--	--	--	Sand at 60	Traxler
23.3a2	Marjorie Allman	1932	dug	28	48	--	--	--	675	6	--	--	--	--	Sand at 28	--
23.5h	Maxine Clifford	1956	drl	90	--	--	--	--	677	--	--	--	--	--	Dirty sand, 81-85	Hayes
23.8a	W. G. Traver Trust	1953	drl	52	3	4	2	.012	680	15	--	8	--	--	Sand & gravel at 52	Swartz
24.1a	State Bank of Hammond Trust	--	dug & drl	110	36-2	--	--	--	675	20	--	--	--	--	Sand at 110	--
24.2b	Mrs. Hugh Ruddock	1967	drl	106	4	--	--	--	673	25	--	--	--	--	--	Swartz
24.8a1	Michael O. Driscoll	1890	dug & drl	45	36-2	--	--	--	672	27	--	--	--	--	--	--
24.8a2	Michael O. Driscoll	1946	drl	44.5	4	3	4	.025	672	10	5	7	1.4	2	Sand & gravel, 40-46	Woollen
25.4a1	Salyers Estate	--	dug & drl	65	36-2	--	--	--	670	8.7	--	--	--	--	Sand at 65	Traxler
25.4a2	Salyers Estate	1961	drl	85	--	--	--	--	670	--	--	--	--	--	--	Swartz
26.4c	Estelle Lewis Estate	--	dug	23	42	--	--	--	672	8.7	--	--	--	--	--	--
26.4e	Frances Camp Bodman	1900	dug & drl	80-100	42-2	--	--	--	674	15	--	--	--	--	Sand at 80-100	--
26.5g	Edith & Grace Hill	1942	drl	61	4	3	4	.025	680	14	17	5	.3	2	Sand & gravel, 57-61	Woollen
27.1g	Milliken Trust Co.	1890	dug & drl	70	42-2	--	--	--	673	8-18	--	--	--	--	Dirty sand & gravel at 70	--
27.8c	Essie Dick	1925	dug & drl	150	36-3	--	--	--	673	30	--	--	--	--	Sand at 150	Traxler
27.8d1	Essie Dick	1925	dug & drl	190	36-3	--	--	--	673	15-35	--	--	--	--	--	Traxler
27.8d2	Essie Dick	1954	drl	147	4	--	--	--	673	7	113	7.5	.1	3	Rock, 135-147	Swartz & Biggs
27.8d3	Essie Dick	1954	drl	147	4	--	--	--	673	20	--	7.5	--	2	Sand rock, 134-147	Swartz
27.8g	S. B. Barnes	--	dug & drl	200	42-3	--	--	--	674	20	--	--	--	--	--	Traxler
28.3e	Ira B. Barnes	1898	dug & drl	75	48-2	--	--	--	678	10	--	--	--	--	Sand at 75	Hendricks
28.5d	Anna Reedy	+1931	dug & drl	100	42-3	--	--	--	680	20	--	--	--	--	Sand & gravel at 100	Poundstone
28.7d	Anna Reedy	1937	bor	35	12	--	--	--	674	--	--	--	--	--	--	Duggan
29.1d	Selby Clark	1895	dug & drl	85	42-2	--	--	--	680	15	--	--	--	--	Sand at 85	--
29.3d	Chauncey Werner	1918	dug & drl	85	48-4	--	--	--	682	13.2	--	--	--	--	Sand at 83	Grubb
29.4e	Walter Adams	1961	drl	63	4	--	--	--	684	--	--	--	--	--	Sand & gravel, 60-63	Woollen
29.8a1	Freda Randall	--	dug	32	30	--	--	--	688	6.4	--	--	--	--	--	--
29.8a2	Freda Randall	1940	drl	234	4	--	--	--	688	16	10	5	.5	2	Sandstone, 232-234	Woollen
30.1g1	Leta R. Forward	--	dug	29.8	42	--	--	--	690	6.5	--	--	--	--	--	--
30.1g2	Leta R. Forward	+1947	drl	240	6	--	--	--	690	--	--	--	--	--	--	--
30.2a	Alvin Brown	1923	drl	151	3	6	--	--	688	21	--	--	--	--	Sand & gravel at 151	Traxler
30.7e	Omer I. Cripe**	--	dug & drl	80-90	48-4	--	--	--	692	15	--	--	--	--	--	--
31	Isabelle Tenbrook	1940	--	32	--	--	--	--	--	flows	--	4	--	--	Sand at 32	Hockaday
31.3h1	John Allen	1905	dug	32.2	48	--	--	--	688	6.6	--	--	--	--	Sand & gravel at 32.2	--
31.3h2	John Allen	1931	bor & drl	160	12-3	--	--	--	688	4.6	--	--	--	--	--	Meyers & Ashmore
31.6a1	John Allen	--	dug	27.8	30	--	--	--	685	5.6	--	--	--	--	--	--
31.6a2	John Allen	--	bor	67.6	12	--	--	--	685	5.4	--	--	--	--	--	--
32.2a	Ruth Schromeyer	1918	bor	55	12	--	--	--	680	--	--	--	--	--	Sand at 55	Webb
32.4e1	Oris Zartman	+1887	dug	30.7	42	--	--	--	681	6.7	--	--	--	--	--	--
32.4e2	Oris Zartman	1915	bor	50	8	--	--	--	681	--	--	--	--	--	--	--
32.5e	J. H. Bumstead	1911	bor	46	14	--	--	--	684	12	--	--	--	--	Sand at 46	--
32.6b	Priscilla Hunt**	1941	drl	59	4	3	4	.025	680	25	--	5	--	2	Sand & gravel, 56-59	Woollen
32.6e	J. H. Bumstead**	1918	bor & drl	100	12-2	--	--	--	685	10	--	--	--	--	Sand, 98-100	Martin

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T16N, R5E (Continued)																
32.7d	E. B. Stevenson Trust	--	bor	62.8	12	--	--	--	682	3.7	--	--	--	--	--	--
33.1b	Texas-Ill. Natural Gas Pipeline Co.	1960	drl	67	4	9	--	.010	670	--	--	4.5-5	--	--	Sand, 64.4-67	Lentz
33.1c1	A. E. Stillabower**	1900	dug & drl	60	42-2	--	--	--	672	8-10	--	--	--	--	--	Traxler
33.1c2	A. E. Stillabower	1952±	bor	29.5	12	--	--	--	672	3	--	--	--	--	Sand at 29.5	--
33.1h1	Alberta L. White	+1913	dug & drl	93.4	--	--	--	--	672	16	--	--	--	--	Sand & gravel at 93.4	--
33.1h2	Alberta L. White	1918	drl	134	3-2	4.3	--	--	672	30	--	--	--	--	Sand at 134	Traxler
33.5b	Herbert Pankey	1913	dug & drl	155	48-3	--	--	--	665	4	--	--	--	--	--	Traxler
34.1a	Natural Gas Pipeline Co.	1952	drl	35	6	--	--	--	670	7	--	--	--	--	--	Layne-Western
34.8a1	Corwin L. Hill	--	dug	38	48	--	--	--	671	12	--	--	--	--	--	--
34.8a2	Corwin L. Hill	1932	dug	12	48	--	--	--	671	5	--	--	--	--	Sand & gravel at 12	Traxler
34.8g	Robert Corman	--	dug	21.5	42	--	--	--	671	5	--	--	--	--	--	--
35.1a	Jake Bodamer	1928	drl	34	3	5	--	--	670	5	--	--	--	--	Sand & gravel, 29-34	Traxler
35.4c	Robert Corman	1918	dug & drl	73	42-3	--	--	--	675	4.7	--	--	--	--	Sand at 73	Traxler
35.5d	John T. Simmons	1918	dug & drl	69	42-3	--	--	--	679	9.2	--	--	--	--	Sand & gravel at 69	Traxler
36	B. Y. Vanhook	+1907	dug	25	--	--	--	--	--	10-25	--	--	--	--	Sand at 25	--
36	J. A. Vent	+1907	drl	74	--	--	--	--	675	--	--	--	--	--	Sand at 74	--
36.6c	Hammond High School District 113	1926	drl	62	4	4	--	--	678	6	5	10	2.0	2	Sand at 62	Traxler
36.7a1	Mrs. George Traxler	1920	dug & drl	76	48-3	--	--	--	676	7	--	--	--	--	Sand & gravel at 76	Traxler
36.7a2	Isaac Fleener	1929	drl	71	3	--	--	--	676	7	--	15	--	6	Sand & gravel, 66-71	Traxler
36.7a3	J. H. Moats	1932	dug & drl	45	42-3	--	--	--	676	8.5	--	--	--	--	Sand & gravel at 45	Traxler
36.7b1	George W. Traxler	+1907	drl	65	--	--	--	--	675	--	--	--	--	--	Sand, 20-40; sand & gravel, 53-65	--
36.7b2	Mrs. Gilbride	1910	drl	72	3	--	--	--	675	12	--	--	--	--	Sand at 72	Traxler
36.7b3	Hugh Ruddock	+1914	dug	20	--	--	--	--	675	8	--	--	--	--	Sand at 20	--
36.7b4	E. B. Leavitt	1928	drl	72.5	3	--	--	--	675	7	--	10.5	--	6	Sand & gravel at 72.5	Traxler
36.7c1	David Vancuren	+1900	dug	25	--	--	--	--	677	12-20	--	--	--	--	--	--
36.7c2	W. A. Clore	+1907	dug	15.5	--	--	--	--	677	9-15.5	--	--	--	--	--	--
36.7c3	J. W. Dick	+1907	dug & drl	40	--	--	--	--	677	10-20	--	--	--	--	Sand & gravel at 40	--
36.7c4	Earl R. Evans	+1907	dug	25	--	--	--	--	677	12	--	--	--	--	--	--
36.7c5	W. R. Evans	+1907	dug	25	--	--	--	--	677	12	--	--	--	--	--	--
36.7c6	Homer Dick	1915	dug & drl	85	42-3	--	--	--	677	10	--	--	--	--	Sand at 85	Traxler
36.7c7	Mrs. William Lust	1922	drl	65	3	--	--	--	677	5	--	--	--	--	Sand at 65	Traxler
36.7c8	Mrs. William Lust	1922	drl	67.5	3	--	--	--	677	5	--	--	--	--	Sand at 67.5	Traxler
36.7c9	Frank Helfrich	1922	dug & drl	69	48-3	--	--	--	677	12	--	12	--	6	Sand & gravel at 69	Traxler
36.7c10	J. W. Dick	1925	dug & drl	65	48-3	--	--	--	677	8	--	--	--	--	Sand & gravel at 65	Traxler
36.7d1	E. B. Leavitt	+1907	dug	20	--	--	--	--	676	6-15	--	--	--	--	--	--
36.7d2	Dr. O. D. Nom	+1907	drl	78	--	--	--	--	676	--	--	--	--	--	Sand at 78	--
36.7d3	A. L. Kay	+1910	dug & drl	65	--	--	--	--	676	--	--	--	--	--	--	--
36.7d4	Blaxton Gentry	+1916	dug	32	--	--	--	--	676	--	--	--	--	--	--	--
36.7d5	Otto S. Burnett	1920	dug & drl	70	48-3	4	--	--	676	8	--	--	--	--	Sand at 70	Traxler
36.7d6	Homer Daugherty	1932	drl	66.5	3	4	--	--	676	8	--	12	--	6	Sand, 58.5-66.5	Traxler
36.8a	George Hinds	1919	dug & drl	63	42-3	--	--	--	670	7-12	--	--	--	--	Sand at 63	Traxler
36.8b1	Mrs. Jim Huff	1915	drl	55	2.5	--	--	--	674	4	--	--	--	--	Sand & gravel at 55	Traxler
36.8b2	O. L. Traxler	1916	dug & drl	53	54-3	--	--	--	674	6	--	--	--	--	Sand & gravel at 53	Traxler
36.8b3	O. L. Traxler	1919	dug & drl	80	42-3	--	--	--	674	7	--	--	--	--	Sand at 80	Traxler
36.8b4	Hammond (V)**	1931	drl	76	3	--	--	--	674	4.5	--	--	--	--	Sand & gravel at 76	Traxler
36.8b5	Hammond (V)	1934	drl	143	6	7	6	.040	674	7	128	19	.1	.5	*Dirty sand, 38-42; sand & gravel, 65-75.5, 129-136; sand, 136-143	Burt
36.8c1	Charles H. Oliver	+1903	dug	17	--	--	--	--	675	--	--	--	--	--	--	--
36.8c2	Earl R. Evans	+1907	dug	13	--	--	--	--	675	--	--	--	--	--	--	--
36.8c3	Earl R. Evans	+1913	drl	67	3	--	--	--	675	--	--	--	--	--	--	--
36.8c4	Ralph Long	1919	dug & drl	74	48-3	--	--	--	675	11	--	8	--	6	Sand & gravel at 74	Traxler
36.8c5	Dr. Lewis	1921	drl	84	3	--	--	--	675	13	--	--	--	--	Sand at 84	Traxler
36.8c6	Chester Eagan	1926	dug & drl	66	42-3	--	--	--	675	10	--	--	--	--	Sand & gravel at 66	Traxler
36.8d1	Raymond & Effie Yeast	--	--	28	--	--	--	--	687	--	--	--	--	--	--	--
36.8d2	J. A. Vent	+1916	dug	40	--	--	--	--	687	--	--	--	--	--	Sand at 40	--
36.8d3	Rufus Richmond	1921	dug & drl	83	42-3	--	--	--	687	6	--	--	--	--	Sand & gravel, 63-83	Traxler
36.8d4(1)	Hammond (V)	1934	drl-GP	87	26-12	15.5	12	.187	687	11 15.5	44.8 12	175-390 268	8.7 22.3	3 .25	Sand & gravel at 87	Burt
36.8d5(2)	Hammond (V)	1957	drl	87	6	10	5.6	.025	687	11	18	150	8.3	2	Sand & gravel, 56-61; sand, 65-75; sand & gravel, 76-87	Swartz & Biggs
36.8e1	H. C. Talley	+1913	dug & bor	33	--	--	--	--	672	--	--	--	--	--	--	--
36.8e2	Hammond (V)	1934	drl	88	8-6	7	5.5	.040	672	--	--	--	--	--	*Sand & gravel, 67-88	Burt
36.8f1	Mrs. C. Williams	1916	dug & drl	65	48-3	--	--	--	672	6	--	--	--	--	Sand & gravel at 65	Traxler
36.8f2	G. E. Ferguson	1930	dug & drl	50	42-2	--	--	--	672	4-13	--	--	--	--	Sand at 50	Ferguson
T16N, R6E																
1.3h	Thomas Walsh	1913	drl	95	2	--	--	--	671	18	--	--	--	--	Sand at 95	Sherrick & Woods
1.4b	Helen Brewer	1920	drl	80-98	3	--	--	--	669	35	--	--	--	--	Dirty sand at 80-98	Woods
1.7c	Percy Hofsas	1916	drl	100	3	--	--	--	671	20	--	--	--	--	Dirty sand at 100	Woods

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T16N, R6E (Continued)																
2.2e	Sebens & Evans	1902	drl	120	3-2	--	--	--	678	18	--	--	--	--	Sand at 120	Thomas
2.4d	Ray E. Jamison	1900	drl	172	2	--	--	--	675	18-20	--	--	--	--	Limestone at 172	Thomas
2.8d	Kenneth Downs	--	drl	250+	7	--	--	--	670	8-10	--	--	--	--	Rock, 194-250+	Meister
3.1e	Elmer C. Barnes	1918	drl	92	3	--	--	.010	665	25	--	--	--	--	Sand at 92	Woods
3.4b	J. & W. Baker Estate	1915	drl	112	3	--	--	--	670	7	2	15	7.5	3	--	Woods
3.6e	Mike Monagham	1905	drl	210	3	--	--	--	665	.0	--	--	--	--	Rock	Thomas
4.4d	Mallory Camp Bower	1918	drl	147	3	--	--	--	675	30	--	--	--	--	Sand at 147	Poundstone
4.5d	R. E. Bowers	1916	drl	133	3	--	--	--	679	18	--	--	--	--	Sand & gravel at 133	Woods
4.8d	Willard Morris	1912	drl	102+	3	--	--	--	676	11	--	--	--	--	Sand at 102+	Poundstone
4.8e	Florence Byerline	1956	drl	103	4	4.5	2	.012	676	17	13	7.5	.6	3	Sand & gravel, 99-103	Swartz & Biggs
5.8e	Robert Larson	1925	drl	97	3	--	--	--	672	18	--	--	--	--	Sand at 97	Woods
6.1a1	B. & P. E. Henebry	--	drl	110	4	4	4	.018	672	14	38	6	.2	6	Sand & gravel, 100-110	Swartz & Biggs
6.1a2	B. & P. E. Henebry	1928	drl	122	3	--	--	--	672	25	--	--	--	--	Sand at 122	Woods
6.6h	Henry B. Larson	1902	drl	185	4	--	--	--	674	25	--	--	--	--	Sand at 185	Thomas
7.2a	Ruth Pope, et al.	1898	drl	170	2	--	--	--	675	--	--	--	--	--	--	Thomas
7.8h	A. C. Fisher	+1896	drl	190-210	4	--	--	--	680	12	--	--	--	--	Limestone	--
8.1b	Curry Sisters	--	drl	--	3	--	--	--	671	--	--	--	--	--	--	Ford
8.1g	J. Hardiman, et al.	1910	drl	110	3	--	--	--	669	9	--	--	--	--	Sand at 110	Ford & Woods
8.8g	Robert E. Larson	1908	drl	210	3	--	--	--	671	60-70	--	--	--	--	Sand & gravel at 210	Thomas
10.4e	R. & L. Schable	1910	dug & drl	80	36-3	--	--	--	680	20	--	--	--	--	Sand at 80	--
10.8d	Joanne Schable	1926	drl	51	3	--	--	--	670	8-10	--	--	--	--	Sand & gravel, 47-51	Traxler
11.1g	Mary Reeder	1918	dug & drl	23.5	42-2	--	--	--	669	18	--	--	--	--	--	Yates
11.2h	Mary Reeder	1898	drl	148.5	3	--	--	--	670	20	--	--	--	--	--	Oldfield
11.3a	Maude Lollar	1915	drl	118	3	--	--	--	672	18	--	--	--	--	Sand at 118	Offenstein
11.3c	Maude Lollar	1910	drl	141	3	--	--	--	670	16	--	--	--	--	Sand at 65, 95, & 129	Thomas
12	Industrial Water Supply Co.	1951	drl	180	--	--	--	--	675	--	--	--	--	--	*Dirty sand & gravel, 48-50, 130-148; sandstone, 148-151	Layne-Western
12.2a1	Margaret Fay	1925	drl	42	3	4	2	--	675	16	--	--	--	--	Sand & gravel, 35-42	Woods
12.2a2	Margaret Fay	1967	drl	86	4	8	--	.014	677	17	2	15	7.5	1	Sand at 55; sand & gravel, 78-86	Swartz
12.2d	Robert Jumper	1916	drl	80	3	--	--	--	679	16	--	--	--	--	Sand at 80	Woods
12.3d	Robert Jumper	1918	drl	76	2	2	--	--	679	6.5	--	--	--	--	Sand & gravel at 76	Harshbarger
12.5h	Helen Brewer	1900	drl	52	3	--	--	--	668	22	10	4.5	.5	.5	Sand, 22-52	Thomas
13.1c	Thomas Livengood	1908	drl	106	3	--	--	--	680	15	--	--	--	--	Sand at 106	Thomas
13.1e	Richard Fay	1958	drl	102	4	4	4	.014	671	25	5	15	3.0	2	Sand, 95-102	Swartz & Biggs
13.2b	J. H. Livengood	1887	drl	103	3-2	4	--	--	674	18	--	--	--	--	Sand at 103	Thomas
13.2c	J. H. Livengood	1954	drl	103	3	5	2	.012	678	23	--	20	--	3	Sand, 88-98; sand & gravel, 98-103	Swartz & Biggs
13.5e	Wares Farm Corp.	1936	drl	93	4	--	--	--	674	--	--	--	--	--	--	--
14.1g	Ottie Bragg	1920	drl	68	3	4	--	.005	674	6	--	--	--	--	Sand at 68	Woods
14.3a	Mrs. H. W. Schable	1900	drl	87	3	--	--	--	669	--	--	--	--	--	Sand at 87	Thomas
14.6f	H. & L. Dukeman	1904	drl	60	3-2	--	--	--	670	7-10	--	--	--	--	Sand at 60	Thomas
15	Bonnie Forth	+1926	dug	25	--	--	--	--	--	--	--	--	--	--	--	--
15.3a	Maude Wierman	1885	dug & drl	60	36-4	--	--	--	670	18	--	--	--	--	Sand at 60	Blackwell
15.8h	Bonnie Forth	1929	drl	150	3	--	--	--	676	12	--	--	--	--	Limestone at 150	Woods
16.1a	Robert Schable	+1923	drl	120	--	--	--	--	671	--	--	--	--	--	Sand & gravel at 120	--
16.2a	Robert Schable	1908	drl	110	3	--	--	--	672	11	--	--	--	--	Sand, 75-110	Thomas
16.8d	Carrie R. Suffern	1918	drl	110-120	3	--	--	--	672	40	--	--	--	--	--	Musselman
17.1f	W. Suffern, et al.	--	dug & bor	60	42-12	--	--	--	672	30	--	--	--	--	Sand at 60	--
17.8h	John P. Ford Estate	1914	dug & drl	65	48-3	--	--	--	673	8	--	--	--	--	Sand at 65	Woods
18.8e	L. L., H. B. & R. E. Larson	--	dug & drl	60	42-2	--	--	--	675	3-20	--	--	--	--	Sand at 60	--
19.1c	Hetta Ruddock	1920	drl	124	3-2	4.5	--	--	678	7	--	10	--	8	Sand & gravel at 124	Traxler
19.1h	William Fisener	--	drl	110	3	--	--	--	677	10-12	--	--	--	--	--	--
19.2a	Hetta Ruddock	1953	drl	87.8	2.5	--	--	.010	675	--	--	--	--	--	--	Lantz
19.8b	Kenneth Bryson	1967	drl	82	4	4	3	.014	673	20	20	12	.6	--	Sand & gravel, 79-82	Swartz
20.1a	Margaret E. Wolfe	1941	drl	88	4	--	--	--	674	6	20	6	.3	--	Sand, 86-88	Woollen
20.1f1	Ester Snyder	1916	dug & drl	97	36-2	--	--	--	670	7-20	--	--	--	--	Sand at 97	Woods
20.1f2	Ester Snyder	1958	drl	92	4	--	--	--	670	--	--	--	--	--	--	Mashburn
20.5h	Annie Dillatush	1949	drl	--	4	--	--	--	675	--	--	--	--	--	--	--
20.8a1	Margaret E. Wolfe	--	bor	110	10	--	--	--	676	35	--	--	--	--	Sand at 110	--
20.8a2	Margaret E. Wolfe	1948	drl	97	4	3	--	.025	676	18-20	--	--	--	--	Sand & gravel, 84-86.5	Woollen
20.8h	Katherine Dougherty	1918	drl	101	3-2	4.5	--	--	677	20	--	--	--	--	Sand & gravel at 101	Traxler
21.1e	Loren & Robert Schable	1910	dug & drl	40	48-3	--	--	--	672	15	--	--	--	--	Sand at 40	Shook
21.6h1	Muriel Selz	1890	bor & drl	40	18-4	--	--	--	672	15	--	--	--	--	Sand at 40	Smith
21.6h2	Muriel Selz	1932	dug & drl	41	30-4	--	--	--	672	10	--	--	--	--	Sand & gravel at 41	Stovall
22.4e	Estelle Noe Lewis Estate	--	drl	250	3	--	--	--	671	--	--	--	--	--	--	--
22.6a	Claude Ware	1929	drl	103	3	4	--	.010	670	16	--	--	--	--	Sand, 99-103	Woods
22.6h	Maude Wierman	1895	dug	30	30	--	--	--	672	10-15	--	--	--	--	--	Blackwell
22.8c	Leah F. Thompson	--	drl	71	2	--	--	--	670	--	--	--	--	--	--	Swartz
22.8h	Walter Schable	1895	dug	40	30	--	--	--	671	10-20	--	--	--	--	--	Blackwell
23.1h	H. W. Schable	1904	drl	96	3	4	--	--	665	18	--	--	--	--	Sand at 96	Thomas
23.3e	Joe J. Yoder	1905	drl	110	3	--	--	--	672	35	--	--	--	--	Sand at 110	--
23.3h	Mrs. Martin Schable	1904	drl	97	3	--	--	--	660	8	--	--	--	--	Sand at 97	Thomas
23.6a	Marvin Sieh	1955	drl	103	4	4	4	.014	673	15	--	15	--	4	Sand, 95-103	Swartz & Biggs
24.1b	L. Quick	1890	dug & drl	45	48-6	--	--	--	674	20	--	--	--	--	Sand at 45	Henry
24.3e	Nora W. Benner Est.	1900	drl	125	3	--	--	--	672	11	--	--	--	--	--	Thomas
24.5h	J. W. Harshbarger	1961	drl	--	--	--	--	--	670	--	--	--	--	--	--	Swartz
24.6a	Lloyd Murphy	1957	drl	96	4	7	1.25	.014	678	21	6	12	2.0	3	Sand, 79-96	Swartz & Biggs
24.8h1	Gertrude Wierman	1904	drl	66	3	--	--	--	661	10	--	--	--	--	Sand, 54-66	Thomas
24.8h2	Gertrude Wierman	--	drl	75-80	3.5	--	--	--	661	--	--	--	--	--	--	--
25.1a1	Atwood Township High School	1916	dug & drl	103	72-3	--	--	--	670	15-17	3-2.5	10	--	.75	Sand & gravel at 103	Woods
25.1a2	Atwood Township High School	1916	dug & drl	110	72-4	10	4	--	670	14	2	10	5.0	6	Sand & gravel at 110	Woods

Appendix A (Continued)

Well number	Owner	Well				Screen			Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Draw-down (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
		Year constructed	Type	Depth (*ft*)	Diameter (*in*)	Length (*ft*)	Diameter (*in*)	Slot size (*in*)								
T16N, R6E (Continued)																
25.1c	L. & G. Quick	1917	drl	107	3	4	2	--	673	10	--	--	--	--	Sand & gravel, 45-47; sand, 95-100	Woods
25.1e	Delmar Baker	1914	drl	150	3	4	--	--	672	9	--	--	--	--	Sand at 150	Offenstein
25.6c	Walter R. Personett	1957	drl	97	3	4	2	.012	671	12	--	17	--	3	Sand, 70-97	Swartz & Biggs
25.6d	Walter R. Personett	1920	drl	65	3	--	--	--	671	10	--	--	--	--	Sand at 65	Woods
26.1g	Walter DorJahn	1967	drl	93	4	--	--	--	670	--	--	--	--	--	Sand at 93	Swartz
26.2e	Robert Fultz	1961	drl	87	4	4	3.75	.018	671	15	5	11	2.2	2	Sand & gravel, 55-87	Swartz
26.3c	J. R. Bristol	1928	dug & drl	90	36-3	--	--	--	680	35	--	--	--	--	Sand & gravel at 90	Woods
26.4a	D. & M. Landgrebe	1924	drl	75	3	--	--	--	680	15	--	--	--	--	Sand at 75	Woods
27.8a	Wayne Bryson	1963	drl	86	4	4	4	.018	678	20	10	12	1.2	2	Sand, 80-86	Swartz
27.8f	J. O. Chambers Est.	1910	drl	250	5	--	--	--	680	20	--	--	--	--	Sand, 70-250	Long
28.1g	Mildred Harder	1890	dug	30	36	--	--	--	671	25	--	--	--	--	--	--
28.1h	Mildred Harder	1890	dug	35	36	--	--	--	670	2-34	--	--	--	--	--	--
28.3a	Mildred Morrison	1932	dug & drl	85	42-3	--	--	--	678	15	--	--	--	--	Sand at 85	Woods
28.8g	Nelda Pearl Carrol	1961	drl	101	4	8	1.25	.012-.018	680	25	15	10	.7	3	Sand, 96-101	Swartz
29.1b	Margaret E. Wolfe	--	drl	--	3	--	--	--	671	--	--	--	--	--	--	Woollen
29.8a	J. S. Daugherty	1957	drl	112	4	4	4	.014	677	15	4	20	5.0	3	Sand & gravel, 80-83; sand, 103-112	Swartz & Biggs
30.1c1	Margaret E. Wolfe**	--	bor	--	10	--	--	--	678	30	--	--	--	--	Sand	--
30.1c2	Margaret E. Wolfe	1947	drl	96	4	--	--	--	678	10-12	--	16.7	--	--	--	Woollen
30.6a	Lucky Helfrick	1963	drl	101	6.25	3	5.5	.100	672	20	65	6	.1	72	Dirty sand & gravel, 69-85; sand & gravel, 97-101	Baker
30.8f1	Audrey V. Lust**	--	dug & drl	70	36-2	--	--	--	674	12	--	--	--	--	--	--
30.8f2	Audrey V. Lust	1900	dug & drl	80	36-2	--	--	--	672	31.6	--	--	--	--	Sand at 80	--
30.8f3	Audrey V. Lust	1956	drl	112	4	9	--	.016-.018	672	20	84	5	.1	4	Sand, 98-109; sand & gravel at 112	Swartz
31.5a1	Evelyn B. Ponder	1923	dug & drl	73	42-3	--	--	--	678	20	--	--	--	--	Sand & gravel at 73	Traxler
31.5a2	Evelyn B. Ponder	1959	drl	57	4	--	--	--	678	8	--	10	--	--	Sand, 47-57	Swartz & Biggs
31.5a3	Evelyn B. Ponder	1963	drl	115	--	8	1.25	.018	678	30	--	10	--	--	Sand, 95-115	Swartz
32.1h	Francis Purvis	1963	drl	107	4	4	2	.025	672	15	18	10	.6	6	Sand & gravel, 62-66, 90-115	Fleming
32.5a	Elmer Meece	1958	drl	129	3-2	8	1.25	.012	681	--	--	--	--	--	Sand & gravel at 88, 121-129	Swartz
32.8h	J. S. Daugherty	1920	dug & drl	90	36-2	--	--	--	680	21.2	--	--	--	--	Sand & gravel at 90	Traxler
33	Florence Hodgson	+1896	dug	22	--	--	--	--	--	--	--	--	--	--	--	--
33	H. B. Long	~1916	dug	20	--	--	--	--	--	--	--	--	--	--	--	--
33	E. E. Pierson	+1916	dug	35	--	--	--	--	--	4-28	--	--	--	--	--	--
33.3a	Allie Hall	--	drl	--	4	--	--	--	680	--	--	--	--	--	--	--
33.4c1	G. E. States	1910	dug	40	42	--	--	--	680	10-25	--	--	--	--	Dirty sand at 40	--
33.4c2	J. A. Hupp	1932	bor	35	6	--	--	--	680	8	--	--	--	--	Sand & gravel at 15; sand, 15-16.5	Meece
33.4d1	Amanda Meece	1910	dug	40	36	--	--	--	680	15	--	--	--	--	Dirty sand at 40	Cornwall
33.4d2	Albert Meece	1932	dug & bor	55	42-16	--	--	--	680	17	--	--	--	--	Sand, 48-55	Cornwall
33.4d3	H. B. Long	--	dug & drl	38	48-2	--	--	--	680	15	--	--	--	--	Dirty sand at 38	--
33.4d4	Pierson Grade School	1941	drl	121.6	4	--	--	.010	680	21	--	--	--	--	Sand, 68.3-74, 74.5-121.6	Lentz
33.5b	Jane Pierson	1895	dug	35	42	--	--	--	680	15-20	--	--	--	--	Dirty sand & gravel at 35	--
33.5d1	Elmer Meece	1870	dug & drl	35	48-6	--	--	--	680	25-34	--	--	--	--	--	--
33.5d2	W. H. Shaw	1890	dug & drl	52	42-2	--	--	--	680	3-14	--	--	--	--	Sand & gravel at 52	--
33.5d3	Bernard Wilkerson	--	dug	18	42	--	--	--	680	4	--	--	--	--	--	--
33.5e1	W. B. Fulton	1910	bor	68	16	--	--	--	680	5-50	--	--	--	--	Sand at 68	Cornwall
33.5e2	Troy C. Jones	1910	bor	36	16	--	--	--	680	24	--	--	--	--	Dirty sand & gravel at 36	Cornwall
33.5e3	B. C. Kennedy	1914	drl	112	3	--	--	--	680	18	--	--	--	--	Sand & gravel at 112	Woods
33.5e4	Frank Thompson	--	dug & drl	28	48-4	--	--	--	680	16	--	--	--	--	Dirty sand at 28	--
33.5g	Pierson School District 46	1914	drl	90	3	--	--	--	680	16	--	3.4	--	7	Sand at 90	Woods
33.6d	H. B. Long	1915	dug & bor	65	60-16	--	--	--	680	18	--	--	--	--	Sand at 65	Cornwall
34.2h	M. J. Shay Estate	1957	drl	120	--	--	--	--	680	--	--	--	--	--	--	--
34.3a1	Progress Farms	1915	dug & drl	75	42-6	--	--	--	682	15	--	--	--	--	Sand at 75	--
34.3a2	Progress Farms	1964	drl	89	4	--	--	--	682	27	--	--	--	--	Sand & gravel at 89	Swartz
34.6h	Max Schaffer	1905	dug & bor	40	48-16	--	--	--	680	15	--	--	--	--	Sand at 25 & at 40	Cornwall
35.1h	Ted DorJahn	1953	drl	94	3	4	2	.012	671	16	--	10	--	--	Sand, 84-94	Swartz
35.2a	Lillian A. Miller	+1916	dug & drl	108	--	--	--	--	670	--	--	--	--	--	Sand & gravel, 88-108	--
35.4a	Lillian A. Miller	1897	drl	108	3	--	--	--	676	16	--	--	--	--	Sand at 108	Thomas
35.4h	Roy Mount	1958	drl	70	3	4	2	.012	675	21	14	10	.7	3	Sand & gravel, 60-70	Swartz & Biggs
35.5g	A. H. Gross	1918	drl	85	3	--	--	--	678	1.2	--	--	--	--	Sand at 85	Woods
36.1d1	Joshua Goznell	1885	dug & drl	52	42-4-2	--	--	--	670	7-12	--	--	--	--	Dirty sand & gravel at 52	--
36.1d2	Zeke Riley	1900	dug	24	42	--	--	--	670	18	--	--	--	--	--	Stovall
36.1e1	Atwood (V)**	1915	drl	95	3	--	--	--	670	16	--	--	--	--	Sand & gravel at 95	Harshbarger
36.1e2	A. A. Elliott, et al.	1923	drl	107	3	--	--	--	670	13.5	3.5	3.8	1.1	.5	Sand & gravel at 107	Woods
36.1e3	Atwood Co-op Creamery	1931	drl	114	3	10	--	--	670	16	--	--	--	--	Sand & gravel at 114	Woods
36.1e4	Loyd Downs	1932	dug & drl	95	42-2	--	--	--	670	13	--	--	--	--	Sand & gravel at 95	Woods
36.1e5	George Willy	1933	drl	102	3	--	--	--	670	14	--	--	--	--	Sand & gravel at 102	Woods
36.1f1	Atwood Building & Loan	1916	drl	95	3	--	--	--	670	12	--	--	--	--	Sand & gravel at 95	Woods
36.1f2	Paul Krows	1917	drl	105	3	--	--	--	670	14	--	--	--	--	Sand & gravel at 105	Woods
36.1f3	E. D. Woods	1917	drl	100	3-2	--	--	--	670	11	--	--	--	--	Sand & gravel at 100	Woods
36.1f4	Mrs. Moore	1925	drl	105	3	--	--	--	670	16	--	--	--	--	Sand & gravel at 105	Woods

