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GROUND-WATER RESOURCES OF WEST-CENTRAL INDIANA

Preliminary Report: Owen County

Prepared by the

GEOLOGICAL SURVEY

UNITED STATES DEPARTMENT OF THE INTERIOR

In cooperation with the

DIVISION OF WATER RESOURCES

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Charles H. Bechert, Director

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Preliminary Report: Owen County

By

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

ABSTRACT

Owen County, in west-central Indiana, has an area of about 391 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 two municipal supplies. Wells in Owen County vary greatly in depth and yield. Wells tapping Mississippian rocks range in depth from about 20 to 550 feet and in yield from less than 1 to about 100 gpm, while those tapping Pennsylvanian rocks range in depth from about 20 to 300 feet and in yield from less than 1 to about 20 gpm. Some wells tapping the consolidated rocks yield no water. Wells tapping Pleistocene sand and gravel range in depth from about 20 to 220 feet and in yield from about 1 to 300 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 hardness of water and for the chloride and sulfate content of the ground-water in Owen County. This method yields the following results: for water from aquifers of Mississippian age: hardness, 275 ppm; chloride, 11 ppm; and sulfate, 18 ppm; for waters from aquifers of Pennsylvanian age: hardness, 101 ppm; chloride, 11 ppm; and sulfate, 20 ppm; and for waters from aquifers of Pleistocene age: hardness 271 ppm; chloride 11 ppm; and sulfate, 14 ppm. Locally, either the iron, sulfate or chloride content exceeds the recommended standards of the U. S. Public Health Service (1946) for drinking water.

This preliminary report contains tabulated records of about 355 wells and other drilled holes giving information about well construction, water levels, conditions of occurrence and characteristics of the water-bearing material; selected logs of about 146 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 19 springs giving information about geologic source, yield and temperature of the water; results for 187 field chemical analyses of water from wells, 17 field chemical analyses of water from springs, and 31 field chemical analyses of water from streams, giving the hardness and the bicarbonate, chloride, iron, and sulfate content; 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 base map of Owen 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, and areas of high sulfate content.

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 fifth 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 geology and the ground-water conditions 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 general direction of A. N. Sayre and P. E. LaMoreaux, successive chiefs of the Ground Water Branch of the U. S. Geological Survey, and under the immediate supervision of F. H. Klaer and C. M. Roberts, successive district geologists of the Ground Water Branch for Indiana.

Location and Areal Extent

Owen County is located in the west-central portion of Indiana (fig. 1). The county is roughly rectangular in shape and has an area of about 391 square miles. It is bounded on the north by Putnam and Morgan Counties, on the east by Morgan and Monroe Counties, on the south by Greene County, and on the west by Clay County.

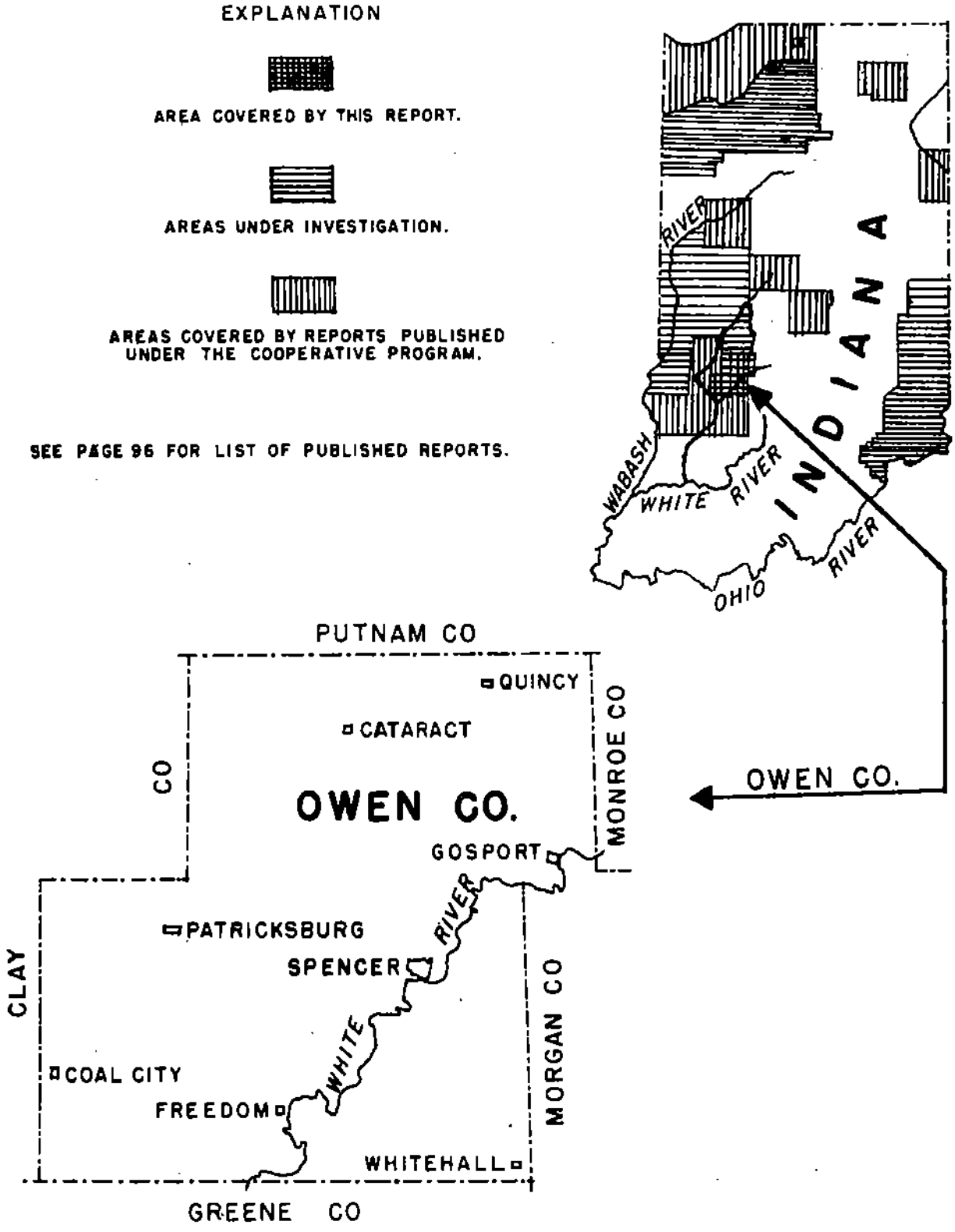

FIGURE 1.--Map of Indiana showing area covered by this report, areas under investigation and areas covered by reports published under the cooperative program.

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 11/3W-34K1, the part preceding the hyphen indicates that the well is in T. 11 N., R. 3 W. The first number after the hyphen indicates 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 11/3W-34K1 is the first well listed in NW¼SE¼ sec. 34, T. 11 N., R. 3 W.

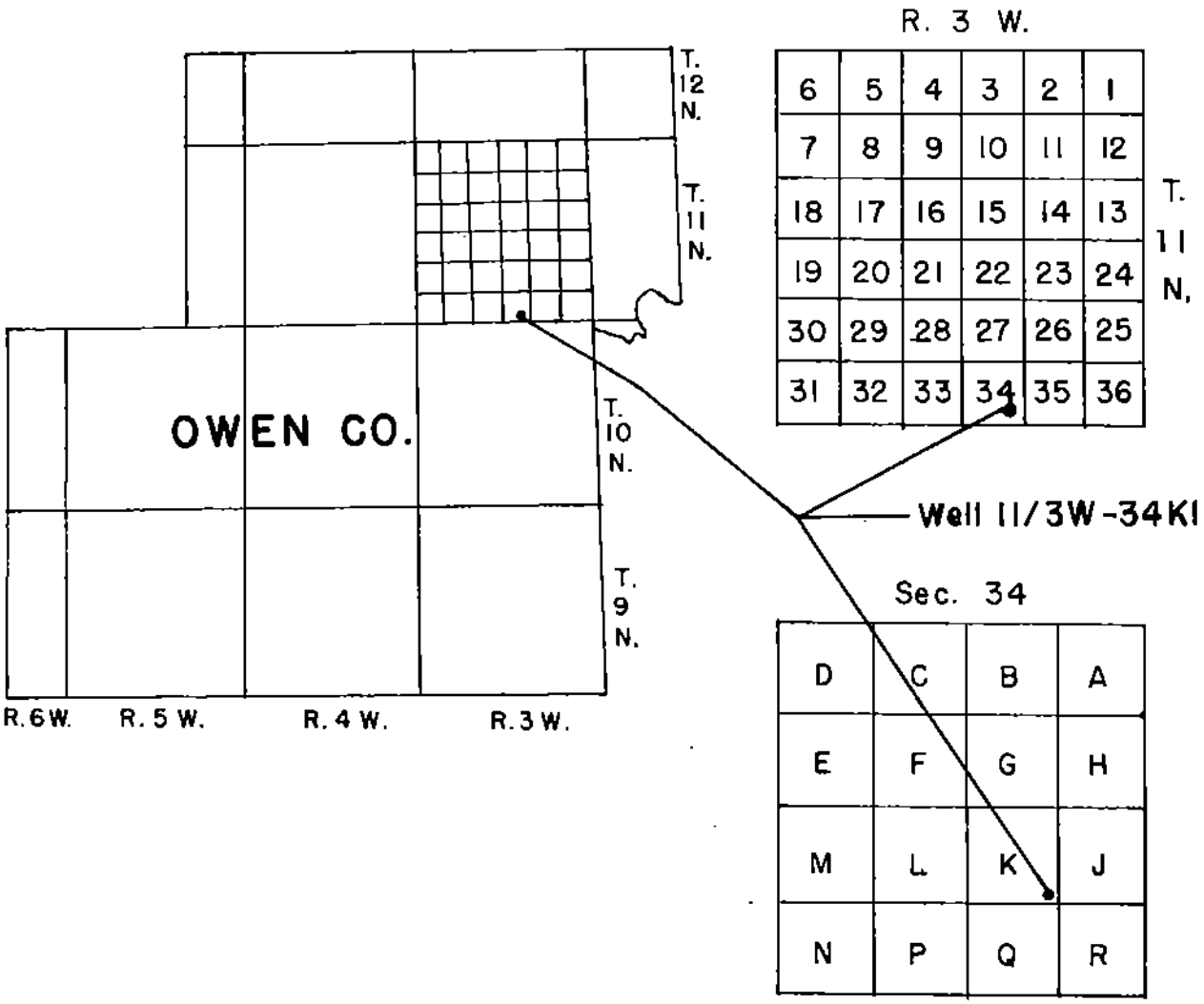

FIGURE 2.--Sketch showing well-numbering system.

Acknowledgments

The authors thank all persons who contributed time, information, and assistance during the collection, tabulation, and processing of 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 3 and 4.

The authors also thank the following government agencies which provided information for the report: the Division of Oil and Gas and the Division of Water Resources, both of the Indiana Department of Conservation; and the Indiana State Highway Department.

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. Any discrepancy between the driller's location and the location shown in the plat book was corrected. 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-quarter section. The basic data for these wells and holes drilled for purposes other than water supply are summarized in table 3. 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 4. Basic data for the springs are summarized in table 6.

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 when concentrations were below 100 ppm (parts per million) and by a standard titration method when concentrations exceeded 100 ppm. The iron content was determined at the well site by the bipyridine method using visual comparison with standard color ampules having known iron concentrations. The results of these analyses (tables 5, 6, and 7) 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 8 contains water-level measurements obtained from these wells. The data from these observation wells show the effect of seasonal and longer term variations of the ground-water level.

General Geology and Sources of Ground Water

Consolidated rocks of Middle and Late Mississippian age and of Early Pennsylvanian age crop out in Owen County. Overlying these rocks are unconsolidated glacial deposits of Pleistocene age. These glacial deposits mantle the entire county with the exception of a small area in the southeast corner of the county.

Rocks of Mississippian age that crop out in the eastern two-thirds of the county are extensively used for domestic and stock supplies and a few small industrial supplies. The limestones of Middle Mississippian age are the principal source of ground water although in the northeast portion of the county some water is obtained from siltstones that underlie the limestones. Sandstones and in a few places limestones of Late Mississippian age are minor sources of ground water. Wells tapping aquifers of Mississippian age range in depth from about 20 to 550 feet with the average depth being about 110 feet. Yields from these wells range from less than 1 to about 100 gpm with some dry holes reported.

Rocks of Early Pennsylvanian age crop out in the western third of 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 from these rocks and are used for domestic and stock supplies. Well depths range from about 20 to 300 feet, the average depth being about 105 feet. Yields from these wells range from less than 1 to about 20 gpm with some dry holes reported.

Unconsolidated glacial deposits of Pleistocene age overlie the consolidated rocks except in the southeast portion of the county. These deposits consist of till, glaciofluvial sand and gravel, and lake sediments.

Glaciofluvial sand and gravel were deposited in pre-glacial valleys in the northwest corner of the county and elsewhere in the county in similar valleys whose courses are more or less followed by the present Fish Creek, Rattlesnake Creek, Eel River, and White River. Much of the sand and gravel deposited along Fish and Rattlesnake Creeks has been removed by erosion. In the northwest corner of the county and along the Eel River and White River, much of the sand and gravel has been removed but enough remains that these deposits are an important source of ground water for domestic, stock, and potential industrial supplies. The two municipal supplies in the county are located along the White River in these deposits. Well depths in these deposits range from about 30 to 100 feet and yields range from about 1 to 300 gpm. Relatively large yields are possible from these sands and gravels.

Small amounts of glaciofluvial sand and gravel are associated with clayey and sandy-clay till in the county. The sand and gravel were deposited as lenses or thin stringers on the bedrock surface and covered by till or as lenses or thin stringers interbedded with till. There is a close relationship between the pre-glacial bedrock channels and the 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 pre-glacial upland areas the glacial deposits consist chiefly of a clayey to sandy-clay till and do not yield water freely.

Lake sediments are present in several areas in Owen County along the tributaries of White River and in the pre-glacial Mill Creek valley. These sediments were deposited on bedrock or on glaciofluvial sand and gravel. The lacustrine deposits consisting chiefly of silt and clay do not yield water freely but in areas where interbedded sand and gravel lenses are present they may be potential sources for domestic and stock supplies.

Wells tapping the sand and gravel aquifers associated with till and lacustrine deposits range in depth from about 20 to 220 feet and have yields ranging from about 1 to 35 gpm. At the present time many 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 Owen County are thin and consist mostly of flood plain sediments and wind-blown sand 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. In addition, plate 3 shows generalized quality of water conditions in the consolidated and unconsolidated rocks with respect to hardness. This map also shows areas where the sulfate content exceeds the limits for this constituent as established by the U. S. Public Health Service (1946).

The hardness and the chemical content of water vary greatly in the aquifers of Mississippian and Pennsylvanian age and to a lesser extent in aquifers of Pleistocene age. The maximum and minimum values and the mode 1/ for hardness and chloride and sulfate content of water for each group of aquifers is given in table 1.

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

Pleistocene

	Hardness, ppm	Chloride, ppm	Sulfate, ppm
Maximum	645	110	515
Minimum	15	1	5
Mode	271	11	14

Pennsylvanian

Maximum	1,720	225	1,760
Minimum	2	3	10
Mode	101	11	20

Mississippian

Maximum	1,100	3,400	900
Minimum	40	2	5
Mode	276	11	18

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

CONFINED AND UNCONFINED CONDITIONS

In Owen 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 saturated water-bearing material (aquifer) is overlain directly by relatively impervious material, and the water in the well bore which is confined in the aquifer under pressure, will rise above the bottom of the impervious material. Under unconfined conditions, the water-bearing material (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 Owen 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 or percussion method of drilling. A well drilled by the cable-tool method is constructed by a combination of drilling, bailing, and driving casing. When the water-bearing material is consolidated rock, the well casing generally is driven a few inches to several feet into rock, and the well finished as an open hole in rock. When the water-bearing material is sand and gravel, the well casing is driven into the water-bearing zone and either 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 screen and the water-bearing material.

In Owen County the majority of industrial and municipal supply wells drilled in sand and gravel are equipped with wire-wound well screens--a few are finished with slotted or perforated casing. Most domestic and stock wells that have been constructed in sand and gravel do not use 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 widespread. Successful wells can be obtained by the use of screens, in many water-bearing sand and gravel deposits from which it was conce considered impossible to obtain water. Table 2 relates the grain-size in inches and millimeters to the slot and gauze size of screens commonly used in water wells.

Table 2.--Grain size and equivalent screen openings

Grain size: After Wentworth (1922).
Equivalent screen openings: From commercial catalogs for water-well supplies.
Slot size: In thousandths (0.001) of an inch.
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 - .25	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 Owen 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 ages. In the sand and gravel of Pleistocene age, along the Eel River and the White River, and possibly the northwestern part of the county, ground water is available in adequate quantities for domestic and stock use and locally for industrial, irrigation, and public supplies. These sand and gravel deposits are the source of all large-yield wells in Owen County. Another source of domestic and stock supplies are the sand and gravel deposits interbedded with and overlain by till in the preglacial bedrock channels and sand and gravel interbedded with the lake sediments.

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

RECORDS

The records of about 355 water wells and holes drilled for purposes other than water supply are given in table 3. The table gives information about well construction, water levels, yields, and drawdowns, thickness and characteristics 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 4 contains the selected logs of about 146 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 10.

The results of 187 analyses of well waters are given in table 5. These chemical analyses were determined in the field by the U. S. Geological Survey. The table gives information about geologic source, temperature, concentration in ppm (parts per million) of iron, alkalinity (expressed as bicarbonate), sulfate, chloride, and hardness of water. The U. S. Public Health Service (1946)

drinking-water standards state 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 is in general use: 0-60 ppm, soft; 61-120 ppm, moderately hard; 121-200 ppm, hard; more than 200 ppm, very hard. Water having a hardness of more than 200 ppm requires softening for many purposes.

Records of 19 springs are given in table 6. This table gives geologic sources, yield, use, temperature of water, and the results of field chemical analyses for 17 springs.

The results of 31 field chemical analyses of water from streams in Owen County are given in table 7.

