

STATE OF INDIANA
INDIANA DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

-BULLETIN NO. 23

GROUND-WATER RESOURCES OF
WEST-CENTRAL INDIANA

Preliminary Report: Parke County



Prepared by the
GEOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF THE INTERIOR
In cooperation with the
DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION

1964

INDIANA DEPARTMENT OF CONSERVATION

Donald E. Foltz, Director

BULLETIN NO. 23

OF THE

DIVISION OF WATER RESOURCES

Charles H. Bechert, Director

GROUND-WATER RESOURCES OF WEST-CENTRAL INDIANA

Preliminary Report · Parke County

BY

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GROUND-WATER RESOURCES OF WEST-CENTRAL INDIANA

Preliminary Report: Parke County

By F. A. Watkins, Jr., and D. G. Jordan

ABSTRACT

Parke County, in west-central Indiana, has an area of about 451 square miles. Consolidated rocks of Mississippian and Pennsylvanian age and unconsolidated rocks of Pleistocene age are the sources of ground water for domestic, stock, industrial, and municipal supplies. Wells in Parke County vary greatly in depth and yield. Wells tapping Mississippian rocks range in depth from about 50 to 400 feet and in yield from less than 1 to about 300 gpm (gallons per minute), whereas those tapping Pennsylvanian rocks range in depth from about 40 to 350 feet and in yield from less than 1 to about 50 gpm. Some wells tapping the consolidated rocks yield no water. Wells tapping Pleistocene sand and gravel range in depth from about 20 to 180 feet and in yield from about 5 to 1,000 gpm. Field chemical analyses of water from these sources show that the chemical quality differs greatly. A modal grouping was used to find the most frequent values for the sulfate and chloride contents and for hardness of water in Parke County. This method yields the following results for water from aquifers of Pennsylvanian age: sulfate, 13 ppm (parts per million); chloride, 10 ppm; and hardness, 279 ppm; and for water from aquifers of Pleistocene age: sulfate, 16 ppm; chloride, 10 ppm; and hardness, 321 ppm. Locally, either the iron, chloride, or sulfate content will exceed the recommended standards of the U. S. Public Health Service (1946) for drinking water.

This preliminary report contains tabulated records of about 527 wells and other drilled holes giving information about well construction, water levels, conditions of occurrence, and character of the water-bearing material; selected logs for about 228 wells and other drilled holes giving the drillers' description of the material encountered and a tentative interpretation by the authors of the geologic age; records of 9 springs giving information about geologic source, yield and temperature of the water; results for 252 field chemical analyses of water from wells, 8 from springs, and 31 from streams, giving the iron, bicarbonate, sulfate and chloride contents and the hardness of water; and water levels in 5 observation wells indicating the magnitude of short and long-term water-level fluctuations in the consolidated and unconsolidated rocks. These basic data include much of the material to be used in an interpretive report on the ground-water resources and geology of the area.

A map of Parke County shows the location of all water wells, holes drilled for purposes other than water supply, springs, and stream sampling sites listed in this report. Additional maps show availability of ground water and generalized quality of water conditions with respect to hardness of water, and areas of high chloride or sulfate contents.

INTRODUCTION

Purpose and Scope

An investigation of the ground-water resources and geology of nine counties in west-central Indiana has been conducted intermittently since 1950. In 1956 the investigation was placed on a full-time basis and another county was added to the area of study. This investigation is being made by the U. S. Geological Survey in cooperation with the Division of Water Resources, Indiana Department of Conservation, as a part of a broad program of these agencies to inventory and evaluate the ground-water resources of Indiana.

This report is the seventh of a series of preliminary reports to be published on the ground-water resources and geology of west-central Indiana. The purpose of this report is to make the basic data collected during the investigation available to the public and to provide a preliminary evaluation of the ground-water conditions and the geology as an aid to the development of the ground-water resources. A more detailed and comprehensive analysis will be published in an interpretive report on the ground-water resources and geology of the area.

The investigation was made under the immediate supervision of F. H. Klaer and C. M. Roberts, successive district geologists for Indiana.

Location and Areal Extent

Parke County is in the west-central part of Indiana (fig 1). The county is roughly rectangular and has an area of about 451 square miles. It is bounded on the north by Montgomery and Fountain Counties, on the east by Montgomery and Putnam Counties, on the south by Clay and Vigo Counties, and on the west by Vermillion County.

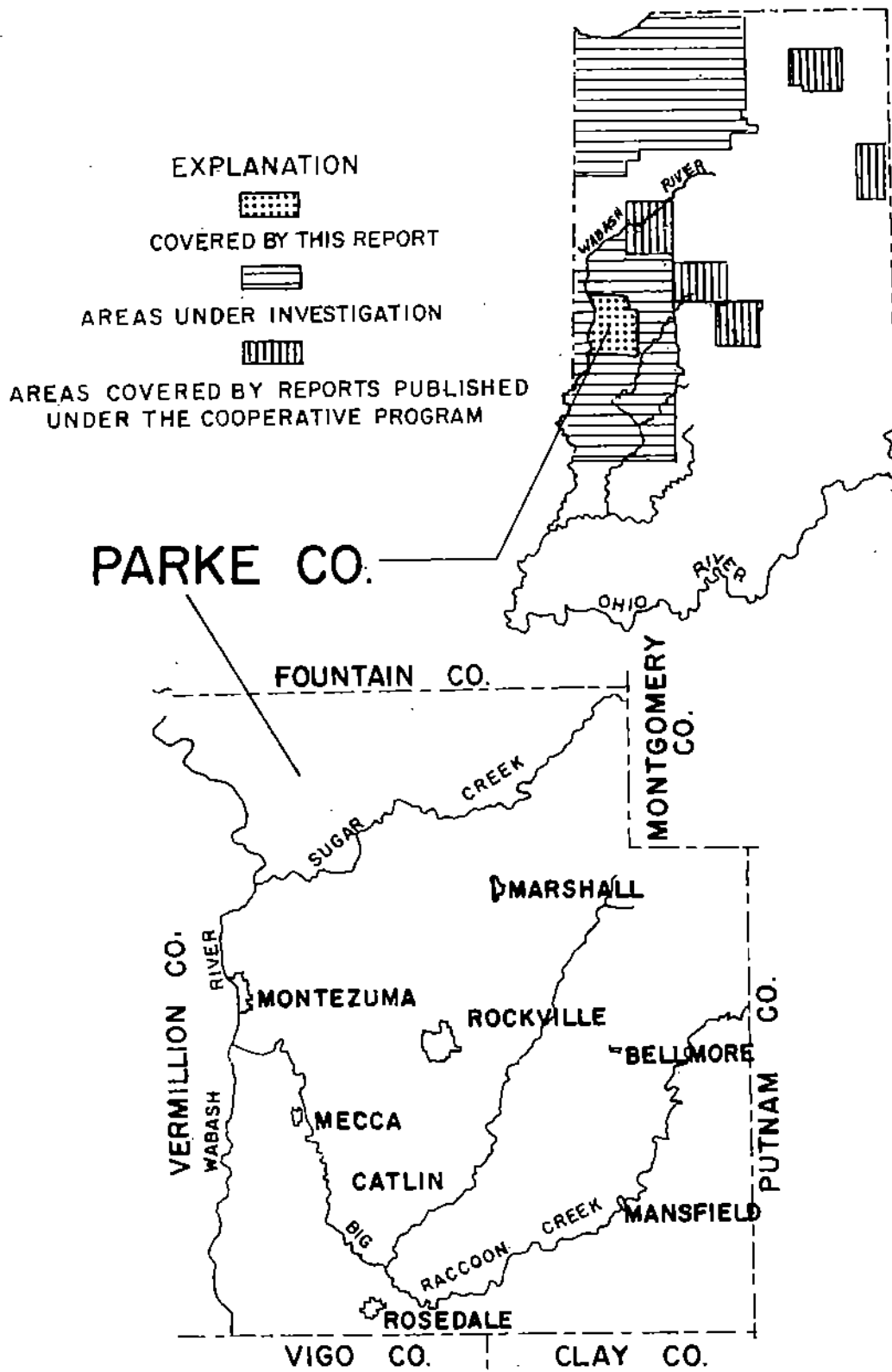


FIGURE . --Map of Indiana showing area covered by this report, areas under investigation, and areas covered by reports published under the cooperative program.

Well-numbering System

A numbering system is used to locate and identify the wells, holes drilled for purposes other than water supply, and springs in this report. The number assigned indicates the location according to the official rectangular survey of public lands. For example, in the number for well 16/7W-35Q1, the part preceding the hyphen indicates that the well is in T. 16 N., R. 7 W. The first number after the hyphen indicates the section in which the well is located. Each quarter-quarter section (40-acre tract) within a section is given a letter symbol as shown on figure 2. Within the quarter-quarter section, wells are numbered serially. Therefore, well 16/7W-35Q1 is the first well listed in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 16 N., R. 7 W.

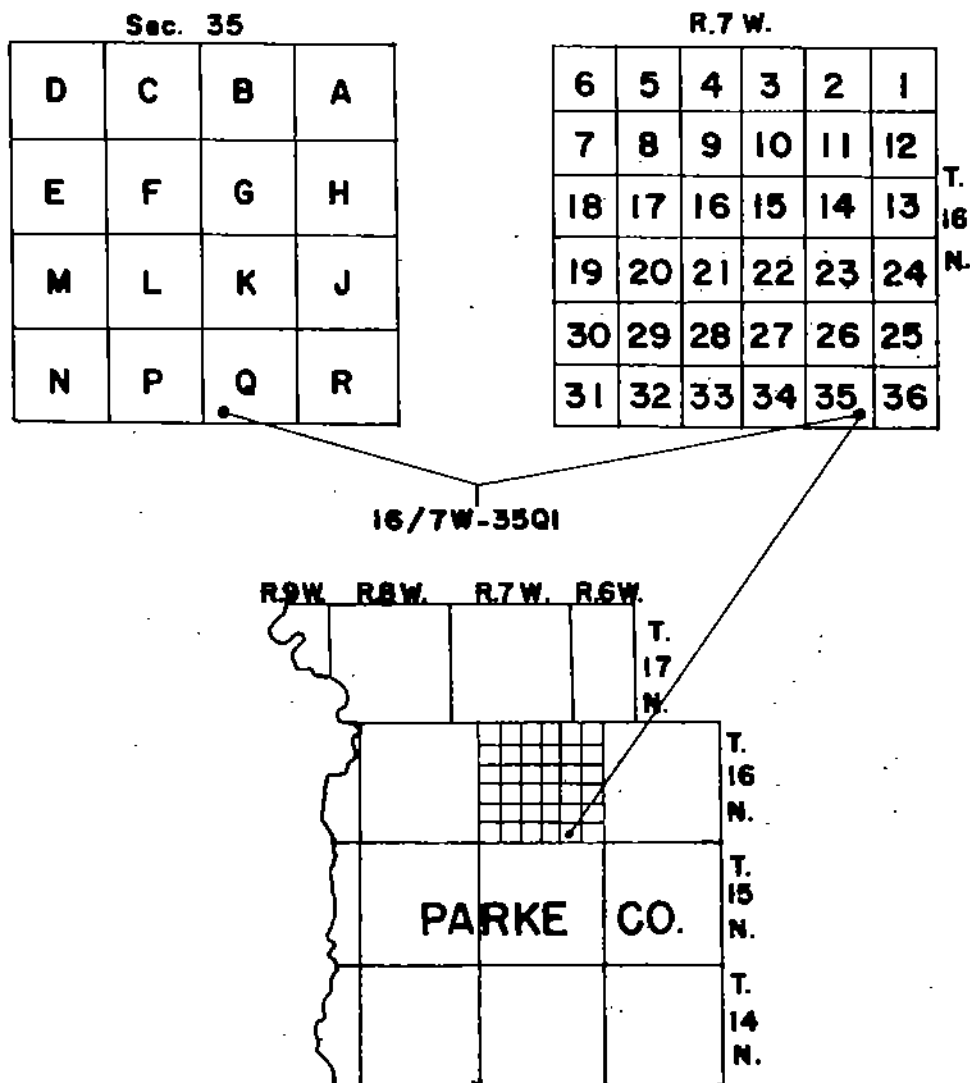


FIGURE 2.-- Sketch showing well-numbering system

Acknowledgments

The authors thank all persons who contributed time, information, and assistance during the collection, tabulation, and processing data for this report. We especially thank the well drillers listed in the table of well records who furnished much of the information summarized in tables 4 and 5.

The authors also thank the following government agencies which provided information for the report: the Division of Oil and Gas, the Division of Water Resources, and the Coal Section and the Geophysics Section of the Geological Survey, all of the Indiana Department of Conservation; and the Indiana State Highway Department; and the Corps of Engineers, U. S. Army.

DATA COLLECTION AND PROCESSING

The well data were collected from drillers, water works superintendents, and others. The well records obtained from drillers were of two types---written records and reports from memory. A tentative driller's location of the well record was obtained at the time of collection and this was checked against the property records in the county courthouse to verify the location, to locate the property, and to obtain the name of the current property owner. The well location was then checked in the field and its location plotted on the appropriate U. S. Geological Survey 7½-minute topographic quadrangle map. The locations given on the records of test holes, oil or gas exploration holes, and wells from other reports were accepted without further verification.

Plate 1 shows the location of water wells, oil wells, test holes, or holes drilled for purposes other than water supply, springs, and stream sampling sites. All locations are accurate to the nearest quarter-quarter section and most locations are shown to the nearest 10 acres or quarter-quarter-section. The basic data for these wells and holes drilled for purposes other than water supply are summarized in table 4. Selected drillers' logs of wells and other drilled holes with tentative interpretations by the authors of the geologic age of the materials encountered are given in table 5. Basic data for the springs are summarized in table 7.

Samples of water were collected at the time well and spring sites were visited and from streams during a period of low flow. The samples were analyzed in the field for hardness of water, alkalinity (expressed as bicarbonate) and chloride content by standard titration methods. Sulfate was determined by a turbidimetric method using a colorimeter where concentrations were below 100 ppm (parts per million) and by a standard titration method where concentrations exceeded 100 ppm. The iron content was determined at the well site by the bipyridine method by comparison with standard color ampules having known iron concentrations. The results of these analyses (tables 6, 7 and 8) were used to select sites for collecting water samples for more comprehensive analyses by the U. S. Geological Survey.

During the investigation observation wells were established to measure the fluctuations of water level. Table 9 contains water-level measurements obtained from these wells. The data from these observation wells show seasonal and longer term variations of the ground-water level.

General Geology and Sources of Ground Water

Consolidated rocks of Mississippian age and of Early and Middle Pennsylvanian age crop out in Parke County. Overlying these rocks are unconsolidated glacial deposits of Pleistocene age.

Rocks of Mississippian age that crop out in the eastern one-fourth of the county are used for domestic and stock supplies. The limestones and siltstones of Mississippian age are sources of ground water. Wells tapping aquifers of Mississippian age range in depth from about 50 to 400 feet. Yields from these wells range from less than 1 to about 30 gpm (gallons per minute) with some dry holes reported.

Rocks of Early and Middle Pennsylvanian age crop out throughout the county. These rocks consist chiefly of sandstone, sandy shale, shale, and minor amounts of coal and limestone. Sandstones are the principal source of ground water for domestic and stock supplies. Well depths range from about 40 to 350 feet, the most frequent depth being about 115 feet. Yields from these wells range from less than 1 to about 50 gpm with some dry holes reported.

Unconsolidated glacial deposits of Pleistocene age consisting of till and glaciofluvial sand and gravel overlie the consolidated rocks.

Considerable thicknesses of glaciofluvial sand and gravel were deposited in preglacial valleys whose courses are more or less followed by the present Wabash River and Big Raccoon and Little Raccoon Creeks. Erosion by these streams removed much of the sand and gravel, but enough remains beneath a thin mantle of Recent alluvium, that these deposits are an important source of ground water for domestic, stock, irrigation, industrial, and municipal supplies. Well depths range from about 20 to 150 feet. Yields range from about 5 to 1,000 gpm.

Several large preglacial valleys in the county contain as much as 40 feet of sand and gravel overlain by as much as 140 feet of till. Well depths range from about 50 to 180 feet. Yields from these deposits are more than adequate for domestic and stock uses and larger supplies may be possible from properly constructed wells.

Small amounts of glaciofluvial sand and gravel are present beneath Recent alluvium or are associated with clayey and sandy-clay till in the county. The sand and gravel was deposited as lenses or thin stringers either lying on the bedrock surface and overlain by alluvium or till or interbedded with till. There is a close relationship between the preglacial bedrock channels and these sand and gravel deposits. In many areas these deposits are, or with proper development, could be additional sources of ground water for domestic and stock supplies. In the preglacial upland areas the glacial deposits consist chiefly of a clayey to sandy-clay till and do not yield water freely.

Wells tapping the sand and gravel aquifers associated with till or overlain by Recent alluvium range in depth from about 30 to 130 feet and have yields ranging from about 5 to 50 gpm. At the present time some of the wells drilled in these areas pass through the sand and gravel deposits and are completed in the bedrock.

Deposits of Recent age in Parke County consist mostly of flood plain sediments and wind-blown sand. They are thin and are not important as sources of ground water.

Plate 2 shows availability of ground water in the consolidated and unconsolidated rocks underlying the county. Plate 3 shows generalized hardness of water conditions in the consolidated and unconsolidated rocks and also shows areas where the chloride or sulfate contents exceed the limits for these constituents as established by the U. S. Public Health Service (1946).

The chemical content and the hardness of water vary greatly in the aquifers of Mississippian, Pennsylvanian, and Pleistocene age. The maximum and minimum values and the mode 1/ for sulfate and chloride contents and hardness of water for the Pleistocene and Pennsylvanian aquifers is given in table 1. Owing to insufficient data on the water from Mississippian aquifers the maximum and minimum values for sulfate content and the modes for sulfate and chloride contents and hardness of water are not given. In addition table 2 indicates the significance of the various constituents and properties of the water that are listed in tables 6, 7, and 8.

Table 1.--Comparison of quality of ground water by source in

Parke County

Pleistocene aquifers			
	Sulfate ppm	Chloride ppm	Hardness ppm
Maximum	405	86	668
Minimum	5	2	56
Mode	16	10	321
Pennsylvanian aquifers			
Maximum	290	1,160	628
Minimum	8	2	8
Mode	13	10	279
Mississippian aquifers			
Maximum	---	2,210	584
Minimum	---	4	24
Mode	---	---	---

1/ mode: The item, in a series of statistical data, which occurs oftenest.
(Webster)

Table 2.--Significance of selected dissolved mineral constituents and properties of ground water ^{a/}

Constituent or property	Significance
Iron (Fe)-----	Oxidizes to reddish-brown sediment upon exposure to air. More than about 0.3 ppm stains laundry and utensils reddish-brown. More than 0.5 to 1.0 ppm imparts objectionable taste to water. Larger quantities favor growth of iron bacteria. Objectionable for food processing, textile processing, beverages, ice manufacturing, brewing, and other purposes.
Bicarbonate (HCO ₃)-----	Bicarbonate in conjunction with carbonate (CO ₃) produces alkalinity. Bicarbonate of calcium and magnesium decompose in steam boilers and hot water facilities to form scale and release corrosive carbon-dioxide gas.
Sulfate (SO ₄)-----	Sulfate in water containing calcium forms hard scale in steam boilers. In large amounts sulfate in combination with other ions gives bitter taste to water. Some calcium sulfate is considered beneficial in the brewing process.
Chloride (Cl)-----	Gives salty taste to drinking water when in large amounts in combination with sodium. Increases the corrosiveness of water when in large amounts.
Hardness as CaCO ₃ (Calcium and magnesium)-----	Hard water increases amount of soap needed to make lather. Forms scale in boilers, water heaters, and pipes. Leaves curdy film on bathtubs and other fixtures and on materials washed in the water.

^{a/} After Rosenshein and Humm (1961), p. 17

CONFINED AND UNCONFINED CONDITIONS

In Parke County ground water occurs in the consolidated and unconsolidated rocks chiefly under confined (artesian) conditions, but in some places it occurs under unconfined (water-table) conditions. Under confined conditions, the aquifer (water-bearing material) is overlain directly by relatively impervious material, and the water, which is under pressure will rise in the well above the bottom of the impervious material. Under unconfined conditions, the aquifer is overlain directly by permeable unsaturated material and the water does not rise above the level at which it is encountered.

TYPES OF WELLS

Drilled wells are the principal type of water wells used in Parke County. A small number of dug and driven wells are still in use and occasionally one is constructed. Most water wells are 6-inches or more in diameter and are constructed by the cable-tool method. A well drilled by the cable-tool method is constructed by a combination of drilling, bailing and driving casing. Where the

water-bearing material is consolidated rock, the well casing generally is driven a few inches to several feet into rock, and the well is finished as an open hole in rock. Where the water-bearing material is sand and gravel, the well casing is driven into the water-bearing zone and is left as an open-end casing, or the lower end of the casing is slotted or perforated, or a well screen is set opposite the water-bearing zone below the end of the casing. A modification of the above type, the gravel-packed well, has a gravel lining between the well screen and the water-bearing material.

In Parke County the majority of industrial and municipal supply wells drilled in sand and gravel are equipped with well screens--a few are finished with slotted or perforated casing. Most domestic and stock wells that have been completed in sand and gravel do not have a screen but are finished with an open-end casing or the casing is slotted or perforated. The use of wire-wound, gauze-wrapped, or gauze washer well points or screens in domestic and stock wells is becoming more wide-spread. Successful wells can be obtained by the use of screens, in many water-bearing sand and gravel deposits from which it was once considered impossible to obtain water. Table 3 relates the grain-size in inches and millimeters to the slot and gauze size of screens commonly used in water wells.

Table 3.--Grain size and equivalent screen openings

Grain size: After Wentworth (1922). Slot size: In thousandths (0.001) of an inch.
 Equivalent screen openings: From commercial catalogs for water-well supplies. Gauze size: Number of wire strands per lineal inch.

Material	Grain size		Equivalent screen opening	
	Inches	Millimeters	Slot size	Gauze size
Gravel-----	>0.08	>2	> 80	-----
Very coarse sand-	.04 - .08	1 - 2	40 - 80	20
Coarse sand-----	.02 - .04	.50 - 1	20 - 40	40 - 20
Medium sand-----	.01 - .02	.25 - .50	10 - 20	60 - 40
Fine sand-----	.005 - .01	.125 - .24	6 - 10	90 - 60
Very fine sand---	.002 - .005	.062 - .125	-----	-----
Silt-----	.00015 - .002	.004 - .062	-----	-----
Clay-----	<.00015	< .004	-----	-----

In areas where the water level in the unconsolidated material is close to the surface some water wells are constructed by driving or digging. The driven well consists of a small diameter pipe with a drive-point screen on the end which is driven into shallow water-bearing material. The dug well is constructed by digging a hole, usually about 3 feet in diameter into the upper part of the water-bearing material and using concrete pipe, tile, brick, or stone as a casing.

The oil or gas exploration holes, test holes, and holes drilled for purposes other than water supply are drilled by either the cable-tool or rotary method in Parke County.

SUMMARY

Preliminary evaluation of the basic data shows that adequate quantities of ground water are generally available for domestic and stock use from the rocks of Mississippian and Pennsylvanian age. In the sand and gravel of Pleistocene age, in the Wabash River valley and in Big Raccoon, and Little Raccoon Creek valleys, ground water is available in adequate quantities for domestic and stock use and locally for industrial, irrigation, and public supplies. Sand and gravel in the large buried preglacial bedrock channels in the county is a possible source of ground water for industrial, irrigation, and public supplies. A source of domestic and stock supplies is the sand and gravel deposits interbedded and overlain by till or alluvium in the preglacial bedrock channels.

The quality of the water from the rocks of Mississippian, Pennsylvanian, and Pleistocene age varies greatly. Locally water from these sources exceeds the U. S. Public Health Service (1946) drinking-water standards for either iron, chloride, or sulfate content.

RECORDS

The records of about 527 water wells and holes drilled for purposes other than water supply are given in table 4. The table gives information about well construction, water levels, yields, and drawdowns, thickness and character of the water-bearing material, conditions of occurrence, use, and other pertinent data. The altitude of the land surface at all wells, except oil or gas exploration holes, was determined from topographic maps. Altitudes of oil or gas exploration holes were on the records when received and were checked against the topographic maps.

Table 5 contains the selected logs of about 228 wells and other drilled holes. This table gives the drillers' description of the material encountered pertinent remarks with regard to the material, and tentative interpretation by the authors of the geologic age of the material. The logs contain local terms used by drillers in describing the material penetrated. A glossary of drillers' terms is on page 11.

The results of 252 analyses of well waters are given in table 6. These chemical analyses were determined in the field by the U. S. Geological Survey. The table gives information about geologic source, temperature, concentration in parts per million of iron, alkalinity (expressed as bicarbonate), sulfate, and chloride content, and hardness of water. The U. S. Public Health Service (1946) drinking-water standards state that the chemical constituents should not exceed the following concentrations: iron and manganese (together), 0.3 ppm; sulfate, 250 ppm, chloride, 250 ppm. Although no official standards have been established for hardness of water, the following classification (Lamar, 1942, p. 25, 26) is in general use: 0-60 ppm, soft; 61-120 ppm, moderately hard; 121-200 ppm, hard; more than 200 ppm, very hard.

Records of 9 springs are given in table 7. This table gives geologic source, yield, use, temperature of water, and the results of field chemical analyses.

Table 8 gives the results of 31 field chemical analyses of water from streams in Parke County with other data.

Water levels in 5 observation wells in Parke County are given in table 9. The water levels in one well were measured with an engineers steel tape and in the other four wells by recording gages. Daily high water levels are given for observation wells equipped with recording gages and periodic water levels are given for the observation well that was measured manually. The locations of these observation wells are shown on plate 1.

GLOSSARY OF DRILLERS' TERMS

Bluestone.--Blue-gray siltstone, sandy shale, or shaly sandstone.

Clay rock.--Clay hardened by pressure and/or cementation of some mineral usually a carbonate or silicate.

Drift.--Any rock material, such as boulders, till, gravel, sand, or clay, transported by a glacier and deposited by or from ice or by or in water derived from the melting of the ice.

Hardpan.--A hard impervious layer, composed chiefly of clay, cemented by relative insoluble materials, does not become plastic when mixed with water.

Jack.--Black carbonaceous shale or a clayey or shaly coal.

Pan.--Clay of glacial origin; generally contains small pebbles and occasional boulders.

Slate.--Hard shale which splits into thin platy fragments, usually black.

Soapstone.--Hard smooth clay or shale, slippery to the touch.

Softpan.--A hard impervious layer, composed chiefly of clay, partly cemented by relative insoluble materials, becomes plastic when mixed with water.

Wash.--Water laid glacial material consisting of sand, silt, and clay with a high percentage of twigs, leaves, and other organic matter.

White top.--White shale or fire clay.

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Table 4.--Record of wells, Parke County, Indiana

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter (inches)	Depth of casing (feet)	Yield	Water-bearing zone					Water level (feet)	Yield (gpm)	Time	Remarks	
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence					
14/8W--1A1	H. Summers	M. O. Schrader	4-4-45	805	Dr	51	6	32	Oh	32	18	Sh, Ss	P	C	25	7	D, S	L, A	
181	J. Brattain	Rueck and Touoy	---	800	Dr	123	4	47	Oh	43	76	Sd	P	C	32	12	D, S	La, A	
281	J. Mayfield	---	1947	780	Dr	122	8	61	Oh	61	10	Ss	P	C	20	20	D, S	L, A; Dd 43 ft after 6 hr bubbling at 20 gpm	
3Q1	W. C. Miller	M. O. Schrader	7-20-80	730	Dr	75	8	101	Oh	125	23	Ss	P	C	12	6	D, S	L, A	
5P1	C. C. Coleman	---	4-13-54	680	Dr	149	6	52	Oh	51	1	S, G	Pl	C	8	6	D	La, Dd 8 ft after 3 hr bubbling at 6 gpm	
5M1	G. Delp	---	6-28-58	625	Dr	52	6	40	Oh	10	32	S, G	Pl	C	8	6	D	L, A	
5Q1	W. H. Babcock	---	4-12-80	580	Dr	42	6	51	Oh	42	9	S, G	Pl	C	---	8	D	L, A	
7Q1	H. Hall	---	8-1-57	590	Dr	51	6	51	Oh	---	---	---	---	---	---	---	---	L, A	
7J1	H. and H. Gravel Co.	---	7-16-57	580	Dr	68	6	---	---	---	---	---	---	---	---	---	---	L, A	
7Q1	---	---	3-16-57	570	Dr	55	6	40	Oh	39	21	S, G	P	---	---	---	---	L, A	
8D1	C. F. Chiles	Ringo and Son	7-48	610	Dr	85	6	53	Oh	53	5	S, G	P	---	---	---	---	L, A	
8U1	W. M. Haralson	---	1-25-57	595	Dr	58	6	80	Oh	130	112	Lg	M	C	88	12	D	L	
10C1	W. Waller, Jr.	---	9-14-60	730	Dr	251	8	120	Oh	144	34	Ss	P	C	100	10	D	L	
11M1	H. Kitchen	---	12-17-80	745	Dr	178	6	51	Oh	50	33	Ss	P	---	---	---	---	L, A	
12M1	H. Phillips	---	11-15-56	780	Dr	83	6	60	Oh	60	65	Sa	P	---	---	---	---	L, A	
12M1	T. Thompson	---	1058	780	Dr	125	6	60	Oh	60	40	La	M	---	---	---	---	L, A	
14E1	C. Mottgiller	---	---	665	Dr	100	6	29	P	23	7	S, G	Pl	---	---	---	---	L, A	
15C1	G. Williams	---	9-21-57	615	Dr	52	6	69	Oh	---	---	---	---	---	---	---	---	L, A	
16N1	M. C. McHargue	---	1951	710	Dr	126	4	76	Oh	69	---	---	---	---	---	---	---	L, A	
16D1	J. McHargue	M. O. Schrader	3-15-52	650	Dr	104	6	87	Oh	87	57	S, G	P	---	---	---	---	L, A	
17D1	E. Robinson	C. Ringo	1923	645	Dr	87	---	---	---	---	---	---	---	---	---	---	---	L, A	
19P1	R. Thompson	M. O. Schuler	1946	685	Dr	118	---	---	---	---	---	---	---	---	---	---	---	L, A	
20B1	R. Rightwell	M. O. Schrader	4-2-53	680	Dr	65	6	29	Oh	29	36	Sa	P	---	---	---	---	L, A	
21U1	E. S. Thomas	Ringo and Son	1-48	720	Dr	158	6	71	P	65	14	S, G-sh	P	C	33	8	N, S	L, A	
22P1	H. Goodin, Jr.	---	4-54	740	Dr	144	6	81	Oh	90	14	S, G-sh	P	C	8D	4, 5D, S	L, A		
27D1	H. Goodin, Jr.	---	3-21-50	740	Dr	206	6	83	Oh	153	6	Sa	P	C	93	9	D	L, A; Dd 57 ft bubbling at 9 gpm	
27G1	R. H. Peil	L. Adkins	12-10-45	730	Dr	82	8	77	P	78	4	S	Pl	---	---	---	---	L, A	
30H1	R. Robinson	---	1938	885	Dr	102	6	82	Oh	82	---	---	---	---	---	---	---	L, A	
32N1	R. Spencer	M. O. Schrader	10-20-52	680	Dr	161	6	88	Oh	88	---	---	---	---	---	---	---	L, A	
33A1	C. F. Thompson	---	8-22-59	720	Dr	206	6	101	Oh	---	---	---	---	---	---	---	---	L, A	
34E1	C. A. Peil	L. Adkins	12-31-45	730	Dr	85	8	36	P	83	2	C	Pl	---	---	---	---	L, A	
34N1	R. Morlan	M. O. Schrader	12-8-54	720	Dr	128	6	23	Oh	91	35	Ss	P	---	---	---	---	L, A	
35Q1	Lana Methodist Church	D. Chavis	---	770	Dr	63	---	---	---	---	---	---	---	---	---	---	---	---	L, A
35R1	R. Morlan	---	---	765	Dr	220	---	---	---	---	---	---	---	---	---	---	---	---	L, A
35E2	G. Thomas	M. O. Schrader	3-10-51	765	Dr	145	6	64	Oh	134	11	La	M	C	---	---	---	L, A	
36A1	T. E. Kroust, Sr.	D. Chavis	8-13-48	820	Dr	178	6	75	Oh	170	28	La	M	C	---	---	---	L, A	
36C1	J. Maco	M. O. Schrader	8-13-48	800	Dr	85	6	22	Oh	25	28	Ss	P	C	8	3, 5D, S	L, A		
36K1	D. C. Young	L. Adkins	9-17-46	765	Dr	55	6	25	Oh	23	29	Ss	P	---	---	---	---	L, A	

Well number: See text for description of well-numbering system.
 Altitude: Altitude of land-surface datum from topographic map.
 Type of well: Dr, driven; Dr, drilled; Du, dug; J, jetted.
 Finish: Cp, gravel pack; Co, open end; Oh, open hole; P, perforated casing; S, screen.
 Material: C, coal; Cl, clay; F, fire clay; G, gravel; Lg, limestone; La-sh, limy shale; S, sand; Sg-sh, sandy shale; Sh, shale; Ss-sh, shaly sandstone; Sls, siltstone (bluestone); Sg, sandstone.
 Geologic age: Pl, Pleistocene; P, Pennsylvanian; M, Mississippian; D, Devonian.