Well number	Owner	Well: Year con-structed	Well: Type	Well: Depth (ft)	Well: Diam-eter (in)	Screen: Length (ft)	Screen: Diam-eter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Draw-down (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T16N, R6E (Continued)																
36.1f5	Tom Livingood	1929	drl	100	3-2	--	--	--	670	16	--	--	--	--	Sand & gravel at 100	Woods
36.1f6	E. E. Timmons & T. C. Hill	1932	dug & drl	100	48-3	--	--	--	670	15	--	--	--	--	Sand & gravel at 100	Woods
36.1f7	Dr. Edgar Weir	1933	drl	105	3	--	--	--	670	14	--	--	--	--	Sand & gravel at 105	Woods
36.1g1	Mrs. Joe Lewis	1913	dug & drl	95	42-2	--	--	--	670	5	--	--	--	--	Sand & gravel at 95	Woods
36.1g2	Atwood Grade School	1914	dug & drl	105	72-3	--	--	--	670	16	--	--	--	--	Sand & gravel at 105	Woods
36.1g3	F. A. Gilmore	1927	drl	102	3	--	--	--	670	14	--	--	--	--	Sand, 75-100; sand & gravel, 100-102	Woods
36.1h1	Sue Gregory	1900	dug & drl	60	42-2	--	--	--	670	20	--	--	--	--	Sand & gravel at 60	--
36.1h2	C. M. Hershbarger	1915	dug	30	42	--	--	--	670	20	--	--	--	--	--	Lawrence
36.2c1	Albert Fisher	1880	dug & drl	41	42-12	--	--	--	660	11	--	--	--	--	Dirty sand & gravel at 41	Fisher
36.2c2	Douglas Dobbs	1910	dug & drl	60	42-2	--	--	--	660	8-15	--	--	--	--	Dirty sand & gravel at 60	Stovall
36.2e1	Joe Van Vleet	1905	dug & drl	40	42-2	--	--	--	670	10-20	--	--	--	--	Sand at 40	--
36.2e2	Emery Moore	1913	dug & drl	108	48-3	--	--	--	670	5-8	--	--	--	--	Sand & gravel at 108	Woods
36.2f	Lewis Bishop	1885	dug & drl	52	36-3	--	--	--	668	4-10	--	--	--	--	--	Lehigh
36.2g1	George Call	1900	dug & drl	55	48-2	--	--	--	670	10	--	--	--	--	Sand at 55	Masterson
36.2g2	Willard Richey	1900	dug & drl	40	48-2	--	--	--	670	5-10	--	--	--	--	Sand at 40	--
36.3f	Mrs. G. W. Rippey	1932	dug & drl	100	42-2	--	--	--	668	18	--	--	--	--	Sand & gravel at 100	Woods
36.5h	Fred Warner	1964	drl	75-76	2	--	--	--	670	--	--	--	--	--	--	Swartz
36.6a	Paul Snyder	1961	drl	89	4	4	3.75	.014	665	11	4	14	3.5	--	Sand, 77-89	Swartz
36.6g	H. & E. Terril	1915	dug & drl	50	48-3	--	--	--	650	7-9	--	--	--	--	Sand & gravel at 50	Stovall
36.7f	Earl Hines	1959	drl	64	4	4.7	4	.014	660	12	--	12	--	--	Sand & gravel, 54-64	Swartz
T17N, R4E																
1.1a	William Barnes III	1944	drl	106	4	3	4	.025	678	62	--	5	--	2	Sand & gravel, 98-106	Woollen
1.2h	William Barnes III	1940	drl	70-90	4	--	--	--	682	--	--	--	--	--	--	--
1.8a1	Clarence Gragg	--	drl	106	3	--	--	--	687	30	--	--	--	--	Sand & gravel at 106	Musselman
1.8a2	Cerro Gordo (V)	1960	drl	200	--	--	--	--	687	48.5	--	--	--	--	*Sand & gravel, 85-200	Mashburn
1.8b	Clarence Gregg	1931	drl	113	3	--	--	--	672	35	--	--	--	--	Sand at 113	Poundstone
1.8f	Robert Helm	1936	dug	40.5	36	--	--	--	660	14.2	--	--	--	--	--	--
1.8g	Decatur (C)	1954	drl	252	--	--	--	--	636	12	--	--	--	--	*Sand & gravel, 22-28, 146-250	Layne-Western
2.1c	State Bank of Hammond Trust	--	drl	110	3	--	--	--	681	--	--	--	--	--	--	Blood
2.5h	Decatur (C)	1954	drl	314	--	--	--	--	641	18.3	--	--	--	--	*Sand & gravel, 59-72, 85-95, 134-313	Layne-Western
2.8f	Loren M. Pattengill	1938	drl	173	3	--	--	--	660	70	--	--	--	--	--	Jones
2.8h	J. H. Leischner	--	dug	22	36	--	--	--	676	8-15	--	--	--	--	Dirty sand at 22	--
3.3d	Loren M. Pattengill	--	dug	18	36	--	--	--	680	6.8	--	--	--	--	--	--
3.4e1	Loren M. Pattengill	--	dug	30	48	--	--	--	682	20-27	--	--	--	--	--	--
3.4e2	Loren M. Pattengill	1910	drl	100	3	--	--	--	681	65±	--	--	--	--	Sand & gravel at 100	Musselman
3.4e3	Loren M. Pattengill	1952	drl	115	--	--	--	--	680	--	--	--	--	--	--	--
3.4e4	Loren M. Pattengill	1962	drl	207	6	--	--	.020	681	58.7	--	--	--	--	Sand & gravel, 88-97, 112-116, 143-145, 201-207; sand, 207-220; rock, 220-223; sandstone, 228-237	Woollen
3.8h	Loren M. Pattengill	--	dug	24	42	--	--	--	680	7.1	--	--	--	--	--	--
10.1e	Roy Hadden	+1890	dug	50	60	--	--	--	670	45-48	--	--	--	--	Sand at 50	--
10.1h	Decatur (C)	1954	drl	138	--	--	--	--	624	--	--	--	--	--	*Sand & gravel, 16-49, 80-95; limestone at 134	Layne-Western
10.8a	I. R. Peck	+1880	dug	32	42	--	--	--	680	6	--	--	--	--	--	--
10.8b	I. R. Peck	1924	drl	135	3	--	--	--	680	60	--	--	--	--	Sand & gravel at 135	Musselman
11.4e	Cora E. Dial	1895	drl	110	3	4-5	--	slotted pipe	690	40±	--	--	--	--	Sand & gravel at 110	Blood
11.4f	Cora E. Dial	1885	dug	22	60	--	--	--	690	10	--	--	--	--	Sand at 22	--
11.8e1	A. F. Voak	--	dug	33	42	--	--	--	677	5.9	--	--	--	--	--	--
11.8e2	A. F. Voak	+1960	drl	114	4	--	--	--	677	--	--	--	--	--	--	--
12.7h1	Estner McLaughlin	1918	dug	50	42	--	--	--	690	4-40	--	--	--	--	Sand at 50	Foster
12.7h2	Esther McLaughlin	1926	drl	100	3	--	--	--	690	68	--	--	--	--	Sand at 100	Traxler
13.2d	Blanche Weir	1900	drl	160	2	--	--	--	725	50	--	--	--	--	Sand at 160	Wise
13.5g1	Carl Rivers	--	dug	53	72-36	--	--	--	722	7.4	--	--	--	--	--	--
13.5g2	Carl Rivers	--	drl	147	4	--	--	--	722	--	--	--	--	--	--	--
13.6a1	Etta Lamb	--	dug	30	48	--	--	--	700	--	--	--	--	--	Sand at 30	--
13.6a2	Etta Lamb	1904	drl	170	4	--	--	--	720	100	--	--	--	--	Sand at 170	Grubb
13.6g	Carl Rivers**	1908	dug	35	42	--	--	--	710	10	--	--	--	--	Sand & gravel at 35	Foster
14.2e	Olive F. Read	--	dug	20	60	--	--	--	681	10-15	--	--	--	--	Sand & gravel, 18-20	--
14.5e	Mammie Grove	+1917	dug	19.5	36	--	--	--	683	5.2	--	--	--	--	--	--
14.8a1	Lynn H. Clarkson	--	drl	93	3	--	--	--	683	50	--	--	--	--	Sand & gravel at 93	Grubb
14.8a2	Lynn H. Clarkson	1940	drl	115	3	3.5	--	.010	683	--	--	--	--	--	Sand, 35-40; sand & gravel, 71-79; sand, 79-81; dirty sand & gravel, 96-110; sand, 110-115	Williamson
14.8d	Lynn H. Clarkson	1900	dug	18	60	--	--	--	683	9	--	--	--	--	Sand & gravel at 18	--
14.8e	Loren M. Pattengill	1900	dug	30	60	--	--	--	683	4-30	--	--	--	--	--	--
15.1b	Lynn H. Clarkson	1900	dug	40	48	--	--	--	682	30	--	--	--	--	Sand & gravel at 40	--
15.4g	Loren M. Pattengill	+1895	dug	16	60	--	--	--	690	7-16	--	--	--	--	--	--
15.4h	Loren M. Pattengill	1905	dug	40	60	--	--	--	690	30	--	--	--	--	Sand & gravel at 40	Woods
15.5e	George Blick	1944	drl	113	4	3	4	.025	687	74	--	5	--	2	Sand & gravel, 104-113	Woollen
22.1b	Charles Parkhurst	1929	drl	108	3	--	--	--	705	7	--	--	--	--	Sand at 108	Burt
22.1e	Richard Flauger	+1910	dug	17	36	--	--	--	685	5	--	--	--	--	Sand & gravel at 17	Hiser
22.1g	Nova Wiegel	1944	drl	98	4	3	4	.025	681	57	3	5	1.7	2	Sand, 97-98	Woollen
23	S. L. Grove	+1911	dug	30-35	--	--	--	--	--	--	--	--	--	--	--	--
23.1a	Neva T. Tucker	1916	drl	176	3	--	--	--	730	--	--	--	--	--	Sand at 176	Grubb
23.3d1	James Gregg	1915	drl	148	3	--	--	--	711	20-30	--	--	--	--	Sand at 148	Poundstone
23.3d2	James Gregg	1917	bor	49.5	6	--	--	--	711	5.7	--	--	--	--	--	Foster
23.5c	Ruth Walters**	1905	drl	167	4	--	--	slotted pipe	722	60-80	--	--	--	--	Sand & gravel, 153-167	Blood

Well number	Owner	Well: Year con-structed	Well: Type	Well: Depth (*ft*)	Well: Diam-eter (*in*)	Screen: Length (*ft*)	Screen: Diam-eter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Draw-down (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T17N, R4E (Continued)																
23.8c	George Styan	1959	drl	114+	--	--	--	--	710	--	--	--	--	--	--	Woollen
24.1c	H. I. Waggoner Est.	1914	dug	8	48	--	--	--	742	4	--	--	--	--	Sand & gravel at 8	--
24.2a	Mae Funk	1894	drl	200+	2	--	--	--	740	60	--	--	--	--	Sand at 200+	--
24.7h1	C. E. Nogle Estate	--	dug & drl	150±	48-2	--	--	--	715	20-30	--	--	--	--	--	--
24.7h2	C. E. Nogle Estate	1947	drl	170	4	4.9	--	.014	715	47	--	10	--	--	Sand, 164-170	Swartz
24.8c	John B. Whalen	1941	drl	130	4	3	4	.025	720	70	20	7	.4	2	Sand & gravel, 127-130	Woollen
25.3a1	Leda Wood	~1887	dug	22	36	--	--	--	713	6.3	--	--	--	--	--	--
25.3a2	Leda Wood	1963	bor	60	18	--	--	--	713	--	--	--	--	--	--	Hector
25.8a	Paul Dobson Estate	1900	drl	56	2	--	--	--	731	14	--	--	--	--	Sand & gravel at 56	Hendricks
25.8d1	William Thompson	1929	bor	85	12	--	--	--	732	40	--	--	--	--	Sand & gravel at 85	Duggan
25.8d2	William Thompson	1945	drl	138	4	3	--	--	732	33	--	--	--	--	Sand & gravel, 135-138	Woollen
25.8d3	William Thompson	1953	drl	141.5	--	--	--	--	732	95	--	--	--	--	Sand, 113-121; sand & gravel, 141-141.5	Woollen
25.8g	J. W. Dobson	1875	dug	28	42	--	--	--	732	10	--	--	--	--	Sand & gravel at 28	--
26.1a	Robert Horr	1955	drl	90±	6	--	--	--	727	--	--	--	--	--	--	--
26.2e	Paul Dobson Estate	1944	drl	150	4	3	4	.025	740	105	20	3	.2	3	Sand & gravel, 149-150	Woollen
26.7b	Ralph G. Neff	1908	drl	156	2	--	--	--	741	30	--	--	--	--	Sand at 156	Grubb
26.8e1	Perry Herman	--	dug	24	48	--	--	--	735	5.6	--	--	--	--	Sand & gravel at 24	--
26.8e2	Perry Herman	1940	drl	174	4	7	4	.014	735	90	30	5	.2	--	Sand, 164-174	Woollen
26.8h	Ruth Walters	1905	drl	140	2	--	--	--	730	70-80	--	--	--	--	Sand at 140	--
27.1c	R. H. Dobson	1916	drl	128	3	--	--	--	735	80±	--	--	--	--	Sand at 128	Grubb
27.2g1	Hazel Henderson**	--	drl	120±	2	--	--	--	730	--	--	--	--	--	--	--
27.2g2	Hazel Henderson**	1947	drl	130±	4	3	4	.030	730	80	12	4	.3	2	Sand & gravel, 127-130	Woollen
27.8g1	J. Ed Chapman	~1890	dug	8.5	42	--	--	--	690	4.7	--	--	--	--	Sand & gravel at 8.5	--
27.8g2	J. Ed Chapman	~1890	dug	8.5	42	--	--	--	690	5	--	--	--	--	Sand at 8.5	--
34	B. F. Huff	~1898	dug	18	--	--	--	--	740	--	--	--	--	--	--	--
34	James Miller	~1901	dug	24	--	--	--	--	740	16	--	--	--	--	--	--
34	George Larrick	~1902	dug	16	--	--	--	--	740	--	--	--	--	--	--	--
34	B. F. Huff	~1908	dug	32	--	--	--	--	740	--	--	--	--	--	--	--
34	H. C. Loughman	~1910	dug	16	--	--	--	--	740	--	--	--	--	--	Sand at 16	--
34	Charles R. Grove	~1925	dug	25	48	--	--	--	740	16	--	--	--	--	Sand & gravel, 22-25	--
34.1b	W. D. McLaughlin	~1927	dug	20	--	--	--	--	740	7	--	--	--	--	Sand & gravel at 20	--
34.2c	Frank A. Bowdle	1865	dug	20	--	--	--	--	735	--	--	--	--	--	Sand & gravel at 20	--
34.2d(4)	Cerro Gordo (V)**	1922	drl	190	8	--	--	.040	730	85	--	20-30	--	--	Sand & gravel, 112-132; dirty sand & gravel, 132-200	Patton
34.2e	C. W. Adams	~1921	dug	14	--	--	--	--	740	--	--	--	--	--	--	--
34.2f1(1)	Cerro Gordo (V)**	~1909	drl	150	6	--	--	--	740	--	--	33	--	--	Sand & gravel at 150	--
34.2f2(2)	Cerro Gordo (V)**	1909	drl	150	8-6	--	--	--	740	--	--	71	--	--	Sand & gravel at 150	--
34.2f3(3)	Cerro Gordo (V)**	1918	drl	151.8	8	14.5	--	--	740	38 115	-- --	-- --	-- --	-- --	--	Kersey & Patton
34.2f4	Cerro Gordo School	~1920	dug	28	--	--	--	--	740	--	--	--	--	--	--	--
34.2g	W. W. Wolff	~1922	dug	30-40	--	--	--	--	740	--	--	--	--	--	--	--
34.2h	O. N. East	~1922	dug	22	--	--	--	--	740	--	--	--	--	--	--	--
34.3b	W. C. McKinney	1917	bor	60	12	--	--	--	735	20-40	--	--	--	--	Sand at 60	Webb
34.3d	G. W. Sensenbaugh	1926	dug	20	--	--	--	--	740	--	--	--	--	--	Sand at 20	--
34.4h	A. L. Peck	--	dug	30	--	--	--	--	735	--	--	--	--	--	--	--
34.5h	Dr. R. B. Yoder	~1909	drl	135	--	--	--	--	735	--	--	--	--	--	Sand at 135	--
34.7h	H. G. Elkins Estate	1914	dug	18	36	--	--	--	730	4-15	--	--	--	--	Sand & gravel at 18	--
34.8d1	J. Ed Chapman	--	dug	22	48	--	--	--	732	7.5	--	--	--	--	--	--
34.8d2	J. Ed Chapman	--	drl	190	3	--	--	--	732	100±	--	--	--	--	--	--
35.3h	G. P. & M. Reilly	1915	drl	87	2	--	--	--	732	35±	--	--	--	--	Sand at 87	Grubb
35.7g	H. & B. Cummings	1905	drl	145	2	--	1.5	--	730	110	--	--	--	--	Sand at 145	--
35.8a	J. Ed Chapman	~1914	dug & drl	45	60-2	--	--	--	732	3.6	--	--	--	--	Sand & gravel at 45	--
35.8f	H. & B. Cummings	1905	drl	147	2	--	--	--	730	110	--	--	--	--	Sand at 147	Dobson
36.1c	Katie Huff	~1893	dug & drl	110	42-2	--	--	--	708	70	--	--	--	--	Sand at 110	Huff & Welty
36.1h1	Pauline Hearing	~1921	dug	40	--	--	--	--	709	--	--	--	--	--	--	--
36.1h2	Pauline Hearing	1940	drl	116.5	4	3	4	.014	709	58	32	3	.1	2	Sand, 112.5-116.5	Woollen
36.8d1	Charles Dobson Est.	--	dug	70	36	--	--	--	721	6-70	--	--	--	--	--	--
36.8d2	Charles Dobson Est.	~1910	dug & drl	60	42-2	--	--	--	721	35-40	--	--	--	--	Sand at 60	--
T17N, R5E																
1.1g	Ruth Pope, et al.	--	dug	25	--	--	--	--	720	--	--	--	--	--	--	--
1.2a	Russell Hill	1900	dug	35	48	--	--	--	712	10-30	--	--	--	--	Sand & gravel, 31-35	--
1.3a	Edith Wheeler	1927	drl	243	3	--	--	--	712	80+	--	--	--	--	Sand at 243	--
1.7b	Elmer Lambe**	1943	drl	42	4	4	4	.014	720	6.5	--	6	--	24	Sand & gravel, 37-42	Tipsord
2.4b1	Edith Phalen	1900	dug	36.5	48	--	--	--	721	7.6	--	--	--	--	--	--
2.4b2	Edith Phalen	1917	drl	240	2	--	--	--	721	70	--	--	--	--	--	Cade
3.1a1	John Warehime	1870	dug	14	42	--	--	--	689	4-5	--	--	--	--	Sand & gravel at 14	--
3.1a2	John Warehime	1898	dug	14	42	--	--	--	689	5	3	7	2.3	1	Sand & gravel at 14	Warehime
3.1g	Mary Ann Cole	--	dug	16	36	--	--	--	682	8	2	5	2.5	--	Sand at 16	--
3.6h	James Hartman	1966	drl	98	4	--	--	.030	672	50	--	10	--	--	Sand & gravel, 95-98	Woollen
4	Industrial Water Supply Co.	--	drl	171.5	--	--	--	--	680	--	--	--	--	--	*Dirty sand & gravel, 15-30, 68-81; lime rock, 167.5-171.5	Layne-Western
4.3h	Treva Peck	1900	dug & drl	130	42-2	--	--	--	662	10-35	--	--	--	--	Sand at 130	--
4.8g	Carl Reed	--	drl	--	4	--	--	--	668	--	--	--	--	--	--	--
5.1f	E. B. Sprague	--	drl	92.5	4	3	--	.025	660	35	--	12	--	--	Sand, 74-92.5	Woollen
5.1g	E. B. Sprague	1910	dug & bor	80	48-12	--	--	--	665	25	--	--	--	--	Dirty sand at 80	--
5.8b	Eva Tatman	--	drl	100	3	--	--	--	661	50	--	--	--	--	Sand at 100	--
6	F. E. Davies	~1911	dug & bor	30	--	--	--	--	--	--	--	--	--	--	Sand & gravel at 30	--
6.1a	S. A. & E. Black	--	dug & drl	100	48-3	--	--	--	671	38-40	--	--	--	--	Sand at 100	--
6.1e	P. L. Guth Est.**	--	drl	100	2	--	--	--	675	7	--	--	--	--	Sand at 100	--
7.1g	P. L. Guth Est.	1929	drl	101	3	--	--	--	673	30	--	--	--	--	Sand at 101	Poundstone
7.3a	Clara Lux**	1925	dug	12	84	--	--	--	720	4	--	--	--	--	Sand at 12	Moore
7.4a1	Clara Lux	1915	drl	200±	2	--	--	--	714	80-90	--	--	--	--	Sand & gravel at 200±	Grubb
7.4a2	Clara Lux	1952	drl	151±	4	--	--	--	715	51	--	--	--	--	--	Mashburn
7.6a1	Willard A. Peck	--	dug	28	48	--	--	--	705	20	--	--	--	--	Sand at 28	--
7.6a2	Willard A. Peck	1941	drl	130	4	3	4	.025	705	85	15	5	.3	2	Sand, 127-130	Woollen
7.7a	Willard A. Peck	1961	drl	212	4	--	--	--	699	75	--	--	--	--	--	Mashburn
8.2h1	Sara Hendrix	--	dug & drl	90	42-2	--	--	--	662	10-30	--	--	--	--	Sand at 90	--
8.2h2	Sara Hendrix	--	drl	100	4	--	--	--	661	--	--	--	--	--	--	--

		Well				Screen										
Well number	Owner	Year constructed	Type	Depth (*ft*)	Diameter (*in*)	Length (*ft*)	Diameter (*in*)	Slot size (*in*)	Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T17N, R5E (*Continued*)																
8.8b	Roy Simonton	1918	drl	200	2	--	--	--	700	100	--	--	--	--	Sand at 200	--
8.8e1	Lucille Light	--	dug	24	36	--	--	--	678	6.7	--	--	--	--	--	--
8.8e2	Lucille Light	1890	dug	28	48	--	--	--	678	4-20	--	--	--	--	--	--
9.2a	Mrs. Edward Foran	1885	dug	19.5	42	--	--	--	693	8.7	--	--	--	--	Sand & gravel at 19.5	--
9.4h	Mabel D. Totten	+1902	drl	206	2	--	--	--	671	169	--	--	--	--	Rock	--
9.6a	Alice D. Hendrix	1900	dug	18	42	--	--	--	685	12	--	--	--	--	Sand at 18	--
9.7h	Cora B. Siders	1910	dug	65	48	--	--	--	665	50	--	--	--	--	Sand & gravel at 65	--
9.8h	Cora B. Siders	1948	drl	90	4	--	--	--	670	--	--	--	--	--	--	--
10.4a	Omer Furtney	1895	drl	150	4	--	--	--	741	80	--	--	--	--	Sand & gravel at 150	Rhodes & Oldfield
10.5h	William Rathje	1910	dug	12	48	--	--	--	675	7-10	--	--	--	--	--	--
11.1e1	Frank Lamb	1914	drl	185	3	--	--	--	712	20	--	--	--	--	--	Thomas
11.1e2	Frank Lamb	1962	drl	219	4	--	--	--	712	80	8	15	1.9	12	Lime & sand rock, 215-219	--
11.6d	T. W. Lamb Estate	1932	drl	51	3	3.8	--	--	730	22.5	--	--	--	--	Sand & gravel, 30-51	Traxler
12.1b	Guy Medaris	1877	dug	36.5	36	--	--	--	693	6	--	--	--	--	--	--
12.1g	Piatt County Veterinary Hospital	1933	drl	320	4-3	--	--	--	700	--	--	--	--	--	--	--
12.4a1	Wilmer Foran**	1910	dug	25	42	--	--	--	692	15-23	--	--	--	--	--	--
12.4a2	Wilmer Foran	1963	drl	118	4	8	1.25	.018	692	40	10	12	1.2	2	Sand, 105-118	Swartz
12.8b	T. W. Lamb Estate	1925	drl	42.5	3	5.5	--	--	701	12	--	--	--	--	Sand & gravel at 42.5	Traxler
12.8e	Elmer Lamb	1920	drl	214	3-2	--	--	--	711	70	--	--	--	--	Sand at 214	Woods
13.1a	J. Robert Bower	1890	dug	25	--	--	--	--	685	--	--	--	--	--	Sand at 25	--
13.1e	C. & K. Strohl	1914	drl	160	3	--	--	--	690	40	--	--	--	--	--	Lefever
13.3a	Harry Lamb	1908	drl	110	4	--	--	--	700	30	--	--	--	--	Sand & gravel at 110	Poundstone & Thomas
13.4a	Harry Lamb	1892	drl	115	2	--	--	--	685	30	--	--	--	--	Sand at 115	--
14.1b	J., M. & L. Lux	1925	drl	154	3-2	--	2	.010	692	40	--	4	--	--	Sand at 154	Traxler
14.1f	L. M. Rovelstad, et ux.	--	drl	93	3-2	--	--	--	700	40	--	--	--	--	Sand at 93	--
14.2b	J., M. & L. Lux	1925	drl	153	3	--	--	--	692	40	--	15	--	--	Sand, 130-153	Traxler
14.6a1	Lucille Simmons	+1922	dug	28	36	--	--	--	698	14	--	--	--	--	--	--
14.6a2	Lucille Simmons	+1928	dug	40	--	--	--	--	698	--	--	--	--	--	Sand & gravel, 35-40	--
15	L. R. Brandenburg Estate	1951	drl	124	--	3	--	.025	--	72	--	5	--	--	Sand & gravel, 120-124	Woollen
15	L. R. Brandenburg Estate	1952	drl	76	--	3	--	.018	--	26	--	7	--	--	Sand, 68-72; sand & gravel, 72-76	Woollen
15.4a	John W. Roche	1920	bor	22	22	--	--	--	708	6	--	--	--	--	Sand & gravel at 22	Duggan
15.4h	L. R. Brandenburg Estate	--	drl	90	4	--	--	--	735	--	--	--	--	--	Sand at 40 & at 90	--
16.5h	Lynn Rainy	+1870	dug	15	36	--	--	--	698	10	--	--	--	--	Sand & gravel at 15	--
16.8d1	Alice Hendrix**	1900	dug	30	48	--	--	--	715	20	--	--	--	--	--	--
16.8d2	Alice Hendrix	1950	drl	191	4	3	--	--	715	60	12	4	.3	--	Sand & gravel, 188-191	Woollen
16.8e	Alice Hendrix**	1910	dug	17	48	--	--	--	710	4	--	--	--	--	--	--
17.1b	Clara F. Lux	1933	drl	206	3	--	--	--	720	25	15	10	.7	5	Sand at 125, 192-206	Woods
17.1e1	Peter Remmers**	1895	drl	100	2	--	--	--	721	30	--	--	--	--	--	--
17.1e2	Peter Remmers	--	dug	22.5	48	--	--	--	721	8.5	--	--	--	--	--	--
17.1e3	Peter Remmers	1951	drl	136	4	3	--	--	721	--	--	3.5	--	--	Sand, 134-136	Woollen
17.8e	E. L. Peterson	1914	drl	142	3	--	--	--	730	--	--	--	--	--	Sand at 142	Poundstone
18.2g	Lottie Cook	1920	dug	18	48	--	--	--	720	4	--	--	--	--	Sand & gravel at 18	Becker
18.3h1	Lottie Cook	1940	drl	141	4	3	4	.025	722	70	70	3	.04	2	Sand, 140-141	Woollen
18.3h2	Lottie Cook	1941	drl	142	4	3	4	.025	722	80	45	2	.04	2	Sand & gravel, 140-141	Woollen
18.6a1	LaBan Peck Estate	+1906	dug	18	--	--	--	--	745	--	--	--	--	--	--	--
18.6a2	LaBan Peck Estate	1910	drl	180	3	--	--	--	745	50	--	--	--	--	Sand at 180	--
18.8e	Blanche Weir	1955	drl	34	2.5	--	1.25	.018	730	5.8	6	8	1.3	2	Dirty sand, 8.5-28; sand, 28-34	Hayes
18.8f	Blanche Weir	1910	dug & drl	90	48-3	--	--	--	720	3-35	--	--	--	--	Sand & gravel at 90	--
19.2a	John Hendrix Est.	1903	dug & drl	100	42-2	--	--	--	714	17	--	--	--	--	Sand at 100	Wise
19.4h1	Florence Brandenburg	1862+	dug	33	36	--	--	--	742	7	--	--	--	--	--	--
19.4h2	Florence Brandenburg	1933	drl	218	4	--	--	--	742	40	40	5	.1	5	Sand, 148-218	Woollen
19.7a	N. E. Wise	1895	drl	175	2	--	--	--	735	60	--	--	--	--	Sand at 175	Wise
19.7b	N. E. Wise	--	bor	25	8	--	--	--	735	6.2	--	--	--	--	--	--
20.6a	Sara Hendrix Heirs	1914	dug & drl	53	48-2	--	--	--	711	10	--	--	--	--	Sand at 53	Grubb
20.8e	G. W. Woodward Trust	1905	drl	130	3	--	--	--	722	20	--	--	--	--	Sand at 130	--
21.8e	Mrs. F. O. Lefever	1918	dug & bor	50	36-14	--	--	--	710	16	--	--	--	--	Sand at 50	Cornwall
21.8f	Mrs. F. O. Lefever	1913	dug & drl	54	36-2	--	--	--	705	10.8	--	--	--	--	Sand & gravel at 54	Lefever
22	Preston Arnold	+1924	dug	25	--	--	--	--	--	--	--	--	--	--	Sand at 25	--
22.4h	Allen Parrish	1954	drl	151	4	4	4	.012	702	59	4	10	2.5	2	Sand, 122-151	Swartz & Biggs
22.5a	Henry Woodyard	--	dug	38.5	42	--	--	--	695	12.3	--	--	--	--	Sand & gravel at 38.5	--
22.6h1	Ralph Siders	1900	dug	18	48	--	--	--	711	8	--	--	--	--	--	--
22.6h2	Ralph Siders	1910	dug	18	48	--	--	--	711	8-10	--	--	--	--	Sand & gravel at 18	--
22.6h3	Ralph Siders	1954	drl	50	4	--	--	.014	711	11	29	10	.3	3	Sand, 40-50	Swartz & Biggs
23.4c	Frank Lux	1953	drl	103	--	3	--	.025	688	38	20	5	.3	--	Sand & gravel, 101-103	Woollen
23.5c	R. & C. Davis	1900	dug & drl	65	48-2	--	--	--	687	4-65	--	--	--	--	--	--
23.8h1	R. R. Siders, Sr.**	--	dug	30	48	--	--	--	700	12	--	--	--	--	--	--
23.8h2	R. R. Siders, Sr.	1954	drl	140	4	--	--	.014	700	50	4	10	2.5	3	Sand, 115-140	Swartz & Biggs
24	B. T. Bell	+1908	dug	35	--	--	--	--	685	--	--	--	--	--	--	--
24.1c	Ralph Moery	1899	dug & drl	105	42-2	--	--	--	680	3	--	--	--	--	Sand at 105	Thomas
24.3h	Wabash RR	1924	drl	220	6	--	--	--	690	--	--	--	--	--	Sand at 140	Poundstone
25.1h	Elvin T. Anderson	1902	drl	116	3	--	--	--	680	60	--	--	--	--	Sand at 116	Thomas
25.4d	Lester Warner	1907	dug & drl	90-100	48-2	--	--	--	682	25	--	--	--	--	Sand at 90-100	--
25.5e	Thomas Redman	--	dug	30	42	--	--	--	681	5	--	--	--	--	--	--
26.4b	Texas Empire Pipeline Co.	1951	drl	147	6	16	--	--	685	30	--	35	--	.5	Sand & gravel, 30-60; sand, 60-85; sand & gravel, 140-147	Smith
26.4d	A. L. Hawver, et al.	1954	drl	135	4	4	4	.014	685	49	12	10	.8	--	Sand & gravel, 131-135	Swartz & Biggs
26.7d	Emma Swain	--	drl	170	2	--	--	--	690	--	--	--	--	--	--	--
26.8e1	Margaret Wolfe	--	dug & drl	85	48-3	--	--	--	692	15	--	--	--	--	--	--
26.8e2	Margaret Wolfe	1961	drl	141	4	4	3.75	.014	692	33	2	10	5.0	2	Sand, 80-141	Swartz
27.4a	Elbert Bradley	--	dug	30	36	--	--	--	691	7.3	--	--	--	--	--	--

Appendix A (Continued)

		Well				Screen										
Well number	Owner	Year constructed	Type	Depth (*ft*)	Diameter (*in*)	Length (*ft*)	Diameter (*in*)	Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T17N, R5E (Continued)																
27.5a	Wilbur Ernst	1917	dug & drl	105	42-3	--	--	--	692	50	--	--	--	--	Sand at 105	Poundstone
27.6h	Nellie M. Calhoun	1884	dug & drl	100	48-2	--	--	--	695	40	--	--	--	--	Sand & gravel at 100	East
28.1h	Ambrose Keel Estate	--	--	90	--	--	--	--	701	--	--	--	--	--	--	--
28.2a	Elbert Bradley	--	dug & drl	105	48-2	20	--	--	696	5.7	--	--	--	--	--	--
28.3h1	Emma B. Peterson	1909	drl	85	3	--	--	--	700	--	--	--	--	--	Sand at 85	Grubb
28.3h2	Emma B. Peterson	1944	drl	65	--	--	--	--	700	--	--	--	--	--	*	Woollen
28.3h3	Emma B. Peterson	1944	drl	89	4	3	4	.025	700	44	2	5	2.5	2	Sand & gravel, 82.5-89	Woollen
28.5c	G. W. Woodward Trust	1930	bor	87	10	--	--	--	690	15	--	--	--	--	Sand & gravel at 60; sand, 85-87	Duggan
28.8g	Milmine School	1947	drl	109.5	4	4	4	.030	710	50	3	5	1.7	2	Sand & gravel, 106-109	Woollen
28.8h	Fred C. Widener	1885	dug & drl	80	48-3	--	--	--	710	15	--	--	--	--	Sand & gravel at 80	--
29	W. W. Wolff	+1915	dug	38	48	--	--	--	710	--	--	--	--	--	--	--
29	Mrs. C. E. Shotts	+1916	dug	16	--	--	--	--	710	--	--	--	--	--	--	--
29	Mrs. S. O. Body	+1927	dug	20	30	--	--	--	710	10	--	--	--	--	Sand & gravel, 10-20	--
29.1c	G. W. Woodward Trust	--	--	125	--	--	--	--	702	--	--	--	--	--	--	--
29.1g1	Charles Woodword	1963	drl	120	4	--	--	--	710	41	--	45	--	--	Sand, 46.5-49; dirty sand, 97-105; dirty sand & gravel, 105-110; sand & gravel, 110-118.5	Hayes
29.1g2	Charles Woodword	1966	drl	142	4	4	--	.018	710	49	--	60	--	--	Dirty sand & gravel, 50-60; sand, 97.5-100; sand & gravel, 125-140	Hayes
29.1h	Pearl R. Camden	+1928	dug	20	--	--	--	--	710	--	--	--	--	--	--	--
29.5a	W. T. Dobson	1918	drl	81	3	--	--	--	700	15	--	--	--	--	Sand, 75-81	Grubb
29.6a	W. T. Dobson	1910	dug	31.5	36	--	--	--	700	17.7	--	--	--	--	--	--
29.6a	W. T. Dobson	1963	drl	120	4	4.3	4	.025	705	--	--	50	--	--	Sand & gravel, 105-113.5	Hayes
29.8a	J. W. Dobson	1905	drl	107	2	--	--	--	707	--	--	--	--	--	Sand at 107	Wise
29.8h1	Mary Brandenburg**	1870	dug & drl	54	48-2	--	--	--	716	10	--	--	--	--	Sand & gravel at 54	Dobson
29.8h2	Mary Brandenburg	1896	dug & drl	60	36-2	--	--	--	716	8.1	--	--	--	--	Sand & gravel at 60	Dobson
29.8h3	Mary Brandenburg	1957	drl	50	4	--	--	--	716	10.6	--	--	--	--	--	--
30.4a	Lois C. Snow	1918	dug & drl	90	54-3	--	--	--	712	35-50	--	--	--	--	Sand at 90	Wise
30.6h1	H. E. Wise	--	dug	38	42	--	--	--	732	17.3	--	--	--	--	--	--
30.6h2	H. E. Wise	1944	drl	130	4	10	--	slotted pipe	732	74	7	6	.9	2	Sand & gravel, 124-132; sand, 132-135	Woollen
30.7h	Cerro Gordo (C)	1960	drl	190	--	--	--	--	732	73.5	--	--	--	--	*Sand & gravel, 129-135	Mashburn
30.8f1	R. W. Flory**	--	dug & drl	56	48-2	--	--	--	722	10	--	--	--	--	Sand & gravel at 56	--
30.8f2	R. W. Flory	1933	dug & drl	70	42-2	--	--	--	722	9	--	--	--	--	Dirty sand & gravel at 70	Flory
30.8f3	R. W. Flory	1940	drl	76	4	--	--	--	711	10	7	25	3.6	1.5	Sand & gravel at 76	Woollen
31.4h1	Harold Funk	1900	dug	28	54	--	--	--	711	9	--	--	--	--	Sand, 27-28	--
31.4h2	Harold Funk	--	dug	56	36	--	--	--	711	10	--	--	--	--	--	--
31.5h	Nellie Auer	--	dug	39	42	--	--	--	710	12.7	--	--	--	--	--	--
31.6a1	Dorthy Cripe**	1929	drl	112	4	7	--	.010	711	50	--	--	--	--	Sand at 112	Traxler
31.6a2	Dorthy Cripe	1948	bor	49	12	--	--	--	710	6.3	--	--	--	--	--	Poundstone
32.1b1	George Larrick	--	dug	28	36	--	--	--	691	6.9	--	--	--	--	--	--
32.1b2	George Larrick**	1915	drl	142	2	4	--	--	691	35	--	--	--	--	Sand at 142	Grubb
32.1b3	George Larrick	1942	drl	90	4	--	--	--	691	--	--	--	--	--	--	--
32.1h1	A. C. Taylor	--	dug & drl	80	42-3	--	--	--	703	5	--	--	--	--	--	--
32.1h2	A. C. Taylor**	1940	drl	75	3	--	--	--	703	--	--	--	--	--	Sand at 75	Williamson
32.1h3	A. C. Taylor**	1946	drl	80.5	4	3	3.75	.025	703	43	17	5	.3	3	Sand & gravel, 73-80.5	Woollen
32.1h4	A. C. Taylor	1962	drl	79	4	4	3.75	.018	703	38	9	11	1.2	--	Sand & gravel, 72-79	Swartz
32.6a	LaVerne Comerford	1867+	bor	--	8	--	--	--	706	--	--	--	--	--	--	--
32.8h1	Ethel Dobson**	1900	drl	130	2	--	--	--	707	40	--	--	--	--	Sand at 130	Lefever
32.8h2	Ethel Dobson**	1915	drl	108	3	--	--	.010	707	35	--	--	--	--	Sand at 108	Grubb
33.3h	Howard Lamb	1928	dug & drl	67	60-3	--	--	--	697	18-25	--	--	--	--	Sand & gravel, 61-67	Traxler
33.5a	Howard Lamb, et al.	1910	dug & drl	50	36-2	--	--	--	692	22	--	--	--	--	Sand at 50	--
33.8a	Gertrude Lefever	1953	drl	48	4	4	4	.018	690	16	13	10	.8	--	Dirty sand & gravel, 31-36; sand, 42-48	Mashburn
34.1c	Jane Garvey	1968	drl	103	4	4	3.6	.018	685	25	10	15	1.5	2	Sand, 65-96; sand & gravel, 96-103	Swartz
34.1d	Driscoll Trust	1885	dug & drl	50	30-2	--	--	--	687	17.4	--	--	--	--	Sand at 50	Day
34.1h	Jane Garvey**	--	drl	50	3	--	--	--	688	25	--	--	--	--	Sand at 50	--
34.5a	A. C. England Est.	1917	drl	98	3	--	--	--	692	12	--	--	--	--	Sand at 98	Poundstone
34.6h	C. T. Jackson	1966	drl	165	4	4	4	.018	692	49.5	--	40	--	6	Dirty sand, 115-137; sand, 152.5-170	Hayes
35.1a1	Charles Morris	1925	dug & drl	55	48-4	--	--	--	678	24	--	--	--	--	Dirty sand at 55	Cornwall
35.1a2	Charles Morris	1964	drl	109	4	8	1.25	.018	678	20	--	15	--	--	Sand, 92-109	Swartz
36	A. S. Burr Estate	1954	drl	50	3	--	--	.012	--	21	--	5	--	--	Sand & gravel, 49-50	Swartz & Biggs
36	A. S. Burr Estate	1954	drl	276	--	--	--	--	--	--	--	--	--	--	*Sand, 40-50	Swartz & Biggs
36	A. S. Burr Estate**	1954	drl	272	4	--	--	--	680	--	--	--	--	--	Sand, 47-50, 217-235	Swartz & Biggs
36.1c1	A. S. Burr Estate**	1880	dug	50	96	--	--	--	680	15	--	--	--	--	--	--
36.1c2	A. S. Burr Estate	1954	drl	55	--	--	--	--	680	--	--	--	--	--	*Sand & gravel, 52-55	Swartz & Biggs
36.1c3	A. S. Burr Estate	1954	drl	53	6	7	6	.018-.025	679	23	25	6	.2	6	Sand & gravel, 52-55	Swartz & Biggs
36.1c4	A. S. Burr Estate	1954	drl	236	--	--	--	--	680	--	--	--	--	--	*Sand, 44-45.5, 47.5-49; sand & gravel, 211-215	Hayes
36.1c5	A. S. Burr Estate	1954	drl	241	4	--	--	--	679	20	--	--	--	--	Sand, 40-50, 240-241	Swartz & Biggs
36.1e	A. S. Burr Estate**	1905	dug & drl	55	42-8	--	--	--	678	12	--	--	--	--	Sand at 55	--
36.1h	A. S. Burr Estate	1944	drl	90	4	--	--	--	682	--	--	--	--	--	--	--
36.2a	A. S. Burr Estate	1954	drl	80	3	--	--	--	680	--	--	--	--	--	*Sand, 55-70	Swartz & Biggs

Appendix A (Continued)