Water levels in 5 observation wells in Owen County are given in table 8. The water levels in these wells were made with an engineer's steel tape. Portions of the records of three of the wells were obtained 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 wells that were measured manually. The locations of these observation wells are shown on plate 1.

GLOSSARY OF DRILLERS' TERMS

Coal fault.--An irregularity in the coal, especially of places where the coal is more or less displaced by fire clay, shale or sandstone.

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.

Red rock.--Red, soft to hard, sometimes sandy shale.

Shelly.--Thin and usually hard layer or rock; rock which splits in thin pieces parallel with the bedding surface; a fossiliferous rock.

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

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

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

Sulfur.--Thin band or layer of pyrite in a coal seam.

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

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Table 3.--Records of wells, Owen County, Indiana

Well number: See text for description of well-numbering system.
Altitude: Altitude of land-surface datum from topographic map.
Type of well: Dr, drilled; Du, dug.
Finish: Gp, gravel pack; Oe, open end; Oh, open hole; P, perforated casing; S, screen.
Material: Cl, clay; G, gravel; Ls, limestone; S, sand; Sd-cl sandy clay; Sd-sh, sandy shale; Sh, shale; Sh-ls, shaly-limestone; Ss, sandstone.
Geologic age: Pl, Pleistocene; P, Pennsylvanian; M, Mississippian.
Ground-water occurrence: C, confined (artesian); U, unconfined (water table).

Water level: In feet below land-surface datum on date of completion of well, except as noted in remarks. F, flowing well.
Use: D, domestic; Do, destroyed; I, industrial; N, not used; O, observation, Og, oil or gas; P, public supply; S, stock; T, test.
Remarks: A, field chemical analysis in Table 5; E, electric log on file; L, log in Table 4; La, log on file; Lm, log from memory on file; Lz, log from memory in Table 4; Sa, sample study on file; W, water level measurements in Table 8; Dd, drawdown; gpm, gallons per minute.

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Material	Water-bearing zone: Geologic age	Water-bearing zone: Ground-water occurrence	Water level (feet)	Yield (gpm)	Use	Remarks
9/3W- 1R1	R. Abbitt	L. Johnson	8-11-48	730	Dr	50	-----	50	Oe	-----	-----	S,G	Pl	--	8	-----	D,S	A
2E1	F. Christy	----do----------	1948	800	Dr	114	-----	114	Oe	-----	-----	S,G	Pl	--	54	-----	D	A
2E2	----do----------	J. L. Empson	---------	800	Dr	130	-----	130	-----	-----	-----	S,G	Pl	--	---	-----	N	Lm; log from owner
2E3	----------	----------	---------	800	Du	40	-----	40	-----	-----	-----	S,G	Pl	--	---	-----	N	La, Malott (1914)
2L1	----------	----------	---------	810	Du	25	-----	25	-----	-----	-----	-----	-----	--	---	-----	---	Do
3M1	C. Porter	L. Johnson	7-47	785	Dr	72	-----	30	Oh	30	42	Ss	M	C	35	-----	D	Do
3K1	A. Evans	----------	---------	775	Dr	42	-----	----	-----	-----	-----	S	Pl	--	---	-----	---	L, Malott (1914)
3Q1	C. R. Ellis	----------	---------	770	Dr	143	-----	----	-----	-----	-----	-----	-----	--	---	-----	---	Do
5C1	A. Johnson	L. Johnson	11-47	590	Dr	60	-----	30	Oh	30	30	Ls	M	--	30	-----	D	Lm, A
8R1	G. Horn	----do----------	11-47	780	Dr	50	-----	18	Oh	18	32	Ss	P	C?	18	-----	D,S	A
9K1	L. Johnson	----do----------	5-47	810	Dr	80	-----	57	Oh	57	23	Sh	M	C	45	-----	D	A
10G1	Owen County Farm	----------	---------	765	Dr	50	-----	----	-----	-----	-----	S	Pl	--	---	-----	---	Malott (1914)
10L1	E. Cooley	L. Johnson	8-47	750	Dr	48	-----	20	Oh	20	28	Sh	M	C	18	-----	D	
11M1	H. Franklin	----------	J- 1-57	754	Dr	1,288	-----	----	----	85	2	Ls	M	--	---	-----	Og	R. Daily l; L (partial)
										205	105	Ls	M	--				
12C1	R. Robertson	J. L. Empson	7- 8-60	850	Dr	80	6	38	Oh	54	3	Sh	M	C	45	1.5	D	L, A
12F1	E. Archer	L. Johnson	8-19-48	710	Dr	42	-----	42	----	-----	-----	Ls	M	C	12	-----	D	
12F2	F. Skirvin	F. Skirvin	---------	700	Dr	47	6	16	Oh	-----	-----	Ls	M	--	---	-----	D	Lam
12K1	W. Edwards	----do----------	---------	725	Dr	50	6	30	Oh	30	20	Ls	M	C	10	-----	D	Lam
12N1	Bethel Baptist Church	L. Johnson	8-24-48	700	Dr	25	-----	25	Oe	-----	-----	G	Pl	C	8	-----	P	A
16R1	B. Borlalick	----do----------	10-22-59	800	Dr	190	8	6	Oh	-----	-----	Ls	M	--	35	-----	D	A
17A1	L. Bixler	----do----------	8-48	760	Dr	20	-----	20	Oe	-----	-----	G	Pl	C	2	-----	D	
17N1	J. Farley	----do----------	6-47	740	Dr	43	-----	27	Oh	27	16	Ss	P(?)	C	9	-----	N	A
18Q1	V. Henry	----do----------	5-47	750	Dr	52	-----	20	Oh	20	32	Ss	P(?)	--	30	-----	D	
19E1	D. E. Shook	----do----------	6-47	755	Dr	64	-----	40	Oh	-----	-----	Ss	M	U?	60	-----	N	L
23F1	A. O. Collins	----------	---------	690	Dr	89	-----	----	-----	-----	-----	-----	-----	--	---	-----	---	L; Malott (1914)
26Q1	R. Ham	F. Skirvin	---------	865	Dr	173	6	20	Oh	-----	-----	Ls	M	--	143	-----	D	Lam, A
9/4W- 4B1	O. Hahn	A. Fiscus	1956	615	Dr	60	8	10	Oh	10	50	Sh	M	--	---	.3	D	Lam, A
5M1	R. Hoot	----do----------	1954	610	Dr	100	6	34	Oh	-----	-----	Ls	M	--	55	-----	D	Lam, A
8N1	B. Hoot	----do----------	---------	555	Dr	98	6	70	Oh	96	2	Ls	M	C	38	-----	D	Lam, A
6R1	J. L. Hawkins	----do----------	---------	570	Dr	74	6	74	Oe	50	24	S,G	Pl	--	---	-----	D	Lm, A
7Q1	S. Wright	----do----------	---------	585	Dr	100	6	100	Oe	-----	-----	S,G	Pl	U	40	-----	D,S	Lam, A
10N1	F. Lane	Waggoner Bros.	12-12-45	560	Dr	60	6	46	Oh	44	26	Ss	M	C	17	1.5	D	L, A
10R1	R. Walker	A. Fiscus	---------	640	Dr	118	0	90	Oh	91	27	Sh	M	C	86	1	D	Lm
16C1	B. Strouse	L. Smith	1941	550	Dr	55	-----	18	Oh	19	36	Ls	M	--	---	-----	D	Lm, A; Water from cave 50 to 55 ft
17J1	R. Sinclair	Spainhower & Sons	3-14-58	550	Dr	90	6	46	Oh	41	39	Sd-sh	M	C	24	.3	D	L; Water level 23.5 ft, 3-18-58
19L1	B. Julian	L. Johnson	9-30-48	540	Dr	39	-----	39	Oe	-----	-----	G	Pl	C?	9	-----	D	A
20A1	G. Fulk	----do----------	1948	575	Dr	40	-----	----	Oh	-----	-----	Ss	M	C	10	-----	D	
20A2	J. A. Franklin	Waggoner Bros.	1- 2-48	555	Dr	60	6	22	Oh	50	10	Ss	M	C	36	60	D	L, A
20H1	C. W. Sullivan	A. Fiscus	---------	535	Dr	48	6	10	Oh	-----	-----	Sh	M	--	25	3	D	Lam, A
20H2	H. Knoy	Spainhower & Sons	1958	580	Dr	76	6	65	Oh	64	9	Ss	M	C	34	-----	D	L, A
21D1	W. Brewster	A. Fiscus	1954	550	Dr	36	6	24	Oh	12	24	Sh	M	C?	24	4	D	Lam, A
21D2	R. Franklin	Spainhower & Sons	4-56	560	Dr	80	6	67	Oh	67	13	Ss	M	C	40	20	D	L, A
22F1	L. Coffey	L. Johnson	9-23-48	720	Dr	150	-----	40	Oh	40	110	Ss	M	--	---	-----	D	A

Table 3.--Records of wells, Owen 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)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Material	Water-bearing zone: Geologic age	Water-bearing zone: Ground-water occurrence	Water level (feet)	Yield (gpm)	Use	Remarks
9/4W-23A1	A. Davis	J. B. Whitaker & Sons	8-11-59	565	Dr	82	6	82	P	51	3	G,S	Pl	C	20	15	D	L, A
29H1	C. Abroll	Spainhower & Sons	1958	560	Dr	115	6	107	Oh	104	11	Ss	M	C	40	8	D,S	L, A
9/5W- 4B1	Mr. Hauser	Gillium Drilling Co.	10-31-49	580	Dr	2,444	-----	-----	-----	68	32	Ss	M	--	---	-----	Og	F. Burke 1; La, E
7J1	E. E. Burger	M. O. Schrader	11-19-53	570	Dr	205	8	44	Oh	-----	-----	-----	P	--	---	.7	D,S	L, A
7L1	F. Megenhardt	Spainhower & Sons	10-28-55	535	Dr	207	8	62	Oh	20	86	Sh	P	C?	30	.3	D,S	L, A
7L2	----do----------	F. Megenhardt	--------	520	Dr	26	-----	-----	Oh	-----	-----	-----	----	--	---	-----	T	
8D1	M. Reynolds	Campbell Bros.	--------	550	Dr	97	6	39	Oh	75	11	Sd-sh	P	--	---	-----	S	L, A
10J1	V. N. Shishcoff	Eidson & Gwaltney Drilling Co., Inc.	4-18-53	668	Dr	668	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	J. F. Simpson & A. Lucht 1; La
13A1	R. Clawson	A. Fiscus	--------	555	Dr	22	6	22	Oe	6	16	S,G	Pl	U	6	1	D,S	Lam, A
13G1	H. Blaney	----------	3-28-57	581	Dr	469	-----	-----	-----	60	10	Ls,Sh	M	--	---	-----	Og	L. B. Mansfield 1; L
15F1	G. Birge	A. Fiscus	--------	610	Dr	20	6	29	Oe	19	8	S	Pl	U	19	4.5	D	Lam
18J1	E. W. Miller	Campbell Bros.	--------	530	Dr	70	6	12	Oh	18	23	Ss	P	--	---	-----	S	L, A
18M1	H. O. Miller	----------	1-28-46	542	Dr	3,500	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	B. Duncan & C. C. Long 1; L (partial)
18M2	----do----------	----------	3- 4-46	542	Dr	1,800	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	B. Duncan & C. C. Long 2; La
18L1	A. H. Burger	M. O. Schrader	10-10-53	530	Dr	75	6	26	Oh	40	35	Ss	P	--	---	5	D	La, A
18R1	R. Reynolds	Campbell Bros.	--------	540	Dr	118	6	32	Oh	38	73	Sd-sh	P	--	---	-----	D	L
										55	13	Sd-sh	P	--				
										82	15	Sd-sh	P	--				
21K1	C. White	----do----------	--------	635	Dr	126	6	89	Oh	93	31	Ss	P	--	---	-----	D,S	L, A
22H1	R. Dulley	Eidson & Gwaltney Drilling Co., Inc.	11- 1-51	632	Dr	1,450	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	George & Wrather 1; L (partial), E
23E1	W. and L. Light	----------	12-18-50	647	Dr	594	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	A. S. Reed & G. Lowry 1; L (partial)
27B1	C. and B. Stantz	Sutherland Bros.	12-30-50	586	Dr	530	-----	-----	-----	-----	-----	-----	----	--	---	-----	Og	A. S. Reed 1; L (partial)
31P1	C. Donnison	R. Reeves	1950	510	Dr	46	4	20	Oh	18	27	Ls	P(?)	U	18	5	D	L, A
32A1	C. Jeans	Spainhower & Sons	9-52	600	Dr	50	6	32	Oh	45	5	Ss	P	--	---	10	N	L
33P1	M. Pickard	----do----------	--------	550	Dr	128	6	42	Oh	122	6	Ss	P	--	---	3	N	L
9/6W-11F1	Jefferson High School	Campbell Bros.	1-51	655	Dr	214	8	-----	Oh	140	59	Ss	P	C	118	3.5	P	L, A
11L1	P. Wright	----do----------	--------	660	Dr	195	6	40	Oh	134	61	Ss	P	--	---	1	D	L, A
11L2	F. W. Haviland	----do----------	--------	655	Dr	149	10	12	Oh	-----	-----	-----	P	--	---	-----	D	La, A
12E1	G. Neihart	M. O. Schrader	10- 8-53	620	Dr	182	6	44	Oh	165	17	Ss	P	--	---	9	D,S	L, A
12R1	C. Smith	Campbell Bros.	--------	535	Dr	100	8	50	Oh	70	5	Sd-sh	P	--	---	3.5	D	La
13A1	O. Miller	----do----------	--------	535	Dr	82	6	55	Oh	57	23	Ss	P	C	---	-----	N	L; Water level 7.5 ft, 10-6-60
13K1	D. Bowersock	H. Ellis	9-30-54	585	Dr	260	8	-----	Oh	-----	-----	-----	----	--	---	-----	Do	L; "Dry hole"
13K2	----do----------	----do----------	10-54	585	Dr	60	10	28	Oh	28	4	Ss	P	C	24	-----	D	La
13Q1	G. Jones	Spainhower & Sons	3-56	585	Dr	150	6	58	Oh	-----	-----	Ss	P	--	---	2.5	D	L, A
14B1	N. Klass	----do----------	9-13-60	655	Dr	50	8	13	Oh	-----	-----	-----	P	--	14	.7	D	L
23P1	R. Buchler	Campbell Bros.	--------	610	Dr	100	-----	-----	Oh	-----	-----	-----	P	--	---	-----	D	L
26C1	J. Shafer	Spainhower & Sons	11-56	565	Dr	69	7	14	Oh	41	16	Sd-sh	P	C	22	3.5	S	L, A
		----do----------	9 -7-60	---	Dr	120	6	70	Oh	-----	-----	-----	P	C	58	3.5	D,S	L, A; Well deepened
10/3W- 1P1	G. Williams	L. Johnson	6-47	600	Dr	138	-----	21	Oh	-----	-----	Ls	M	--	100	-----	D	L, A
3G1	Mr. Myers	----do----------	5-17-48	600	Dr	60	-----	28	Oh	-----	-----	Ls	M	--	30	-----	D	
3Q1	R. Bryant	A. Fiscus	--------	575	Dr	100	6	3	Oh	50	50	Ls	M	C	40	-----	D	Lam, A
4G1	L. Franklin	----------	1951	585	Dr	80	6	33	Oh	-----	-----	Ls	M	--	---	-----	D	Lam, A; Log from owner
4H1	W. Class	L. Johnson	5-10-48	575	Dr	85	-----	40	Oh	-----	-----	Ls	M	C	30	-----	D	A
4J1	R. Ring	A. Fiscus	1955	560	Dr	96	6	98	Oe	40	58	S,G	Pl	U	40	-----	D	Lam, A
9A1	Mr. Anderson	L. Johnson	12-47	680	Dr	210	-----	40	Oh	-----	-----	Ls	M	--	86	-----	P	A
9G1	R. Talley	----do----------	8-23-48	610	Dr	100	-----	100	Oe	-----	-----	G	Pl	---	---	-----	D	A
9J1	W. Schneider	G. Minnick	9-52	640	Dr	100	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	D	
9K1	M. Renard	A. Fiscus	--------	645	Dr	50	6	50	Oe	30	20	S,G	Pl	U	30	8	D	Lam, A
10B1	C. Sink	A. Smith	1941	570	Dr	94	8	33	Oh	-----	-----	Ls	M	--	---	-----	D	A
10B2	Eagles Quarry	A. Fiscus	--------	585	Dr	45	6	12	Oh	45	-----	Ls	M	C	12	-----	I	Lam, A
10B3	Dunn Limestone Co.	Dunn Limestone Co.	1945	590	Dr	90	8	12	Oh	-----	-----	Ls	M	--	45	2.5	I	La
10K1	E. Petty	A. Fiscus	--------	555	Dr	70	6	13	Oh	-----	-----	Ls	M	--	50	-----	N	Lam
10K2	Q. H. East	F. Skirvin	1956	550	Dr	73	8	-----	Oh	-----	-----	Ls	M	--	---	-----	D	La
10K3	Mr. Taconalis	A. Fiscus	--------	555	Dr	76	6	25	Oh	-----	-----	Ls	M	--	25	-----	D	Lam
10K4	F. Skirvin	F. Skirvin	1957	550	Dr	90	8	-----	Oh	-----	-----	Ls	M	--	---	-----	D	Lam