Ground-water occurrence: C, confined (artesian); U, unconfined (water table).
 Water level: In foot below land-surface datum on date of completion of well, except as noted; D, remarks; F, flowing well.
 Use: D, domestic; Dr, destroyed; I, industrial; Ir, irrigation; N, not used; O, observation; Ok, oil or gas; P, public supply; S, stock; T, test.
 Remarks: A, field chemical analysis in Table 5; G, geologic log on file; G, gamma ray log on file; L, log in Table 5; La, log on file; Lm, log from memory on file; La, log from memory in Table 5; M, water level measurements in Table 5; Dd, drawdown; gpm, gallons per minute.

Table 4.--Record of wells, Parke County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Plat	Water-bearing zone				Water level (feet)	Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age				
16/9W-36L1	J. Kenlay	L. Adkins	9-14-46	780	Dr	60	6	38	Ch	32	24	Ss	P	--	D	La, A; well backfilled with gravel	
36Q1	J. P. Donaldson	M. O. Schrader	1-9-52	770	Dr	140	6	78	Ch	--	--	--	P	--	D	La, A; well backfilled with gravel to 70 ft	
36Q2	L. Givon	L. Adkins	9-21-46	770	Dr	120	6	70	Ch	--	--	--	P1	--	N	La, A; well backfilled with gravel to 70 ft	
14/7W-561	R. Davidson	D. Chavis	1938	970	Dr	120	6	120	Ch	100	25	Ss	P	C	D, S	La, A; Dd 92 ft after 3 hr bailing at 12 gpm	
581	-----	M. O. Schrader	5-14-60	585	Dr	125	6	31	Ch	12	9	S, G	P1	V	D, S	La, A; Screen, 8 ft of 6-in dia, no. 18 slot	
6D1	F. Stalker	W. L. Laughlin	6-53	550	Dr	21	6	21	S	47	3	G	P1	C	D	La, A; Dd 1st after 2 hr bailing at 10 gpm	
6D2	H. Brunot	-----	9-5-55	550	Dr	50	6	50	Co	12	36	G	P1	V	S	La, A; Screen, 3 ft of 2-in dia, no. 60 gauze	
6P1	L. Brubock	-----	7-46	534	Dr	50	4	50	S	11	29	S, G	P1	V	T	La, Ashley (1899)	
8W1	Parke County Coal Co.	-----	2-28-60	550	Dr	268	6	38	S	175	75	Ss	P	C	D, S	La, A; Dd 7 ft after 5 hr pumping at 50 gpm; Screen, 5 ft of 6-in dia, no. 50 slot	
11Q1	R. H. Pott	M. O. Schrader	2-28-60	570	Dr	38	6	38	S	185	15	Ss	P	C	D, S	La, A; Dd 73 ft after 3 hr bailing at 8 gpm	
13P1	D. S. Chappann	R. L. Scoboo and Sons	9-10-60	670	Dr	250	7	181	Ch	55	18	S, G	P1	C	Og	G. H. Frodorman 1; L. (partial)	
14Q1	G. Kerr	-----	2-25-48	580	D	1,315	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17R1	Parke County Coal Co.	-----	-----	600	Dr	611	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18P1	H. Albright	M. O. Schrader	12-24-59	630	Dr	73	6	73	S	84	84	Ch	P	C	S	La, A; Dd 11 ft after 20 hr bailing at 30 gpm; Screen, 4 ft of 6-in dia, no. 50 slot	
20D1	C. O. Callis	-----	9-4-59	630	Dr	185	6	84	Ch	57	22	Ss	P	C	S	La, A; Dd 75 ft after 4 hr bailing at 8 gpm	
22D1	C. Peffley	-----	9-28-56	535	Dr	78	6	57	Ch	27	26	Ss	P	C	P	La, A	
22D2	P. Sellors	-----	7-7-56	585	Dr	86	6	27	Ch	56	56	Ss	P	C	P	La, A	
22D3	K. Payton	-----	6-21-57	550	Dr	64	6	36	Ch	18	55	Ss	P	C	D	La, A	
22E1	J. Hartman	R. L. Scoboo and Sons	1945	570	Dr	73	6	25	Ch	44	42	Ss	P	C	D	La, A	
22E2	Brignton School	M. O. Schrader	8-3-58	580	Dr	88	6	58	Ch	16	40	Ss	P	C	N	La, A	
22E3	A. McHargue	R. L. Scoboo and Sons	1945	585	Dr	85	6	23	Ch	17	62	Ss	P	C	D	La, A; Dd 48 ft after 4 hr bailing at 8 gpm	
22E4	C. P. Burke	-----	1945	555	Dr	82	6	24	Ch	25	47	Ss	P	C	D	La, A	
22E5	N. Harnay	M. O. Schrader	8-28-59	580	Dr	70	6	22	Ch	80	10	S, G	P1	C	D	La, A	
22K1	I. Stant	-----	5-24-54	610	Dr	90	6	88	Ch	97	47	Ss	P	C	D	La, A	
22M1	I. M. Brown	-----	8-11-54	585	Dr	84	6	37	Ch	73	61	Ss	P	C	D	La, A	
24P1	Shell Oil Co.	E. C. Baker and Sons	1939	665	Dr	237	8	173	Ch	90	20	Ss	P	C	D	La, A	
24R1	P. O. Grothe	M. O. Schrader	2-10-53	680	Dr	130	6	110	Ch	113	18	Ss	P	C	D	La, A; Dd 88 ft pumping at 5 gpm	
28M1	M. Lee	Ring and Son	3-53	580	Dr	130	6	83	Ch	22	18	S, G	P1	C	D, S	La, A; well from sand, comes under end of casing	
31B1	P. Barnes	L. Adkins	1-41	540	Dr	40	6	40	P	77	11	S	P1	C	D, S	La, A	
32B1	J. F. Mitchell, Jr.	-----	11-24-47	555	Dr	94	6	88	Ch	-----	-----	-----	-----	-----	D, S	La, A; well from sand, comes under end of casing	
35M1	G. and F. Coal Co.	M. O. Schrader	5-6-57	620	Dr	58	6	-----	-----	-----	-----	-----	-----	-----	T	La	
35N1	-----	-----	5-6-57	630	Dr	74	6	-----	-----	-----	-----	-----	-----	-----	T	La	
35S2	-----	-----	5-6-57	630	Dr	88	6	-----	-----	-----	-----	-----	-----	-----	T	La	
35Q1	J. Bellanca	-----	2-20-54	680	Dr	155	6	98	Ch	80	35	Ss	P	C	D, S	La, A	
36L1	W. Ellison	-----	4-18-56	620	Dr	105	6	49	Ch	40	80	Ss	P	C	D, S	La, A	
36L2	E. Eyerly	M. O. Schrader	9-6-55	625	Dr	120	6	24	Ch	40	80	Ss	P	C	D, S	La, A	
14/9W-131	Ohio Oil Co.	-----	-----	532	Dr	36	6	-----	-----	-----	-----	-----	-----	-----	O	Observation well Parke 2; Screen, 5 ft of 6-in dia, no. 50 slot; Water level 6.73 ft	
501	R. Tolin	W. L. Laughlin	1949	510	Dr	65	6	35	Ch	-----	-----	-----	-----	-----	D, S	La, A; Dd 10 ft bailing at 10 gpm	

14/8W- 5C1	Mr. Fox	L. Schnell	4- 4-58	550	Dr	90	8	66	Oh	64	14	Lg	P	C	19	8	P	L, Water at limestone and shale contact at 78 ft
9P1	G. Virostko	Ringo and Son	11- 1-47	815	Dr	148	6		Oh	125	2	C	P					L, A
14J1	V. Brown	W. L. Laughlin	4-53	530	Dr	44	6	44	Oh	137	1	C	P					L, A
18K1	D. Evans	C. Schnell	8- 5-59	820	Dr	205	8	8	Oh	40	4	P, G	P1	C	25	6		L, A
18P1	R. Brown		3- 5-59	820	Dr	205	8	191	Oh	161	J1	S, G	P1	C	127	13		L, A; Reported Dd 0 ft, after 2 hr pumping at 13 gpm
18R1	K. Henton	L. Adkins	3-25-42	610	Dr	150	8	150	Oh	145	5	S, G	P1					Well deepened by L. Adkins
21A1	C. Kinsey		5-42	540	Dr	62	4	170	Oh	170	20	S, G	P	C	15			L, A
22L1	L. Chanoy		4- 7-48	630	Dr	254	8	17	Oh				P	C				L, A
23R1	E. Denty	W. L. Laughlin	12-18-48	630	Dr	118	6	118	Oh				P	C	62	7		L, A; Reported Dd 0 ft after 2 hr balling at 7 gpm
26A1	D. Bayros		8- 1-55	550	Dr	80	6	79	Oh	79	1	G	P1	C				L, A
30P1	E. Ruxford	F. E. Larrabee		605	Dr	270	4	170	P	245	25	8g	P	C	97	5		L, A; Dd 148 ft after 4 hr balling at 5 gpm
30R1	F. Blair		1944	595	Dr	180	4	165		127	38	G	P1	C	84	20		L, A; Water from gravel comes under end of casing
30E2			1945	595	Dr	155	4	155	Oh	127	28	G	P1	C	60	20		L, A
31D1	E. Huxford		1-21-54	398	Dr	1,644												W. Abul and H. L. Wood
31P1	T. Wilson	H. R. Knox	12-44	600	Dr	121	7	121	Oh	105	16	S, G	P1	C	32			L, A
32J1	W. Brant	L. Adkins	8-17-41	535	Dr	45	6	50		130	10	Sg	P					L, A
33L1	I. Edington		8-11-41	600	Dr	130	6	84	Oh	38	2	S, G	P1	C	30	3.5		L, A; Dd 60 ft balling at 3.5 gpm
33Q1	C. Martz		3- 6-61	600	Dr	90	6	90	P	74	16	S, G	P1	C	14	100		Dd 2 ft after 8 hr pumping at 100 gpm
34A1	Town of Rosedale	Heldt-Monroe	1951	530	Dr	48	10	48					P1	U	6	300		L, A; Screen 15 ft of no. 20, 40, and 80 slot
34P1	L. Lane	L. Lockard	1- 1-54	540	Dr	90	8	80	S	16	74	S, G	P1	U	16	400		L; Screen, 15 ft of no. 60 slot
34R1	A. Yeargin		1952	530	Dr	68	10	68	S	19	49	S, G	P1	U	19	600		Screen, 15 ft of no. 100 slot
35C1	S. S. Lano	L. Adkins	1952	530	Dr	113												Madgrave Petroleum Co. and F. Bruce, L. A.
35C2			1- 3-54	540	Dr	1,490												Madwest Petroleum Co.
35Q1	G. W. Withers	J. C. Kowse and Son	6-18-49	527	Dr	1,362				210	30	8g	P					L; L (partial)
36C1	H. V. Lau			525	Dr	72		72	S	70	2	G	P1	C	30			L; Screen, 1 ft of no. 80 slot
14/8W- 1R1	S. Kamm	Smith Bros.		630	Dr	280	6	147	Oh	232	5	Lg	P	C	100	2.5		L, A; well dry, 8-24-59
13M1	J. Zamboni	L. Adkins	4-12-48	630	Dr	250	6	160	Oh	95	10	G	P1	C	58	10		L, A; Reported Dd 0 ft after 2 hr pumping at 10 gpm
13Q1	R. Brown	W. L. Laughlin	3-27-51	665	Dr	105	4	105	P									L, A; Reported Dd 0 ft after 2 hr pumping at 10 gpm
14K1	W. Davis	L. Lockard	8- 8-50	530	Dr	105												L, A; Reported Dd 0 ft after 2 hr pumping at 10 gpm
14L1	S. C. Stultz		8-49	470	Dr	1,450												J. Gambill and O. M. Randoemnn 1; L, A.
23A1	C. Wilding	F. E. Larrabee	3-11-61	525	Dr	87	2 1/2	87	S	53	34	S, G	P1	U	58	7		L; Reported Dd 0 ft after 2 hr pumping at 1 gpm; Screen, 3 ft of 1 1/2-in dia, no. 30 slot
23R1	F. Yowell	L. Adkins	9-47	530	Dr	38	6	38	Oh	18	18	S, G	P1					L, A
23Q2	F. Zoyonius		1- 7-47	535	Dr	45	8	45	P	55	38	S, G	P1	U	68	6		L, A; Reported Dd 0 ft after 3 hr pumping at 8 gpm; Screen, 3 ft of 1 1/2-in dia, no. 40 slot
23Q3	M. Shoemaker	F. E. Larrabee	4-15-50	535	Dr	93	2 1/2	93	S									L, A; Reported Dd 0 ft after 2 hr pumping at 10 gpm; Screen, 3 ft of 1 1/2-in dia, no. 40 slot
23B4	G. Moss	L. Adkins	1-24-47	535	Dr	101	7	101	P	51	50	G	P1	U	85	6		L, A; Reported Dd 0 ft after 2 1/2 hr pumping at 8 gpm; Screen, 3 ft of 1 1/2-in dia, no. 80 slot
23R1	R. Golden	F. E. Larrabee	4-18-50	530	Dr	87	2 1/2	87	S	54	33	S, G	P1	U	36			L; Screen, 2 ft of no. 60 slot
24D1	J. Chanoy	Smith Brothers	5-13-58	545	Dr	76	2 1/2	42	S	38	4	S, G	P1					L, A
24L1	E. Waters	W. McAllister	1940	580	Dr	188	6	60		121	45	0	P1					L, A
24L2	R. Harbross	R. McDaniel and Sons	8-20-57	600	Dr	63	8	60					P1?					L, A
24L3	J. Kape		7-30-57	610	Dr	100	6	100					P1?					L, A
24L4	D. Shoppard		1958	610	Dr	273	6	100					P					L, A
24M1	J. Rondaci	L. Schnell	2-28-48	535	Dr	96	6	96	S	83	35	G, S	P1					L, A; Screen, 10 ft

Table 4.--Record of wells, Parko County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Fluid	Depth to top (feet)	Water-bearing zone				Water level (feet)	Yield (gpm)	Remarks	
											Thickness (feet)	Material	Geologic age	Ground-water occurrence				
14/9W-25M1 26A1	C. Miller R. Land	L. Adkins Smith Brothers	11-1-48	525	Dr	90	4	80	P	46		S, G	P1		---	L; Screen 3.5 ft of 3 1/2-in dia, no. 40 slot		
			12-30-60	525	Dr	94	4	94	S	62		32	S, G	P1		---	L; Reported Dd 0 ft after 3 hr pumping at 15 gpm; Screen, 3 ft of 2-in dia, no. 30 slot	
			1845	526	Dr	97	2	97	S	71		34	G, S, G	P1	U	15	A	
			9-20-60	530	Dr	105	2 1/2	105	S							---	A	
35R1 35L1	T. Schultz J. Call	C. Cassidy Smith Brothers	5-30	530	Dr	85	4	85	S	---		G, S, G	P1		---	A		
			12-15-60	510	Dr	83	4	83	S	---					---	A		
			8-20-50	510	Dr	70	2	70	S	---		20	S, G	P1	U	15	La, A: Reported Dd 0 ft after 3 hr pumping at 20 gpm; Screen, 2.5 ft of 4-in dia, no. 40 slot of 4-in dia, no. 40 slot	
				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15/8W- 7E1 7H1 7J1 7K1 7L1 8E1 8J1 8L1 9G1 9H1 10E1 10L1	G. Seip C. Reeder R. Porter Mr. Hardesty W. B. Blue Town of Bellaire C. Hartan N. Spencer Mr. Blako Mr. Williams Mr. C. Buckler W. Hatfield	D. Cheavis M. Crabb D. Cheavis do do do K. Crabb Ruark Well Drilling V. Hayden C. Cassidy R. L. Scoobee and Sons Ruark Well Drilling do do Ruark and Toney L. Smith D. Cheavis Holt Brothers	7-20	730	Dr	130	6	63	Ch	120		Sh	P		---	A		
			10-11-51	740	Dr	123	4	65	4	112	Ch	65	Sh	P		---	Lam, A	
			1855	740	Dr	125	6	80	6	100	Ch	58	L4	M		---	Lam	
			740	740	Dr	145	6	100	6	118	Ch	---	S	P1		---	A	
			12-16-52	740	Dr	278	6	118	6	118	Ch	116	S	P		---	Lam (partial), A	
			9-14-60	740	Dr	137	4	65	4	90	Ch	44	3	Sh	P		---	Lam, A
			1846	740	Dr	180	8	20	8	114	Ch	90	42	L4	M	C	6	L; Dd 100 ft after 3 hr balling at 6 gpm
			1943	750	Dr	116	0	28	0	70	Ch	2	---	Sh	M?		---	L, A
			9-19-60	665	Dr	110	4	28	4	28	Ch	96		Sh	P?		---	L, A
			4-12-61	675	Dr	115	6	28	6	28	Ch			L4	M		---	L, A
			1-27-61	750	Dr	100	6	25	6	25	Ch			L4	M		---	L, A
12M1 13Q1 14N1 15A1	O. Thomas G. Berry W. Anderson N. Dillman	Ruark and Toney L. Smith D. Cheavis Holt Brothers	1848	800	Dr	98	6	74	Ch	70	28	Sh, L4	M?		---	A		
			1842	810	Dr	45	6	31	6	38	Ch		Sh			---	L, A	
			780	780	Dr	148	6	38	6	63	Ch	60				---	L, A	
			5- 3-60	660	Dr	63	4	63	4	63	S			G			---	L, A
			11-27-60	720	Dr	83	4	60	4	60	Ch	80	13	L4, Sh	M	C	7	La; Reported Dd 0 ft after 2 hr pumping at 10 gpm; Screen, 2 ft of 3 3/4-in dia, no. 40 slot
			11-20-60	710	Dr	90	4	63	4	63	Ch	80	13	L4, Sh	M	C	10	L; Reported Dd 0 ft after 1 hr pumping at 7 gpm
			8-15-60	700	Dr	100	4	91	4	91	Ch	88	12	S4	P		---	La; Reported Dd 0 ft after 1 hr pumping at 10 gpm
			720	720	Dr	163	6	50	6	50	Ch	85	78	L4	M		---	Lam
			3-31-61	705	Dr	335	6	50	6	50	Ch	57					---	L; Dd 79 ft after 1 hr balling at 6 gpm
			8-12-60	735	Dr	134	4	131	4	131	Ch	128	6	L4	M	C	20	La; Dd 278 ft after 10 hr pumping at 1.5 gpm
			15B1 15B2 16P1 19C1 22G1 22K1 24J1 27B1 27C1 27C2	Mr. Eboet Mr. Richardson A. Reed F. Moore W. Anderson E. Conway C. R. Adams C. Noble U. S. Government	Smith Brothers D. Cheavis do do	11-7-58	800	Dr	40	6	40	P	88	20	Sh	P		---
740	740	Dr				108	6	70	6	70	Ch		Sh			---	L, A	
11-23-55	746	Dr				56	6	40	6	40	Ch		Sh			---	L, A	
4- 6-55	733	Dr				66										---	T	

Table 4.---Record of wells Parko County, Indiana---Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Pithead	Water-bearing zone					Water level (feet)	Yield (gpm)	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence			
15/8W- 531	G. Henderson	W. L. Laughlin	1940	540	Dr	63	4	63	S								L, A; Screen, 3 ft of 2-in dia, no. 60 gauze
532	D. Collings	do	3-7-50	540	Dr	235	6	26	Oh								L
501	M. Carlton	do	1936	550	Dn	32	2 1/2	32	Oh								D,S
681	S. Smith	do	7-20-50	550	Dr	110	4	110	Oh								D,S
781	S. Hoselar	W. L. Laughlin	12-40	530	Dr	80	6	80	Oh								D,S
1201	W. Hargrave	do	9-53	690	Dr	193	6	150	Oh								D
1201	R. Boyd	do	6-95	695	Dr	173	4	160	Oh								S
1401	L. Sparks	do	2-16-48	620	Dr	1,444		18	Oh								Og
1801	H. Robertson	W. L. Laughlin	2-57	540	Dr	216	4	18	Oh								Lam A; Dd 20 ft after 2 hr
1901	L. Myers	do	5-20-56	540	Dr	125	6	51	Oh								ending at 5 gpm
1901	P. Stover	L. Schell	1957	540	Dr	92	6	63	Oh								L, A; 8-in hole, annular space filled with gravel
2301	J. M. McDowell	W. O. Schrader	10-15-56	645	Dr	130	6	100	Oh								L, A
2401	R. Vaughn	W. L. Laughlin	---	650	Dr	87	6	102	Oh								L
2401	P. Troitzke	W. O. Schrader	9-23-54	650	Dr	104	6	104	Oh								L, A
2601	L. W. Fisher	W. L. Laughlin	9-25-56	640	Dr	104	6	104	Oh								L, A
2701	M. D. Swain	do	4-19	610	Dr	110	6	89	Oh								L, A
3201	F. S. Wood	do	9-20-55	520	Dr	78	6	28	S, Oh								L; Dd .5 ft after 3 hr
3201	G. Laws	do	1947	505	Dr	44	6	10	Oh								L, A
3201	W. H. Davis	Mr. McCullum	---	510	Dr	119		---	---								L, A; Ashley (1899)
3301	---	W. L. Laughlin	3-59	640	Dr	309	6	150	Oh								L, A; Dd 30 ft after 3 hr
15/8W- 101	G. Gill	W. O. Schrader	11-19-56	480	Dr	65	6	65	P								L, A; Dd 30 ft after 3 hr
101	L. Myers	W. L. Laughlin	1946	525	Dn	48	2 1/2	48	P								L, A; Dd 30 ft after 3 hr
201	Western Indiana Gravel	do	2-29-51	490	Dr	98	6	98	Oh								L, A; Dd 7 ft after 2 1/2 hr
1201	H. Tucker	do	1950	520	Dr	220	4	25	Oh								L, A; Dd 7 ft after 2 1/2 hr
1301	C. Baldwin	W. L. Laughlin	8-41	500	Dr	60	4	60	Oh								L, A; Dd 7 ft after 2 1/2 hr
1301	R. Baldwin	do	8-51	490	Dr	58	4	59	Oh								L, A; Dd 7 ft after 2 1/2 hr
1301	G. Shorrill	do	10-16	480	Dr	115	6	100	Oh								L, A; Dd 7 ft after 2 1/2 hr
1401	E. H. Fisher	do	7-13-59	495	J	63	2 1/2	63	S								L, A; Dd 7 ft after 2 1/2 hr
3001	C. Dickey	do	3-58	540	Dr	110	6	88	S								L, A; Dd 7 ft after 2 1/2 hr
16/8W- 201	H. Ramsey	Swark and Toney	1946	780	Dr	112	6	35	Oh								L, A; Dd 10 ft pumping at 30 gpm; Screen, 5 ft of 8-in dia, no. 20 slot
201	F. Gardner	do	1947	790	Dr	93	6	54	Oh								L, A; Dd 10 ft after 3 hr
801	C. Bushong	Swisher and Swank	9-28-57	670	Dr	56	4	37	Oh								L, A; Dd 10 ft after 3 hr
901	F. E. Spencer	R. L. Scobee and Sons	1943	730	Dr	250	6	156	Oh								L, A; Dd 10 ft after 3 hr
1101	W. B. McClain	Mr. Koolahan	1896	780	Dr	108	6	86	Oh								L, A; Dd 10 ft after 3 hr
1201	J. L. Allen	Swark and Toney	1948	780	Dr	111	6	86	Oh								L, A; Dd 10 ft after 3 hr
1201	Indiana State Highway Department	do	1-15-57	756	Dr	40		---	---								L, A; Dd 10 ft after 3 hr
1201	J. L. Allen	do	1-11-57	758	Dr	40		---	---								L, A; Dd 10 ft after 3 hr
1201	J. L. Allen	Layno-Northrup Co., Inc	8-22-40	775	Dr	80	6	80	S								L, A; Dd 10 ft after 3 hr
1801	C. Porter	Swark Well Drilling	6-25-60	855	Dr	200	6	30	Oh								L, A; Dd 10 ft after 3 hr
2001	M. Nesler	D. Chavis	---	720	Dr	120	6	55	Oh								L, A; Dd 10 ft after 3 hr
2301	Indiana State Highway Department	do	9-24-58	697	Dr	40		---	---								L, A; Dd 10 ft after 3 hr
2301	do	do	9-24-58	700	Dr	40		---	---								L, A; Dd 10 ft after 3 hr
2301	do	do	9-24-58	700	Dr	40		---	---								L, A; Dd 10 ft after 3 hr
2501	M. L. Smith	D. Chavis	8-54	785	Dr	228	6	112	Oh								L, A; Dd 10 ft after 3 hr

Well No.	Owner	Driller	Depth	Completion	Flow	Pressure	Production	Notes
16/8W-28E1	R. E. Seath	D. Chavis	750	Dr	200	Oh	200	
28B1	R. Spencer	V. Hayden	738	Dr	80	Oh	80	
28P1	L. Leathorson	M. Crabb	740	Dr	188	Oh	188	
31Q1	R. Noild	A. R. Scobon	730	Dr	128	Oh	128	
34N1	R. Coleman	K. O. Schrader	740	Dr	92	Oh	92	
35M1	P. Fritts	Ruark Well Drilling	750	Dr	230	Oh	230	
39Q1	J. C. Shalley	V. Hayden	760	Dr	146	P	146	
16/7W-3K1	H. Butler	W. L. Laughlin	705	Dr	112	Oh	112	
4G1	A. S. Hadley		865	Dr	80	Oh	80	
4G2	L. Davies		850	Dr	76	Oh	76	
4H1	A. S. Hadley		880	Dr	230	Oh	230	
4I2	P. Roberts		870	Dr	90	Oh	90	
4I3	D. Myers		875	Dr	200	Oh	200	
4H4	S. J. Leo		870	Dr	146	Oh	146	
4K1	A. W. Camerly		875	Dr	81	Oh	81	
4K2	Kraft Food Co.	J. P. Miller Artesian Well Co.	880	Dr	80	Oh	80	
4L1	A. Beckett	W. L. Laughlin	880	Dr	43	Oh	43	
4M1	W. Wilson	Ruark Well Drilling	880	Dr	51	S	51	
5N1	P. DePlanty	K. O. Schrader	630	Dr	64	Oh	64	
6D1	W. Hatchey	Ruark Well Drilling	640	Dr	298	Oh	298	
6H1	C. Chamoss	W. L. Laughlin	660	Dr	88	Oh	88	
7C1	W. Ritchey		850	Dr	42	Oh	42	
7J1	G. Timberlake	C. E. Crick	690	Dr	259	Oh	259	
8L1	W. O. Engle	W. L. Laughlin	650	Dr	28	Oh	28	
9C1	I. Ulery		685	Dr	99	Oh	99	
9F1	Kraft Foods Co.	J. P. Miller Artesian Well Co.	710	Dr	315	Oh	315	
9F2	C. Marshall	W. L. Laughlin	700	Dr	59	Oh	59	
9G1	Kraft Foods Co.	R. L. Scobon and Sons	700	Dr	189	Oh	189	
9G2		Stromol and Hill	700	Dr	251	Oh	251	
9G3		E. R. Parker	700	Dr	100	Oh	100	
9L1	Town of Marshall	Ruark Well Drilling	700	Dr	240	Oh	240	
9P1	G. E. Uranson	Stromol and Hill	890	Dr	150	Oh	150	
10C1		M. Crabb	700	Dr	258	Oh	258	
10C2			700	Dr	127	Oh	127	
10C3			765	Dr	33	Oh	33	
12L1	H. Flum	Swisher and Spink	785	Dr	180	Oh	180	
15E1	H. Evans	W. L. Laughlin	765	Dr	270	Oh	270	
15R1	L. G. Pyle		745	Dr	196	Oh	196	
16L1	R. Allen	Ruark and Toney	750	Dr	175	Oh	175	
16L1	W. Shoaf	W. L. Laughlin	750	Dr	148	Oh	148	
17F1	J. Jones		685	Dr	102	Oh	102	
17M1	C. Hauner		725	Dr	103	Oh	103	
19J1	B. Warren	W. L. Laughlin	715	Dr	141	Oh	141	
20L1	A. Stark		740	Dr	111	Oh	111	
21L1	R. Winlegs		725	Dr	60	Oh	60	
22L1	R. Overpack	D. Chavis	720	Dr	100	Oh	100	
23K1	J. Wrightsman		715	Dr	130	Oh	130	
23N1	C. Baker	Ruark and Toney	740	Dr	93	Oh	93	

Notes: 1. 16/8W-28E1: D, S; 2. 16/7W-3K1: D, S; 3. 4G1: D, S; 4. 4G2: D, S; 5. 4H1: D, S; 6. 4I2: D, S; 7. 4I3: D, S; 8. 4H4: D, S; 9. 4K1: D, S; 10. 4K2: D, S; 11. 4L1: D, S; 12. 4L2: D, S; 13. 4M1: D, S; 14. 4M1: D; 15. 5N1: D, S; 16. 6D1: D, S; 17. 6H1: D, S; 18. 7C1: D, S; 19. 7J1: D, S; 20. 8L1: D, S; 21. 9C1: D, S; 22. 9F1: D, S; 23. 9F2: D, S; 24. 9G1: D, S; 25. 9G2: D, S; 26. 9G3: D, S; 27. 9L1: D, S; 28. 9P1: D, S; 29. 10C1: D, S; 30. 10C2: D, S; 31. 10C3: D, S; 32. 12L1: D, S; 33. 15E1: D, S; 34. 15R1: D, S; 35. 16L1: D, S; 36. 16L1: D, S; 37. 17F1: D, S; 38. 17M1: D, S; 39. 19J1: D, S; 40. 19N1: D, S; 41. 20L1: D, S; 42. 21L1: D, S; 43. 22L1: D, S; 44. 23K1: D, S; 45. 23N1: D, S.