Well number	Owner	Well: Year con- structed	Well: Type	Well: Depth (ft)	Well: Diam- eter (in)	Screen: Length (ft)	Screen: Diam- eter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Draw- down (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T17N, R6E																
1.1c1	Everett McCoppin	1956	drl	128	4	8	2	.012	676	18	27	12	.4	6	Sand, 90-128	Swartz & Biggs
1.1c2	Anna McCoppin	1953	drl	108	4	8	2	.010	676	24	--	9	--	2	Sand, 100-108	Swartz
1.1h	Mary Meilshee	1900	drl	100	2	--	--	--	675	--	--	--	--	--	Sand & gravel at 100	Thomas
1.8f	John Nolan	1927	drl	100	3-1.25	--	--	--	672	15	--	--	--	--	--	Hovey
2.1h1	Sidney Morgan**	1895	drl	80	2	--	--	--	674	--	--	--	--	--	Sand at 80	Thomas
2.1h2	Sidney Morgan**	1928	drl	98	3	--	--	--	674	12	--	--	--	--	Sand at 98	Poundstone
2.1h3	Sidney Morgan	1947	drl	110	3	--	--	--	674	25	--	--	--	--	--	--
2.6a	Margaret Burns	1910	drl	85	2	--	--	--	680	--	--	--	--	--	Sand at 85	Thomas
2.8g	Cecil Hunt	1943	drl	44	4	3	4	.025	680	24	--	5	--	15	Sand & gravel, 39-44	Tipsord
3.4a1	Margaret E. Wolfe	1916	dug & drl	110	42-3	--	--	--	675	15-25	--	--	--	--	Sand at 110	--
3.4a2	Margaret E. Wolfe	1968	drl	127	4	4	3.6	.014	675	35	--	15	--	1	Sand & gravel, 120-127	Swartz
3.8a	Francis Tracy	1926	drl	100+	4	--	--	--	678	--	--	--	--	--	--	--
3.8e	Mary Lawless	1894	drl	144	3	--	--	--	680	25	--	--	--	--	Sand & gravel at 144	Rhodes & Oldfield
4.3b	Joseph Ponder	1912	drl	140	3	--	--	--	682	30	--	--	--	--	Sand at 140	Poundstone
4.8e	Catherine Foran	1923	drl	128	3	--	--	--	683	12	--	--	--	--	Sand & gravel at 128	Woods
5.2d	Frank Totten	1918	dug & bor	52	42-12	--	--	--	690	20	--	--	--	--	Sand & gravel at 52	Cornwell
5.5e	Ruth C. Hurst	1961	drl	107	4	8	1.25	.018	705	57	23	8	.3	2	Sand, 100-107	Swartz
5.7e	C. & M. Knowles	1885	dug	30	42	--	--	--	700	10	--	--	--	--	Sand & gravel at 28	--
6.3a1	R. E. Davies Trust	1880	dug & bor	34	--	--	--	--	696	--	--	--	--	--	Sand & gravel at 34	--
6.3a2	R. E. Davies Trust	1914	drl	125	4	10	--	--	696	40	--	--	--	--	Sand & gravel at 125	Poundstone
6.6d	Mollie Van Gorder	1900	dug	30	48	--	--	--	710	10-18	--	--	--	--	--	--
6.8a	Bement Cemetery Assn.	1898	drl	221	3	--	--	--	688	50	--	--	--	--	Sand & gravel at 221	Rhodes
7.5h	C. F. Ryan	1895	drl	221	4	10	--	slotted pipe	696	50	--	--	--	--	Sand & gravel at 221	Rhodes
7.8b1	A. E. Bodman	1893	drl	102	3	--	--	--	685	25	--	3	--	24	Sand & gravel at 102	--
7.8b2	A. E. Bodman	1954	drl	78	4	6.5	2.5	.012	685	34	--	10	--	--	Sand & gravel, 48-78	Swartz
7.8e	Charles Ray	1947	drl	215	4	4.9	--	.014	700	47	--	10	--	--	Sand, 204-215	Swartz
8.4a	E. A. Stout	1890	dug & drl	70±	48-2	--	--	--	678	10-20	--	--	--	--	Sand at 70±	--
8.8a	Camp Estate	1915	drl	205	6	--	--	--	685	20	--	--	--	--	Limestone at 205	Meister
9.3b1	Elmer Haynes**	1914	drl	125	3	--	--	--	670	25-30	--	--	--	--	Sand at 125	Poundstone
9.3b2	Elmer Haynes	1948	drl	102	4	4.9	--	.018	676	27	--	10	--	--	Sand, 97-102	Swartz
9.8h	C. Wegenroth Estate	1916	drl	147	3	--	--	--	680	30	--	--	--	--	Sand at 147	Poundstone
10.2h	Joe Cahill Estate	1910	drl	152.5	3	--	--	--	676	20	--	--	--	--	Sand & gravel at 152.5	--
10.3a	C. O. Funk	1947	drl	75	4	--	--	--	678	--	--	--	--	--	--	Tipsord
10.8c	Eva Burgess	1908	drl	72	3	--	--	--	677	15-20	--	--	--	--	Sand & gravel at 72	Thomas & Poundstone
10.8e1	Jessie Burgess	1895	drl	70	4-2	--	--	--	679	15	--	--	--	--	Sand & gravel at 70	Burgess
10.8e2	Jessie Burgess	1949	drl	74	4	--	--	--	679	20	1	--	--	36	--	Proctor
11.6h	Charles Morris	1928	drl	96	3	--	--	--	680	20	--	--	--	--	Sand at 96	Poundstone
13.8f	Beverly Steven	1893	dug	35	42	--	--	--	673	15	--	--	--	--	--	--
14.1a	James & Dan Laroe	--	drl	80	--	--	--	--	673	--	--	--	--	--	--	--
14.4a	Margaret Foran	1918	drl	122	3	--	--	--	674	15	--	--	--	--	Sand at 90	Woods
14.8e	William Glennon Est.	1927	drl	70	3	--	--	--	673	3	--	--	--	--	Sand at 70	Woods
15.1a1	William Tynan	1902	drl	98	2	--	--	--	673	15	--	--	--	--	Sand & gravel at 98	Thomas
15.1a2	William Tynan	1957	drl	87	4	4	4	.014	673	30	15	15	1.0	--	Sand, 82-87	Swartz
15.7h	K. Burgess, et ux.	1895	drl	87	2	--	--	--	678	20	--	--	--	--	Sand & gravel at 87	Donovan
15.8c	Edwin Ard	1930	drl	85	3	--	--	--	672	30	--	--	--	--	Sand at 85	Poundstone
16.1f	Bement Grain Co.	--	drl	150	4	--	--	--	675	--	--	--	--	--	--	--
16.1g	Anna Hickey	1895	drl	86	2	--	--	--	674	26	--	--	--	--	Sand & gravel at 86	Donovan
16.2e	W. I. & C. T. Moore	1900	drl	98	3	--	--	--	670	20	--	--	--	--	Sand at 98	Poundstone
17.6b1	G. W. Larson Est.	1925	dug & drl	100	48-3	--	--	--	670	30	--	--	--	--	Sand at 100	Woods
17.6b2	G. W. Larson Est.	1961	drl	205	4	--	--	--	670	20	55	11	.2	3	Sand, 166-200; sand rock, 200-205	Swartz
18	M. T. Scott	~1910	drl	137	2	--	--	--	--	--	--	--	--	--	Sand at 137	--
18.5a1	Bement (V)**	1894	drl	140	6	--	--	--	680	30	70	75	1.1	12+	Sand & gravel, 133-140	--
18.5a2	Bement (V)**	~1911	drl	137	6	--	--	--	680	28	38	--	--	--	Sand, 137-145	--
18.5a3	Bement (V)**	1917	drl	275	12-6	--	--	--	680	40	46	80	1.7	5+	Sand, 133-140, 190-209; limestone, 209-212; rock, 212-275	--
18.5a4	Bement (V)**	1924	drl	215	6-5	10	6	.040	680	--	--	--	--	--	--	Meister & Burt
18.5a5(2)	Bement (V)	--	drl-GP	163	26-18	50	18	--	680	--	--	--	--	--	Sand & gravel at 163	--
18.6a1	Bement (V)**	1911	drl	150	--	--	--	--	680	--	--	--	--	--	Sand & gravel at 150	--
18.6a2	Bement (V)**	1924	drl	1184	10-8	--	--	--	680	--	--	--	--	--	Sand, 8-28, 45-50, 60-65, 100-115, 140-150, 200-220; limestone, 1095-1125; sandstone, 1153-1183	Meister
18.8f	Ray S. Kintner, et al.**	1905	drl	260	4	--	--	--	690	25	--	--	--	--	Sand at 220	Thomas
18.8g	Ray S. Kintner, et al.**	1894	dug	30	42	--	--	--	690	4-25	--	--	--	--	--	--
19	Frank G. Brya	~1927	dug	--	--	--	--	--	--	--	--	--	--	--	Sand	--
19	E. G. Shepherd	~1927	dug	30	--	--	--	--	--	--	--	--	--	--	--	--
19.4h1	B. L. Baker	~1874	dug & bor	106.5	--	--	--	--	680	--	--	--	--	--	--	--
19.4h2	W. E. Baker	~1914	dug	41	--	--	--	--	680	--	--	5	--	--	Sand & gravel at 41	--
19.7e	W. H. Fay	~1909	dug	20	--	--	--	--	680	--	--	--	--	--	--	--
19.7g(1)	Bement (V)	1937	drl-GP	139	28-18	30	--	.055-.105	680	32.5 39 36	49 42 50	550 475 550	11.2 11.3 11.0	10 .5 6	Sand & gravel, 39-57, 67-140	Layne-Western
19.8d	Della A. Coffin	1931	drl	115	3	--	--	--	682	20	--	--	--	--	Sand at 115	Poundstone
19.8g	C. T. Tommey	~1864	dug	19	--	--	--	--	687	--	--	--	--	--	--	--
20.8c	J. M. Driscoll Est.	1910	drl	94	3	--	--	--	672	21	--	--	--	--	--	Thomas & Poundstone
20.8g	Thelma Durbin	1932	bor	60	14	--	--	--	672	12	--	--	--	--	--	Duggan
21.1h	Orville Bowyer	1939	drl	102	2	4	1.25	.080	670	20	--	5	--	--	Sand, 20-27, 62-64; dirty sand & gravel, 64-96; sand, 96-102	Williamson
21.3h	Clara E. Folk	1890	dug & drl	98±	36-2	--	--	--	670	20	--	--	--	--	Sand & gravel at 98±	--
21.5a1	Ray Walsh**	1900	dug & drl	83	42-2	--	--	--	670	10	--	--	--	--	Sand & gravel at 83	--
21.5a2	Ray Walsh	1966	drl	85-90	4	--	--	--	670	--	--	--	--	--	--	Swartz
22.3a	Thomas Morris	1910	drl	100	3	--	--	--	673	15	--	--	--	--	Sand at 100	Wolford

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T17N, R6E (Continued)																
22.5d	Floyd Larimore	1900	dug & drl	90	42-2	--	--	--	673	20	--	--	--	--	Sand & gravel at 90	Bentley
22.7d	Floyd Larimore	1900	dug & drl	80	42-2	--	--	--	671	20	--	--	--	--	Sand & gravel at 80	Bentley
23.4f	C. J. Morris	1920	dug & drl	150	42-3	--	--	--	673	10	--	--	--	--	Sand & gravel at 150	Poundstone
23.8h1	Walter M. Morris	1931	dug & drl	70	42-3	--	--	--	671	10	--	--	--	--	Sand at 70	Woods
23.8h2	Walter M. Morris	1959	drl	75	4	--	--	--	673	--	--	--	--	--	--	Swartz
24.4a	Roy Fay	1913	drl	110	3	--	--	--	672	12	--	--	--	--	Sand at 110	Harshbarger
24.6h	Stella Fay	1925	drl	90	3	--	--	--	674	20	--	--	--	--	Sand, 88.5-90	Woods
24.7d1	A. J. Sebens**	1913	drl	220	3	--	--	--	672	10	--	--	--	--	Sand at 220	Harshbarger
24.7d2	A. J. Sebens	1955	drl	130	3	5	2	.012	672	22	--	15	--	4	Sand, 78-130	Swartz
24.7d3	A. J. Sebens	1958	drl	130	4	4	4	.014	672	20	--	15	--	--	Sand, 87-130	Swartz
24.8d	A. J. Sebens	1961	drl	236	4	--	--	--	672	10-12	--	--	--	--	--	Swartz
25.1d	John Kirwan	1932	drl	129	3	--	--	--	675	18	--	--	--	--	Sand at 129	Woods
25.5a	Russell Rodgers	1964	drl	114	--	--	--	--	675	--	--	--	--	--	--	Swartz
25.8h	Howard Hill	1926	drl	176	3	--	--	--	673	12	--	--	--	--	Sand at 135; rock at 176	Poundstone
26.2h	Mal Doolin	1900	dug & drl	90	42-2	--	--	--	672	15	--	--	--	--	Sand & gravel at 90	Williams
26.3h	Mal Doolin	1960	drl	160	4	8	2	.012	672	20	--	12	--	5	Sand, 142-160	Swartz
26.7e	Walter Morris	--	drl	131	3	5	2	.012	672	35	--	15	--	4	Sand, 91-131	Swartz
26.8c	W. & E. S. Morris	1914	dug & drl	90	42-3	--	--	--	672	10	--	--	--	--	Sand & gravel at 90	Poundstone
27.5a	Henrietta S. Baker	1931	drl	203	3	--	--	--	670	11	--	--	--	--	Sand at 203	Woods
27.8d	R. Jones, C. & P. Marker	1916	drl	120	3	--	--	--	665	15	--	--	--	--	Sand at 120	Poundstone
27.8f	Catherine A. Walsh	1889	dug & drl	84	42-2	--	--	--	670	15	--	--	--	--	--	--
28.4a	Gladys Jones	1953	drl	160±	--	--	--	--	660	--	--	--	--	--	--	--
28.4f	Vincent Walsh	1963	drl	107	4	4	4	.018	670	12	--	12	--	--	Sand, 20-25; sand & gravel, 25-36, 46-53; sand, 101-107	Swartz
28.5h	Ida Holste	1926	drl	76	3	--	--	--	670	18	--	--	--	--	Sand & gravel at 76	Woods
28.6a	Gladys Jones	--	dug & drl	100	48-2	--	--	--	670	15	--	--	--	--	Sand at 100	--
28.7f	R. & P. Walsh	1956	drl	75	--	4	--	.014	671	12	18	12	.7	2	Sand & gravel, 68-75	Swartz
29.1c1	Margaret Marker	1905	drl	125	3	--	--	--	670	30	--	--	--	--	Sand at 125	Zanger
29.1c2	Margaret Marker	1916	drl	118	3	--	--	--	670	15	--	--	--	--	Sand at 118	Poundstone
29.7a	Edmond A. Stout	±1908	dug	30	--	--	--	--	670	--	--	--	--	--	--	--
29.8d	Edmond A. Stout	±1910	dug & drl	100	30-3	--	--	--	671	10	--	--	--	--	Sand at 100	--
30.2a	McMillen & Beall	±1909	dug & drl	85	42-3	--	--	--	670	25	--	--	--	--	Sand at 85	--
30.4a	McMillen & Beall	1945	drl	66	4	3	4	.025	674	20	4	7.5	1.9	2	Sand, 38-41, 50-52, 53-58; sand & gravel, 61-66	Woollen
30.8h	Guy Mederis	1914	dug & drl	78	42-4	--	--	--	679	25	--	--	--	--	Sand at 78	Sine
31.7h	A. S. Burr Estate	1920	drl	100	3	--	--	--	670	15	--	--	--	--	Sand & gravel at 100	--
31.8b1	A. S. Burr Estate	1924	drl	112	3	--	--	--	675	--	--	--	--	--	Sand at 112	Poundstone
31.8b2	A. S. Burr Estate	1955	drl	235	--	--	--	--	675	23	2	43	21.5	--	--	Swartz
32	A. S. Burr Estate	±1911	dug & bor	60	--	--	--	--	--	--	--	--	--	--	--	--
32	A. S. Burr Estate	±1914	dug	40	--	--	--	--	--	--	--	--	--	--	--	--
32.4h	Oscar E. Morgan	1905	dug & drl	65	42-2	--	--	--	670	20-30	--	--	--	--	Dirty sand at 65	--
32.5h	Oscar E. Morgan	--	dug	40	42	--	--	--	670	10-30	--	--	--	--	--	--
32.6h	Oscar E. Morgan	1940	drl	128	3	--	--	--	670	18	--	--	--	--	Dirty sand & gravel, 33-53; sand, 63-68; sand & gravel, 68-125; sand, 125-128	Williamson
33	Ethel McPherson	±1908	dug & bor	70	--	--	--	--	670	--	--	--	--	--	--	--
33	Ethel McPherson	±1910	dug & bor	60	--	--	--	--	670	--	--	--	--	--	Sand at 60	--
33.4a1	Ethel McPherson	1925	drl	100	3	--	--	--	670	15	--	--	--	--	Sand at 100	Poundstone
33.4a2	Ethel McPherson	1926	drl	155	4	--	--	--	670	20	--	--	--	--	Sand & gravel at 155	Poundstone
33.4a3	Ethel McPherson	1957	drl	97	4	4	4	.014	670	12	--	--	--	--	Sand & gravel, 90-97	Swartz & Biggs
34.1b	Willis Fristoe	±1915	drl	180	2	--	--	--	671	30±	--	--	--	--	--	--
34.3e	Albert Larson	1932	drl	132	3	--	--	--	670	30	--	--	--	--	Sand at 132	Poundstone
34.5g	Ruth Fisher**	±1905	dug	40	-	--	--	--	671	--	--	--	--	--	Dirty sand at 40	--
34.8a	Edward Monaghan	1905	dug & drl	86	42-2	--	--	--	663	12	--	--	--	--	Sand & gravel at 86	--
34.8b	Edward Monaghan	1940	drl	78	3	3	2	.010	670	--	--	--	--	--	Dirty sand & gravel, 36-46; sand, 76.5-78	Williamson
35.4h	Mrs. J. Holmes Est.	1914	drl	176	3	--	--	--	675	15	--	--	--	--	Sand rock at 175	Poundstone
35.5a	E. Curry, et al.	--	drl	200	--	--	--	--	671	--	--	--	--	--	--	--
35.6a	E. Curry, et al.	1932	dug & drl	70	42-2	--	--	--	672	10	--	--	--	--	Sand & gravel at 70	Woods
35.8d	Roy C. Hamman	1962	drl	105	4	4	3.6	.014	672	11	3	12	4.0	3	Sand, 96-105	Swartz
35.8e	Albert Larson	1931	drl	120	3	--	--	--	670	17	--	--	--	--	Sand at 120	Woods
36.2h	Agnes Hannon	1910	dug	43	36	--	--	--	673	10-20	--	--	--	--	--	--
36.6c1	James J. Quick	1895	drl	86	3-2	--	--	--	673	8-10	--	--	--	--	Sand & gravel at 86	Thomas
36.6c2	James J. Quick	1897	drl	86	2	--	--	--	673	8-10	--	--	--	--	Sand & gravel at 86	Thomas
36.6c3	James J. Quick	1910	drl	114	3	--	--	--	673	8	--	--	--	--	Sand & gravel at 114	Offenstein
36.7a1	Ethel Murray	1900	drl	75	3	--	--	--	672	15	--	--	--	--	Sand at 75	Thomas
36.7a2	Ethel Murray	1954	drl	83	4	4	4	.015	672	20	15	8	.5	3	Sand, 73-83	Swartz & Biggs
T18N, R4E																
1	Clifford Weddle	1949	drl	108	4	3	4	.025	--	--	50	6	.1	6	Sand & gravel, 66.5-70.5, 100-108	Woollen
1.1a	Elbert U. Martin	1913	drl	105	3	--	--	--	693	30±	--	--	--	--	Sand at 105	Musselman
1.1h	Bert W. Hulsinga	--	drl	87	4	--	--	--	692	48	--	5	--	1	Dirty sand, 57-60; sand & gravel, 82-87	Woollen
1.5a	Clifford Weddle	1929	drl	196	3	--	--	--	692	60	--	--	--	--	Sand at 196	Musselman
1.8a1	Clifford Weddle**	1895	drl	235	3	--	--	--	692	60-65	--	--	--	--	Sand at 235	Woollen
1.8a2	Clifford Weddle	1962	drl	241	4	--	--	--	692	69	--	--	--	--	Sand, 185-240	Hayes

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T18N, R4E (Continued)																
2.1a	William M. Scott	1924	drl	95	3	--	--	--	692	30	--	--	--	--	Sand & gravel at 95	Musselman
2.3a1	William M. Scott	1900	bor	65	16	--	--	--	693	30-40	--	--	--	--	Sand & gravel at 65	Woollen
2.3a2	William M. Scott	1962	drl	228	4	4.7	4	.015	693	70	--	10	--	2	Dirty sand, 93-96; sand, 184-224; sand & gravel, 224-228	Woollen
2.8b	Prudie Huffmaster	1900	dug & drl	60	48-2	--	--	--	695	30	--	--	--	--	--	--
3.1g1	Oressa L. McQueen	--	bor	18	10	--	--	--	694	14	--	--	--	--	Sand at 18	--
3.1g2	Oressa L. McQueen	--	drl	90	3	--	--	--	694	50±	--	--	--	--	Sand & gravel at 90	--
3.1g3	Oressa L. McQueen	1957	drl	260	4	--	--	--	693	--	--	--	--	--	--	Mashburn
3.3a1	Ralph Ranneberger	1944	drl	63	4	3	4	.025	693	34	4	6	1.5	12	Sand & gravel, 60-62.5	Woollen
3.3a2	Ralph Ranneberger	1959	drl	218	4	4	4	.020	693	56	--	--	--	--	Sand & gravel, 92-94; sand, 182-215	Woollen
3.6a1	Ralph Ranneberger**	+1910	bor	75	12	--	--	--	692	30	--	--	--	--	Dirty sand at 75	--
3.6a2	Ralph Ranneberger	1961	drl	100	4	--	--	--	693	--	--	--	--	--	--	Woollen
3.7a	Ralph Ranneberger	1913	drl	100	3	--	--	--	693	35	--	--	--	--	Sand & gravel at 100	Musselman
10.4a1	Mabel Whitely**	1916	drl	208	3	--	--	--	692	60	--	--	--	--	Sand & gravel at 208	Musselman
10.4a2	Mabel Whitely	1957	drl	206	4	--	--	--	690	--	--	--	--	--	--	Lentz
10.7c	G. D. Briggs	1912	bor	84	12	--	--	--	691	6-12	3	6	2.0	1	Sand & gravel at 84	Woollen
11.1d1	C. Homer Doane	1890	dug & drl	125±	48-3	--	--	--	692	15-30	--	--	--	--	Sand at 125±	--
11.1d2	C. Homer Doane	1948	drl	115	4	--	--	--	692	40	--	--	--	--	--	Mashburn
11.3e	Thada J. Olson	+1915	drl	90-100	3	--	--	--	690	30	--	--	--	--	--	--
11.8a	Thada J. Olson	1919	drl	195	3	--	--	--	690	60	--	--	--	--	Sand & gravel at 195	Musselman
12.3c	Helen Ater Estate	1915	drl	194	3	5	--	--	691	40	--	--	--	--	Sand & gravel at 194	Musselman
12.8a	Francis Chapman	+1914	drl	110	3	--	--	--	691	45	--	--	--	--	--	--
13	Max Campbell	1959	drl	113	--	--	--	--	--	--	--	--	--	--	Sand, 90-113	Woollen
13.1a1	R. H. Oplinger	1910	dug	65	48	--	--	--	680	50	--	--	--	--	--	--
13.1a2	R. H. Oplinger	1931	drl	101	3	--	--	--	670	30	--	--	--	--	Sand at 101	Poundstone
13.1f1	G. E. Miller**	1904	bor & drl	100	12-3	--	--	--	682	40	--	--	--	--	Dirty sand at 100	Woollen
13.1f2	G. E. Miller	1957	drl	100	4	--	--	--	682	--	--	--	--	--	--	Woollen
13.3h	Max Campbell	--	drl	110	2	--	--	--	690	--	--	--	--	--	Sand at 110	--
14.1h	Audrey C. Myers	1945	drl	96	4	3	4	.025	690	38	3	5	1.7	1	Sand & gravel, 91-96	Woollen
14.3a1	Beulah Williams	1910	bor	44	12-10	--	--	--	687	20±	--	--	--	--	Sand & gravel at 44	Woollen
14.3a2	Beulah Williams	1952	drl	118	4	4	4	.020	685	53	--	5	--	--	Dirty sand, 94-98; sand & gravel, 108-118	Woollen
14.6b	R. H. Oplinger**	1916	drl	112	3	--	--	--	689	35	--	--	--	--	Sand & gravel at 112	Musselman
14.7a	Dick Wangler	1916	bor	91	16	--	--	--	688	30-35	--	--	--	--	Sand & gravel at 91	Gossett
14.7b	Fred Benjamin	1920	bor	50	12	--	--	--	688	20-50	--	--	--	--	Sand at 50	--
14.8a1	E. V. Ranneberger	1900	dug	24	42	--	--	--	687	12	--	--	--	--	--	--
14.8a2	Wilber Clifton	1914	bor	101	12	--	--	--	687	20	--	--	--	--	Sand & gravel at 101	Gossett
14.8a3(1)	Cisco (V)**	1950	drl	111	10	8	10	.020	687	43.8	55	55	1.0	10	Sand & gravel, 100-111	Stice
										45	56.1	34.5	.6	24		
14.8a4(3)	Cisco (V)	1958	drl	213	10	8	10	--	688	--	--	--	--	--	--	Woollen
14.8b(2)	Cisco (V)	1950	drl	113	10	8	10	.020-.040	688	45.3	31.8	80	2.5	21.3	Sand, 104-106; sand & gravel, 106-113	Stice
15.1a1	Lee McGinnis	1915	bor	55	12	--	--	--	688	20-40	--	--	--	--	Sand & gravel at 55	Gossett
15.1a2	Lee McGinnis	1917	bor	35	12	--	--	--	688	4	--	--	--	--	Sand at 35	Gossett
15.1a3	Cisco Grain	1945	drl	90	4	3	4	.030	688	49	--	5	--	2	Sand & gravel, 88-89	Woollen
15.1b	Cisco School Districts 93 & 94	1916	drl	117	3	--	--	--	688	30	--	--	--	--	Sand at 30; sand & gravel at 117	Musselman
15.7d	Gordon Hardy	1936	drl	132	4	3	4	.025	684	--	--	--	--	--	Sand & gravel at 132	Woollen
22	W. Reed Barnhart	+1913	drl	174	3	--	--	--	689	--	--	--	--	--	Sand & gravel at 174	--
22	Bert L. Reeves	1956	drl	210	--	4	--	.015	--	84	10	10	1.0	--	Sand & gravel, 84-91; sand, 184-210	Woollen
22.1d	Edith Barnhart	1910	drl	180	3	--	--	--	685	50	--	--	--	--	Sand & gravel at 180	Musselman
22.1g1	John Gosset	1900	dug	25	48	--	--	--	688	15	--	--	--	--	Sand & gravel at 25	--
22.1g2	Mrs. Huffmaster	1900	bor	81	16	--	--	--	688	30	--	--	--	--	--	Gossett
22.1g3	Walter Pirtle	1916	drl	115	3	--	--	--	688	30	--	--	--	--	Sand & gravel at 115	Musselman
22.1g4	Dave Schwarz	1922	bor	70	12	--	--	--	688	15-65	--	--	--	--	Sand & gravel at 70	Gossett
22.1h1	Cisco (V)**	1895	dug & bor	105	42-16	--	--	--	688	40-60	--	--	--	--	Sand at 75; sand & gravel at 105	Gossett
22.1h2	Cisco (V)**	1916	drl	110	3	--	--	--	688	30	--	--	--	--	Sand & gravel at 110	Musselman
22.1h3	Harry Cook	1945	drl	100	4	3	4	.025	688	45	15	5	.3	2	Sand & gravel, 96-100	Woollen
22.2a	P. C. Barnhart	1893	drl	102	3	--	--	--	686	35	--	--	--	--	Sand & gravel at 102	Musselman
22.3h	Bert L. Reeves	1907	bor	93	14	--	--	--	680	45	--	4	--	.75	Sand & gravel at 93	Coffin
23.1h	Jack Robinson & Mary Schmidt	1902	dug	16	60	--	--	--	685	6	--	--	--	--	Dirty sand, 10-16	Coffin
23.2h1	Jack Robinson & Mary Schmidt	1900	bor	84	12	--	--	--	686	52	--	--	--	--	Sand & gravel at 84	Woollen
23.2h2	Jack Robinson & Mary Schmidt	1959	drl	122	4	3	--	.020	686	62	--	--	--	--	Sand & gravel, 112-122	Woollen
23.4a1	W. E. Ater	1917	dug & drl	100	48-3	--	--	--	680	20	--	--	--	--	Sand & gravel at 100	Musselman
23.4a2	W. E. Ater	--	drl	200+	4	--	--	--	685	--	--	--	--	--	--	--
23.4h1	Warren Ater	1954	drl-GP	105	6	4	--	.010	685	48-52	--	--	--	--	Sand & gravel, 92-112, 114-116	Hayes
23.4h2	Warren Ater	1961	drl	113	4	3	4	.010	685	--	--	--	--	--	--	Mashburn
23.8a	F. G. Edwards	+1934	bor	68	12	--	--	--	686	38	--	--	--	--	--	--
24.1f1	R. R. Williams**	1920	drl	190	3	--	--	--	680	60	--	--	--	--	Sand at 190	Musselman
24.1f2	R. R. Williams	1941	drl	94	4	--	--	--	668	54	--	6	--	--	Sand & gravel, 89-94	Woollen
24.6h	R. H. Oplinger	1940	drl	111	4	3	4	.025	687	40	2	6	3.0	1	Sand, 55-65, 107-110; sand & gravel, 110-111	Woollen
24.8a	Lucille Gulley	1922	drl	198	3	--	--	--	690	60	--	--	--	--	Sand at 198	Musselman
25.1h	Elmer J. Clow Est.	1918	drl	205	3	--	--	--	690	60	--	--	--	--	Sand at 205	Musselman
25.5h	Gladys Ranneberger	1917	drl	105	3	--	--	--	686	36	--	--	--	--	Sand at 105	Musselman
25.6a	Bess Raycraft	--	drl	210	3	--	--	--	660	8-20	--	--	--	--	--	Musselman
25.8d	Decatur (C)	1954	drl	256	--	--	--	--	659	13	--	--	--	--	*Sand & gravel, 108-111, 147-250	Layne-Western
26	Sanford Gulley	1963	drl	219	4	4	4	.018	--	67	3	12	4.0	--	Sand, 179-219	Swartz
26.2g	Lucille Gulley	1914	drl	205	3	--	--	--	680	60	--	--	--	--	Sand & gravel at 205	Musselman
26.6a	Earl Brame, et ux.	1940	drl	37	4	3	4	.025	685	25	3	5	1.7	2	Sand, 34-37	Woollen
26.8f	Ethel M. Roberts	1914	drl	108	3	--	--	--	685	30	--	--	--	--	Sand & gravel at 108	Musselman
27.3a1	I. McCartney, et al.	1911	drl	205	3	--	--	--	685	60	--	--	--	--	Sand at 205	Musselman
27.3a2	I. McCartney, et al.	1962	drl	198	4	4	--	.020	685	--	--	--	--	--	Dirty sand, 100-105; sand, 185-198	Woollen
27.8f1	Whisnant Estate	--	drl	175	3	--	--	--	686	--	--	--	--	--	--	--
27.8f2	Whisnant Estate	1920	drl	140	3	--	--	--	685	35	--	--	--	--	Sand & gravel at 140	Musselman
34.4h	Annie Dillacush	1911	drl	110	3	--	--	--	682	35	--	--	--	--	Sand & gravel at 110	Musselman
34.6h1	B. McKinney, et al.	1910	drl	125	3	--	--	--	682	40	--	--	--	--	Sand & gravel at 125	Musselman
34.6h2	B. McKinney, et al.	1963	drl	112	4	--	--	--	684	--	--	--	--	--	--	Woollen
35	Norman Greenwood	1943	drl	102.5	4	3	--	.025	--	70	10	6	.6	2	Sand & gravel, 99-101; sand, 101-103	Woollen
35.1c	L. & I. Barnes	1945	drl	107	4	3	4	.025	672	--	4	5	1.3	2	Sand, 101-106	Woollen

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Nonpumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T18N, R4E (Continued)																
35.2h	Robert Caclin	--	drl	100	4	--	--	--	683	--	--	--	--	--	--	--
35.8b	Mrs. Lawrence Coon	1945	drl	109	4	3	4	.030	670	53	9	5	.6	2	Sand, 99-106; sand & gravel, 106-109	Woollen
35.8c	Mrs. Lawrence Coon	1894	drl	90	3	--	--	--	650	25	--	--	--	--	Sand at 90	--
35.8h	James Van Matre	1892	drl	114	2	--	--	--	685	40	--	--	--	--	Sand & gravel, 40-75; sand at 114	Hockaday
36.2b	William Barnes, Jr.	1925	drl	112	3	--	--	--	670	30	--	--	--	--	Sand at 112	Poundstone
36.4g	Roy Miner Estate	1914	drl	176	3	--	--	--	650	50	--	--	--	--	Sand at 176	Poundstone
36.4h	Roy Miner Estate	--	drl	210	4	--	--	--	680	60-70	--	15	--	48	--	--
36.6b	Decatur (C)	1954	drl	255	--	--	--	--	624	5.5	--	--	--	--	*Sand & gravel, 40-65, 128-253	Layne-Western
36.8h1	Roland Hoffman	1925	bor	84	16	--	--	--	682	5-20	--	--	--	--	Sand at 84	Gossett
36.8h2	Roland Hoffman	1962	drl	192	4	--	--	--	682	57	--	--	--	--	--	Swartz
T18N, R5E																
1	W. T. Lodge	--	drl	65.7	--	3	--	.030	--	--	--	--	--	--	--	DeMent
1.4g	Edith L. Primmer	1963	drl	68	4	3	4	.014	655	--	--	12	--	--	--	Mashburn
1.5g	Edith L. Primmer	1955	drl	90	4	--	--	--	680	--	--	--	--	--	--	Mashburn
1.8a	Tatman Sisters	1908	drl	110	3	--	--	--	660	40	--	--	--	--	--	Bartley
2.4a	R. H. McClure	1915	drl	90	4	--	--	--	672	30	--	--	--	--	--	Hayes
2.5a	Walter Burke	1962	drl	114	2	4	1.25	.012	681	35	--	8	--	--	Sand at 95; sand & gravel, 95-114	Swartz
2.7d	Rebecca Roberts	1919	drl	192	4	--	--	--	682	90	--	--	--	--	--	--
3.3a1	Roy Hacker	1888	drl	119	2	--	--	--	680	30	--	--	--	--	Sand at 119	--
3.3a2	Roy Hacker	1955	drl	68	4	--	--	--	680	10	--	--	--	--	--	Woollen
3.4a	Roy Hacker	1895	dug & drl.	90	48-8	--	--	--	680	4	--	--	--	--	Sand at 90	--
4.1d	Bert W. Huisinga	1905	drl	118	2	--	--	--	682	40	--	--	--	--	Sand, 100-118	--
4.1h	J. W. Carney	1900	dug	20	48	--	--	--	685	10-20	--	--	--	--	Sand at 20	Welch
4.8h	Bert W. Huisinga	1895	dug & drl	90	48-2	--	--	--	691	50	--	--	--	--	Sand & gravel at 90	--
5.1b	Bertha Ayre	1915	drl	120	3	--	--	--	690	35	--	--	--	--	Sand & gravel at 120	Husselman
6.4a	Elbert Martin	1929	drl	100	4	--	--	--	691	30	--	--	--	--	Sand & gravel at 100	Woollen
6.5a	John Huisinga	1928	drl	92	3	--	--	--	689	20	--	--	--	--	Sand & gravel at 92	Husselman
6.5g1	Harold Remmers	--	dug	20	42	--	--	--	690	12	--	--	--	--	Dirty sand at 20	--
6.5g2	Harold Remmers	1894	drl	90	4	--	--	--	690	40	--	--	--	--	--	--
6.5g3	Harold Remmers	1941	drl	52	4	3	4	.025	690	27	--	6	--	2	Sand & gravel, 44-52	Woollen
6.7a	Lyle Barnhart	1917	drl	103	4	--	--	--	690	30	--	--	--	--	Sand & gravel at 103	Hayes
7	Univ. of Ill.	1962	drl	105	--	4	--	.020	--	--	--	7	--	5	Sand, 82-101; sand & gravel, 101-105	Woollen
7.1h	WILL TV Tower Site	1965	drl	195	6-4	4	3.75	.012	690	64.7	7.9	17	2.2	2	Sand, 90-115, 125-136, 178-195	Sims
7.4h	Univ. of Ill.	1915	drl	220	2.5	--	--	--	691	65	--	--	--	--	Sand & gravel at 220	Cade
7.7a	Univ. of Ill.	1933	drl	106	3	--	--	--	689	50	--	--	--	--	Sand & gravel, 100-106; sand at 106	Woods
8.2h	Univ. of Ill.	--	drl	86	4	--	--	--	691	20	--	--	--	--	--	--
8.3h	Univ. of Ill.	1895	drl	240	3	--	--	--	690	50-60	--	--	--	--	Sand at 240	Rhodes & Oldfield
8.6h	Univ. of Ill.	1895	drl	250	4	--	--	--	691	60	--	--	--	--	Sand & gravel at 250	Rhodes & Oldfield
8.8h	Univ. of Ill.	1931	drl	189	4	--	--	--	690	75	33	5	.2	5	Sand & gravel at 189	Woollen
9.1h1	Roland Salyers Est.	1910	dug	30	48	--	--	--	684	12	--	--	--	--	Sand & gravel at 30	--
9.1h2	Roland Salyers Est.	1919	drl	115	4	--	--	--	684	60	--	--	--	--	--	Chaney
9.3c	Cory H. Zybell	1918	bor & drl	163	10-3	--	--	--	688	50±	--	--	--	--	Sand & gravel at 163	Poundstone
9.3g	Roland Salyers Est.	1912	drl	108	3	--	--	--	682	65	--	--	--	--	--	--
10.2h	Ethel M. Roberts	1885	dug	35	48	--	--	--	682	6-30	--	--	--	--	--	--
10.3h	Ethel M. Roberts	1885	dug	30	48	--	--	--	681	15-22	--	--	--	--	Dirty sand at 30	--
10.5h	Ethel M. Roberts	1900	dug	18	48	--	--	--	680	13	--	--	--	--	Sand & gravel at 18	--
10.6c	James W. Carney	1931	drl	126	4	3	--	.030	675	40	10	6	.6	5	Sand & gravel, 116-126	Woollen
10.6d	James W. Carney	1941	drl	89	--	--	--	--	680	40	--	--	--	--	Sand & gravel, 85-89	Woollen
11.2a	Dorothy Gregory	1943	drl	102	3	--	--	--	663	--	--	--	--	--	--	Jones
11.2b	Dean & Ruth Tipsword**	1909	dug	35	42	--	--	--	670	20	--	--	--	--	Sand & gravel at 35	--
11.7h1	Tatman Sisters	1909	dug	40	--	--	--	--	682	10	--	--	--	--	--	Varner
11.7h2	Tatman Sisters	1914	drl	120	3	--	--	--	682	40	--	--	--	--	--	Hayes
11.8h	Tatman Sisters	1913	drl	112	4	--	--	--	682	35	--	--	--	--	--	Hayes
12	Rando Tipsword	1945	drl	73	4-3	3	4	.025	--	38	2	5	2.5	2	Sand & gravel, 46-53; sand, 53-73	Woollen
12	Maude Rex	1946	drl	54	4	3	4	.025	--	33	2	7	3.5	1	Sand, 33-39; sand & gravel, 39-54	Woollen
12.1a	National Brands Division	--	--	110	--	--	--	--	670	--	--	--	--	--	--	--
12.2c	Kordite Co.	1956	drl	303	--	--	--	--	650	--	--	--	--	--	Dirty sand, 57-98; sand, 98-105; dirty sand, 105-120; sand & gravel, 120-129; dirty sand, 161-180; dirty sand & gravel, 190-210; sand & gravel, 210-275; dirty sand & gravel, 275-290; sand & gravel, 290-303	Hayes
12.4a	Earl Fisler	1947	drl	47	4	3	4	.025	670	24	6	6	1.0	1	Sand, 27-29; sand & gravel, 41-47	Woollen
12.5a	W. Denison	1945	drl	85	4	3	4	.020	643	31	--	6	--	2	Sand, 56-85	Woollen
12.5c	A. B. Zyble	1940	drl	54	4	4	4	.025	630	16	4	6	1.5	3	Sand, 49-54	Woollen
12.5g	Lust Bros.	1961	drl	56	4	4	3.75	--	660	28	--	10	--	--	Sand & gravel, 35-56	Swartz
12.6e	Earl Fisler	1945	drl	60	4	--	--	--	661	--	--	--	--	--	--	Woollen
12.7b	Earl Carney**	--	dug	60	48	--	--	--	640	45	--	--	--	--	--	--
12.7d	Delta Mae Keele	1951	drl	62	--	4	--	.014	660	40	4	5	1.3	--	Sand & gravel, 54-62	Woollen
12.7f	T. George Baker	--	dug	30	42	--	--	--	670	20	--	--	--	--	--	--
12.7g	Illini Steel Co.	1970	drl	69.5	4	4	4	.014	672	35	4	8	2.0	1.5	Sand, 44-69.5	Sims
13	Flora A. Scott	+1906	dug	24	--	--	--	--	--	11.5	--	--	--	--	Sand & gravel at 24	--
13.1a1	General Cable Corp.	1964	drl	320	2.5	--	--	--	695	53	--	25	--	5	*Sand, 62-63.5, 76-78, 91-96; sand & gravel, 133-136.5; sand, 193-212; sand & gravel, 212-253, 264-309	Layne-Western
13.1a2	General Cable Corp.	1965	drl-GP	255	10	25	10	.030	695	49	17	221	13.0	4	Sand, 91-96, 193-212; sand & gravel, 212-257	Layne-Western
13.1c	M. F. Burnside	--	drl	100	4	--	--	--	681	35	--	--	--	--	Sand & gravel at 100	--