10/3W-13E1	C. Mount	W. Stull	--------	740	Dr	135	6	-----	Oh	65	70	Sh	M	C	40	1.5	S	Lm, A
14C1	E. Fish	A. Fiscus	--------	675	Dr	50	6	11	Oh	-----	-----	Ls	M	--	35	1	S	Lm, A
14C2	----do----------	----do----------	9-53	690	Dr	96	6	23	Oh	60	33	Ls	M	C	40	1	D	Lm, A
15P1	Indiana Department of Conservation	Layne-Northern Co., Inc.	10-31	552	Dr	66	8	66	Gp	-----	-----	S,G	Pl	--	---	150	P	Screen, 12 ft of 7-inch dia., No. 125 slot
16H1	M. Lee	F. Skirvin	--------	650	Dr	118	6	-----	Oh	100	16	Ls	M	C	66	-----	D	Lm, A
16J1	C. Mercer	A. Fiscus	1955	640	Dr	165	8	26	Oh	-----	-----	Ls	M	--	140	1	D	Lm, A
19E1	H. O. Brinson	L. Johnson	4-29-48	660	Dr	100	-----	15	Oh	-----	-----	Ls	M	--	70	-----	D	A
19P1	B. Withom	----do----------	4-19-48	650	Dr	33	6	-----	Oh	-----	-----	Ls	M	--	15	-----	D	
		F. Skirvin	--------	---	Dr	73	8	-----	Oh	70	3	Ls	M	C	67	-----	N	Lm (partial); Water from cave at 70 ft; Water level 67.0 ft 7-22-59
20D1	L. Kay	L. Smith	1942	580	Dr	73	-----	73	Oo	-----	-----	G	Pl	--	---	-----	N	
20H1	Mr. Beaman	W. Stull	--------	640	Dr	130	6	130	Oo	130	-----	G	Pl	C	80	-----	N	Lm
20M1	J. Griffot	L. Johnson	6-22-60	545	Dr	33	6	33	Oo	-----	-----	S,G	Pl	--	---	-----	D	A
20N1	Mr. May	A. Fiscus	--------	545	Dr	68	6	68	Oo	25	33	S	Pl	C	15	-----	D	Lm
20N2	E. Arthur	----do----------	1956	545	Dr	35	6	35	Oo	28	7	Ls	M	C	13	-----	D	Lm, A
20P1	Hoosier Water	C. J. Kiefer	1908	550	Dr	100	8	100	P	-----	-----	S,G	Pl	--	---	125	N	
20P2	----do----------	----do----------	1908	550	Dr	100	8	100	P	-----	-----	S,G	Pl	--	---	150	N	
20P3	----do----------	G. C. Stremmel	1930	550	Dr	90	10	90	S	-----	-----	S,G	Pl	--	---	200	P	Screen 15 ft of 10-in dia, No. 20 slot
20P4	----do----------	----do----------	1930	550	Dr	90	10	90	S	-----	-----	S,G	Pl	--	---	200	P	Do
20P5	----do----------	Layne-Northern Co., Inc.	4-29-57	550	Dr	97	6	-----	-----	61	34	S,G	Pl	C	6	-----	T	L
21C1	W. O'Neal	L. Johnson	8- 5-48	610	Dr	110	-----	110	Oo	-----	-----	S,G	Pl	--	15	-----	D	A
21F1	W. Franklin	----do----------	10- 8-48	585	Dr	46	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	D	A
21J1	Indiana State Highway Department	----------	7-57	548	Dr	73	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	L
21J2	----do----------	----------	7-57	550	Dr	75	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21J3	----do----------	----------	7-57	548	Dr	58	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21J4	----do----------	----------	7-57	548	Dr	57	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21J5	----do----------	----------	7-57	547	Dr	57	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21K1	----do----------	----------	7-57	579	Dr	17	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	L
21K2	----do----------	----------	7-57	541	Dr	17	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21K3	----do----------	----------	7-57	532	Dr	21	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	La
21K4	----do----------	----------	7-57	532	Dr	51	-----	-----	-----	-----	-----	-----	-----	--	---	-----	T	L
21N1	M. Weaver	L. Sparks	4-52	575	Dr	100	6	40	Oh	-----	-----	Ls	M	--	---	-----	D	A
21M2	F. A. Martin	L. Johnson	10-47	560	Dr	108	-----	100	Oh	30	70	S	Pl	U	30	-----	D	L, A
24P1	Mr. Lynch	----do----------	8-52	845	Dr	270	6	14	Oh	267	3	Ls	M	--	---	8	D	L, A
24R1	Mount Olive Church	A. Fiscus	1958	820	Dr	49	6	14	Oh	23	26	Ls	M	C	14	-----	P	Lm, A
25N1	L. Simpson	W. Stull	--------	720	Dr	91	6	10	Oh	-----	-----	Ls	M	C	3	20	D	Lm, A; Water from solution cavity 80 to 91 ft
26C1	F. Marshall	----------	--------	725	Dr	47	-----	-----	-----	-----	-----	-----	-----	--	---	-----	D	L; Malott (1914)
26M1	----------	----------	--------	720	Dr	131	-----	-----	-----	-----	-----	-----	-----	--	---	-----	D	Do
28N1	J. Vaughn	A. Fiscus	--------	670	Dr	142	6	115	Oh	142	-----	Cl	M	C	124	-----	D	La, A
28P1	S. Miller	L. Sparks	9- 7-60	650	Dr	110	8	107	Oh	107	3	Ls	M	C	55	30	D	L, A
29J1	Mr. Miller	A. Fiscus	--------	670	Dr	145	6	126	Oh	126	19	Ls	M	U?	127	2	D	Lm
31D1	M. Pedon	----do----------	--------	540	Dr	70	6	70	Oo	-----	-----	S	Pl	--	12	3	D,S	Lm, A
31D2	----do----------	----do----------	--------	565	Dr	58	-----	-----	-----	-----	-----	S	Pl	--	---	-----	De	Lm
32J1	F. Baugh	L. Johnson	6-47	670	Dr	53	-----	42	Oo	-----	-----	S,G	Pl	--	---	-----	N	
32L1	Mr. McIntosh	----do----------	11-47	550	Dr	40	-----	40	Oo	-----	-----	G	Pl	--	---	-----	D	A
32M1	V. Price	----do----------	9- 8-58	580	Dr	70	6	25	Oh	-----	-----	Ls	M	--	---	-----	D	A
33B1	J. Miller	A. Fiscus	1955	680	Dr	111	6	30	Oh	-----	-----	Ls	M	--	80	4	D	Lm, A
33B2	D. Swafford	----do----------	1954	710	Dr	124	6	17	Oh	-----	-----	Ls	M	--	94	5	D	Lm, A
33H1	R. Propa	L. Sparks	8-51	740	Dr	132	6	58	Oh	120	12	Ls	M	C	90	6	D	Lm, A; Dd 18 ft after ½ hr pumping at 6 gpm
33H2	F. Parks	M. Way	1943	740	Dr	107	6	100	Oh	96	11	Ls	M	--	---	-----	D	Lm, A
34E1	H. C. Parker	P. Scott	10- 3-60	740	Dr	175	4	170	Oh	170	5	Ls	M	C	100	-----	D	L
34L1	----do----------	----do----------	8-12-60	750	Dr	227	4	214	Oh	214	13	Ls	M	C	100	100	D	L, A
34P1	L. Sandborne	L. Johnson	--------	770	Dr	180	-----	180	Oh	-----	-----	S,G	Pl	--	---	-----	De	Lm
34P2	----do----------	L. Sparks	--------	770	Dr	92	-----	92	Oh	-----	-----	S,G	Pl	C	1	8	D	A; Schedule from owner
35K1	J. Leonard	----------	--------	730	Dr	117	-----	-----	-----	-----	-----	-----	-----	--	---	-----	D	L; Malott (1914)
35K2	----------	----------	--------	730	Du	22	-----	-----	-----	-----	-----	-----	-----	--	---	-----	---	La; Malott (1914)
36A1	B. Smith	----------	--------	715	-----	12	-----	-----	-----	-----	-----	-----	-----	--	---	-----	---	Do
36J1	Mr. Whitesell	----------	--------	720	Du	12	-----	-----	-----	-----	-----	-----	-----	--	---	-----	---	Do
10/4W- 1H1	R. Poulton	A. Fiscus	1955	725	Dr	88	6	40	Oh	-----	-----	Ls	M	--	70	-----	D	Lm, A
2F1	H. Bagley	L. Johnson	1948	610	Dr	21	-----	-----	Oh	-----	-----	Ls	M	C	4	-----	De	
3D1	J. Mumma	A. Fiscus	--------	635	Dr	40	6	0	Oh	-----	-----	Ss	M	--	20	1	D	Lm, A
5E1	G. Hanks	L. Adkins	6-28-48	770	Dr	97	6	34	Oh	80	37	Ss	M(?)	--	---	-----	N	L
5P1	M. Schwartz	W. Stull	8- 7-57	785	Dr	60	6	40	Oh	40	10	Sh	P	C	30	10	D	L, A
13E1	H. Bagley	A. Fiscus	--------	580	Dr	74	6	74	Oh	-----	-----	-----	M(?)	--	---	-----	D	A
14H1	----do----------	----do----------	--------	555	Dr	30	6	30	Oo	-----	-----	-----	Pl(?)	--	---	5	D	A
14L1	N. Hodges	W. Stull	1954	680	Dr	166	8	40	Oh	142	4	Ls	M	--	---	-----	D	Lm, A; Water from crevice 162 to 166 ft
22E1	G. Porter	----------	1900	595	Du	25	-----	25	Oh	24	1	S,G	Pl	C	20	-----	N	Lm; Log from owner
23C1	C. Summerlot	A. Fiscus	--------	675	Dr	48	8	16	Oh	16	4	Ss	M	--	16	-----	D,S	Lm, A
24A1	T. Halton	----do----------	--------	640	Dr	90	6	90	Oo	79	11	S	Pl	U	79	11	D,S	Lm, A

Table 3.--Records of wells, Owen 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)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Material	Water-bearing zone: Geologic age	Water-bearing zone: Ground-water occurrence	Water level (feet)	Yield (gpm)	Use	Remarks
10/4W-24A2	C. Winters	L. Smith	--------	585	Dr	48	-----	41	Oh	41	7	Ls	M	--	F	-----	N	
24A3	----do----------	----do----------	--------	590	Dr	78	-----	78	Oh	78	-----	Ls	M	--	---	-----	D	Lm (partial), A; Water from gravel filled solution cavity at 78 ft
24B1	----do----------	L. Johnson	9-47	570	Dr	20	-----	20	Oh	-----	-----	Ls	M	--	---	-----	D	
		J. B. Whitaker & Sons	--------	---	Dr	37	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	N	Well deepened; Water level 26.6 ft, 7-23-59
25C1	W. Wright	W. Stull	--------	575	Dr	65	6	52	Oh	50	15	Ss	M	--	---	7	D	Lm, A
26D1	Mr. Rinesycle	A. Fiscus	1957	670	Dr	149	6	146	Oh	146	17	Ls	M	U	130	1	D	Lm; Water from mud filled solution cavity; well back-filled with gravel to 146 ft
26F1	N. Johnson	----do----------	--------	715	Dr	208	6	31	Oh	-----	-----	Ls	M	--	184	2	D,S	Lm, A
26G1	Mr. Farmers	----do----------	1954	705	Dr	165	6	48	Oh	167	-----	Ls	M	U?	107	5	D	Lm; Water from mud filled solution cavity
28Q1	C. Donaldson	----do----------	10-53	650	Dr	92	6	42	Oh	-----	-----	Ls	M	--	60	-----	D	Lm, A
29A1	R. Graham	----do----------	--------	680	Dr	40	6	21	Oh	21	19	Ss	P(?)	C	20	1	D	Lm, A
30F1	R. Dowdy	----do----------	--------	575	Dr	28	6	28	Oo	26	2	G	Pl	C	6	1	D	Lm, A
32H1	W. D. Dingham	----do----------	1955	635	Dr	107	6	6	Oh	-----	-----	Ls	M	--	82	5	D,S	Lm, A
32J1	F. Strause	----do----------	--------	560	Dr	98	6	80	Oh	95	3	Ls	M	C	28	5	D,S	Lm, A; Solution cavity in limestone
33N1	H. Hahn	----do----------	12- 3-54	615	Dr	40	6	12	Oh	20	-----	Ss	M	U	20	20	D	Lam, A: Water from crevice at 20 ft
35D1	A. Fiscus	----do----------	--------	800	Dr	220	6	57	Oh	-----	-----	Ls	M	C	204	-----	D,S	Lm, A; Water from clay filled solution cavity at 215 ft
35P1	D. Fulk	----do----------	1957	755	Dr	80	6	30	Oh	-----	-----	Ls	M	--	64	1	D	Lm, A
36C1	R. E. Johnson	L. Johnson	11-47	555	Dr	31	-----	31	Oo	-----	-----	G	Pl	--	---	-----	D	A
10/5W- 1M1	M. L. Jackson	Ringo & Son	7-47	595	Dr	120	6	22	Oh	79	16	Ss	P	C	70	3.5	N	L
3B1	R. B. Bluebaugh	L. Smith	1944	730	Dr	45	-----	10	Oh	-----	-----	-----	P	--	---	-----	D	A
7A1	H. Miller	----------	1940	665	Du	19	60	19	-----	18	1	Sh	P	C	9	-----	D	Lm; Log from owner
9R1	Mr. Kirken	L. Johnson	5-19-48	685	Dr	25	-----	-----	Oh	-----	-----	Ss, Sh	P	C	3	-----	D	A
9R2	H. Strong	----do----------	5-22-48	700	Dr	25	-----	-----	Oh	-----	-----	Sh	P	C	3	-----	D	A
14E1	W. Fulk	W. Stull	--------	735	Dr	55	6	30	Oh	-----	-----	-----	P	C	32	-----	D	Lm, A: Log from owner
15B1	L. Workman	----do----------	1957	770	Dr	40	6	-----	Oh	-----	-----	Sh	P	--	---	.1	N	Lm (partial), A
15B2	Patricksburg School	W. Rogers	8-33	760	Dr	164	6	-----	Oh	119	41	Ss(?)	P	C	42	-----	P	L (partial), A
15D1	D. Fry	Spainhower & Sons	2-25-55	700	Dr	205	5	48	Oh	-----	-----	-----	P	C	34	.5	D	L
16A1	J. P. Miller	L. Johnson	5-20-48	690	Dr	30	6	-----	------	-----	-----	Sh	P	C	3	-----	S	A
20G1	C. Regenhaydt	----------	--------	570	Du	26	-----	26	-----	-----	-----	S(?)	Pl	--	10	-----	D,S	A
23Q1	G. E. Chambers	----------	11- 6-42	722	Dr	3,185	-----	-----	------	-----	-----	-----	-----	--	---	-----	Og	Sun Oil Co. 1: La, Sa
24C1	F. Roan	----------	--------	705	Du	24	-----	20	------	20	4	Ls	M	--	---	-----	D	A; Schedule from owner
24C2	----do----------	----------	--------	730	Du	10	-----	10	-----	9	1	S,G	P	C	6	-----	N	Water level 5.6 ft 8-52: .Schedule from owner
29Q1	F. Collins	Spainhower & Sons	6-56	655	Dr	90	7	57	Oh	81	9	Ss	P	--	---	2	D	L, A
32P1	A. Andrew	T & K Corporation	5- 3-51	654	Dr	1,657	-----	-----	------	75	29	Ss	P	--	---	-----	Og	Pure Oil Co. 1: La, E
10/6W- 2K1	A. L. Oberhaultzor	Spainhower & Sons	10-56	575	Du	100	7	40	Oh	79	21	Ss	P	--	---	1.5	D	L, A
13F1	H. Burger	M. L. Bicard	--------	585	Dr	240	7	94	Oh	222	3	Sh	P	C	100	7	D,S	L, A
										235	5	Ss	P					
13L1	T. Rea	H. Ellis	--------	680	Dr	276	7	78	Oh	210	5	Ss	P	C	106	4	D,S	L, A
										224	52	Ss	P					
23R1	A. Kelly	M. L. Bicard	--------	590	Dr	140	6	99	Oh	112	13	Ss	P	C	35	6	D,S	L, A
24Q1	R. Kelly	Spainhower & Sons	7-55	610	Dr	281	6	29	Oh	-----	-----	-----	M(?)	C	43	.5	D	L, A
25B1	W. Faulk	----do----------	5-58	600	Dr	245	6	39	Oh	-----	-----	-----	M(?)	C	25	1	D,S	L, A
25L1	R. G. Carr	----do----------	2- 7-55	595	Dr	186	6	37	Oh	93	34	Ls	M	C	28	1.5	D	L, A
26A1	W. Havilland	----do----------	5-58	585	Dr	140	6	50	Oh	-----	-----	-----	P(?)	C	35	.5	D,S	L, A
26B1	----do----------	----do----------	4-58	585	Dr	190	6	54	Oh	-----	-----	-----	-----	--	---	.2	N	L
35C1	Beech Church Parsonage	H. Ellis	--------	600	Dr	265	7	105	P	45	4	G	Pl P(?)	C	10	-----	D	L, A; Well backfilled to 165 ft with sand and gravel
36D1	R. Harris	Spainhower & Sons	5-58	585	Dr	60	8	38	Oh	46	14	Ss	P	C	20	7	D	L, A