Table 4.---Record of wells, Parke County, Indiana---Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Pavab	Water-bearing zone					Yield (gpm)	Remarks		
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence				
16/7W-2111	C. Baker	W. L. Laughlin	8-10-52	616	Dr	65	6	43	Oh		43	22	La	H	C	21	10	L, A
24N1	R. Bell	D. Chavis	6-10	610	Dr	50	6	50	Oh		36	8	Sh	Pl		---	17	L, A
25F1	C. Thompson	M. O. Schrader	8-11-56	643	Dr	44	6	36	Oh		36	8	Sh	Pl		---	17	L, A
26Q1	F. S. Hankley	W. L. Laughlin	3-19-50	640	Dr	48	6	37	P, Oh		28	9	S, G	Pl		18	10	L, A; Dd 2 ft after 5 hr bailing at 10 gpm
28E1	M. B. Adair	---	5-46	725	Dr	104	4	84	Oh		99	5	C	P	C	30	10	L, A; Dd 25 ft after 2 hr bailing at 10 gpm
29Q1	C. Joslin	---	10- 2-55	685	Dr	94	4	20	Oh		85	5	Sh	P	C	50	---	L, A; Dd 25 ft after 2 hr bailing at 10 gpm
30F1	M. F. Barry	---	5-15-50	710	Dr	197	5	160	Oh		198	1	La	P	C	11	17	L, A; Dd 30 ft after 8 hr pumping at 5 gpm
30G1	E. Garpeck	M. O. Schrader	1-30-59	725	Dr	44	6	44	S		36	8	S, G	Pl		---	---	L, A; Dd 30 ft after 8 hr pumping at 5 gpm
30N1	R. Graison	W. L. Laughlin	9-53	700	Dr	100	6	100	Oh		99	1	S, G	Pl		18	5	L, A; Dd 15 ft after 5 hr pumping at 7 gpm
32H1	J. Mull	---	3-43	695	Dr	80	4	53	Oh		53	27	Sh	P	C	21	---	L, A
33D1	H. P. Mull	R. McDaniel and Sons	8-24-57	700	Dr	83	6	83	Oh		60	23	Sh	P	C	14	2	L, A
33N1	J. H. Mull	W. L. Laughlin	5-12-52	700	Dr	102	6	54	S, Oh		50	4	G	Pl		14	8	L, A; Dd 15 ft after 5 hr pumping at 7 gpm
35E1	D. Thomas	D. Chavis	7- 9-45	670	Dr	125	6	80	Oh		115	24	Ss	P		---	---	L, A
35Q1	R. S. Adams	---	8-27-58	595	Dr	34	6	34	P		115	24	Ss	P		---	---	L, A
16/8W- 181	L. Osborne	---	4-15-55	855	Dr	102	7	38	Oh		35	40	Ss	P		---	---	L, A; Dd 15 ft after 5 hr pumping at 7 gpm
101	---	---	---	---	Dr	---	---	---	---		---	---	---	---		---	---	---
181	J. C. McFarquhar	---	7-49	870	Dr	30	6	30	Oh		29	1	S, G	Pl		24	5	L, A; Dd 10 ft after 3 hr bailing at 5 gpm
2M1	F. C. Ailoe	---	8-56	876	Dr	81	6	80	Oh		80	1	G	Pl		---	---	L, A; Dd 10 ft after 3 hr bailing at 5 gpm
5L1	L. and A. Polotto	---	9-15-52	550	Dr	1,260	---	---	---		---	---	---	---		---	---	---
5P1	A. Polotto	---	2-22-50	525	Dr	1,100	---	---	---		---	---	---	---		---	---	---
7K1	L. Cauley	M. Crabb	12-31	530	Dr	70	4	70	Oh		90	6	G	Pl		40	---	---
7K2	A. Taylor	M. O. Schrader	10-29-52	530	Dr	90	6	90	Oh		90	6	G	Pl		---	---	---
7Q1	H. Norman	---	10-25-54	530	Dr	153	6	97	Oh		144	5	G	Pl		---	---	---
7Q2	L. Marwaring	---	2- 9-55	530	Dr	148	6	148	Oh		---	---	---	---		---	---	---
8N1	G. Holzapfle	D. Chavis	4-55	605	Dr	285	6	148	Oh		---	---	---	---		---	---	---
10Q1	M. Davison	W. L. Laughlin	1-58	680	Dr	215	6	90	Oh		---	---	---	---		---	---	---
11A1	L. G. Ayres	---	6-22-51	550	Dr	210	6	70	Oh		160	10	Ss	P	C	20	5	L, A; Dd 60 ft after 2 hr pumping at 10 gpm
12C1	L. Shelata	---	1948	645	Dr	82	4	82	S		82	---	G	Pl		18	---	---
12D1	J. R. Coffin	---	---	645	Dr	72	3	72	Oh		80	12	S, G	Pl		---	---	---
12D2	W. L. Laughlin	---	---	640	Dr	63	4	83	S		80	3	S, G	Pl		---	---	---
12D3	E. Crowder	---	9-22-56	640	Dr	80	6	80	Oh		60	20	S, G	Pl		---	10	L, A; Dd 15 ft after 3 hr pumping at 10 gpm
12D4	A. Wallace	---	4-10-60	640	Dr	60	4	60	P		57	3	G	Pl		11	6	L, A; Dd 3 ft after 3 hr pumping at 5 gpm
12E1	J. Hannon	---	2-58	640	Dr	35	6	35	Oh		30	5	G, Cl	Pl		12	5	L, A
12H1	L. Chapman	---	1- 2-55	680	Dr	222	6	60	Oh		210	12	La	M	C	50	3-5	L, A; Dd 10 ft after 2 1/2 hr pumping at 5 gpm
13D1	J. O. Evans	---	4-53	650	Dr	110	6	36	Oh		38	---	G	Pl		27	1-5	L, A
13E2	W. Dismore	---	1947	640	Dr	52	6	52	S		32	20	S	Pl		20	---	---
13E3	W. Deoley	W. L. Laughlin	6-27-51	640	Dr	78	6	60	Oh		88	10	Ss	P	C	20	---	---
13E4	Para Bureau Co-op	---	1-57	645	Dr	135	8	75	Oh		126	9	Ss	P		18	10	L, A; Dd 30 ft after 3 hr bailing at 10 gpm

Well No.	Owner	Location	Depth	Flow Rate	Pressure	Water Level	Notes
16/8W-1371	J. Coffin	W. L. Laughlin	3-47 650	Dr	140		
1372	R. Norris	do	8-51 850	Dr	116		
1373	L. Rukes	do	7-53 650	Dr	95		
1374	R. Merson	do	1946 640	Dr	120		
1375	F. G. Groano	do	645	Dr	80		
1376	J. M. Evans	do	5- 2-55 650	Dr	120		
1377	C. Hunter	do	11-29-52 845	Dr	78		
1378	W. Flock	do	2-58 645	Dr	98		
1379	H. Henshaw	do	11-58 650	Dr	104		
1380	M. Brown	do	5-10-56 650	Dr	80		
1381	L. J. Brown	do	1934 640	Dr	85		
1382	M. Swain	do	10-54 650	Dr	98		
1383	Friends Church	do	12- 5-51 650	Dr	100		
1384	Mr. Jeffers	do	5-48 815	Dr	52		
1385	V. Hinshaw	do	4-47 615	Dr	69		
1386	C. Flock	do	4- 1-56 615	Dr	71		
1387	C. Ozior	do	7-53 615	Dr	80		
1388	L. McInsters	do	4-54 610	Dr	38		
1389	S. L. Osborne	do	6- 1-55 610	Dr	38		
1390	J. S. Russell	M. Crabb	4-30-57 610	Dr	50		
1401	W. Leonard	W. L. Laughlin	6- 5-55 645	Dr	100		
1411	L. Ditto	do	1934 620	Dr	97		
1601	C. Cox	do	4-29-57 811	Dr	741		
1601	C. Bartlow	do	8-30-44 608	Dr	1,504		
1681	J. Whitely	W. L. Laughlin	8- 2-53 650	Dr	100		
1681	I. O. Hobson	M. Crabb	12-18-49 550	Dr	210		
1681	F. M. Adams	W. L. Laughlin	4-49 520	Dr	102		
1901	R. Simpson	Campbell Brothers	9- 3-54 510	Dr	230		
2001	M. A. Phillips	W. L. Laughlin	4-10-49 550	Dr	150		
2201	W. H. Wiedner	do	2-49 665	Dr	34		
2301	V. Woodard	do	8-18-53 605	Dr	90		
2301	do	do	11-21-49 815	Dr	90		
2301	Forguson Lumber Co.	do	3-25-52 820	Dr	200		
2401	B. Miller	do	11-15-58 895	Dr	126		
2402	R. Crowder	do	4-54 695	Dr	110		
2401	R. Smith	do	6-46 825	Dr	79		
2401	W. Jeffers	do	5-20-51 640	Dr	44		
2601	E. Beavers	do	1948 715	Dr	98		
2602	do	do	1936 710	Dr	195		
2701	N. Cox	W. L. Laughlin	4- 5-51 600	Dr	122		
2801	M. Henry	do	4- 5-51 600	Dr	62		
3001	Panhandle Eastern Pipe-Linac Co.	Layne-Northern Co., Inc.	5- 6-36 500	Dr	20		

L, A; Dd 20 ft pumping
 at 6 gpm
 La; Dd 30 ft after 5 hr
 pumping at 5 gpm
 La; Dd 20 ft after 10 hr
 pumping at 8 gpm
 La
 La; Dd 1ft after 2 hr
 pumping at 5 gpm
 La; Dd 25 ft after 2 hr
 pumping at 12 gpm
 L
 La; Dd 20 ft after 5 hr
 balling at 5 gpm
 La; Dd 10 ft after 3 hr
 pumping at 8 gpm
 La
 La; Dd 12 ft after 10 hr
 pumping at 4 gpm
 La; Dd 18 ft balling at
 5 gpm
 L
 L
 La
 La; Dd 18 ft after 6 hr
 pumping at 8 gpm
 La; Dd 12 ft after 3 hr
 pumping at 5 gpm
 La
 La; Dd 12 ft pumping at
 15 gpm; Screen 6 ft,
 no. 14 and 20 slot
 La; Reported Dd 0 ft
 after 3 hr balling
 at 10 gpm
 L, A; Dd 15 ft pumping
 at 6 gpm
 R. Drinkley I; La
 C. C. Nye I; La; Well
 plugged at 250 ft,
 1-9-45; completed
 as a water well
 L, A
 L, A
 L, A
 L, A; Reported salt
 water 176 to 187 ft
 L, A
 L, A
 La; Dd 10 ft after 5 hr
 pumping at 6 gpm; Well
 backfilled with coarse
 gravel to 55 ft
 L, A; Dd 18 ft pumping
 at 15 gpm
 L; Dd 40 ft after 2 1/2 hr
 pumping at 5 gpm 2 1/2
 La; Dd 20 ft after 2 hr
 balling at 10 gpm
 L; Dd 20 ft after 4 hr
 balling at 8 gpm
 L
 L, A; Dd 3 ft after 3 hr
 pumping at 10 gpm;
 Screen, 4 ft of 4-in
 dia., no. 18 slot
 L, A
 L, A
 L, A
 L; Ashley (1899)
 La; Dd 20 ft pumping
 at 5 gpm
 T
 D, S
 La
 T

17/78- 991	F. V. Grims	4-18-47	595	Dr	22	4	32	On	30	2	U	Pl	C	18	D,S	Lam, A
11D1	R. O. Delp	8-50	700	Dr	110	4	40	On	40	70	Sh	P	C	35	D,S	La
11E1	C. Heckett	8-50	955	Dr	120	4	60	On	25	10	Sh, Ss	P	C	25	D,S	La
11F1	do	8-50	700	Dr	185	4	44	On	65	---	Sh, Ss	P	C	40	D,S	La
11K1	R. Delp	46	700	Dr	108	4	106	On	60	25	Sh, Ss	P	C	40	D,S	La
11M1	Friends Union Church	8-52	895	Dr	120	4	94	On	92	2	G	Pl	C	25	D,S	La
11N1	J. W. Lucas	4-20-46	700	Dr	115	4	82	On	92	23	Sh	P	C	40	D,S	La
11O1	A. Myer	8-53	720	Dr	110	4	65	On	92	23	Sh	P	C	40	D,S	La
11P1	do	8-53	710	Dr	166	4	88	On	13	51	5, G	Pl	C	15	D,S	La
11Q1	do	11-25-59	700	Dr	185	8	148	On	184	11	Ss	P	C	89	D,S	La; Dd 15 ft after 5 hr bailing at 10 gpm
11R1	C. Wells	11-25-59	700	Dr	165	8	148	On	184	11	Ss	P	C	89	D,S	La; Dd 15 ft after 5 hr bailing at 10 gpm
11S1	F. Ingus	1-8-47	700	Dr	58	4	56	On	54	2	G	Pl	C	35	D,S	La
11T1	do	1946	700	Dr	108	4	70	On	80	138	Sh	---	C	36	D,S	La
11U1	E. Harrington	1-18-47	880	Dr	218	4	81	On	145	12	Sh	---	C	36	D,S	La
11V1	O. Crowder	2-50	582	Dr	165	8	132	On	145	12	Sh	---	C	36	D,S	La; A, B, G; Observation well Parke 5, W
11W1	T. Miller	1932	570	Dr	65	4	85	On	85	12	G	Pl	---	---	D,S	La; A; Screen 4 ft of 2-in dia
11X1	G. Crowder	1959	870	Dr	97	4	97	On	85	12	G	Pl	---	---	D,S	La; A; Screen 4 ft of 2-in dia
11Y1	Warrick and Youngblood	1959	570	Dr	97	4	97	On	85	12	G	Pl	---	---	D,S	La; A; Screen 4 ft of 2-in dia
12A1	M. Crabb	1955	670	Dr	182	4	182	On	182	30	G	Pl	C	125	D,S	La; A; Dd 60 ft after 3 hr bailing at 5 gpm
12B1	W. L. Laughlin	3-56	540	Dr	170	7	50	On	140	30	Sh	M	C	22	D,S	La; A; Well composed by W. L. Laughlin; Dd 17 ft at 5 gpm
12C1	Kramer	705	705	Dr	154	6	154	On	180	20	8, Cl	Pl	C	125	D,S	La; A; Dd 60 ft after 3 hr bailing at 5 gpm
12D1	W. L. Laughlin	10-28-51	530	Dr	201	6	181	On	180	20	Sh	P	C	125	D,S	La; A; Dd 60 ft after 3 hr bailing at 5 gpm
12E1	do	10-20-51	670	Dr	342	8	103	On	310	3	Sh	---	C	118	N	La
12F1	do	1948	600	Dr	313	8	78	On	229	14	Sh	---	C	118	N	La
12G1	W. L. Laughlin	3-54	600	Dr	243	8	70	On	229	14	Sh	---	C	118	N	La
12H1	Wyman and Brown	4-14-38	582	Dr	1,074	6	51	On	---	---	Ls	---	C	---	---	---
12I1	R. Crabb	1-55	550	Dr	181	4	68	On	100	8	Sh	M	C	40	D,S	La, A
12J1	W. L. Laughlin	1948	530	Dr	58	5	20	On	---	---	---	---	C	24	P	La (partial), A
12K1	do	5-8-60	840	Dr	132	8	45	On	---	---	---	---	C	84	P	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12L1	do	10-59	550	Dr	190	6	18	On	---	---	---	---	C	127	D	La, A; Dd 50 ft after 1 hr pumping at 5 gpm
12M1	do	10-28-60	660	Dr	107	6	84	On	100	7	Ss	---	C	50	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12N1	do	6-30-60	680	Dr	125	6	50	On	121	4	Ss	---	C	60	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12O1	do	11-1-52	640	Dr	75	6	30	On	---	---	---	---	C	40	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12P1	do	6-37	840	Dr	98	4	82	On	81	17	Sh	---	C	30	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12Q1	do	9-19	650	Dr	106	6	87	On	100	6	Ss	---	C	50	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12R1	do	7-25-52	655	Dr	141	6	109	On	109	32	Ss	---	C	50	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12S1	M. Crabb	7-53	655	Dr	118	4	103	On	103	13	Ss	---	C	25	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12T1	W. L. Laughlin	7-10-52	660	Dr	40	6	40	On	34	6	G	Pl	C	34	S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12U1	do	8-54	655	Dr	103	6	79	On	79	16	G	Pl	C	50	S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12V1	H. Lister	---	670	Dr	84	6	84	On	---	---	---	---	C	78	D,S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12W1	W. L. Laughlin	---	700	Dr	165	6	101	On	---	---	---	---	C	55	D,S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12X1	Swisher and Swank	8-39	685	Dr	150	4	74	On	72	78	Sh	---	C	30	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
12Y1	V. V. Channos	5-21-58	685	Dr	100	4	80	On	90	4	C	---	C	25	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
13A1	M. Crabb	1955	690	Dr	77	4	66	On	66	11	8, G	Pl	C	35	D	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
13B1	H. Hodson	8-26-60	695	Dr	50	6	50	On	45	5	8, G	Pl	C	3	S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
13C1	do	8-18-48	715	Dr	98	5	98	On	98	---	---	---	C	32	D,S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
13D1	R. Miller	---	890	Dr	133	4	133	On	---	---	---	---	C	---	D,S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm
13E1	do	---	565	Dr	212	4	65	On	---	---	---	---	C	---	D,S	La, A; Dd 50 ft after 2 hr pumping at 4 gpm

Table 4.--Record of wells, Park County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Plugs	Water-bearing zone					Yield (gpm)	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence		
17/8W-782	H. ENG	M. Crabb		580	Dr	100										Lam; Well dry, 11-12-58
783	do	do		580	Dr	130										Do
784	do	do	9-55	580	Dr	138	4	70								Do
785	do	do	9-55	585	Dr	210	4	70	Oh							Lam; Well dry, 11-12-58; Reported unit water
7K1	P. Ray	do	1957	580	Dr	100	4	56	Oh							Lam; Well casing pulled at 210 ft back to make well in sand at 56 ft
7L1	E. Ray	do	8-54	580	Dr	68	4	57	Oh							Lam, A
791	do	do	1946	570	Dr	190	4	55	Oh							Lam, A
8N1	do	do	1948	570	Dr	190	4	22	Oh							Lam, A
9Q1	R. R. Ritter	do	6-26	650	Dr	126	4	126	Oh							Lam, A
10P1	H. Swain	M. L. Laughlin	6-24	650	Dr	120	4	101	Oh							Lam, A
10R1	W. Lindley	do	3-14-48	650	Dr	80	4	80	Oh							Lam, A
10S1	H. Russell	do	3-44	685	Dr	132	4	133	Oh							Lam, A
11Q1	L. S. Madden	do	8-27	760	Dr	142	4	142	Oh							Lam, A
12D1	L. Whitte	do	7-34	580	Dr	130	4	112	Oh							Lam, A
1231	W. H. Parr	do	5-28-49	580	Dr	75	4	75	Oh							Lam, A
12P1	H. Vesch	do	8-21-50	675	Dr	120	4	120	Oh							Lam, A
14D1	G. Glendon	do	10-14-50	665	Dr	112	4	112	Oh							Lam, A
14F1	G. Norman	do	12-11-50	680	Dr	120	4	117	Oh							Lam, A
14F2	J. Ray	do	1899	680	Dr	20	10	124	Oh							Lam, A
14F3	R. Carson	Swisher and Swank	1899	680	Dr	150	4	130	Oh							Lam, A
15E1	C. A. Duml	do	1929	620	Dr	240	4	146	Oh							Lam, A
16N1	C. F. Leman	do	5-1-49	630	Dr	248	4	146	Oh							Lam, A
16K1	J. F. Leman	do	1948	500	Dr	180	6	87	Oh							Lam, A
17H1	R. Collins	do	3-47	530	Dr	138	5	158	Oh							Lam, A
17K1	R. Carson	do	1956	560	Dr	130	4	120	Oh							Lam, A
18K1	E. Ray	do	8-21-48	585	Dr	134	4	184	Oh							Lam, A
18L1	E. Faust	W. L. Laughlin	3-56	525	Dr	35	4	184	Oh							Lam, A
18M1	P. Rodonbaugh	do	3-27-56	510	Dr	31	4	63	Oh							Lam, A
18N1	R. Durham	do	3-27-56	495	Dr	65	4	63	Oh							Lam, A
18O1	O. Miller	do	3-1-48	630	Dr	120	4	107	Oh							Lam, A
18P1	R. Wood	do	3-1-48	670	Dr	185	4	107	Oh							Lam, A
18Q1	do	do	10-12-60	660	Dr	130	6	87	Oh							Lam, A
18R1	C. Cory, Jr.	do	1950	640	Dr	92	4	64	Oh							Lam, A
21E1	G. Leonard	do	6-47	480	Dr	33	6	33	Oh							Lam, A
23W1	M. Neuman	do	7-48	570	Dr	138	6	31	Oh							Lam, A
27P1	W. L. Laughlin	do	7-48	510	Dr	200	6	115	Oh							Lam, A
32J1	A. J. Allen	M. Crabb	1948	515	Dr	47	3	47	Oh							Lam, A
32K1	R. Adams	W. L. Laughlin	1946	515	Dr	108	4	40	Oh							Lam, A
34U1	R. J. McElroy	do	1946	500	Dr	63	4	47	Oh							Lam, A
35B1	W. C. Brock	do	1946	500	Dr	107	4	46	Oh							Lam, A
17/8W-1P1	P. Ray, Jr.	M. Crabb	8-24-54	500	Dr	65	6	56	Oh							Lam, A
21J1	Mr. Jackson	Swisher and Swank	7-54	515	Dr	38	6	38	Oh							Lam, A
21K1	C. Lass	do	6-10-56	490	Dr	176	4	89	Oh							Lam, A
21L1	C. Tibbott	do	2-4-48	555	Dr	116	6	89	Oh							Lam, A
21M1	V. Watts	do	11-58	555	Dr	116	6	89	Oh							Lam, A
31H1	C. Lydick	do	7-36	580	Dr	121	4	121	Oh							Lam, A
12V1	M. M. Thompson	do	1952	560	Dr	144	4	144	Oh							Lam, A
12W1	do	do	1855	560	Dr	121	4	121	Oh							Lam, A
12X1	R. F. Scott	do	1952	560	Dr	144	4	144	Oh							Lam, A
12Y1	D. Donerter	do	1855	560	Dr	121	4	121	Oh							Lam, A
13Z1	Mr. Dowers	do	1855	560	Dr	121	4	121	Oh							Lam, A

Table 5.--Selected well logs, Parke County, Indiana

Remarks: T. D., total depth in feet; complete log not given; W. B., water bearing

Well 14/6W-1A1

Type of record: Driller's log.

Altitude: About 805 feet.

	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Softpan-----	5	20	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, soft-----	12	32	
Sandstone-----	18	50	W. B.
Shale, light-gray-----	3	53	

Well 14/6W-3Q1

Type of record: Driller's log.

Altitude: About 730 feet.

	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pan-----	41	61	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, soft, yellow-----	10	71	W. B.
Shale, soft, dark-gray-----	4	75	

Well 14/6W-5F1

Type of record: Driller's log.

Altitude: About 690 feet.

	Thick- ness (feet)	Depth (feet)	Remarks
Dug well-----	41	41	
Quaternary System:			
Recent and Pleistocene Series:			
Hardpan-----	33	74	
Softpan-----	27	101	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, gray-----	24	125	
Sandstone-----	23	148	W. B.
Coal-----	1	149	

Well 14/6W-5Q1

Type of record: Driller's log.

Altitude: About 580 feet.

	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface, sandy-----	10	10	
Sand and gravel, yellow-----	20	30	W. B.
Sand and gravel, gray-----	12	42	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-7G1

Type of record: Driller's log. Altitude: About 590 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Dug well-----	21	21	
Quaternary System:			
Recent and Pleistocene Series:			
Softpan, gravelly-----	21	42	
Sand and gravel-----	9	51	W. B.

Well 14/6W-7Q1

Type of record: Driller's log. Altitude: About 570 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	4	4	
Sand and gravel-----	46	50	
Gravel, large-----	3	53	
Gravel, pea-sized-----	2	55	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, gray-----	--	55	

Well 14/6W-8D1

Type of record: Driller's log. Altitude: About 610 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, clay bands-----	19	39	
Sandstone, brown-----	21	60	W. B.
Sandstone, hard-----	5	65	

Well 14/6W-8H1

Type of record: Driller's log. Altitude: About 595 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pan, sandy-----	33	53	
Sand and gravel-----	5	58	W. B.

Well 14/6W-10C1

Type of record: Driller's log. Altitude: About 730 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pan-----	20	40	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-10C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, light-----	6	46	
Sandstone-----	2	48	
Shale, soft, light-----	32	80	
Shale, gray-----	52	132	
Sandstone-----	7	139	
Mississippian System:			
Meramec Series:			
Limestone, hard-----	112	251	W. B.

Well 14/6W-11M1

Type of record: Driller's log.

Altitude: About 755 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	.18	18	
Hardpan-----	25	43	
Softpan-----	17	60	
Hardpan-----	28	88	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, gray-----	34	122	
Shale, sandy, gray-----	22	144	
Sandstone-----	33.5	177.5	W. B.

Well 14/6W-12H1

Type of record: Driller's log.

Altitude: About 790 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	35	35	
Pan, sandy-----	15	50	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	33	83	W. B.

Well 14/6W-16B1

Type of record: Driller's log.

Altitude: About 615 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Pan, sandy-----	10	25	
Sand and gravel-----	7	32	W. B.
Mississippian System:			
Meramec Series:			
Limestone-----	20	52	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-17D1

Type of record: Driller's log. Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	30	30	
Pan-----	30	60	
Sand-----	.5	60.5	
Pan-----	14.5	75	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, shelly-----	14	89	
Sandstone, soft-----	1	90	
Sandstone-----	13	103	
Sandstone, soft-----	1	104	

Well 14/6W-19P1

Type of record: Driller's log. Altitude: About 645 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Hardpan-----	10	30	
Sand-----	52	82	W. B.
Gravel-----	5	87	W. B.

Well 14/6W-20B1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	16	16	
Pan-----	13	29	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	36	65	W. B.

Well 14/6W-21B1

Type of record: Driller's log. Altitude: About 720 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface and clay-----	22	22	
Softpan, yellow-----	10	32	
Hardpan, gray-----	10	42	
Softpan, yellow-----	5	47	
Wash, gray-----	10	57	
Sand, gray-----	8	65	
Gravel, sandy, dirty, gray-----	3	68	W. B.
Hardpan-----	2	70	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-21B1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, light-----	10	80	
Shale, blue-----	12	92	
Shale, dark-----	28	120	
Shale, blue-----	28	148	
Mississippian System:			
Meramec Series:			
Limestone-----	10	158	

Well 14/6W-22P1

Type of record: Driller's log.		Altitude: About 740 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	17	17	
Hardpan, gray-----	41	58	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Slate-----	3	61	
Coal, trace-----	--	61	
Fire clay-----	3	64	
Slate, blue-----	16	80	
Shale, dark-----	10	90	
Shale, sandy, dark-----	14	104	W. B.
Shale, sandy, light-----	4	108	
Sandstone, pasty, gray-----	23	131	
Sandstone, white-----	6	137	
Sandstone, blue-----	4	141	
Shale, dark-blue-----	3	144	

Well 14/6W-27D1

Type of record: Driller's log.		Altitude: About 740 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Softpan, yellow-----	7	22	
Hardpan, gray-----	10	32	
Softpan-----	15	47	
Wash, yellow-----	3	50	
Hardpan, gray-----	1	51	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
White top-----	6	57	
Shale, sandy, blue-----	3	60	
Shale, sandy, light-----	3	63	
Shale, dark-blue-----	42	105	
Shale, black-----	12	117	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-27D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	18	135	
Shale, light-----	10	145	
Sandstone, gray-----	8	153	
Sandstone, white-----	6	159	W. B.
Shale, blue-----	30	189	
Shale, sandy, blue-----	24	213	W. B.

Well 14/6W-30H1

Type of record: Driller's log.

Altitude: About 685 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	18	18	
Limestone-----	1	19	
Shale, soft, light-----	13	32	
Slate, hard-----	56	88	
Coal-----	2	90	
Clay-----	2	92	
Clay rock-----	10	102	

Well 14/6W-32N1

Type of record: Driller's log.

Altitude: About 690 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	14	14	
Softpan-----	8	22	
Hardpan-----	16	38	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	3	41	
Coal-----	3	44	
Clay-----	8	52	
Shale, gray-----	6	58	
Shale, sandy, gray-----	6	64	
Coal-----	2	66	
Clay-----	1	67	
Shale, sandy, gray-----	2	69	
White top-----	5	74	
Coal-----	1	75	
Clay-----	2	77	
Shale, sandy, gray-----	9	86	
Coal-----	1	87	
Shale, sandy, gray-----	23	110	
Sandstone-----	51	161	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-33A1

Type of record: Driller's log.

Altitude: About 720 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	19	19	
Hardpan-----	11	30	
Pan, sandy-----	3	33	W. B.
Pan, sandy-----	17	50	
Quicksand-----	5	55	W. B.
Hardpan-----	5	60	
Softpan-----	25	85	
Hardpan-----	18	103	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	32	135	
Shale, light-gray-----	10	145	
Sandstone-----	25	170	
Shale, dark-gray-----	5	175	
Sandstone and shale-----	17	192	
Shale, dark-gray-----	8	200	
Sandstone-----	4	204	
Mississippian? System:			
Meramec? Series:			
Limestone-----	2	206	

Well 14/6W-34N1

Type of record: Driller's log.

Altitude: About 720 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	10	10	
Pan-----	15	25	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	10	35	
Clay-----	10	45	
Shale, light-gray-----	15	60	
Sandstone-----	31.5	91.5	
Shale, gray-----	1.5	93	
Sandstone-----	35	128	W. B.
Shale, gray-----	.5	128.5	

Well 14/6W-35R2

Type of record: Driller's log.

Altitude: About 765 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	14	14	
Pan, sandy-----	20	34	
Pan-----	4	38	

Table 5.--Selected well logs, Parke County--Continued

Well 14/6W-35R2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Pan, sandy-----	5	43	
Sand-----	2	45	
Pan, sandy-----	4	49	
Sand-----	13	62	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	28	90	
Shale, gray-----	12	102	
Limestone-----	2	104	
Shale, sandy, gray-----	8	112	
Sandstone-----	21	133	
Shale, dark-gray-----	1.5	134.5	
Sandstone-----	10.5	145	W. B.

Well 14/6W-36G1

Type of record: Driller's log.		Altitude: About 800 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	19	19	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	6	25	
Sandstone-----	28	53	W. B.
Shale, dark-gray-----	17	70	
Shale, sandy-----	8	78	
Shale, dark-gray-----	7	85	

Well 14/6W-36Q1

Type of record: Driller's log.		Altitude: About 770 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Softpan-----	65.5	80.5	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	9.5	90	
Shale, dark-gray-----	9	99	
Shale, sandy, light-gray-----	11	110	
Shale, dark-gray-----	8	118	
Sandstone-----	2	120	
Shale, dark-gray-----	19	139	
Coal and jack-----	1	140	

Table 5.--Selected well logs, Parke County--Continued

Well 14/7W-5R1

Type of record: Driller's log. Altitude: About 565 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Well pit-----	4	4	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	3	7	
Pan-----	15	22	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	8	30	
Coal-----	1	31	
Shale, sandy, gray-----	1	32	
Sandstone-----	48	80	
Shale, sandy, gray-----	20	100	
Sandstone-----	25	125	W. B.

Well 14/7W-6D2

Type of record: Driller's log. Altitude: About 550 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	10	10	
Gravel and sand-----	15	25	
Gravel and clay-----	22	47	
Gravel, coarse-----	3	50	W. B.

Well 14/7W-11Q1

Type of record: Driller's log. Altitude: About 570 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	4	4	
Sand and gravel-----	36	40	W. B.
Drift, sandy-----	7	47	

Well 14/7W-14Q1

Type of record: Driller's log. Altitude: About 560 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	10	10	
Gravel-----	5	15	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, hard-----	5	20	
Shale, blue-----	25	45	
Shale-----	30	75	
Limestone, soft-----	35	110	
Shale, blue-----	20	130	
Limestone, soft-----	15	145	

Table 5.--Selected well logs, Parke County--Continued

Well 14/7W-14Q1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, hard-----	50	195	
Sandstone-----	15	210	W. B.
Shale, sandy-----	25	235	
Limestone, soft-----	5	240	
Shale, sandy, gray-----	40	280	
Shale, muddy, blue-----	90	370	
Sandstone-----	12	382	T. D. 1,315 ft

Well 14/7W-18P1

Type of record: Driller's log.

Altitude: About 630 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	14	14	
Pan, sandy-----	4	18	
Hardpan-----	14	32	
Softpan-----	7	39	
Hardpan-----	11	50	
Softpan-----	5	55	
Sand and gravel-----	18	73	W. B.

Well 14/7W-20D1

Type of record: Driller's log.

Altitude: About 630 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Hardpan-----	16	31	
Sand-----	2	33	
Hardpan-----	47	80	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	12	92	
Coal-----	.5	92.5	
Clay-----	2.5	95	
Shale, sandy, light-gray-----	7	102	
Shale, dark-gray-----	13	115	
Sandstone-----	7	122	
Shale, light-gray-----	4	126	
Shale, sandy-----	4	130	
Shale, dark-gray-----	10	140	
Sandstone-----	8	148	
Shale, dark-gray-----	2	150	
Coal-----	4	154	
Sandstone-----	9	163	
Shale, light-gray-----	2	165	

Table 5.--Selected well logs, Parke County--Continued

Well 14/7W-22D3

Type of record: Driller's log. Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	12	12	
Pan, sandy-----	13	25	
Drift-----	23	48	
Sand-----	10	58	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	6	64	W. B.

Well 14/7W-22E2

Type of record: Driller's log. Altitude: About 560 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Ground level to basement floor--			
	10	10	
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	5	15	
Sand-----	10	25	
Pan-----	15	40	
Sand-----	14	54	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	42	96	W. B.

Well 14/7W-22K1

Type of record: Driller's log. Altitude: About 610 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Pan-----	65	80	
Sand-----	8	88	W. B.
Sand and gravel-----	2	90	W. B.

Well 14/7W-22M1

Type of record: Driller's log. Altitude: About 565 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface, sandy-----	15	15	
Pan, sandy-----	15	30	
Drift-----	7	37	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	47	84	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/7W-24P1

Type of record: Driller's log. Altitude: About 665 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	26	26	
Hardpan, gray-----	9	35	
Sand, blue-----	126	161	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	12	173	
Sandstone-----	61	234	W. B.
Shale-----	3	237	

Well 14/7W-24R1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	12	12	
Softpan-----	78	90	
Sand-----	20	110	W. B.

Well 14/7W-28L1

Type of record: Driller's log. Altitude: About 560 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	8	8	
Sand, dirty, dark-----	22	30	
Softpan, yellow, and wash-----	20	50	
Softpan, dark-----	10	60	
Hardpan, gray-----	3	63	
Wash, yellow-----	9	72	
Sand and gravel, dirty, yellow--	4	76	
Softpan, yellow-----	4	80	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale sandy, blue-----	5	85	
Shale, sandy, gray-----	17	102	
Sandstone, brown-----	2	104	
Shale, sandy, blue-----	2	106	
Sandstone, brown-----	9	115	
Sandstone, blue-----	15	130	W. B.

Well 14/7W-32E1

Type of record: Driller's log. Altitude: About 555 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface and sand-----	45	45	
Hardpan-----	32	77	

Table 5.--Selected well logs, Parke County--Continued

Well 14/7W-32E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, fine-----	11	88	W. B.
Sandstone-----	6	94	
Shale, gray-----	--	94	

Well 14/7W-35Q1

Type of record: Driller's log. Altitude: About 650 feet.

Quaternary System:				
Recent and Pleistocene Series:				
Surface-----	15	15		
Pan-----	37	52		
Pennsylvanian System:				
Lower Pennsylvanian Series:				
Coal-----	1	53		
Clay-----	6	59		
Shale, sandy, gray-----	12	71		
Coal-----	3	74		
Clay-----	1.5	75.5		
Shale, sandy, gray-----	16.5	92		
Coal-----	.5	92.5		
Clay-----	1.5	94		
Shale, sandy, gray-----	10	104		
Coal-----	.5	104.5		
Clay-----	.5	105		
Shale, sandy, gray-----	5	110		
Sandstone-----	20	130		
Shale, sandy, gray-----	2	132		
Sandstone-----	23	155		

Well 14/7W-36L2

Type of record: Driller's log. Altitude: About 625 feet.