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T18N, R5E (Continued)																
13.2a	General Cable Corp.	1966	drl-GP	286	30-16	30	16	--	685	50	23	1000	43.5	3	Sand, 90-102; sand & gravel, 174-280	Layne-Western
14.4f	Eva Tatman	1914	drl	180	4	--	--	--	650	85	--	--	--	--	--	--
14.6e	Eva Tatman	--	--	45	--	--	--	--	662	--	--	--	--	--	--	--
15.1b	Decatur (C)	1954	drl	285	--	--	--	--	649	45.5	--	--	--	--	*Sand & gravel, 78-283	Layne-Western
15.1e	H. & E. Tatman	1932	drl	100	4	3	--	--	650	30	10	5	.5	--	--	Woollen
15.2e	Piatt County Poor Farm	1932	drl	100	4	3	3	.025	670	50.2	30	8	.3	3	Sand, 86-96; sand & gravel, 96-100	Woollen
15.4e	Sylvia Robinson	1943	drl	123	4	3	3.75	.025	670	48	2	6	3.0	--	Sand, 61-63; sand & gravel, 63-72; sand, 101-115; sand & gravel, 115-123	Woollen
15.5c1	Homer Hosler	--	drl	142	4	--	--	--	670	--	--	--	--	--	--	--
15.5c2	Homer Hosler	1931	drl	105	2.5	--	--	--	660	50	--	--	--	--	Sand at 105	Husselman
15.7d	Lee Hill	1936	drl	132	4	--	--	--	673	50	--	--	--	--	--	Woollen
15.7e	Bertha L. Varner Estate	1900	dug	20	42	--	--	--	671	1	--	--	--	--	Sand & gravel at 20	--
16.1d1	Everett Blacker**	1916	dug & bor	83	42-6	--	--	--	680	50	--	--	--	--	Sand at 83	West
16.1d2	Everett Blacker	1950	drl	120	3	--	--	--	680	30	--	--	--	--	--	Jones
16.3c1	Univ. of Ill.**	1915	drl	140	3	--	--	--	700	50	--	--	--	--	--	Cade
16.3c2	Univ. of Ill.	1945	drl	151	4	3	4	.025	701	84	--	5	--	1	Sand, 113-123, 125-147; sand & gravel, 147-151	Woollen
16.3e	Floyd Remmers	1904	drl	128	2	--	--	--	672	50	--	--	--	--	Sand at 128	Bartley
16.5d	Univ. of Ill.	1910	drl	140	3	--	--	--	681	50	--	--	--	--	Sand at 140	Cade
17.2h	Decatur (C)	1954	drl	318	--	--	--	--	680	42.5	--	--	--	--	*Sand & gravel, 180-315	Layne-Western
17.5e	Univ. of Ill.	1885	drl	300	6	--	--	--	682	50	--	--	--	--	Sand & gravel at 300	--
17.7f1	Univ. of Ill.	1912	drl	240	3	--	--	--	685	50-60	--	--	--	--	Sand at 240	Cade
17.7f2	Univ. of Ill.	+1953	drl	205	4	--	--	--	684	--	--	--	--	--	--	--
17.8d	Univ. of Ill.	1944	drl	178.5	4	--	--	--	685	60	--	5	--	1	Sand & gravel, 178-178.5	Woollen
17.8f	Industrial Water Supply Co.	1951	drl	314.5	--	--	--	--	680	--	--	--	--	--	*Sand & gravel, 80-95, 202-290; sand, 290-314.5	Layne-Western
18.1c	Univ. of Ill.	1910	drl	210	3	--	--	--	670	60	--	--	--	--	--	Cade
18.3d	Ella Monfort	+1947	--	139.5	--	--	--	--	680	--	--	--	--	--	--	--
18.4e1	Univ. of Ill.**	1910	drl	215	3	--	--	--	682	60	--	--	--	--	--	Cade
18.4e2	Univ. of Ill.	--	--	80±	--	--	--	--	682	--	--	--	--	--	--	--
18.4e3	Univ. of Ill.	1966	drl	240	4	4	4	.018	682	62	--	50	--	6	Sand, 95-100; sand & gravel, 100-103.5; dirty sand, 178-200; sand, 200-235; sand & gravel, 235-240	Hayes
19.2a	Decatur (C)	1954	drl	268	--	--	--	--	642	16.2	--	--	--	--	*Sand, 37-43; dirty sand, 43-51.5; sand, 51.5-61; sand & gravel, 61-73; sand, 133-190; sand & gravel, 190-266	--
19.3a	Elma L. Ater Estate	1923	bor	65	10	--	--	--	670	15	--	--	--	--	Sand at 65	Gossett
19.7a	Edith H. Dixon	1955	drl	118	4	4	4	.014	682	60	10	10	1.0	.75	Sand, 92-118	Swartz & Biggs
19.8f1	James Shull	1905	dug & bor	80	48-12	--	--	--	680	15	--	--	--	--	--	--
19.8f2	James Shull	1920	drl	183	3	4	--	--	680	55	--	--	--	--	Sand at 183	Husselman
20.1e1	Robert Allerton Park**	1920	dug	11.5	168	--	--	--	670	4-7.5	3.5-7	80	--	1.3	Sand & gravel at 11.5	Lodge
20.1e2(2)	Robert Allerton Park	1949	drl	209	8	10	--	.040	670	38.4	68	27-40	.5	4	Sand & gravel, 200.5-209.4	Bolliger
20.2d	Robert Allerton Park	--	drl	182	2.5	--	--	--	660	--	--	--	--	--	--	--
20.7b1	Univ. of Ill.	1910	drl	150	3	4	--	--	680	50	--	--	--	--	Sand & gravel at 150	Cade
20.7b2	Univ. of Ill.**	--	drl	100	3	--	--	--	680	30	--	--	--	--	Sand at 100	--
20.8b	Univ. of Ill.	1963	drl	220	4	4.3	4	.018	672	53	--	60	--	8	Sand, 109-116, 169-180; dirty sand, 180-195; sand, 195-210; sand & gravel, 210-220	Hayes
21.1b	Univ. of Ill. Radio Transmitter Site	1951	drl	201	6	7	--	.018	672	44.8	20.7	46	2.2	5.5	Sand & gravel at 201	Hayes & Sims
21.5g1(1)	Robert Allerton Park**	1947	drl	139.5	6	10.9	6	.030-.050	670	34	1	100	100.0	7	Dirty sand, 122-125; sand & gravel, 125-140	Hayes & Sims
21.5g2	Decatur (C)	1954	drl	235	--	--	--	--	666	7	--	--	--	--	*Dirty sand, 19-41; sand, 90-125; sand & gravel, 125-234	Layne-Western
22.6b1	R. H. Allerton Est.	1890	drl	260	6	--	--	--	680	30	--	--	--	--	Sand & gravel, 230-260	--
22.6b2	R. H. Allerton Est.	1910	drl	160	2.5	--	--	--	680	50	--	--	--	--	Sand at 160	Cade
23.5h	R. H. Allerton Est.	1948	drl	106	4	3	4	.025	662	43	--	6	--	2	Dirty sand & gravel, 78-82; sand, 91-99; sand & gravel, 99-106	Woollen
24.1b	Bonnie Bear	1907	drl	155	3	--	--	--	731	90	--	--	--	--	--	Cade
24.1f	Ralph Bear	1950	drl	125.3	2.5	14.3	--	.012	720	--	--	3	--	--	Sand, 29.8-92.1, 120.5-125.3	Lentz
24.5e	Robert S. Ayre	1945	drl	72	4	3	4	.030	685	44	5	5	1.0	2	Sand & gravel, 68-72	Woollen
25.2f	John E. Clark Est.	1914	drl	150	2.5	--	--	--	731	100	--	--	--	--	--	--
25.3d	Omer Furtney	1929	drl	200	4	--	--	--	720	110	--	--	--	--	--	--
25.6d	Lora Ritter	1958	drl	200±	4	--	--	--	721	40	--	--	--	--	--	Woollen
25.7d	Lora Ritter	1919	drl	240	4	--	--	--	721	100	--	--	--	--	--	--
26.8b	R. H. Allerton Est.	1919±	drl	90	4	--	--	--	672	40	--	--	--	--	--	--
26.8c	R. H. Allerton Est.	1950	drl	85	4	--	--	--	672	--	--	--	--	--	--	Woollen
26.8f1	R. H. Allerton Est.	1914±	drl	125	4	--	--	--	680	60±	--	--	--	--	--	--
26.8f2	R. H. Allerton Est.	1959	drl	95	4	4	--	.018	679	20	--	--	--	--	Sand & gravel, 90-95	Woollen
27.6g	R. H. Allerton Est.	1915	drl	220	3	--	--	--	680	60	--	--	--	--	Sand at 220	Cade
28.1h1	Robert Allerton Park	1910	drl	120	3	--	--	--	670	40	--	--	--	--	Sand at 120	Cade
28.1h2	Robert Allerton Park	1915	drl	115	3	--	--	--	670	40	--	--	--	--	--	Cade
28.1h3	Robert Allerton Park	1966	drl	240	4	--	--	.018	670	61.8	--	50	--	--	Sand & gravel, 100-103.5; dirty sand & gravel, 103.5-178; dirty sand, 178-200; sand, 200-235; sand & gravel, 235-240	Hayes
28.2h	Robert Allerton Park	1965	drl	225	4	8.7	4	.018-.025	690	43	--	60-90	--	3	Dirty sand, 81-104; sand, 163-210; sand & gravel, 210-225	Hayes

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Nonpumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T18N, R5E (Continued)																
28.7c	R. H. Allerton Est.	1910	drl	200	3	--	--	--	675	65±	--	--	--	--	--	Cade
29.1a	Decatur (C)	1954	drl	255	--	--	--	--	636	8.4	--	--	--	--	*Sand, 15-22; dirty sand & gravel, 43-66; sand & gravel, 147-255	Layne-Western
29.2a	Robert Allerton Park	1930	drl	200	2.5	--	--	--	660	60	--	--	--	--	Sand & gravel, 75-79; dirty sand, 129-200	Musselman
29.3a	W. T. Trimble	1875	dug	40	48	--	--	--	660	32	--	--	--	--	Dirty sand at 40	--
29.6h	Robert Allerton Park	1933	drl	74	4	--	--	--	670	10	--	5	--	5	--	Woollen
29.8h	Robert Allerton Park	1963	drl	96	4	--	--	--	665	40	--	80	--	--	Sand, 59-75; sand & gravel, 75-96	Hayes
30.1h	Robert Allerton Park	1930	drl	75	3	--	--	--	672	--	--	--	--	--	Sand, 50-75	Musselman
30.2a	Decatur (C)	1954	drl	260	--	--	--	--	630	4	--	--	--	--	*Sand & gravel, 34-63; dirty sand, 65-168; sand & gravel, 168-245	Layne-Western
30.2h	Robert Allerton Park	1941	drl	151	4	3	4	.014	650	15	5	5	1.0	2	Dirty sand, 30-63; sand & gravel, 63-66, 68-80; sand, 140-151	Woollen
30.3h	Elma L. Ater Estate	1925	bor	60	8	--	--	--	655	10-55	--	--	--	--	--	Gossett
30.6c	George Scoles	1912	bor	56	12	--	--	--	660	20	--	--	--	--	Sand & gravel at 56	Coffin
30.7a(2)	Decatur (C)	1954	drl-GP	252	20	90	16	.050-.070	640	13.3	22	2500	113.7	7.1	Sand & gravel, 55-65; sand, 135-185; sand & gravel, 185-254	Layne-Western
31.1f1	Everett Welch	1910	drl	100	3	--	--	--	675	30	--	--	--	--	Sand & gravel, 30-70; sand at 100	Poundstone
31.1f2	Everett Welch	1955	drl	77	4	4.5	2	.012	675	35	--	8	--	4	Sand, 72-77	Swartz
31.4b	George Baker	~1897	drl	180	4	--	--	--	685	--	--	--	--	--	--	--
31.5d1	George Baker**	1905	bor	60	8	--	--	--	682	10-30	--	--	--	--	Dirty sand at 60	Woollen
31.5d2	George Baker	1952	drl	75	4	3	--	--	682	50	14	4	.3	--	Dirty sand, 51-53; sand & gravel, 71-75	Woollen
31.7g1	Decatur (C)	1954	drl	248	2	20	--	slotted pipe	625	+7.5	--	30	--	1	*Sand & gravel, 13-37; silty sand, 40-52; sand, 127-146; sand & gravel, 146-245	Layne-Western
31.7g2(1)	Decatur (C)	1954	drl-GP	243.5	20	90	16	.050-.070	625	+2.5	71	1400	19.7	8.5	--	Layne-Western
31.8f	Chauncey B. Crays	1917	drl	200	3	--	--	--	650	65	--	--	--	--	Sand & gravel at 200	Musselman
32.1d	Thomas McCartney	--	drl	102	4	--	--	--	682	30	--	--	--	--	Sand & gravel at 102	--
32.1g	Louis Hammerschmidt	1943	drl	93	4	4	3.75	.025	671	40	1	5	5.0	2	Dirty sand, 65-67; sand, 67-72; sand & gravel, 72-93	Woollen
32.3h	Louis Hammerschmidt	1875	dug	40	48	--	--	--	665	20	--	--	--	--	Dirty sand at 40	--
32.6h1	Helen Vidick	1900	drl	125	2	--	--	--	674	--	--	--	--	--	--	--
32.6h2	Helen Vidick	1946	drl	109	4	3	4	.060	674	--	--	5	--	.5	Sand, 82-103; sand & gravel, 103-109	Woollen
32.8e	Everett Welch	1929	drl	88	3	6	--	--	681	38	--	15	--	8	Sand & gravel at 88	Traxler
33.5a	Decatur (C)	1954	drl	162	--	--	--	--	648	4.8	--	--	--	--	*Sand & gravel, 75-76.5, 147-159	Layne-Western
33.6a	J. R. Heath	1947	drl	85	4	4	4	.030	655	28	5	7	1.4	1	Sand & gravel, 28-30; sand, 78-82; sand & gravel, 82-85	Woollen
33.6b	J. R. Heath	1915	dug & drl	90±	48-2	--	--	--	668	35	--	--	--	--	--	--
33.6f	James T. Vent Est.	1918	drl	100	3	--	--	--	670	30±	--	--	--	--	Sand at 100	Poundstone
33.8g	Wilbur Hoffheins	1914	drl	98	3	--	--	--	665	35	--	--	--	--	Sand at 98	Poundstone
34.1b	Ira C. Robinson	1905	dug	14	48	--	--	--	685	8	--	--	--	--	Sand & gravel at 14	--
34.3h	Cory M. Zybell	1910	drl	100	2	--	--	--	661	--	--	--	--	--	--	--
34.6a	Carrie Tipsword	1910	drl	100	4	--	--	--	655	20	--	--	--	--	Sand at 100	Cade
35.1a	Max Pike	1909	drl	112	4	4	--	--	720	38	--	--	--	--	Sand & gravel at 112	--
35.8d1	K. Donahue Estate	1904	dug	38	48	--	--	--	685	15-25	--	--	--	--	Sand at 38	--
35.8d2	K. Donahue Estate	1909	dug	35	42	--	--	--	685	18-25	--	--	--	--	Sand at 35	--
35.8e1	Robert Shonkwiler	1926	drl	100	4	--	--	--	678	35	--	--	--	--	Sand & gravel at 100	--
35.8e2	Robert Shonkwiler	1945	drl	87	4	3	4	.025	678	45	5	5	1.0	2	Sand, 77-81; sand & gravel, 81-87	Woollen
36.1d	Paul Gucker	1919	drl	200	2.5	--	--	--	721	110	--	--	--	--	--	--
T18N, R6E																
1.7b	Floyd Rhoades	1920	drl	190	3	--	--	--	705	--	--	--	--	--	--	Carper
1.6g	Harriett Kesler	--	drl	185	3	3.5	--	--	695	50	--	--	--	--	--	--
2.1f	Ellen Morris	--	dug	45	42	--	--	--	685	30	--	--	--	--	--	--
2.3h	Ellen Morris	--	dug	20	48	--	--	--	700	8	--	--	--	--	--	--
3.1b1	Willard Rainwater	1951	drl	155	2.5	10.3	--	.010	695	--	--	--	--	--	--	Lentz
3.1b2	Willard Rainwater	1970	drl	124	4	8	4	.012-.014	695	52	10	10	1.0	1	Silty sand, 104-106, 113-124	Sims
3.6a	Katherine Cooper	1970	drl	121	4	8	4	.012-.014	700	65	4	10	2.5	1.25	Sand, 101-121	Sims
3.8h1	James McPheeters**	1925	drl	205	3	--	--	--	690	100	--	--	--	--	--	--
3.8h2	James McPheeters	~1955	drl	--	3	--	--	--	690	--	--	--	--	--	Sand & gravel	--
4	Amos Beals	1957	drl	68	4	4	--	.020	--	30	--	6	--	--	Sand & gravel, 60-68	Woollen
4	Amos Beals	1957	drl	66	--	3	--	.020	--	--	--	--	--	--	Sand & gravel, 56-66	Woollen
4	Amos Beals	1959	drl	66	--	3	--	.020	--	--	--	--	--	--	Sand & gravel at 66	Woollen
4	Amos Beals	1959	drl	86	4	3	--	.020	--	47	--	--	--	--	Sand & gravel, 80-86	Woollen
4	Amos Beals	1960	drl	75	--	4	--	.020	--	46	8	5	.6	--	Sand & gravel, 71-75	Woollen
4	Amos Beals	1967	drl	79	--	--	--	.020	--	--	--	10	--	--	Sand & gravel, 69-79	Woollen
4.4h	Amos Beals	1966	drl	84	--	4.5	--	.030	670	--	3	10	3.3	--	Sand & gravel, 78-84	Woollen
4.7f	Melissa M. Noel	--	dug	65	48	--	--	--	695	42	--	--	--	--	--	--
5.2f1	Melissa M. Noel**	1914±	drl	130	4	4	--	--	730	35-40	--	--	--	--	Sand & gravel at 130	--
5.2f2	Melissa M. Noel	1957±	drl	116	6	--	--	--	730	92.6	--	--	--	--	Sand & gravel at 116	--
5.5f	William G. Skelton	1939	drl	67	4	3	4	.025	675	44	7	5	.7	2	Sand & gravel, 62-67	Woollen
6	Mrs. J. E. Clark	1945	drl	92	4	3	4	.025	--	30	--	5	--	2	Sand, 75-88; sand & gravel, 88-92	Woollen
6.1c	Country Charm, Inc.	~1960	drl	80±	4	--	--	--	670	--	--	--	--	--	Sand & gravel at 80±	Swartz & Biggs
6.1d	Country Charm, Inc.	1946	drl	115	4	--	--	--	700	73	--	5	--	1	Sand & gravel, 108-115	Woollen
6.4f1	Camp Cr. Duck Farm	1934	drl	118	6	11	--	.020	660	33.4	24.8	70	2.8	.25	Sand & gravel, 40-67; sand, 67-116; sand & gravel, 116-118	Woollen
6.4f2	Camp Cr. Duck Farm	1966	drl	188	10	6 24	9.5 9.5	.012 .025	660	15.6	7	400	57.1	2	Sand & gravel, 15.6-44; sand, 44-82; sand & gravel, 82-107; dirty sand & gravel, 130-142; sand, 142-163; sand & gravel, 163-188	Sims

Appendix A (Continued)

Well number	Owner	Well				Screen			Land surface elevation (ft above msl)	Non-pumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
		Year constructed	Type	Depth (ft)	Diameter (in)	Length (ft)	Diameter (in)	Slot size (in)								
T18N, R6E (Continued)																
6.6f	Camp Cr. Duck Farm	1936±	drl	123	6	--	--	--	660	23	50	75	1.5	--	--	Woollen
6.7d1	Camp Cr. Duck Farm**	1936	drl	85	6	2	--	--	645	9	35	50	1.4	--	--	Woollen
6.7d2	Camp Cr. Duck Farm	1964	drl	200	6	10	--	.018	645	18.5	--	200-250	--	8	Sand & gravel, 25-55; dirty sand, 135-175; sand, 175-185; sand & gravel, 185-200	Hayes
6.7d3	Mr. Hettinger	1965	drl	38	4	4	--	.018	645	8.3	--	45	--	--	Dirty sand & gravel, 18-25; sand & gravel, 25-50; dirty sand & gravel, 50-75; sand, 75-80	Hayes
6.7f1	Camp Cr. Duck Farm**	1927	drl	106	3	--	--	--	654	--	--	--	--	--	Sand & gravel, 20-106	Gallager
6.7f2	Hicks Gas Co.	1962	drl	65.3	4	10.3	--	.018	654	29	--	36	--	--	Sand & gravel, 44-75; sand, 75-90	Hayes
6.7h	--	1942	drl	52	4	--	--	--	660	14	4	3	.8	--	Sand, 24-31, 48-52	Jones
7	Gordon Bowlin	1959	drl	50	--	--	--	--	--	--	--	--	--	--	Dirty sand, 37-43; sand & gravel, 43-50	Sims
7.5b	Charles McIntosh	+1906	dug & drl	80	--	--	--	--	660	--	--	--	--	--	Sand & gravel at 80	--
7.6a1(3)	Monticello (C)**	+1916	drl	194	10	--	--	--	672	--	--	--	--	--	--	--
7.6a2(1)	Monticello (C)	1957	drl	228	8	15	--	--	672	--	--	--	--	--	Sand & gravel, 28-40, 95-110; dirty sand & gravel, 110-150; sand, 150-175; sand & gravel, 175-209	Layne-Western
7.6b1(2)	Monticello (C)	1927	drl	212	12	16	12	--	672	30	20	298	14.9	--	--	Ebert
7.6b2	Monticello (C)	1958	drl	301	--	--	--	--	668	--	--	--	--	--	"	Layne-Western
7.6b3(4)	Monticello (C)	1958	drl-GP	263	34-12	20	12	.080	668	34	13	770-1005	72.4	24	--	Layne-Western
7.7a	Pepsin Syrup Co.	+1922	drl	194	12-10	--	--	--	660	--	--	300	--	--	Sand at 194	--
7.7b1	Viobin Corp.	--	drl	105	8	10	--	--	660	18.33	17.5	215-245	--	4	Sand & gravel	--
7.7b2	Viobin Corp.	1947	drl	120	8	15	--	.025	660	19	--	83	--	4	*Sand & gravel, 19-25; sand, 70-85; sand & gravel, 85-120	Hayes & Sims
7.7b3	Viobin Corp.	1948	drl	130	8	15	8	--	660	30±	--	--	--	--	Sand & gravel	Sims
7.7b4	Viobin Corp.**	1961	drl	212	10	5 5 12	-- -- --	.012 .014 .025	660	25.1	10.9	270	24.8	4	Sand & gravel	Sims
7.7e	E. E. Lahr	1940	drl	95	4	3	4	.025	670	22	4	5	1.3	2	Sand, 50-95	Woollen
8.5a	Tatman Sisters	1894	drl	175	3	--	--	--	710	100	--	--	--	--	Sand & gravel at 175	--
9.6f	Paul B. Olson	1909±	drl	300	2.5	4	--	--	750	100	--	--	--	--	--	--
10.1e	Jeanne Bennis	1949	drl	112±	4	5	4	--	692	40-60	--	--	--	--	--	Woollen
10.4a	Frank Lubbers, Jr.	--	drl	135	4	--	--	--	695	70	--	--	--	--	--	--
10.6d	C. T. Jackson	1941	drl	84.6	4	3	4	.025	700	59.5	--	--	--	--	Sand & gravel, 85-89	Woollen
11.2a	Earl B. Lemon	1969	drl	162	4	8	4	.012	695	60	6	14	2.3	1	Silty sand, 60-65; sand, 128-162	Sims
11.2b	Earl B. Lemon	--	drl	125	4	--	--	--	700	35	--	--	--	--	Sand & gravel at 125	--
12.2a1	Anne Ayre	1921	drl	165	2	--	--	--	701	--	--	--	--	--	Sand & gravel at 165	--
12.2a2	Anne Ayre**	1925	drl	63	2.5	--	--	--	701	--	--	--	--	--	Sand, 42-60; sand & gravel, 60-63	--
12.8d	Lewis A. Howland	--	--	79	--	--	--	--	697	--	--	--	--	--	--	--
13.2a1	Elsie Rubie	1906	dug	30	42	--	--	--	710	20-24	--	--	--	--	Sand & gravel at 30	--
13.2a2	Elsie Rubie	1904	drl	170	3	--	--	--	710	100	--	--	--	--	--	Piatt
13.3a	Elsie Rubie	1947	drl	150	4	3	4	.014	710	58	5	9	1.8	1	Sand, 146-150	Woollen
13.3f	Wilson Platt	+1934	drl	180	4	--	--	--	720	80	--	--	--	--	Sand & gravel at 180	--
13.4h	Industrial Water Supply Co.	1951	drl	299.5	--	--	--	--	700	--	--	--	--	--	*Sand & gravel, 33-35, 105-135, 235-245, 255-299.5	Layne-Western
13.8f	Ada Howland	+1926	dug	33	48	--	--	--	695	6.4	--	--	--	--	Sand & gravel at 33	--
14.2a	R. & R. Howland	--	dug	19.5	36	--	--	--	700	6	--	--	--	--	--	--
14.3h	Lewis N. Fisher Est.	--	dug	35	48	--	--	--	690	20±	--	--	--	--	--	--
14.5a	Robert Shunkweiler	+1917	dug	17	30	--	--	--	700	5.3	--	--	--	--	--	--
15.1h1	Roy E. Dresback**	1899	drl	127	3	--	--	--	690	60	--	--	--	--	--	--
15.1h2	Roy E. Dresback	+1950	drl	150±	4	--	--	--	690	--	--	--	--	--	Sand & gravel at 150±	McElwee
15.3a	Frank Lubbers	1904	drl	100	2	--	--	--	700	40	--	--	--	--	Sand & gravel at 100	--
15.4h	Glenn Strayer	--	dug	25.5	--	--	--	--	690	5.4	--	--	--	--	--	--
16.1c	Leland England	1919	drl	280	4	--	--	--	692	180	--	--	--	--	--	--
16.4f1	Mina Mooney**	1914	drl	346	4	--	--	--	750	40	--	--	--	--	--	Cade
16.4f2	Mina Mooney	--	drl	--	2	--	--	--	750	--	--	--	--	--	Sand & gravel	--
16.4h1	Kip Tatman	1954±	drl	316	4	--	--	--	760	--	--	--	--	--	Sand & gravel at 316	Sims
16.4h2	Ronald G. Smith	1969	drl	318	4	8	4	.018	760	136.33	--	75	--	6	Sand & gravel, 201-205, 305-313.5, 314.5-320; dirty sand & gravel, 320-330	Vaughn
16.8f	Wyatt & Corina Muse	1959	drl	263	2	7.3	1	.012	750	70	--	10	--	--	Sand, 255-263	Swartz
17.2a1	William Burgess**	--	drl	180	4	--	--	--	725	30	--	--	--	--	--	--
17.2a2	William Burgess	1959	drl	143	4	4	--	.018	725	88	19	10	.5	2	Sand at 118; sand & gravel, 139-143	Swartz & Biggs
17.7d	William Burgess	1958	drl	313	2.5	8	1.25	.012	740	80	--	16	--	--	Sand & gravel at 313	McElwee
18.2d1	E. Anderson Est.**	1904±	dug	30	--	--	--	--	705	15±	--	--	--	--	--	--
18.2d2	E. Anderson Est.**	1916	drl	65	6	--	--	--	705	40	--	--	--	--	--	Coffin
18.2d3	E. Anderson Est.**	+1918	bor	65	--	--	--	--	705	--	--	--	--	--	Sand at 65	--
19.5b	J. P. Kratz Co.**	--	dug	12	42	--	--	--	730	6	--	--	--	--	--	--
20.2h	William Burgess**	--	drl	190	4	--	--	--	722	35	--	--	--	--	--	--
20.4c	Ada H. McDavitt Estate**	1890	dug	50	36	--	--	--	723	25±	--	--	--	--	--	--
20.4h	William Burgess	1965	drl	286	4	--	--	.018	728	101.8	--	90	--	--	Dirty sand, 218-230; sand, 230-275; sand & gravel, 275-290	Hayes
20.8h1	Anna Ollatush	--	dug	55	30	--	--	--	735	19	--	--	--	--	--	--
20.8h2	Anna Ollatush**	1894±	drl	105	3	--	--	--	735	35±	--	--	--	--	--	--
20.8h3	Anna Ollatush	1947	drl	117	4	--	--	--	735	25	--	6	--	24	Sand, 50-53, 80-84; sand & gravel at 117	Woollen
20.8h4	Anna Ollatush	1966	drl	68	4	--	--	.020	735	20	10	12	1.2	--	Sand & gravel at 68	Woollen
21.2h	Stella Britton	1904±	drl	107	3	--	--	--	692	50	--	--	--	--	Sand & gravel at 107	--
22.4h	Bina Jackson Est.	1909±	drl	120	4	--	--	--	700	62	--	--	--	--	Sand & gravel at 120	--
22.8d	Louisa Breckenridge	1909±	drl	100	4	--	--	--	702	45±	--	--	--	--	--	--
23.1a	Frank Feeney	1956±	drl	95±	4	--	--	--	693	--	--	--	--	--	--	--
23.5h	Harry E. Kircher	--	drl	100	3	--	--	--	700	50±	--	--	--	--	--	--
23.7a	Margaret McShane	1929	drl	160	3	--	--	--	699	85±	--	--	--	--	--	--
24.8f	V. T. Walsh	--	dug	15	36	--	--	--	700	6.4	--	--	--	--	--	--
24.8g	W. A. Jackson	--	dug	19.2	42	--	--	--	700	9.5	--	--	--	--	--	--

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T18N, R6E (Continued)																
25.6h	Glenn Wilken	--	drl	100	3	--	--	--	685	5	--	--	--	--	--	--
26.2h	Vincent Walsh	--	drl	100±	2-2.5	--	--	--	692	--	--	--	--	--	Sand & gravel at 100±	--
26.5h1	Pembroke & Sullivan**	1918	drl	165±	3	--	--	--	700	95	--	--	--	--	--	--
26.5h2	Pembroke & Sullivan	1943±	drl	100+	2	--	--	--	700	--	--	--	--	--	Sand & gravel at 100+	Swartz
26.6h	James Allman	--	drl	85+	4±	--	--	--	700	--	--	--	--	--	--	--
27.1g	The Breckenridge's	--	bor	25-30	--	--	--	--	700	--	--	--	--	--	--	--
27.5c	Katherine Donahue	+1946	drl	--	4	--	--	--	710	--	--	--	--	--	Sand & gravel	--
28.4e	B. & N. Rhoades	--	dug	50	42	--	--	--	695	25	--	--	--	--	--	--
28.5a1	George Stoerger	--	dug	15	48	--	--	--	690	7±	--	--	--	--	--	--
28.5a2	George Stoerger	--	drl	--	3	--	--	--	690	--	--	--	--	--	--	--
28.5h	Clyde Burnett	--	dug	23	36	--	--	--	705	13.02	--	--	--	--	--	--
29.1f	Henry Moore	+1932	drl	125	4	--	--	--	710	40	--	--	--	--	--	--
29.8h	J. P. Kratz & Co.	--	drl	46	6	--	--	--	726	.14	--	--	--	--	Sand & gravel at 46	Sims
30.1e	J. P. Kratz & Co.	--	drl	240	6	--	--	--	720	98.4	--	--	--	--	Sand & gravel at 240	Sims
30.5c	James P. Kratz, Jr. Estate**	1929	drl	185	4	--	--	--	722	80	--	--	--	--	--	Poundstone
30.6d	James P. Kratz, Jr. Estate**	1919±	drl	180	4	--	--	--	725	110±	--	--	--	--	--	Miller
30.7g1	J. P. Kratz & Co.	1953	drl	50	--	--	--	--	720	--	--	--	--	--	*	Hayes
30.7g2	J. P. Kratz & Co.	1953	drl	50	--	--	--	--	720	--	--	--	--	--	*	Hayes
30.7g3	J. P. Kratz & Co.	1953	drl	50	--	--	--	--	720	--	--	--	--	--	*Sand, 40.5-47	Hayes
30.7g4	J. P. Kratz & Co.	1964	drl	276	4	4.3	4	.014	720	91.7	--	60	--	6	Dirty sand & gravel, 133-138; dirty sand, 207-270; sand & gravel, 270-276	Hayes
31.7a	Norma Payton	--	drl	200±	4	--	--	--	715	90	--	--	--	--	Sand & gravel at 200±	--
32.2f	Dwight J. & Henry M. Moore**	1904	drl	110±	2	3	--	--	711	40	--	--	--	--	Sand & gravel at 110±	--
32.2g	Dwight J. & Henry M. Moore**	1894	dug	30	42	--	--	--	711	12-20	--	--	--	--	Sand at 30	--
32.4a1	Catherine Foran	--	dug	30	42	--	--	--	710	10-20	--	--	--	--	Sand at 30	--
32.4a2	Catherine Foran	1941	drl	34	4	3	4	.025	710	--	--	--	--	--	Sand & gravel, 29-34	Woollen
33.1b	Richard Cahill	1904+	drl	200	3	--	--	--	690	100	--	--	--	--	--	--
33.1h1	Judy Pelham**	1918±	drl	165	4	--	--	--	703	65	--	--	--	--	--	Woods
33.1h2	Judy Pelham	1944	drl	128	4	3	4	.025	703	60	5	5	1.0	2	Sand & gravel, 125-128	Woollen
33.8b	Max N. Pike	1906+	drl	207	4	--	--	--	705	105	--	--	--	--	Sand & gravel at 207	--
34.8c1	McFall, Beck & Gordon	1914±	drl	165	3	--	--	--	692	70	--	--	--	--	Sand & gravel at 165	--
34.8c2	McFall, Beck & Gordon	+1915	dug	32	--	--	--	--	692	--	--	--	--	--	--	--
35.1h	Ruth Allman	--	drl	--	3	--	--	--	680	--	--	--	--	--	Sand & gravel	--
35.2a	Cecil E. Tracy	--	dug & drl	95	?-4	--	--	--	672	--	--	--	--	--	Sand at 30; sand & gravel at 95	--
36.2a	Beulah Van Houten	1919	drl	135	3	3	--	--	673	40	--	--	--	--	--	Woods
36.8h	Mary B. Harrington	--	bor & drl	100	--	--	--	--	678	--	--	--	--	--	--	--
T19N, R4E																
22.3b	Mae Hootman	1941	drl	137	4	3	4	.014	698	60	40	4	.1	3	Sand, 132-137	Woollen
22.7a1	Jansen Bros.	1899	drl	75	2	--	--	--	700	60	--	--	--	--	Sand & gravel at 75	--
22.7a2	Jansen Bros.	1949	drl	107	4	--	--	--	702	--	--	--	--	--	--	Woollen
22.7d1	S. L. Rogers Trust	--	drl	70	4	--	--	--	695	55	--	--	--	--	Sand & gravel at 70	--
22.7d2	S. L. Rogers Trust	1943	drl	81	4	--	--	--	700	60	15	5	.3	3	Sand & gravel, 86-90, 113-133; sand, 148-150; limestone, 170-173	Woollen
23.5a	Everence Walpole	1944	drl	84	4	3	4	.025	700	25	--	7.5	--	1	Sand & gravel, 81-84	--
23.7h	H. Tolbert Heller	--	dug & drl	85	42-3	--	--	--	698	40	--	--	--	--	Sand & gravel at 85	Woollen
24.2h	Charles Carr	1939	drl	87	4	3	4	.025	701	16	2	5	2.5	4	Sand & gravel, 83-87	Woollen
24.6a	Ben Baker Estate	1900	drl	80	2	--	--	--	701	--	--	--	--	--	--	--
24.6h	Hazel Whiteside	1948	drl	71	4	--	--	--	705	31	2	18	9.0	2	Sand, 70-71	Woollen
24.8g	Charles F. Carr	--	drl	130	3	--	--	--	700	70	--	--	--	--	--	--
25.7a1	John G. Huisinga	--	drl	30	3	--	--	--	695	20	--	--	--	--	--	--
25.7a2	John G. Huisinga	--	dug & drl	130	48-?	--	--	--	695	65	--	--	--	--	--	--
26.1a	John G. Huisinga	--	drl	70	3	--	--	--	694	30	--	--	--	--	--	--
26.7a1	Carl Kingston	--	drl	186	4	--	--	--	700	80	--	--	--	--	--	--
26.7a2	Carl Kingston	1939	drl	90	4	--	--	--	701	--	--	3	--	--	Dirty sand, 88-90	Woollen
27.8f1	Jansen Bros.	--	bor	20	12	--	--	--	692	12	--	--	--	--	--	--
27.8f2	Jansen Bros.	--	drl	88	3	--	--	--	692	45	--	--	--	--	--	--
27.8f3	Jansen Bros.	1956	drl	90-92	4	--	--	--	692	--	--	--	--	--	--	Woollen
34.1h	Irene K. Karau	--	drl	80	3	--	--	--	698	38	--	--	--	--	--	--
34.6g	Carl Swigart Estate	1952	drl	84	4	--	--	--	695	15-18	--	--	--	--	--	Woollen
34.7g1	G. D. Briggs**	--	bor	19	12	--	--	--	685	--	--	--	--	--	Sand at 19	--
34.7g2	G. D. Briggs	--	dug	50	36	--	--	--	690	20	--	--	--	--	Sand & gravel at 50	--
34.8c1	Mrs. G. D. Briggs**	1939	drl	93	4	--	--	--	690	28	12	5	.4	--	Sand & gravel, 65-67, 90-92	Woollen
34.8c2	Mrs. G. D. Briggs	1963	drl	227	6	--	--	--	687	40	--	--	--	--	--	Woollen
34.8d	Mrs. G. D. Briggs**	1939	drl	81	4	--	--	--	685	22	--	5	--	--	Sand & gravel, 78-81	Woollen
34.8f	Mrs. G. D. Briggs	1959	drl	220	4	--	--	--	691	50	--	--	--	--	--	Woollen
34.8h	Mrs. G. D. Briggs	1931	drl	179	4	--	--	--	694	70	8	5	.6	4.5	Sand, 179-180	Woollen
35.1h	A. T. Milligan	1940	drl	84	4	3	4	.025	694	12	12	8	.7	2	Sand & gravel, 80-84	Woollen
35.4a	Roy Campbell	1954	drl	79.5	4	--	--	--	695	19.4	--	--	--	--	--	--
35.6a	B. W. Huisinga	--	dug & drl	100	42-3	--	--	--	691	40	--	--	--	--	Sand & gravel at 100	--
35.8g	Roy Campbell	1930	drl	320	3	--	--	--	698	120	--	--	--	--	--	--
36.4a1	Geneva E. Huisinga	--	dug	30	48	--	--	--	694	20	--	--	--	--	--	--
36.4a2	Geneva E. Huisinga	--	drl	60	3	--	--	--	694	25	--	--	--	--	--	--
36.5a	Geneva E. Huisinga	1940	drl	99	4	3	4	.025	695	27	5	5	1.0	3	Sand & gravel, 96-99	Woollen
36.8g1	Bert V. & Geneva E. Huisinga	--	dug	28	42	--	--	--	692	15	--	--	--	--	--	--
36.8g2	Bert V. & Geneva E. Huisinga	--	bor	85	12	--	--	--	692	35	--	--	--	--	--	--
T19N, R5E																
1.1f	Kenneth Troxell	1945	drl	106	4	3	4	.025	710	40	20	5	.3	2	Dirty sand, 78-83; sand & gravel, 95-106	Woollen
1.1g	Kenneth Troxell	1970	drl	121	4	4	4	.014	710	69.5	7	10	1.4	1	Silty sand, 93-121	Sims