11/2W- 5B1	C. Asher	J. B. Whitaker & Sons	11- 3-58	790	Dr	130	6	20	Oh	87	43	Sh	M	--	---	1	D	L
7J1	E. Harriggan	A. Fiscus	-------	710	Dr	75	6	20	Oh	40	35	Sh	M	C	25	-----	D	Lm, A
16Q1	Mr. Goen	J. B. Whitaker & Sons	1958	645	Dr	89	6	60	P,Oh	18	2	S,G	Pl	C	6	1.5	D	L, A
										64	5	S	Pl					
18P1	W. Steirwalt	----do----------	10-57	765	Dr	130	6	13	Oh	85	45	Ls	M	C	37	5	S	La
20Q1	C. Watson	----do----------	8- 7-54	560	Dr	53	6	43	Oh	40	13	Ss	M	C	F	40	D	La, A; Dd 8 ft bailing at 40 gpm; Water level 3 ft above land surface
21C1	R. Parrish	A. Smith	-------	625	Dr	98	6	98	Oo	98	-----	S	Pl	--	---	-----	D	A
21K1	A. Henry	----do----------	-------	640	Dr	81	6	21	Oh	17	64	Sh	M	--	---	-----	D	
29G1	G. Kaylor	----------	1953	585	Dr	73	6	73	P	-----	-----	G	Pl	--	---	75	T	A; Schedule from Soil Conservation Service
30A1	A. Sink	A. Smith	1942	635	Dr	90	6	18	Oh	-----	-----	Ls	M	--	74	-----	D	A
11/2W-32L1	Town of Gosport	M. Lamb	7-19-55	555	Dr	78	12	78	S	20	58	S,G	Pl	C	10	300	P	L; Screen 13 ft of 12-inch dia, 3 ft No. 30 slot, 2 ft No. 60 slot, 8 ft No. 80 slot; Dd 15 ft after 8 hr pumping at 300 gpm
32L2	----do----------	----------	1925	555	Dr	60	12	60	-----	-----	-----	S,G	Pl	--	10	250	N	
11/3W- 2Q1	E. Jones	W. Stull	1- 5-57	780	Dr	85	6	20	Oh	65	5	Ls	M	C	25	2	D	Lm, A
8A1	W. T. Elmore	----do----------	-------	840	Dr	60	6	-----	Oh	60	-----	Ls	M	--	---	-----	D	Lm, A
11Q1	C. Cradick	L. Johnson	5-47	675	Dr	21	-----	10	Oh	10	11	Ls	M	C	8	-----	D	
13R1	W. Gillon	J. B. Whitaker & Sons	11- 2-57	705	Dr	65	6	22	Oh	61	4	Ls	M	C	11	5	D	La, A
15B1	R. McFarren	L. Johnson	1-48	785	Dr	154	-----	8	Oh	-----	-----	Ls	M	--	---	-----	D	A
17R1	C. Minnick	L. Smith	1944	730	Dr	67	-----	19	Oh	-----	-----	Ls	M	--	---	-----	D	A
19P1	O. Koeler	----do----------	1942	710	Dr	84	-----	18	Oh	-----	-----	Ls	M	--	---	-----	D	A
19P2	----do----------	----do----------	1942	715	Dr	90	-----	11	Oh	-----	-----	Ls	M	--	---	-----	S	A
20L1	K. Barker	W. Stull	-------	740	Dr	125	6	16	Oh	-----	-----	Ls	M	--	40	1	S	Lm, A
22B1	C. G. Fink	A. Smith	1940	790	Dr	100	6	12	Oh	-----	-----	Ls	M	--	---	-----	D	A
22M1	A. J. Jones	A. Fiscus	-------	745	Dr	70	6	20	Oh	20	5	Ls	M	--	---	-----	D	Lm
24L1	H. Weeks	L. Johnson	6-47	675	Dr	110	-----	12	Oh	-----	-----	Ls	M	--	32	-----	D	
25D1	Mr. Bunting	----do----------	7-47	600	Dr	60	-----	-----	Oh	-----	-----	Ls	M	--	18	-----	D	
25D2	O. Dillion	----do----------	1947	600	Dr	29	-----	29	Oo	-----	-----	S,G	Pl	--	---	-----	D	Lm
25D3	W. Ruddick	----do----------	9-47	590	Dr	45	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	D	
25F1	Mrs. Butts	----do----------	9-47	580	Dr	79	-----	-----	Oh	-----	-----	Sh	M	--	38	-----	N	
25F2	L. Scotten	----do----------	8- 2-48	580	Dr	22	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	D	
25G1	Mr. Parmantier and Mr. Peltier	A. Smith	-------	580	Dr	77	6	74	Oh	74	3	Ls	M	--	---	-----	D	
25G2	J. C. Kivitt	----do----------	1941	580	Dr	87	6	80	Oh	80	7	Ls	M	--	---	-----	D	
25L1	H. J. Cunningham	P. Amos	6-22-59	595	Dr	130	4	18	Oh	64	66	Sh	M	--	---	10	D	L, A; Dd 30 ft after 2 hr pumping at 10 gpm
26G1	W. Edwards	L. Smith	1941	750	Dr	61	-----	10	Oh	-----	-----	Ls	M	--	---	-----	D	
26N1	J. Dock	P. Amos	10-27-58	730	Dr	177	6	75	Oh	95	5	Ls	M	C	74	.7	D	L, A
							4	37										
26N2	----do----------	----do----------	10-58	730	Dr	182	8	68	Oh	-----	-----	-----	-----	--	---	-----	Do	L; "Dry hole"
27E1	H. Edwards	L. Smith	1941	730	Dr	135	-----	130	Oh	130	2	Ls	M	--	---	-----	D,S	A
27K1	Dolton Orchard	A. Smith	-------	740	Dr	78	6	42	Oh	40	38	Ls	M	--	---	-----	I	
27P1	A. Haltom	W. J. Fisher	1947	735	Dr	112	7	-----	Oh	100	12	Ls	M	C	35	-----	D,P	Lm, A; Water from solution opening; Log from owner
27Q1	Mr. Colliers	----------	-------	735	Dr	112	-----	-----	Oh	100	12	Ls	M	--	---	-----	P	Ls; Log from owner
27Q2	Drive-In Theatre	A. Fiscus	-------	740	Dr	161	6	111	Oh	111	50	Ls	M	C	45	-----	P	Ls
27Q3	Mr. Witham	F. Skirvin	1956	735	Dr	106	6	105	Oo	35	71	S,G	Pl	U	35	-----	D	Lm, A
27R1	G. Fiscus	----------	-------	735	Dr	150	6	34	Oh	-----	-----	Ls	M	--	---	-----	D	Ls; Log from owner
27R2	F. Marsh	J. B. Whitaker & Sons	3- 3-60	735	Dr	95	6	44	Oh	76	19	Sh-ls	M	--	---	6	D	L, A
30Q1	L. O. White	A. Fiscus	7-58	765	Dr	240	0	32	Oh	176	4	Ls	M	--	---	.7	D	L
										220		Ls,Sh	M					
31C1	W. Borgo	W. Barger	1-55	750	Dr	150	4	19	Oh	-----	-----	-----	-----	--	---	-----	N	L; "Dry hole"
32A2	L. A., C. O., R. H., and A. Evans	W. Rogers and J. L. Empson	4-39	770	Dr	206	-----	-----	-----	-----	-----	-----	-----	--	---	-----	Og	C. E. Michel and H. L. Miller 1; L
34K1	G. Tucker	A. Fiscus	-------	720	Dr	71	6	50	Oh	69	2	Ls	M	C	59	-----	D	Ls, A
34K2	M. Tucker	----do----------	-------	710	Dr	84	6	84	Oo	45	39	S,G	Pl	U	45	-----	D	Lm, A
35A1	H. Ritter	----------	11- 1-51	503	Dr	2,046	-----	-----	-----	-----	-----	-----	-----	--	---	-----	Og	E. Michel 1; Ls
11/4W- 2K1	J. Kyle	W. Stull	6-58	810	Dr	130	6	120	Oh	130	-----	Ls	M	C	90	-----	D	Ls, A; Water level 89.6 ft 8-7-59
3C1	W. White	----do----------	-------	830	-----	200	-----	105	Oh	195	5	Ls	M	C	---	-----	D	Ls
12E1	P. James	Ringo & Son	1948	925	Dr	300	6	228	P,Oh	125	8	Ss	P	C	100	.3	N	L
17P1	T. Lucas	A. Smith	-------	820	Dr	56	6	28	Oh	-----	-----	Ss	P	--	---	-----	D	
22D1	C. Koon	A. Fiscus	-------	835	Dr	88	6	30	Oh	-----	-----	Sh	P	--	---	-----	D	Lm, A
24J1	R. Bland	----do----------	1954	845	Dr	224	6	17	Oh	65	15	Ss	P	C	45	2	D,S	Ls, A
										192	34	Ls	M					
26Q1	G. R. Williams	P. Amos	5- 7-60	630	Dr	67	6	67	Oo	64	3	G,S	Pl	C	32	15	D	L, A; Well backfilled to 49 ft with gravel
27L1	D. L. Wellhamer	----do----------	4-17-59	855	Dr	80	6	37	Oh	76	4	Ss	P	C	41	10	D	L; Dd 1 ft bailing at 10 gpm
29C1	R. Randall	W. Stull	7-24-57	740	Dr	43	6	43	Oo	24	15	S,G	Pl	U	28	-----	D	L, A
29C2	Mr. Abbott	B. Ringo	7-51	740	Dr	51	6	43	Oh	43	8	Sd-sh	P	C	10	3	D	L
29M1	C. MacAdo	----do----------	8-51	880	Dr	143	-----	-----	-----	-----	-----	-----	-----	--	---	.2	Do	L
30K1	C. Monson	A. Smith	-------	830	Dr	51	6	28	Oh	-----	-----	Ss	P	--	---	-----	D	
11/5W- 2E1	Gulf Refining Co.	----------	1930	730	Dr	245	6	61	Oh	57	53	Ss	P	--	---	-----	I	L, A
										240	5	Ss	P					

Table 3.--Records of wells, Owen 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)	Finish	Water-bearing zone					Water level (feet)	Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence				
11/5W- 2N1	M. W. Simmons	W. Stuff	1957	725	Dr	44	6	20	Oh	-----	-----	Ss	P	C	10	-----	D	A; Schedule from owner
11C1	H. Frank	L. Johnson	8-20-48	715	Dr	22	-----	12	Oh	12	10	Ss	P	C	4	-----	D	
13C1	E. Whitley	C. Ringo	8-18-10	650	Dr	85	-----	-----	-----	-----	-----	Ss	P	--	---	-----	D	La
13F1	Mr. Manson	----do----------	8-13-10	660	Dr	61	6	21	Oh	-----	-----	Ss	P	--	25	20	D,S	L, A
14N1	C. Delp	L. Sparks	9-51	665	Dr	205	6	12	Oh	169	36	Ls	M	C	20	.2	D	La, A
25E1	T. Dordon	A. Fiscus	--------	640	Dr	115	6	80	Oh	-----	-----	-----	-----	--	28	5	D	Lm
26A1	H. Hall	----do----------	--------	700	Dr	125	6	8	Oh	-----	-----	-----	P	C	F	1	D	La, A
36E1	E. White	L. Adkins	8-20-45	670	Dr	160	6	50	Oh	145	15	Sd-sh	P	--	---	3	D	L, A
36L1	J. A. Hall	Mr. McKinney	5-11-55	675	Dr	95	4	28	Oh	-----	-----	-----	P	--	38	2.5	D	L
12/2W-28M1	A. Cooper	Minton Well Drilling Service	9-28-60	805	Dr	56	8	49	Oh	54	2	Ls	M	C	11	10	D	L
28Q1	F. Ellis	J. B. Whitaker & Sons	6-26-57	815	Dr	61	6	41	Oh	55	6	Ls	M	C	9	30	D	La, A
28Q2	----do----------	----do----------	12-57	805	Dr	49	6	49	Oo	49	-----	G	Pl	C	7	30	D	L, A
30J1	B. Smith	A. Smith	1943	785	Dr	76	6	15	Oh	-----	-----	Ls	M	--	---	-----	D,S	A
30N1	R. Quinott	J. B. Whitaker & Sons	2-10-60	760	Dr	52	6	52	P	38	2	G,S	Pl	--	---	8	D	L
										40	12	S,Cl	Pl					
30R1	B. Smith	L. Smith	10-41	785	Dr	39	-----	25	Oh	-----	-----	Ls	M	--	---	-----	D	A
31H1	L. Wampler	L. Johnson	8-47	815	Dr	40	-----	15	Oh	-----	-----	Ls	M	--	20	-----	D	A
33K1	M. Stevens	J. B. Whitaker & Sons	3- 9-58	800	Dr	160	6	14	Oh	62	6	Sh	M	C	27	.1	D	L, A
33R1	A. C. Mullens	----do----------	4- 3-60	795	Dr	58	6	4	Oh	48	10	Sh	M	C	9	36	P	La
12/3W-25B1	E. Arnold	L. Smith	1945	755	Dr	72	6	72	Oh	-----	-----	G	Pl	C	12	-----	D,S	A
26B1	R. Allee	J. B. Whitaker & Sons	--------	755	Dr	77	6	65	Oh	64	13	Ls	M	C	F	8	D	La, A; Water from solution opening at 76 ft; Water level 1 ft above land surface
26B2	Mr. McCammack	----do----------	5 -7-57	760	Dr	42	6	42	Oo	42	-----	G	Pl	C	5	35	D	La
26B3	G. Job	L. Smith	1945	755	Dr	43	-----	43	Oo	-----	-----	G	Pl	C	---	-----	D	A
26C1	V. Church	L. Johnson	8-47	740	Dr	112	-----	112	Oo	-----	-----	S	Pl	--	---	-----	D	Lm, A
26J1	Staley Bros.	R. Runrk	3-24-52	785	Dr	108	-----	-----	Oh	-----	-----	Ls	M	C	15	1.5	D,S	L (partial), A
27B1	W. R. Dunn	Runrk & Toney	1948	760	Dr	119	6	88	Oh	88	31	Sh	M	--	---	-----	D,S	A
27N1	C. and R. Jordan	----------	8-30-60	760	Dr	2,011	-----	-----	-----	-----	-----	-----	-----	--	---	-----	Og	C. Jordan 1; L (partial)
27P1	C. Jordan	L. Johnson	3-20-48	765	Dr	22	-----	22	Oo	-----	-----	G	Pl	--	---	-----	D	A
29B1	B. Gross	L. Smith	--------	795	Dr	86	-----	80	Oo	-----	-----	G	Pl	--	---	-----	D,S	A
29G1	J. Orr	J. B. Whitaker & Sons	9-54	800	Dr	222	6	222	Oo	222	-----	G	Pl	C	62	35	D	L, A
29G2	B. Sipple	L. Smith	--------	800	Dr	96	-----	96	Oo	-----	-----	G	Pl	--	---	-----	D,S	A
29J1	D. McCollough	Minton Well Drilling Service	9-26-60	795	Dr	90	6	14	Oh	85	.5	Ls	M	C	8	5	D,P	L, A
33W1	Mr. Davis	D. Chavis	--------	750	Dr	110	6	100	Oh	100	10	Ls	M	--	---	-----	D	Lm, A
33N1	W. Neese	L. Johnson	5-47	770	Dr	21	-----	17	Oh	17	4	Ls	M	C	0	-----	S	A
34B1	Mr. Batwell	J. B. Whitaker & Sons	7-10-57	760	Dr	58	6	24	Oh	54	4	Ls	M	C	30	1	D	La, A
34J1	J. Cassell	L. Johnson	--------	755	Dr	35	-----	-----	Oh	-----	-----	Ls	M	C	12	-----	D	A
36E1	E. Job	Minton Well Drilling Service	8- 4-60	845	Dr	102	6	22	Oh	35	2	Ls	M	C	12	1.5	S	L
12/4W-21K1	Eagle Mill Yacht Club	Ringo & Son	9-55	790	Dr	545	6	173	Oh	271	4	Ls	M	C	158	2	P	L, A
21L1	G. May	W. Stull	--------	800	Dr	225	6	160	Oh	194	31	Ls	M	C	165	.7	D	L
22E1	Clearview Club	Toney & Sons	1957	730	Dr	428	8	-----	Oh	-----	-----	Ls	M	--	70	15	N	
22F1	C. Neal	W. Stull	7-20-57	730	Dr	250	6	11	Oh	233	17	Ls	M	C	170	1	D	L
22F2	E. Knoll	L. Smith	1942	735	Dr	132	-----	17	Oh	-----	-----	Ls	M	--	---	-----	D,S	
22F3	M. Rouse	W. Stull	--------	730	Dr	250	6	15	Oh	180	70	Ls	M	C	150	-----	N	Lm
24H1	H. Wilson	Runrk & Toney	1948	800	Dr	163	6	79	Oh	-----	-----	Ls	M	C	30	-----	D,S	La
24J1	J. B. Quinn	A. Smith	--------	805	Dr	108	-----	108	Oo	-----	-----	G	Pl	--	---	-----	D,S	A
24Q1	W. Rogers	----------	--------	800	Dr	185	6	185	Oo	-----	-----	S	Pl	--	---	-----	D	A; Schedule from owner
25D1	C. Goodin	Runrk & Toney	1947	790	Dr	155	6	153	Oh	153	2	Ls	M	--	---	-----	D,S	La
26A1	O. C. Talbott	Shoptaw & Millis	--------	790	Dr	235	-----	235	Oo	234	1	Ls(?)	M(?)	--	---	-----	D,S	A
28B1	R. Zander	Toney & Sons	5- 2-60	765	Dr	87	6	31	Oh	-----	-----	-----	-----	--	---	-----	N	L; "Dry hole"
28G1	R. Norton	J. B. Whitaker & Sons	5-11-57	760	Dr	98	6	16	Oh	90	8	Ls	M	C	40	2	D	La
28G2	Mr. Perkins	R. Reeves	--------	780	Dr	130	6	30	Oh	-----	-----	Ls	M	--	---	.3	D	La
28H1	H. Tuttle	Toney & Sons	1954	780	Dr	160	8	20	Oh	-----	-----	-----	-----	--	47	.1	D	
28M1	R. Meyers	Campbell Bros.	--------	750	Dr	130	-----	-----	Oh	-----	-----	-----	M(?)	--	---	-----	D	L
28Q1	F. Kouthan	Ringo & Son	12-52	710	Dr	82	10	65	P,Oh	39	-----	S,G	Pl	C	31	8	D	L, A
29C1	M. Smith	----do----------	5-10-60	720	Dr	129	6	45	Oh	120	2	Ls	M	--	---	20	D	L, A; Dd 8 ft after 1 hr bailing at 20 gpm