Quaternary System:				
Recent and Pleistocene Series:				
Surface-----	18	18	W. B.	
Pennsylvanian System:				
Lower Pennsylvanian Series:				
Shale, gray-----	4	22		
Coal-----	1	23		
Clay-----	4	27		
Shale, gray-----	5	32		
Coal-----	2	34		
Clay-----	6	40		
Sandstone-----	80	120		

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-5G1

Type of record: Driller's log. Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Glacial drift-----	19	19	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Limestone, soft-----	20	39	
Slate, black-----	7	46	
Limestone, black-----	2	48	
Slate, black, and streaks of fire clay-----	17	65	

Well 14/8W-6C1

Type of record: Driller's log. Altitude: About 560 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Hardpan-----	49	64	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Limestone-----	14	78	W. B.
Slate-----	1	79	
Coal-----	4	83	
Fire clay and shale-----	7	90	

Well 14/8W-9F1

Type of record: Driller's log. Altitude: About 615 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	14	14	
Softpan-----	8	22	
Sand, soft, dirty-----	1	23	
Hardpan, gray-----	32	55	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Sandstone, brown-----	10	65	Dry
Sandstone, gray-----	50	115	Do
Shale, gray-----	8	123	
Slate, black-----	2	125	
Coal-----	2	127	W. B.
Fire clay-----	2	129	
Shale, dark-blue-----	8	137	
Coal-----	1	138	W. B.
Fire clay, hard-----	1	139	
Clay rock, sandy, light-----	3	142	
Shale, gray-----	4	146	

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-14J1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	16	16	
Clay, blue-----	24	40	
Gravel and sand-----	4	44	W. B.

Well 14/8W-18P1

Type of record: Driller's log.

Altitude: About 620 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface and yellow clay-----	18	18	
Hardpan, gray-----	52	70	
Sand, fine, gray-----	20	90	W. B.
Hardpan, gray-----	28	118	
Sand, fine, gray-----	2	120	
Hardpan, gray-----	41	161	Gas in 0.5 ft cavity at 160 ft
Quicksand-----	4	165	W. B.
Gravel and fine sand-----	14	179	W. B.
Quicksand-----	9	188	W. B.
Sand, coarse, and small gravel; gray-----	4.5	192.5	W. B.
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Limestone, gray-----	3.5	196	
Slate, black-----	1	197	
Limestone, sandy, gray-----	8	205	
Fire clay, white-----	--	205	

Well 14/8W-18R1

Type of record: Driller's log.

Altitude: About 610 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	24	24	
Hardpan-----	19	43	
Gravel and hardpan-----	3	46	
Drift, green-----	16	62	
Hardpan-----	83	145	
Sand and gravel-----	5	150	W. B.
Quicksand-----	20	170	W. B.
Gravel-----	10	180	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-21A1

Type of record: Driller's log. Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	17	17	
Sandstone-----	18	35	
Coal and fire clay-----	5	40	
Shale, light-----	21	61	
Sandstone-----	3	64	
Shale, blue-----	8	72	
Slate, black-----	4	76	
Shale, light-----	6	82	

Well 14/8W-22L1

Type of record: Driller's log. Altitude: About 620 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel, red-----	60	60	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale-----	5	65	
Shale, dark-----	10	75	
Shale, sandy, light-----	26	101	
Mine opening-----	3	104	
Shale, light-----	36	140	
Shale, dark-----	10	150	
Shale, light-----	8	158	
Shale, gray-----	37	195	
Shale, dark-----	11	206	
Sandstone-----	9	215	
Lower? Pennsylvanian Series:			
Shale, dark-----	20	235	
Coal-----	4	239	
Fire clay-----	3	242	
Sandstone-----	12	254	
Shale, light-----	1	255	

Well 14/8W-23R1

Type of record: Driller's log. Altitude: About 570 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Sand, yellow, and clay-----	20	22	
Clay, sandy, blue-----	48	70	
Sand, yellow, with coal; muddy--	20	90	
Hardpan, shaly, blue-----	5	95	
Gravel, fine, sandy, yellow----	15	110	W. B.
Gravel, yellow-----	8	118	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-26A1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand and clay-----	18	18	
Clay, blue, and sand-----	45	63	
Clay, rocky, blue-----	16	79	
Gravel, coarse, gray-----	1	80	W. B.

Well 14/8W-30P1

Type of record: Driller's log.

Altitude: About 605 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, soft, yellow-----	30	30	
Sand, dirty-----	2	32	
Hardpan-----	43	75	
Clay, blue-----	6	81	
Hardpan-----	41	122	
Clay, hard, yellow-----	15	137	
Hardpan-----	20	157	
Mud, hard, blue, and sand-----	8	165	
Sand, dirty, and mud-----	5	170	
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, light-----	23	193	
Shale, dark-----	8	201	
Sandstone and shale-----	32	233	
Lower? Pennsylvanian Series:			
Coal-----	1	234	
Fire clay-----	2	236	
Shale, light-----	6	242	
Coal-----	3	245	
Sandstone-----	25	270	

Well 14/8W-30R1

Type of record: Driller's log.

Altitude: About 595 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface and clay-----	20	20	
Hardpan-----	35	55	
Clay, hard, blue-----	60	115	
Mud, thick-----	12	127	
Gravel, fine-----	38	165	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	4	169	

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-31P1

Type of record: Driller's log. Altitude: About 600 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface, hard, and clay-----	20	20	
Hardpan and gravel-----	85	105	
Quicksand-----	13	118	W. B.
Gravel, coarse-----	3	121	W. B.

Well 14/8W-33L1

Type of record: Driller's log. Altitude: About 600 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	24	24	
Hardpan-----	23	47	
Sand and gravel-----	14	61	W. B.
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale-----	21	82	
Sandstone-----	7	89	
Lower? Pennsylvanian Series:			
Shale, blue-----	25	114	
Slate, black-----	2	116	
Rock, black-----	4	120	Limestone?
Shale, light-----	6	126	
Sandstone-----	2	128	
Shale, light-----	12	140	
Sandstone-----	10	150	W. B.

Well 14/8W-33Q1

Type of record: Driller's log. Altitude: About 600 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	16	16	
Sand, yellow-----	6	22	
Hardpan, yellow-----	16	38	
Sand and gravel, dirty-----	2	40	W. B.
Hardpan, white-----	34	74	
Sand, very fine, dirty, yellow--	16	90	W. B.

Well 14/8W-34R1

Type of record: Driller's log. Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, silty-----	33	33	W. B. 16 to 90 ft

Table 5.--Selected well logs, Parke County--Continued

Well 14/8W-34R1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Quicksand-----	37	70	
Rock shelf-----	2	72	Boulder?
Gravel-----	18	90	
Well 14/8W-35C2			
Type of record: Driller's log.		Altitude: About 530 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Sand and small gravel-----	95	95	
Gravel-----	18	113	
Pennsylvanian? System:			
Lower Pennsylvanian Series:			
Limestone-----	--	113	
Well 14/8W-36C1			
Type of record: Driller's log.		Altitude: About 527 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Soil-----	4	4	
Sand and gravel-----	76	80	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	39	119	
Limestone-----	11	130	
Coal and dark shale-----	5	135	
Shale, dark-----	25	160	
Shale-----	25	185	
Shale, dark-----	15	200	
Sandstone and shale-----	10	210	
Sandstone-----	30	240	W. B.
Shale, dark-----	30	270	T. D. 1,362 ft
Well 14/9W-1R1			
Type of record: Driller's log.		Altitude: About 525 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Hardpan-----	30	30	
Sand and gravel-----	1	31	
Hardpan-----	7	38	
Sand and gravel-----	2	40	
Hardpan-----	20	60	
Gravel-----	1	61	
Hardpan-----	9	70	
Gravel-----	2	72	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/9W-13Q1

Type of record: Driller's log. Altitude: About 665 feet.

	Thick- ness (feet)	Depth (feet)	
Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	14	14	
Hardpan, blue-----	96	110	
Clay, blue, and streaks of shale	37	147	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Fire clay, caving-----	13	160	
Limestone, blue-----	3	163	
Slate, black-----	22	185	
Shale, blue-----	30	215	
Coal-----	7	222	
Fire clay, white-----	10	232	
Limestone, coarse, white-----	5	237	W. B.
Limestone, sandy, gray-----	13	250	

Well 14/9W-14K1

Type of record: Driller's log. Altitude: About 530 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	20	20	
Hardpan, brown-----	45	65	
Hardpan, green-----	30	95	
Gravel, pea-sized-----	10	105	W. B.
Sand, fine-----	--	105	W. B.

Well 14/9W-23A1

Type of record: Driller's log. Altitude: About 525 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	38	38	
Mud, blue-----	15	53	
Sand and gravel-----	34	87	W. B.

Well 14/9W-23R1

Type of record: Driller's log. Altitude: About 530 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	45	45	
Mud, soft, blue-----	9	54	
Sand and gravel-----	33	87	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 14/9W-24D1

Type of record: Driller's log. Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pit-----	15	15	
Quaternary System:			
Recent and Pleistocene Series:			
Sand-----	23	38	
Sand and gravel-----	4	42	W. B.
Hardpan-----	34	76	
Pennsylvanian? System:			
Middle? Pennsylvanian? System:			
Rock-----	--	76	

Well 14/9W-24L4

Type of record: Driller's log. Altitude: About 610 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	18	18	
Hardpan-----	139	157	
Sand, coarse-----	8	165	
Hardpan-----	20	185	
Sand and fine gravel, cemented--	18	203	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale and coal-----	3	206	
Fire clay-----	6	212	
Shale, dark-----	18	230	
Shale, light-----	43	273	

Well 14/9W-25M1

Type of record: Driller's log. Altitude: About 525 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	6	6	
Sand-----	27	33	
Hardpan-----	13	46	
Gravel and sand-----	34	80	W. B.
Sand, fine-----	10	90	W. B.

Well 14/9W-26A1

Type of record: Driller's log. Altitude: About 525 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	4	4	
Sand and gravel, yellow-----	39	43	
Hardpan, sandy, gray-----	19	62	
Sand and gravel, yellow-----	32	94	W. B.

Table 5.--Selected well logs, Parkē County--Continued

Well 14/9W-26R1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil, sandy, black-----	6	6	
Sand-----	14	20	
Sand and gravel-----	34	54	
Hardpan, brown-----	17	71	
Sand-----	29	100	W. B.
Gravel-----	5	105	W. B.

Well 15/6W-8N1

Type of record: Driller's log.

Altitude: About 740 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	20	20	
Hardpan, gray-----	23	43	
Sand, dirty-----	2	45	W. B.
Clay and hardpan, gray-----	17	62	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	3	65	
Shale, blue, and sandstone-----	25	90	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	42	132	W. B.

Well 15/6W-9G1

Type of record: Driller's log.

Altitude: About 740 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series			
Clay-----	24	24	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	9	33	
Sandstone-----	5	38	
Shale, gray-----	20	58	
Sandstone, red-----	37	95	
Mississippian? System:			
Osage? Series:			
Sandstone, gray-----	85	180	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-10L1

Type of record: Driller's log. Altitude: About 665 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	10	10	
Clay, gray-----	10	20	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	10	30	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	60	90	
Limestone, brown-----	20	110	

Well 15/6W-11K1

Type of record: Driller's log. Altitude: About 750 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	19	19	
Clay, gray-----	2	21	
Pennsylvanian? System:			
Lower? Pennsylvanian Series:			
Bluestone and blue shale-----	39	60	
Mississippian System:			
Meramec Series:			
Limestone-----	40	100	W. B.

15/6W-15B1

Type of record: Driller's log. Altitude: About 720 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy, brown-----	40	40	
Sand-----	7	47	
Clay and sandy hardpan, gray----	11	58	
Pennsylvanian? System:			
Lower? Pennsylvanian Series:			
Shale-----	22	80	
Mississippian System:			
Meramec Series:			
Limestone alternating with shale-	13	93	W. B.

Well 15/6W-16F1

Type of record: Driller's log. Altitude: About 700 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	50	50	
Hardpan and streaks of sand----	5	55	
Clay, gray-----	33	88	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-16F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	12	100	W. B.

Well 15/6W-22G1

Type of record: Driller's log.		Altitude: About 705 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	25	25	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, shelly, brown-----	15	40	
Sandstone-----	8	48	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	32	80	
Limestone, soft, white-----	50	130	
Limestone, hard, gray-----	45	175	
Limestone, blue-----	125	300	
Osage? Series:			
Limestone, sandy, blue-----	35	335	

Well 15/6W-27D1

Type of record: Driller's log.		Altitude: About 716 feet.	
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	0.5	0.5	
Clay, inorganic, low to medium plasticity, damp, firm, brown	8.5	9	
Clay, inorganic, low to medium plasticity, moist, firm, brown-----	10	19	
Sand, silty, wet, pervious, brown-----	2	21	
Sand, clayey, moist, firm, brown (glacial till)-----	14	35	
Clay, inorganic, low to medium plasticity, moist, firm, gray-----	3	38	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, micaceous, silty, hard, dark-gray-----	7.5	45.5	
Siltstone, micaceous, brittle, hard, gray-----	1.5	47	
Shale, silty, hard, gray-----	2	49	
Siltstone, micaceous, hard, gray	4	53	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-27D1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, micaceous, silty, hard, dark-gray-----	3	56	
Coal-----	.5	56.5	
Shale, silty, hard, gray, with carbonaceous laminae-----	6	62.5	
Shale, fine-grained to silty, hard, light-gray-----	3.5	66	
Siltstone, hard, light-gray-----	3.5	69.5	
Shale, medium-hard, gray-----	3	72.5	
Mississippian System:			
Meramec Series:			
Limestone, crystalline, fine- grained, hard, light-gray; syrictic (sic.)-----	6	78.5	Pyritic?
Limestone, argillaceous, fine- grained, hard, gray; with syrictic, shale seams (sic.)---	3.5	82	Pyritic?

Well 15/6W-27E1

Type of record: Driller's log. Altitude: About 704 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	1	1	
Clay, inorganic, low to medium plasticity, with trace of poorly-graded gravel and sand; firm, brown-----	5.5	6.5	
Sand, clayey, compact, gray to brown, and weathered sand- stone fragments (glacial till)	18.5	25	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, coarse-grained, horizontal bedding planes, medium-hard, brown-----	5.5	30.5	
Clay, inorganic, low to medium plasticity, soft to hard, brown and gray, with sand- stone fragments-----	1	31.5	
Coal-----	2	33.5	
Shale, silty, medium-hard, dark- gray with concretions-----	17	50.5	
Shale, sandy to silty, hard, dark-gray-----	2.5	53	
Shale, carbonaceous, silty, hard, black-----	5	58	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-27E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Siltstone, fine-grained to argillaceous, medium-hard, gray-----	34	92	
Mississippian System:			
Meramec Series:			
Limestone, fine-grained to lithographic, pyritic, hard to dense, light-gray-----	12	104	

Well 15/6W-27F2

Type of record: Driller's log.

Altitude: About 746 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil, moist, firm, gray-----	0.5	0.5	
Clay, inorganic, low to medium plasticity, firm, brown-----	5	5.5	
Sand, clayey, firm, brown (glacial till)-----	11	16.5	
Sand, silty, firm, brown-----	4	20.5	
Gravel, clayey, firm, brown-----	5.5	26	
Sand, silty, firm, gray (glacial till)-----	28	54	
Sand, clayey, firm, gray (glacial till)-----	1.5	55.5	
Gravel, clayey, firm, gray (glacial till)-----	1	56.5	

Well 15/6W-27F3

Type of record: Driller's log.

Altitude: About 751 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	0.5	0.5	
Clay, inorganic, low to medium plasticity, damp, firm, brown	6.3	6.8	
Sand, clayey, silty, moist, firm, brown-----	22.5	29.3	
Sand, poorly-graded, gravelly, damp, soft, brown-----	7	36.3	
Sand, silty, wet, pervious, brown-----	10	46.3	
Sand, silty, damp, firm, gray---	6.5	52.8	
Clay, inorganic, low to medium plasticity, damp, soft, gray--	3.2	56	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, dark-gray-----	4.8	60.8	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-28D1

Type of record: Driller's log. Altitude: About 691 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	0.5	0.5	
Clay, inorganic, low to medium plasticity, damp, moderately- firm, brown-----	12	12.5	
Clay, inorganic, low to medium plasticity, gray (glacial till)-----	10.5	23	
Clay, inorganic, low to medium plasticity, brown-----	3	26.5	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, weathered, moist, compact, gray-----	6.8	33.3	
Shale, medium-hard, gray, with thin interbeds of sandstone--	9	42.3	
Shale, conglomerate, cherty, poorly-cemented, with sand- stone-----	2.5	44.8	

Well 15/6W-28G2

Type of record: Driller's log. Altitude: About 708 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	.5	.5	
Clay, inorganic, low to medium plasticity, moist, brown-----	11.6	12.1	
Sand, clayey, moderately-compact, brown-----	1.9	14	
Clay, inorganic, low to medium plasticity, moist, moderately- firm, brown-----	1.3	15.3	
Sand, clayey, wet, compact, brown-----	27.9	43.2	
Sand, gravelly, wet, gray-----	1	44.2	
Sand, clayey, moist, compact, gray (glacial till)-----	18.4	62.6	
Sand, gravelly, wet, compact, brown-----	.5	63.1	
Clay, inorganic, low to medium plasticity, moist, firm, gray-	5	68.1	
Sand, gravelly, slightly com- pact, gray-----	1	69.1	
Clay, inorganic, low to medium plasticity, moist, firm, gray-	6.5	75.6	
Clay, inorganic, high plasticity, moderately firm, brown-----	3.1	78.7	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-28G2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Mississippian System:			
Meramec Series:			
Limestone, medium-grained, oolitic, slightly weathered, buff-----	2.2	80.9	
Limestone, hard, vaughnitic, with calcite inclusions, stylolitic, unhealed, buff----	9.3	90.2	
Limestone, fine-grained, crystal- line, oolitic, pyritic, dense, hard, light-gray; cherty near bottom-----	3.4	93.6	

Well 15/6W-28G3

Type of record: Driller's log.

Altitude: About 686 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	.5	.5	
Clay, inorganic, low to medium plasticity, moist, moderately firm, brown-----	14.5	15	
Sand, gravelly, wet, firm, brown	.5	15.5	
Clay, moist, hard, brown-----	1.5	17	
Sand, well-graded, wet, compact, brown-----	2	19	
Clay, inorganic, low to medium plasticity, moist firm, brown and gray-----	16.5	35.5	
Clay, inorganic, high plasticity, moist, moderately firm, red- dish-brown-----	14.5	50	
Limestone, coarse-grained, hard, brown and gray-----	1	51	float
Clay, inorganic, high plasticity, moderately firm, brown; with limestone fragments-----	3.2	54.2	
Mississippian System:			
Meramec Series:			
Limestone, fine-grained, dense, medium-hard, light-gray-----	8.1	62.3	
Limestone, medium to fine- grained, hard, light-gray-----	23.5	85.8	
Limestone, pyritic, medium- hard, dark-gray-----	2.5	88.3	
Limestone, argillaceous, medium- hard, gray-----	19.5	107.8	
Limestone, fine-grained, dense, hard, gray-----	12	119.8	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-28G3--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Mississippian System:			
Meramec Series:			
Limestone, dense to earthy, hard, gray-----	17.5	137.3	
Limestone, argillaceous to earthy, hard, gray to buff----	7	144.3	
Limestone, dense, hard, gray to buff-----	25	169.3	

Well 15/6W-28H1

Type of record: Driller's log.

Altitude: About 609 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, inorganic, low to medium plasticity, damp, firm, brown-	3.5	3.5	
Clay, inorganic, low to medium plasticity, moist, firm, brown and gray-----	6.1	9.6	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, fine to medium- grained, weathered, buff to gray-----	2.4	12	
Sandstone, fine-grained, carbon- aceous, shaly, light-gray-----	10	22	
Mississippian System:			
Meramec Series:			
Limestone, fine-grained, dense, argillaceous, light-gray-----	21.7	43.7	

Well 15/6W-28Q1

Type of record: Driller's log.

Altitude: About 620 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	10	10	Dry
Sand-----	40	50	
Mississippian System:			
Meramec Series:			
Limestone-----	49	129	
Shale, limy-----	5	134	
Limestone-----	6	140	

Table 5.--Selected well logs, Parke County--Continued

Well 15/6W-34D1

Type of record: Driller's log. Altitude: About 611 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel, fine to coarse, brown, with some cobbles-----	2.5	2.5	
Clay, sandy, and trace of fine gravel-----	5.5	8	
Sand, fine to medium, gray-----	3	11	
Clay, shaly, very hard, brown and gray-----	3	14	
Mississippian System:			
Meramec Series:			
Limestone-----	5	19	

15/6W-35H1

Type of record: Driller's log. Altitude: About 710 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	22	42	
Shale-----	16	58	

Well 15/7W-3H1

Type of record: Driller's log. Altitude: About 590 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	18	18	
Gravel, dirty-----	10	28	W. B.
Gravel, clean, coarse-----	4	32	W. B.

Well 15/7W-4K1

Type of record: Driller's log from memory. Altitude: About 620 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	40	40	
Clay, yellow-----	4	44	
Clay, blue-----	18	62	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	40	102	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 15/7W-9D1

Type of record: Driller's log.

Altitude: About 680 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	20	20	
Hardpan-----	20	40	
Sand-----	28	68	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Slate, black, and trace of coal-	31	99	
Sandstone-----	21	120	W. B.

Well 15/7W-9K3

Type of record: Driller's log.

Altitude: About 570 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Mud-----	5	5	
Mud, silty, sandy-----	5	10	
Sand, silty, red-----	10	20	
Clay, shaly, hard, dark-----	3	23	
Sand and gravel-----	44	67	W. B.

Well 15/7W-9J2

Type of record: Driller's log.

Altitude: About 570 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Clay, hard-----	3	5	
Clay, light-blue-----	8	13	
Sand and gravel, some silt-----	7	20	W. B.
Gravel-----	47	67	W. B.
Pennsylvanian(?) System:			
Lower(?) Pennsylvanian Series:			
Rock-----	--	67	

Well 15/7W-10A2

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay-----	5	5	
Sand and gravel-----	5	10	
Sand and medium gravel-----	5	15	
Gravel, small, and sand-----	20	35	W. B. 23 to 53 ft.
Gravel, large and small-----	5	40	
Sand, fine, and small gravel---	5	45	
Gravel, large, and medium sand--	8	53	

Table 5.--Selected well logs, Parke County--Continued

Well 15/7W-13B2

Type of record: Driller's log.

Altitude: About 715 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Hardpan-----	30	50	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	32	82	
Sandstone-----	2	84	
Shale, light-gray-----	3	87	
Sandstone-----	2	89	
Shale, light-gray-----	21	110	
Sandstone-----	2	112	
Shale, sandy, light-gray-----	22	134	
Shale, sandy, dark-gray-----	3	137	
Sandstone-----	4	141	W. B.

Well 15/7W-16B1

Type of record: Driller's log.

Altitude: About 565 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Mud-----	10	10	
Sand, silty, and mud-----	10	20	
Sand, silty, fine-----	5	25	W. B.
Sand and gravel, gray-----	35	60	W. B.

Well 15/7W-18L1

Type of record: Driller's log.

Altitude: About 680 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Drift, hardpan-----	142	142	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Coal-----	1	143	
Sandstone-----	1	144	
Shale-----	120	264	
Mississippian System:			
Meramec Series:			
Limestone-----	140	404	W. B.

Well 15/7W-20Q1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy, brown-----	10	10	
Clay, sandy, gray-----	5	15	
Clay, with fine gravel-----	5	20	

Table 5.--Selected well logs, Parke County--Continued

Well 15/7W-20Q1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, gray-----	5	25	
Clay, silty, gray-----	5	30	
Clay, sandy, gray-----	5	35	
Clay, sandy, with fine gravel; gray-----	5	40	

Well 15/7W-27R1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	16	16	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Slate, soft, blue-----	4	20	
Slate, blue-----	28	48	
Coal-----	2	50	
Fire clay-----	2	52	
Slate, sandy, gray-----	12	64	
Limestone, hard-----	2	66	
Mine opening-----	--	66	

Well 15/7W-32H1

Type of record: Driller's log. Altitude: About 540 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	18	18	
Clay, blue-----	62	80	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	52	132	
Mississippian System:			
Meramec Series:			
Shale, gray, with limestone streak-----	18	150	
Limestone, gray-----	30	180	
Limestone, gray, with black flint-----	40	220	
Limestone, soft, white-----	30	250	

Well 15/8W-1M1

Type of record: Driller's log. Altitude: About 730 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	5	5	
Clay, gray-----	5	10	

Table 5.--Selected well logs, Parke County--Continued

Well 15/8W-1M1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy, gray-----	5	15	
Clay, gray to brown-----	5	20	
Clay, brown-----	10	30	
Clay, gray-----	25	55	
Clay, gray and brown-----	10	65	
Hardpan, green to gray-----	5	70	
Sand and gravel, hard-----	14	84	Dry
Hardpan, gray-----	6	90	
Hardpan, sandy, brown-----	5	95	
Hardpan, brown-----	5	100	
Hardpan, sandy-----	10	110	
Hardpan, brown-----	15	125	
Gravel, shale, and hardpan-----	3	128	
Gravel, muddy-----	2	130	
Hardpan, brown-----	4	134	
Hardpan-----	8	142	
Sand, medium coarse-----	4	146	W. B.
Gravel, medium coarse and some sand-----	4	150	W. B.
Gravel, medium coarse-----	14	164	W. B.
Gravel-----	8	172	W. B.

Well 15/8W-4P1

Type of record: Driller's log.

Altitude: About 660 feet.

Open well-----	30	30	
Quaternary System:			
Recent and Pleistocene Series:			
Pan, sandy-----	12	42	
Sandstone-----	1	43	Boulder?
Shale, gray-----	4	47	Clay?
Pan-----	11	58	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, gray-----	40	98	
Coal-----	1	99	
Shale, sandy, gray-----	6	105	
Slate, black-----	14	119	
Shale, sandy, gray-----	10	129	
Sandstone-----	21	150	
Shale, sandy, gray-----	70	220	
Sandstone-----	30	250	
Shale, gray-----	80	330	
Sandstone-----	25	355	

Table 5.--Selected well logs, Parke County--Continued

Well 15/8W-5J1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay and sand, yellow-----	44	44	
Sand-----	14	58	
Hardpan, blue-----	2	60	
Sand and gravel, gray-----	3	63	W. B.

Well 15/8W-5J2

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	21	21	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Fire clay, white-----	4	25	
Shale, light-blue-----	15	40	
Limestone, broken, gray-----	12	52	
Slate, gray-----	10	62	
Shale, blue, with limestone streaks-----	76	138	
Shale, blue-----	6	144	
Sandstone, dense, gray-----	26	170	
Shale, gray-----	2	172	
Slate, brown-----	1	173	
Shale, blue-----	22	195	
Sandstone, white-----	17	212	W. B.
Lower? Pennsylvanian Series:			
Slate, blue-----	5	217	
Shale, sticky, blue-----	18	235	

Well 15/8W-12D1

Type of record: Driller's log.

Altitude: About 690 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and wash-----	18	18	
Clay, sandy, blue-----	82	100	
Hardpan, shaly, blue-----	50	150	
Mississippian? System:			
Meramec? Series:			
Limestone, blue to gray-----	43	193	

Table 5.--Selected well logs, Parke County--Continued

Well 15/8W-14E1

Type of record: Driller's log.

Altitude: About 620 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand-----	12	12	
Shale, blue-----	6	18	Clay?
Sand-----	28	46	W. B.
Shale, blue-----	9	55	Clay?
Clay, gummy-----	33	88	
Pennsylvanian? System:			
Lower? Pennsylvanian Series:			
Shale, dark-----	14	102	
Shale, light-----	173	275	
Sandstone-----	28	303	T. D. 1,444 ft.

Well 15/8W-19A1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and sand-----	22	22	
Clay, sandy, blue-----	28	50	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale, light-blue-----	50	100	
Sandstone, gray-----	25	125	W. B.

Well 15/8W-19R1

Type of record: Driller's log.

Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	2	2	
Hardpan-----	59	61	W. B. at 45 ft
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale-----	29	90	
Coal-----	2	92	W. B.

Well 15/8W-23Q1

Type of record: Driller's log.

Altitude: About 645 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	10	10	
Sand-----	2	12	
Hardpan-----	90	102	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	28	130	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 15/8W-24D1

Type of record: Driller's log. Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	11	11	
Hardpan, sandy, blue-----	74	85	
Sand and gravel-----	2	87	W. B.

Well 15/8W-24N1

Type of record: Driller's log. Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	20	20	
Pan-----	8	28	
Sand-----	3	31	
Pan-----	72	103	
Gravel-----	1	104	W. B.

Well 15/8W-26F1

Type of record: Driller's log. Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Well pit-----	4	4	
Hardpan-----	99	103	
Sand and gravel-----	1	104	W. B.

Well 15/8W-27H1

Type of record: Driller's log. Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay and sand, yellow-----	20	20	
Hardpan, blue-----	68	88	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	2	90	
Sandstone-----	20	110	W. B.

Well 15/8W-32D1

Type of record: Driller's log. Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand-----	18	18	
Sand and gravel-----	9	27	
Gravel, coarse-----	1	28	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Slate, blue-----	50	78	

Table 5.--Selected well logs, Parke County--Continued

Well 15/8W-32L1

Type of record: Driller's log. Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	10	10	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale, black-----	10	20	
Slate-----	8	28	
Shale-----	10	38	
Limestone, gray-----	4	42	
Fire clay-----	2	44	

Well 15/8W-33L1

Type of record: Driller's log. Altitude: About 640 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow sand-----	5	5	
Sand and yellow clay-----	13	18	
Clay, pebbly, blue-----	117	135	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	15	150	
Shale, gray, with slate streaks-	100	250	
Shale, sandy, gray to white----	35	285	
Sandstone, fine, white-----	24	309	W. B.

Well 15/9W-2A1

Type of record: Driller's log. Altitude: About 490 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay and boulders-----	21	21	
Sand, fine-----	17	38	W. B.
Sand and gravel, dirty-----	59	97	W. B.
Gravel, medium-----	1	98	W. B.

Well 15/9W-13P1

Type of record: Driller's log from memory. Altitude: About 490 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	42	42	
Clay, blue-----	14	56	
Sand and gravel-----	3	59	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 15/9W-13Q1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	42	42	
Gravel and sand-----	18	60	W. B.
Pennsylvanian System:			
Lower? Pennsylvanian Series:			
Soapstone, soft, caving-----	40	100	W. B.
Shale, blue-----	15	115	

Well 15/9W-36R1

Type of record: Driller's log from memory.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy-----	18	18	
Hardpan, green to blue-green----	65	83	
Sand and gravel, dirty-----	5	88	W. B.
Hardpan, gray-----	22	110	

Well 16/6W-12H1

Type of record: Driller's log.

Altitude: About 756 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy, brown-----	5	5	
Sand, brown-----	4	9	
Sand and gravel-----	5	14	
Clay, gray, and sand-----	15	29	
Clay, gray, and gravel-----	4	33	
Mississippian System:			
Osage Series:			
Shale, hard, gray-----	7	40	

Well 16/6W-12J1

Type of record: Driller's log.

Altitude: About 775 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	1	1	
Clay, hard, yellow-----	11	12	
Clay, soft, black-----	7	19	
Clay, gritty, blue-----	11	30	
Clay, gritty, gray-----	9	39	
Sand, dirty, fine-----	2	41	
Clay, gritty-----	28	69	
Sand and clay-----	6	75	
Gravel, coarse, and sand-----	5	80	W. B.
Clay-----	--	80	

Table 5.--Selected well logs, Parke County--Continued

Well 16/6W-18C1

Type of record: Driller's log. Altitude: About 655 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Muck; blue-----	6	24	
Sand, dirty, gray-----	2	26	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	100	126	
Osage Series:			
Shale, blue-----	15	141	
Bluestone, with trace of shale--	59	200	

Well 16/6W-23E1

Type of record: Driller's log. Altitude: About 697 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	.3	.3	
Sand, clayey, brown, and fine to coarse gravel-----	8.7	9	
Sand, silty, soft, brown-----	2	11	
Sand and gravel, fine to coarse, brown-----	17	28	
Sand, fine to coarse, clayey, hard, gray (hardpan)-----	12	40	

Well 16/6W-28B1

Type of record: Driller's log. Altitude: About 735 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay-----	10	10	
Hardpan-----	48	58	
Gravel-----	2	60	
Hardpan-----	17	77	
Gravel-----	3	80	W. B.

Well 16/6W-28P1

Type of record: Driller's log from memory. Altitude: About 740 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	12	12	
Clay, blue, with sand streaks---	48	60	
Mississippian System:			
Osage Series:			
Shale, bluish-gray-----	128	188	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/6W-31Q1

Type of record: Driller's log. Altitude: About 730 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay and hardpan-----	48	48	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Slate, black, with trace of coal	22	70	
Sandstone-----	43	113	
Mississippian System:			
Meramec Series:			
Limestone, white-----	15	128	W. B.

Well 16/6W-34N1

Type of record: Driller's log. Altitude: About 740 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Pan, sandy-----	35	50	
Sand-----	35	85	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dark-gray-----	23	108	
Shale, sandy, gray-----	82	190	
Sandstone-----	35	225	
Shale, sandy, gray-----	5	230	

Well 16/6W-35M1

Type of record: Driller's log. Altitude: About 750 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	14	14	
Clay, gray-----	16	30	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	8	38	
Sandstone, hard, with trace of limestone-----	12	50	
Shale and sandstone-----	25	75	
Sandstone-----	15	90	
Sandstone and shale-----	15	105	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-3K1

Type of record: Driller's log.