Well number	Owner	Well				Screen			Land surface elevation (*ft above msl*)	Non-pumping water level (*ft*)	Draw-down (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
		Year constructed	Type	Depth (*ft*)	Diameter (*in*)	Length (*ft*)	Diameter (*in*)	Slot size (*in*)								
T19N, R5E (Continued)																
1.2g	Kenneth Troxell	1959	drl	114	4	--	--	--	710	40	--	--	--	--	--	Woollen
1.8f	Roy Fitzwater	--	drl	125	4	--	--	--	712	65	--	--	--	--	--	--
2.1a1	H. S. McFadden Estate**	1910	drl	88	--	--	--	--	710	28	--	--	--	--	Sand at 88	Woollen
2.1a2	H. S. McFadden Estate**	1922	bor	85	12	--	--	--	710	45	--	--	--	--	--	--
2.1a3	H. S. McFadden Estate	1957	drl	90	4	--	--	--	707	40	--	--	--	--	--	Woollen
2.5a	Mrs. William Reiley	--	dug	22	42	--	--	--	708	15	--	--	--	--	Sand & gravel at 22	--
2.6a	Mrs. William Reiley	1917	drl	93	3	--	--	--	710	40	--	--	--	--	--	Poundstone
2.8h	Kenneth Porter	1953	drl	73	--	--	--	.025	705	30	30	5	.2	--	Sand & gravel, 70-73	Woollen
3.1a	G. & M. E. Timmons	1920	drl	115	3	--	--	--	707	26-27	--	--	--	--	Sand at 115	Poundstone
3.4a	Martha Yowell**	--	dug	35	36	--	--	--	709	18	--	--	--	--	--	--
3.5a	Martha Yowell	--	drl	125	4-2.5	--	--	--	700	40	--	--	--	--	--	--
4.5a	Olive Wisegarver, et al.	1921	drl	86	8	--	--	--	701	14	--	--	--	--	Sand & gravel at 86	Hayes
4.5b	Olive Wisegarver, et al.	1918	dug & drl	90	7-4	--	--	--	702	--	--	--	--	--	--	Hayes
4.6a	Olive Wisegarver, et al.	1920	drl	80	--	--	--	--	700	8	--	--	--	--	--	Hayes & Meyers
5.4d	W. B. Trenchard**	--	dug & drl	70	42-2	--	--	--	702	--	--	--	--	--	--	--
5.4e	W. B. Trenchard	1954	drl	76	4	6	3.75	.012	700	14.5	3.5	25	7.1	5	Sand, 68-76	Swanson
5.5d	W. B. Trenchard	--	dug	40	48	--	--	--	702	20	--	--	--	--	--	--
6.3b	Lawrence Sanders	--	drl	125	3	--	--	--	705	65±	--	--	--	--	--	--
6.3c	Lawrence Sanders	1957±	drl	130	4	--	--	--	704	20	--	--	--	--	--	--
6.7h	G. & J. S. Jones	1957	drl	84	--	3	--	.025	712	--	--	8	--	3	Sand & gravel, 81-84	Woollen
6.8a1	Deland-Weldon Comm. Unit School	--	drl	100	3	--	--	--	708	60	--	--	--	--	--	--
6.8a2	Deland-Weldon Comm. Unit School	1958	drl	82	6	5	6	.025	708	14	48	50	1.0	1.4	Sand & gravel, 78-82	Woollen
7.1h1	W. M. McBride	--	drl	42.8	--	--	--	--	705	--	--	--	--	--	--	Nutt
7.1h2	W. M. McBride	1940	drl	80	4	4	4	.025	705	29	20	6	.3	2	Sand & gravel, 77-80	Woollen
7.3a1	R. Barnes, et al.	1904	dug & drl	100	42-2.5	--	--	--	705	40	--	--	--	--	Sand at 100	Brooks
7.3a2	R. Barnes, et al.	1905	bor	30	12	--	--	--	705	5	--	--	--	--	Sand & gravel at 30	West
7.3h1	John Ammann	--	dug	24	--	--	--	--	706	--	--	--	--	--	--	--
7.3h2	John Ammann	1957	drl	78	6	3	--	--	706	--	20	6	.3	--	Sand & gravel, 75.5-78	Woollen
7.4a	R. Barnes, et al.	1915	drl	93	3	--	--	--	708	40	--	--	--	--	--	Hayes
8.1h	Howard Bariston	1955	drl	87	4	--	--	--	701	20	--	--	--	--	--	Woollen
8.4a	H. T. Heller	1945	drl	85	4	3	4	.025	690	28	10	6	.6	1	Sand & gravel, 82-85	Woollen
8.8h	Glenn McBride	1894	dug	40	48	--	--	--	705	20	--	--	--	--	--	--
9	Grace Paugh	--	drl	80	4	--	--	--	--	--	--	--	--	--	--	--
9	H. E. Bickell	1905	bor	78	12	--	--	--	--	18	--	--	--	--	--	--
9	E. T. McMillen	+1913	bor	68	--	--	--	--	--	--	--	--	--	--	Sand & gravel, 41-68	--
9	S. C. Rodman	+1913	bor	86	--	--	--	--	--	--	--	--	--	--	Sand, 33-86; sand & gravel, 53-86	--
9	George Myers	+1914	--	48	--	--	--	--	--	--	--	--	--	--	--	--
9	L. C. Dick	+1916	dug	14	--	--	--	--	--	8	--	--	--	--	--	--
9	H. G. Dewees	+1917	dug & bor	55	--	--	--	--	--	--	--	--	--	--	--	--
9	Mrs. Murphy	+1920	bor	75	--	--	--	--	--	--	--	--	--	--	--	--
9	J. E. Bickell	1923	bor	101	12	--	--	--	--	25	--	--	--	--	--	--
9	Mr. Barnes	+1935	--	40	--	--	--	--	--	10	--	--	--	--	--	--
9	J. R. Kidd	1942	drl	102.5	4	--	--	--	--	60	--	--	--	--	Sand, 66-70; sand & gravel, 75-85; sand, 95-101.5; sand & gravel, 101.5-102.5	Swanson
9.3f	W. R. Kidd	1933	drl	74	4	3	--	--	701	23	27	4	.1	5	--	Woollen
9.4e	J. R. Drasback	1920	dug & bor	98	7-14	--	--	--	705	12-14	--	--	--	--	--	West
9.4f	Deland (V)	1935	drl	98	--	--	--	--	712	--	--	--	--	--	*Sand & gravel, 87-94	Continental
9.5e1	Sherman Parrish	--	dug	45	--	--	--	--	702	22	--	--	--	--	--	--
9.5e2	G. S. Walker	+1916	dug	13	--	--	--	--	702	--	--	--	--	--	Sand at 13	--
9.5e3	Deland (V)	1935	drl	165	--	--	--	--	702	--	--	--	--	--	*Sand, 75-80; sand & gravel, 85-90, 125-130; sand, 145-155	Continental
9.5f	P. E. Fonner	--	--	100	--	--	--	--	702	--	--	--	--	--	Sand, 95-100	--
9.5g	G. R. Trenchard	--	--	100	--	--	--	--	690	--	--	--	--	--	--	--
9.5h	Mr. Madden	--	drl	75	--	--	--	--	695	--	--	3	--	--	--	--
9.6c1	V. B. White	--	--	62	--	--	--	--	700	15	--	--	--	--	Sand & gravel at 62	West
9.6c2	C. H. Porter	1914	--	76	--	--	--	--	700	22	--	--	--	--	--	--
9.6e1	G. W. Trig Estate	1899	dug	13	48	--	--	--	704	2-6	--	--	--	--	Sand at 13	--
9.6e2	L. H. Robison	1909	bor	40	12	--	--	--	704	25	--	--	--	--	Sand & gravel at 40	--
9.6e3	Deland (V)**	+1913	drl	112	--	--	--	--	700	--	--	--	--	--	--	--
9.6e4	George O'Brian	1915	--	75	--	--	--	--	704	--	--	--	--	--	--	--
9.6e5	Deland City Park	+1935	dug & drl	80	--	--	--	--	700	--	--	--	--	--	--	--
9.6f1	Mary Garver	--	dug	30	42	--	--	--	701	10-20	--	--	--	--	Sand at 30	--
9.6f2	J. M. Pitts	--	--	76	--	--	--	--	700	--	--	--	--	--	--	Hayes & Chaney
9.6f3	L. E. Cathcart	1899	bor	36	24	--	--	--	700	15	--	--	--	--	Sand & gravel at 36	--
9.6f4	E. West	1899	dug	40	42	--	--	--	703	25	--	--	--	--	Sand & gravel at 40	--
9.6f5	H. E. Bickle	1914	bor	50	12	--	--	--	704	30	--	--	--	--	Dirty sand & gravel at 50	--
9.6f6	W. A. Doss	1922	drl	75	2	--	--	--	700	35	--	--	--	--	Sand & gravel at 75	Chaney
9.6f7	C. P. Bowsher	1924	bor	44	12	--	--	--	700	23	--	--	--	--	Sand & gravel at 44	Chaney
9.6f8	Deland Grade School	1933	drl	87	4	--	--	--	700	19	10	5	.5	--	Sand & gravel, 84-87	Woollen
9.6g1	M. E. Boudurant	+1900	bor	186	--	--	--	--	700	--	--	--	--	--	Sand at 186	--
9.6g2	C. P. Bowsher	1916	drl	87	4	--	--	--	700	25	--	--	--	--	Sand & gravel at 87	Chaney
9.6h1	Jim Heller	--	--	80±	--	--	--	--	700	--	--	--	--	--	--	--
9.6h2	James Maiden	1914	dug	45	42	--	--	--	700	25	--	--	--	--	Dirty sand & gravel, 40-45	--
9.6h3	Mrs. L. C. Cox	+1915	dug & bor	90	7-12	--	--	--	700	--	--	--	--	--	Sand & gravel at 90	--
9.6h4	Wilson Webb	1917	dug & bor	70	--	--	--	--	700	20	--	--	--	--	--	Cox
9.6h5	C. J. Porter	1919	bor	77	12	--	--	--	700	20	--	--	--	--	Sand & gravel at 77	--
9.7a	B. M. Stoddard Est.	--	drl	76	--	--	--	--	690	--	--	--	--	--	--	Carpenter
9.7c	Deland (V)	1935	drl	192.5	--	--	--	--	700	--	--	--	--	--	*Sand & gravel, 92-93.5; sand, 93.5-135	Continental
9.7d1	Mrs. Troxel	--	--	73	--	--	--	--	702	--	--	--	--	--	--	--
9.7d2	Mrs. Goodman	+1916	drl	100	--	--	--	--	702	--	--	--	--	--	--	--

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T19N, R5E (Continued)																
9.7e1	Warren Jones	--	--	90	--	--	--	--	702	--	--	--	--	--	--	--
9.7e2	Mrs. C. West	1904	bor	40	8	--	--	--	700	20	--	--	--	--	Sand & gravel at 40	--
9.7e3	W. H. Chaney	1909	dug	18	42	--	--	--	700	10	--	--	--	--	Sand at 18	--
9.7e4	A. J. Thompson	1914	dug	20	42	--	--	--	703	3-15	--	--	--	--	Sand at 20	--
9.7e5	L. M. Ezra	1929	drl	70	4	3	4	--	702	25	--	--	--	--	Sand & gravel at 70	Maria
9.7f1	Deland (V)**	--	dug & bor	70	42-12	--	--	--	698	10-30	--	--	--	--	Sand at 35; sand & gravel at 70	--
9.7f2	S. Rinehart	1907±	bor	45	12	--	--	--	700	20	--	--	--	--	Dirty sand & gravel at 45	--
9.7f3	Dr. G. S. Walker	1914	drl	80	4	--	--	--	700	30	--	--	--	--	Sand & gravel at 80	--
9.7g	Deland (V)	1935	drl	165	--	--	--	--	695	--	--	--	--	--	*Sand & gravel, 78-80; sand, 95-100, 105-110, 133-135	Continental
9.8b1	Deland Public School	+1920	dug & bor	49	--	--	--	--	705	--	--	--	--	--	Sand at 49	--
9.8b2	Deland High School	1920	drl	95	--	--	--	--	705	15	--	--	--	--	Sand at 95	Hayes & Meyers
9.8b3(1)	Deland (V)	1935	drl-GP	83	26-12	5.5	12	.060	705	18	45.5	65	1.4	9	--	Cummings
										32	34	25	.7	--		
9.8b4(2)	Deland (V)**	1935	drl	83	6-4	9.5	6	--	705	20	52	58	1.1	3.5	Sand & gravel, 60-70, 76.5-83	Cummings
9.8b5(3)	Deland (V)	1952	drl	81	6	5	6	.025	705	32	37	30	.8	2	Sand & gravel, 72.5-81	Woollen
9.8b6(4)	Deland (V)	1961	drl	79.5	6	3.3	6	.040	702	30.8	38.8	20-32.5	.8	6.8	--	Washburn
9.8b7	Deland (V)	1961	drl	90	--	--	--	--	700	--	--	--	--	--	*Sand & gravel, 70-76, 78-82	Washburn
9.8b8	Deland (V)	1961	drl	79.5	--	--	--	--	700	30.6	--	22	--	2.5	*Sand & gravel, 72-79.5	Washburn
9.8b9	Deland (V)	1961	drl	79	--	--	--	--	700	--	--	--	--	--	*Sand & gravel, 72-79	Washburn
9.8c1	W. B. Trenchard	--	dug & bor	100	--	--	--	--	700	20	--	--	--	--	--	--
9.8c2(5)	Deland (V)	1961	drl	79	4	3	4	.018	700	--	--	--	--	--	Sand & gravel, 67-79	Washburn
10.8f	Mary T. Timmons	--	drl	150	4	--	--	--	706	55	--	--	--	--	--	--
11.1b	Mary T. Timmons	--	drl	200	4	--	--	--	705	45	--	--	--	--	--	--
11.1h	Mary E. Timmons	1920	drl	100	4	--	--	--	705	25	--	--	--	--	Sand & gravel at 100	Poundstone
11.2h	Mary E. Timmons	1924	drl	90	3	--	--	--	707	48	--	--	--	--	--	--
11.8d	H. W. Huisinga	1920	drl	110	3	--	--	--	708	26-27	--	--	--	--	Sand at 110	Poundstone
12.1d	Olive T. Oighton	--	drl	112	3	3	--	--	703	80	--	--	--	--	Sand & gravel at 112	--
13.6h	J. O. & W. L. Plankenhorn	1919	drl	210	4	--	--	--	704	100	--	--	--	--	--	--
14.1a	Florence E. Kirkland	--	drl	110	3	--	--	--	697	40	--	--	--	--	--	--
14.3c	Sylvia Robinson	--	drl	140	4	--	--	--	700	50	--	--	--	--	--	--
15.1b	Minnie E. Stoddard	--	drl	95	4	--	--	--	700	50	--	6	--	--	--	--
15.1c	Minnie E. Stoddard	--	drl	98	4	--	--	--	700	55	--	5	--	--	--	--
15.2d	Minnie E. Stoddard	--	drl	90-100	--	--	--	--	701	40	--	--	--	--	--	--
15.3c	George Timmons	--	drl	85	--	--	--	--	700	--	--	--	--	--	--	--
15.4f	Mary T. Timmons	--	drl	50	--	--	--	--	700	25-30	--	--	--	--	--	--
15.8c	Joe Huisinga**	--	bor	39	12	--	--	--	698	20	--	3	--	--	Sand & gravel at 39	--
15.8d	Joe Huisinga	--	drl	90	4	--	--	--	701	45	--	6	--	--	--	--
16.1h	Mary T. Timmons	1947	drl	98	4	3	4	.050	701	27	--	18	--	1	Sand, 38-40, 80-94; sand & gravel, 94-98	Woollen
16.2d	Joe Huisinga	--	drl	70	--	--	--	--	700	--	--	--	--	--	Sand at 70	--
16.6a	Richard Gantz	--	drl	85	3	--	--	--	690	--	--	--	--	--	Sand & gravel at 85	--
16.7c	Fern Kingsboro Estate	1954	drl	82.5	4	6	3.75	.015	700	25	--	--	--	--	Sand, 80-82.5	Swanson
16.7d	Fern Kingsboro Estate**	--	drl	80-90	--	--	--	--	699	--	--	--	--	--	--	--
16.7g	May Audisill	1939	drl	84	--	--	--	--	700	28	--	--	--	--	Sand & gravel, 80-84	Woollen
16.8b	John Leischner Est.	--	dug	30	36	--	--	--	690	15	--	--	--	--	--	--
16.8h	May Audisill	1954	drl	86.5	4	6	3.75	.018	680	29	3	15	5.0	4.5	Sand, 80-86.5	Swanson
17.1b	Esther Cody**	--	drl	80	4	--	--	--	681	20	--	7	--	--	--	--
17.5d	Deland (V)	1935	drl	110	--	--	--	--	700	--	--	--	--	--	*	Continental
17.5e1	Richard H. Gantz	+1916	dug	60	--	--	--	--	700	--	--	--	--	--	--	--
17.5e2	Richard H. Gantz	+1916	drl	100	--	--	--	--	700	--	--	--	--	--	--	--
17.5e3	Richard H. Gantz	+1916	dug	20	--	--	--	--	700	--	--	--	--	--	--	--
17.5e4	Richard H. Gantz	--	drl	99	3	--	--	--	700	35	--	--	--	--	Sand at 99	--
18.1d	L. D. Swartz	1919	drl	90	3	--	--	--	700	50	--	--	--	--	Sand & gravel at 90	--
18.1h	Gertrude Swartz	1923	drl	205	4	--	--	--	700	100	--	--	--	--	--	--
18.5a	Loren Clemens	1939	drl	90	4	--	--	--	700	35	--	5	--	--	Sand & gravel at 90	Woollen
18.6h	Ellis Leishner	1952	drl	77	--	--	--	.025	710	37	30	10	.3	--	Sand & gravel, 72-77	Woollen
19.1h	Bert G. Huisinga	1953	drl	181.5	--	--	--	--	700	--	--	--	--	--	Limestone, 180-181.5	Woollen
19.8a	C. M. Moore Estate	1926	drl	90	3	--	--	--	699	30	--	--	--	--	Sand & gravel at 90	Kirby
20.1a1	Elmer Mix, et ux.	1892	dug & bor	80	42-16	--	--	--	700	--	--	5	--	--	--	--
20.1a2	Elmer Mix, et ux.	1930	drl	146.5	--	--	--	--	700	--	--	--	--	--	Sand & gravel, 100-100.5	Woollen
20.1d1	John Leischner Heirs	1913	bor	60	18-12-6	--	--	--	698	20	--	--	--	--	Sand at 20; sand & gravel at 40	West
20.1d2	John Leischner Heirs	1943	drl	83	4	--	--	--	697	20	--	--	--	--	--	Woollen
20.8g	Mary L. Gantz	1917	drl	70-90	--	--	--	--	700	10	--	--	--	--	Sand at 70-90	--
21.1f1	W. B. Trenchard	1924	drl	60	3	--	--	--	675	40	--	--	--	--	Sand at 60	--
21.1f2	W. B. Trenchard	1947	drl	81	4	--	--	--	675	38	10	5	.5	1	Sand, 77-81	Woollen
21.5d	Melda Olson & Florence Stallings	1956	drl	57.5	--	3	--	.025	700	30	--	9	--	--	Sand & gravel at 57.5	Woollen
21.6h	Richard Gantz	--	drl	90	--	--	--	--	680	--	--	--	--	--	--	--
21.8h	John Leischner Heirs	1925	drl	83	4	--	--	--	689	--	--	--	--	--	--	--
22.3b	James Huisinga	1949	drl	--	4	--	--	--	691	--	--	--	--	--	--	Woollen
22.7b	Milford Huisinga	1920	drl	127	4	--	--	--	695	60	--	--	--	--	--	--
22.8h	Harm Huisinga Est.	1962	drl	108	4	--	--	--	689	50	--	--	--	--	--	Woollen
23.2h	Florence E. Kirkland	--	drl	140	4	--	--	--	697	60	--	--	--	--	--	--
23.4a	Mary E. Kirby Trust	1926	drl	74	4	--	--	--	690	14	8	5	.6	5	--	Woollen
23.5h	George T. & Mary T. Timmons	1919	drl	125	4	--	--	--	698	40	--	--	--	--	--	--
23.8f1	Mrs. Dorr H. Simer	--	drl	76	4	--	--	--	698	--	--	--	--	--	--	--
23.8f2	Mrs. Dorr H. Simer	1952	drl	81	--	--	--	.018	698	50±	3±	6	2.0	--	Dirty sand at 74; sand & gravel, 77-81	Woollen
24.4h	John Kirby Trust	1948	drl	71	4	--	--	--	692	31	2	18	9.0	2	Sand, 70-71	Behrens
24.6d	John & Mary Kirby Hospital, Inc.	--	dug	35	48	--	--	--	692	20	--	--	--	--	Sand & gravel at 35	--
25.1a	Don Primmer	1963	drl	115	4	3	4	.010	680	47	--	12	--	--	Sand, 94-116+	Washburn
25.2b	Linden Piatt	1922	drl	108	4	--	--	--	682	40	--	--	--	--	--	Hayes
26.1d	Ollie Miner	1914	drl	106	4	--	--	--	675	41	--	--	--	--	Sand, 41-106	Hayes
26.3f	Mary E. Kirby Trust	1966	drl	174	4	4	3.75	.010	690	63.2	4	5	1.3	1	Sand, 73-110, 151-174	Sims
26.3g1	Mary E. Kirby Trust	--	drl	136	4	--	--	--	689	50	--	--	--	--	--	--
26.3g2	Mary E. Kirby Trust	--	dug	24	48	--	--	--	689	16	--	--	--	--	--	--
26.8e	J. R. Marquiss	--	drl	106	4	--	--	--	680	--	--	--	--	--	--	--

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Nonpumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T19N, R5E (Continued)																
27.1d	Ora Ella Marquiss	1919	bor & drl	74	12-3	--	--	--	685	25	--	--	--	--	--	West
27.6e1	J. R. Marquiss	--	dug	40	36	--	--	--	690	25	--	--	--	--	--	--
27.6e2	J. R. Marquiss	--	drl	185	2	--	--	--	690	20	--	--	--	--	--	--
27.6h1	Milford Huisinga	--	drl	90	4	--	--	--	690	40	--	--	--	--	--	--
27.6h2	Milford Huisinga	1941	drl	84	4	3	4	.025	690	46	32	3	.1	2	Sand & gravel, 82-83	Woollen
28.1a	Byrl Kidd	1949	drl	91	4	--	--	--	692	21	--	--	--	--	Sand at 91	Woollen
28.8d1	Cory H. Zybell	1916	drl	90	--	4	--	--	695	25	--	--	--	--	--	Hayes & Chaney
28.8d2	Cory H. Zybell	1918	drl	105	2.5	--	--	--	695	35	--	7	--	--	Sand & gravel, 95-105	Husselman
28.8h	Milford Huisinga	1949	drl	85	4	3	--	.020	701	29	--	6	--	--	Sand & gravel, 81-85	Woollen
29.1d	Helen L. Padgett	--	drl	80	2	--	--	--	694	35	--	6	--	--	--	--
29.1e1	Clara E. Lubbens	--	drl	210	--	--	--	--	695	--	--	--	--	--	*	Woollen
29.1e2	Clara E. Lubbens	--	drl	212	--	--	--	--	695	--	--	--	--	--	*Sand at 163	Woollen
29.1g	J. E. Reed	1937	drl	146	4	--	--	--	696	50	40	8	.2	5	Sand & gravel at 146	Woollen
30.1h	C. H. Moore Estate	--	drl	76	4	--	--	--	701	20-30	--	--	--	--	--	--
30.4b1	Elbert L. Martin	--	dug	40	48	--	--	--	700	25	--	--	--	--	--	--
30.4b2	Elbert L. Martin	--	drl	140	2	--	--	--	700	75	--	--	--	--	Sand at 140	--
31.1f	Mary Shonkwiler	--	drl	85	3	--	--	--	690	20	--	--	--	--	--	--
31.8a1	John Remmers	1916	drl	217	4	--	--	--	692	18-25	--	--	--	--	Sand, 162-217	--
31.8a2	John Remmers**	1932	drl	78	4	3	--	.014	691	30	20	8	.4	5	--	Woollen
32.1a	Roy Campbell, et ux.	1931	drl	107	4	4	--	.014	691	25	15	8	.5	5	Sand at 107	Woollen
32.6a	Bertel Stoddard	1951	drl	86	6	3	4	.014	692	19	--	5	--	1	Sand & gravel, 80-86	Woollen
32.8c	Richard Robinson	--	drl	82	4	--	--	--	693	15	--	--	--	--	--	--
32.8g	Bettie Rice	--	dug	25	48	--	--	--	691	20	--	--	--	--	--	--
33.1a	Thomas H. Welch	1909	drl	200	2	--	--	--	685	40	--	--	--	--	--	--
33.1e	L. P. Huffman	1904	drl	186	2	--	--	--	692	85	--	--	--	--	--	--
33.3b	Bert W. Huisinga	--	dug & drl	90	48-3	--	--	--	685	40	--	--	--	--	--	--
33.3d	Bert W. Huisinga	--	drl	85	4	--	--	--	692	45	--	--	--	--	--	--
33.4a	Bert W. Huisinga	1885	drl	100	8	--	--	--	690	--	--	--	--	--	--	Hayes & Chaney
33.4d	Bert W. Huisinga	1916	drl	90	--	--	--	--	690	25	--	--	--	--	--	Hayes & Chaney
33.5b	Mildred Stoddard	--	drl	84	4	--	--	--	691	18	--	--	--	--	--	--
34.8e1	W. W. Welsh Estate	1945	drl	77	4	3	4	.020	690	40	2	5	2.5	1	Sand & gravel, 70-77	Woollen
34.8e2	W. W. Welsh Estate	1951	drl	91.5	4	4	--	.025	690	54	2	--	--	--	Sand & gravel, 88-91.5	Woollen
34.8e3	W. W. Welsh Estate	1957	drl	93	--	4	--	.025	690	30	--	6	--	--	Sand & gravel, 91-93	Woollen
34.8f1	W. W. Welsh Estate	--	dug	12	36	--	--	--	692	5	--	4	--	--	Sand & gravel at 12	--
34.8f2	W. W. Welsh Estate	1899	dug	15	36	--	--	--	692	12	--	--	--	--	--	--
35.1h	John C. Stoddard	1966	drl	240	4	8.3	4	.014-.018	692	55	--	90	--	3	Dirty sand & gravel, 55-75, 100-120; sand, 175-225; sand & gravel, 225-240	Hayes
35.3d	L. Marquiss	--	dug	20	48	--	--	--	660	5	--	4	--	--	--	--
35.3e	Roy Miner	--	dug	54	36	--	--	--	675	50	--	--	--	--	--	--
35.8a	Raymond Brewer	1968	drl	79	4	8	--	--	691	--	--	10	--	.25	Sand at 79	Woollen
36.1e	John Stoddard	1905	dug & drl	65	48-2	--	--	--	664	--	--	--	--	--	Sand & gravel at 65	Ablitt
36.1g	John Stoddard	1944	drl	42	4	3	4	.025	655	9	6	14	2.3	1	Dirty sand & gravel, 25-27; sand & gravel, 36-42	Woollen
36.3d	Donald Primmer	1963	drl	95	4	--	--	--	685	40	--	--	--	--	--	Meshburn
36.3e	Gaylord Maden	1924	drl	100	3	--	--	--	685	40	--	7	--	--	--	--
36.8a	James D. Wittig	1967	drl	94	6	3	6	.040	685	50	10	15	1.5	1	Sand & gravel, 92-93	Woollen
T19N, R6E																
1.2d	Leslie Hammersmith	1969	drl	226	4	8	4	.014	700	73	5	12	2.4	1	Sand, 74-84, 179-226	Sims
1.3d	Leslie Hammersmith	--	dug	15	48	--	--	--	680	10	--	--	--	--	--	--
1.3e	David Berkson, et ux.	--	dug	24	48	--	--	--	705	20	--	--	--	--	Sand & gravel at 24	--
1.5a	Larry D. Valentine	--	drl	91	--	--	--	--	702	--	--	--	--	--	--	--
1.5e	Jesse Davis	1963	drl	90	2	4	1.25	.012	703	35	--	8	--	2	Sand at 74; sand & gravel, 74-90	Swartz
1.5f1	Lloyd G. Humphreys	1964	drl	211	4	4	3.75	.014	700	61	8	8	1.0	2	Sand, 71-76, 187-211	Sims
1.5f2	Charles Ericksen	1969	drl	225	4	4	4	.018	700	63	--	80	--	4	Sand & gravel, 65-75; dirty sand, 185-205; sand & gravel, 205-225	Vaughn
1.6a	John Valentine	--	dug	22	42	--	--	--	720	9	--	--	--	--	--	--
1.6c	John Valentine	--	dug	36.5	48	--	--	--	721	20	--	--	--	--	--	--
2.4h	Treva Peck, et al.	1907	bor	60	18	--	--	--	694	20	--	--	--	--	Sand at 60	--
2.7e	Chester Hayes	1947	drl	200+	3	--	--	--	692	--	--	--	--	--	--	Carper
2.8a	Robert D. Mitchell	--	drl	--	2.5	--	--	--	691	--	--	--	--	--	--	--
3.1e1	Howard B. Wilson**	--	dug	30	36	--	--	--	690	25	--	--	--	--	--	--
3.1e2	Howard B. Wilson	1954	drl	88	4	3	4	.020	688	39	13	6	.5	1	Sand & gravel, 83-88	Woollen
3.5d	O. R. & A. Smith	1904	bor	28	12	--	--	--	690	15	--	--	--	--	--	--
4.4e1	Robert D. Mitchell	--	dug	32	48	--	--	--	691	20	--	--	--	--	--	--
4.4e2	Robert D. Mitchell	--	drl	135	4	--	--	--	691	45	--	--	--	--	Sand & gravel at 135	--
4.6d	Anna Munday	1955	drl	197	4	--	--	--	681	35	--	--	--	--	--	Swanson
4.7e1	Elmer Ruch	--	drl	218	2	--	--	--	693	125	--	--	--	--	--	--
4.7e2	Elmer Ruch	1946	drl	121	4	--	--	--	691	--	--	--	--	--	--	Sims
4.7e3	Elmer Ruch	1962	drl	240	4	6.5	--	--	691	61	--	90	--	--	Dirty sand, 190-230; sand & gravel, 230-240	Hayes
5.8a1	Wesley E. Nixon	--	drl	190	3	--	--	--	702	70	--	--	--	--	Sand & gravel at 190	--
5.8a2	Wesley E. Nixon	1940	drl	200+	4	--	--	--	701	--	--	--	--	--	--	--
6.1f	Mary Ann LaRue	1893	drl	188	3	--	--	--	703	25	--	--	--	--	Sand & gravel at 188	--
6.5d	Donald R. Huston & Adelia Faullin	--	drl	120	--	--	--	--	690	--	--	--	--	--	--	--
7	J. N. Imel	1880	dug	52	--	--	--	--	--	--	--	--	--	--	Sand at 52	--
7.1h	Arthur Madden**	1930	drl	90	3	--	--	--	700	40	--	--	--	--	Sand & gravel at 90	Poundstone
7.2e	Arthur Madden	1938	drl	115	4	--	--	--	701	--	--	--	--	--	--	Woollen
7.3d	Rosa Kirkland	--	drl	204	2	--	--	--	702	60	--	--	--	--	Sand & gravel at 204	--
7.4d	Rosa Kirkland	1945	drl	66	4	3	4	.030	705	47	16	4	.3	2	Sand & gravel, 65-66	Woollen
7.7h	Myrtle Gessford	1932	drl	112	3	--	--	--	711	44	--	--	--	--	--	Poundstone
8.4c	Tillie H. Madden	1894	dug	48	48	--	--	--	680	--	--	--	--	--	--	Brooks
8.4d1	Tillie H. Madden**	1915	drl	105	3	--	--	--	690	20	--	--	--	--	--	Poundstone
8.4d2	Tillie H. Madden	1915	drl	107	3	--	--	--	690	15	--	--	--	--	--	Poundstone
9.1b	O'Dell & Kallembach	--	dug & drl	90	42-3	--	--	--	690	40	--	--	--	--	--	--
9.1d	Lowell C. Reed	--	drl	95	2	--	--	--	689	45	--	--	--	--	--	--
10.2f	William Alexander	1917	drl	216	4	--	--	--	681	95	--	--	--	--	--	--

Appendix A (Continued)