12/4W-29F1	R. Johnson	W. Stull	-------	740	Dr	90	6	30	Oh	-----	-----	Ls	M	--	---	-----	D	Lm (partial)
29F2	Mr. Penn	----do----------	-------	770	Dr	50	6	30	Oh	40	10	Sh	P	--	---	-----	D	Lm
29F3	G. T. Williams	----do----------	8-13-57	760	Dr	89	6	43	Oh	70	5	Cl	P	C	30	.9	D	L
29F4	H. Cristy	----do----------	-------	750	Dr	50	6	35	Oh	40	10	Sh	P	--	---	-----	D	Lm
29F5	R. E. Cochran	Ringo & Son	11-11-59	780	Dr	137	6	66	Oh	-----	-----	-----	M	--	114	7	D	L, Dd 15 ft after 2 hr bailing at 7 gpm
29H1	Jackson Township School	----------	-------	805	Dr	114	6	35	Oh	-----	-----	Ls	M	C	74	-----	O	Observation well Owen 4, W
30B1	D. H. Brosson	----------	-------	780	Du	19	26	26	-----	-----	-----	Sd-cl	Pl	C	3	-----	O	Observation well Owen 5, W
33B1	F. Konthan	Ringo & Son	2-49	750	Dr	99	6	99	P	82	1	G	Pl	--	---	2	D	L, A
33H1	C. Winders	A. Piscus	-------	740	Dr	125	6	103	Oh	103	22	Ls	M	C	80	-----	D	Lm, A
33H2	R. Brann, H. Lucas, R. Mayrose and Mrs. Weaver	----do----------	-------	740	Dr	98	6	98	Oo	-----	-----	S	Pl	--	58	-----	P	Lm, A
33J1	G. H. Bandy	E. Simpson	8- 8-60	830	Dr	74	4	32	Oh	-----	-----	Ss	P	--	58	4.5	D	Ln, A
33R1	S. Lambert	----------	-------	800	Dr	130	6	-----	Oh	-----	-----	Ls	M	C	110	-----	O	Observation well Owen 3, W
34D1	J. B. Hinton	J. B. Whitaker & Sons	7-16-49	760	Dr	118	6	82	Oh	112	7	Ls	M	C	60	2	D	Ln, A
35B1	A. Stuckey	----------	-------	680	Dr	96	6	-----	Oh	-----	-----	Ls	M	C	23	-----	O	Observation well Owen 2, W
35J1	J. Hendricks	L. Johnson	11- 9-48	745	Dr	115	-----	-----	Oh	-----	-----	Ls	M	--	---	-----	D	
35R1	H. E. Menard	L. Sparks	7-18-60	785	Dr	125	6	108	Oh	120	5	Ls	M	C	80	10	D	L, A; Dd 25 ft after 1 hr pumping at 10 gpm
36B1	R. Powers	D. Chavis	1955	780	Dr	258	6	-----	Oh	-----	-----	Ls	M	C	40	6	D	
12/5W-23G1	A. McKinny	C. Ringo	1811	760	Dr	105	-----	24	Oh	90	15	Ss	P	--	---	1.5	Do	L
23Q1	G. Kunkel	Ringo & Son	12-49	765	Dr	93	6	16	Oh	85	8	Ss	P	C	80	1	S	L, A
24C1	G. Winkler	----do----------	8-47	770	Dr	150	6	148	Oh	148	2	Ls	M	C	94	5	D,S	L, A
24F1	----do----------	C. Ringo	-------	750	Dr	155	6	-----	-----	-----	-----	-----	----	--	---	-----	Do	L; "Dry hole"
24H1	M. Swango	W. Stull	-------	785	Dr	200	6	-----	-----	-----	-----	-----	----	--	---	-----	Do	Lm
24H2	----do----------	----do----------	-------	785	Dr	200	6	200	P	130	1	G	Pl	C	110	-----	D	Lm
24K1	E. Laudig	----------	-------	710	Du	20	-----	20	-----	-----	-----	Sd-cl	Pl	C	6	-----	O	Observation well Owen 6, W
25J1	H. Ruebeck	W. Stull	-------	700	Dr	90	6	90	Oo	-----	-----	S,G	Pl	--	---	-----	D,S	Ln, A
25K1	R. Powell	----do----------	1958	710	Dr	128	6	105	Oh	105	21	Ss	P	--	---	-----	D	Ln, A
25L1	C. Hughes	----do----------	-------	785	Dr	210	6	-----	Oh	-----	-----	Sh	P(?)	--	---	2	D,S	Lm

Table 4.--Selected well logs, Owen County, Indiana
Remarks: T.D., total depth in feet, complete log or sample log not given; W.B., water bearing

Well 9/3W-2E2

Type of record: Log from owner (memory). Altitude: About 800 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, red to gray	130	130	Logs at 108 to 124 ft
Mississippian system:			
Meramec series:			
Rock	---	130	

Well 9/3W-3Q1

Type of record: Driller's log. Altitude: About 770 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, white to yellow	18	18	
Gravel and sand, water worn	6	24	W.B.
Quicksand	27	51	
Mississippian system:			
Meramec series:			
Limestone	92	143	

Well 9/3W-11M1

Type of record: Driller's log. Altitude: About 754 feet.

Undifferentiated:			
Mud and limestone	30	30	
Mississippian system:			
Meramec series:			
Limestone	55	85	
Limestone, soft	2	87	W.B.
Limestone	63	150	
Slate	5	155	
Limestone	20	175	
Clay	5	180	
Sandstone	25	205	
Limestone	105	310	W.B. at 215 ft; T.D. 1,288 ft

Well 9/3W-12C1

Type of record: Driller's log. Altitude: About 850 feet.

Undifferentiated:			
Clay	9	9	
Mississippian system:			
Chester series:			
Stone, hard, brown	7	16	
Muck, blue	20	36	
Limestone, hard, blue	18	54	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/3W-12C1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Chester series:			
Shale, blue	3	57	W.B.
Meramec series:			
Limestone, white	23	80	

Well 9/3W-19E1

Type of record: Driller's log. Altitude: About 755 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dirt	12	12	
Mississippian system:			
Chester series:			
Sandstone	4	16	
Cave	6	22	
Sandstone	4	26	
Cave	4	39	"Cinders in cave".
Sandstone	34	64	

Well 9/3W-23F1

Type of record: Driller's log. Altitude: About 690 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, red, and clay	35	35	
Clay, blue	53	88	
Mississippian system:			
Meramec series:			
Limestone	1	89	

Well 9/4W-6R1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	5	5	
Quicksand	45	50	
Sand and some gravel	24	74	W.B.

Well 9/4W-10N1

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

Quaternary system			
Recent and Pleistocene series:			
Surface	10	10	
Clay, blue	34	44	
Mississippian system:			
Chester series:			
Sandstone, white	26	70	W.B.

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/4W-10R1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dirt and sand	90	90	
Mississippian system:			
Chester series:			
Sandstone	1	91	
Shale	27	118	

Well 9/4W-17J1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	16	16	
Mississippian system:			
Chester series:			
Sandstone	14	30	Mud seam at 19 ft
Limestone	11	41	
Shale, sandy	39	80	
Shale, soft, gray	10	90	

Well 9/4W-20A2

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	4	4	
Mississippian system:			
Chester series:			
Sandstone, yellow	16	20	
Sandstone, gray	15	35	
Sandstone, yellow	10	45	
Shale, sandy, gray	5	50	
Sandstone, yellow	10	60	W.B.

Well 9/4W-20H2

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	14	14	
Muck	4	18	
Sand and gravel	20	38	
Muck, sandy	7	45	
Mississippian system:			
Chester series:			
Shale, gray	19	64	
Sandstone	9	73	W.B.
Limestone	3	76	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/4W-21D2

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	8	8	
Mississippian system:			
Chester series:			
Sandstone, brown	14	22	
Shale, gray	8	30	
Sandstone, brown	15	45	
Sandstone and mud seams	15	60	W.B.
Limestone	7	67	
Sandstone	13	80	W.B.

Well 9/4W-23A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy	18	18	
Clay, blue	33	51	
Gravel and sand	3	54	W.B.
Clay, blue	8.5	62.5	

Well 9/4W-29H1

Type of record: Driller's log. Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	17	17	
Mississippian system:			
Chester series:			
Sandstone	2	19	
Shale, gray	25	44	
Sandstone	10	54	
Shale, gray	4	59	
Sandstone	10	69	
Shale, sandy, gray	19	88	
Limestone	7	95	
Mud, yellow	1	96	
Muck	8	104	
Sandstone	11	115	W.B.

Well 9/5W-7J1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	10	10	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-7J1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Shale, yellow	10	20	
Shale, gray	39	59	
Sandstone	11	70	
Shale, gray	48	118	
Sandstone	56	174	
Shale, sandy, light	6	180	
Sandstone	8	188	
Shale, sandy, gray	13	201	
Sandstone	1	202	
Shale, sandy, gray	3	205	

Well 9/5W-7L1

Type of record: Driller's log. Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	16	16	
Pennsylvanian system:			
Lower series:			
Shale, gray	4	20	
Shale, dark	86	106	W.B.
Shale, red	8	114	
Shale	22	136	
Sandstone	3	139	
Shale	33	172	
Limestone	3	175	
Shale	11	186	
Shale, red	3	189	
Shale, gray	18	207	

Well 9/5W-8D1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	8	8	
Sand	3	11	
Hardpan	14	25	
Softpan	11	36	
Pennsylvanian system:			
Lower series:			
Shale, brown	2	38	
Sandstone	13	51	
Shale, dark-gray	9	60	
Shale, sandy, gray	6.5	66.5	
Sandstone	4	70.5	
Shale, sandy, gray	1.5	72	
Sandstone	1	73	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-8D1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Coal	.7	73.7	
Clay	11.3	75	
Shale, sandy, gray	11	86	W.B.
Sandstone	3	89	
Shale, dark-gray	8	97	

Well 9/5W-13G1

Type of record: Driller's log. Altitude: About 561 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	17	17	
Gravel	6	23	W.B.
Mississippian system:			
Chester series:			
Shale	37	60	
Limestone and shale	10	70	W.B.
Shale	57	127	
Limestone and sandstone	10	137	
Shale, green	3	140	
Meramec ? series:			
Limestone	35	175	
Shale	10	185	
Limestone	115	300	
Limestone, broken	48	348	
Red rock	3	351	
Limestone, hard, brown	9	360	
Limestone, soft, brown	13	373	
Limestone, hard, brown	17	390	
Chert	10	400	
Limestone	69	469	

Well 9/5W-18J1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	7	7	
Pennsylvanian system:			
Lower series:			
Sandstone	2	9	
Shale, dark-gray	9	18	
Sandstone	23	41	W.B.
Shale, dark-gray	29	70	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-18M1

Type of record: Driller's log. Altitude: About 542 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	10	10	
Quicksand	70	80	
Pennsylvanian system:			
Lower series:			
Shale, muddy, blue	30	110	
Shale, sandy	5	115	
Shale, muddy, blue	5	120	
Mississippian system:			
Chester ? series:			
Limestone, hard, brown	34	154	
Shale, green	21	175	
Sandstone, gray	10	185	
Shale, blue	25	210	
Limestone, brown	5	215	
Red rock	1	216	
Shale, gray	4	220	
Shale, soft	10	230	
Meramec ? series:			
Limestone, hard, gray	30	260	
Limestone, sandy, hard	8	268	
Shale, soft	2	270	
Limestone, hard, gray	25	295	
Shale	3	298	
Limestone, hard, dark	5	303	
Limestone, hard, gray	7	310	T.D. 3,500 ft

Well 9/5W-19R1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	13	13	
Surface, sandy	9	22	
Pennsylvanian system:			
Lower series:			
Shale, sandy, gray	10	32	
Sandstone	6	38	
Shale, sandy, gray	13	51	W.B. 44 to 46 ft
Sandstone	4	55	
Shale, sandy, gray	13	68	W.B. 64 to 66 ft
Slate, black	24	92	
Shale, sandy, dark-gray	15	107	W.B. at 107 ft
Coal	.7	107.7	
Clay	3	110.7	
Shale, sandy, gray	7.3	118	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-21K1

Type of record: Driller's log. Altitude: About 635 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	2	2	
Hardpan	10	12	
Softpan	12	24	
Pennsylvanian system:			
Lower series:			
Shale, sandy, dark-gray	34	58	
Shale, dark-gray	14	72	
Sandstone	18	90	
Sandstone, soft	3	93	
Sandstone	31	124	W.B.
Sandstone, hard, gray	2	126	

Well 9/5W-22H1

Type of record: Driller's log. Altitude: About 632 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	15	15	
Pennsylvanian system:			
Lower ? series:			
Sandstone, hard	3	18	
Shale	3	21	
Sandstone, shaly	9	30	
Mississippian system:			
Chester ? series:			
Limestone, soft	5	35	
Sandstone, hard	8	43	
Shale	7	50	
Sandstone	10	60	
Shale	20	80	
Limestone, soft	5	85	
Shale and limestone	85	170	
Meramec ? series:			
Limestone	5	175	
Limestone, hard	15	190	
Sandstone	23	213	
Shale	7	220	
Limestone	26	246	T.D. 1,450 ft

Well 9/5W-23E1

Type of record: Driller's log. Altitude: About 647 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	16	16	
Hardpan	10	26	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-23E1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Sandstone	9	35	
Shale, blue	5	40	
Shale, sandy	5	45	
Shale, dark	43	88	
Coal	2	90	
Shale, dark	6	96	
Fire clay	4	100	
Shale, brown	20	120	
Mississippian system:			
Chester ? series:			
Sandstone	20	140	
Shale	5	145	
Sandstone	11	156	
Limestone, hard, sandy	2	158	
Shale, sandy	11	169	
Sandstone	13	182	
Shale, brown	14	196	
Meramec ? series:			
Limestone, hard	10	206	
Limestone, brown	4	210	
Shale, sandy	5	215	
Sandstone	11	226	
Slate	9	235	
Limestone, brown	6	241	
Shale, green	6	247	
Limestone, brown	19	266	
Limestone	24	290	
Limestone, soft	10	300	T.D. 594 ft

Well 9/5W-27B1

Type of record: Driller's log. Altitude: About 586 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, sandy	10	10	
Muck, blue	5	15	
Gravel, fine	5	20	
Pennsylvanian system:			
Lower ? series:			
Shale, gray	115	135	
Mississippian system:			
Chester ? series:			
Sandstone, gray	8	143	
Limestone	2	145	
Shale, gray	17	162	
Limestone, brown	3	165	
Limestone, hard, brown	6	171	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/5W-27B1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian systme:			
Meramec ? series:			
Shale, green----------	4	175	
Limestone----------	15	190	
Limestone, brown----------	100	290	T.D. 530 feet.

Well 9/5W-31P1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard----------	10	10	
Sand, soupy----------	7	17	
Pennsylvanian ? system:			
Lower ? series:			
Limestone----------	28	45	

Well 9/5W-32A1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil----------	6	6	
Sandstone----------	19	25	
Muck, blue----------	3	28	
Quicksand----------	1	29	
Pennsylvanian system:			
Lower series:			
Sandstone----------	5	34	
Coal, trace----------	--	34	
Fire clay----------	3	37	
Sandstone----------	1	38	
Shale, gray----------	7	45	
Sandstone----------	5	50	W.B.

Well 9/5W-33P1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface----------	17	17	
Sand, clayey----------	6	23	
Pennsylvanian system:			
Lower series:			
Shale, sandy, gray----------	85	108	
Sandstone, gray----------	3	111	
Sandstone, brown----------	11	122	
Sandstone, gray----------	6	128	W.B.

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/6W-11F1

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and pan	11	11	
Pennsylvanian system:			
Lower series:			
Sandstone	11	22	
Coal and jack	1	23	
Clay to gray, sandy shale	1	24	
Shale, sandy, dark-gray	23	47	
Coal	1	48	
Shale, sandy, gray	42	90	
Sandstone	15	105	
Shale, sandy, gray	35	140	
Sandstone	58	198	
Sandstone	1	199	W.B.
Shale, sandy, gray	2	201	
Shale, sandy, dark-gray	8	209	
Sandstone	5	214	

Well 9/6W-11L1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and pan	11.5	11.5	
Pennsylvanian system:			
Lower series:			
Sandstone	2.5	14	
Sandstone, soft, brown	3	17	
Coal and jack	.5	17.5	
Shale, sandy, blue to gray	22.5	40	
Coal	1	41	
Clay	.5	41.5	
Sandstone	2	43.5	
Shale, sandy, gray	19.5	63	
Sandstone	2	65	
Shale, sandy, gray	13	78	
Coal	1	79	
Shale, sandy, gray	9	88	
Sandstone	2	90	
Shale, sandy, gray	44	134	
Sandstone	61	195	W.B.

Well 9/6W-12E1

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

Open well	35	35	
Pennsylvanian system:			
Lower series:			
Shale, yellow	5	40	
Shale, gray	21	61	

Well 9/6W-12E1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series			
Coal	1	62	
Clay	1	63	
Shale, sandy, gray	42	105	
Shale, very dark-gray	35	140	
Shale, sandy, gray	25	165	
Sandstone	17	182	W. B.