Altitude: 705 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	1	1	
Clay, yellow-----	15	16	
Clay, blue, with streaks of sand	69	85	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, gray-----	13	98	
Limestone, dense, hard, gray----	6	104	
Sandstone, fine, soft, white----	8	112	W. B.

Well 16/7W-4G2

Type of record: Driller's log.

Altitude: About 650 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Hardpan, blue-----	58	58	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	5	63	
Slate, gray-----	4	67	
Limestone, dense, blue-----	3	70	
Coal-----	3	73	W. B.
Fire clay, white-----	3	76	

Well 16/7W-4H3

Type of record: Driller's log.

Altitude: About 675 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	15	15	
Clay, blue-----	65	80	
Sand and gravel-----	4	84	
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, blue-----	20	104	
Lower Pennsylvanian Series:			
Fire clay-----	9	113	
Slate and shale, blue-----	47	160	
Sandstone, blue-----	20	180	W. B.
Coal-----	2	182	
Fire clay-----	8	190	
Shale, blue-----	10	200	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-4K2

Type of record: Driller's log.

Altitude: About 675 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	29	29	W. B.
Sand, fine-----	5	34	
Clay, bouldery, blue-----	46	80	
Gravel, very coarse-----	1	81	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, black-----	--	81	

Well 16/7W-4L2

Type of record: Driller's log.

Altitude: About 680 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	8	8	W. B.
Gravel-----	1	9	
Clay, blue-----	.5	9.5	
Sand and gravel-----	7	16.5	
Clay, blue-----	17.5	34	
Sand and gravel, medium-----	9	43	

Well 16/7W-6D1

Type of record: Driller's log.

Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks	
Quaternary System:				
Recent and Pleistocene Series:				
Clay, yellow-----	14	14	W. B.	
Sand, yellow-----	1	15		
Clay, yellow-----	9	24		
Clay, gray-----	52	76		
Clay, sandy, gray-----	8	84		
Clay, gray-----	6	90		
Pennsylvanian System:				
Lower Pennsylvanian Series:				
Sandstone, soft, dirty-----	8	98		
Sandstone-----	18	116		
Sandstone and streak of coal---	30	146		
Shale-----	--	146		
Shale, blue-----	4	150		
Sandstone, white, with trace of shale-----	30	180		
Mississippian System:				
Meramec Series:				
Limestone, light-tan-----	15	195		
Limestone, brown-----	15	210		
Limestone, blue-speckled-----	28	238		
Limestone-----	52	290		
Limestone, blue, with trace of shale	8	298		

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-6N1

Type of record: Driller's log.

Altitude: About 660 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	44	44	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, gray-----	16	60	
Sandstone, fine, dense, gray----	10	70	
Sandstone, gray, with streaks of slate-----	10	80	
Limestone, broken, gray-----	8	88	W. B.

Well 16/7W-8L1

Type of record: Driller's log.

Altitude: About 660 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	7	7	
Sand, glacial drift-----	12	19	
Clay, blue-----	8	27	
Sand and gravel-----	1	28	W. B.

Well 16/7W-9F1

Type of record: Driller's log.

Altitude: About 710 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil, sandy-----	10	10	
Sand-----	5	15	W. B.
Gravel and sand-----	5	20	W. B.
Sand and gravel-----	10	30	W. B.
Shale, blue-----	5	35	Clay?
Shale, soft, muddy-----	5	40	Do
Shale, sandy-----	5	45	Do
Sand and gravel-----	5	50	W. B.
Gravel-----	5	55	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, black-----	15	70	
Coal-----	5	75	
Shale, black-----	10	85	
Shale-----	60	145	
Shale and soft sandstone-----	5	150	
Shale, hard, dark-----	20	170	
Shale and coal-----	5	175	
Sandstone, shaly, and some soft sandstone-----	5	180	
Sandstone, soft-----	4	184	
Sandstone, coarse, soft-----	6	190	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-9F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, fine-----	5	195	W. B.
Sandstone, fine, harder-----	5	200	W. B.
Sandstone and shale-----	5	205	
Sandstone, coarse-----	15	220	
Sandstone and shale-----	5	225	
Sandstone, fine, harder-----	5	230	
Sandstone, fine-----	15	245	W. B.
Sandstone, coarse, white-----	5	250	
Sandstone, coarse, white, and shale-----	5	255	
Sandstone, coarse, white-----	5	260	

Well 16/7W-9L1

Type of record: Driller's log.

Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	8	8	
Clay, gray-----	24	32	
Clay, sandy-----	30	62	
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, gummy-----	18	80	
Sandstone-----	5	85	W. B.
Lower Series:			
Limestone-----	20	105	W. B.
Shale, dark-----	25	130	
Sandstone and shale, white-----	15	145	
Limestone, brown-----	13	158	W. B.
Shale, dark-----	12	170	
Sandstone, clean, light-----	7	177	W. B.
Sandstone, fine, white, with trace of shale-----	33	210	
Limestone, clear-grained-----	15	225	W. B.
Limestone, hard, brown-----	2	227	
Limestone, black-----	1	228	
Limestone, brown, with streaks of shale and sandstone-----	12	240	

Well 16/7W-15E1

Type of record: Driller's log.

Altitude: About 765 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	14	14	
Clay, sandy, soft, blue-----	53	67	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-15E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	.5	67.5	W. B.
Hardpan, blue, with gravel-----	29.5	97	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, yellow, and sticky clay-----	6	103	
Shale, dense, hard, pearl-gray--	12	115	
Sandstone, medium-fine, blue----	30	145	
Slate, dense, hard, blue-----	20	165	
Slate, broken-----	4	169	Cavity
Shale, limy, blue-----	5.5	174.5	
Slate, black-----	15.5	190	
Shale, sticky, blue-----	40	230	
Sandstone, medium-fine, gray----	40	270	W. B.

Well 16/7W-15R1

Type of record: Driller's log. Altitude: About 745 feet.

Dug well-----	18	18	
Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	52	70	
Hardpan, brown-----	30	100	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Slate, brown-----	5	105	
Coal-----	5	110	
Fire clay-----	8	118	
Sandstone, white-----	77	195	W. B.

Well 16/7W-16L1

Type of record: Driller's log. Altitude: About 750 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Soil-----	2	2	
Clay, yellow-----	14	16	
Clay, blue-----	30	46	
Gravel, cemented, and large boulders-----	89	135	
Clay, hard, blue, and sand-----	11	146	
Gravel, coarse, gray-----	2	148	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-17F1

Type of record: Driller log.

Altitude: About 665 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	10	10	
Clay, sandy, blue-----	50	60	
Clay, blue-----	11	71	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	4	75	
Slate, gray-----	16	91	
Sandstone, gray-----	11	102	W. B.

Well 16/7W-19J1

Type of record: Driller's log.

Altitude: About 725 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay, blue-----	62	80	
Clay, muddy, blue, contains trash, rotten wood-----	70	150	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	50	200	
Sandstone, fine, sharp, dense, blue-----	20	220	W. B.

Well 16/7W-19N1

Type of record: Driller's log.

Altitude: About 715 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay, blue, and sand-----	62	80	
Quicksand, gray-----	10	90	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	25	115	
Coal-----	5	120	W. B.
Fire clay-----	4	124	
Limestone, gray-----	16	140	W. B.

Well 16/7W-20L1

Type of record: Driller's log.

Altitude: About 740 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	22	22	
Clay, blue-----	64	86	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-20L1--Continued

Material	Thick ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, yellow-----	14	100	W. B.
Sandstone, gray-----	3	103	W. B.
Sandstone, white-----	8	111	W. B.

Well 16/7W-21L1

Type of record: Driller's log.

Altitude: About 725 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	21	21	
Clay, blue-----	39	60	
Mud and sand, red-----	1	61	
Pennsylvanian system:			
Lower Pennsylvanian Series:			
Sandstone, dark-red-----	29	90	W. B.

Well 16/7W-24L1

Type of record: Driller's log.

Altitude: About 615 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	16	16	
Gravel, dirty -----	8	24	
Clay, blue-----	16	40	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	3	43	
Mississippian System:			
Meramec Series:			
Limestone, creviced, gray to white-----	22	65	W. B.

Well 16/7W-25F1

Type of record: Driller's log.

Altitude: About 645 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	10	10	
Pan, sandy-----	26	36	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	8	44	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-26Q1

Type of record: Driller's log.

Altitude: About 630 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	5	5	
Clay, gummy, yellow-----	13	18	
Hardpan, gravelly, yellow-----	10	28	
Sand and gravel, yellow-----	9	37	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, dense, gray-----	11	48	

Well 16/7W-29E1

Type of record: Driller's log.

Altitude: About 725 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	15	15	
Clay, blue, and sand-----	65	80	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Fire clay-----	4	84	
Slate, gray-----	2	86	
Coal-----	5	91	
Shale, blue-----	2	93	
Slate, blue-----	6	99	
Coal-----	5	104	W. B.

Well 16/7W-29Q1

Type of record: Driller's log.

Altitude: About 685 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil and yellow clay-----	6	6	
Clay with boulders and sand-----	5	11	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	9	20	
Limestone, shaly, hard, white---	30	50	
Sandstone, gray, and fire clay--	5	55	W. B.
Shale, limy-----	30	85	
Slate, hard, flinty, fractured, black-----	5	90	W. B.
Limestone, soft, gray to white--	4	94	

Table 5.--Selected well logs, Parke County--Continued

		Well 16/7W-30F1		
Type of record: Driller's log.				Altitude: About 710 feet.
Material	Thick- ness (feet)	Depth (feet)	Remarks	
Fill-----	4	4		
Quaternary System:				
Recent and Pleistocene Series:				
Clay, yellow-----	14	18		
Clay, blue, and sand-----	22	40		
Sand-----	1	41	W. B.	
Hardpan, sandy, light-gray-----	59	100		
Muck, soft, blue, contains leaves and sticks-----	51	151		
Pennsylvanian System:				
Lower Pennsylvanian Series:				
Sandstone, weathered, white-----	2	153		
Limestone with streaks of sandstone-----	7	160		
Shale, hard, blue-----	18	178		
Coal, very hard-----	7	185		
Fire clay, plastic, white-----	11	196		
Limestone, black-----	1	197	Gas, W. B.	

		Well 16/7W-30N1		
Type of record: Driller's log.				Altitude: About 700 feet.
Material	Thick- ness (feet)	Depth (feet)	Remarks	
Quaternary System:				
Recent and Pleistocene Series:				
Top soil-----	2	2		
Clay, yellow-----	16	18		
Clay, blue-----	62	80		
Hardpan, gravelly-----	19	99		
Gravel and sand-----	1	100	W. B.	

		Well 16/7W-32H1		
Type of record: Driller's log.				Altitude: About 695 feet.
Material	Thick- ness (feet)	Depth (feet)	Remarks	
Quaternary System:				
Recent and Pleistocene Series:				
Clay, yellow-----	49	49		
Pennsylvanian System:				
Lower Pennsylvanian Series:				
Sandstone, yellow-----	4	53		
Sandstone, white-----	27	80	W. B.	

Table 5.--Selected well logs, Parke County--Continued

Well 16/7W-33D1

Type of record: Driller's log.

Altitude: About 700 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay-----	18	18	
Glacier washout-----	20	38	Glacial outwash?
Hardpan-----	6	44	
Sand and gravel-----	3	47	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy-----	13	60	
Sandstone-----	23	83	W. B.

Well 16/7W-33N1

Type of record: Driller's log.

Altitude: About 700 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	14	14	
Clay, sandy, gray-----	36	50	
Gravel, coarse-----	4	54	W. B.
Hardpan, blue-----	16	70	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	10	80	
Coal-----	4	84	
Shale, limy, blue-----	18	102	

Well 16/7W-35Q1

Type of record: Driller's log.

Altitude: About 585 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	14	14	
Gravel, dirty-----	15	29	
Gravel, coarse, clean-----	5	34	

Well 16/8W-1E1

Type of record: Driller's log.

Altitude: About 670 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil-----	4	4	
Clay, yellow-----	14	18	
Clay, blue-----	32	50	
Hardpan, blue-----	61	111	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, blue-----	4	115	
Sandstone, white-----	24	139	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-2M1

Type of record: Driller's log.

Altitude: About 675 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	1	1	
Clay, yellow-----	21	22	
Clay, blue-----	48	70	
Clay, gravelly, blue-----	10	80	
Gravel, coarse-----	1	81	W. B.

Well 16/8W-7Q1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	2	2	
Sand and gravel-----	94	96	Dry
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	4	100	
Shale, sandy, gray-----	43	143	
Coal-----	.5	143.5	
Shale, sandy, gray-----	9.5	153	
Coal-----	.5	153.5	
Shale, sandy, gray-----	39.5	193	

Well 16/8W-7Q2

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	4	4	
Gravel, sandy-----	40	44	Dry
Pan-----	100	144	
Gravel-----	5	149	W. B.

Well 16/8W-8N1

Type of record: Driller's log.

Altitude: About 605 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, red-----	20	20	
Sand-----	10	30	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Fire clay-----	34	64	
Shale-----	176	240	
Limestone-----	45	285	

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-10Q1

Type of record: Driller's log.

Altitude: About 660 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Clay, yellow-----	20	22	
Clay, sandy, blue-----	68	90	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, gray-----	20	110	
Slate, gray-----	90	200	
Slate, gray, with streaks of sandstone-----	15	215	

Well 16/8W-11A1

Type of record: Driller's log.

Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	14	14	
Clay, blue-----	28	42	
Sand, gray-----	1	43	
Hardpan, blue-----	27	70	Oily
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	26	96	
Sandstone, gray-----	12	108	
Shale, blue-----	52	160	
Sandstone, white-----	10	170	W. B.
Shale, gray-----	26	196	
Sandstone, gray-----	14	210	W. B.
Fire clay, soft, white-----	16	226	
Sandstone, coarse, gray-----	11	237	
Mississippian System:			
Meramec Series:			
Limestone, coarse, soft, gray---	14	251	
Fire clay, hard, white-----	2	253	

Well 16/8W-12D3

Type of record: Driller's log.

Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Old well-----	15	15	
Quaternary System:			
Recent and Pleistocene Series:			
Clay, sandy, blue-----	45	60	
Sand grading to gravel-----	10	70	W. B.
Gravel and sand-----	10	80	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-12R1

Type of record: Driller's log. Altitude: About 660 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	24	24	Oily
Clay, blue-----	26	50	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, blue-----	30	80	
Shale, blue-----	130	210	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	12	222	W. B.

Well 16/8W-13E1

Type of record: Driller's log. Altitude: About 650 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, very soft, yellow-----	40	40	
Clay, soft, blue-----	24	64	
Clay, shaly, soft, blue-----	6	70	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Limestone, dense, gray-----	10	80	W. B.
Coal-----	2	82	
Fire clay, plastic, white-----	8	90	
Siltstone, brown-----	10	100	
Sandstone, fine, brown-----	10	110	

Well 16/8W-13F1

Type of record: Driller's log. Altitude: About 650 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay, blue, and sand-----	52	70	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	30	100	
Fire clay-----	10	110	
Shale, blue-----	30	140	

Well 16/8W-13J1

Type of record: Driller's log. Altitude: About 645 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	10	10	W. B.
Clay, blue-----	64	74	
Gravel, coarse-----	2	76	

Table 5.--Selected well logs, P arke County--Continued

Well 16/8W-13L2

Type of record: Driller's log.

Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and white clay-----	2	2	
Clay, yellow-----	16	18	
Clay, sandy, blue-----	30	48	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	12	60	
Slate, blue-----	20	80	
Fire clay, sandy, white-----	10	90	
Sandstone, gray, with streaks of limestone-----	14	104	W. B.

Well 16/8W-13P1

Type of record: Driller's log.

Altitude: About 615 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	21	21	
Clay, very hard, blue-----	29	50	
Gravel and sand-----	2	52	W. B.

Well 16/8W-13P3

Type of record: Driller's log.

Altitude: About 615 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil-----	1	1	
Clay, yellow-----	9	10	
Clay, soft, blue-----	40	50	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	21	71	W. B.

Well 16/8W-14D1

Type of record: Driller's log.

Altitude: About 610 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	21	21	
Sand, yellow-----	15	36	
Sand, coarser with depth, light-gray-----	14	50	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	--	50	

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-14J1

Type of record: Driller's log. Altitude: About 630 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	15	15	
Clay, blue-----	40	55	
Mud, leaves, sticks-----	5	60	Odor
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	12	72	
Shale, limy-----	25	97	W. B.

Well 16/8W-16R1

Type of record: Driller's log. Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	18	18	
Sand, yellow-----	1	19	
Clay, blue-----	27	46	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Slate and shale-----	44	90	W. B.
Shale, hard, blue-----	10	100	

Well 16/8W-19E1

Type of record: Driller's log. Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and yellow clay-----	12	12	
Clay, light-brown-----	18	30	
Gravel, dirty, brown-----	1	31	
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, hard, blue-----	17	48	
Siltstone, hard, white-----	22	70	W. B.
Sandstone, gray-----	26	96	W. B.
Lower? Pennsylvanian Series:			
Coal, hard-----	4	100	
Fire clay-----	2	102	
Sandstone-----	--	102	W. B.

Well 16/8W-19M1

Type of record: Driller's log. Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface-----	15	15	
Softpan, sandy-----	8	23	

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-19M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, soft, light-----	4	27	W. B. 56 to 63 ft.
Shale, sandy, light-----	44	71	
Lower? Pennsylvanian Series:			
Slate, dark-----	.5	71.5	Salt water
Shale, black-----	28.5	100	
Sandstone, hard-----	8	108	
Shale, sandy, gray-----	30	138	
Shale, dark-gray-----	20	158	
Shale, sandy, light-----	4	162	
Shale, sandy, dark-----	11	173	
Sandstone, gray-----	3	176	
Shale, sandy, gray-----	11	187	
Shale, sandy, light-----	13	200	
Coal-----	1	201	
Shale, sandy, gray-----	5	206	
Sandstone, light-----	21	227	
Limestone-----	3	230	

Well 16/8W-20N1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	21	21	
Hardpan, sandy, blue-----	39	60	
Hardpan, sandy-----	10	70	
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Limestone, gray-----	20	90	W. B.
Shale, gray-----	30	120	
Sandstone, white-----	15	135	
Shale, limy-----	15	150	

Well 16/8W-22Q1

Type of record: Driller's log.

Altitude: About 665 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and gravel-----	18	18	W. B.
Clay, blue-----	6	24	
Gravel-----	1	25	
Clay, blue, and gravel-----	9	34	

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-23K1

Type of record: Driller's log.

Altitude: About 615 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand and gravel-----	40	40	Dry
Sand, gray-----	14	54	W. B.
Hardpan-----	2	56	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Limestone, blue-----	4	60	
Shale, sandy-----	16	76	
Sandstone, white-----	10	86	W. B.
Shale, blue-----	4	90	

Well 16/8W-23P1

Type of record: Driller's log.

Altitude: About 620 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	6	24	
Limestone, blue-----	4	28	
Shale, cavy, light-gray-----	32	60	
Shale, sandy, light-----	10	70	
Limestone, white-----	25	95	
Slate, sandy, gray-----	15	110	
Shale, sandy-----	38	148	
Coal-----	5	153	
Fire clay, gray-----	22	175	
Shale, gray-----	15	190	
Coal-----	8	198	
Fire clay, gray-----	2	200	

Well 16/8W-24A2

Type of record: Driller's log.

Altitude: About 695 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	19	19	
Clay, blue-----	31	50	
Hardpan, hard, blue-----	20	70	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, yellow-----	10	80	
Shale, gray-----	4	84	
Sandstone, coarser with depth, gray to white-----	26	110	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-24F1

Type of record: Driller's log. Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Soil and clay-----	10	10	
Sand, yellow-----	16	26	
Clay, yellow-----	2	28	
Sand and gravel, gray-----	10	38	W. B.
Gravel, medium-coarse-----	6	44	W. B.

Well 16/8W-26J1

Type of record: Driller's log. Altitude: About 715 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Hardpan, blue-----	78	96	
Gravel-----	3	99	W. B.

Well 16/8W-27D1

Type of record: Driller's log. Altitude: About 670 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Surface clay-----	6	6	
Clay and sand-----	5.5	11.5	
Boulder clay-----	30.5	42	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale, bluish-gray-----	44	86	
Lower Pennsylvanian Series:			
Shale, blue-----	1.3	87.3	
Coal-----	.5	87.8	
Clay, blue-----	29.7	117.5	
Limestone-----	1.3	118.8	
Shale, blue-----	1	119.8	
Coal-----	.2	120	
Fire clay-----	2	122	

Well 16/8W-30E3

Type of record: Driller's log. Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Sand and gravel-----	6	24	Dry
Clay, blue-----	11	35	
Clay, gritty, blue-----	5	40	
Shale, soft, broken-----	4	44	Boulder?
Clay, blue-----	14	58	

Table 5.--Selected well logs, Parke County--Continued

Well 16/8W-30E3--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale-----	--	58	

Well 16/8W-33F1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow, and sand-----	37	37	
Clay, blue, and sand-----	10	47	
Sand and marl-----	2	49	
Clay, blue-----	3	52	
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Sandstone, soft, white-----	8	60	
Sandstone, hard, brown-----	6	66	W. B.
Cavity-----	1	67	
Shale, white-----	1	68	

Well 16/8W-34H1

Type of record: Driller's log. Altitude: About 720 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	12	12	
Hardpan, blue-----	48	60	
Sand-----	3	63	W. B.
Clay, blue-----	13	76	
Clay, gravelly, blue-----	7	83	W. B.
Sand-----	3	86	W. B.
Pennsylvanian System:			
Middle? Pennsylvanian Series:			
Shale, brown-----	34	120	
Lower Pennsylvanian Series:			
Fire clay-----	26	146	
Slate, black, and coal-----	10	156	W. B.
Slate and shale-----	69	225	
Coal-----	7	232	W. B.
Fire clay-----	3	235	
Limestone-----	2	237	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 16/9W-25N1

Type of record: Driller's log. Altitude: About 514 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Gravel, dirty-----	15	15	
Gravel, coarse-----	23	38	Dry
Clay, sticky, blue-----	29	67	
Gravel, coarse-----	57	124	W. B.

Well 16/9W-36D1

Type of record: Driller's log. Altitude: About 515 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Gravel, dirty-----	12	12	
Gravel-----	41	53	Dry
Clay, blue-----	14	67	
Gravel, yellow-----	34	101	W. B.
Gravel, blue-----	33	134	W. B.
Pennsylvanian System:			
Middle Pennsylvanian Series:			
Shale, blue-----	--	134	

Well 17/6W-18A1

Type of record: Driller's log. Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Boulders and sand-----	20	20	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	28	48	
Osage? Series:			
Sandstone, white-----	4	52	W. B.

Well 17/6W-21E1

Type of record: Driller's log from memory. Altitude: About 760 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	30	30	
Clay, putty-like, red-----	21	51	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	29	80	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 17/6W-31F1

Type of record: Driller's log. Altitude: About 750 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	23	23	
Clay, gray-----	31	54	
Sand, dirty-----	1	55	W. B.
Hardpan, gray-----	41	96	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	8	104	
Sandstone, white, and blue shale	16	120	
Sandstone, clean, gray-----	15	135	W. B.

Well 17/6W-33C1

Type of record: Driller's log. Altitude: About 795 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Soil-----	2	2	
Clay, yellow-----	28	30	
Clay, soft, blue-----	50	80	
Clay, gravelly, blue-----	--	80	Gas
Hardpan, blue-----	50	130	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	35	165	W. B.

Well 17/7W-7D1

Type of record: Driller's log. Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	83	83	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, white-----	29	112	
Slate and shale-----	14	126	
Sandstone-----	10	136	
Slate, with streak of hard sandstone-----	24	160	W. B.
Slate, black-----	--	160	

Well 17/7W-11D1

Type of record: Driller's log from memory. Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	10	10	
Clay, blue-----	30	40	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-11D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	70	110	W. B.

Well 17/7W-11K1

Type of record: Driller's log from memory. Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	35	35	
Sand, bark, wood, coal fragments	45	80	
Gravel, coarser with depth-----	26	106	W. B.

Well 17/7W-11M1

Type of record: Driller's log from memory. Altitude: About 695 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	12	12	
Clay, blue-----	33	45	
Quicksand-----	37	82	
Sand and pebbly gravel-----	2	84	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	36	120	W. B.

Well 17/7W-12R2

Type of record: Driller's log from memory. Altitude: About 710 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	15	15	
Sand and gravel, coarser with depth-----	51	66	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	--	66	

Well 17/7W-14D1

Type of record: Driller's log. Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	1	1	
Clay, yellow-----	13	14	
Clay, soft, blue-----	26	40	
Hardpan, very hard, blue-----	40	80	
Clay, sandy, soft, blue-----	62	142	

Tablr 5.--Selected well logs, Parke County--Continued

Well 17/7W-14D1--Continued

Material	Thick-ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, broken, and dirty sand-----	4	146	W. B.
Sandstone, broken, blue-----	1	147	
Sandstone, blue-----	7	154	
Sandstone, porous, soft, gray, with traces of coal-----	11	165	W. B.

Well 17/7W-17E1

Type of record: Driller's log.

Altitude: About 582 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow, and clay-----	13	13	
Clay, blue-----	39	52	
Sand-----	1	53	
Clay, blue-----	19	72	
Sand and clay-----	60	132	
Mississippian System:			
Meramec Series:			
Shale, blue-----	1	133	
Limestone, coarse, white-----	12	145	
Limestone, and streaks of shale-	20	165	W. B.

Well 17/7W-17E3

Type of record: Driller's log.

Altitude: About 570 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Hardpan, brown-----	19	19	
Clay, blue-----	11	30	
Shale, gravelly, gray-----	22.5	52.5	Clay?
Sand and gravel, dirty-----	2.5	55	
Sand, fine-----	4	59	
Log-----	--	59	
Clay, gravelly-----	7	66	
Clay, blue-----	4	70	
Sand, fine-----	5	75	W. B.
Gravel-----	2	77	W. B.
Gravel-----	3	80	Dry, cemented zone?
Sand, very fine-----	5	85	Do
Gravel-----	12	97	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-20M1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Dug well-----	22	22	
Quaternary System:			
Recent and Pleistocene Series:			
Sand, fine, yellow-----	27.5	49.5	
Mississippian System:			
Meramec Series:			
Limestone, yellow-----	50.5	100	
Limestone, gray-----	40	140	
Limestone, brown-----	30	170	W. B.

Well 17/7W-23A1

Type of record: Driller's log.

Altitude: About 705 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay, soft, blue-----	107	125	
Gravel, yellow, and clay-----	20	145	
Hardpan, blue-----	5	150	
Sand and clay-----	4	154	W. B.
Sand, dirty, and clay-----	16	170	
Gravel, yellow, and clay-----	9.5	179.5	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone-----	20.5	200	W. B.
Shale, blue-----	1	201	

Well 17/7W-23P1

Type of record: Driller's log.

Altitude: About 670 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay or hardpan, blue-----	72	90	
Shale, soft-----	10	100	Clay?
Gravel and mud, gray-----	3	103	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	22	125	
Sandstone, moderately hard-----	25	150	
Sandstone, dirty-----	10	160	
Shale, softer with depth, gray--	30	190	
Sandstone and limestone-----	24	214	
Shale, gray-----	10	224	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-23P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Mississippian System:			
Meramec Series:			
Limestone, bluish-gray-----	10	234	
Limestone, hard, white and gray-	6	240	
Fire clay-----	1	241	
Limestone, white and gray-----	23	264	
Osage? Series:			
Sandstone-----	4	268	
Limestone, gray, with streak of soft shale-----	27	295	
Shale, sandy, light bluish-gray-	47	342	

Well 17/7W-26C1

Type of record: Driller's log.

Altitude: About 600 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Loam-----	6	6	
Gravel-----	1	7	
Clay, yellow-----	13	20	
Hardpan, gray-----	48	68	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale-----	127	195	
Sandstone, hard-----	1	196	
Shale, hard-----	4	200	
Limestone, hard-----	2	202	
Shale, soft-----	4	206	
Limestone, hard-----	3	209	
Sandstone, soft-----	5	214	
Sandstone, hard-----	2	216	
Sandstone-----	11	227	
Fire clay-----	2	229	
Sandstone, white-----	14	243	W. B.

Well 17/7W-27P1

Type of record: Driller's log.

Altitude: About 620 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	35	35	
Gravel-----	13	48	
Hardpan-----	8	56	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, black-----	14	70	
Sandstone and shale-----	45	115	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-29G1

Type of record: Driller's log. Altitude: About 575 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, dirty-----	15	15	
Clay, blue-----	35	50	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, blue-----	38	88	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	24	112	W. B.

Well 17/7W-29J1

Type of record: Driller's log from memory. Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, gravel, and boulders-----	68	68	
Mississippian System:			
Meramec Series:			
Limestone-----	32	100	
Sandstone, brown-----	6	106	W. B.
Shale, sandy, blue-----	55	161	

Well 17/7W-29Q2

Type of record: Driller's log. Altitude: About 640 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	5	5	
Hardpan, yellow to brown-----	15	20	
Hardpan, sandy, yellow-----	5	25	
Hardpan, gravelly-----	4	29	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, gray-----	5	34	
Fire clay, gray-----	60	94	
Shale, sandy, with streaks of limestone-----	35	129	
Limestone, sandy-----	10	139	
Coal-----	5	144	
Fire clay, gray-----	5	149	
Mississippian System:			
Meramec Series:			
Limestone, shaly, gray-----	5	154	
Limestone, sandy-----	5	159	
Limestone, sandy, shaly-----	5	164	
Limestone, sandy, dense-----	5	169	
Limestone, shaly-----	5	174	
Limestone, sandy-----	6	180	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-30J1

Type of record: Driller's log. Altitude: About 560 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Clay and gravel-----	8	8	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	12	20	
Limestone, blue-----	10	30	
Shale, sandy-----	20	50	
Sandstone, gray-----	20	70	
Shale, blue-----	2	72	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	18	90	
Limestone, white-----	40	130	

Well 17/7W-31E1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	15	15	
Hardpan, brown-----	35	50	
Gravel, red, and clay-----	7	57	
Hardpan, blue-----	13	70	

Well 17/7W-31K1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, brown-----	22	22	
Clay, gravelly, blue-----	61	83	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, soft, blue-----	17	100	
Sandstone, coarse, soft, clean, white-----	7	107	W. B.

Well 17/7W-32K1

Type of record: Driller's log. Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil and yellow clay-----	5	5	
Clay, sandy, soft, yellow-----	2	7	W. B.
Clay, sandy, yellow-----	11	18	
Clay, gravelly, blue-----	12	30	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-32K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, soft, yellow-----	40	70	
Sandstone, medium-coarse, bluish-gray-----	15	85	
Shale, plastic, gray-----	36	121	
Sandstone, fine-grained, gray---	4	125	W. B.

Well 17/7W-33B2

Type of record: Driller's log.

Altitude: About 650 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	12	12	
Sand and gravel-----	1	13	
Hardpan, blue-----	42	55	
Gravel-----	1	56	
Hardpan, gravelly, gray-----	36	92	
Sand-----	5	97	W. B.
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Sandstone, white-----	3	100	
Sandstone, coarse, dark-----	6	106	W. B.

Well 17/7W-33L1

Type of record: Driller's log.

Altitude: About 655 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Clay, yellow-----	16	18	
Hardpan, pebbly, blue-----	52	70	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	9	79	
Sandstone, gray-----	16	95	W. B.
Shale, gray, with streaks of limestone-----	8	103	

Well 17/7W-35B1

Type of record: Driller's log.

Altitude: About 700 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	18	18	
Clay, blue, with streaks of sand	72	90	

Table 5.--Selected well logs, Parke County--Continued

Well 17/7W-35B1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, cavy, blue-----	11	101	
Limestone, gray-----	9	110	
Slate, black-----	20	130	
Shale, sandy, white-----	30	160	
Mississippian System:			
Meramec Series:			
Limestone, gray-----	5	165	

Well 17/7W-35J1

Type of record: Driller's log.

Altitude: About 695 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Clay, yellow-----	17	19	
Clay, gravelly, blue-----	26	45	
Gravel and sand, gray-----	5	50	W. B.

Well 17/7W-36F1

Type of record: Driller's log.

Altitude: About 715 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	14	14	
Clay, blue, and gravel-----	47	61	
Gravel, dirty, and clay-----	2	63	W. B.
Clay, blue, and sand-----	14	77	
Sand and boulders-----	2	79	
Hardpan, blue, and gravel-----	19	98	
Gravel-----	--	98	W. B.

Well 17/8W-7L1

Type of record: Driller's log from memory.

Altitude: About 580 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand-----	35	35	
Clay, blue-----	22	57	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, black-----	11	68	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 17/8W-9Q1

Type of record: Driller's log.

Altitude: About 650 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Dug well-----	40	40	
Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	83	123	
Gravel and sand-----	3	126	W. B.

Well 17/8W-14F1

Type of record: Driller's log from memory.

Altitude: About 675 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	15	15	
Clay, blue-----	105	120	
Gravel-----	--	120	W. B.

Well 17/8W-21G1

Type of record: Driller's log from memory.

Altitude: About 630 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, blue-----	40	40	
Sand-----	10	50	W. B.
Clay, blue-----	38	88	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, with thin pebble band----	32	120	W. B.

Well 17/8W-27P1

Type of record: Driller's log.