Well number	Owner	Well: Year con-structed	Well: Type	Well: Depth (ft)	Well: Diam-eter (in)	Screen: Length (ft)	Screen: Diam-eter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Draw-down (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T19N, R6E (Continued)																
10.8h	Glenn DeLand	1952	drl	74	4	--	--	--	694	30	--	--	--	--	--	Woollen
11	Paul S. Riegel	1969	drl	64	4	3	4	.020	--	30	15	10	.7	1	Dirty sand, 54-62; dirty sand & gravel, 62-64	Woollen
11.1e	Charles W. Wright	1917	drl	185	2	--	--	--	708	52	--	--	--	--	--	--
11.2e	Harold Dietrich	1969	drl	225	4	4	4	.018	690	56	--	90	--	4	Dirty sand, 168-195; sand & gravel, 195-225	Vaughn
11.3c	Bill Tedder	1969	drl	226	4	8	4	.012-.014	710	78	8	15	1.9	1	Silty sand, 84-210; sand, 210-226	Sims
11.3d	Wayne Martin	1969	drl	240	4	8	4	.018	710	28	--	80	--	6	Dirty sand & gravel, 85-92; dirty sand, 197-220; sand & gravel, 220-240	Vaughn
11.3e	L. Myers	1957	drl	79	2	3.5	1.25	.014	705	18.7	--	5	--	1.5	Dirty sand & gravel, 70-79	Sims
11.4c	M. E. Ard	--	drl	143	1	--	--	--	730	50	--	--	--	--	Sand & gravel at 143	--
11.4e	George, Jr., & L. Pankau	1958	drl	79	2	3.5	1.75	.010	675	19.3	14	9	.6	2	--	Sims
11.5a	Alta S. Hoskins	1914	drl	250	2	--	--	--	730	55	--	--	--	--	--	Hubby
11.5c	M. E. Ard	--	drl	110	--	--	--	--	675	--	--	--	--	--	--	--
11.7e	Clifford Robbins	1955	drl	52	4	3	--	.025	685	31	5	5	1.0	--	Sand & gravel, 48-52	Woollen
11.7h	Dr. W. M. Sievers Estate	1931	dug	30	36	--	--	--	665	20	--	--	--	--	Sand & gravel at 30	Watson
11.8h	Robert O. Mitchell	1919	bor	26	12	--	--	--	689	14	--	--	--	--	Sand & gravel at 26	--
12.3g	Elsie Tatman	--	drl	90	2	--	--	--	718	40	--	--	--	--	Sand & gravel at 90	--
12.3h	Elsie Tatman	--	dug	20	42	--	--	--	711	8	--	--	--	--	--	--
12.4g	Elsie Tatman	1948	drl	90	4	--	--	--	720	35	--	--	--	--	--	Woollen
12.8d	Horace White	--	drl	174	3	--	--	--	710	50	--	--	--	--	--	--
13.6b	Paul Gucker	--	drl	154	3	--	--	--	698	60	--	--	--	--	Sand at 154	--
13.7h	Raymond Dickerson	1969	drl	206	4	8	4	.014	720	84	4	12	3.0	1.5	Silty sand, 101-136; sand, 206-241	Sims
14.5h	Alta S. Hoskins	1957	drl	247	4	8	2	.012	685	--	--	13.5	--	--	--	McElwee
14.8b	Nellie Alexander	1904	drl	57	3	--	--	--	730	20	--	--	--	--	Sand at 57	Cade
14.8g	L. F. Primmer	1966	drl	255	4	4.2	4	.018	700	104	--	60	--	3	Dirty sand, 225-235; sand & gravel, 235-255	Hayes
14.8h1	L. F. Primmer	1894	dug	30	48	--	--	--	670	20	--	--	--	--	--	--
14.8h2	L. F. Primmer	1966	drl	270	4	4	--	.018	670	44	--	105	--	--	Dirty sand, 164-185; sand & gravel, 185-270	Hayes
15.1a	Hickory Hunt Club	--	drl	283	6	--	--	--	695	30	--	--	--	--	--	Hayes & Sims
15.1f1	Hickory Hunt Club	--	dug	30	42	--	--	--	690	18	--	--	--	--	Sand & gravel at 30	--
15.1f2	Hickory Hunt Club	1938	drl	233	6	14	--	.005	690	--	--	50	--	--	Dirty sand & gravel, 40-190; sand & gravel, 190-233	Layne-Western
15.1f3	Hickory Hunt Club	1961	drl	243	4	12.7	--	.014-.018	690	44.7	--	90	--	--	Sand, 172-205; sand & gravel, 205-243	Hayes
15.1g	R. Primmer	1939	drl	184	4	6	2.5	.008	655	26	--	20	--	--	Sand & gravel, 175-184	Hayes & Sims
15.2d	C. F. Buckley	1967	drl	240	4	4	--	--	700	60	--	--	--	--	Sand & gravel at 240	Hayes
15.3c	Harold Madden	1962	drl	226.5	2	3.5	1.75	.012	700	51	16	15	.9	2	Sand, 197-226.5	Sims
15.4d	Jack W. Wood	1964	drl	245	4	12.5	4	.018-.025	690	61	--	60	--	5	Sand, 174-215; sand & gravel, 215-245	Hayes
15.8f1	S. E. Sprinkle	1884	dug & bor	32	36-18	--	--	--	682	20	--	--	--	--	--	West
15.8f2	S. E. Sprinkle	1904	drl	72	2	--	--	--	682	30	--	--	--	--	Sand at 72	Cade
16	John Chalit	1955	drl	72.5	2-1.25	3.5	1.25	.012	--	27.5	--	10	--	3.5	Sand & gravel, 27.5-30; sand, 63-72	Allison
16.8d1	Pearl Alexander	--	dug	32	48	--	--	--	652	17	--	--	--	--	--	--
16.8d2	Pearl Alexander	--	drl	200	3	--	--	--	652	110	--	--	--	--	--	--
17.3e	Bessie F. Bushee	--	drl	250	4	--	--	--	680	150	--	--	--	--	--	--
17.4a	John & Olive Dighton Trust	--	drl	118	3	--	--	--	680	40	--	--	--	--	--	--
17.8e	John L. Long	1967	drl	101	--	4	--	.020	698	60	--	6	--	--	Sand & gravel, 85-101	Woollen
17.8f	Vernon Taylor	1969	drl	107.5	4	4	4	.018	700	45.5	--	52	--	8	Dirty sand & gravel, 91-107	Vaughn
18.1a	Frank Wrench	1954	drl	95	4	3	4	.020	694	46	14	4	.3	1	Sand & gravel, 93-95	Woollen
18.1e	Henrietta Zweifel	*1917	dug	30	--	--	--	--	700	14	--	--	--	--	--	--
18.1h	Edna T. Kelley	1916	drl	110	4	--	--	--	695	30	--	--	--	--	--	Poundstone
18.5d	Gaylord Madden**	1945	drl	71	4	3	4	.030	695	35	11	4	.4	2	Sand & gravel, 70-71	Woollen
18.6d	Gaylord Madden	1960	drl	100	4	--	--	--	681	--	--	--	--	--	--	Woollen
18.7h	Esta Helm	1922	dug & drl	115	48-4	--	--	--	694	50	--	--	--	--	Sand & gravel at 115	--
19.4a1	W. J. Fitzwater**	1932	drl	101	3	--	--	--	680	50	--	--	--	--	--	Poundstone
19.4a2	W. J. Fitzwater	1953	drl	72	4	3	--	.020	680	--	12	6	.5	--	Sand, 69-72	Woollen
20.3e	R. E. Cannon	1966	drl	118	4	4	--	.018	665	37	--	70	--	--	Dirty sand & gravel, 76-118	Hayes
20.3f	Russ Winterbottom	1966	drl	126	4	4	--	.018	680	48.5	--	60	--	--	Dirty sand & gravel, 88-135	Hayes
20.4e1	H. H. Madden	1944	drl	72	4	4	4	.025	655	53	4	6	1.5	1	Sand & gravel, 68-72	Woollen
20.4e2	Don Winterbottom	1966	drl	87	4	4.2	4	.018	670	36.5	--	40	--	5	Sand & gravel, 80-90; sand, 90-93	Hayes
20.4e3	Jack Munson	1967	drl	91	4	4	--	.020	670	30	--	--	--	--	--	DeMent
20.4f1	Charles R. Scott	1967	drl	84	--	--	--	--	670	--	8	--	--	--	Sand & gravel, 82-84	Woollen
20.4f2	Leo Szalkoski	1969	drl	96	4	4	4	.018	670	38	--	42	--	8	Dirty sand & gravel, 75-90; sand & gravel, 90-95	Vaughn
20.5d1	John Kirby Trust	1928	drl	120	4	--	--	--	681	65	--	--	--	--	--	Poundstone
20.5d2	John Kirby Trust	1963	drl	--	4	--	--	--	681	--	--	--	--	--	--	Hayes
21.4a1	Terry Cresap	1945	drl	57	4	4	4	.025	710	39	2	5	2.5	2	Sand & gravel, 46-53	Woollen
21.4a2	Terry Cresap	1963	drl	153	4	--	--	--	710	70	--	45-60	--	--	Sand & gravel, 87-90; dirty sand & gravel, 129-145; sand & gravel, 145-152	Hayes
21.4a3	Elmer Percell	1969	drl	157	4	4	4	.018	710	61.5	--	60	--	4	Dirty sand, 100-130; sand & gravel, 130-157	Vaughn
21.4b	Terry Cresap	--	dug	40	48	--	--	--	680	15	--	--	--	--	Sand & gravel at 40	--
21.7e	David Price	1960	drl	86	6	5	5.6	.015	665	15	45	12	.3	1	Dirty sand & gravel, 17-20; sand, 65-86	Sims
21.7g	J. Cooper	--	dug	36	42	--	--	--	650	20	--	--	--	--	--	Furness
22	Pearle Rudisill	1951	drl	114	4	3	4	.014	--	57	--	5	--	1	Sand & gravel, 96-99, 104-114	Woollen
22	Pearle Rudisill	1960	drl	223	4	4	--	.015	--	72	--	10	--	--	Sand, 117-124; sand & gravel, 215-223	Woollen

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T19N, R6E (Continued)																
22.1g1	Edna T. Kelly**	--	drl	150	3	--	--	--	715	60	--	--	--	--	Sand at 150	--
22.1g2	Edna T. Kelly	1898	drl	154	2.5	--	--	--	715	30	--	--	--	--	--	Cade
22.1g3	Edna T. Kelly	--	drl	240	4	4.3	4	.014	715	84.5	--	50	--	5	Dirty sand & gravel, 115-120, 194-230; sand & gravel, 230-240	Hayes
22.3a1	Fred LaNeer	1904	dug	16	42	--	--	--	694	4-12	--	--	--	--	Sand at 16	--
22.3a2	Henry Blacker	1909	dug	18	42	--	--	--	694	3.5-14	--	--	--	--	Sand at 18	--
22.3b1	L. Hosler	1904	dug	10	42	--	--	--	700	5-8	--	--	--	--	Sand & gravel at 10	Hosler
22.3b2	H. F. Hannah	1931	dug & bor	45	42-9	--	--	--	700	12-16.5	--	--	--	--	Sand at 19; sand & gravel at 45	--
22.3b3	Mary Wood	1961	drl	132	--	--	--	--	700	60.5	--	36	--	--	Sand & gravel, 104-130	Hayes
22.4a1	B. Teats	1894	dug	12	48	--	--	--	695	3-10	--	--	--	--	Sand at 12	--
22.4a2	W. H. Madden	1914	drl	175	4	4	--	--	695	40	--	--	--	--	Sand & gravel at 175	--
22.4a3	Fred Meriecke	1966	drl	149	4	4.2	4	.018	695	54	--	60	--	5	Sand & gravel, 70-75, 105-147	Hayes
22.4b1	Carl B. Mitchell	--	dug	25	48	--	--	--	705	5-18	--	--	--	--	Sand & gravel at 25	--
22.4b2	Irvin Hickman	1919	dug	22	42	--	--	--	705	5-18	--	--	--	--	Sand & gravel at 22	--
22.4g	Edna T. Kelly**	--	drl	160	2.5	--	--	--	730	65	--	--	--	--	Sand at 160	--
22.5a1	Joseph Close	1904	dug & drl	90	42-2	--	--	--	700	35	--	--	--	--	Sand at 40; dirty sand & gravel at 90	--
22.5a2	Dr. W. H. Sievers	1911	drl	160	3	--	--	--	700	20	--	--	--	--	--	Poundstone
22.5b1	L. Luscaleet	1904	dug	27	48	--	--	--	710	14	--	--	--	--	Dirty sand at 27	--
22.5b2	Illinois Central RR	1944	drl	235	10	15	10	.030	710	49	70	148	2.1	3	Dirty sand, 50-75; dirty sand & gravel, 123-193; sand & gravel, 225-235	Layne-Western
22.5d(1)	White Heath	1969	drl	233	6	9	6	.015	720	80.29	11.65	75	6.4	24	Sand, 121-155; dirty sand, 155-160; sand, 160-165; sand & gravel, 180-185; sand, 203-233	Sims
						4	6	.020								
22.6a1	John D. Valentine	1909	dug	20	--	--	--	--	700	5-15	--	--	--	--	Sand & gravel at 20	--
22.6a2	H. H. York	1909	drl	170	4	4	4	--	700	35	--	--	--	--	Sand & gravel at 170	--
22.6a3	H. C. Blacker	1914	drl	155	4	3	--	--	700	40	--	--	--	--	Sand & gravel at 155	--
22.6a4	White Heath Grade School	1947	drl	121	4	3	4	.025	700	66	1	5	5.0	1	Sand, 85-90; dirty sand & gravel, 109-114; sand & gravel, 118-121	Woollen
22.6a5	H. Mitchell	1963	drl	163	4	4	4	.018	700	75.8	--	60	--	4	Dirty sand, 120-145; sand, 145-156; sand & gravel, 156-163	Hayes
22.6a6	Tommy Hayes	1967	drl	130	--	--	--	--	700	--	--	--	--	--	Sand, 22-24; sand & gravel, 122-125, 126-130	Woollen
22.6b1	Pearl Scott	1914	drl	180	2.5	4	--	--	700	40	--	--	--	--	Sand & gravel at 180	--
22.6b2	Carl Mitchell	~1940	drl	104	--	--	--	--	710	--	--	--	--	--	--	--
22.6c	Doyle Bright	1962	drl	132	2	3.5	1.75	.014	700	68.2	15	18	1.2	3	Sand & gravel, 124-132	Sims
22.7e1	D. N. & V. McCartney	1894	drl	125	2	--	--	--	740	50	--	--	--	--	Sand at 125	Bechert
22.7e2	D. N. & V. McCartney	1960	drl	281	4	8	4	--	740	--	--	--	--	--	Sand & gravel at 281	McElwee
22.8a	Charles Raglan	1945	drl	90	4	3	4	.025	690	53	15	4	.3	2	Sand & gravel, 88.5-90	Woollen
23.3a	Troy C. Blacker	--	drl	120	4	--	--	--	700	40	--	--	--	--	Sand at 120	--
23.7h	W. H. Tatman	--	drl	200	3	--	--	--	722	75	--	--	--	--	--	--
23.8h	W. H. Tatman	1962	drl	255	--	--	--	--	725	--	--	--	--	--	Dirty sand & gravel, 105-110, 206.5-220; sand & gravel, 220-255	Hayes
24.2c	Maggie W. Perry	1953	drl	139	--	--	--	.020	700	59	--	--	--	--	Sand, 107-139	Woollen
24.2h	Arthur Fosnaugh**	1909	drl	166	2	--	--	--	705	70	--	--	--	--	Sand at 166	Cade
24.3h	Arthur Fosnaugh	1966	drl	170	4	--	--	--	705	--	--	--	--	--	Sand at 170	Swartz
24.4c1	Maggie W. Perry	1905	dug	15	48	--	--	--	700	6	--	--	--	--	Sand & gravel at 15	--
24.4c2	Maggie W. Perry	1931	drl	145	3	--	--	--	700	60	--	--	--	--	Sand & gravel at 145	Carper
25.1h	Charles E. Branch	1945	drl	86	4	3	4	.025	700	52	20	4	.2	2	Sand & gravel, 61-76, 84.5-86	Woollen
25.3c	Leslie Branch	1941	drl	80	4	3	4	.025	695	43	--	5	--	2	Sand & gravel, 78-79	Woollen
25.4c	Leslie Branch	--	dug	19	48	--	--	--	690	14	--	--	--	--	--	--
25.6a	Robert Weeks	1959	drl	190	4	--	--	--	690	--	--	--	--	--	--	--
25.6h	Harriet White	1945	drl	145	3	--	--	--	698	--	--	--	--	--	--	McElwee
25.8g1	Walter E. White	--	dug	40	42	--	--	--	690	25	--	--	--	--	--	--
25.8g2	Walter E. White	1957	drl	145	2.5	--	--	--	689	--	--	--	--	--	--	Hayes
26.8a	Minnie Mitchell, et al.	1951	drl	169	4	3	4	.025	700	55	10	5	.5	1	Sand, 115-166; sand & gravel, 166-169	Woollen
26.8d	Francis, Charles, & John Bennis	1904	drl	160	2	--	--	--	700	40	--	--	--	--	Sand at 160	--
27	Gene Reynolds	1963	drl	141	4	4	3.75	.010	--	70.4	9	12	1.3	2	Dirty sand, 88-101; sand, 101-141	Sims
27.3e	George C. Haines	1924	drl	180	3	--	--	--	720	75	--	--	--	--	--	--
27.3g	George C. Haines	1947	drl	108	4	3	4	.025	700	74	2	6	3.0	1	Sand, 78-80; sand & gravel, 100-108	Woollen
28.2h	Jack Burton	1969	drl	92	4	3	4	.020	700	50	1	5	5.0	2	Sand, 90-92	DeMent
28.4a	William Hogan	1931	drl	120	4	--	--	--	700	40	10	6	.6	5	Sand & gravel at 120	Woollen
28.7a	Park E. Blacker	--	dug	45	48	--	--	--	712	25	--	--	--	--	--	--
28.7b	Park E. Blacker	1963	drl	162	4	--	--	--	710	--	--	16	--	--	Dirty sand, 10-12; sand, 53-67, 106-110, 132-162	Swanson
28.8a	Park E. Blacker	1946	drl	115	4	3	4	.025	711	73	--	5	--	1	Sand & gravel, 108-115	Woollen
29.1e	Darwin Musick	1945	drl	41	4	3	4	.025	700	27	--	6	--	2	Sand & gravel, 39-41	Woollen
29.2e	Darwin Musick	1961	drl	42	4	--	--	--	700	--	--	15	--	--	Sand & gravel, 35-42	Hayes
29.4a	Cory Zybell, et al.	1944	drl	52	4	3	4	.030	685	30	--	7	--	1	Sand, 45-49; sand & gravel, 49-52	Woollen
29.6a	Gordon Bowlin	1959	drl	50	2.5	3.5	1.25	.012	670	14	--	10	--	1	Dirty sand, 37-43; sand & gravel, 43-50	Sims
29.7b	John Workman	1964	drl	64-68	4	--	--	--	665	--	--	--	--	--	--	Woollen
29.7g	Virgil Rex	--	drl	110	3	--	--	--	680	50	--	--	--	--	--	--
29.8a	Lodge Park Forest Preserve	~1929	drl	115	--	--	--	--	655	--	--	60	--	--	Sand & gravel at 115	--
31.3d	Lodge Park Forest Preserve	1966	drl	202	4	--	--	--	667	--	--	--	--	--	Sand & gravel, 175-202	Swartz
32.1h	Grace Patton	1900	drl	170	3	--	--	--	715	76	--	--	--	--	--	--
32.4g	Hank Patterson	1969	drl	165	4	4	4	.018	710	80	--	50	--	4	Sand, 117-155; sand & gravel, 155-165	Vaughn
32.7g	William Larey**	1930	drl	99	4	--	--	--	675	50	--	--	--	--	--	Smith
32.8h	Leon Ash	1969	drl	179	4	4	3.75	.012	672	74.33	16	12	.8	3	Sand, 159-179	Swanson
33.1c1	Ralph Keller	--	dug	25	42	--	--	--	680	10	--	--	--	--	Sand at 25	--

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T19N, R6E (Continued)																
33.1c2	Ralph Keller	1950	drl	78	2	--	--	--	680	20	--	--	--	--	--	Costly
33.4a1	Max Beals	1962	drl	93	4	4.3	4	.018	690	43	--	35	--	3	Sand & gravel, 84-105	Hayes
33.4a2	Max Beals	1962	drl	80	4	--	--	--	690	27	--	60	--	--	Dirty sand, 65-75; sand, 75-90	Hayes
33.4a3	Max Beals	1969	drl	98	4	4	4	.018	690	51	--	35	--	6	Dirty sand & gravel, 70-90; sand & gravel, 90-98	Vaughn
34.6d	W. P. Thornton	--	drl	185	--	--	--	--	665	--	--	--	--	--	--	--
34.6h	James Rankin	1920	drl	237	3	--	--	--	712	75	--	--	--	--	Sand & gravel at 237	Poundstone
34.8h	Payne Heath Estate	--	drl	260	4	--	--	--	690	65	--	--	--	--	--	--
35.3a	Cora Zybell	1932	drl	43	4	3	--	.025	690	30	--	--	--	--	--	Woollen
35.3h	Industrial Water Supply Co.	1951	drl	324	--	--	--	--	690	--	--	--	--	--	*Dirty sand & gravel, 87-135; sand & gravel, 215-240, 270-314	Layne-Western
35.7f	Theodore Bell	--	drl	168	3	--	--	--	682	75	--	--	--	--	--	--
35.8f	Theodore Bell	1947	drl	194	4	6	--	.014-.018	670	50	--	--	--	--	Sand, 90-114; sand & gravel, 190-194	Hayes & Sims
36.4g	Charles A. Olson	1907	drl	165	3	--	--	--	690	40	--	--	--	--	--	--
36.8e	Alma Gerber	1927	drl	150	3	--	--	--	700	--	--	--	--	--	--	Poundstone
T20N, R5E																
1.8a1	S. J. Littler Estate	--	dug	45	42	--	--	--	721	30	--	--	--	--	Sand & gravel at 45	--
1.8a2	S. J. Littler Estate	1914	drl	93	4	--	--	--	721	--	--	--	--	--	Sand & gravel at 93	Nutt
2.1a1	J. D. Chambers	1919	drl	185	4	--	--	--	721	70	--	--	--	--	Sand & gravel at 185	--
2.1a2	J. D. Chambers	--	drl	66	4	--	--	--	721	13	--	--	--	--	--	--
3.1e	C. C. Yowell	1909	dug	50	48	--	--	--	718	28	--	--	--	--	Sand & gravel at 50	--
9.1a	Mrs. Clyde Niklaus	1950	drl	57	4	--	--	--	721	13	--	--	--	--	--	Woollen
10.3h	G. E. Maloch	1904	dug	30	60	--	--	--	721	10-20	--	--	--	--	Sand at 30	--
10.4h	G. E. Maloch	1957	drl	175	4	--	--	--	721	--	--	--	--	--	Sand, 86-89	Swanson
11.1c1	R. G. Kodl	1920	drl	180	4	--	--	--	722	60	--	--	--	--	Sand & gravel at 180	Derr
11.1c2	R. G. Kodl	1963	drl	204	4	--	--	--	722	58	--	--	--	--	--	Swanson
12.1f	Springfield Memorial Hospital	1925	drl	60	4	--	--	--	725	15	--	--	--	--	--	Nutt
13.3e1	Glenna J. Mosgrove**	--	drl	90	4	--	--	--	730	40	--	--	--	--	Sand at 90	--
13.3e2	Glenna J. Mosgrove	1950	drl	84	4	--	--	--	721	--	--	--	--	--	--	--
13.8a	Congregational Church	1904	drl	105	2	--	--	--	727	40	--	--	--	--	Sand & gravel at 105	--
14.1b	Belle G. Gray	--	drl	110	4	4	--	--	729	80	--	--	--	--	Sand & gravel at 110	--
14.4e	Jess Hammer	1919	drl	84	4	4	--	--	724	20	--	--	--	--	Sand at 84	Nutt
14.8h	Mullen Bros.	1963	drl	180	4	4	3	.010	723	50	--	--	--	--	Sand, 176.5-180	Mashburn
15	Amos Weedman	1954	drl	63	4	6	3.75	.018	--	17	27	15	.6	3.5	Sand, 53-63	Swanson
15.2a	Amos Weedman	1925	drl	42	--	--	--	--	723	--	--	--	--	--	--	Nutt
15.4e	Amos Weedman	1914	dug	32	42	--	--	--	721	20	--	--	--	--	Sand & gravel at 32	--
15.5e	Amos Weedman	--	dug	30	42	--	--	--	721	20	--	--	--	--	Sand & gravel at 30	--
15.8a	Lyle F. Weidner	--	dug & drl	75	7-2	--	--	--	721	15	--	--	--	--	Sand & gravel at 30; sand at 45	--
16.1a	Lyle F. Weidner	--	drl	76	--	--	--	--	721	--	--	--	--	--	--	Nutt
16.1d	Rosalie Shubert	1899	dug	32	48	--	--	--	721	18	--	--	--	--	Sand & gravel at 32	--
16.1e	Rosalie Shubert	1941	drl	190	--	--	--	--	721	--	--	--	--	--	*Limestone, 185-190	Woollen
16.7b	Faith S. McKeown	1954	drl	77	4	3	4	.025	729	21	--	8	--	1	Sand & gravel, 72-77	Woollen
20.3a1	W. B. Trenchard**	--	dug	28	42	--	--	--	720	15	--	--	--	--	--	--
20.3a2	W. B. Trenchard**	--	dug	35	--	--	--	--	720	20	--	--	--	--	--	--
20.3a3	W. B. Trenchard	1955	drl	82	4	4	--	--	721	25	--	--	--	--	--	--
21	--	--	drl	82	--	--	--	--	--	--	--	--	--	--	--	Nutt
21.1h	Marguerite Brubaker, et al.	--	drl	100	4	--	--	--	721	30	--	--	--	--	Sand & gravel at 100	--
21.6h	W. F. King	1920	drl	105	4	--	--	--	721	20	--	--	--	--	Sand & gravel at 105	--
21.7h	W. F. King	1944	drl	94	4	3	4	.025	722	20	36	5	.1	2	Sand, 91-94	Woollen
22.1g1	Lyle S. Niklaus	--	dug	35	48	--	--	--	722	16	--	--	--	--	Sand at 35	--
22.1g2	Lyle S. Niklaus	1913	drl	189	4	--	--	--	722	50	--	--	--	--	Sand & gravel at 125 & at 189	Nutt
22.6a	H. L. Swartz	--	drl	90	3	--	--	--	717	48	--	--	--	--	--	--
23.1h1	Will Hoel**	--	dug & drl	110	7-4	--	--	--	726	45	--	--	--	--	Sand & gravel at 110	--
23.1h2	Will Hoel	--	--	50	--	--	--	--	726	--	--	--	--	--	--	--
23.1h3	Will Hoel	1962	drl	72	4	3	4	.016	726	26.9	--	--	--	--	Sand, 68-72.5	Mashburn
23.4h	Mary Doyle Estate	--	dug	36	48	--	--	--	725	14	--	--	--	--	Sand at 36	--
23.6a1	S. T. & R. K. Crosby**	--	dug & drl	85	42-2	--	--	--	720	40	--	--	--	--	Sand & gravel at 85	--
23.6a2	S. T. & R. K. Crosby	1953	drl	175	--	--	--	--	720	71	--	--	--	--	Dirty sand, 48-50; sand & gravel, 50-53, & at 175	Woollen
23.6h	B. F. Hunter Estate	--	drl	179	4	--	--	--	724	50	--	--	--	--	Sand & gravel at 179	--
23.7a	Louis Foltz	1952	drl	172	4	--	--	--	720	64.4	--	--	--	--	--	Woollen
23.7g	Lyle S. Niklaus	--	drl	75	--	--	--	--	722	--	--	--	--	--	--	Nutt
23.8f	Lyle S. Niklaus	1954	drl	189	4	--	--	--	722	50	--	--	--	--	--	Mashburn
24.1b	Bertel M. Stoddard	--	dug	50	48	--	--	--	715	30	--	--	--	--	Sand & gravel at 50	--
24.1d	Bertel M. Stoddard	--	dug	45	48	--	--	--	721	35	--	--	--	--	--	--
24.8g1	H. E. Moore	1952	drl	138	4	--	--	--	726	20	--	--	--	--	--	Swanson
24.8g2	H. E. Moore	1964	drl	134	4	8	--	.014-.016	726	48	--	16	--	--	Sand, 82-89; dirty sand, 109-121; sand & gravel, 121-134	Swanson
25	The Eakins	--	drl	86	--	--	--	--	--	--	--	--	--	--	--	Nutt
25.1b1	R. C. Swartz	1904	dug & drl	160	7-4	--	--	--	713	--	--	--	--	--	--	--
25.1b2	R. C. Swartz	1943	drl	95	--	--	--	--	713	--	--	--	--	--	Silty sand, 65-70	Woollen
25.1b3	R. C. Swartz	1943	drl	148	--	--	--	--	713	--	--	--	--	--	*Sand & gravel, 49-55	Woollen
25.8c1	Herbert England, Jr.	--	drl	130	2.5	--	--	--	712	60	--	--	--	--	--	--
25.8c2	Herbert England, Jr.	1956	drl	164	4	--	--	--	712	50	--	--	--	--	Dirty sand, 157-162; sand & gravel, 162-164.5	Woollen
26.3e	Victor Hogan	--	drl	--	4	--	--	--	721	--	--	--	--	--	--	--
26.7h	C. R. Roos	--	dug & bor	75	--	--	--	--	720	35	--	--	--	--	--	--
27.4d	C. R. Green	1940	drl	128	4	--	--	--	710	--	--	--	--	--	--	--
27.8h1	Earl C. Vittum	--	dug	35	48	--	--	--	720	20	--	--	--	--	--	--
27.8h2	Earl C. Vittum	--	drl	100+	2	--	--	--	720	40	--	--	--	--	--	--
27.8h3	Earl C. Vittum	1949	drl	100	4	--	--	--	721	--	--	--	--	--	--	Woollen
28.2h1	Carl McGrew	--	dug	40	--	--	--	--	718	10	--	--	--	--	--	--
28.2h2	Carl McGrew	--	dug & drl	70	48-4	--	--	--	718	18	--	--	--	--	--	--

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T20N, R5E (Continued)																
28.4b1	H. L. Thompson	1955	drl	184	4	--	--	--	711	--	--	--	--	--	″	Woollen
28.4b2	H. L. Thompson	1955	drl	90	6	--	--	--	711	--	--	--	--	--	″	Woollen
28.4b3	H. L. Thompson	1955	drl	76	6	--	--	--	711	--	--	--	--	--	Dirty sand & gravel, 73-76	Woollen
28.4g	Mervil Rhoads**	--	dug & bor	50	42-6	--	--	--	715	--	--	--	--	--	--	--
28.5d	Country Acres Farm	--	drl	--	4	--	--	--	711	--	--	--	--	--	--	--
28.5g1	Marjorie Huisinga	--	dug	25	42	--	--	--	715	--	--	--	--	--	--	--
28.5g2	Marjorie Huisinga	--	dug	40	42	--	--	--	715	20	--	--	--	--	Sand & gravel at 40	--
28.5g3	Marjorie Huisinga	1953	drl	90-100	4	--	--	--	718	--	--	--	--	--	--	Woollen
29.3a	Halsey Thompson	1944	drl	69	4	3	4	.025	710	23	4	5	1.3	3	Dirty sand & gravel, 63-69	Woollen
29.3g	Ethel D. McConkey*A	--	dug	30	42	--	--	--	718	20±	--	--	--	--	Dirty sand & gravel at 30	--
29.4g	Ethel D. McConkey*A	--	drl	70	2	--	--	--	718	40	--	--	--	--	--	--
29.8a1	Martha Yowell	--	drl	75	2	--	--	--	712	35	--	--	--	--	--	--
29.8a2	Martha Yowell	1945	drl	127	4	--	--	--	711	--	--	--	--	--	--	Woollen
30.1a1	C. R. Roos	--	--	20	--	--	--	--	712	--	--	--	--	--	--	--
30.1a2	C. R. Roos	--	dug	16.5	42	--	--	--	712	8.5	--	--	--	--	--	--
31.3h	E. Bott	--	dug	35.5	48	--	--	--	710	9.1-11.9	--	--	--	--	--	--
31.4a1	C. R. Roos	--	dug & drl	48	--	--	--	--	708	--	--	--	--	--	--	--
31.4a2	C. R. Roos	--	dug & drl	90	42-2	--	--	--	708	--	--	--	--	--	--	--
32.8a	Chuck Poynar	--	drl	70	4	--	--	--	703	20	--	--	--	--	--	--
32.8b1	W. B. & Helen Trenchard	--	dug	24	--	--	--	--	710	20	--	--	--	--	--	--
32.8b2	W. B. & Helen Trenchard	1914	dug & drl	95	42-2	--	--	--	710	--	--	--	--	--	Sand & gravel at 95	Gilmore
32.8b3	W. B. & Helen Trenchard	1944	drl	63	3	4	3	--	710	--	--	--	--	--	Sand, 35-43, 62-70; dirty sand, 70-179	Jones
33.3b	L. K. Borton	--	drl	80	--	--	--	--	710	--	--	--	--	--	--	--
34	N. D. Scotts	~1915	dug & bor	50	--	--	--	--	--	--	--	--	--	--	--	--
34.1b	C. T. Holforty	1905±	drl	80	4	--	--	--	705	50	--	--	--	--	--	--
34.1f	Hattie McConnell	1889	dug & drl	70	42-4	--	--	--	710	45	--	--	--	--	Sand & gravel at 70	--
34.8a1	Martha Yowell, et al.	--	dug	30	42	--	--	--	710	--	--	--	--	--	Sand at 30	--
34.8a2	Martha Yowell, et al.	1909	drl	100	4	3	--	--	710	75	--	--	--	--	Sand & gravel at 100	--
34.8a3	Martha Yowell, et al.	--	drl	78	--	--	--	--	710	--	--	--	--	--	--	--
34.8f1	Martha Yowell	1918	drl	85	4	--	--	--	708	35	--	--	--	--	Sand & gravel at 85	West
34.8f2	Martha Yowell	1909	dug & drl	50	48-4	--	--	--	708	--	--	--	--	--	Sand at 20	--
35.2g	Luella Gillespie	1910	drl	110	--	--	--	--	715	--	--	--	--	--	--	--
35.3h	Luella Gillespie	--	drl	120	3	--	--	--	712	55	--	--	--	--	--	--
35.4a	Arthur H. Moberly	1922	drl	165	4	--	--	--	711	50	--	--	--	--	--	--
35.8c1	Holforty Bros.**	--	drl	130	2.5	--	--	--	712	60	--	--	--	--	--	--
35.8c2	Holforty Bros.	1956	drl	98	4	4	4	.014	712	32	1	12	12.0	2	Sand, 70-75; sand & gravel, 75-98	Swartz & Biggs
36.8d	C. H. Moore Estate	--	drl	126	4	--	--	--	716	75	--	--	--	--	Sand & gravel at 126	--
36.8h	C. H. Moore Estate	--	drl	56	--	--	--	--	719	--	--	--	--	--	--	--
T20N, R6E																
1.6c1	L. E. Nickell**	--	drl	49	2	--	--	--	750	34	--	--	--	--	Sand at 49	--
1.6c2	L. E. Nickell	1944	drl	45	4	3	4	--	750	28	--	5	--	2	Sand & gravel, 28-34, 39-45	Woollen
1.6c3	Leslie Bateman	1953	drl	92	2.5	--	--	--	750	--	--	--	--	--	--	Valentine
1.7d	E. O. Rogers	--	drl	60	2	--	--	--	740	40±	--	--	--	--	Sand at 60	--
2.8a	L. G. & M. K. Burnam	1949	drl	219	4	--	--	.014	722	57	7	17	2.4	3	Sand & gravel, 57-61, 71-80; sand, 209-219	Swanson
2.8b	L. G. & M. K. Burnam	--	dug	50	48	--	--	--	720	15	--	--	--	--	--	--
3.3a	Bessie Myers, et al.	1910	drl	221	5	--	--	--	722	50	--	--	--	--	--	Schuler
4.1a	W. R. Grace Co.	1966	drl	178	4	4	4	.014	732	69	--	50	--	6	Dirty sand, 114-150; sand, 150-170; sand & gravel, 170-178	Hayes
4.1b	Geoffrey Beazly	--	drl	80	2	--	--	--	731	25	--	--	--	--	Sand & gravel at 80	--
4.7d	D. D. Beazly	1969	drl	206	6	8	5.75	.010	730	66	10	20	2.0	5	Sand, 71-74, 154-157, 185-206	Swanson
4.7e	D. D. Beazly	1914	drl	82	3	--	--	--	730	25	--	--	--	--	Sand & gravel at 82	Clauden
5.1b	James Beazly	1952	drl	250	4	--	--	--	731	140	--	--	--	--	Sand at 250	Woollen
5.1c	James Beazly*A	--	drl	131	2	--	--	--	728	20	--	--	--	--	Sand & gravel at 131	--
7.1g	P. W. Beazly	1897	drl	80	2	--	--	--	731	25	--	--	--	--	--	--
7.5e	Pauline W. Vaughan	--	dug	24	42	--	--	--	725	10	--	--	--	--	Sand & gravel at 24	--
7.6e	Pauline W. Vaughan	1900	drl	95	2	--	--	--	725	40	--	--	--	--	Sand & gravel at 95	--
8.1b	Charles Mosgrove	--	drl	130	4	--	--	--	730	45	--	--	--	--	Sand & gravel at 130	--
8.3e	George Howe	--	drl	98	2	--	--	--	730	35	--	--	--	--	Sand & gravel at 98	--
8.4e1	George Howe*A	--	bor	18	8	--	--	--	730	8	--	--	--	--	Sand at 18	--
8.4e2	George Howe*A	1947	drl	76	4	3	4	.040	730	26	--	6	--	1	Sand, 68-70; sand & gravel, 75.5-76	Woollen
8.4e3	George Howe	1951	drl	89	4	--	--	--	728	40	--	--	--	--	--	Swanson
9.1d	Chauncey E. Bates	--	drl	89	2	--	--	--	727	20	--	--	--	--	Sand & gravel at 89	--
9.1f	Elmer Roch	1914	drl	100	2	--	--	--	730	30	--	--	--	--	Sand & gravel at 100	Betz
9.1g	Louis Warren	--	drl	82	2	--	--	--	731	20	--	--	--	--	Sand at 82	--
9.8f	George Howe	1946	drl	88	4	3	4	.040	730	34	30	3.5	.1	16	Sand & gravel, 34-41; sand, 80-83, 86.5-88	Woollen
10	John F. McEwen	~1903	dug	20	--	--	--	--	730	--	--	--	--	--	Sand at 20	--
10	Adam K. Sizer	~1927	dug & bor	48+	--	--	--	--	730	--	--	--	--	--	--	--
10	John F. McEwen	~1928	drl	85	--	--	--	--	730	--	--	--	--	--	Sand at 85	--
10	E. I. Claudin	1959	drl	206	4	5	3.75	.010	730	67	15	30	2.0	1	Dirty sand & gravel, 67-75; dirty sand, 81-84; sand, 197-206	Sims
10.1e	Charles Blagg	1921	drl	75	4	--	--	--	730	50	--	--	--	--	--	Nutt
10.1f1	Mansfield High School	1904	dug & drl	82	42-2	--	--	--	730	25	--	--	--	--	Sand & gravel at 82	Schuler
10.1f2	Jack Swartz	1924	drl	80	4	4	4	--	730	--	--	--	--	--	Sand & gravel at 80	Schuler
10.1g	William Thomas	1930	drl	74	4	4	--	--	730	--	--	--	--	--	Sand & gravel at 74	Nutt
10.2f	Warren Wells	1909	dug	30	48	--	--	--	730	5-26	--	--	--	--	Sand at 30	--