Well 9/6W-13A1

Type of record: Driller's log. Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and pan	17	17	
Quicksand	11	28	
Hardpan	10	38	
Softpan	11	49	
Pennsylvanian system:			
Lower series:			
Shale, dark-gray	8	57	
Sandstone	23	80	W. B.
Shale, sandy, gray	4	84	
Sandstone	8	92	

Well 9/6W-13K1

Type of record: Driller's log. Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	26	26	
Pennsylvanian system:			
Lower series:			
Sandstone, cracked	4	30	W.B. at 30 ft.
Shale, gray	22	52	
Shale, sandy, dark	51	103	
Sandstone	1	104	
Shale, sandy	18	122	
Shale, gray	18	140	
Sandstone	7	147	
Shale, dark	40.5	187.5	
Coal	.5	188	
Mississippian system:			
Chester ? series:			
Limestone	13	201	
Shale, sandy	6	207	
Shale, gray	8	215	
Shale, red	1	216	
Sandstone, green	2	218	
Shale, gray	4	222	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 9/6W-13K1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Chester ? series:			
Sandstone and shale----------	9	231	
Shale, red----------	14	245	
Shale, gray----------	15	260	

Well 9/6W-13Q1

Type of record: Driller's log. Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil----------	14	14	
Pennsylvanian system:			
Lower series:			
Shale, sandy----------	6	20	
Shale, very-soft, gray----------	28	48	
Shale, gray----------	6	54	
Shale, sandy----------	36	90	
Sandstone, gray----------	40	130	
Sandstone, white----------	6	136	
Sandstone, gray----------	14	150	

Well 9/6W-14B1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface----------	9	9	
Pennsylvanian system:			
Lower series:			
Sandstone, brown----------	4	13	
Sandstone, hard, brown----------	8	21	
Sandstone, red----------	3	24	
Shale, sandy, gray----------	13	37	
Shale, sandy, dark-gray----------	13	50	

Well 9/6W-23P1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface----------	11	11	
Pennsylvanian			
Lower series:			
Sandstone----------	1	12	
Coal----------	1	13	
Shale, sandy, dark-gray----------	17	30	
Shale, dark-gray----------	2	32	
Shale, sandy, dark-gray----------	20	52	
Sandstone----------	4	56	

Well 9/6W-23P1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Coal	2	58	
Clay	3	61	
Shale, sandy, dark-gray	15.5	76.5	
Coal	1.5	78	
Clay	3	81	
Shale, sandy, gray	2	83	
Sandstone	4	87	
Shale, sandy, gray	3	90	
Shale, dark-gray	5	95	
Shale, gray	5	100	

Well 9/6W-26C1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	9	9	
Pennsylvanian system:			
Lower series:			
Sandstone	19	28	
Shale, soft, gray	13	41	
Shale, sandy	17	57	W.B.
Shale, gray	12	69	
Shale, sandy, gray	10	79	
Slate, black	2	81	
Coal	4	85	
Fire clay	6	91	
Shale, sandy, gray	5	96	
Shale, gray	22	118	
Shale, sandy, gray	2	120	

Well 10/3W-1P1

Type of record: Driller's log. Altitude: About 690 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	21	21	
Mississippian system:			
Meramec series:			
Limestone	100	121	
Limestone, oolitic	15	136	

Well 10/3W-10K2

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

Undifferentiated:			
Soil	1.5	1.5	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/3W-10K2--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec series:			
Limestone, shelly	24.5	26	
Limestone, blue	47	73	
Shale, blue	--	73	

Well 10/3W-20P5

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil and fill	3	3	
Clay, sandy	9	12	
Clay, blue	14	26	
Clay, sandy	2	28	
Sand, muddy	7	35	
Clay, sandy	13	48	
Clay, blue	13	61	
Sand and gravel	26	87	W.B.
Sand and gravel, hard-packed	8	95	W.B.
Mississippian system:			
Meramec series:			
Limestone	2	97	

Well 10/3W-21J1

Type of record: Driller's log. Altitude: About 548 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, silty, brown, with clay binder	3.5	3.5	
Clay, silty, brown, and very-fine sand	3.1	6.6	
Sand, fine, silty, brown, with clay binder	12.2	18.8	
Sand, fine to medium, silty, and trace of small gravel	4.5	23.3	
Sand, fine to coarse, brown, with small to medium gravel and trace of clay	49.7	73	

Well 10/3W-21K1

Type of record: Driller's log. Altitude: About 579 feet.

Quaternary system:			
Recent and Pleistocene series:			
Boulders and black, silty loam	2.7	2.7	
Clay, sandy, brown, and decomposed limestone fragments	6.8	9.5	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/3W-21K1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Limestone----------	1	10.5	
Clay, sandy, brown, and decomposed limestone fragments------	1.2	11.7	
Mississippian system:			
Meramec series:			
Limestone----------	5	16.7	

Well 10/3W-21K4

Type of record: Driller's log.		Altitude:	About 532 feet.
Water----------	5	5	
Quaternary system:			
Recent and Pleistocene series:			
Sand, coarse, brown----------	3	8	
Sand, fine to coarse, silty, and small gravel----------	9.5	17.5	
Sand, fine to coarse, silty, and small to large gravel------	33.5	51	

Well 10/3W-21M2

Type of record: Driller's log.		Altitude:	About 560 feet.
Quaternary system:			
Recent and Pleistocene series:			
Dirt----------	15	15	
Quicksand----------	85	100	
Hardpan----------	8	108	

Well 10/3W-24P1

Type of record: Driller's log.		Altitude:	About 845 feet.
Undifferentiated:			
Dirt, red----------	14	14	
Mississippian system:			
Meramec series:			
Limestone, light-gray----------	233	247	
Limestone, oolitic----------	20	267	W.B.
Limestone, dark-gray----------	3	270	

Well 10/3W-26C1

Type of record: Driller's log.		Altitude:	About 725 feet.
Quaternary system:			
Recent and Pleistocene series:			
Soil, sandy, clayey----------	40	40	
Sand and gravel----------	4	44	
Soil----------	3	47	
Mississippian system:			
Meramec series:			
Limestone----------	--	47	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/3W-26M1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil	20	20	
Sand	16	36	
Clay, blue	74	110	
Mississippian system:			
Meramec series:			
Limestone	21	131	

Well 10/3W-28M1

Type of record: Driller's log, (memory). Altitude: About 670 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	20	20	
Sand	95	115	
Mississippian system:			
Meramec series:			
Limestone	27	142	
Clay, bluish-white	--	142	W.B.

Well 10/3W-28P1

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

Quaternary system:			
Recent and Pleistocene series:			
Drift, sand, and gravel	42	42	
Mississippian system:			
Meramec series:			
Stone and flint, red and brown	7	49	
Mud	4	53	
Limestone, brown	20	73	
Sand, yellow	17	90	W.B.; Solution cavity (?)
Limestone, white	13	103	
Sand, red	4	107	W.B.; Solution cavity (?)
Limestone, green to blue	3	110	W.B.

Well 10/3W-29J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	40	40	
Sand	86	126	
Mississippian system:			
Meramec series:			
Limestone, sandy, sort of honeycombed	19	145	W.B.

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/3W-33H1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and sand and gravel------	58	58	
Mississippian system:			
Meramec series:			
Limestone----------	62	120	
Limestone----------	12	132	W.B.

Well 10/3W-34E1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, dirty, gray----------	45	45	
Quicksand, blue----------	45	90	Wood & hickory nut at 70 ft
Muck, blue, sometimes almost a shale----------	80	170	
Mississippian system:			
Meramec series:			
Limestone, soft, white----------	5	175	W.B.

Well 10/3W-34L1

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

Quaternary system:			
Recent and Pleistocene series:			
Dirt, gray, and sand----------	60	60	
Muck, blue----------	154	214	
Mississippian system:			
Meramec series:			
Limestone, medium-dark----------	13	227	W.B.

Well 10/3W-35K1

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

Quaternary system:			
Recent and Pleistocene series:			
Soil----------	1	1	
Sand, white, with few small pebbles----------	80	81	
Clay, blue----------	36	117	

Well 10/4W-1H1

Type of record: Driller's log (memory). Altitude: About 725 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay----------	15	15	
Quicksand----------	25	40	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/4W-1H1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec series:			
Limestone----------	48	88	

Well 10/4W-5E1

Type of record: Driller's log. Altitude: About 770 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface----------	10	10	
Pennsylvanian ? system:			
Lower series:			
Sandstone, yellow----------	10	20	
Mississippian system:			
Chester ? series:			
Mud streak, yellow----------	12	32	
Limestone, crooked----------	23	55	
Shale, blue----------	5	60	
Sandstone----------	37	97	W.B.
Shale----------	--	97	

Well 10/4W-5P1

Type of record: Driller's log. Altitude: About 785 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay----------	18	18	
Pennsylvanian ? system:			
Lower ? series:			
Shale and blue clay----------	12	30	
Sandstone----------	10	40	
Shale----------	10	50	W.B.
Sandstone----------	10	60	

Well 10/4W-14L1

Type of record: Driller's log (memory). Altitude: About 680 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan----------	40	40	
Mississippian system:			
Chester ? series:			
Sandstone----------	40	80	
Meramec series:			
Limestone----------	82	162	
Crevice----------	4	166	W.B.

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/4W-23C1

Type of record: Driller's log, (memory). Altitude: About 675 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface----------	16	16	
Mississippian system:			
Chester series:			
Sandstone----------	4	20	W.B.
Shale----------	28	48	

Well 10/4W-25C1

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

Quaternary system:			
Recent and Pleistocene series:			
Hardpan----------	7	7	
Sand----------	43	50	
Mississippian system:			
Chester series:			
Sandstone----------	15	65	

Well 10/4W-26D1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface----------	18	18	
Mississippian system:			
Chester series:			
Sandstone----------	67	85	
Meramec series:			
Limestone----------	64	149	Mud seam 90 to 147 ft; hole tapered, seam narrowed

Well 10/4W-26F1

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

Quaternary system:			
Recent and Pleistocene series:			
Dirt----------	31	31	
Mississippian system:			
Chester series:			
Sandstone----------	99	130	
Meramec series:			
Limestone----------	78	208	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/4W-26G1

Type of record: Driller's log (memory). Altitude: About 705 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	30	30	
Mississippian system:			
Chester series:			
Sandstone	70	100	
Meramec series:			
Limestone	85	185	Mud crevice 135 to 167 ft

Well 10/4W-26Q1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dirt and clay	12	12	
Mississippian system:			
Chester series:			
Sandstone, broken	30	42	
Sandstone	18	60	
Meramec series:			
Limestone	32	92	

Well 10/4W-32J1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Quicksand	80	80	
Mississippian system:			
Chester ? series:			
Shale	15	95	
Limestone, hard	3	98	W.B; Solution opening

Well 10/4W-35D1

Type of record: Driller's log (memory). Altitude: About 800 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	57	57	
Mississippian system:			
Chester series:			
Shale, blue and some sandstone	108	165	
Meramec series:			
Limestone	55	220	W.B. from blue shale or fire clay at 215 ft; Solution opening (?)

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/4W-35P1

Type of record: Driller's log (memory). Altitude: About 755 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	30	30	
Mississippian system:			
Chester series:			
Limestone and dark-brown shale	42	72	
Shale, soft, blue	8	80	

Well 10/5W-1M1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	5	5	
Pennsylvanian system:			
Lower series:			
Sandstone, soft, brown	10	15	
Slate, dark	6	21	
Shale, sandy, hard, light	10	31	
Sandstone	10	41	
Coal, trace	--	41	
Shale, sandy, dark	28	69	
Shale, sandy, gray	10	79	
Sandstone, white	16	95	W.B.
Shale, blue	10	105	
Slate, black	5	110	
Shale, gray	10	120	

Well 10/5W-14E1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	29	29	
Gravel	1	30	
Pennsylvanian system:			
Lower series:			
Slate, black	20	50	W.B.
Fire clay	5	55	

Well 10/5W-15B2

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

Record missing	42	42	
Pennsylvanian system:			
Lower series:			
Coal (?), trace	--	42	
Slate, blue	77	119	
Rock	41	160	W.B.; Sandstone(?)
Slate	3.5	163.5	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/5W-15D1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil	22	22	
Pennsylvanian system:			
Lower series:			
Sandstone	6	28	
Shale, sandy	30	58	
Coal	.5	58.5	
Shale, gray	11.5	70	
Shale, sandy	55	125	
Shale, gray	21	146	
Shale, sandy	27	173	
Coal	.5	173.5	
Fire clay	6.5	180	
Shale, gray	20	200	
Shale, red	5	205	
Shale, gray	--	205	

Well 10/5W-29Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil			
Pennsylvanian system:			
Lower series:			
Shale, sandy	11	25	
Shale, very-soft, gray	28	53	
Shale, gray	28	81	
Sandstone	9	90	W.B.
Shale, gray	--	90	

Well 10/6W-2K1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	17	17	
Pennsylvanian system:			
Lower series:			
Shale, light-gray	2	19	
Sandstone	8	27	
Shale, gray	3	30	
Shale, sandy	44	74	
Shale, gray	5	79	
Sandstone	21	100	W.B.

Well 10/6W-13F1

Type of record: Driller's log. Altitude: About 585 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	20	20	
Pennsylvanian system:			
Lower series:			
Shale, gray	13.5	33.5	
Coal	3	36.5	
Fire clay	3.5	40	
Shale, dark	25	65	
Slate, black	4	69	
Coal	.5	69.5	
Fire clay	3	72.5	
Shale, dark	17.5	90	
Sandstone	35	125	
Shale, sandy, dark	5	130	
Sandstone	5	135	
Shale, sandy, dark	15	150	
Coal	1.5	151.5	
Fire clay	2.5	154	
Sandstone	11	165	
Shale, gray	57	222	
Slate, black	3	225	W.B.
Shale, sandy, gray	10	235	
Sandstone	5	240	W.B.

Well 10/6W-13L1

Type of record: Driller's log. Altitude: About 680 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	11	11	
Shale, sandy, gravelly	10	21	Clay (?)
Pennsylvanian system:			
Lower series:			
Sandstone	4	25	
Shale, sandy, gray	15	40	
Shale, dark	18	58	
Rock, black	.5	58.5	
Shale	1	59.5	
Coal, dirty	3.5	63	
Fire clay	5	68	
Shale, dark	7	75	
Sandstone, hard	2.5	77.5	
Sandstone, white	4.5	82	
Shale, dark	1.5	83.5	
Sandstone, white	10.5	94	
Shale, dark	5	99	
Sandstone, white	10	109	
Shale, sandy, dark	16	125	
Sandstone, white	6	131	
Shale, sandy, dark	14	145	

Well 10/6W-13L1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Shale, dark	23	168	
Shale, sandy, gray	5	173	
Sandstone, white	8	181	
Shale, sandy, white	10	191	
Sand bottoms	4	195	Sandy fire clay (?)
Shale	15	210	
Sandstone, white	5	215	W.B.
Shale, white	9	224	
Sandstone	52	276	W.B.

Well 10/6W-23R1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	20	20	
Pennsylvanian system:			
Lower series:			
Shale	79	99	
Sandstone	5	104	
Shale, dark	7	111	
Coal	1.5	112.5	
Sandstone	12.5	125	W.B.
Shale, gray	2	127	
Coal	1	128	
Sandstone	7	135	
Limestone	5	140	

Well 10/6W-24Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	10	10	
Pennsylvanian system:			
Lower series:			
Sandstone	6	16	
Shale, gray	4	20	
Shale, sandy	7	27	
Sandstone	7	34	
Shale, brown	3	37	
Shale, sandy	11	48	
Shale, gray	7	55	
Sandstone	3	58	
Shale, gray	49	107	
Sandstone	35	142	

Well 10/6W-24Q1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian ? system:			
Chester ? series:			
Limestone	23	165	
Sandstone	3	168	
Shale, gray	6	174	
Sandstone	24	198	
Shale, gray	27	225	
Shale, sandy	6	231	
Sandstone	8	239	
Limestone	16	255	
Sandstone	3	258	
Shale, gray	23	281	

Well 10/6W-25B1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	13	13	
Muck	4	17	
Pennsylvanian system:			
Lower series:			
Shale, gray	5	22	
Coal	1	23	
Shale, black	9	32	
Shale, sandy	11	43	
Coal	2	45	
Fire clay	1	46	
Shale, sandy	8	54	
Shale, gray	86	140	Seeps only below 75 ft
Mississippian system:			
Chester ? series:			
Limestone	7	147	
Shale, gray	98	245	
Limestone	--	245	

Well 10/6W-25L1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	10	10	
Pennsylvanian system:			
Lower series:			
Sandstone	6	16	
Shale	9	25	
Shale, sandy	7	32	
Sandstone	3	35	
Shale, sandy	20	55	

Well 10/6W-25L1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Coal, trace	--	55	
Shale, sandy	38	93	
Mississippian system:			
Chester ? series:			
Limestone	34	127	W.B. at 127 ft
Slate, black	4	131	
Shale, gray	6	137	
Shale, red	8	145	
Shale, gray	30	175	
Shale, sandy	11	186	
Limestone	--	186	

Well 10/6W-26A1

Type of record: Driller's log. Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	23	23	
Pennsylvanian system:			
Lower series:			
Shale, gray	5	28	
Sandstone	11	39	
Shale, gray	9	48	
Shale, sandy, gray	11	59	
Shale, gray	28	87	
Shale, sandy, gray	12	99	
Shale, dark-gray	9	108	
Shale, sandy, gray	8	116	
Shale, dark-gray	4	120	
Coal	2	122	
Shale, dark-gray	4	126	
Shale, sandy, gray	11	137	
Mississippian system:			
Chester ? series:			
Limestone	3	140	

Well 10/6W-26B1

Type of record: Driller's log. Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	10	10	
Pennsylvanian system:			
Lower series:			
Sandstone, brown	6	16	
Quicksand	2	18	
Sandstone	14	32	
Shale, gray	13	45	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/6W-26B1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system			
Lower series			
Shale, sandy	6	51	
Shale, gray	19	70	
Shale, sandy, gray	4	74	
Shale, gray	42	116	
Coal	2	118	
Shale, gray	6	124	
Shale, sandy, gray	7	131	
Mississippian system			
Chester ? series			
Limestone	17	148	
Shale, gray	15	163	
Shale, sandy, gray	7	170	
Sandstone, white	19	189	
Shale, gray	1	190	

Well 10/6W-35C1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and shale	16	16	Clay (?)
Sandstone, gravelly	3	19	Cemented gravel (?)
Sand, gray	14	33	
Rock, yellow	3	38	Cemented sand (?)
Sand, gray	7	45	
Gravel	4	49	W.B.
Pennsylvanian system:			
Lower series:			
Shale, sandy, yellow	6	55	
Shale, soft, blue	45	100	
Record missing	3	103	
Fire clay	2	105	
Sandstone, white	5	110	
Shale, sandy, gray	3	113	
Coal	.5	113.5	
Sand bottom	1.5	115	Sandy fire clay (?)
Sandstone, white	8	123	
Shale, gray	23	146	
Coal	.5	146.5	
Sandstone, white	8.5	155	
Shale, dark	6	161	
Sandstone, gray	7	168	
Shale, gray	10	178	
Slate, black	2	180	
Sandstone, hard	28	208	
Shale	2	210	
Coal fault	3	213	
Fire clay	4	217	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 10/6W-35C1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Chester ? series:			
Shale, gray	3	220	
Shale, red	6	226	
Sandstone, hard	5	231	
Shale, white	38	269	

Well 10/6W-36D1

Type of record: Driller's log. Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	17	17	
Mud, gray	17	34	
Pennsylvanian system:			
Lower series:			
Shale, gray	6	40	
Slate, black	3	43	
Coal	2	45	
Fire clay	1	46	
Shale, gray	14	60	W.B.

Well 11/2W-5B1

Type of record: Driller's log. Altitude: About 790 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay	19	19	
Mississippian system:			
Meramec series:			
Limestone	68	87	
Osage series:			
Shale, blue	43	130	

Well 11/2W-7J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	20	20	
Mississippian system:			
Osage series:			
Limestone	20	40	
Shale, blue	35	75	W.B.