Altitude: About 660 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Top soil-----	2	2	
Clay, yellow-----	20	22	
Clay, hard, blue-----	13	35	
Sand, muddy, and gravel-----	2	37	
Clay, gravelly, blue-----	23	60	
Clay, sandy, blue-----	10	70	
Sand, muddy, with coal and sticks-----	15	85	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, dark-blue-----	5	90	
Shale, hard, dark-blue-----	5	95	
Limestone, coarse, black-----	20	115	
Fire clay, plastic, white-----	5	120	
Sandstone, shaly, blue-----	10	130	W. B.

Table 5.--Selected well logs, Parke County--Continued

Well 17/8W-35B1

Type of record: Driller's log. Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Drift-----	12	12	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, soft, blue-----	18	30	
Slate, gray, with cherty con- cretions-----	61	91	
Sandstone, white, with streaks of quartz-----	20	111	
Mississippian System:			
Meramec Series:			
Conglomerate, pebbly, with shale matrix-----	2	113	
Limestone, coarse-grained, fossiliferous-----	23	136	W. B.

Well 17/9W-2F3

Type of record: Driller's log. Altitude: About 500 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Clay, yellow-----	10	10	
Clay, sandy, brown-----	18	28	
Clay, sandy, gray-----	18	46	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, gray-----	33	79	
Limestone-----	11	90	W. B.
Shale, dark-----	17	107	

Well 17/9W-12J2

Type of record: Driller's log. Altitude: About 555 feet.

Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	60	60	
Clay, sandy, yellow-----	10	70	
Gravel, yellow-----	4	74	Dry, gas
Gravel and clay-----	15	89	
Pennsylvanian System:			
Lower Pennsylvanian Series:			
Shale, sandy, white-----	6	95	
Sandstone, white-----	15	110	W. B.
Fire clay, white-----	6	116	

Table 5.--Selected well logs, Parke County--Continued

Well 17/9W-12P1

Type of record: Driller's log.

Altitude: About 560 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary System:			
Recent and Pleistocene Series:			
Sand, yellow-----	80	80	
Gravel-----	20	100	
Sand-----	15	115	W. B.
Gravel, coarse-----	6	121	W. B.

Table 6.--Field chemical analyses in parts per million of water from wells,
Parke County, Indiana

Well number: See text for description of well-numbering system.
Material: C, coal; G, gravel; Ls, limestone; S, sand; Sd-sh, sandy shale; Sh, shale; Sh-ss, shaly sandstone; Sls, siltstone; Ss, sandstone.
Geologic age: P1, Pleistocene; P, Pennsylvanian; M, Mississippian; D, Devonian.

Well	Material	Geologic age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Hardness as CaCO ₃ (Calcium, magnesium)	Remarks
14/6W-1R1	Sh, Ss	P	11-17-58	58	1.0	429	--	6	292	
2N1	Ss	P	11-17-58	61	.1	307	--	8	224	
3Q1	Ss	P	12-8-60	50	2.0	390	30	10	364	
5F1	Ss	P	9-22-59	--	1.0	429	13	4	308	
7G1	S, G	P1	11-17-58	55	5.0	317	--	12	220	
7J1	S, G	P1	11-17-58	56	.1	439	--	22	424	
8D1	Ss	P	11-17-58	55	.1	410	--	16	308	
12H1	Ss	P	9-22-59	66	5.0	468	17	5	344	
14B1	Ss	P	11-17-58	56	.5	459	--	22	364	
16B1	S, G	P1	11-17-58	59	.3	366	--	6	276	
17D1	Ss	P	11-17-58	--	.3	429	--	14	276	
19R1	Ss	P	11-18-58	--	1.5	464	--	10	352	
20B1	Ss	P	5-16-61	54	1.0	278	22	12	240	
22P1	Sd-sh	P	11-18-58	--	.5	278	--	162	324	Inflammable gas
27D1	Ss	P	5-13-58	58	.2	390	--	2	192	
27G1	S	P1	9-22-59	58	1.5	478	11	6	312	
32N1	Ss?	P	9-22-59	--	.1	464	11	6	14	
33A1	-----	P	5-16-61	54	1.0	434	10	8	212	
34E1	G	P1	9-22-59	55	.5	337	10	5	200	
34N1	Ss	P	12-8-60	--	.1	337	9	10	264	
35R2	Ss	P	11-21-58	--	1.5	420	--	4	136	
36C1	Ss	P	5-16-61	56	7.5	244	34	14	176	
36K1	Ss	P	11-21-58	55	.3	429	--	10	268	

36L1	Ss	P	11-21-58	55	1.0	405	--	10	280
36Q1	-----	P	11-21-58	59	1.0	459	--	16	160
14/7W-5C1	Ss	P	12-7-60	52	1.5	386	15	12	304
5R1	Ss	P	12-7-60	--	.1	420	85	616	296
6D1	S,G	P1	9-22-59	--	.1	386	46	8	336
6D2	G	P1	1-10-61	56	7.5	33	55	8	276
11Q1	S,G	P1	12-7-60	54	.1	259	85	12	312
13P1	Ss	P	12-7-60	--	.5	317	13	8	236
18P1	S,G	P1	12-7-60	--	.1	283	32	16	276
20D1	-----	P	12-7-60	--	.1	425	10	10	72
22D1	Ss	P	7-23-59	--	.3	425	20	22	300
22D3	Ss	P	9-23-59	--	.1	376	12	2	256
22E1	Ss	P	9-23-59	--	1.5	312	14	6	224
22E2	Ss	P	9-23-59	--	.1	361	12	2	268
22E5	Ss	P	12-7-60	--	.3	395	16	14	332
22K1	S,G	P1	9-23-59	--	1.5	410	64	4	352
24P1	Ss	P	9-23-59	--	.5	415	13	4	288
28L1	Ss	P	9-23-59	--	<.1	547	23	158	50
31B1	S,G	P1	12-7-60	52	.1	259	14	10	236
32E1	S	P1	4-8-59	--	1.5	425	20	8	242
35Q1	Ss	P	9-30-58	--	<.1	503	--	20	168
36L1	Ss	P	9-23-59	--	1.0	454	11	8	224
36L2	Ss	P	9-23-59	--	.3	488	17	7	128
14/8W-5G1	-----	P	9-24-59	--	.1	708	18	20	8
9F1	C	P	5-16-61	--	3.0	371	60	10	236
14J1	S,G	P1	9-23-59	56	.3	288	66	14	272
16R1	-----	P1	9-23-59	65	5.0	429	140	8	384
18P1	S,G	P1	5-16-61	--	1.0	522	12	10	280
18R1	S,G	P1	5-13-58	56	1.5	522	--	6	308
21A1	-----	P	7-23-59	--	.1	381	290	36	532
23R1	G	P1	12-7-60	--	.2	337	195	24	636
26A1	G	P1	9-22-59	--	1.0	303	48	5	236
30P1	Ss	P	12-7-60	--	.5	664	8	152	84
30R1	G	P1	12-7-60	--	4.0	454	11	12	316
31P1	S,G	P1	8-26-59	--	<.1	415	13	2	284
33L1	Ss	P	9-23-59	--	.3	512	94	10	432

Table 6.--Field chemical analyses of water from wells, Parke County, Indiana--Continued

Well	Material	Geologic age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Hardness as CaCO ₃ (Calcium, magnesium)	Remarks
14/9W-13Q1	Ls	P	9-24-59	--	0.1	556	140	30	344	
14K1	G	P1	12-7-60	--	.3	425	405	34	652	
23H2	G	P1	9-24-59	--	.1	468	85	6	428	
23H3	S,G	P1	12-7-60	--	.1	464	25	10	432	
23R1	S,G	P1	12-7-60	--	.1	390	50	14	384	
24L1	G	P1	9-24-59	--	1.5	639	12	6	456	
24M1	G,S	P1	12-7-60	--	.1	478	21	14	440	
25M1	S,G	P1	9-24-59	--	2.0	532	88	7	452	
26J1	G	P1	9-24-59	--	.5	517	87	8	440	
35H1	G	P1	9-24-59	--	.1	381	115	8	372	
35L1	S,G	P1	5-16-61	--	.2	249	60	12	260	
35R1	S,G	P1	8-20-59	--	.1	342	33	14	320	
15/6W-7E1	Ss	P	1-11-61	57	3.0	410	9	6	340	
7H1	Sh	P	11-19-58	--	.3	522	--	10	188	
7J2	S	P1	12-8-60	--	5.0	434	12	10	308	
7K1	Ss	P	11-19-58	56	1.0	498	--	6	280	
8E1	Ls	M	11-19-58	56	.1	493	--	4	244	
9G1	-----	--	11-19-58	59	>7.5	395	--	10	284	
9H1	Ss	M?	11-20-58	--	1.5	444	--	16	336	
10E1	Ss	P?	11-19-58	55	5.0	434	--	20	372	
10L1	Ls	M	12-8-60	--	.5	420	--	16	424	
12M1	S1s,Ls	M?	11-19-58	--	.1	503	--	18	384	
13Q1	Ss	--	2-16-60	52	10.0	395	115	4	380	
28Q1	Ls	M	12-8-60	--	.1	327	20	16	292	
31M1	Ss	P	11-18-58	57	.5	468	--	12	336	
35E1	S	P1	11-18-58	55	.3	293	--	30	268	
15/7W-3H1	G	P1	1-11-61	--	.1	220	180	40	392	
4K1	Ss	P	1-12-60	--	7.5	361	10	62	336	
13B2	Ss	P	1-11-61	--	.1	356	22	30	192	

15/7W-13E1	Ss	P	12- 8-60	--	5.0	390	10	8	300
14A1	Ss	P	1-11-61	56	1.0	488	8	10	368
18L1	Ls	M	1-11-61	--	.1	620	37	524	40
31P1	Sh	P	9-22-59	--	<.1	351	32	5	280
15/8W- 4P1	-----	P	9-24-59	60	.0	766	108	652	18
5J1	S,G	P1	9-24-59	--	.1	366	33	4	304
6H1	S,G	P1	9-24-59	--	1.0	322	46	4	268
12F1	Sh	P	9-24-59	--	7.5	727	17	4	464
19A1	Ss	P	9-25-59	--	.5	517	13	10	80
19R1	-----	P1	9-24-59	--	<.1	464	130	18	496
23Q1	C	P	9-25-59	--	.5	581	64	30	244
24N1	Sh	P	9-25-59	--	1.5	561	13	4	344
26F1	G	P1	9-25-59	--	1.0	527	14	4	268
27H1	G	P1	9-25-59	--	.3	517	14	6	188
32L1	Ss	P	9-25-59	--	.3	571	32	20	64
33L1	-----	P	9-25-59	58	.5	1,103	12	160	20
15/9W-13E1	S,G	P1	9-24-58	--	.1	342	48	11	324
13P1	S,G	P1	9-24-59	--	<.1	283	32	6	244
14H1	S,G	P1	5-16-61	--	<.1	264	60	10	248
36R1	S,G	P1	9-24-59	--	2.5	590	13	7	268
16/6W- 2L1	Ls	M	11-20-58	54	>7.5	727	--	2	432
8C1	Ss	P	11-20-58	--	2.5	390	--	6	268
11F1	Sls	M	11-19-58	--	>7.5	952	--	12	584
12G1	Ls	M	11-20-58	54	1.0	434	--	6	256
12J1	S,G	P1	1-60	54	5.0	259	15	6	160
18C1	Sls?	M	1-11-61	43	3.0	439	28	44	408
20M1	Ss	P	11-20-58	--	5.0	312	--	120	360
25P1	Ls	M	12- 1-60	--	.3	337	17	8	232
26E1	S	P1	11-19-58	--	7.5	439	--	8	328
28P1	Sh	M	11-20-58	53	.1	537	--	8	36
31Q1	Ls	M	1-12-61	51	.5	434	14	8	352
34N1	-----	P	11-19-58	55	.1	488	--	14	280
35M1	-----	P	1-11-61	--	.5	449	10	32	368
35Q1	Ss	P	11-19-58	54	1.0	317	--	122	396

Table 6.--Field chemical analyses of water from wells, Parke County, Indiana--Continued

Well	Material	Geologic age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Hardness as CaCO ₃ (Calcium, magnesium)	Remarks
16/7W-3K1	Ss	P	1-12-61	--	1.0	381	21	14	288	
4H3	Ss	P	1-12-61	--	.1	566	21	10	8	
4K2	G	P1	1-12-61	--	.5	434	11	8	56*	
5N1	S,G	P1	1-12-61	42	2.0	395	18	26	332	
6D1	-----	P,M	1-12-60	--	.1	561	10	60	120	
6N1	Ls	P	1-12-61	--	.5	415	14	20	352	
7C1	S,G	P1	1-12-61	--	>7.5	454	12	4	324	
12L1	Sh	P	1-12-61	--	.3	420	11	8	308	
15E1	Ss	P	1-12-61	46	.3	405	9	6	228	
15R1	Ss	P	12- 2-60	--	3.0	288	18	10	204	
16K1	Ss	P	12- 2-60	--	1.5	459	9	10	324	
16L1	G	P1	12- 2-60	--	1.0	361	5	10	280	
17F1	Ss	P	1-12-61	--	.5	449	11	26	328	
17M1	Ss	P	1-12-61	--	.5	415	8	50	356	
19J1	Ss	P	12- 1-60	--	.5	664	13	12	48	
19N1	C,Ls	P	12- 1-60	--	.1	366	8	10	120	
20L1	Ss	P	12- 1-60	52	.5	351	10	10	280	
21L1	Ss	P	12- 2-60	--	5.0	293	12	10	240	
22L1	G	P1	12- 1-60	--	.1	381	10	10	296	
23M1	Ls?	M	12- 2-60	--	1.0	420	8	10	352	
24L1	Ls	M	12- 2-60	52	1.0	288	26	12	280	
24M1	S	P1	12- 2-60	50	.1	439	170	86	668	
25F1	Ss	P	12- 2-60	57	3.0	229	8	10	172	
26Q1	S,G	P1	1-11-60	48	.1	264	20	40	272	
29E1	C	P	12- 1-60	56	1.0	303	9	10	184	
29Q1	Ss,Sh	P	1-11-60	--	.1	532	11	24	184	
30F1	Ls	P	12- 1-60	52	.1	688	9	14	18	
30G1	S,G	P1	12- 1-60	--	.1	283	29	12	264	
30N1	S,G	P1	12- 1-60	--	.5	400	7	12	128	

16/7W-32H1	Ss	P	12- 1-60	--	3.0	356	12	8	276
33D1	Ss	P	12- 1-60	--	.1	351	10	12	272
33N1	G	P1	12- 1-60	--	4.0	405	35	34	398
35Q1	G	P1	12- 1-60	54	.1	332	24	12	328
16/8W- 2M1	G	P1	1-19-61	--	.1	556	9	6	436
7K2	G	P1	1-19-61	49	5.0	410	17	20	324
7Q1	-----	P	11-19-58	--	.1	956	--	1,160	22
7Q2	G	P1	11-19-58	55	7.5	434	--	42	376
8N1	-----	P	11-19-58	--	.1	630	--	38	80
11A1	Ss	P	1-19-61	46	.1	566	11	18	324
12R1	Ls	M	1-19-61	--	.1	703	9	100	24
13E3	Ss	P	11-20-58	--	.3	434	--	22	472
13F1	-----	P	11-19-58	59	1.0	473	--	44	420
14J1	Ls,h	P	11-19-58	--	2.0	517	--	4	340
16R1	Sh	P	11-19-58	--	.0	693	--	4	168
18B1	-----	P	11-19-58	56	.0	644	--	36	16
19E1	S1s,Ss	P	11-17-58	60	.1	1,290	--	84	10
19M1	Sd-sh	P	5-18-61	57	.1	434	48	12	156
20N1	Ss	P	-----	56	3.0	434	--	14	24
22Q1	G	P1	11-17-58	60	.3	473	--	44	528
23K1	Ss	P	11-17-58	58	1.0	405	--	10	272
24F1	S,G	P1	11-19-58	52	.3	468	--	6	312
26J1	G	P1	11-17-58	56	2.0	425	--	10	284
34H1	Sh,C,°	P	11-17-58	59	.0	600	--	8	76
36G1	Ls	P1	11-17-58	54	2.0	571	--	12	352
16/9W-25H1	S,G	P1	3-12-57	54	<.1	---	--	24	384
35R2	-----	D	11-17-58	69	.1	425	--	3,880	780
36P1	G	P1	11-17-58	54	.3	381	--	6	396
17/6W- 5D1	Ss	P	10-29-58	--	.1	532	--	4	340
6C1	Sh	M?	10-29-58	--	.3	532	--	14	384
6Q1	Sh	M?	10-29-58	--	.1	508	--	8	328
7B1	Sh	M	10-29-58	--	.1	630	--	5	456
18A1	Ss	M	10-29-58	57	2.5	468	--	8	388
19L1	G	P1	12- 1-60	--	1.5	434	10	10	324

Table 6.--Field chemical analyses of water from wells, Parke County, Indiana--Continued

Well	Ma- teri- al	Geo- logic age	Date of Collec- tion	Temper- ature (°F)	Iron (Fe)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Hardness as CaCO ₃ (Calcium, magnesium)	Remarks
17/6W-21C1	Ss	P?	10-29-58	57	2.0	434	--	6	336	
21E1	Ss	P	10-29-58	54	1.0	298	--	7	220	
21L1	G	P1	12- 1-60	--	.3	298	13	10	232	
30M1	Sh	P	10-29-58	--	.1	420	--	24	220	
31F1	Ss	P	5-18-61	57	1.0	---	17	6	204	
32H1	G	P1	10-29-58	--	.5	366	--	12	300	
33C1	Ss	P	6-20-56	58	>7.5	434	13	10	328	
17/7W- 1B1	Ss	P?	10-29-58	53	.5	508	--	6	364	
6K1	Ss	P	10-29-58	--	2.5	605	--	6	408	
7L1	Ss	P	10-29-58	55	.5	429	--	4	240	
9N1	G	P1	10-29-58	--	.1	439	--	10	344	
11E1	-----	P	11-10-58	--	>.1	547	--	6	408	
11F1	Sh,Ss	P	11-10-58	--	<.3	581	--	34	628	
11M1	G	P1	11-10-58	51	.3	600	--	6	456	
12R2	Sh	P	11-10-58	--	.5	449	--	32	348	
15H1	S,G	P1	11-10-58	--	.1	107	14	22	112	
17E1	G	P1	12- 1-60	--	2.0	439	--	2,140	508	
17E2	Ls	M	5-14-58	55	.2	278	--	8	252	
17E3	G	P1	5-28-58	58	3.0	478	10	36	344	
20M1	Ls	M	4-22-59	54	.3	415	25	70	312	
23A1	Ss	P	5-25-61	55	.5	439	--	5	296	
26C1	Ss	P	10-30-58	58	.1	566	--	232	144	
26D1	-----	P	10-30-58	--	.3	512	--	16	284	
29J1	Ss	M	10-30-58	--	.1	390	--	12	344	
29K1	-----	--	10-30-58	54	.1	459	--	18	388	
29Q1	-----	--	10-30-58	54	1.5	425	--	250	252	
29Q2	Ls	M	1-19-61	--	.3	512	43	2,210	128	
30J1	Ls	M	10-30-58	--	.3	346	--	.4	236	
30J2	Ls	M	12- 1-60	54	.1	312	17	12	216	

17/7W-3IK1	Ss	P	1-12-61	48	7.5	425	13	6	352
32P1	Ss	P	10-30-58	--	.1	410	--	8	320
33B1	Ss	P	10-30-58	--	1.0	493	--	6	368
33B2	Ss	P	10-30-58	--	2.0	464	--	4	296
34B1	G	P1	10-30-58	--	2.5	434	--	6	296
35B1	-----	--	5-18-61	56	.3	464	12	10	144
35D1	Sh	P	10-30-58	--	.3	586	--	2	184
35D2	C	P	10-30-58	--	.3	581	--	4	188
35E1	Sh	P	10-30-58	53	1.5	459	--	6	292
36F1	G	P1	10-29-58	--	1.0	405	--	2	108
17/8W- 1N1	G	P1	11-30-60	--	3.0	434	8	10	340
7L1	Sh	P	11-11-58	54	.1	420	--	10	308
7P1	G	P1	11-11-58	54	.5	444	--	12	288
8N1	-----	P	11-11-58	55	.1	649	--	108	128
9Q1	G	P1	11-12-58	53	.3	556	--	6	300
10P1	Ss	P	11-21-58	53	.1	527	--	6	220
10Q1	G	P1	11-12-58	54	.5	600	--	6	376
10R1	G	P1	11-30-60	--	3.0	356	10	12	232
11G1	G	P1	11-10-58	54	>3.0	571	--	8	316
12B1	Sh	P	11-10-58	54	2.5	595	--	6	400
12J1	Sh	P	11-10-58	--	1.5	537	--	4	320
12P1	G	P1	11-10-58	--	3.0	581	--	7	356
14D1	Sh	P	11-12-58	--	.5	483	--	6	236
14F1	G	P1	11-12-58	54	.5	581	--	14	372
14F2	S,G	P1	11-30-60	--	.1	429	12	10	312
17H1	Sd-sh	P	11-12-58	--	.5	605	--	10	280
18L1	G	P1	11-11-58	52	.1	332	--	6	264
18N2	S	P1	11-11-58	54	.5	342	--	8	304
19R3	S,G	P1	11-11-58	--	.1	434	--	10	368
21G1	Sh	P	11-11-58	54	.1	483	--	2	264
27P1	Sh-ss	P	1-12-61	--	4.0	473	9	22	384
32J1	Sh	P	11-19-58	54	1.0	459	--	12	176
32M1	S,G	P1	10-31-58	55	7.5	425	--	8	408
34H1	Ss,Sh	P	10-31-58	--	.3	503	--	4	352
17/9W- 1P1	G	P1	11-13-58	53	.1	337	--	8	184
12J2	Ss	P	11-30-60	--	.1	298	30	62	184
13H1	G	P1	11-30-60	--	.1	229	16	12	232
13J1	G	P1	11-30-60	--	.1	210	17	10	200

Table 7.--Records of springs in Parke County, Indiana

Spring number: See text for well-numbering system.
 Altitude: Altitude of land-surface datum from topographic map.
 Water-bearing material: Cgl, conglomerate; G, gravel; S, sand; Ss, sandstone; T, till.

Geologic age: P1, Pleistocene; P, Pennsylvanian.
 Flow: e, estimated; m, measured.
 Use: D, domestic; N, none; P, public supply; S, stock.
 Field chemical analyses: In parts per million; water samples collected at date of measurement.

Spring	Owner	Altitude (feet)	Water-bearing material	Geologic age	Flow (gpm)	Date of measurement	Use	Temperature (°F)	Field chemical analyses					Remarks
									Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄ ²⁻)	Chloride (Cl)	Hardness as CaCO ₃ (Calcium and magnesium)	
14/7W-13L1	M. Greenlee	570	S, G	P1	4e	5-7-57	N	---	<0.1	224	---	6	288	Overlain by till.
16/6W-21E1	W. D. Gordan	730	T	P1	2e	5-17-61	D	53	<.1	254	85	16	396	
16/8W-19E2	R. Simpson	580	Ss	P	3e	5-18-61	S	56	<.1	288	75	12	312	
17/7W-29G2	R. M. Fisher	550	S, G	P1	1e	12-1-60	D	---	.1	332	18	16	328	Seep area.
29G3	-----do-----	550	S, G	P1	1e	6-28-61	N	58	---	---	---	---	---	Do
29L1	G. Lindley	600	T?	P1	10e	10-31-58	N	56	.1	322	---	10	416	At contact with Pennsylvanian sandstone.
17/8W-25H1	K. Rainwater	500	Ss	P	.5e	5-3-61	N	47	.1	215	35	8	216	
25K1	F. Heath	500	Ss	P	2e	5-3-61	N	55	.1	234	20	10	200	
36E1	-----do-----	540	Ss	P	4e	5-3-61	N	49	.1	39	17	8	32	Fractures in sandstone.

Table 8.--Field chemical analyses of water from streams, Parke County, Indiana
(Results in parts per million)

Name	Location	Date of collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Hardness as CaCO ₃ (calcium and magnesium)	Remarks
T. 14 N., R. 6 W.									
Rocky Fork Creek	NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1	10-4-60	57	0.4	210	12	10	156	Sample taken at bridge on county road.
T. 14 N., R. 7 W.									
Strangers Creek	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1	10-4-60	57	.1	244	535	10	672	Do
Raccoon Creek	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22	10-4-60	60	.1	307	23	10	272	Do
North Branch Otter Creek	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36	1-4-60	55	.2	332	525	14	792	Sample taken at ford on county road.
T. 14 N., R. 8 W.									
Weisner Creek	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11	10-4-60	55	.2	361	25	12	320	Sample taken at bridge on county road.
Little Raccoon Creek	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13	10-4-60	56	.2	332	34	14	324	Do
Raccoon Creek	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15	10-4-60	55	.1	239	95	54	304	Do
T. 15 N., R. 6 W.									
Rocky Fork Creek	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25	10-4-60	60	.2	366	17	8	328	Do
Raccoon Creek	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28	10-5-60	61	.2	303	25	10	280	Do
T. 15 N., R. 7 W.									
Sand Creek	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4	10-4-60	56	.2	195	490	10	584	Do
Williams Creek	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17	10-4-60	55	.2	376	110	102	396	Do
Little Raccoon Creek	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21	10-4-60	56	.2	337	39	12	328	Do

Table 8.--Field chemical analyses of water from streams, Parke County--Continued

Name	Location	Date of collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Hardness as CaCO ₃ (calcium and magnesium)	Remarks
T. 15 N., R. 9 W.									
Rocky Run Creek	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4	10- 4-60	56	0.2	366	36	14	344	Sample taken at bridge on county road.
Leatherwood Creek	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5	10- 4-60	55	.1	366	36	18	352	Do
T. 15 N., R. 9 W.									
Raccoon Creek	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12	10- 4-60	61	.1	322	28	14	300	Do
T. 16 N., R. 6 W.									
South Fork Raccoon Creek	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17	10- 4-60	65	.2	322	38	14	320	Do
	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36	10- 4-60	64	.2	342	30	12	304	Do
T. 16 N., R. 7 W.									
Little Raccoon Creek	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24	10- 4-60	65	.2	346	33	12	328	Do
T. 16 N., R. 8 W.									
Sugar Creek	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6	10- 4-60	64	.2	307	42	20	292	Do
Leatherwood Creek	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13	10- 4-60	58	.2	342	70	14	316	Do
T. 16 N., R. 9 W.									
Wabash River	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35	10- 3-60	65	.2	254	49	24	280	Sample taken at bridge on federal highway.

T. 17 N., R. 6 W.

Sugar Creek	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8	10- 4-60	64	0.1	298	43	26	304	Sample taken at bridge on county road.
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T. 17 N., R. 7 W.

Green Creek	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20	10- 4-60	66	.1	366	32	16	352	Sample taken at bridge on county road	
Mill Creek	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21	10- 4-60	62	.2	332	26	12	312		Do
Roaring Creek	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29	10- 4-60	61	.1	317	41	20	316		Do
Sugar Creek	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29	10- 4-60	59	.2	283	45	24	272		Do

T. 17 N., R. 8 W.

Mill Creek	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18	10- 4-60	61	.1	342	33	22	344	Do
Rush Creek	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28	10- 4-60	59	.1	356	28	18	344	Do

T. 17 N., R. 9 W.

Coal Creek	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2	10- 3-60	61	.1	322	34	12	328	Do
Wabash River	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3	10- 3-60	65	.2	239	54	20	256	Sample taken at bridge on state highway.

Table 9.--Water levels in observation wells in Parke County, Indiana
(In feet below land-surface datum, except as noted.
Water level: e, estimated; h, tape measurement)

Parke 1. (15/8W-3Q1). Donald C. Stutler. Rockville. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 15 N., R. 8 W. Dug artesian well in glacial drift, diameter 42 inches, depth 19 feet. Land-surface datum is about 665 above msl. Highest water level is 2.38 below lsd, June 21, 1945; lowest, 8.47 below lsd, Sept. 20, 1945. Records available: 1945 to 1950.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1945		Mar. 7	3.10	1947		Nov. 6	5.14
		14	3.07			20	5.15
June 14	2.71	21	3.02	Jan. 1	5.22	27	4.95
21	2.38	28	3.02	9	5.08	Dec. 4	4.80
28	3.56	Apr. 4	3.10	16	4.90	11	4.82
July 5	3.94	11	3.10	23	4.86	18	4.90
12	4.49	18	3.29	30	4.72	25	4.90
19	4.87	25	3.00	Feb. 6	4.65		
22	5.24	May 2	3.42	13	4.03	1948	
Aug. 2	5.00	9	3:20	20	4.06	Jan. 1	4.85
9	5.29	16	3.12	27	4.10	8	4.95
17	5.28	23	3.06	Mar. 6	4.16	15	5.00
23	6.14	30	2.86	13	4.32	22	5.10
30	7.00	June 6	3.06	20	3.98	29	5.14
Sept. 6	7.77	13	3.10	27	3.95	Feb. 5	5.22
13	7.91	20	3.12	Apr. 3	3.87	12	5.30
20	8.47	27	3.70	10	3.86	19	5.02
27	8.02	July 4	3.78	24	3.80	26	4.90
Oct. 4	5.23	11	5.61	May 1	3.78	Mar. 4	4.95
11	5.93	18	5.00	8	3.63	11	4.87
18	6.51	25	5.60	15	3.55	18	4.77
25	4.15	Aug. 1	5.69	22	3.50	25	4.55
Nov. 1	4.99	8	5.83	29	3.45	Apr. 7	4.65
8	4.38	15	5.94	June 5	3.53	14	4.80
15	3.75	22	6.13	12	3.50	21	5.05
22	3.15	29	6.45	20	3.75	28	5.20
29	2.55	Sept. 5	6.58	27	4.00	May 6	5.12
Dec. 6	3.15	12	6.64	July 3	4.50	13	5.10
13	3.45	19	6.92	10	4.65	20	5.35
20	3.75	26	6.94	17	4.74	27	5.35
27	3.35	Oct. 3	7.40	24	4.85	June 3	5.42
1946		10	7.48	Aug. 8	5.10	10	5.35
		17	7.10	15	5.50	17	5.28
		24	7.07	22	5.80	24	5.14
Jan. 3	3.15	31	6.92	Sept. 4	5.81	July 1	4.98
10	2.96	Nov. 7	6.55	11	5.50	8	5.05
17	3.00	14	6.16	18	5.10	15	5.02
24	3.10	21	5.78	25	5.43	22	5.05
31	3.25	28	5.65	Oct. 2	5.35	29	5.10
Feb. 7	3.29	Dec. 5	5.43	9	5.08	Aug. 7	4.95
14	3.30	12	5.30	16	5.20	12	5.11
21	3.15	26	5.13	23	5.28	19	5.24
28	3.12			30	5.22		

Table 9.--Water levels in observation wells in Parke County--Continued

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1948		1949		May 6	5.06	Oct. 6	5.50
Aug. 26	5.45	Jan. 6	4.78	13	5.18	13	5.10
Sept. 2	5.25	13	4.78	20	5.23	20	4.60
9	5.37	20	4.72	26	5.20	27	4.30
16	5.46	27	4.60	June 2	5.26	Nov. 3	4.88
30	5.18	Feb. 3	4.82	9	5.32	10	5.00
Oct. 7	5.32	10	4.86	16	5.08	17	5.02
14	5.38	17	4.78	23	5.14	Dec. 1	5.16
21	5.16	24	4.72	30	5.30	8	5.18
28	5.01	Mar. 3	4.80	July 7	5.34	15	5.12
Nov. 4	4.92	10	4.88	14	5.32	22	5.04
18	4.83	17	4.92	21	5.44	29	4.88
25	4.78	24	4.97	Aug. 4	5.30		
Dec. 2	4.85	31	4.98	11	5.08	1950	
9	4.94	Apr. 7	5.06	18	5.22	Jan. 5	4.78
16	5.10	14	5.21	25	5.28	12	4.60
23	4.98	21	5.22	Sept. 1	5.52	19	4.50
30	4.85	28	5.10	8	5.64	July 14	3.84
				22	5.88		
				29	6.02		

Parke 2. (14/8W-1J1). Ohio Oil Co. Catlin. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 14 N., R. 8 W. Drilled unused artesian (?) well in sand and gravel, diameter 8 to 6 inches, depth 36.5 feet. Land-surface datum is 532.0 feet above msl. Recording gage installed Feb. 5, 1957. Highest water level is 1.4 above lsd, Feb. 5, 6, 1960; lowest, 8.3 below lsd, Dec. 22, 30, 1960. Records available: 1957 to 1960.