Appendix A (Continued)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Non-pumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T20N, R6E (Continued)																
10.2g	Mansfield (V)**	--	dug	20	48	--	--	--	730	4-15	--	--	--	--	Sand & gravel at 20	--
10.2h1	Jackson Estate	--	drl	75	2	--	--	--	730	25	--	--	--	--	Sand & gravel at 75	--
10.2h2	Mansfield (V)**	+1894	drl	65	--	--	--	--	730	--	--	--	--	--	--	Baker
10.2h3	Standard Oil Station	+1909	dug	35	48	--	--	--	730	20	--	--	--	--	Dirty sand & gravel at 35	--
10.2h4	L. H. Weslar	1909	dug & drl	70	48-2	--	--	--	730	--	--	--	--	--	Sand & gravel at 70	Schuler
10.2h5	H. Pilcher	1914	drl	78	2	--	--	--	730	35	--	--	--	--	Sand & gravel at 78	Hutt
10.2h6	Dr. Hulick	1928	drl	75	4	3	--	--	730	35	--	--	--	--	Sand & gravel at 75	Hutt
10.3f1	Mr. Tresler	--	dug	28	48	--	--	--	729	4-24	--	--	--	--	Sand at 28	--
10.3f2	W. H. Schuler	1931	drl	81	5	--	--	--	729	28	--	--	--	--	Sand & gravel at 81	Schuler
10.3h	Mrs. W. Warren	1884	drl	75	2	3	2	--	730	30	--	--	--	--	Sand & gravel at 75	--
10.4e	Jerome Swartz	1923	drl	96	4	4	4	--	730	50	--	--	--	--	Sand & gravel at 96	Schuler
10.4f	J. W. Hendricks	1884	dug	18	42	--	--	--	730	12	--	--	--	--	Sand & gravel at 18	--
10.4g1	Mansfield (V)**	+1894	dug	30-35	--	--	--	--	730	--	--	--	--	--	--	--
10.4g2	Jess Narkwell	1889	dug	16	42	--	--	--	730	4-12	--	--	--	--	Sand at 16	--
10.4g3	Mrs. Carbury	1928	dug	38	--	--	--	--	730	23	--	--	--	--	Sand at 38	Clauden
10.4g4(1)	Mansfield (V)**	1938	drl	215	6	4	--	.040	730	50	50	195	3.9	--	Dirty sand, 85-88, 150-161; sand, 200-210; sand & gravel, 210-214; sandstone, 214.5-215	Woollen
10.4h	Edwin Metzler	1904	dug	20	48	--	--	--	730	3-16	--	--	--	--	Dirty sand at 20	--
10.5g1(3)	Mansfield (V)	1913	drl	194.5	10	--	10	.020	730	72	--	--	--	--	Sand & gravel, 200-215	--
10.5g2	Wabash RR	1916	drl	225	8	--	--	--	730	--	--	--	--	--	--	--
10.5g3(2)	Mansfield (V)	1953	drl-GP	210	16-8	10	8	.130	730	59	18.7	175	9.4	5	Sand & gravel, 203-210	Layne-Western
										82.5	5	160	22.0	1		
10.5h1	Federal Grain Co.	1899	dug	12	48	--	--	--	730	3-10	--	--	--	--	Sand at 12	--
10.5h2	Wabash Passenger Depot	1912	drl	213	4	5	--	--	730	50	--	--	--	--	Sand & gravel at 213	Schuler
10.6g	Swartz Bros. Tile & Brick Works	1914	drl	70	4	--	--	--	730	30	--	--	--	--	Sand & gravel at 70	Schuler
10.7d1	Willard Wolfe	1952	drl	200	4	--	--	--	732	--	--	--	--	--	--	Swanson
10.7d2	Willard Wolfe	1954	drl	72	--	4	--	.025	732	45	10	6	.6	--	Sand & gravel, 68-72	Woollen
11.3h	Troy Blacker	1955	drl	229	4	6	3.75	.008	731	82	6	15	2.5	4.5	Sand & gravel, 124-128; sand, 220-229	Swanson
11.4c	Carl Lawrence, et ux.	--	dug & bor	20	7-12	--	--	--	720	17	--	--	--	--	--	--
11.5d	A. G. Roth	--	dug & bor	125	48-7	--	--	--	720	30	--	--	--	--	--	--
11.8f	Robert Roots	1967	drl	154	4	4	4	.012	725	68	16	10	.6	1	Sand, 72-90; sand & gravel, 100-110; sand, 147-154	Sims
12.1e1	R. E. Canney, et al.	1916	drl	80	--	--	--	--	745	35	--	--	--	--	Sand at 80	Smith
12.1e2	R. E. Canney, et al.	1948	drl	97	4	4.9	--	.014	745	37	--	--	--	--	Sand, 91-97	Swartz
12.3h	Fred Jackson	1894	drl	75	2	--	--	--	770	25	--	--	--	--	Sand at 75	--
13.1a1	C. & A. Dickson	--	dug	12	42	--	--	--	710	6	--	--	--	--	--	--
13.1a2	C. & A. Dickson	--	drl	57	3	--	--	--	710	20	--	--	--	--	Sand at 57	--
13.1a3	C. & A. Dickson	--	drl	206	2	--	--	--	709	55	--	--	--	--	--	--
13.1d	Mrs. Albert Prahl	--	drl	97	4	--	--	.012	724	28	35	15	.4	--	Sand, 53-58; sand & gravel, 65-93; sand, 93-97	Swanson
13.1f	Harold Bartlett	1935	drl	68	4	--	--	--	726	23	--	--	--	--	--	Hutt
13.4e	Chester Wright	--	dug	20	42	--	--	--	725	18	--	--	--	--	--	--
13.6d	Walter Wright	1942	drl	62	4	--	--	--	725	--	--	--	--	--	--	Hayes
13.7d	Walter Wright	1909	drl	90	2	--	--	--	724	30	--	--	--	--	--	--
14.1e1	Mrs. Paul Normholm**	--	drl	95	2	--	--	--	730	40	--	--	--	--	--	--
14.1e2	Mrs. Paul Normholm	1965	drl	64	4	--	--	--	729	--	--	--	--	--	--	Tipsord
14.5e1	R. & S. Fillenworth	--	bor	45	12	--	--	--	725	15	--	--	--	--	Sand at 45	--
14.5e2	R. & S. Fillenworth	1946	drl	68	4	3	4	.025	725	29	3	6	2.0	1	Sand & gravel, 65-68	Woollen
14.7d	R. A. House	1939	drl	90	4	--	--	--	725	45	--	--	--	--	--	--
14.7f	Loren Sosamon	1968	drl	241	4	8	4	.014	710	84	4	10	2.5	2.5	Sand, 125-128, 224-241	Sims
15.3d	Lew Bergland	--	drl	80	2	--	--	--	720	40	--	--	--	--	--	--
15.6e	John M. Bergland	--	drl	70	2	--	--	--	731	30	--	--	--	--	Sand & gravel at 70	--
16.1b	Harold Farthing	1925	drl	85	4	--	--	--	730	20	--	--	--	--	Sand & gravel at 85	McNutt
16.1d	Harold Farthing	--	drl	80	2	--	--	--	729	15	--	--	--	--	Sand & gravel at 80	--
16.1h1	Claradine Warren	--	dug	20	42	--	--	--	730	10	--	--	--	--	Sand & gravel at 20	--
16.1h2	Claradine Warren	1913	drl	87.5	4	--	--	--	730	60	--	--	--	--	Sand & gravel at 87.5	Schuler
16.5d	Z. Belcher	1961	drl	85	2	3.5	1.25	.014	730	33.8	--	16	--	1.5	Dirty sand, 51-55; sand & gravel, 72-90	Sims
16.6e	Claradine Warren	--	drl	--	4	--	--	--	727	--	--	--	--	--	--	--
16.6h	Claradine Warren	1959	drl	97	4	5	3.75	.018	730	37.5	10	9	.9	1	Sand, 93-97	Sims
17.3b	Warren Harper	1967	drl	229.5	4	4	4	.018	720	59.3	--	100	--	5	Sand, 86.5-90, 170-215; sand & gravel, 215-235	Vaughn
17.4d1	Clara Thomas Est.	--	drl	90	4	--	--	--	724	--	--	--	--	--	--	--
17.4d2	Clara Thomas Est.	1952	drl	143	--	--	--	--	724	53	--	--	--	--	--	Woollen
17.8b	Dorothy James	1948	drl	200	4	4.9	--	.006	724	50	--	11	--	--	Sand, 178-200	Swartz
17.8d	Dorothy James	1959	drl	80	4	--	--	--	726	--	--	--	--	--	--	Hayes
18.1a	J. Wilbur James	1959	drl	76.5	2	3	1.75	.006	723	29	--	4	--	1	Dirty sand, 50-73; sand, 73-76.5	Sims
18.1b1	J. Wilbur James	1956	drl	190	2	--	--	--	724	--	--	--	--	--	Sand & gravel, 28.5-32.5; dirty sand, 184.5-200.2	Hayes
18.1b2	J. Wilbur James	1964	drl	194	4	3	4	.010	724	--	--	14	--	--	Sand, 183-194	Washburn
18.6a	C. Leslie James	1961	drl	64.3	4	4.3	--	.025	724	14.3	--	45	--	--	Sand & gravel, 45-66	Hayes
18.7b1	R. V. Zeiders	--	dug & bor	60	42-12	--	--	--	721	20	--	--	--	--	Sand & gravel at 25; sand at 60	--
18.7b2	R. V. Zeiders	1894	dug	40	48	--	--	--	721	25	--	--	--	--	--	--
18.7b3	R. V. Zeiders	1930	drl	50	4	--	--	--	724	--	--	--	--	--	--	McNutt
18.7b4	R. V. Zeiders	1942	drl	57.5	4	--	--	--	724	--	--	--	--	--	--	Woollen
18.7c	Verne Zeiders	1942	drl	234	--	--	--	--	723	--	--	--	--	--	*	Woollen
18.7e1	C. Leslie James	+1905	dug, bor & drl	90	--	--	--	--	730	18-25	--	--	--	--	Dirty sand at 90	--
18.7e2	C. Leslie James**	1899	drl	100	4	--	--	--	730	35	--	--	--	--	--	--
18.7e3	C. Leslie James	1910	drl	100	4	--	--	--	730	30	--	--	--	--	Sand & gravel at 100	Nutt
18.7e4	C. Leslie James	1961	drl	229	--	--	--	--	730	--	--	--	--	--	*Dirty sand & gravel, 188-190	Hayes
18.7e5	C. Leslie James	1961	drl	239	--	--	--	--	730	--	--	--	--	--	*Dirty sand, 80.5-90, 181-190	Hayes
19.7d1	B. H. Stoddard	--	dug	35	48	--	--	--	721	23	--	--	--	--	--	--
19.7d2	B. H. Stoddard	--	drl	100	4	--	--	--	721	40+	--	--	--	--	Sand & gravel at 100	--

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (ft)	Well: Diameter (in)	Screen: Length (ft)	Screen: Diameter (in)	Screen: Slot size (in)	Land surface elevation (ft above msl)	Nonpumping water level (ft)	Drawdown (ft)	Pumping rate (gpm)	Observed specific capacity (gpm/ft)	Length of test (hr)	Water-bearing formation and depth (ft)	Driller
T20N, R6E (Continued)																
19.7a1	Robert Bragg**	--	drl	85	2	--	--	--	721	30	--	--	--	--	Sand at 85	--
19.7a2	Robert Bragg	1943	drl	60	4	--	--	--	721	30	--	--	--	--	--	Woollen
20.1g	Clara Thomas	--	dug	48	42	--	--	--	725	16	--	--	--	--	Sand & gravel at 48	--
20.3a	John H. Bates	--	drl	80	4	--	--	--	721	--	--	--	--	--	--	--
20.8a	Melvin Raber	--	drl	110	2	--	--	--	719	40	--	--	--	--	Sand & gravel at 110	--
21.1b	Irene Van Syckle	1910	drl	81	4	--	--	--	700	14	--	--	--	--	--	Schuler
21.8a	Margaret Grady & Pauline Quaid	--	dug & drl	45	42-2	--	--	--	722	25	--	--	--	--	Sand & gravel at 45	--
22.1f	Fred K. Warner	1930	drl	70	4	--	--	--	720	20	--	--	--	--	--	McNutt
22.3a	Fred Mousel	--	drl	100	3	--	--	--	721	50	--	--	--	--	Sand & gravel at 100	--
22.5b	Larry Primmer	1967	drl	126	4	4	3.75	.012	720	65	8	8	1.0	2	Sand, 121-126	Sims
22.8d	Myers & Robert Plunk, Jr.	1964	drl	255	4	--	--	--	711	75	--	50	--	--	Dirty sand & gravel, 77-85; sand, 190-210; sand & gravel, 210-255	Hayes
22.8e	Myers & Robert Plunk**	1959	drl	76.5	2	3.5	1.25	.006	710	29	--	4	--	1	Dirty sand, 34-60, 70-73.5; sand, 73.5-76.5	Sims
23.7d1	L. H. Wessler	1890	drl	65	2	--	--	--	715	30	--	--	--	--	--	--
23.7d2	L. H. Wessler	1955	drl	72	4	--	--	--	718	30	--	--	--	--	--	Tipsord
23.7e	Eva Tatman	1884	dug	16	36	--	--	--	718	13	--	--	--	--	--	--
23.8a1	R. A. House	--	dug	30	48	--	--	--	712	18	--	--	--	--	Sand at 30	--
23.8a2	R. A. House	--	drl	60	2	--	--	--	712	25	--	--	--	--	--	--
23.8a3	R. A. House	1943	drl	63	--	--	--	--	713	--	--	--	--	--	Silty sand, 45-50; sand & gravel, 60-63	Woollen
23.8f1	Kip Tatman	--	dug	20	42	--	--	--	720	10	--	--	--	--	Sand & gravel at 20	--
23.8f2	Kip Tatman	--	drl	75	4	--	--	--	720	30	--	--	--	--	--	--
23.8f3	Kip Tatman	1945±	drl	135	4	--	--	--	721	--	--	--	--	--	--	Mashburn
24.2a	Clarence Wright	--	drl	108	4	--	--	--	700	40	--	--	--	--	Sand at 108	--
24.3a	Clarence Wright	--	drl	78	2	--	--	--	701	--	--	--	--	--	--	--
24.8f	Willard Wright	1942	drl	95	4	--	--	--	715	70	--	--	--	--	Sand, 180-230	Hayes & Sims
25.1h1	Robert Taylor	1944	drl	38	4	--	--	--	700	16	--	--	--	--	--	--
25.1h2	Robert Taylor	1944	drl	57	4	3	4	.025	700	20	2	6	3.0	2	Sand & gravel, 54-57	Woollen
25.3a	Chester Wright	1966	drl	225	4	4	--	.018	700	64.4	--	90	--	--	Sand, 170-225	Hayes
25.4b	W. Tatman	--	drl	130	2	--	--	--	692	60	--	--	--	--	--	--
25.5a1	Lloyd Wilson	1918	bor	52	12	--	--	--	700	24	--	--	--	--	--	West
25.5a2	Lloyd Wilson	1945	drl	212	--	--	--	--	700	--	--	--	--	--	Sand at 212	Hayes & Sims
25.5a3	Lloyd Wilson	1953	drl	60	--	3	--	.025	700	37	--	6	--	--	Sand, 54-56; sand & gravel, 58-60	Woollen
25.6f	Hanford McKee	1960	drl	216	4	4	--	.020	695	50	--	--	--	--	Sand, 176-216	Woollen
26.4a1	Nancy Wilson, et al.	1909	dug	36	42	--	--	--	699	6	--	--	--	--	Sand at 36	--
26.4a2	Nancy Wilson, et al.	1916	bor	55	16	--	--	--	699	20	--	--	--	--	Sand & gravel at 55	West
26.8a	John W. Hannah	1896	dug & drl	60	7-2	--	--	--	700	25	--	--	--	--	Sand & gravel at 60	Groomes
27.3a	Lawrence Sanders	--	drl	150	2	--	--	--	711	65	--	--	--	--	Sand & gravel at 150	--
27.3h	Mary Mitchell	--	drl	90	2	--	--	--	710	70	--	--	--	--	Sand at 90	--
27.8h	W. E. Farthing	1953	drl	81	--	3	--	.025	701	38	10	5	.5	--	Sand & gravel, 78-81	Woollen
28.1a	Frank Calmer	1932	drl	63	4	3	--	--	704	20	20	5	.3	6	--	Woollen
28.1d	M. Mitchell Estate**	1951	drl	151-161	--	--	--	--	690	--	--	--	--	--	--	--
28.1g	Mrs. Robert Plunk Estate	1917	drl	105	4	--	--	--	701	40	--	--	--	--	Sand at 105	Schuler
29.3a	Amelia S. Hall**	1919	drl	190	4	--	--	--	718	85	--	--	--	--	--	--
29.4a	Amelia S. Hall	1961	drl	210	4	4	--	.018	725	72	10	10	1.0	--	Sand & gravel, 206-210	Swartz
29.7a	George Dalton	1968	drl	100	4	8	4	.012	720	33	3	12	4.0	1.5	Sand, 64-100	Sims
29.8a	Mary Shonkwiler	--	drl	110	3	--	--	--	718	45±	--	--	--	--	--	--
30.1c	Chester Hayes	1960	drl	86	4	--	--	--	720	--	--	--	--	--	--	Woollen
30.1f	Noble Kernes	--	drl	213	4	--	--	--	718	--	--	--	--	--	--	Tipsord
30.7a	W. J. Randall	1953	drl	204	4	6	3.75	.016	710	60	27	12	.4	4.5	Sand, 191-204	Swanson
30.7b1	W. J. Randall	1898	drl	103	--	--	--	--	713	30	--	--	--	--	--	--
30.7b2	W. J. Randall	1901	drl	100	3	--	--	--	713	60	--	--	--	--	--	--
30.7f	Grover Watson Est.**	--	drl	90	--	--	--	--	719	--	--	--	--	--	--	--
30.7g	Grover Watson Est.	--	drl	180	4	--	--	--	720	90	--	--	--	--	--	--
31.1d	William Ruch	--	drl	127	2	--	--	--	715	40±	--	--	--	--	--	--
31.1h	Donald H. Hayes	--	dug & drl	112	42-3	--	--	--	716	30	--	--	--	--	--	--
31.6h	Loraine Swartz	1900±	drl	84	4	--	--	--	713	--	--	--	--	--	--	--
31.7h	Loraine Swartz	1890	dug	35.3	36	--	--	--	713	8.6	--	--	--	--	--	--
32.3c	B. B. Harris Estate	1914	drl	175	4	--	--	--	709	40	--	--	--	--	--	Schuler
32.5h	Leon Ash	--	drl	185	--	--	--	--	715	--	--	--	--	--	--	Swanson
32.6h	B. B. Harris Estate	1914	drl	218	4	--	--	--	714	45	--	--	--	--	--	Schuler
32.7h	W. E. Copenhaver	1964	drl	216.5	4	4.3	4	.018	716	76	--	50	--	5	Dirty sand, 157-180; sand & gravel, 180-184.1, 200-216.5	Hayes
32.8g	F. S. Royster Co.	1968	drl	220	4	12	4	.010-.012	720	78	8	30	3.8	2	Sand, 171-188, 206-220	Sims
32.8h	W. E. Copenhaver**	1945	drl	181	4	3	4	.025	718	74	--	5	--	1	Dirty sand & gravel, 99-104; sand & gravel, 110-112; sand, 157-181	Woollen
33.1h	Maude Driver	1914	drl	125	2	--	--	--	701	50	--	--	--	--	Sand & gravel at 125	--
33.8h	B. B. Harris Estate	1914	drl	75	4	--	--	--	710	35	--	--	--	--	--	Schuler
34.1f	Elsie Tatman	1894	drl	64	--	--	--	--	700	30	--	--	--	--	--	Mackey
34.2c	Bertha Hannah	1918	dug	16	42	--	--	--	699	9	--	--	--	--	--	--
34.3h	Clyde Dunbar	+1930	drl	90	--	--	--	--	720	45	--	--	--	--	--	--
34.4h	Clyde Dunbar	--	drl	67	--	--	--	--	720	--	--	--	--	--	--	--
34.8h1	Keith E. Clapper	--	bor	130	18	--	--	--	704	60±	--	--	--	--	Sand & gravel at 130	--
34.8h2	Keith E. Clapper	1948	drl	112.5	4	4.9	--	.014	704	72	--	--	--	--	--	Swartz
35.2a1	John Wajtko	1952	drl	207	--	--	--	--	650	--	--	--	--	--	--	Carper
35.2a2	John Wajtko	1963	drl	64.5	4	4	4	.018	650	33	--	18	--	8	Dirty sand & gravel, 58-64.5	Hayes
35.3b	James H. Smith	1962	drl	64	4	--	--	--	693	--	--	--	--	--	--	Hayes
35.3h	Nancy Wilson, et al.	1894	dug	40	48	--	--	--	700	25	--	--	--	--	--	--
35.4d	Frank Jones	--	drl	55	--	--	--	--	700	--	--	--	--	--	--	--
35.5b	Treva Peck, et al.	1940	drl	56	4	--	3.75	.025	700	18	1	6	6.0	--	Sand & gravel, 50-56	Woollen
35.6h	Frank Wilson	1894	dug	12	48	--	--	--	700	6	--	--	--	--	Sand & gravel at 12	--
35.7h	Bessie Hannah	1907	dug	14	60	--	--	--	699	10	--	--	--	--	--	Dunbar
36.4f	Wayne L. Wright	+1917	drl	185	3	--	--	--	701	--	--	--	--	--	--	--
36.5e1	Charles Wright	1906	dug & drl	48	40-3	--	--	--	695	13	--	--	--	--	Sand & gravel, 40-48	Wilkey
36.5e2	Charles Wright	1914	dug	40	48	--	--	--	700	22	--	--	--	--	Sand & gravel at 40	--

Appendix A (Continued)

		Well				Screen										
Well number	Owner	Year constructed	Type	Depth (*ft*)	Diameter (*in*)	Length (*ft*)	Diameter (*in*)	Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T21N, R5E																
24.2a	Callie V. Warren	1904+	drl	85	4	--	--	--	722	30	--	--	--	--	Sand & gravel at 85	--
24.3h1	J. Hollowell Estate**	--	dug	42	42	--	--	--	720	15	--	--	--	--	Sand & gravel at 42	--
24.3h2	J. Hollowell Estate	1953	drl	155	4	--	--	--	720	--	--	--	--	--	--	Tipsord
24.8c1	A. A. Smith	1945	drl	60.5	4	3	--	.030	722	20	13	5	.4	2	Sand & gravel, 59-60	Woollen
24.8c2	A. A. Smith	1967	drl	42	4	8	3.75	.014-.020	721	9	7	25	3.6	5	Sand, 34-42	Swanson
25.1f	Francis Hawthorne	1965	drl	160	4	8	3.75	.012	721	--	--	30	--	--	Sand, 58-62, 128-131; sand & gravel, 143-160	Swanson
25.1g	Nell Knapp	--	dug	38	42	--	--	--	710	20	--	--	--	--	Sand & gravel at 38	--
25.8g	J. L. Grimes	1904	drl	65	4	3	--	--	721	25	--	--	--	--	Sand & gravel, 62-65	Kendall
26.1h1	J. L. Grimes**	1904	drl	60	4	3	--	--	721	20	--	--	--	--	Sand & gravel at 60	Kendall
26.1h2	J. L. Grimes	1965	drl	60	4	6.7	3.75	.016	721	11	14	18	1.3	--	Sand, 11-26; sand & gravel, 52-60	Swanson
35.2f	Julia H. Dodds	1899	drl	128	4	3	--	--	721	50	--	--	--	--	Sand & gravel at 128	--
35.6a	Julia H. Dodds	1914+	drl	130	4	--	--	--	713	45	--	--	--	--	Sand & gravel at 130	--
36.5d	C. C. Yowell, et al.	1894	dug & drl	70	48-4	--	--	--	721	30	--	--	--	--	Sand at 40; sand & gravel at 70	Brooks
36.6f1	Fred Gillespie Est.	1904+	dug	35	48	--	--	--	720	12-25	--	--	--	--	Sand & gravel at 35	--
36.6f2	Fred Gillespie Est.	1909	drl	75	4	4	--	--	720	30	--	--	--	--	Sand & gravel at 75	--
36.7g	Curtis & Golembiewski	1909+	drl	125	4	--	--	--	715	40	--	--	--	--	Sand & gravel at 125	--
T21N, R6E																
13.1e	Rose Buchan	1954	drl	179	4	6	4	.010	761	85	65	15	.2	3	Sand, 85-90, 160-179	Swanson
13.2a	Rose Buchan	--	drl	100+	4	--	--	--	760	40	--	--	--	--	Sand & gravel at 100+	--
13.8b1	Florence Rust	--	dug	75	42	--	--	--	781	70	--	--	--	--	Sand & gravel at 75	--
13.8b2	Florence Rust	1947	drl	258	4	4	4	.014	782	95	2	9	4.5	2	Sand, 202-206.5, 211-258	Woollen
14.5a	W. W. Williams Estate	--	drl	214	4	--	--	--	790	70	--	--	--	--	Sand & gravel at 214	--
14.8c1	W. W. Williams Estate**	--	dug	75	42	--	--	--	795	60	--	--	--	--	Sand at 75	--
14.8c2	W. W. Williams Estate	1952	drl	95	4	--	--	--	795	--	--	--	--	--	--	--
15.4b	Lyle Swartz	1942	drl	137	4	3	4	.060	779	80	35	4	.1	2	Dirty sand, 86-88; sand & gravel, 135-137	Woollen
15.4e	Schneman Farm Account	--	drl	244	4	--	--	--	802	112	--	--	--	--	--	--
15.5a1	Lyle Swartz	1904	drl	95	4	--	--	--	802	35	--	--	--	--	Sand & gravel at 95	--
15.5a2	Lyle Swartz	1909	drl	90	4	--	--	--	802	30	--	--	--	--	Sand & gravel at 90	--
15.5a3	Lyle Swartz	1966	drl	155	4	--	--	--	802	--	--	--	--	--	--	Swanson
16.3a	Alexander Hawthorne	--	drl	85	4	--	--	--	761	30	--	--	--	--	Sand & gravel at 85	--
16.8d	Elizabeth Zimmerman	1943	drl	83.6	4	3	4	.025	760	48	--	5	--	36	Sand & gravel, 81-83.6	Tipsord
17.1b	Roy Amdor, et al.	1954	drl	232	4	--	--	--	760	--	--	--	--	--	Sand & gravel, 92-95; limestone, 214-232	Swanson
17.1e	Alexander Hawthorne	1940	drl	59	4	3	4	.025	754	20	34	3	.1	1	Sand & gravel, 57-59	Woollen
17.6a	Etta Lohmeyer	1904	drl	127	4	--	--	--	730	32	--	--	--	--	--	--
17.6e	A. Lohmeyer Estate	--	drl	130	4	--	--	--	735	30	--	--	--	--	Sand at 130	--
17.7e	Cloyd Howe, Jr.	1950	drl	192	4	3	--	.018	732	72	58	6	.1	5	Sand & gravel, 163-165; sand, 189-192	Swanson
18.2a	L. C. Howe	1914	drl	65	4	--	--	--	720	20	--	--	--	--	Sand & gravel at 65	Nutt
18.5e1	Lee Schneman Estate	1963	drl	181	4	--	--	--	724	51	--	90	--	--	Sand, 167-181	Hayes
18.5e2	Lee Schneman Estate	1964	drl	180	4	4.3	4	.018	724	54.3	--	60	--	5	Sand, 148-150; dirty sand & gravel, 150-175; sand & gravel, 175-180	Hayes
18.6f	Lee Schneman Estate	1909	drl	140	4	--	--	--	725	22	--	--	--	--	Sand & gravel, 130-140	Nutt
18.7a	Lee Schneman Estate	1918	drl	180	4	--	--	--	725	25	--	--	--	--	Sand & gravel at 180	Nutt
19.3a	Hershal Roth	--	drl	84	4	--	--	--	716	--	--	--	--	--	--	--
19.8a	L. C. Howe	--	dug	35	42	--	--	--	724	5	--	--	--	--	Sand & gravel at 35	--
19.8f	L. C. Howe	1914	drl	80	4	--	--	--	725	35	--	--	--	--	Sand & gravel at 80	--
20.1b	C. Bateman	--	dug	13	--	--	--	--	725	5	--	--	--	--	Sand at 13	--
21.1d1	Mrs. Bert Howe	1920	drl	46	4	--	--	--	760	25	--	--	--	--	Sand & gravel at 46	Nutt
21.1d2	Mrs. Bert Howe	1955	drl	230	4	--	--	.015	769	100	--	10	--	--	Sand, 201-205, 225-230	Bolliger
21.4h	C. E. Bateman	1966	drl	90	2	--	--	--	755	--	--	--	--	--	--	Valentine
21.7g	B. C. Wohlford	1941	drl	85	--	--	--	--	740	--	--	--	--	--	Sand & gravel, 25-40	Hayes & Sims
21.8d1	B. C. & B. F. Wohlford	--	dug	40	42	--	--	--	730	20	--	--	--	--	Sand & gravel at 40	--
21.8d2	B. C. & B. F. Wohlford	--	bor	28	12	--	--	--	730	12	--	--	--	--	Sand & gravel at 28	--
21.8h	B. C. Wohlford	1951	drl	32	6	--	--	slotted pipe	741	10	--	--	--	--	--	Swanson
22.1c	Paul Miller	1907	drl	130	2	--	--	--	785	--	--	--	--	--	--	--
22.1d	Paul Miller	1970	drl	175	5	--	--	--	785	60	--	--	--	--	Sand, 100-170	Taylor
22.2g	Mary S. Van Meter	1957	drl	160	4	--	--	--	802	90	30	--	--	--	--	Woollen
22.8h	Mrs. Virgil Kammeyer	--	drl	231	4	--	--	--	785	120	--	--	--	--	Sand & gravel at 231	Schuler
23.1a	Andrew Zimmerman	--	drl	96.5	4	--	--	--	800	85	--	--	--	--	--	Schuler
23.4h	William A. Kindred	--	drl	100	--	--	--	--	784	--	--	--	--	--	--	--
23.6a	Helen Reardon	1916	drl	93	4	--	--	--	800	80	--	--	--	--	Sand & gravel at 93	Schuler
24.1c	Phoebe N. Collison	1966	drl	166	4	4	--	.018	770	97.5	--	40	--	--	Sand & gravel, 97.5-108, 112-116, 119-123; dirty sand, 142-155; sand & gravel, 155-166	Hayes
24.8a	Paul Miller	1900	drl	120	2	--	--	--	801	60	--	--	--	--	--	--
24.8h1	Thomas James Trust	--	drl	80	4	--	--	--	780	30	--	--	--	--	--	--
24.8h2	Thomas James Trust	1949	drl	260	3	--	--	.010-.012	780	102	--	10	--	3	Sand & gravel, 110-112, 170-172; sand, 172-187; sand & gravel, 220-225; dirty sand, 225-253; sand, 253-260	Swanson
25.1g	Bernice Harrington	1960	drl	257	2	4	1.25	.015	772	110	--	10	--	--	Sand & gravel, 237-257	Swartz
25.7a	Gladys Howe	--	drl	95	2	--	--	--	785	50	--	--	--	--	--	--
25.8a	Gladys Howe	1939	drl	89	--	3	--	.025	780	50	2	8	4.0	--	Sand & gravel, 85-88	Woollen
25.8d	F. R. Parrett	--	drl	279	4	4	3.75	.010	801	122	43	12	.3	--	Sand, 264-279	Swanson
25.8e	F. R. Parrett	1894	drl	140	4	--	--	--	800	50	--	--	--	--	Sand at 140	--
26.8f	D. & L. Robinson	1925	drl	400	4	--	--	--	770	40	--	--	--	--	--	Poundstone
27.1a	Alma, Irene & Lloyd Clark	--	drl	90	--	--	--	--	768	40	--	--	--	--	Sand & gravel at 90	--
27.5h	Dorsey & Paul Miller	1940	drl	94	4	3	4	.025	761	46	6	6	1.0	2	Sand & gravel, 90-94	Woollen

Appendix A (Concluded)

Well number	Owner	Well: Year constructed	Well: Type	Well: Depth (*ft*)	Well: Diameter (*in*)	Screen: Length (*ft*)	Screen: Diameter (*in*)	Screen: Slot size (*in*)	Land surface elevation (*ft above msl*)	Nonpumping water level (*ft*)	Drawdown (*ft*)	Pumping rate (*gpm*)	Observed specific capacity (*gpm/ft*)	Length of test (*hr*)	Water-bearing formation and depth (*ft*)	Driller
T21N, R6E (Continued)																
28.1a	Harold Roth	1913	drl	75	4	--	--	--	735	15	--	--	--	--	--	Schuler
28.1d	Howe & Fray	--	dug	16	48	--	--	--	744	7	--	--	--	--	Sand & gravel at 16	--
28.1h	Paul Miller	1910	drl	100	3.5	--	--	--	752	28	--	10	--	.2	Sand & gravel at 100	Golden
28.5d	W. R. Howe**	1943	drl	28.5	4	3	4	.040	730	9.5	3	6	2.0	2	Sand & gravel, 21-28.5	Woollen
28.8a	Minnie Roth	*1907	drl	90	4	--	--	--	727	10	--	--	--	--	--	--
28.8e1	W. R. Howe**	--	drl	70	2	--	--	--	725	30	--	--	--	--	--	--
28.8e2	W. R. Howe	1913	drl	180	4	--	--	--	726	56	--	--	--	--	Sand & gravel at 180	Nutt
29.5h	Victor Wilkin	--	drl	--	4	--	--	--	720	--	--	--	--	--	--	--
29.8d	Zela E. Collins	--	dug	30	48	--	--	--	720	20	--	--	--	--	Sand & gravel at 30	--
30.1a	John Doenitz	--	drl	105	4-2	--	--	--	723	--	--	--	--	--	--	--
30.8c	Catherine Augustus	--	drl	95	4	--	--	--	720	35	--	--	--	--	Sand & gravel at 95	--
30.8h	Catherine Augustus	1909	drl	90	4	--	--	--	714	35	--	--	--	--	Sand & gravel at 90	--
31.4d	Otto Timcke	1946	drl	165	4	--	--	--	722	10	--	--	--	--	--	Sims
31.8a1	Lawless Bros.	1899	dug	60	48	--	--	--	722	25-40	--	--	--	--	Sand at 60	--
31.8a2	Lawless Bros.	1914	drl	130	2	--	--	--	722	50	--	--	--	--	Sand & gravel at 130	Clauden
31.8h	Milliken Trust Co.	1914	drl	110	4	--	--	--	718	40	--	--	--	--	Sand & gravel at 110	--
32.1a1	Gertrude Coffman	--	dug	20	48	--	--	--	729	4	--	--	--	--	Sand at 20	--
32.1a2	Gertrude Coffman**	--	drl	95	4	--	--	--	729	--	--	--	--	--	Sand at 95	--
32.1a3	Gertrude Coffman	1942	drl	82	4	3	4	.025	729	16	2	8	4.0	2	Sand & gravel, 72-82	Woollen
33.1e	Rosa Wolf**	--	drl	88	2	--	--	--	732	25	--	--	--	--	Sand & gravel at 88	--
33.1f	Bertha Wolf	1967	drl	88	2	--	--	--	731	30	--	--	--	--	--	Valentine
33.2a	W. E. Nixon	1886	drl	125	2	--	--	--	731	50	--	--	--	--	Sand & gravel at 125	--
33.4a	Harold Schudel	1916	drl	80	4	--	--	--	730	40	--	--	--	--	Sand & gravel at 80	Schuler
34.1h	Robert Walker	1923	drl	123	4	--	--	--	768	60	--	--	--	--	Sand & gravel at 123	Nutt
34.2a1	Layton Bateman**	--	dug	16	48	--	--	--	735	6	--	--	--	--	--	--
34.2a2	Layton Bateman	--	drl	60	--	--	--	--	735	--	--	--	--	--	--	--
34.2a3	Layton Bateman	1941	drl	27	6	3	4	.025	733	21	--	--	--	--	Sand & gravel, 21-23	Woollen
34.3a	M. & L. Bateman**	--	dug	18	48	--	--	--	732	8	--	--	--	--	Sand & gravel at 18	--
34.4a1	M. & L. Bateman	1941	drl	71	4	3	4	.025	740	37	20	5	.3	2	Sand & gravel, 68-71	Woollen
34.4a2	M. & L. Bateman	1963	drl	195	4	4.3	4	.018	740	68	--	60	--	5	Dirty sand & gravel, 80-83.5; sand & gravel, 125-195	Hayes
34.8a	Mary E. Walker	1939	drl	70	3	--	--	--	730	30	--	--	--	--	--	Swartz
35.4b	B. S. Noel	1944	drl	117	4	3	4	.025	745	42	8	5	.6	--	Sand & gravel, 115-116	Woollen
35.7e1	Don Wolf	--	dug	30	48	--	--	--	750	15	--	--	--	--	Sand at 30	--
35.7e2	Don Wolf	1919	drl	106	4	--	--	--	750	60	--	--	--	--	Sand & gravel at 106	McNutt
36.1f	C. W. Roth	1892	drl	127	4	--	--	--	784	44	--	--	--	--	Sand & gravel at 127	--
36.1g	C. W. Roth	--	drl	125	4	--	--	--	782	50	--	--	--	--	Sand & gravel at 125	--

APPENDIX B - CHEMICAL QUALITY OF GROUNDWATER

Tabulated data of mineral content for groundwater supplies in Piatt County follow.

Symbols used in the tabulations are:

D = glacial drift
BR = bedrock
* = State Bureau of Public Water Supply chemical analyses

The sources and significance of the major dissolved elements and substances in groundwater in waters of Piatt County and U. S. Public Health Service drinking water limits (1962) are included in table 1.