Well 11/2W-16Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	18	18	

Well 11/2W-16Q1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel	2	20	
Mud, blue	40	60	
Limestone, hard	4	64	Boulder (?)
Quicksand	5	69	

Well 11/2W-32L1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	1	1	
Clay, yellow	19	20	
Sand and small gravel	14	34	W.B. 20 to 78 ft
Gravel, coarse	2	36	
Sand, coarse	3	39	
Gravel, small, with very little sand	19	58	
Sand, fine, very little gravel	6	64	
Sand and gravel, very good	10	74	
Sand and gravel	3	77	
Gravel with broken sandstone	1	78	
Mississippian ? system:			
Osage ? series:			
Red rock	--	78	

Well 11/3W-22M1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	20	20	
Mississippian system:			
Meramec series:			
Limestone	5	25	W.B.
Limestone, hard, blue	45	70	

Well 11/3W-25L1

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

Quaternary system:			
Recent and Pleistocene series:			
Earth	14	14	
Mississippian system:			
Meramec series:			
Limestone, hard	28	42	
Shale, hard	6	48	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/3W-25L1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec series:			
Limestone, hard----------	9	57	
Shale----------	73	130	W.B. at 64 & 120 ft

Well 11/3W-26N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy----------	34	34	
Sand, fine, muddy, red----------	18	52	W.B.
Clay, sandy, gray----------	13	65	
Mississippian system:			
Meramec series:			
Limestone, irregular, with mud streaks----------	10	75	
Limestone----------	83	158	W.B. 95 to 100 ft
Limestone----------	19	177	

Well 11/3W-26N2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy----------	34	34	
Sand, fine, muddy, red----------	18	52	W.B.
Clay, sandy, gray----------	16	68	
Mississippian system:			
Meramec series:			
Limestone----------	84	152	
Osage series:			
Shale, hard, dark-blue----------	30	182	

Well 11/3W-27P1

Type of record: Log from owner (memory). Altitude: About 735 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift----------	50	50	
Mississippian system:			
Meramec series:			
Limestone----------	50	100	
Sand and gravel, black----------	12	112	W.B.; Solution opening (?)

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/3W-27Q1

Type of record: Log from owner (memory). Altitude: About 735 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	12	12	
Quicksand	88	100	
Mississippian system:			
Meramec series:			
Limestone	12	112	

Well 11/3W-27Q2

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

Quaternary system:			
Recent and Pleistocene series:			
Muck, sandy	30	30	
Sand	70	100	
Gravel	4	104	
Sand	7	111	
Mississippian system:			
Meramec series:			
Limestone	50	161	

Well 11/3W-27Q3

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	32	32	
Quicksand	68	100	
Gravel	6	106	

Well 11/3W-27R1

Type of record: Log from owner (memory). Altitude: About 735 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	30	30	
Quicksand	4	34	
Mississippian system:			
Meramec series:			
Limestone	116	150	

Well 11/3W-27R2

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

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay	44	44	

Well 11/3W-27R2--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec series:			
Limestone	32	76	
Limestone, shaly	19	95	W.B. at 86 ft

Well 11/3W-30Q1

Type of record: Driller's log. Altitude: About 765 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	14	14	
Mississippian system:			
Chester series:			
Sandstone	3	17	
Shale	15	32	
Meramec series:			
Limestone, hard	70	102	
Stone, blue	11	113	Siltstone (?)
Limestone, hard	12	125	
Limestone, soft, white	21	146	
Limestone, hard	30	176	
Limestone, soft, white	4	180	W.B.
Soapstone and sulfur	1	181	
Limestone, soft, white	19	200	
Limestone, soft	1	201	
Osage ? series:			
Shale, blue	3	204	
Layers, varied	16	220	
Limestone, hard, 2 ft alternating with 2 ft shales	20	240	W.B.

Well 11/3W-31C1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil, clayey	19	19	
Mississippian system:			
Meramec series:			
Limestone, extra hard, white	55	74	
Limestone, gray	37	111	
Limestone, brown	19	130	
Limestone, gray	11	141	
Limestone, hard, white	9	150	

Well 11/3W-32A2

Type of record: Driller's log. Altitude: About 770 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil	7	7	

Well 11/3W-32A2--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel	7	14	
Sand	11	25	
Shale, yellow	4	29	Clay (?)
Shale, blue	8	37	Do
Limestone and gravel	4	41	Limestone fragments (?)
Gravel	2	43	
Sand	8	51	
Mississippian system:			
Meramec series:			
Limestone, oolitic	22	73	
Limestone and thin layers of shale	39	112	
Osage ? series:			
Limestone	36	148	
Shale	49	197	
Siltstone	39	236	

Well 11/3W-34K1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	30	30	
Sand, yellow	20	50	
Mississippian system			
Meramec series:			
Limestone	21	71	W.B.

Well 11/4W-2H1

Type of record: Driller's log (memory). Altitude: About 810 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan	20	20	
Sand	80	100	
Muck, blue	20	120	
Mississippian system:			
Chester series:			
Sandstone	10	130	
Meramec ? series:			
Limestone	--	130	W.B.

Well 11/4W-3C1

Type of record: Driller's log (memory). Altitude: About 830 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan, blue muck, and sand	72	72	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/4W-3C1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Mud seam	--	72	
Hardpan and blue muck	33	105	Red water at 85 ft
Mississippian system:			
Meramec series:			
Limestone	95	200	Stink water at 195 ft

Well 11/4W-12E1

Type of record: Driller's log. Altitude: About 925 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	8	8	
Pennsylvanian system:			
Lower series:			
Sandstone	12	22	
Shale, sandy, blue	13	35	
Coal	1	36	
Shale, light	8	44	
Slate, blue	1	45	
Coal, trace	--	45	
Slate, blue	6	51	
Coal	1	52	
Shale, blue	3	55	
Sandstone, brown	5	60	
Shale, sandy, blue	8	68	
Shale, dark-blue	10	78	
Shale, light-blue	7	85	
Shale, blue	30	115	
Coal	1	116	
Shale, blue	9	125	
Sandstone	8	133	W.B.
Mississippian system:			
Chester ? series:			
Shale, light	32	165	
Shale, brown	8	173	
Limestone, white	3	176	
Shale, limy	4	180	
Limestone, sandy	6	186	
Meramec ? series:			
Shale, limy	6	192	
Limestone, white	9	201	
Shale, limy	3	204	
Shale, limy, sandy	13	217	
Shale, cavy, green	5	222	
Limestone	10	232	
Shale, limy	2	234	
Limestone	66	300	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/4W-24J1

Type of record: Driller's log (memory). Altitude: About 845 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	17	17	
Pennsylvanian system:			
Lower ? series:			
Sandstone	63	80	W.B.
Mississippian system:			
Chester ? series:			
Limestone, hard, gray	6	86	
Slate	14	100	
Meramec ? series:			
Limestone, hard	92	192	
Limestone, soft	34	226	W.B.

Well 11/4W-26Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	30	30	
Clay and gravel	15	45	
Gravel, muddy, blue	19	64	
Gravel and sand	3	67	W.B.
Coal	--	67	Float (?)

Well 11/4W-27L1

Type of record: Driller's log. Altitude: About 855 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	23	23	
Pennsylvanian system:			
Lower series:			
Sandstone	4	27	
Fire clay	7	34	
Sandstone	9	43	
Coal	2	45	
Shale, black	31	76	
Sandstone	4	80	W.B.

Well 11/4W-29C1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	20	20	
Sand	20	40	
Gravel	3	43	W.B.

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/4W-29C2

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	15	15	
Pennsylvanian system:			
Lower series:			
Slate, blue	26	41	
Slate, sandy, blue	2	43	
Shale, sandy, light	8	51	

Well 11/4W-29M1

Type of record: Driller's log. Altitude: About 860 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	7	7	
Pennsylvanian system:			
Lower series:			
Sandstone, yellow	16	23	
Shale, light-blue	8	31	
Shale, sandy, blue	3	34	
Sandstone, yellow	19	53	
Sandstone, blue	10	63	
Coal, trace	--	63	
Clay, hard	4	67	
Sandstone, light-blue	11	78	
Coal, trace	--	78	
Slate, blue	3	81	
Shale, sandy, blue	22	103	
Shale, dark-blue	9	112	
Shale, light	11	123	
Shale, sandy, blue	4	127	
Sandstone, pasty	12	139	
Mississippian system:			
Chester ? series:			
Shale, limy	2	141	
Limestone	2	143	

Well 11/5W-2E1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	1	1	
Clay, yellow	26	27	
Pennsylvanian system:			
Lower series:			
Sandstone	3	30	
Shale, blue	27	57	W.B. at 33 ft

Well 11/5W-2E1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Sandstone	53	110	W.B.
Shale, gray	25	135	
Shale, black	35	170	
Shale, blue	70	240	
Sandstone, white	5	245	W.B.

Well 11/5W-13F1

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

Quaternary system:			
Recent and Pleistocene series:			
Soil	3	3	
Sand, red	18	21	
Pennsylvanian system:			
Lower series:			
Sandstone	60	81	

Well 11/5W-14N1

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

Quaternary system:			
Recent and Pleistocene series:			
Drift	12	12	
Pennsylvanian system:			
Lower series:			
Shale	98	110	
Sandstone	30	140	
Slate and coal	3	143	
Shale and clay	14	157	
Shale	12	169	
Mississippian system:			
Chester ? series:			
Limestone	36	205	W.B.

Well 11/5W-26A1

Type of record: Driller's log, (memory). Altitude: About 700 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface	4	4	
Pennsylvanian system:			
Lower series:			
Sandstone	41	45	
Shale, blue	80	125	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 11/5W-36E1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	10	10	
Pennsylvanian ? system:			
Lower ? series:			
Sandstone, red	7	17	
Shale, blue	63	80	
Sandstone	10	90	
Shale, black	25	115	
Shale, sandy, gray	30	145	
Shale, sandy	15	160	W.B.

Well 11/5W-36L1

Type of record: Driller's log. Altitude: About 675 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	5	5	
Hardpan, clayey, yellow	5	10	
Sand and clay, soft	10	20	
Pennsylvanian ? system:			
Lower ? series:			
Shale with limestone bands	8	28	W.B.
Sandstone, brown	39	67	
Shale, blue	30	97	
Limestone	--	97	

Well 12/2W-28M1

Type of record: Driller's log. Altitude: About 805 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan, black	6	6	
Clay, sandy, black	22	28	
Hardpan, blue	4	32	
Sand and gravel, blue	5	37	
Hardpan, sandy, blue	10	47	
Hardpan, blue	.5	47.5	
Mississippian system:			
Meramec ? series:			
Limestone, hard, white	8.5	56	W.B.

Well 12/2W-28Q2

Type of record: Driller's log. Altitude: About 805 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and blue mud	45	45	
Hardpan, gray	4	49	
Gravel, blue	--	49	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 12/2W-30N1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay	38	38	
Gravel and sand	2	40	W.B.
Clay, blue and quicksand	12	52	

Well 12/2W-33H1

Type of record: Driller's log. Altitude: About 800 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	12	12	
Mississippian system:			
Meramec ? series:			
Limestone	50.5	62.5	
Osage series:			
Shale, blue	5.5	68	W.B.
Shale, blue	92	160	

Well 12/3W-26J1

Type of record: Driller's log. Altitude: About 785 feet.

Old well	56	56	
Mississippian system:			
Meramec series:			
Limestone, hard	29	85	
Limestone, soft, blue	2	87	
Limestone, hard	21	108	

Well 12/3W-27N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	12	12	
Mississippian system:			
Meramec ? series:			
Limestone	3	15	
Limestone, brown	29	44	
Limestone, gray	91	135	
Osage series:			
Shale, broken	35	170	
Shale, dark	30	200	
Shale, sandy, gray	100	300	T.D. 2,011 ft

Well 12/3W-29G1

Type of record: Driller's log. Altitude: About 800 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay	62	62	

Well 12/3W-29G1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Quicksand and mud	130	192	
Gravel, muddy	30	222	
Gravel, blue	--	222	W.B.

Well 12/3W-29J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, red	11	11	
Mississippian system:			
Meramec series:			
Limestone, extra-hard, gray	17	28	
Limestone, extra-hard, bluish-white	16	44	
Limestone, medium-hard, white	2	46	
Limestone, soft, blue	1	47	
Limestone, extra-hard, grayish-brown	28	75	
Limestone, extra-hard, brown	10	85	
Limestone, soft, brown	.5	85.5	W.B.
Limestone, extra-hard, blue	4.5	90	

Well 12/3W-36E1

Type of record: Driller's log. Altitude: About 845 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red	4	4	
Clay, sandy, red	14	18	
Mississippian system:			
Meramec series:			
Shale, soft, blue	1	19	
Limestone, extra-hard, white	7.5	26.5	
Stone, soft, white and blue	2.5	29	Siltstone (?)
Limestone, extra-hard, white	6	35	
Limestone, soft, white	2	37	W.B.
Limestone, extra-hard, brown	11	48	
Stone, soft, blue	.5	48.5	Siltstone (?)
Limestone, extra-hard, brown	10.5	59	
Limestone, soft, white	.5	59.5	
Limestone, hard, white	1.5	61	
Limestone, hard, brown	3	64	
Stone, soft, blue	2	66	Siltstone (?)
Limestone, brown	19	85	
Limestone, hard, bluish-gray	5	90	
Limestone, hard, brown	12	102	

Well 12/4W-21K1

Type of record: Driller's log. Altitude: About 790 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	20	20	
Softpan, yellow	8	28	
Softpan, gray	22	50	
Wash, gray	15	65	
Wash, yellow	4	69	
Sand, dirty, yellow	6	75	
Wash, gray	98	173	
Mississippian system:			
Meramec series:			
Limestone, white	79	252	
Limestone, brown	12	264	
Limestone, soft, gray	7	271	
Limestone, brown	4	275	W.B.
Limestone, soft, gray	4	279	
Limestone, brown	4	283	
Limestone, gray	60	343	
Limestone, brown	30	373	
Limestone, gray	25	398	
Limestone, white	17	415	
Shale, limy, gray	4	419	
Limestone, white	11	430	
Osage ? series:			
Shale, limy, blue	4	434	
Limestone, soft, blue	10	444	
Limestone, shaly, soft, dark	101	545	

Well 12/4W-21L1

Type of record: Driller's log. Altitude: About 800 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	40	40	
Sand	60	100	
Quicksand	20	120	W.B.
Mississippian system:			
Chester series:			
Shale	40	160	
Soapstone	5	165	
Meramec series:			
Limestone, white	60	225	

Well 12/4W-22F1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	11	11	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 12/4W-22F1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec series:			
Limestone, white	49	60	
Limestone, gray	45	105	
Limestone, white	145	250	W.B. at 233 ft

Well 12/4W-28B1

Type of record: Driller's log. Altitude: About 765 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red	10	10	
Hardpan, gray	19	29	
Mississippian system:			
Meramec series:			
Limestone, hard, white	58	87	

Well 12/4W-28M1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and sandy pan	30	30	
Pennsylvanian ? system:			
Lower ? series:			
Sandstone	58	88	
Mississippian system:			
Chester ? series:			
Shale, sandy, gray	17	105	
Shale, gray	4	109	
Shale, sandy, gray	21	130	

Well 12/4W-28Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface	17	17	
Wash, clayey, yellow	18	35	
Softpan	4	39	
Sand and gravel, trace	--	39	W.B.
Softpan	26	65	
Wash	16	81	
Mississippian system:			
Meramec ? series:			
Limestone	1	82	

Well 12/4W-29C1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	23	23	
Pennsylvanian system:			
Lower series:			
Shale, gray	21	44	
Sandstone	2	46	
Shale, gray	36	82	
Mississippian system:			
Meramec series:			
Limestone, yellow	9	91	
Limestone, white	2	93	
Shale, limy, sandy	20	113	
Shale, limy	7	120	
Limestone	2	122	W.B.
Shale, limy	7	129	

Well 12/4W-29F3

Type of record: Driller's log. Altitude: About 780 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	18	18	
Pennsylvanian system:			
Lower series:			
Shale	17	35	
Sandstone	10	45	
Soapstone	25	70	
Clay	5	75	W.B.
Shale, blue	14	89	
Fire clay	--	89	

Well 12/4W-29F5

Type of record: Driller's log. Altitude: About 780 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	18	18	
Pennsylvanian system:			
Lower ? series:			
Shale, blue	20	38	
Shale, gray	10	48	
Rock, hard	1	49	
Shale, gray	11	60	
Shale, blue	25	85	
Mississippian system:			
Meramec ? series:			
Limestone	15	100	
Limestone, soft, yellow	7	107	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 12/4W-29F-5--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Mississippian system:			
Meramec ? series:			
Shale, limy, blue	3	110	
Limestone, sandy, blue	9	119	
Shale, limy, blue	11	130	
Limestone, soft, blue	7	137	

Well 12/4W-33B1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface clay	25	25	
Sand, dirty, yellow	3	28	
Clay, sandy, yellow	4	32	
Sand, dirty, yellow	44	76	
Softpan, gray	16	92	
Gravel, coarse	1	93	W.B.
Softpan	6	99	

Well 12/4W-33H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	10	10	
Sand	93	103	
Mississippian system:			
Meramec series:			
Limestone, hard	22	125	W.B.

Well 12/4W-35R1

Type of record: Driller's log. Altitude: About 765 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand	40	40	
Quicksand	45	85	
Muck, black, and gravel	15	100	W.B.
Mississippian system:			
Meramec series:			
Limestone, boulders	10	110	
Limestone, dark	15	125	W.B.

Well 12/5W-23G1

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

Quaternary system:			
Recent and Pleistocene series:			
Hardpan	64	64	

Well 12/5W-23G1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower series:			
Slate	26	90	
Sandstone, white	15	105	W.B.

Well 12/5W-23Q1

Type of record: Driller's log. Altitude: About 765 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	14	14	
Pennsylvanian system:			
Lower series:			
Sandstone, yellow	19	33	
Slate, soft, blue	3	36	
Slate, blue	4	40	
Slate, black	10	50	
Sandstone	3	53	
Shale, blue	20	73	
Shale, sandy, gray	12	85	
Sandstone, gray	8	93	W.B.