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	----	----	3.6	1.3	2.7	----	----	5.2	6.3	7.0	6.9	6.2
2	----	----	3.7	1.3	2.9	----	----	5.3	6.3	7.1	6.9	6.3
3	----	----	4.4	0.1	3.4	----	----	5.3	6.4	7.1	6.9	6.2
4	----	----	4.7	0.1	3.9	----	hl.9	5.3	6.4	7.1	7.0	6.3
5	----	----	4.9	0.3	4.3	----	----	5.4	6.5	7.1	7.0	6.3
6	----	6.61	5.2	0.7	4.6	----	----	5.5	6.5	7.1	7.0	4.0
7	----	6.56	5.4	0.8	4.7	----	----	5.5	6.5	7.1	6.9	----
8	----	6.04	6.0	0.4	4.8	----	2.7	5.5	6.6	7.1	7.0	----
9	----	3.76	----	0.7	4.9	----	3.8	5.6	6.6	7.2	7.0	----
10	----	2.87	----	1.0	5.0	----	4.0	5.6	6.6	7.2	7.0	e3.2
11	----	2.80	----	1.3	5.0	----	4.2	5.7	6.6	7.2	7.0	4.2
12	----	2.89	----	1.5	2.4	----	4.2	5.7	6.6	7.2	----	4.6
13	----	3.39	----	1.7	2.2	----	2.5	5.8	6.7	7.2	----	4.3
14	----	4.08	----	1.9	2.2	----	2.3	5.8	6.7	7.2	----	5.5
15	----	4.35	5.0	2.0	2.4	----	2.3	5.8	6.7	7.2	----	5.7
16	----	4.78	5.1	1.7	2.7	----	2.4	5.9	6.8	7.2	----	6.3
17	----	5.29	5.3	1.3	2.8	----	2.3	5.9	6.8	7.2	----	3.3

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
18	----	----	4.3	1.6	2.1	h1.8	2.3	6.0	6.8	7.3	----	0.1
19	----	----	4.3	1.7	0.2	----	2.5	6.0	6.8	7.3	----	0.0
20	----	----	4.5	0.4	0.2	----	2.7	6.0	6.8	7.3	----	0.1
21	----	----	4.7	0.5	0.3	----	3.7	6.1	6.8	7.3	----	0.8
22	----	----	4.7	1.3	0.4	----	3.4	6.2	6.9	7.0	----	1.2
23	----	----	4.8	1.3	0.2	----	3.2	6.1	6.9	6.4	----	1.4
24	----	----	4.9	1.7	e0.2	h3.0	3.7	6.1	6.9	6.5	----	1.6
25	----	----	1.8	2.0	----	----	4.7	6.2	6.9	6.6	----	0.0
26	----	----	1.9	1.9	----	----	4.8	6.3	7.0	6.7	5.4	----
27	----	----	2.4	1.9	----	----	4.9	6.2	7.0	6.7	5.5	0.7
28	----	----	2.6	2.1	----	----	5.0	6.2	7.0	6.7	5.8	1.0
29	----	----	2.5	2.2	----	----	5.0	6.2	7.0	6.7	6.0	1.2
30	----	----	2.7	2.5	----	----	5.1	6.3	7.0	6.7	6.2	1.4
31	----	----	2.9	----	----	----	5.2	6.3	----	6.9	----	1.1

(Daily highest water level from recorder graph, 1958)

1	1.5	2.2	----	3.2	2.5	6.6	5.0	0.4	5.1	3.3	6.1	1.2
2	1.8	2.5	----	3.4	2.6	6.7	5.4	1.0	5.1	3.5	6.1	1.1
3	2.2	2.7	----	3.8	0.3	6.7	5.5	1.2	5.0	3.9	6.2	0.7
4	2.4	3.4	----	3.8	0.3	6.7	5.5	1.6	5.1	4.4	6.2	0.7
5	2.6	----	----	2.3	1.6	6.7	5.6	2.0	5.2	4.8	6.2	1.0
6	2.6	----	h6.2	2.1	1.7	6.8	5.7	2.3	2.5	5.3	6.4	1.4
7	2.7	----	----	2.1	2.1	6.7	5.8	2.5	2.3	5.4	6.3	1.7
8	3.1	----	----	2.5	2.3	6.7	5.8	2.4	2.3	5.4	6.3	1.9
9	3.5	----	----	2.5	2.4	6.6	5.9	2.6	2.4	5.2	6.3	2.0
10	3.7	----	3.8	2.6	2.6	0.0	5.9	3.2	2.5	1.9	6.4	2.3
11	4.0	----	4.1	2.6	2.8	0.5	5.6	4.1	2.8	2.0	6.5	2.4
12	3.9	----	3.8	2.7	3.9	1.7	5.5	----	4.2	2.3	6.5	2.5
13	3.9	----	3.8	3.6	2.8	1.7	5.0	0.2	5.2	2.5	6.5	2.7
14	4.1	----	4.7	4.0	5.2	1.6	4.5	1.2	5.4	2.6	6.5	2.8
15	3.8	----	4.9	4.4	5.8	1.9	2.4	+0.4	5.4	2.7	6.3	3.5
16	3.5	----	4.9	5.0	6.1	2.2	2.3	0.5	+0.1	3.8	1.6	4.2
17	3.3	----	5.5	5.3	6.1	2.6	2.6	0.1	+0.2	4.5	0.2	4.7
18	3.3	----	5.8	5.6	6.1	2.7	3.3	0.3	0.4	5.5	0.8	5.6
19	3.2	----	6.2	6.1	6.2	2.2	4.3	1.0	0.9	5.6	1.2	5.6
20	0.8	----	6.3	4.5	6.3	2.2	3.1	1.4	1.1	5.6	1.4	5.7
21	0.2	----	6.3	2.7	6.3	2.3	3.2	1.7	1.2	5.7	1.5	5.8
22	1.5	----	6.4	2.6	6.3	2.5	3.9	1.9	1.5	5.7	1.6	5.8
23	1.8	----	6.4	2.3	6.4	2.2	4.3	2.2	1.8	5.8	1.8	5.8
24	1.7	----	2.0	2.3	6.4	2.4	5.1	2.3	1.9	5.8	1.8	5.8
25	1.8	6.0	2.0	2.7	6.4	1.6	5.7	2.6	2.1	5.9	0.1	5.9
26	1.9	6.0	2.3	3.3	6.5	1.7	5.8	3.0	2.3	5.9	0.3	6.0
27	2.0	5.9	2.5	2.7	6.5	2.2	5.9	3.9	2.4	6.0	0.9	6.0
28	2.1	6.1	2.6	2.4	6.5	2.6	5.6	4.5	2.5	6.0	1.0	6.0

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1958)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
29	2.2	----	2.7	2.2	6.6	3.5	5.6	4.8	2.7	6.1	1.2	6.0
30	2.2	----	2.7	2.4	6.6	4.3	5.2	4.9	2.8	6.1	1.3	6.1
31	2.2	----	2.7	----	6.6	----	+0.2	5.0	----	6.1	----	6.0

(Daily highest water level from recorder graph, 1959)

1	4.1	2.8	0.4	0.2	1.4	----	4.6	5.1	5.7	6.0	5.9	5.7
2	3.3	2.7	0.5	0.2	1.6	----	4.7	5.1	5.6	6.0	5.9	5.7
3	3.2	2.7	0.7	0.4	1.8	----	4.6	5.1	5.7	6.0	5.9	5.7
4	3.4	2.7	0.8	0.8	1.9	----	4.6	5.2	5.7	6.0	5.6	5.7
5	4.2	2.8	0.2	0.9	2.2	----	4.6	5.2	5.7	6.0	5.6	5.7
6	4.2	2.9	0.2	1.1	2.3	----	4.7	5.2	5.7	6.0	5.7	5.7
7	4.5	2.8	0.2	1.1	2.5	----	4.8	5.2	5.7	6.0	5.8	5.7
8	5.6	2.7	0.3	1.0	2.7	----	4.8	5.2	5.7	6.0	5.8	5.7
9	6.3	0.2	0.3	1.1	2.8	4.1	4.8	5.3	5.7	6.1	5.8	5.8
10	6.3	0.2	0.3	1.0	2.7	4.1	4.8	5.3	5.7	6.0	5.7	5.7
11	6.3	0.2	0.4	1.1	2.3	4.1	4.8	5.3	5.8	5.8	5.8	5.3
12	6.3	0.2	0.2	1.3	2.2	4.0	4.9	5.4	5.8	5.9	5.8	0.8
13	6.3	0.3	0.1	1.5	2.2	4.1	4.9	5.4	5.8	5.9	5.5	0.8
14	5.6	0.1	0.1	1.6	2.4	4.2	4.9	5.4	5.7	5.9	5.3	1.1
15	4.2	0.1	0.1	1.7	2.6	4.2	4.9	5.4	5.7	5.9	5.2	1.2
16	4.0	e0.1	0.4	1.9	2.7	4.2	4.9	5.3	5.8	5.9	5.2	1.8
17	4.3	0.1	0.6	2.0	----	4.2	4.9	5.3	5.9	5.9	5.3	2.2
18	5.6	----	0.7	1.7	----	4.3	4.9	5.4	5.9	6.0	5.3	2.3
19	5.7	----	0.8	0.2	----	4.3	4.9	5.4	5.9	6.0	5.3	3.0
20	3.2	----	0.9	0.3	----	4.3	5.0	5.4	5.9	6.0	5.4	3.3
21	2.7	----	0.9	0.8	----	4.3	5.0	5.4	5.9	6.0	5.4	3.3
22	2.9	----	1.0	1.1	----	4.3	5.0	5.5	5.9	6.0	5.4	3.8
23	2.9	----	1.0	1.4	----	4.4	5.1	5.5	5.9	5.9	5.5	4.1
24	2.9	----	1.1	1.6	----	4.4	5.0	5.5	5.9	5.8	5.4	4.7
25	2.8	----	1.1	1.7	----	4.4	5.1	5.5	5.9	5.8	5.5	5.0
26	2.8	----	0.4	1.9	----	4.4	5.1	5.5	5.9	5.9	5.6	5.0
27	2.8	0.2	0.5	1.2	----	4.5	5.0	5.5	5.9	5.9	5.6	2.5
28	2.8	0.4	1.0	0.3	----	4.5	5.0	5.6	e5.9	6.0	5.7	1.4
29	2.7	----	0.8	0.6	----	4.5	5.1	5.6	----	5.9	5.7	1.2
30	2.8	----	0.6	1.1	----	4.6	5.1	5.6	e6.0	6.0	5.6	1.2
31	2.8	----	0.6	----	----	----	5.1	----	----	5.9	----	1.7

(Daily highest water level from recorder graph, 1960)

1	1.8	0.7	2.6	----	3.9	1.1	1.9	5.9	6.9	7.6	7.9	8.2
2	1.8	0.8	2.5	----	3.5	1.3	2.1	5.9	7.0	7.6	8.0	8.2
3	1.4	0.9	2.5	----	3.5	1.6	2.3	6.0	7.0	7.6	8.1	8.2
4	1.8	0.7	2.8	----	4.0	2.0	2.6	6.0	7.0	7.7	8.1	8.2
5	2.2	+1.4	2.8	----	4.4	2.3	3.0	6.1	7.0	7.6	8.1	8.2
6	2.5	+1.4	----	----	3.0	2.6	3.5	6.2	7.1	7.6	8.0	8.2
7	2.9	+0.8	----	----	2.5	3.1	3.9	6.2	7.1	7.7	8.1	8.2
8	3.5	+1.3	----	----	2.4	3.3	4.2	6.2	7.1	7.7	8.1	8.2

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1960)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	4.0	----	----	----	2.0	4.2	4.7	6.3	7.1	7.7	8.1	8.2
10	4.2	----	----	----	1.7	5.1	4.9	6.3	7.2	7.8	8.1	8.2
11	4.6	----	----	----	1.7	5.5	4.9	6.3	7.2	7.8	8.1	8.2
12	1.0	----	----	----	1.8	5.6	4.9	6.4	7.2	7.8	8.1	8.2
13	0.5	----	----	2.4	1.9	----	5.0	6.4	7.2	7.8	8.1	8.2
14	+0.6	----	----	2.5	2.2	----	5.0	6.4	7.3	7.8	8.1	8.2
15	+0.8	----	----	2.6	2.5	----	5.0	6.5	7.3	7.8	8.0	8.2
16	+0.8	1.5	2.7	2.7	2.6	5.7	5.1	6.5	7.3	7.8	8.0	8.2
17	+0.7	1.5	2.7	2.7	2.6	5.7	5.1	6.5	7.4	7.8	8.1	8.2
18	+1.0	1.6	2.1	2.7	2.7	5.9	5.2	6.5	7.4	7.9	8.1	8.2
19	+0.8	1.8	1.2	2.7	2.8	5.9	5.2	6.6	7.4	7.8	8.1	8.2
20	----	2.3	1.1	2.7	2.8	5.9	5.3	6.6	7.4	7.9	8.1	8.2
21	-0.7	2.4	1.1	2.9	2.5	2.6	5.4	6.6	7.4	7.9	8.1	8.2
22	1.2	2.6	1.1	3.4	2.0	0.8	5.4	5.7	7.4	7.8	8.1	8.3
23	1.7	2.7	1.1	3.7	2.0	0.0	5.5	6.7	7.4	7.8	8.2	----
24	2.1	2.5	1.1	4.2	2.3	0.1	5.5	6.8	7.4	7.9	8.2	----
25	2.3	2.4	1.1	4.5	1.2	0.6	5.6	6.8	7.5	7.9	8.2	----
26	3.2	2.5	1.1	5.0	1.2	1.1	5.7	6.8	7.5	7.9	8.2	----
27	0.5	2.5	1.0	5.7	1.3	1.5	5.7	6.8	7.5	7.9	8.2	----
28	0.5	2.5	0.8	5.9	1.5	1.5	5.7	6.9	7.5	7.9	8.1	----
29	0.6	2.5	----	5.9	0.1	1.6	5.7	6.9	7.5	7.9	8.1	----
30	0.6	----	----	4.8	0.2	1.9	5.7	6.9	7.5	7.9	8.2	8.3
31	0.7	----	----	----	0.9	----	5.9	6.9	----	7.9	----	8.2

Parke 3. (16/9W-25N1). F. T. Moore. Montezuma. SW $\frac{1}{2}$ SW $\frac{1}{2}$ sec. 25, T. 16 N., R. 9 W. Drilled unused artesian well in sand and gravel, diameter 12 to 10 inches, depth 124 feet. Land-surface datum is 514.3 feet above msl. Recording gage installed July 15, 1957. Highest water level is 36.55 below lsd, Aug. 10-12, 1958; lowest, 49.18 below lsd, Dec. 31, 1960. Records available: 1957 to 1960. Affected by fluctuations in barometric pressure and river stage.

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	----	----	----	----	----	----	----	38.83	40.91	43.02	44.71	45.42
2	----	----	----	----	----	----	----	38.89	40.97	43.11	44.73	45.46
3	----	----	----	----	----	----	----	38.94	41.03	43.17	44.77	45.45
4	----	----	----	----	----	----	----	38.99	41.11	43.24	44.83	45.52
5	----	----	----	----	----	----	----	39.07	41.22	43.31	44.86	45.52
6	----	----	----	----	----	----	----	39.12	41.30	41.38	44.92	45.52
7	----	----	----	----	----	----	----	----	41.36	43.43	44.91	45.53
8	----	----	----	----	----	----	----	39.21	41.44	43.50	44.91	45.62
9	----	----	----	----	----	----	----	39.26	41.51	43.58	45.04	----
10	----	----	----	----	----	----	----	39.30	41.59	43.64	45.12	45.54
11	----	----	----	----	----	----	----	39.37	41.69	43.71	45.16	45.57
12	----	----	----	----	----	----	----	39.46	41.74	43.77	45.17	45.50
13	----	----	----	----	----	----	----	39.53	41.82	43.83	45.18	45.48

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
14	----	----	----	----	----	----	----	39.59	41.92	43.89	45.15	45.48
15	----	----	----	----	----	----	----	39.66	41.96	43.93	45.25	45.47
16	----	----	----	----	----	----	38.64	39.72	42.04	44.02	45.27	45.49
17	----	----	----	----	----	----	38.62	39.80	42.14	44.08	45.25	45.46
18	----	----	----	----	----	----	38.61	39.87	42.21	44.17	45.18	45.41
19	----	----	----	----	----	----	38.59	39.93	42.27	44.23	45.26	45.35
20	----	----	----	----	----	----	38.58	40.00	42.35	44.30	45.28	45.31
21	----	----	----	----	----	----	38.58	40.09	42.43	44.35	----	45.09
22	----	----	----	----	----	----	38.57	40.18	42.51	44.40	----	44.73
23	----	----	----	----	----	----	38.60	40.24	42.58	44.43	----	44.39
24	----	----	----	----	----	----	38.66	40.27	42.65	44.45	45.26	44.01
25	----	----	----	----	----	----	38.64	40.36	42.69	44.54	45.30	43.71
26	----	----	----	----	----	----	38.64	40.46	42.74	44.57	45.33	43.35
27	----	----	----	----	----	----	38.65	----	42.81	44.61	45.33	43.03
28	----	----	----	----	----	----	----	----	42.88	44.62	45.36	42.88
29	----	----	----	----	----	----	38.70	40.68	42.93	44.59	45.39	42.68
30	----	----	----	----	----	----	38.73	40.76	42.98	44.62	45.41	42.50
31	----	----	----	----	----	----	38.78	40.84	----	44.66	----	42.36

(Daily highest water level from recorder graph, 1958)

1	42.22	41.80	42.98	44.08	45.01	----	39.39	37.47	37.33	39.46	41.96	----
2	e42.12	41.85	43.00	44.08	45.04	----	39.31	----	37.41	39.56	42.02	----
3	----	41.89	43.01	44.12	----	----	39.26	----	37.48	39.61e	42.11	42.79
4	----	41.92	43.04	44.14	----	----	39.22	----	37.58	39.68e	42.19	42.79
5	----	41.92	43.04	44.14	45.10	----	39.21	36.88	37.64	39.75e	42.27	42.85
6	----	41.97	43.07	44.18	45.11	----	39.20	36.75	37.65	----	42.37	42.94
7	41.73	42.02	43.12	44.26	45.09	----	39.18	36.66	37.70	39.93	42.45	42.91
8	41.71	42.07	43.13	44.32	45.09	----	39.19	36.63	37.75	40.00	42.50	42.89
9	41.68e	42.12	43.14	44.35	45.10	----	39.18	36.59	37.79	40.07	42.55	42.97
10	41.68	----	43.23	44.36	45.09	45.80	39.15	36.55	37.84	40.19	42.66	42.96
11	41.70	----	43.27	44.39	45.10	45.63	39.13	36.55	37.96	40.29	42.75	42.93
12	41.67	42.21	43.30	44.42	45.12	----	39.09	36.55	38.02	40.39	42.82	----
13	41.64	42.25	43.31	44.46	45.15	----	38.99	36.60	38.08	40.46	42.89	43.00
14	41.64	42.28	43.38	44.48	45.15	----	38.89	36.65	38.17	40.54	42.96	42.99
15	41.67	42.31	43.43	44.50	45.16	----	38.82	36.68	38.26	40.63	42.99	42.97
16	41.68	42.38	43.47	44.54	45.18	----	38.73	36.70	38.34	40.69	43.11	42.96
17	41.68	42.45	43.52	44.57	45.19	----	38.61	36.68	38.41	40.75	43.09	42.97
18	41.69	42.48	43.56	44.59	45.21	----	38.43	36.72	38.51	40.85	43.10	43.01
19	41.69	42.53	43.61	44.62	45.25	----	38.26	36.70	38.59	40.93	43.05	43.00
20	41.66	42.59	43.65	44.65	45.26	----	38.10	36.66	38.62	40.99	43.02	43.10
21	41.61	42.60	43.69	44.68	45.28	----	37.96	36.65	38.68	41.08	42.97	----
22	41.68	42.63	43.74	44.70	45.28	39.87	37.86	----	38.77	41.16	42.98	----
23	41.70	42.70	43.79	44.73	45.33	39.88	37.77	36.72	38.84	41.25	42.96	----
24	41.63	42.71	43.83	44.74	45.35	39.91	37.69	36.72	38.89	e41.33	42.96	43.21
25	41.64	42.77	43.88	44.86	45.37	39.89	37.68	36.82	38.97	e41.42	42.95	43.26
26	41.64	42.80	43.91	44.87	45.40	39.84	37.68	36.89	----	41.50	43.03	43.28

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1958)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
27	41.69	42.78	43.94	44.89	45.42	39.75	37.67	36.96	----	41.58	42.98	43.30
28	41.73	42.86	43.97	44.91	45.44	39.66	37.69	37.00	39.22	41.67	42.95	43.34
29	41.72	----	44.00	44.94	----	39.57	37.67	37.08	39.28	41.75	42.94	43.38
30	41.73	----	44.01	44.98	----	39.46	37.66	37.16	39.33	41.84	----	43.45
31	41.72	----	44.04	----	----	----	37.64	37.23	----	41.92	----	43.46

(Daily highest water level from recorder graph, 1959)

1	43.45	42.46	38.26	38.32	38.75	39.17	41.26	43.47	45.34	46.81	47.67	47.93
2	43.51	42.24	----	38.33	38.54	39.24	41.35	43.54	45.39	46.84	47.69	47.95
3	43.55	42.10	----	38.33	38.37	39.31	41.42	43.59	45.47	----	47.72	47.95
4	43.61	42.00	----	38.45	38.19	39.37	41.46	43.64	45.52	46.92	47.73	47.96
5	----	41.97	38.17	38.43	38.11	----	41.53	43.72	45.56	46.95	47.77	47.97
6	----	41.87	38.21	38.44	38.08	39.59	41.61	43.78	45.61	46.99	47.82	47.98
7	----	41.76	38.37	38.40	38.09	39.66	41.70	43.84	45.66	47.02	47.85	----
8	e43.80	41.67	38.31	38.40	38.07	39.73	41.76	43.90	45.72	47.06	----	----
9	43.82	41.55	38.30	38.45	38.06	39.80	41.82	43.97	45.77	47.11	----	48.04
10	43.86	41.29	38.30	38.46	38.06	39.87	41.90	44.04	----	47.15	47.86	48.04
11	43.88	40.93	38.29	38.50	38.11	39.93	42.97	44.10	----	47.19	47.88	48.03
12	43.91	40.48	38.27	38.49	----	39.99	42.05	----	45.92	----	47.89	48.05
13	43.94	40.01	38.22	38.53	----	40.00	42.14	44.24	45.96	47.24	47.91	48.09
14	43.96	39.50	38.15	38.56	----	----	----	44.30	46.00	47.25	47.93	48.09
15	43.99	39.00	38.13	38.58	38.35	40.17	----	44.36	46.03	47.27	47.93	48.07
16	----	38.46	38.21	----	38.43	40.20	42.38	44.42	46.09	47.28	47.93	48.05
17	e44.10	38.21	38.24	38.68	38.48	40.26	42.45	44.48	46.16	47.29	----	----
18	44.08	38.17	38.17	38.71	38.51	40.34	42.51	44.54	46.21	47.31	----	----
19	44.08	----	38.16	38.77	38.56	40.40	42.58	44.60	46.26	47.33	e47.89	e48.00
20	44.12	----	38.08	38.80	38.65	40.48	42.66	44.65	46.30	47.34	47.86	47.98
21	44.05	----	----	38.89	38.70	40.54	42.72	44.70	----	47.58	47.86	47.98
22	44.03	38.11	----	38.90	38.78	40.60	42.79	44.76	----	47.40	47.86	47.98
23	43.90	38.11	38.10	38.90	----	40.70	42.84	44.82	----	47.41	47.85	47.98
24	43.76	38.25	38.13	----	----	----	----	44.88	46.53	47.42	47.84	47.98
25	e43.62	38.23	38.16	----	----	----	----	44.94	46.55	47.46	47.87	47.98
26	----	38.23	38.12	38.95	----	----	43.08	44.99	46.59	47.50	47.89	47.98
27	43.25	38.23	38.20	38.97	38.98	41.01	43.12	45.05	46.64	47.53	47.92	47.96
28	43.05	38.26	38.33	38.93	39.00	41.09	43.17	45.11	46.69	47.58	e47.93	----
29	42.88	----	38.33	39.00	39.01	41.16	43.24	45.16	46.74	----	47.93	----
30	42.76	----	38.31	38.96	39.08	41.22	43.30	----	46.78	----	47.92	----
31	42.59	----	38.33	----	39.12	----	43.40	----	----	47.65	----	----

(Daily highest water level from recorder graph, 1960)

1	47.92	47.31	45.56	----	43.96	44.24	41.99	42.72	44.26	45.90	47.34	48.45
2	47.88	47.29	45.50	----	43.94	44.23	41.93	42.77	44.31	45.93	47.39	48.48
3	47.89	47.26	45.50	----	43.95	44.25	41.91	42.82	44.36	46.00	47.44	48.50
4	47.86	47.24	----	----	43.95	44.26	41.92	42.86	44.42	46.03	47.50	48.52
5	47.85	47.21	----	----	43.96	44.26	41.93	42.91	44.46	46.04	47.52	48.55

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1960)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
6	47.82	47.21	----	45.73	43.91	44.31	41.93	42.95	44.52	46.06	47.55	48.58
7	47.80	47.18	----	45.63	43.96	44.32	41.93	42.97	44.57	46.07	47.61	48.61
8	47.81	47.10	----	45.56	43.98	44.34	41.93	43.00	44.63	----	47.64	48.63
9	----	47.02	----	45.52	----	e44.35	41.93	43.04	----	----	47.68	48.67
10	----	46.99	----	45.46	----	----	e41.93	43.07	----	----	47.73	48.68
11	----	46.96	----	45.42	----	44.39	41.96	43.13	----	----	47.77	48.70
12	----	46.26	----	45.42	----	44.41	41.98	43.17	----	----	47.80	48.74
13	----	46.13	----	e45.41	44.01	44.41	42.01	43.22	----	----	47.83	48.78
14	----	46.04	----	----	44.01	44.42	42.05	43.27	----	----	47.87	48.79
15	47.73	45.95	----	----	44.05	44.45	42.08	43.31	----	----	47.90	48.80
16	47.68	45.84	----	----	44.03	44.43	42.08	43.35	----	----	47.92	48.83
17	47.64	----	45.55	----	44.04	----	42.07	43.41	----	----	47.98	48.85
18	47.63	----	45.54	----	44.10	----	42.08	43.45	----	----	48.01	48.89
19	47.58	----	45.54	----	44.10	----	----	43.50	----	----	48.05	48.91
20	----	----	45.59	----	44.10	----	----	43.55	----	----	48.08	48.93
21	----	----	45.55	----	44.12	----	42.27	43.62	----	----	48.11	48.95
22	----	45.87	45.55	----	----	----	42.29	43.69	----	----	48.14	48.98
23	47.48	45.83	45.61	----	----	43.87	42.31	43.74	----	----	48.18	49.00
24	47.47	45.77	45.62	----	----	43.47	42.35	43.80	----	----	48.23	49.02
25	47.44	45.73	----	----	----	43.05	42.41	43.85	----	47.09	48.25	49.04
26	47.42	45.75	----	----	----	42.72	42.44	43.90	----	47.10	48.28	e49.05
27	47.40	----	----	----	----	42.45	42.48	43.95	----	47.14	48.31	----
28	47.38	----	----	----	----	42.24	42.52	44.00	45.76	47.19	48.34	----
29	47.35	----	----	----	----	42.17	42.56	44.05	45.78	47.23	48.37	49.12
30	----	----	----	----	----	42.07	42.59	44.12	45.83	47.27	48.41	49.15
31	47.32	----	----	----	----	----	42.66	44.18	----	47.30	----	49.16

Parke 4. (15/6W-27K1). U. S. Corps of Engineers. Mansfield. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 15 N., R. 6 W. Drilled unused artesian well in limestone, diameter 6 inches, depth 111.7 feet. Land-surface datum is 748.7 feet above msl. Recording gage installed July 16, 1957. Highest water level is 47.29 below lsd, June 11-14, 1959; lowest, 48.56 below lsd, Nov. 6-8, 1960. Records available: 1957 to 1960. Affected by fluctuations in barometric pressure.

(Daily highest water level from recorder graph, 1957)

1	----	----	----	----	----	----	----	47.73	----	48.00	47.92	47.89
2	----	----	----	----	----	----	----	47.72	----	48.01	47.93	47.90
3	----	----	----	----	----	----	----	47.69	47.91	48.03	47.93	47.88
4	----	----	----	----	----	----	----	47.69	47.92	48.03	47.94	47.89
5	----	----	----	----	----	----	----	47.69	47.94	48.05	47.94	47.90
6	----	----	----	----	----	----	----	47.71	47.95	48.05	47.95	47.81
7	----	----	----	----	----	----	----	47.73	47.97	48.06	47.92	47.81
8	----	----	----	----	----	----	----	47.74	47.98	48.07	47.87	47.83
9	----	----	----	----	----	----	----	47.76	47.99	48.08	47.90	47.84
10	----	----	----	----	----	----	----	47.76	47.99	48.08	47.93	47.83

Table 9.--Water levels in observation wells in Parke County--Continued

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11	----	----	----	----	----	----	----	----	48.01	48.09	47.94	47.85
12	----	----	----	----	----	----	----	----	e47.95	48.10	47.93	47.87
13	----	----	----	----	----	----	----	47.75	----	48.11	47.88	47.88
14	----	----	----	----	----	----	----	47.76	----	48.11	47.80	47.90
15	----	----	----	----	----	----	----	47.77	47.94	48.09	47.83	47.91
16	----	----	----	----	----	----	47.69	47.78	47.94	48.00	47.83	47.91
17	----	----	----	----	----	----	47.65	47.80	47.95	48.00	47.84	47.82
18	----	----	----	----	----	----	47.65	47.81	47.96	48.01	47.78	47.77
19	----	----	----	----	----	----	47.65	47.82	47.92	48.02	47.79	47.70
20	----	----	----	----	----	----	47.66	47.84	47.91	48.03	47.82	47.70
21	----	----	----	----	----	----	47.67	47.85	47.91	48.03	47.84	47.75
22	----	----	----	----	----	----	47.67	47.87	47.91	48.03	47.86	47.78
23	----	----	----	----	----	----	47.67	47.87	47.91	47.84	47.84	47.78
24	----	----	----	----	----	----	47.68	47.86	47.92	47.84	47.85	47.80
25	----	----	----	----	----	----	47.70	47.87	47.93	47.87	47.87	47.69
26	----	----	----	----	----	----	47.71	47.88	47.94	47.88	47.87	47.70
27	----	----	----	----	----	----	47.73	----	47.97	47.90	47.87	47.70
28	----	----	----	----	----	----	47.73	----	47.98	47.91	47.87	47.70
29	----	----	----	----	----	----	47.74	----	47.98	47.90	47.88	47.73
30	----	----	----	----	----	----	47.74	----	47.99	47.90	47.88	47.74
31	----	----	----	----	----	----	47.75	----	----	47.92	----	47.72

(Daily highest water level from recorder graph, 1958)

1	47.73	----	47.91	47.87	47.87	47.87	47.80	47.61	47.79	47.61	47.72	47.56
2	47.75	----	47.91	47.88	47.87	47.87	47.81	47.61	47.80	47.61	47.71	47.55
3	47.77	----	47.91	47.88	47.82	47.88	47.82	47.61	47.75	47.61	47.70	47.54
4	47.80	----	47.91	47.88	47.80	47.90	47.83	47.62	47.75	47.61	47.69	47.56
5	47.80	----	47.91	47.85	47.79	47.90	47.84	47.63	47.75	47.61	47.69	47.56
6	47.78	----	47.91	47.84	47.79	47.92	47.85	47.64	47.67	47.64	47.69	47.59
7	47.79	----	47.90	47.84	47.79	47.92	47.85	47.63	47.67	47.68	47.70	47.62
8	47.80	----	47.89	47.85	47.79	47.92	47.85	47.63	----	47.68	47.67	47.62
9	47.83	----	47.88	47.85	47.80	47.88	47.86	47.64	----	47.64	47.67	47.62
10	47.82	----	47.89	47.86	47.80	47.72	47.87	47.64	47.66	47.63	47.67	47.65
11	47.83	----	47.90	47.86	47.81	47.72	47.77	47.64	47.66	47.63	47.69	47.65
12	47.84	----	47.90	47.86	47.83	47.73	47.77	47.66	47.66	47.65	47.69	47.65
13	47.82	----	47.89	47.88	47.84	47.72	47.77	47.67	47.66	47.65	47.69	47.67
14	47.82	----	47.90	47.89	47.87	47.72	47.77	47.67	47.67	47.65	47.69	47.68
15	47.82	----	47.91	47.89	47.83	47.73	47.75	47.64	47.67	47.65	47.65	47.69
16	47.82	----	47.91	47.89	47.83	47.73	47.75	47.64	47.64	47.65	47.63	47.69
17	47.82	----	47.91	47.90	47.83	47.74	47.76	47.64	47.58	47.66	47.58	47.69
18	47.83	----	47.92	47.90	47.83	47.76	47.77	47.64	47.58	47.66	47.58	47.70
19	47.84	----	47.92	47.90	47.84	47.75	47.77	47.65	47.58	47.68	47.58	47.70
20	47.76	----	47.90	47.87	47.85	47.73	47.73	47.66	47.58	47.68	47.59	47.71

Table 9.--Water levels in observation wells, Parke County--Continued

(Daily highest water level from recorder graph, 1958)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	47.73	----	47.91	47.87	47.86	47.73	47.73	47.67	47.58	47.68	47.60	47.72
22	47.74	----	47.91	47.87	47.82	47.73	47.73	47.67	47.59	47.68	47.60	47.72
23	----	----	47.92	47.87	47.82	47.73	47.73	47.68	47.60	47.69	47.61	47.72
24	47.77	----	47.84	47.87	47.83	47.73	47.74	47.68	47.60	47.69	47.61	47.72
25	47.55	47.92	47.84	47.89	47.83	47.73	47.74	47.68	47.60	47.70	47.54	47.73
26	----	47.91	47.85	47.90	47.83	47.73	47.74	47.69	47.60	47.70	47.54	47.73
27	----	47.88	47.85	47.88	47.83	47.73	----	47.69	47.60	47.70	47.55	47.73
28	----	47.88	47.85	47.87	47.83	47.74	47.79	47.69	47.61	47.70	47.54	47.73
29	----	----	47.86	47.87	47.84	47.74	47.79	47.70	47.61	47.71	47.54	47.73
30	----	----	47.86	47.87	47.84	47.78	47.79	47.70	47.61	47.72	47.56	47.75
31	----	----	47.87	----	47.87	----	47.60	47.77	----	47.72	----	47.70