Appendix B. Chemical Quality of Groundwater

Well number	Owner	Depth ft	Source	Laboratory number	Iron Fe	Manganese Mn	Ammonium NH_4	Sodium Na	Calcium Ca	Magnesium Mg	Silica SiO_2	Fluoride F	Nitrate NO_3	Chloride Cl	Sulfate SO_4	Alkalinity (as $CaCO_3$)	Hardness (as $CaCO_3$)	Total dissolved minerals	Temperature °F
T16N, R4E																			
1.1e2	Helen J. Crowe	26.9	D	171792	Tr	--	--	--	--	--	--	--	21.8	22	--	368	512	675	--
1.8h	Gail Baer	55	D	80329	--	--	.6	--	--	--	--	--	50.6	20	54	342	--	458	--
3.8h	Clarence Krall	56	D	171642	.3	--	--	--	--	--	--	--	140.0	50	--	256	444	607	64
10.1a	Era Clarkson	35.6	D	171679	.5	--	--	--	--	--	--	--	282.0	27	--	216	534	690	--
11.8b	W. E. Joynt	45.7	D	171639	.8	--	--	--	--	--	--	--	14.0	23	--	296	412	568	--
11.8b	W. E. Joynt	45.7	D	173744	.1	--	--	--	--	--	--	.2	17.8	14	--	264	375	488	--
13.8h2	Donald McClellan	17	D	171672	Tr	--	--	--	--	--	--	--	46.0	22	--	252	368	465	65
14.8b	I. C. Robinson	125	D	171643	.7	--	--	--	--	--	--	--	26.5	27	--	280	434	569	--
14.8g1	Era Clarkson	51.5	D	171680	.5	--	--	--	--	--	--	--	21.2	27	--	270	390	496	--
14.8g4	Era Clarkson	121	D	171681	12.0	--	--	--	--	--	--	--	--	81	--	1080	730	1249	--
22.8g2	Helen Post	17.3	D	171640	.1	--	--	--	--	--	--	--	38.2	63	--	276	362	680	58
23.1d3	C. F. Shively	158	D	171673	2.2	--	--	--	--	--	--	--	--	415	--	316	146	1031	60
23.4h2	Bert Linthicum	48.6	D	171670	1.5	--	--	--	--	--	--	--	--	33	--	328	552	756	--
25.3a	Edmond L. Sawyer	41.7	D	171678	.2	--	--	--	--	--	--	--	3.1	23	--	788	1175	1448	65
25.3e2	Paul Davis	85	D	171676	3.7	--	--	--	--	--	--	--	--	214	--	500	402	884	--
25.8e	Lewis Hull	60	D	171689	16.0	--	--	--	--	--	--	--	--	16	--	416	344	448	--
26.1d2	Jack L. Watkins	26	D	171688	.1	--	--	--	--	--	--	--	7.0	81	--	276	418	614	62
26.8d1	Nikle Siere	58	D	171682	.1	--	--	--	--	--	--	--	20.0	23	--	240	342	404	62
26.8d2	Otis Curry	43.4	D	171686	2.5	--	--	--	--	--	--	--	32.9	130	--	310	875	1224	--
27.8g2	R. H. Groff	32	D	171641	.4	--	--	--	--	--	--	--	124.0	38	--	252	458	614	--
34.1e	Carl Hite	51.5	D	171683	1.9	--	--	--	--	--	--	--	--	16	--	206	322	402	--
34.8e2	Jennie Alexander	84	D	171685	Tr	--	--	--	--	--	--	--	21.2	7	--	410	488	540	--
35.4f2(1)	La Place	55.4	D	182507	7.1	.09	--	--	--	--	--	.4	.5	3	--	550	436	537	56
35.8e	Carrie Hamman	40	D	171684	Tr	--	--	--	--	--	--	--	83.8	21	--	236	438	531	--
36.4g1	Isabelle Tenbrook	32.7	D	80214	9.0	0	38.6	4	102.6	45.8	8	--	.6	0	0	560	445	542	--
36.4g2	Isabelle Tenbrook	40.8	D	171675	8.1	--	--	--	--	--	--	--	--	6	--	526	436	563	--
36.5a3	Elizabeth Hawthorne	45.1	D	171687	11.0	--	--	--	--	--	--	--	2.2	23	--	648	486	736	--
T16N, R5E																			
4.1h3	Gladys Woodward	80	D	171951	2.3	--	--	--	--	--	--	--	--	19	--	520	374	550	62
5.1d	Helen & Harriet Wise	110+	D	171958	3.7	--	--	--	--	--	--	--	1.0	18	--	696	532	763	--
5.8a3	H. L. Shinneman	135	D	171790	7.8	--	--	--	--	--	--	--	--	47	--	620	440	715	--
6.1f1	J. E. Henebry	33.3	D	171791	.1	--	--	--	--	--	--	--	13.4	48	--	308	466	679	--
6.8h1	Dorthy Cripe	51.8	D	171677	2.8	--	--	--	--	--	--	--	21.8	48	--	312	460	613	--
7.2a	J. L. Tallman	25.9	D	171868	.7	--	--	--	--	--	--	--	--	26	--	222	346	397	--
7.3h	Benton Mueller	43.8	D	171869	Tr	--	--	--	--	--	--	--	15.2	16	--	374	474	510	--
8.1f	E. E. Huffington	28.5	D	171957	2.9	--	--	--	--	--	--	--	29.4	36	--	512	546	796	58
8.2h1	Harry S. Funk	32	D	171956	.1	--	--	--	--	--	--	--	40.3	59	--	356	564	728	--
8.2h2	Harry S. Funk	47	D	80328	--	--	5.9	--	--	--	--	--	190.0	95	222	570	--	1021	--
8.7h1	Harry S. Funk	21.2	D	171793	Tr	--	--	--	--	--	--	--	90.4	15	--	228	376	434	--
9.7d	Clyde Clow	23.8	D	171863	.2	--	--	--	--	--	--	--	221.0	43	--	196	648	802	--
9.8d	Clyde Clow	32	D	171866	19.0	--	--	--	--	--	--	--	--	0	--	614	452	590	--
11.2h	Margaret Winkel	90	D	171961	1.7	--	--	--	--	--	--	--	--	5	--	460	382	472	60
12.8e	J. P. Ford Estate	140	D	171939	.4	--	--	--	--	--	--	--	--	26	--	266	368	527	--
14.5a2	Maxine Clifford	43	D	171937	.1	--	--	--	--	--	--	--	45.0	8	--	200	290	356	--
17.2h	Jennie Born	87	D	171864	.5	--	--	--	--	--	--	--	33.2	93	--	704	676	1022	--
17.8h	W. A. Born Estate	40	D	171870	9.3	--	--	--	--	--	--	--	--	0	--	614	488	593	--
18.8d	Elbert Peterson	102	D	171788	2.4	--	--	--	--	--	--	--	--	67	--	520	368	662	--
19.1b	Lester Berry	82	D	171865	1.2	--	--	--	--	--	--	--	462.0	250	--	412	996	2151	--
19.8a1	Willard Cripe	29	D	171789	Tr	--	--	--	--	--	--	--	20.1	22	--	332	520	616	61
21.1a2	Lewis Estate	140	D	171952	.6	--	--	--	--	--	--	--	--	475	--	220	260	1042	63
21.1f2	Mabel Hobart	56	D	171955	.1	--	--	--	--	--	--	--	14.2	75	--	308	632	887	--
22.1f2	Margaret Wolfe	27.5	D	171938	.7	--	--	--	--	--	--	--	--	180	--	352	998	1962	67
22.8c	Ira Barnes	22.5	D	171954	.3	--	--	--	--	--	--	--	30.6	20	--	202	288	374	--
24.2b	Mrs. Hugh Ruddock	106	D	171940	1.5	--	--	--	--	--	--	--	--	190	--	358	328	666	--
26.4c	Estelle Lewis Estate	23	D	171948	.9	--	--	--	--	--	--	--	14.6	90	--	340	334	1028	--
29.8a2	Freda Randall	234	D	171786	5.4	--	--	--	--	--	--	--	--	1100	--	330	296	2189	--
30.1g1	Leta R. Forward	29.8	D	171787	.2	--	--	--	--	--	--	--	49.4	13	--	222	372	487	--
31.3h1	John Allen	32.2	D	171785	.4	--	--	--	--	--	--	--	12.2	6	--	288	414	545	--
31.6a1	John Allen	27.8	D	171784	.1	--	--	--	--	--	--	--	57.4	66	--	292	504	861	--
32.4e1	Oris Zartman	30.7	D	171878	Tr	--	--	--	--	--	--	--	203.0	66	--	272	688	922	--
32.7d	E. B. Stevenson Trust	62.8	D	171867	4.3	--	--	--	--	--	--	--	97.8	45	--	360	700	879	--
33.1c2	Alvin E. Stillabower	29.5	D	171950	.3	--	--	--	--	--	--	--	94.8	70	--	240	578	835	--
33.1h2	Alberta L. White	134	BR	80215	2.0	0	5.1	670	32.2	11.9	8	--	1.8	858	0	390	129	1872	--
34.1e	Natural Gas Pipeline Co.	35	D	129620	7.6	--	--	--	--	--	--	.3	1.0	97	--	500	386	688	--
34.8g	Robert Corman	21.5	D	171949	.1	--	--	--	--	--	--	--	54.4	9	--	212	340	357	--
35.4c	Robert Corman	73	D	171953	Tr	--	--	--	--	--	--	--	55.6	19	--	208	388	439	--
35.5d	John T. Simmons	69	D	171947	.1	--	--	--	--	--	--	--	86.0	48	--	316	498	590	--
36.8b5	Hammond (V)	143	D	75018	180.0	.0	1.4	371	26.8	6.3	9	--	.9	508	2	184	93	1025	--
36.8d1	Raymond & Effie Yeast	28	D	115957	.2	--	--	--	--	--	--	--	--	117	--	452	925	1338	--
36.8d4(1)	Hammond (V)	87	D	75059	6.0	.0	11.6	37	82.0	39.6	10	--	1.2	18	0	454	368	445	--
36.8d4(1)	Hammond (V)	87	D	75396	5.0	.0	9.0	53	84.6	42.8	10	--	1.1	18	21	480	388	510	--
36.8d4(1)	Hammond (V)	87	D	115790	5.3	.1	10.3	97	88.6	12.1	25	.1	.1	26	3	472	272	502	56
36.8d4(1)	Hammond (V)	87	D	138867	5.0	--	--	--	83	42	--	--	--	16	--	480	380	527	--
36.8d4(1)	Hammond (V)	87	D	150542	9.4	Tr	8.9	46	82.9	38.2	19	.4	.6	32	0	444	364	500	--
36.8d5(2)	Hammond (V)	87	D	150301	6.6	.2	11.8	49	85.6	43.0	21	.3	1.1	29	0	488	391	518	--
T16N, R6E																			
2.4d	Ray E. Jamison	172	BR	80145	.3	0	1.6	60	30.6	21.8	12	--	1.0	16	1	276	166	301	--
3.4b	J. & W. Baker Estate	112	D	171134	1.2	--	1.2	--	--	--	--	--	.5	52	--	348	272	470	--

Appendix B (Continued)

Well number	Owner	Depth ft	Source	Laboratory number	Iron Fe	Manganese Mn	Ammonium NH_4	Sodium Na	Calcium Ca	Magnesium Mg	Silica SiO_2	Fluoride F	Nitrate NO_3	Chloride Cl	Sulfate SO_4	Alkalinity (as $CaCO_3$)	Hardness (as $CaCO_3$)	Total dissolved minerals	Temperature °F
T16N, R6E (Continued)																			
4.8d	Willard Morris	102+	D	172132	2.2	--	--	--	--	--	--	--	--	69	--	420	294	565	60
12.2a1	Margaret Fay	42	D	159737	11.0	--	--	--	--	--	--	--	--	9	--	528	400	554	--
12.3d	Robert Jumper	76	D	80239	1.4	.1	6.9	28	85.5	32.8	11	--	1.6	12	0	410	349	438	--
21.1e	Loren & Robert Schable	40	D	80238	.4	0	0.0	52	163	67.9	10	--	132.8	80	150	424	687	899	--
23.6a	Marvin Sieh	103	D	172134	5.1	--	--	--	--	--	--	--	--	3	--	468	388	493	58
24.8h2	Gertrude Wierman	75-80	D	107547	7.3	--	--	--	--	--	--	--	--	9	3	416	345	452	--
25.1c	L. & G. Quick	107	D	80139	2.0	0	1.8	66	92.1	31.7	13	--	1.4	6	2	476	361	506	--
34.2h	M. J. Shay Estate	120	D	172133	2.5	--	--	--	--	--	--	--	--	8	--	470	392	489	61
34.3a2	Progress Farms (before deepening)	85	D	162174	17.0	--	--	--	--	--	--	--	--	3	--	492	420	501	--
34.3a2	Progress Farms (after deepening)	89	D	162468	14.0	--	--	--	--	--	--	--	.7	1	--	536	444	546	--
T17N, R4E																			
1.1a	William Barnes III	106	D	172040	6.6	--	--	--	--	--	--	--	--	2	--	348	286	378	--
2.8f	Loren M. Pattengill	173	D	171945	2.1	--	--	--	--	--	--	--	--	12	--	400	334	437	56
2.8h	J. H. Leischner	22	D	171943	.2	--	--	--	--	--	--	--	75.7	84	--	316	725	907	--
3.4e2	Loren M. Pattengill	100	D	139740	1.7	--	--	--	--	--	--	--	--	3	--	564	444	566	--
3.4e3	Loren M. Pattengill	115	D	157854	7.2	--	--	--	108	--	--	--	1.5	1	--	570	454	585	--
3.8h	Loren M. Pattengill	24	D	171944	Tr	--	--	--	--	--	--	--	14.0	3	--	300	358	347	--
15.5e	George Blick	113	D	102720	6.4	--	--	--	--	--	--	--	--	4	--	360	315	370	--
15.5e	George Blick	113	D	171946	1.3	--	--	--	--	--	--	--	--	4	--	340	216	346	68
23.3d2	James Gregg	49.5	D	172039	11.0	--	--	--	--	--	--	--	256.0	59	--	222	600	801	--
24.8c	John B. Whalen	130	D	171968	3.8	--	--	--	--	--	--	--	--	0	--	558	356	592	58
25.8d2	William Thompson	138	D	169533	6.4	--	5.2	--	--	--	--	--	--	39	--	584	368	678	--
26.1a	Robert Morr	90+	D	171941	.1	--	--	--	--	--	--	--	23.2	11	--	274	372	402	--
27.8g1	J. Ed Chapman	8.5	D	171942	.2	--	--	--	--	--	--	--	--	9	--	242	340	417	60
34.2d(4)	Cerro Gordo (V)	190	D	50805	4.0	.0	5.3	100	91.7	51.6	28	--	1.6	64	3	588	442	787	--
34.2f2(2)	Cerro Gordo (V)	150	D	50804	2.2	.0	3.4	60	84.7	42.8	24	--	3.4	38	1	--	388	--	--
34.2f3(3)	Cerro Gordo (V)	151.8	D	39684	2.2	.0	2.8	106	74.9	39.4	24	--	1.2	37	1	526	349	591	--
T17N, R5E																			
2.4b2	Edith Phalen	240	--	172131	3.6	--	--	--	--	--	--	--	--	315	--	356	282	890	60
12.1b	Guy Medaris	36.5	D	172130	Tr	--	--	--	--	--	--	--	93.4	24	--	244	416	510	--
19.4h1	Florence Brandenburg	33	D	172129	.9	--	--	--	--	--	--	--	19.6	17	--	200	226	359	--
21.8f	Mrs. F. O. Lefever	54	D	172127	.1	--	--	--	--	--	--	--	99.3	81	--	380	720	954	--
22.5a	Henry Woodyard	38.5	D	172126	.1	--	--	--	--	--	--	--	15.2	20	--	296	420	574	55
23.8h2	R. R. Siders, Sr.	140	D	172128	1.5	--	--	--	--	--	--	--	--	16	--	370	244	412	59
28.1h	Ambrose Keel Estate	90	D	101816	.9	--	--	--	--	--	--	--	--	6	--	372	288	509	--
28.1h	Ambrose Keel Estate	90	D	115194	2.9	--	--	--	--	--	--	--	--	9	--	392	296	413	--
28.2a	Elbert Bradley	105	D	172035	.1	--	--	--	--	--	--	--	69.9	24	--	280	422	527	--
29.1c	G. W. Woodward Trust	125	D	85930	.9	.0	2.0	60	83.3	40.0	22	--	1.6	12	2	488	372	548	--
29.6a	W. T. Dobson	31.5	D	172031	.2	--	--	--	--	--	--	--	45.4	530	--	290	768	1286	--
29.8h2	Mary Brandenburg	60	D	172125	.4	--	--	--	--	--	--	--	8.9	5	--	244	314	371	--
31.4h2	Harold Funk	56	D	172033	Tr	--	--	--	--	--	--	--	494.0	280	--	388	1250	1854	--
31.5h	Nellie Auer	39	D	172032	.0	--	--	--	--	--	--	--	181.6	172	--	274	746	1137	--
31.6a2	Dorthy Cripe	49	D	172041	.1	--	--	--	--	--	--	--	--	25	--	216	406	510	--
32.1b3	George Larrick	90	D	172036	6.0	--	--	--	--	--	--	--	--	7	--	380	320	398	62
33.3h	Howard Lamb	67	D	172034	.1	--	--	--	--	--	--	--	25.0	50	--	344	610	820	--
33.8a	Gertrude Lefever	48	D	133071	12.5	--	--	--	--	--	--	--	--	2	--	604	444	598	--
34.1d	Driscoll Trust	50	D	172038	1.1	--	--	--	--	--	--	--	72.8	28	--	280	430	570	--
34.6h	C. T. Jackson	165	D	172037	1.2	--	--	--	--	--	--	--	--	80	--	340	186	478	60
T17N, R6E																			
2.1h3	Sidney Morgan	110	D	172247	1.0	--	--	--	--	--	--	--	--	7	--	362	292	394	58
9.3b2	Elmer Haynes	102	D	113668	4.2	--	--	--	--	--	--	--	--	26	--	404	311	468	--
15.8c	Edwin Ard	85	D	172240	2.9	--	--	--	--	--	--	--	--	17	--	368	278	418	56
18.5a3	Bement (V)	275	BR	37676	1.5	--	--	--	--	248	--	--	1.1	680	10	--	--	2225	--
18.5a3	Bement (V)	275	BR	37775	3.2	--	--	--	--	224	--	--	.7	670	9	--	--	1800	--
18.5a3	Bement (V)	275	BR	37776	2.7	--	--	--	--	224	--	--	.4	670	10	--	--	1740	--
18.5a3	Bement (V)	275	BR	38900	2.0	--	--	--	--	144.0	--	--	2.8	550	19	246	197	1180	--
18.5a4	Bement (V) (before deepening)	208	D	52427	.6	--	2.4	365	124.3	55.7	4	--	1.8	680	Tr	378	531	1580	--
18.5a5(2)	Bement (V)	163	D	*30621	1.2	.0	5.2	66	64	36	18	.5	.0	20	0	424	310	500	--
19.7g(1)	Bement (V)	139	D	81911	2.6	.0	1.4	58	58.6	38.7	10	--	.7	33	1	388	306	472	--
19.7g(1)	Bement (V)	139	D	115722	.4	.1	2.3	49	69.4	35.9	23	.3	.1	22	2	400	321	444	55
19.7g(1)	Bement (V)	139	D	145092	.5	--	2.4	--	73.5	--	--	--	--	21	--	436	330	450	--
19.7g(1)	Bement (V)	139	D	*30620	1.5	.0	--	--	--	--	--	.3	.0	20	--	398	320	470	--
19.8d	Della A. Coffin	115	D	172246	2.4	--	--	--	--	--	--	--	--	15	--	384	296	425	56
28.4a	Gladys Jones	160+	D	137024	.2	--	--	--	--	--	--	--	--	178	--	344	392	638	--
31.8b2	A. S. Burr Estate	235	BR	138988	2.9	--	--	--	--	--	--	--	--	365	--	456	332	1131	--
34.3e	Albert Larson	132	D	172243	3.2	--	--	--	--	--	--	--	--	168	--	376	250	677	64
35.5a	E. Curry, et al.	200	D	135634	14.0	--	--	--	--	--	--	--	--	72	--	544	432	692	--
T18N, R4E																			
1.1h	Bert W. Huisinga	87	D	172345	8.4	--	--	--	--	--	--	--	--	0	--	526	396	564	61
12.8a	Francis Chapman	110	D	183417	6.5	--	13.5	--	--	--	--	--	--	36	--	600	486	669	--

Appendix B (Continued)

Well number	Owner	Depth ft	Source	Laboratory number	Iron Fe	Manganese Mn	Ammonium NH_4	Sodium Na	Calcium Ca	Magnesium Mg	Silica SiO_2	Fluoride F	Nitrate NO_3	Chloride Cl	Sulfate SO_4	Alkalinity (as $CaCO_3$)	Hardness (as $CaCO_3$)	Total dissolved minerals	Temperature °F
T18N, R4E (Continued)																			
14.3a2	Buelah Williams	118	D	172343	13.0	--	--	--	--	--	--	--	--	0	--	562	406	548	64
14.8a3(1)	Cisco (V)	111	D	122655	5.9	--	--	--	--	--	--	--	--	4	--	544	448	576	--
14.8a3(1)	Cisco (V)	111	D	123033	6.9	.0	11.4	47	99.2	41.0	31	.2	Tr	2	4	544	417	580	55
14.8b(2)	Cisco (V)	113	D	123280	12.0	.0	24.2	68	100.7	43.5	35	.1	.0	2	7	636	432	657	55
14.8b(2)	Cisco (V)	113	D	144133	12.0	--	--	--	--	--	--	--	--	4	--	628	432	658	55
T18N, R5E																			
2.5a	Walter Burke	114	D	172442	14.0	--	--	--	--	--	--	--	--	0	--	460	378	466	59
4.1d	Bert W. Huisinga	118	D	172341	4.0	--	--	--	--	--	--	--	--	17	--	440	316	477	61
7.1h	WILL TV Tower Site	195	D	168128	2.1	--	3.2	--	--	--	--	--	--	7	--	412	312	451	55
7.1h	WILL TV Tower Site	195	D	180543	7.1	--	--	--	--	--	--	--	--	11	--	416	318	440	--
7.1h	WILL TV Tower Site	195	D	180544	6.5	--	.8	--	--	--	--	--	--	10	--	416	328	445	--
9.3c	Cory H. Zybell	163	D	177794	5.4	--	9.4	--	--	--	--	--	--	0	--	566	444	567	--
10.3h	Ethel M. Roberts	30	D	111407	.2	--	--	--	--	--	--	--	--	23	--	228	366	441	--
11.2b	Dean & Ruth Tipsword	35	D	80176	Tr	0	.0	33	108.0	40.8	14	--	63.8	42	122	272	438	596	--
11.7h2	Tatman Sisters	120	D	80175	1.8	0	.5	30	74.4	24.9	10	--	.7	3	0	350	289	358	--
12.1a	National Brands Division	110	D	143425	5.0	.1	2.3	--	--	--	--	.3	1.0	8	--	380	304	388	--
12.1a	National Brands Division	110	D	143518	1.6	.0	2.5	--	--	--	--	.4	.5	5	--	376	292	410	--
12.1a	National Brands Division	110	D	145046	1.3	--	--	--	--	--	--	--	--	4	--	380	306	371	--
13.1a1	General Cable Corp.	320	D	164170	.3	--	--	--	--	--	--	--	--	4	--	348	232	372	--
13.1a2	General Cable Corp.	255	D	165179	1.5	.00	1.1	--	--	--	--	--	--	4	--	364	256	367	--
13.1a2	General Cable Corp.	255	D	170548	2.4	.00	1.5	--	--	--	--	--	--	5	--	348	252	369	--
14.6e	Eva Tatman	45	D	184961	3.6	--	--	--	--	--	--	--	1.2	3	--	484	570	606	--
18.3d	Ella Monfort	139.5	D	133616	8.7	--	--	--	--	--	--	--	--	1	--	508	368	497	--
18.4e2	Univ. of Ill.	80±	D	110459	12.9	--	--	--	--	--	--	--	--	2	--	480	366	485	--
18.4e3	Univ. of Ill.	240	D	172344	4.3	--	--	--	--	--	--	--	--	3	--	396	340	407	63
20.1e1	Robert Allerton Park	11.5	D	110162	.1	--	.0	--	--	--	--	--	--	8	--	90	134	176	--
20.1e2(2)	Robert Allerton Park	209	D	117934	2.5	.0	1.0	31	74.7	29.6	24	.2	Tr	7	4	364	309	379	54
20.1e2(2)	Robert Allerton Park	209	D	144134	1.0	.0	1.1	35	67.0	33.3	18	.3	.4	5	0	376	305	387	55
20.2d	Robert Allerton Park	182	D	119838	46.2	--	--	--	--	--	--	--	2.5	19	4	328	224	380	--
21.1b	Univ. of Ill. Radio Transmitter Site	201	D	124238	.7	--	--	--	--	--	--	--	--	6	--	320	251	340	54
21.5g1(1)	Robert Allerton Park	139.5	D	113117	1.6	Tr	1.0	29	60.7	30.2	19	.1	.1	6	2	332	277	336	--
23.5h	R. H. Allerton Estate	106	D	179537	4.9	--	--	--	--	--	--	--	1.4	0	--	440	308	452	--
30.7a(2)	Decatur (C)	252	D	138932	2.6	.1	1.4	38	74.1	33.6	15	.1	.5	14	3	388	324	404	55
31.7g1	Decatur (C)	248	D	133965	2.3	--	--	--	--	--	--	.2	.3	9	--	372	300	392	--
31.7g2(1)	Decatur (C)	243.5	D	135217	3.8	--	--	--	--	--	--	.3	3.6	15	--	388	324	419	55
31.7g2(1)	Decatur (C)	243.5	D	138552	1.9	.0	.8	32	74.6	34.2	16	.1	2.9	11	0	380	327	398	54
T18N, R6E																			
2.3h	Ellen Morris	20	D	80118	.2	0	.1	17	100.0	44.4	10	--	29.3	25	77	314	433	507	--
6.4f1	Camp Cr. Duck Farm	118	D	74852	--	--	--	--	--	--	--	--	--	1	34	350	350	390	--
6.4f1	Camp Cr. Duck Farm	118	D	110152	1.6	--	--	--	--	--	--	--	--	3	42	328	332	386	55
6.6f	Camp Cr. Duck Farm	123	D	110151	3.3	--	--	--	--	--	--	--	--	22	37	332	347	438	55
6.7d1	Camp Cr. Duck Farm	85	D	74716	1.6	.0	.0	20	83.0	31.8	12	--	5.3	2	15	338	338	390	--
6.7f1	Camp Cr. Duck Farm	106	D	74715	.9	.0	.1	22	82.0	31.2	12	--	5.3	4	13	338	334	385	--
7.6a2(1)	Monticello (C) (before deepening)	209	D	115726	1.7	.1	.5	38	55.5	26.9	17	.1	.4	8	3	320	250	341	55
7.6a2(1)	Monticello (C) (before deepening)	209	D	142296	2.3	--	--	--	--	--	--	.2	--	6	--	328	256	339	--
7.6a2(1)	Monticello (C) (after deepening)	228	D	142675	1.5	.0	--	--	--	--	--	.2	1.0	6	--	324	240	332	--
7.6b1(2)	Monticello (C)	212	D	80032	1.4	0	.8	52	53.0	21.1	10	--	.7	3	1	312	219	336	--
7.6b1(2)	Monticello (C)	212	D	82473	1.6	--	--	--	--	--	--	--	--	6	1	308	246	330	--
7.6b1(2)	Monticello (C)	212	D	142297	4.5	--	--	--	--	--	--	.2	--	5	--	356	284	340	--
7.6b3(4)	Monticello (C)	263	D	146862	.7	.1	.8	--	--	--	--	.1	.4	10	--	344	250	362	56
7.6b3(4)	Monticello (C)	263	D	153660	1.6	.1	.5	34	58.0	29.2	12	.2	1.3	5	0	332	265	356	56
7.6b3(4)	Monticello (C)	263	D	*18703	2.0	.15	1.4	31	54	31	13	.4	.0	6	0	320	262	345	--
7.7b2	Viobin Corp.	130	D	154453	1.6	--	--	--	70.4	30.6	--	--	--	5	--	388	302	376	--
7.7b3	Viobin Corp.	212	D	155169	1.9	.0	1.1	--	--	--	--	--	--	4	--	348	272	339	56
9.6f	Paul B. Olson	300	D	136934	1.7	--	--	--	--	--	--	--	--	5	--	328	244	328	--
12.8d	Lewis A. Howland	79	D	138148	10.0	--	--	--	--	--	--	--	--	7	--	576	388	598	--
14.5a	Robert Shunkweiler	17	D	171579	.1	--	--	--	--	--	--	--	47.4	13	--	188	352	451	--
17.2a1	William Burgess	180	D	80117	11.0	Tr	10.8	53	74.6	31.7	12	--	1.2	2	0	438	317	440	--
25.6h	Glenn Wilken	100	D	171576	1.8	--	--	--	--	--	--	--	--	14	--	372	298	426	60
27.1g	The Breckenridge's	25-30	D	131986	.1	--	--	--	--	--	--	--	--	25	--	172	292	381	--
28.5h	Clyde Burnett	23	D	172768	.1	--	--	--	--	--	--	--	67.3	6	--	180	300	392	--
29.1f	Henry Moore	125	D	172769	3.2	--	--	--	--	--	--	--	--	3	--	442	308	463	--
30.7g4	J. P. Kratz & Co.	276	D	172767	5.1	--	--	--	--	--	--	--	--	8	--	338	236	378	--
T19N, R4E																			
24.6a	Ben Baker Estate	80	D	172443	4.9	--	--	--	--	--	--	--	--	30	--	508	460	646	55
34.8c2	Mrs. G. D. Briggs	227	D	172342	2.9	--	--	--	--	--	--	--	--	23	--	426	300	476	59
34.8c2	Mrs. G. D. Briggs	227	D	183420	2.0	--	3.4	--	--	--	--	--	--	23	--	428	300	491	57

Appendix B (Continued)

Well number	Owner	Depth ft	Source	Laboratory number	Iron Fe	Manganese Mn	Ammonium NH_4	Sodium Na	Calcium Ca	Magnesium Mg	Silica SiO_2	Fluoride F	Nitrate NO_3	Chloride Cl	Sulfate SO_4	Alkalinity (as $CaCO_3$)	Hardness (as $CaCO_3$)	Total dissolved minerals	Temperature °F
T19N, R5E																			
6.3c	Lawrence Sanders	130	D	172733	2.3	--	--	--	--	--	--	--	--	53	--	484	364	596	59
6.8a2	Deland-Weldon Community Unit School	82	D	146179	3.5	--	--	--	--	--	--	.5	.5	29	--	408	276	473	--
7.3h2	John Ammann	78	D	162057	11.0	--	11.3	--	--	--	--	--	--	12	--	688	540	718	--
7.3h2	John Ammann	78	D	182704	3.9	--	12.1	--	--	--	--	--	--	10	--	680	520	694	--
9.6e3	Deland (V)	112	D	26419	1.9	--	--	--	--	100	--	--	.5	7	--	402	296	458	--
9.8b2	Deland High School	95	D	78919	4.8	.0	4.6	74	111.8	64.7	16	--	2.0	11	--	702	545	726	--
9.8b3(1)	Deland (V)	83	D	77135	8.0	--	--	--	--	--	--	--	--	9	0	774	683	759	--
9.8b3(1)	Deland (V)	83	D	115723	4.1	.0	19.9	60	120.8	58.6	39	.1	.2	14	4	704	543	689	55
9.8b3(1)	Deland (V)	83	D	142294	2.7	--	--	--	--	--	--	.4	--	17	--	656	488	766	--
9.8b3(1)	Deland (V)	83	D	152582	2.4	.0	17.9	80	106.0	51.1	29	.4	.6	17	0	624	475	655	56
9.8b4(2)	Deland (V)	83	D	76727	8.0	.0	9.8	65	129.2	68.7	20	--	1.8	5	6	760	606	794	--
9.8b5(3)	Deland (V)	81	D	*38173	5.5	.06	45.0	--	--	--	--	.4	.0	9	--	660	510	680	--
9.8b6(4)	Deland (V)	79.5	D	154440	5.6	Tr	20.2	--	--	--	--	.4	.8	18	--	624	471	651	56
9.8b6(4)	Deland (V)	79.5	D	*38174	5.0	.06	36.0	--	--	--	--	.5	.0	15	--	620	460	610	--
9.8b8	Deland (V)	79.5	D	154322	4.0	.0	20.4	--	--	--	--	.4	1.2	18	--	624	472	661	--
9.8c2(5)	Deland (V)	79	D	*38175	5.0	.1	31.0	--	--	--	--	.4	.0	17	--	660	480	680	--
10.8f	Mary T. Timmons	150	D	80188	2.0	.15	2.6	128	36.2	23.4	8	--	.7	50	3	398	187	545	--
11.1b	Mary T. Timmons	200	D	172728	3.9	--	--	--	--	--	--	--	--	170	--	432	210	735	58
15.8d	Joe Huisinga	90	D	172729	8.7	--	--	--	--	--	--	--	--	0	--	492	338	489	57
21.6h	Richard Gantz	90	D	151663	7.4	--	4.3	--	--	--	--	--	--	16	--	596	415	610	--
24.4h	John Kirby Trust	71	D	172736	4.6	--	--	--	--	--	--	--	--	0	--	536	422	540	58
28.8d2	Cory H. Zybell	105	D	182547	10.0	--	--	--	--	--	--	--	1.2	5	--	576	436	593	--
29.1g	J. E. Reed	146	D	172731	4.0	--	--	--	--	--	--	--	--	112	--	492	249	697	63
30.1h	C. H. Moore Estate	76	D	172732	1.0	--	--	--	--	--	--	--	--	12	--	376	242	398	58
35.1h	John C. Stoddard	240	D	172665	4.8	--	--	--	--	--	--	--	--	50	--	428	268	530	57
35.8a	Raymond Brewer	79	D	176610	1.7	--	--	--	--	--	--	--	1.4	3	--	436	380	470	--
T19N, R6E																			
1.5a	Larry D. Valentine	91	D	179024	4.4	--	--	--	--	--	--	--	1.7	6	--	512	464	539	--
1.5e	Jesse Davis	90	D	172725	10.0	--	--	--	--	--	--	--	--	0	--	450	374	433	59
4.7e2	Elmer Ruch	121	D	112789	7.3	--	--	--	--	--	--	--	--	1	--	564	464	568	--
6.1f	Mary Ann LaRue	188	D	172726	4.4	--	--	--	--	--	--	--	--	27	--	452	274	503	58
6.5d	Donald R. Huston & Adelia Faullin	120	D	149057	2.5	--	--	--	--	--	--	--	--	5	--	624	484	631	--
10.8h	Glenn DeLand	74	D	172727	3.2	--	--	--	--	--	--	--	--	0	--	412	356	417	59
11.5c	M. E. Ard	110	D	145380	5.0	--	--	--	--	--	--	--	--	5	--	424	368	426	--
15.1f3	Hickory Hunt Club	243	D	172049	.8	--	--	--	--	--	--	--	--	1	--	324	330	429	--
15.1g	R. Primmer	184	D	86369	12.0	.0	Tr	48	51.3	29.9	17	--	4.7	3	35	310	252	375	--
15.2d	C. F. Buckley	240	D	171613	1.9	--	--	--	--	--	--	--	--	12	--	372	472	565	--
19.4a1	W. J. Fitzwater	101	D	109573	37.4	--	--	--	--	--	--	--	--	2	--	544	446	567	--
19.4a1	W. J. Fitzwater	101	D	131592	52.1	--	--	--	--	--	--	--	--	3	--	340	288	369	--
19.4a1	W. J. Fitzwater	101	D	131815	4.2	--	--	--	--	--	--	--	--	2	--	568	480	593	--
19.4a2	W. J. Fitzwater	72	D	138773	12.0	--	--	--	--	--	--	--	--	2	--	532	432	530	--
19.4a2	W. J. Fitzwater	72	D	140961	1.6	--	--	--	--	--	--	--	--	3	--	528	424	554	--
20.4e3	Jack Munson	91	D	171589	4.4	--	--	--	--	--	--	--	.0	2	--	456	392	468	--
21.7e	David Price	86	D	178977	5.2	.00	--	--	--	--	--	.5	1.2	0	--	416	348	438	64
22.5a2	Dr. W. N. Sievers	160	D	80033	2.5	0	2.2	48	77.8	29.0	12	--	.9	0	0	404	314	421	--
22.5d(1)	White Heath	233	D	179299	1.6	.05	--	--	--	--	--	.4	1.5	0	--	334	326	421	55
22.6b2	Carl Mitchell	104	D	87889	5.2	--	--	--	--	--	--	--	--	0	--	406	278	420	--
22.7e2	D. N. & V. McCartney	281	D	157564	5.1	--	--	--	--	--	--	--	--	1	--	344	327	373	--
24.2h	Arthur Fosnaugh	166	D	80264	2.5	0	5.9	22	89.1	40.0	12	--	2.0	1	0	448	386	444	--
25.6a	Robert Weeks	190	D	173788	2.8	--	--	--	--	--	--	--	.0	0	--	340	250	338	--
31.3d	Lodge Park Forest Preserve	202	D	176432	2.3	--	1.0	--	--	--	--	.7	--	10	--	376	308	408	--
34.6d	W. P. Thornton	185	D	153587	1.5	.0	2.0	--	--	--	--	.4	--	2	--	384	330	378	--
36.4g	Charles A. Olson	165	D	143967	.8	--	--	--	--	--	--	--	--	2	--	344	284	352	--
T20N, R5E																			
9.1a	Mrs. Clyde Niklaus	57	D	172446	1.8	--	--	--	--	--	--	--	--	35	--	432	496	620	62
12.1f	Springfield Memorial Hospital	60	D	172445	4.8	--	--	--	--	--	--	--	--	0	--	404	356	412	61
24.8g1	H. E. Moore	138	D	179534	12.0	--	--	--	83.2	41.8	--	--	1.1	3	--	434	380	460	--
24.8g2	H. E. Moore	134	D	179535	16.0	--	--	--	61.2	35.3	--	--	.8	7	--	396	298	419	--
29.3a	Halsey Thompson	69	D	172444	3.1	--	--	--	--	--	--	--	--	11	--	432	340	444	61
36.8d	C. H. Moore Estate	126	D	80187	6.0	0	16.7	27	84.5	43.0	8	--	1.2	3	0	488	389	465	--
T20N, R6E																			
1.6c2	L. E. Nickell	45	D	172661	.2	--	--	--	--	--	--	--	--	8	--	296	468	561	60
4.7e	D. D. Beazly	82	D	172666	4.2	--	--	--	--	--	--	--	--	1	--	500	386	526	56
9.8f	George Howe	88	D	182558	12.0	--	13.0	--	--	--	--	--	--	1	--	496	388	491	56
10.2h2	Mansfield (V)	65	D	80092	1.0	0	.2	24	95.3	28.3	10	--	1.0	5	0	382	355	399	--
10.4g1	Mansfield (V)	30-35	D	80087	.1	0	.0	135	133.8	60.2	12	--	47.8	202	188	338	582	957	--
10.4g4(1)	Mansfield (V)	215	D	83704	1.9	--	--	--	--	--	--	--	--	19	0	420	239	449	--
10.4g4(1)	Mansfield (V)	215	D	115724	1.2	Tr	1.6	40	70.2	28.5	25	.3	.2	11	4	364	293	392	55
10.5g1(3)	Mansfield (V)	194.5	D	27263	2.1	--	3.1	39	66.6	28.9	21	--	.4	9	2	--	285	401	--
10.5g1(3)	Mansfield (V)	194.5	D	*20724	1.9	.0	3.6	107	67	31	20	.6	.0	24	3	490	296	525	--
10.5g2	Wabash RR	225	D	80091	6.0	0	1.9	58	72.1	26.5	10	--	1.9	12	2	384	289	400	--
10.5g3(2)	Mansfield (V)	210	D	133136	1.1	.0	1.0	53	72.0	28.6	21	.3	.2	12	2	396	298	426	54
10.5g3(2)	Mansfield (V)	210	D	*20723	1.3	.03	1.5	58	66	31	20	.5	.0	11	2	400	290	420	--

Well number	Owner	Depth	Source	Laboratory number	Iron	Manganese	Ammonium	Sodium	Calcium	Magnesium	Silica	Fluoride	Nitrate	Chloride	Sulfate	Alkalinity	Hardness	Total dissolved minerals	Temperature
		ft			Fe	Mn	NH_4	Na	Ca	Mg	SiO_2	F	NO_3	Cl	SO_4	(as $CaCO_3$)			°F
T20N, R6E (Continued)																			
11.3h	Troy Blacker	229	D	172664	1.8	--	--	--	--	--	--	--	--	14	--	384	272	412	55
14.1e2	Mrs. Paul Normholm	64	D	172663	Tr	--	--	--	--	--	--	--	--	53	--	308	538	653	57
27.3a	Lawrence Sanders	150	D	172730	5.4	--	--	--	--	--	--	--	--	0	--	522	420	520	59
28.1d	M. Mitchell Estate	151-161	D	128498	34.4	--	--	--	--	--	--	--	--	1	--	744	580	780	--
30.1c	Chester Hayes	86	D	172662	5.2	--	--	--	--	--	--	--	--	2	--	392	334	388	61
31.6h	Loraine Swartz	84	D	112790	4.5	--	--	--	--	--	--	--	--	8	--	488	379	514	--
31.6h	Loraine Swartz	84	D	135559	2.1	--	--	--	--	--	--	--	--	10	--	512	380	541	--
32.5h	Leon Ash	185	D	179729	12.0	--	--	--	--	--	--	--	.7	21	--	356	208	412	--
34.3h	Clyde Dunbar	90	D	181639	5.3	--	16.3	--	--	--	--	--	--	1	--	484	400	475	55
34.4h	Clyde Dunbar	67	D	135006	3.6	--	--	--	--	--	--	--	--	4	--	496	408	519	--
35.2a1	John Wajtko	207	D	153941	2.3	--	--	--	--	--	--	--	--	1	--	354	308	382	--
35.4d	Frank Jones	55	D	151443	17.0	--	--	--	--	--	--	--	--	2	--	480	400	465	--
36.5e2	Charles Wright	40	D	80265	.15	0	.1	48	140	60.2	8	--	141.7	65	174	316	598	840	--
T21N, R5E																			
24.3h2	J. Hollowell Estate	155	D	172448	2.3	--	--	--	--	--	--	--	--	38	--	412	246	447	60
25.1f	Francis A. Hawthorne	160	D	172447	1.3	--	--	--	--	--	--	--	--	9	--	400	276	398	56
T21N, R6E																			
16.8d	Elizabeth Zimmerman	83.6	D	172449	2.1	--	--	--	--	--	--	--	--	0	--	352	272	354	62
22.1d	Paul Miller	175	D	184345	1.4	--	1.4	--	--	--	--	--	--	0	--	420	300	438	55
22.8h	Mrs. Virgil Kammeyer	231	D	184049	2.2	--	8.4	--	--	--	--	1.0	--	7	--	516	340	547	56
23.4h	William A. Kindred	100	D	180516	1.1	--	--	--	--	--	--	--	.9	0	--	362	256	385	--
24.8a	Paul Miller	120	D	168987	.7	--	--	--	--	--	--	--	1.0	2	--	300	212	303	--
25.1g	Bernice Harrington	257	D	171218	.9	--	--	--	--	--	--	.4	--	24	--	402	260	476	--
28.1h	Paul Miller	100	D	157042	3.0	--	2.2	--	--	--	--	--	.3	0	--	420	304	446	--
32.1a3	Gertrude Coffman	82	D	172450	8.9	--	--	--	--	--	--	--	--	0	--	438	332	426	57
34.2a2	Layton Bateman	60	D	151786	8.7	Tr	--	--	--	--	--	--	--	5	--	360	308	379	--
34.2a3	Layton Bateman	27	D	113192	.5	--	--	--	--	--	--	--	--	4	--	256	346	366	--
34.4a2	M. & L. Bateman	195	D	160855	2.1	--	--	--	--	--	--	--	--	42	--	520	278	628	--

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