(Daily highest water level from recorder graph, 1959)

1	47.69	47.77	----	47.46	47.40	47.36	47.52	47.62	47.72	47.97	47.94	47.98
2	47.69	47.76	----	47.45	47.40	47.36	47.54	47.64	47.72	47.98	47.94	47.99
3	47.69	47.72	----	47.45	47.40	47.36	47.55	47.65	47.74	47.98	47.95	48.00
4	47.69	47.72	----	47.45	47.40	47.38	47.56	47.62	47.76	48.00	47.90	48.00
5	47.71	47.73	----	47.46	47.40	47.39	47.58	47.63	47.77	48.00	47.90	48.00
6	47.72	47.77	----	47.47	47.38	47.40	47.58	47.64	47.79	47.99	47.91	48.00
7	47.72	----	----	47.47	47.38	47.41	47.61	47.64	47.81	47.99	----	48.00
8	47.73	----	----	47.46	47.40	47.43	47.61	47.64	47.82	47.99	----	48.00
9	47.74	----	----	47.45	47.40	47.47	47.61	47.65	47.84	48.00	----	48.02
10	47.75	----	----	47.45	47.39	47.36	47.65	47.66	47.83	47.89	----	48.03
11	47.76	----	47.56	47.46	47.39	47.29	47.66	47.68	47.83	47.89	----	47.99
12	47.77	----	47.55	47.46	47.39	47.29	47.67	47.69	47.84	47.89	----	47.96
13	47.77	----	47.54	47.46	47.39	47.29	47.69	47.71	47.85	47.90	----	47.96
14	47.73	----	47.50	47.46	47.38	47.29	47.69	47.72	47.86	47.90	----	47.97
15	47.73	----	47.48	47.46	47.38	47.31	47.69	47.73	47.87	47.91	----	47.97
16	47.74	----	47.53	47.46	47.38	47.32	47.71	47.56	47.88	47.93	----	47.97
17	47.74	47.66	47.53	47.46	47.38	47.33	47.71	47.55	47.90	47.94	----	47.97
18	47.76	47.65	47.54	47.46	47.38	47.35	47.71	47.55	47.91	47.95	----	47.98
19	47.76	----	47.54	47.44	47.38	47.38	47.71	47.57	47.92	47.95	----	48.00
20	47.66	----	47.54	47.44	47.38	47.41	47.72	47.59	47.93	47.96	----	48.02
21	47.63	----	47.54	47.44	47.39	47.42	47.72	47.61	47.93	47.98	----	48.02
22	47.65	----	47.55	47.43	47.39	47.42	47.72	47.62	47.94	47.99	----	48.02
23	47.68	----	47.56	47.44	47.38	47.43	47.76	47.63	47.95	47.94	----	48.02
24	47.69	----	47.55	47.44	47.38	47.43	47.76	47.65	47.97	47.91	----	48.03
25	47.70	----	47.55	47.44	47.38	47.43	47.76	47.67	47.99	47.91	----	48.03
26	47.70	----	47.52	47.44	47.38	47.43	47.77	47.67	47.96	47.91	----	48.03
27	47.71	----	47.52	47.42	47.36	47.43	47.74	47.69	47.95	47.91	47.96	48.02
28	47.72	----	47.53	47.40	47.36	47.47	47.74	47.70	47.95	47.93	47.96	48.02
29	47.73	----	47.53	47.40	47.36	47.47	47.74	47.70	47.96	47.94	47.96	48.02
30	47.73	----	47.52	47.40	47.36	47.49	47.62	47.72	47.97	47.94	47.97	48.02
31	47.76	----	47.52	----	47.36	----	47.62	47.73	----	47.94	----	48.02

Table 9.--Water levels in observation wells, Parke County--Continued

(Daily highest water level from recorder graph, 1960)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	48.03	48.03	48.04	47.96	47.94	47.73	47.76	----	48.28	48.45	48.51	48.45
2	48.02	48.03	48.05	47.96	47.94	47.75	47.77	----	48.29	48.45	48.51	48.45
3	48.02	48.03	48.05	47.97	47.94	47.76	47.78	----	48.31	48.46	48.53	48.45
4	48.02	48.03	48.05	47.97	47.94	47.78	47.80	----	48.32	48.47	48.54	48.45
5	48.04	47.99	----	47.97	47.94	47.80	47.82	----	48.33	48.47	48.55	48.45
6	48.05	47.99	----	47.97	47.90	47.82	47.84	----	48.35	48.47	48.55	48.45
7	48.06	47.99	----	47.98	47.88	47.83	47.84	----	48.36	48.49	48.56	48.45
8	48.06	47.99	----	47.98	47.89	47.84	47.85	48.16	48.37	48.49	48.55	48.45
9	48.06	47.98	----	47.99	47.89	47.84	47.86	48.16	48.38	48.49	48.55	48.45
10	48.05	47.97	----	48.01	47.89	47.84	47.86	48.16	48.38	48.51	48.55	48.45
11	48.05	47.97	----	48.00	47.89	47.89	47.86	48.16	48.38	48.52	48.54	48.44
12	48.03	47.97	----	47.98	----	47.88	47.86	48.16	48.39	48.52	48.54	48.44
13	48.03	47.98	----	47.98	47.82	47.87	47.85	48.16	48.39	48.52	48.54	48.44
14	48.01	----	----	47.98	47.82	47.87	47.85	48.16	48.41	48.53	48.54	48.44
15	48.01	----	----	47.98	47.82	----	47.86	48.16	48.42	48.54	48.52	48.44
16	48.01	48.01	48.02	47.98	47.82	----	47.88	48.20	48.43	48.55	48.52	48.44
17	48.01	48.00	48.02	47.97	47.82	47.87	47.89	48.20	48.44	48.55	48.52	48.44
18	48.01	48.00	48.02	47.97	47.82	47.89	47.90	48.21	48.45	48.55	48.52	48.44
19	48.01	48.01	48.02	47.99	47.82	47.90	47.92	48.22	48.38	48.53	48.52	48.44
20	48.02	48.03	48.02	47.98	47.82	47.90	47.94	48.22	48.38	48.53	48.51	48.44
21	48.03	48.04	48.02	47.98	47.82	47.84	47.96	48.22	48.39	48.54	48.51	48.44
22	48.05	48.04	48.02	47.98	47.82	47.84	47.98	48.22	48.39	48.53	48.51	48.45
23	48.07	48.04	48.03	47.98	47.82	47.66	47.99	48.22	48.39	48.53	48.48	----
24	48.08	48.05	48.03	47.98	47.82	47.66	48.00	48.22	48.39	48.53	48.48	----
25	48.08	48.04	48.05	47.98	47.82	47.68	----	48.23	48.40	48.54	48.48	----
26	48.09	48.04	48.05	47.98	47.77	47.71	----	48.23	48.42	48.51	48.48	----
27	48.07	48.04	48.06	47.98	47.77	47.73	----	48.23	48.43	48.51	48.48	----
28	48.06	48.04	48.01	47.98	47.76	47.74	----	48.23	48.43	48.52	48.45	----
29	48.05	48.04	47.95	47.97	47.75	47.74	----	48.23	48.43	48.52	48.45	48.45
30	48.04	----	47.95	47.94	47.72	47.76	----	48.23	48.44	48.52	48.45	48.45
31	48.03	----	47.95	----	47.72	----	----	48.24	----	48.51	----	48.45

Parke 5. (17/7W-17E1). Glen Crowder. Marshall. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 17, T. 17 N., R. 7 W. Drilled unused artesian well in limestone, diameter 6 inches, depth 165.6 feet. Land-surface datum is 582.5 feet above msl. Recording gage installed April 22, 1959. Highest water level is 34.34 below lsd, June 23, 1960; lowest, 37.18 below lsd, Oct. 25, 1960. Records available: 1959 to 1960. Affected by barometric pressure.

(Daily highest water level from recorder graph, 1959)

1	----	----	----	----	35.90	36.34	36.61	36.81	36.92	37.00	36.76	36.64
2	----	----	----	----	35.95	36.36	36.68	36.84	36.92	36.99	36.77	36.66
3	----	----	----	----	36.01	36.39	36.67	36.81	36.99	37.00	36.76	36.64
4	----	----	----	----	36.05	36.39	36.65	36.60	37.00	37.03	36.53	36.63
5	----	----	----	----	36.08	36.40	36.66	36.65	37.00	37.02	36.54	36.62
6	----	----	----	----	36.10	36.42	36.69	36.73	37.01	37.00	36.62	36.58

Table 9.--Water levels in observation wells, Parke County--Continued

(Daily highest water level from recorder graph, 1959)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	----	----	----	----	36.18	36.46	36.73	36.76	37.03	37.02	36.62	36.59
8	----	----	----	----	36.19	36.48	36.70	36.79	37.04	37.00	----	36.60
9	----	----	----	----	36.14	36.49	36.72	----	37.01	37.06	----	36.66
10	----	----	----	----	36.13	36.38	36.73	----	36.99	36.70	----	36.61
11	----	----	----	----	36.16	36.27	36.73	----	37.02	36.63	----	36.42
12	----	----	----	----	36.21	36.27	36.76	----	37.03	36.67	----	36.24
13	----	----	----	----	36.18	36.33	36.79	----	37.03	36.71	----	36.27
14	----	----	----	----	36.22	36.40	36.80	----	37.01	36.76	----	36.33
15	----	----	----	----	36.22	36.41	36.80	----	36.90	36.82	----	36.32
16	----	----	----	----	36.24	36.41	36.80	----	37.06	36.86	----	36.35
17	----	----	----	----	36.24	36.45	36.78	----	37.10	36.89	----	36.38
18	----	----	----	----	36.23	36.49	36.73	----	37.10	36.90	----	36.41
19	----	----	----	----	36.24	36.50	36.75	----	37.08	36.91	----	36.45
20	----	----	----	----	36.25	36.50	36.80	----	37.07	36.92	----	36.45
21	----	----	----	----	36.30	36.47	36.83	----	37.07	36.95	----	36.45
22	----	----	----	35.95	36.22	36.50	36.81	----	37.09	36.93	----	36.48
23	----	----	----	35.99	36.23	36.55	36.71	----	37.11	36.80	----	36.48
24	----	----	----	36.01	36.27	36.56	36.72	----	37.11	36.70	----	36.48
25	----	----	----	36.02	36.26	36.50	36.78	----	37.03	36.69	----	36.47
26	----	----	----	36.00	36.27	36.50	36.81	36.93	36.99	36.66	36.62	36.46
27	----	----	----	35.70	36.30	36.55	36.64	36.94	36.89	36.71	36.65	36.08
28	----	----	----	35.49	36.28	36.58	36.63	36.94	36.93	36.79	36.65	36.05
29	----	----	----	35.65	36.30	36.61	36.70	36.94e	36.97	36.78	36.68	36.11
30	----	----	----	35.78	36.32	36.61	36.76	36.96	36.97	36.80	36.65	36.17
31	----	----	----	----	36.31	----	36.79	36.97	----	36.77	----	36.25

(Daily highest water level from recorder graph, 1960)

1	36.27	----	36.49	35.84	36.36	----	36.14	36.63	36.90	37.01	37.02	----
2	36.24	----	36.37	35.91	36.38	----	36.30	36.63	36.92	37.00	37.05	----
3	36.26	----	36.37	36.07	36.38	----	36.19	35.75	36.93	37.07	37.13	----
4	36.35	----	36.49	36.12	36.41	----	36.29	35.87	36.92	37.06	37.10	----
5	36.35	----	36.52	36.17	36.42	----	36.33	36.09	36.93	37.02	37.08	----
6	36.36	----	36.50	36.18	36.10	----	36.37	36.23	36.96	37.05	37.04	----
7	36.35	----	36.50	36.25	35.95	----	36.39	36.30	36.98	37.09	37.11	----
8	36.40	----	36.47	36.31	36.00	----	36.41	36.36	36.99	37.08	37.07	----
9	36.41	----	36.43	36.35	36.07	----	36.43	36.42	36.94	37.09	37.02	----
10	36.42	----	36.48	36.39	36.09	----	36.37	36.47	36.95	37.13	36.98	----
11	36.44	----	36.49	36.34	36.16	----	36.39	36.54	36.95	37.11	36.96	----
12	36.36	----	36.53	36.40	36.21	----	36.44	36.57	36.95	37.12	36.98	----
13	36.35	----	36.53	36.40	36.22	----	36.08	36.58	36.97	37.12	36.99	----
14	36.23	----	36.51	36.41	36.24	----	36.08	36.61	37.01	37.12	37.00	----
15	36.15	----	36.42	36.41	36.30	----	36.18	36.65	37.02	37.12	36.89	----
16	36.26	----	36.38	36.15	36.29	36.43	36.24	36.68	37.04	37.12	36.88	----
17	36.23	36.20	36.44	36.15	36.28	36.42	36.28	36.69	----	37.11	36.88	----
18	36.21	36.25	36.45	36.25	36.36	36.48	36.31	36.68	----	37.13	36.68	----
19	36.30	36.31	36.44	36.28	----	36.49	36.35	36.70	36.87	37.10	36.95	----

Table 9.--Water levels in observation wells, Parke County--Continued

(Daily highest water level from recorder graph, 1960)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
20	36.34	36.33	36.46	36.25	----	36.50	36.40	36.70	36.88	37.14	36.95	----
21	----	36.27	36.36	36.26	----	36.21	36.44	36.73	36.93	37.13	36.96	----
22	----	36.36	36.36	36.34	----	35.76	36.45	36.75	36.93	37.07	36.96	----
23	----	36.40	36.35	36.35	----	34.34	36.47	36.77	36.95	37.07	36.99	----
24	----	36.37	36.35	36.35	----	34.83	36.50	36.81	36.97	37.14	36.93	----
25	----	36.30	36.34	36.36	----	35.39	36.53	36.81	36.99	37.13	36.94	----
26	----	36.42	36.32	36.38	----	35.66	36.45	36.83	----	37.02	36.95	----
27	----	36.45	35.80	36.44	----	35.84	36.45	36.85	----	37.02	36.96	----
28	----	36.43	35.80	36.44	----	35.94	36.49	36.85	36.99	37.04	36.90	----
29	----	36.47	35.83	36.39	----	35.99	36.53	36.86	36.99	37.06	36.91	----
30	----	----	35.62	36.32	----	36.12	36.53	36.89	37.02	37.01	36.92	36.71
31	----	----	35.62	----	----	----	36.60	36.89	----	36.99	----	36.70

PUBLICATIONS OF COOPERATIVE GROUND-WATER PROGRAM

Report

Ground-water resources of the Indianapolis area, Marion County, Ind. C. L. McGuinness. Indiana Department Conservation, Division Geology. 1943

Bulletins

- No. 1 Memorandum concerning a pumping test at Gas City, Indiana. J. G. Ferris, Indiana Department of Conservation, Division of Water Resources. 1945.
- 2 A preliminary report of the ground-water levels of the State based on records of twenty-six observation wells for which long time records are available. Indiana Department of Conservation, Division of Water Resources. 1946 (Out of print).
- 3 Ground-water resources of St. Joseph County, Indiana. Part 1, South Bend area. F. H. Klaer, Jr., and R. W. Stallman. Indiana Department of Conservation, Division of Water Resources. 1948.
- 4 Ground-water resources of Boone County, Indiana. E. A. Brown. Indiana Department of Conservation, Division of Water Resources. 1949.
- 5 Ground-water resources of Noble County, Indiana. R. W. Stallman and F. H. Klaer, Jr. Indiana Department of Conservation, Division of Water Resources. 1950.
- 7 Water-level records of Indiana. Indiana Department of Conservation, Division of Water Resources. 1956.
- 8 Ground-water resources of Tippecanoe County, Indiana. Appendix, Basic Data. J. S. Rosenshein and O. J. Cosner. Indiana Department of Conservation, Division of Water Resources. 1956.
- 8 Ground-water resources of Tippecanoe County, Indiana. J. S. Rosenshein. Indiana Department of Conservation, Division of Water Resources. 1958 (1959).
- 9 Ground-water resources of Adams County, Indiana. F. A. Watkins, Jr., and P. E. Ward. Indiana Department of Conservation, Division of Water Resources. 1962.
- 10 Ground-water resources of northwestern Indiana. Preliminary Report: Lake County. J. S. Rosenshein. Indiana Department of Conservation, Division of Water Resources. 1961.
- 11 Ground-water resources of west-central Indiana. Preliminary Report: Greene County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1961.

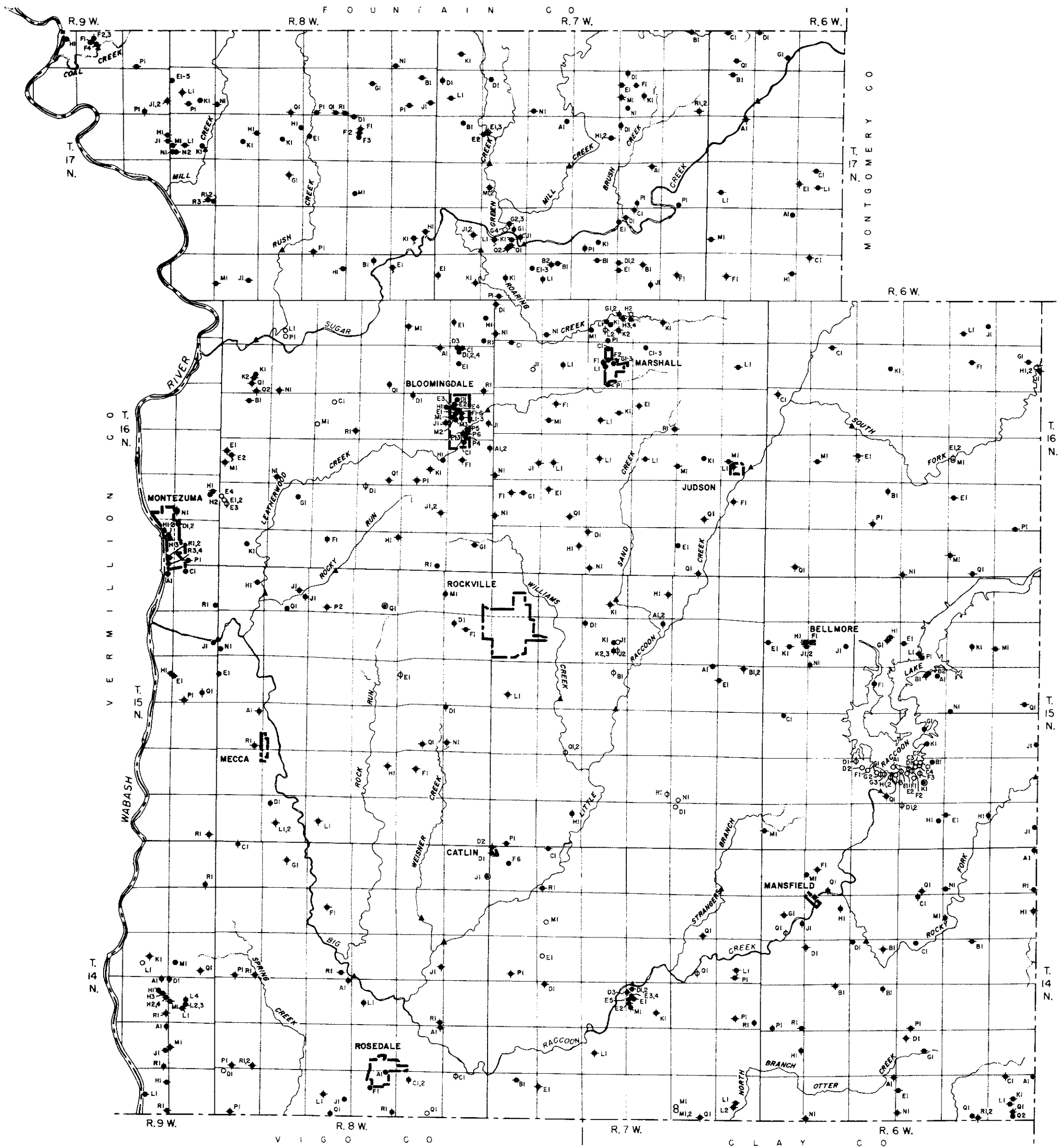
Publications of cooperative ground-water programs--Continued

Bulletins--Continued

- 12 Ground-water resources of northwestern Indiana. Preliminary Report: Porter County. J. S. Rosenshein. Indiana Department of Conservation, Division of Water Resources. 1962.
- 13 Ground-water resources of northwestern Indiana. Preliminary Report: La Porte County. J. S. Rosenshein and J. D. Hunn. Indiana Department of Conservation, Division of Water Resources. 1962.
- 14 Ground-water resources of west-central Indiana. Preliminary Report: Sullivan County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1962.
- 15 Ground-water resources of northwestern Indiana. Preliminary Report: St. Joseph County. J. S. Rosenshein and J. D. Hunn. Indiana Department of Conservation, Division of Water Resources. 1962.
- 16 Ground-water resources of west-central Indiana. Preliminary Report: Clay County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1962.
- 17 Ground-water resources of west-central Indiana. Preliminary Report: Vigo County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1963.
- 18 Ground-water resources of west-central Indiana. Preliminary Report: Owen County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1963.
- 19 Ground-water resources of northwestern Indiana. Preliminary Report: Marshall County. J. S. Rosenshein and J. D. Hunn. Indiana Department of Conservation, Division of Water Resources. 1964.
- 20 Ground-water resources of northwestern Indiana. Preliminary Report: Fulton County. J. S. Rosenshein and J. D. Hunn. Indiana Department of Conservation, Division of Water Resources. 1964.
- 21 Ground-water resources of west-central Indiana. Preliminary Report: Putnam County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1964.
- 22 Ground-water resources of northwestern Indiana. Preliminary Report: Starke County. J. S. Rosenshein and J. D. Hunn. Indiana Department of Conservation, Division of Water Resources. 1964.
- 23 Ground-water resources of west-central Indiana. Preliminary Report: Parke County. F. A. Watkins, Jr., and D. G. Jordan. Indiana Department of Conservation, Division of Water Resources. 1964.

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EXPLANATION

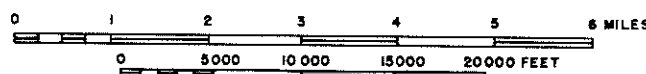
- B1
Water well
- ⊙ R5
Observation well
- O1
Spring
- RI
Oil well, test hole, or hole drilled for purposes other than water supply
- ◆ P1
Well for which log is listed in table 5
- ◆ C2
Well or spring for which field chemical analysis is listed in table 6 or 7
- ▲
Stream-water sampling site - field chemical analysis of water in table 8

Base modified from Indiana Department of Conservation, Geological Survey, Base Map No. 61 of Parke County, November 1, 1957

MAP OF PARKE COUNTY, INDIANA, SHOWING LOCATION OF WELLS AND SPRINGS

6	5	4	3	2	1
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

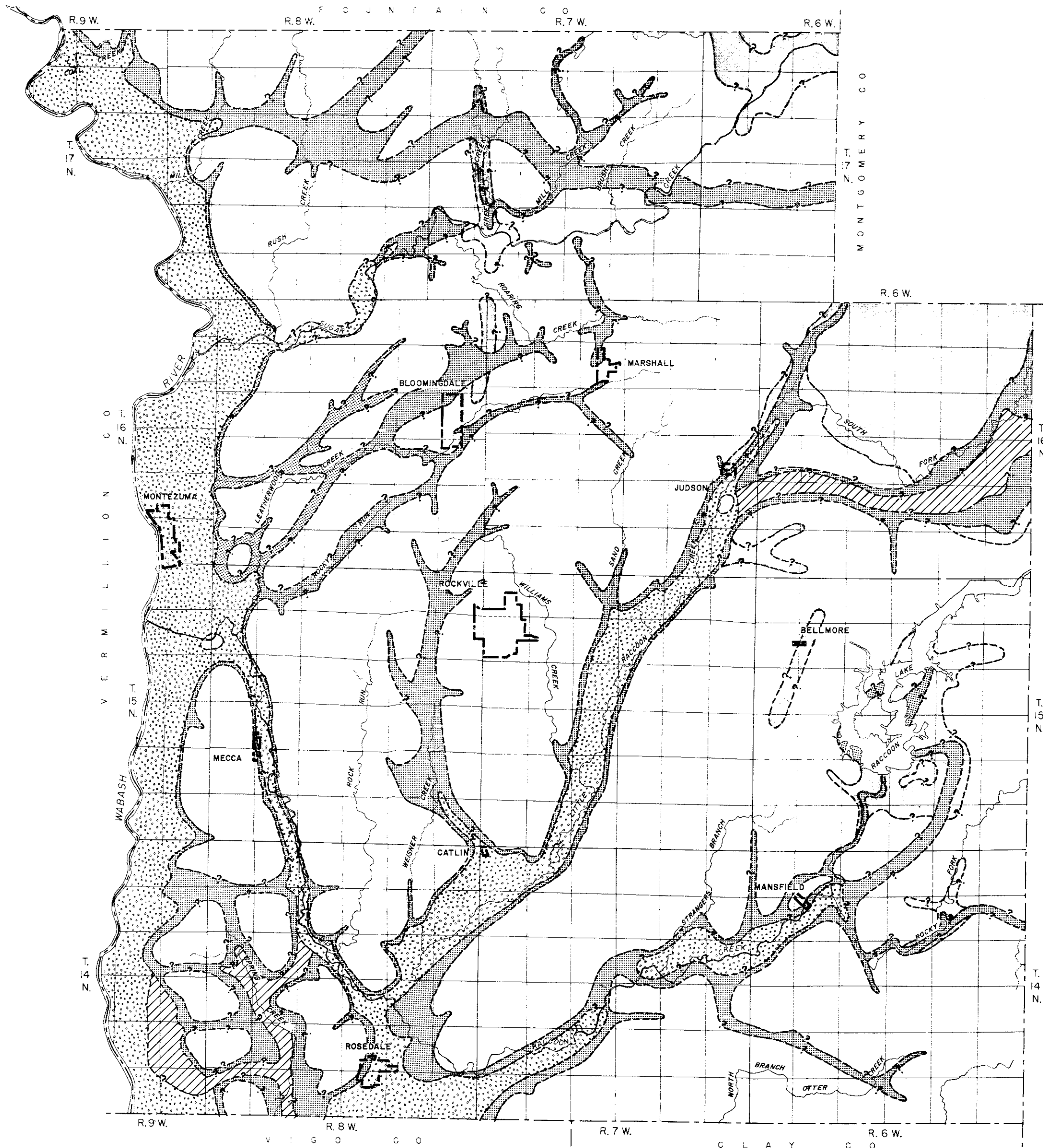
DIAGRAM OF TOWNSHIP



BY F. A. WATKINS, JR. AND D. G. JORDAN
1961

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

SECTION LETTER SYMBOLS IN WELL-NUMBERING SYSTEM



EXPLANATION

Production from sand and gravel



Water from sand and gravel of Pleistocene age overlain by Recent alluvium. Well depths range from 20 to 150 feet. Yields more than adequate for domestic and stock use. Area of municipal and irrigation pumpage and relatively large yields



Water from sand and gravel of Pleistocene age overlain by fill. Well depths range from 50 to 130 feet. Yields more than adequate for domestic and stock use. Area in which large yields may be possible

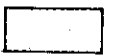


Water from sand and gravel lenses and stringers interbedded with fill or overlain by recent alluvium. Well depths range from 30 to 130 feet. Yields more than adequate for domestic and stock use. Some wells cased through the sand and gravel and tap the underlying bedrock

Production from bedrock



Water predominately from sandstone of Pennsylvanian age. Well depths range from 40 to 350 feet. Yields generally adequate for domestic and stock use

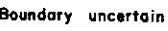


Water from limestone, sandstone, and siltstone of Mississippian age. Well depths range from 50 to 400 feet. Yields generally adequate for domestic and stock use

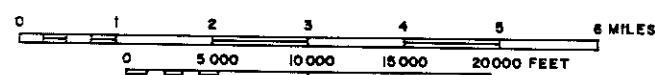
Boundary approximate



Boundary uncertain

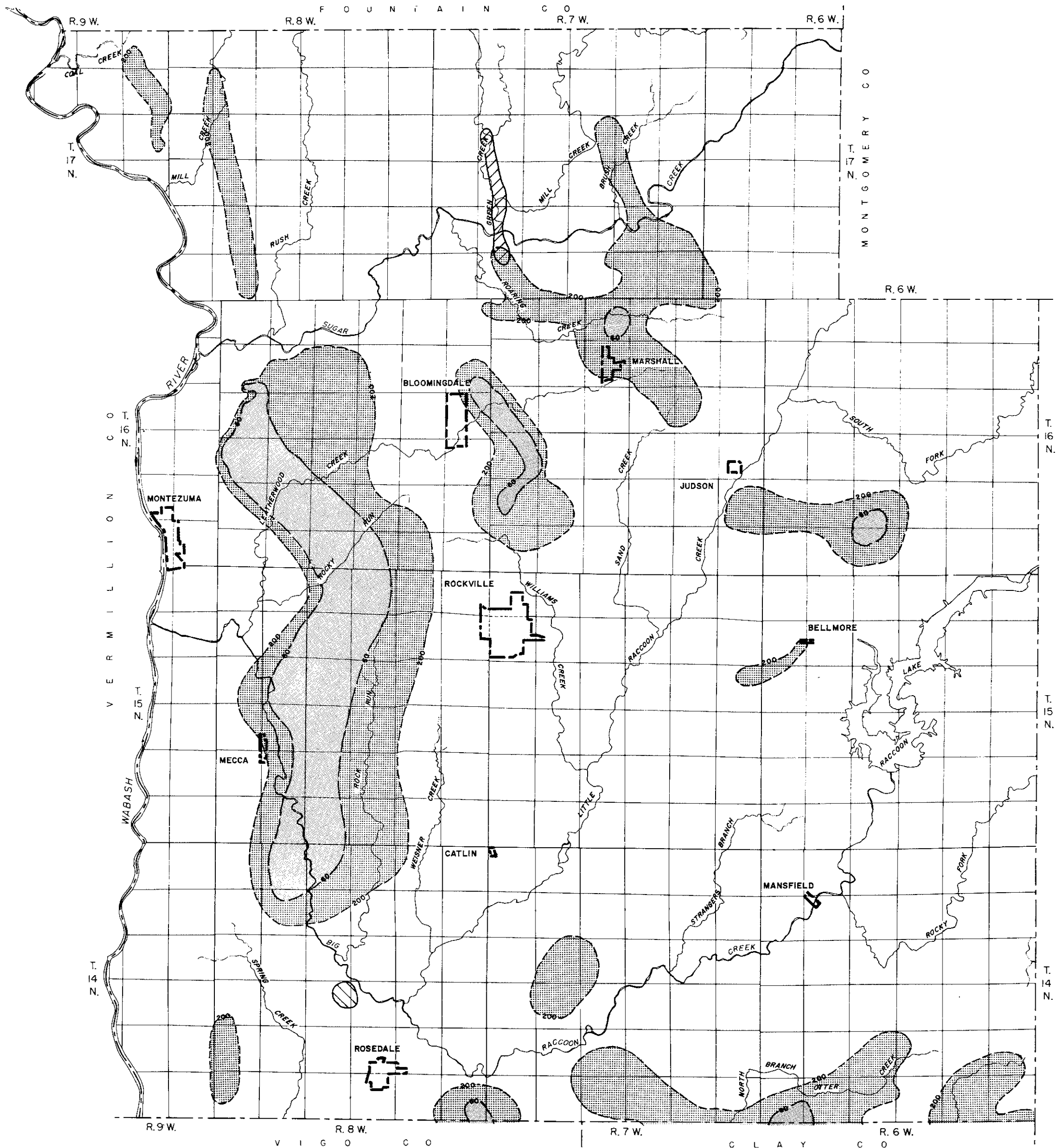


MAP OF PARKE COUNTY, INDIANA, SHOWING AVAILABILITY OF GROUND WATER







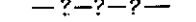


BY F. A. WATKINS, JR. AND D. J. JORDAN
1961

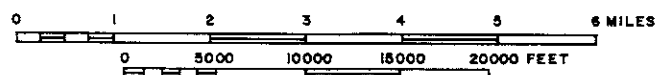
Base modified from Indiana Department of Conservation, Geological Survey, Base Map No. 61 of Parke County, November 1, 1957



EXPLANATION

-  Hardness near 0 to 60 ppm.
-  Hardness 61 to 200 ppm.
-  Hardness more than 200 ppm.
-  Area of chloride content in excess of 250 ppm. at a minimum depth of 132 feet
-  Area of sulfate content in excess of 250 ppm. at a minimum depth of 82 feet
-  Boundary approximate
-  Boundary uncertain

MAP OF PARKE COUNTY, INDIANA, SHOWING HARDNESS OF GROUND WATER



BY F. A. WATKINS, JR. AND D. J. JORDAN
1961

6	5	4	3	2	1
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

DIAGRAM OF TOWNSHIP

Base modified from Indiana Department of Conservation,
Geological Survey, Base Map No. 61 of Parke County,
November 1, 1957