Well 12/5W-24C1

Type of record: Driller's log. Altitude: About 770 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	18	18	
Sand, coarse, yellow	65	83	
Hardpan	3	86	
Gravel, trace	--	86	
Hardpan	9	95	
Softpan, gray	32	127	
Mississippian ? system:			
Chester ? series:			
Shale, soft, light-green	7	134	
Shale, soft, blue	2	136	
Shale, soft, gray	12	148	
Limestone, shelly	2	150	W.B.

Well 12/5W-24F1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface	14	14	
Sand, dirty, yellow	89	103	
Softpan, gray	2	105	
Gravel, dirty, trace	--	105	
Wash, clayey, soft	50	155	

Table 4.--Selected well logs, Owen County, Indiana--Continued

Well 12/5W-24H2

Type of record: Driller's log (memory). Altitude: About 765 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil	30	30	
Sand	10	40	
Clay, blue	90	130	
Gravel	1	131	W.B.
Clay, blue	69	200	
Silt	--	200	

Well 12/5W-25J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay	5	5	
Sand	85	90	
Gravel	--	90	

Well 12/5W-25K1

Type of record: Driller's log, (memory). Altitude: About 710 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan	25	25	
Sand	80	105	
Pennsylvanian ? system:			
Lower ? series:			
Sandstone	21	126	

Table 5.--Field chemical analyses of water from wells, Owen County, Indiana

(Results in parts per million)

Well number: See text for description of well-numbering system.
Geologic age: Pl, Pleistocene; P, Pennsylvanian; M, Mississippian.
Material: Cl, clay; G, gravel; Ls, limestone; S, sand; Sd-sh, sandy shale; Sh, shale; Sh-ls, shaly limestone; Ss, sandstone.

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
9/3W- 1R1	S,G	Pl	7-23-59	65	2.0	366	15	4	280	
2E1	S,G	Pl	8- 3-59	65	1.5	395	5	1	308	
5C1	Ls	M	10-16-59	58	1.0	49	12	166	232	
8R1	Ss	P	8-18-59	54	1.0	156	17	4	72	
9K1	Sh	M	10-16-59	55	1.5	376	11	6	272	
12C1	Sh	M	11-17-60	--	.1	293	295	26	560	
12N1	G	Pl	7-24-59	55	.2	49	10	4	16	
16R1	Ls	M	3-28-60	52	.1	322	38	16	236	
17N1	Ss	P(?)	8- 3-59	54	2.0	73	18	6	40	
26Q1	Ls	M	8- 3-59	60	.5	322	330	10	612	
9/4W- 4B1	Sh	M	7-22-59	70	.5	200	10	3	152	
5M1	Ls	M	7-22-59	64	.5	332	25	4	240	
6H1	Ls	M	7-22-59	64	1.0	307	75	22	208	
6R1	S,G	Pl	8- 3-59	62	2.0	332	10	4	244	
7Q1	S,G	Pl	7-23-59	64	5.0	454	10	5	336	
10N1	Ss	M	7-23-59	57	2.0	400	35	8	328	
16C1	Ls	M	7-23-59	58	.2	210	15	12	128	
19L1	G	Pl	8- 3-59	54	7.5	98	10	4	96	
20A2	Ss	M	10-16-59	65	.3	317	100	14	280	
20H1	Sh	M	7-23-59	70	.5	366	160	8	392	
20H2	Ss	M	7-23-59	58	5.0	366	100	6	300	
21D1	Sh	M	7-23-59	68	1.0	239	120	22	256	
21D2	Ss	M	7-23-59	65	.5	259	95	18	290	
22F1	Ss	M	7-23-59	65	.3	322	20	2	228	

Table 5.--Field chemical analyses of water from wells, Owen 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
9/4W-23A1	G,S	Pl	10-16-59	55	4.0	561	81	10	480	
29H1	Ss	M	11-21-58	59	1.0	410	--	6	196	
9/5W- 7J1	----	P	8- 5-59	62	.1	737	20	22	32	
7L1	Sh	P	8-20-59	65	.3	1,040	13	224	10	
8D1	Sd-sh	P(?)	6-28-60	57	.5	493	40	8	120	
13A1	S,G	Pl	8- 5-59	54	1.0	88	45	12	88	
18J1	Ss	P	6-28-60	55	3.0	137	80	52	136	
19L1	Ss	P	8- 5-59	65	.5	210	95	14	200	
21K1	Ss	P	6-28-60	57	3.0	224	140	8	256	
31P1	Ls	P(?)	10- 6-60	56	1.5	195	38	8	204	
9/6W-11F1	Ss	P	8-20-59	70	.3	693	31	10	3	
11L1	Ss	P	8-17-59	62	.5	595	16	8	2	
11L2	-----	P	10- 6-60	63	>7.5	5	1,760	42	1,720	
12E1	Ss	P	8-20-59	62	1.0	561	320	14	592	
13Q1	Ss	P	8-19-59	65	.5	600	17	50	20	
26C1	Sd-sh	P	8-20-59	70	1.0	200	225	26	324	Well depth 69 ft.
26C1	-----	P	11-17-60	--	3.0	366	74	8	220	Well depth 120 ft.
10/3W- 1P1	Ls	M	9-15-59	55	1.0	410	26	4	328	
3Q1	Ls	M	8- 6-59	55	1.5	410	95	30	412	
4G1	Ls	M	8-59	--	---	381	10	30	316	
4H1	Ls	M	8- 5-59	55	7.5	322	26	4	220	
4J1	S,G	Pl	9 -3-59	55	3.0	454	13	43	332	
9A1	Ls	M	8- 6-59	60	.5	395	20	14	316	
9G1	G	Pl	9-16-59	63	1.0	342	85	8	300	
9K1	S,G	Pl	8- 5-59	65	.5	371	25	4	308	
10B1	Ls	M	9-15-59	55	.5	400	132	30	428	
10B2	Ls	M	9-15-59	55	>7.5	327	34	4	256	
13E1	Sh	M	8- 6-59	60	1.0	361	15	11	328	
14C1	Ls	M	8- 6-59	59	2.5	493	60	6	448	

10/3W-14C2	Ls	M	8- 6-59	60	0.5	405	65	4	364
16H1	Ls	M	8- 5-59	65	.5	356	25	6	288
16J1	Ls	M	8- 7-59	65	.3	351	28	8	284
19E1	Ls	M	8- 7-59	60	.3	410	115	24	452
20M1	S,G	P1	11-16-60	54	5.0	361	17	12	324
20N2	Ls	M	8- 7-59	70	.3	400	60	12	380
21C1	S,G	P1	9-15-59	56	4.0	415	10	6	272
21F1	Ls	M	9-15-59	64	.1	425	32	4	328
21M1	Ls	M	9-15-59	59	.1	493	40	14	400
21M2	S	P1	9-15-59	60	.1	332	35	10	260
24P1	Ls	M	9-15-59	65	1.0	366	260	5	436
24R1	Ls	M	8- 6-59	56	.3	283	45	70	348
25N1	Ls	M	8- 6-59	62	1.0	342	15	6	244
28M1	C1	M	8-17-59	60	.5	395	19	2	288
28P1	Ls	M	10- 5-60	58	1.5	293	14	8	248
31D1	S	P1	8-19-59	65	.5	283	20	4	208
32L1	G	P1	8-18-59	54	.5	327	14	3	248
32M1	Ls	M	3-29-60	50	1.0	366	18	6	292
33B1	Ls	M	8- 6-59	58	.1	361	15	5	292
33B2	Ls	M	8- 6-59	65	.3	264	20	88	320
33H1	Ls	M	8- 7-59	60	4.0	478	10	4	352
33H2	Ls	M	8- 6-59	60	3.0	468	28	4	332
34L1	Ls	M	11-16-60	--	3.0	508	9	8	352
34P2	S,G	P1	7-24-59	65	7.5	542	95	8	516
10/4W- 1H1	Ls	M	7-21-59	67	2.5	405	5	6	284
3D1	Ss	M	7-21-59	70	.5	288	40	4	250
5P1	Sh	P	7-21-59	55	>7.5	102	230	26	256
13E1	-----	M(?)	7-21-59	55	7.5	264	8	2	188
14H1	-----	P1(?)	7-22-59	55	7.5	303	15	4	232
14L1	Ls	M	7-22-59	62	1.0	317	30	4	256
23C1	Ss	M	7-21-59	72	.5	151	52	8	136
24A1	S	P1	7-21-59	59	3.0	351	5	2	248
24A3	Ls	M	7-23-59	58	2.0	322	10	2	236
25C1	Ss	M	10-16-59	56	.1	283	11	4	212
26F1	Ls	M	7-22-59	59	.5	268	100	6	296
26Q1	Ls	M	7-22-59	55	3.0	205	50	14	192

Table 5.--Field chemical analyses of water from wells, Owen 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
10/4W-30F1	G	Pl	8-21-59	55	1.0	220	39	5	160	
32H1	Ls	M	7-22-59	56	.5	273	25	13	272	
32J1	Ls	M	7-22-59	62	.5	190	20	3	148	
33N1	Ss	M	7-22-59	62	.5	142	140	10	204	
35D1	Ls	M	12-19-57	47	.1	339	-----	10	414	
35P1	Ls	M	7-22-59	60	.5	288	270	20	468	
36C1	G	Pl	7-22-59	55	.5	220	10	3	160	
10/5W- 3B1	-----	P	9-18-59	57	.3	59	10	10	14	
9R1	Ss,Sh	P	--------	57	>7.5	88	165	28	142	
9R2	Sh	P	9-18-59	58	1.0	88	48	32	70	
14E1	-----	P	8-21-59	65	.3	508	32	38	396	
15B1	Sh	P	9-18-59	55	>7.5	478	775	12	1,070	
15B2	Ss(?)	P	9-18-59	57	>7.5	176	510	8	556	
16A1	Sh	P	9-18-59	57	1.3	117	155	12	144	
20G1	S(?)	Pl	8-21-59	65	.8	381	32	8	276	
24C1	Ls	M	8-21-59	65	.3	83	50	12	100	
29Q1	Ss	P	8-21-59	65	1.0	522	555	14	396	
10/6W- 2K1	Ss	P	12-30-59	--	3.0	464	105	12	128	
13F1	Sh,Ss	P	12-30-59	--	.1	888	64	8	4	
13L1	Ss	P	8-20-59	60	.5	664	110	4	6	
23R1	Ss	P	10- 6-60	--	.5	507	10	12	84	
24Q1	-----	M(?)	8-20-59	65	.3	776	174	54	114	
25B1	-----	M(?)	8-20-59	65	>7.5	356	900	26	1,100	
25L1	Ls	M	8-20-59	62	.3	556	30	10	40	
26A1	-----	P(?)	8-20-59	65	.5	649	24	16	40	
35C1	G	Pl P(?)	10-15-59	58	1.5	122	30	266	268	
36D1	Sh	P	8-20-59	65	1.0	439	22	15	260	
11/2W- 7J1	Sh	M	9-15-59	60	1.5	346	17	6	252	

11/2W-16Q1	S,G	P1	9-14-59	64	1.0	337	75	44	316	
20Q1	Ss	M	9-14-59	64	1.0	454	31	6	296	
21C1	S	P1	9-15-59	55	>7.5	615	150	10	612	
29G1	G	P1	9-14-59	55	.5	425	17	8	312	
30A1	Ls	M	9-15-59	55	1.0	425	19	16	256	
11/3W- 2Q1	Ls	M	9- 2-59	55	.8	434	26	3	316	
8A1	Ls	M	9- 3-59	65	.5	337	109	14	284	
13R1	Ls	M	9- 2-59	55	.5	444	22	6	336	
15B1	Ls	M	9- 2-59	55	.5	337	33	50	316	
17R1	Ls	M	9- 3-59	65	.5	429	54	8	364	
19P1	Ls	M	9- 4-59	62	.8	395	15	4	276	
19P2	Ls	M	9- 4-59	55	.5	459	28	23	376	
20L1	Ls	M	9- 3-59	55	4.0	483	43	12	396	
22B1	Ls	M	9- 3-59	55	1.0	371	24	64	332	
25L1	Sh	M	3-29-60	58	.8	483	16	94	124	
26N1	Ls	M	9- 3-59	65	.5	425	10	4	272	
27E1	Ls	M	9- 3-59	65	2.0	366	7	18	264	
27P1	Ls	M	9- 4-59	65	3.0	342	22	4	236	
27Q3	S,G	P1	10-15-59	--	1.5	0	13	110	240	Contaminated (?)
27R2	Sh-ls	M	11-16-60	--	1.0	239	12	8	184	
34K1	Ls	M	9- 3-59	62	.5	312	27	6	236	
34K2	S,G	P1	9- 4-59	62	.8	322	14	2	224	
11/4W- 2H1	Ls	M	8- 7-59	56	3.0	351	27	7	208	
22D1	Sh	P	8- 3-59	60	1.5	171	39	4	96	
24J1	Ss	P	8- 4-59	70	.3	117	26	5	76	
	Ls	M								
26Q1	G,S	P1	10- 6-60	56	1.0	137	515	8	644	
29C1	S,G	P1	8- 4-59	55	.3	220	60	3	184	
11/5W- 2E1	Ss	P	9-11-58	--	1.0	273	-----	14	192	
2M1	Ss	P	9-11-58	63	>7.5	342	-----	12	252	
13F1	Ss	P	9-17-59	60	.1	298	27	24	260	
14N1	Ls	M	4- 5-60	--	.3	98	12	24	68	
26A1	-----	P	9-17-59	62	.3	161	44	32	136	
36E1	Sd-sh	P	9-17-59	59	7.5	268	39	6	184	

Table 5.--Field chemical analyses of water from wells, Owen 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
12/2W-28Q1	Ls	M	9-18-59	55	3.5	464	16	14	332	
28Q2	G	Pl	9-16-59	60	.2	351	14	12	216	
30J1	Ls	M	9- 2-59	65	.5	317	24	17	220	
30R1	Ls	M	9- 2-59	55	.5	322	39	10	272	
31H1	Ls	M	9- 2-59	65	.5	415	37	8	344	
33H1	Sh	M	9-16-59	60	.2	468	17	4	244	
12/3W-25B1	G	Pl	9- 1-59	55	2.0	371	9	20	228	
26B1	Ls	M	9- 1-59	65	.3	327	20	9	268	
26B3	G	Pl	9- 1-59	60	1.5	346	18	10	264	
26C1	S	Pl	9- 3-59	54	7.5	449	8	52	296	
26J1	Ls	M	9- 1-59	65	.3	429	34	10	352	
27B1	Sh	M	9- 1-59	65	2.5	429	18	18	288	
27P1	G	Pl	9- 3-59	65	.3	268	11	8	212	
29B1	G	Pl	9- 2-59	62	.8	371	11	8	276	
29G1	G	Pl	9- 2-59	60	7.5	517	8	8	384	
29G2	G	Pl	9- 2-59	65	.5	317	12	6	216	
29J1	Ls	M	11-16-60	56	1.0	332	11	22	280	
33M1	Ls	M	1-11-60	55	.2	468	6	10	332	
33N1	Ls	M	9- 4-59	55	.5	327	53	8	296	
34B1	Ls	M	9- 2-59	65	.5	317	15	6	220	
34J1	Ls	M	9- 2-59	54	.5	298	37	13	252	
12/4W-21K1	Ls	M	8-18-59	70	.8	405	26	3,400	332	
24J1	G	Pl	8-18-59	70	3.0	366	24	6	244	
24Q1	S	Pl	8-18-59	65	.8	381	12	18	264	
26A1	Ls(?)	M(?)	8-19-59	54	5.0	288	29	118	328	
28Q1	S,G	Pl	9-16-59	56	.5	332	28	4	260	
29C1	Ls	M	11-14-60	--	.5	293	53	20	272	
33B1	G	Pl	9-16-59	62	1.0	293	11	2	196	

12/4W-33H1	Ls	M	8-18-59	65	0.8	395	32	6	88	
33H2	S	P1	8-18-59	58	.5	346	56	10	280	
33J1	Ss	P	11-16-60	--	.5	303	18	28	260	
34D1	Ls	M	10-15-59	55	1.5	303	12	14	208	
35R1	Ls	M	11-16-60	--	.1	288	10	18	252	
12/5W-23Q1	Ss	P	8-18-59	54	1.5	156	95	8	110	
24C1	Ls	M	8-17-59	65	.1	386	24	4	280	
25J1	S,G	P1	8-18-59	62	.5	117	12	3	44	
25K1	Ss	P	8-18-59	62	1.0	327	17	3	224	

Table 6.--Records of springs, Owen County, Indiana

Spring number: See text for well-numbering system.
Altitude: Altitude of land-surface datum from topographic map.
Water bearing-material: Cg, conglomerate; Ls, limestone; Sh, shale; Ss, sandstone; T, till.
Geologic age: Pl, Pleistocene; P, Pennsylvanian; M, Mississippian.
Flow: e, estimated; m, measured.
Use: D, domestic; N, not used; S, stock.
Field chemical analyses: In parts per million; water samples collected on date of measurement.

Spring	Owner	Popular Name	Altitude (feet)	Water-bearing material	Geologic age	Flow (gpm)	Date of measurement	Use	Field Chemical Analyses						Remarks
									Temperature (°F)	Iron (Fe)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Hardness as $CaCO_3$ (calcium & magnesium)	
9/3W-17B1	R. Bixler	--------	720	Ss	M	e0.5	4-11-60	D	48	0.1	220	65	46	244	Spring from vertical crevice
20B1	----------	--------	580	Ls	M	e10	4-11-60	S	49	.3	195	31	6	108	Spring from bedding plane & joint
20C1	----------	--------	580	Ls	M	e40	4-11-60	N	49	----	---	---	--	---	Spring from limestone-sandstone contact
22J1	D. Newton	--------	615	Ls	M	e50	4-11-60	S	54	.1	283	54	6	236	
9/4W- 2F1	----------	--------	670	Ls	M	e15	4-13-60	N	54	.2	244	42	10	200	
12R1	----------	--------	550	Ls	M	e10	4-11-60	N	49	.1	185	27	8	128	Spring from solution openings
13A1	----------	--------	550	Ls	M	e25	4-11-60	S	--	---	---	--	--	---	Do
16E1	----------	--------	540	Ss	M	m4	4-13-60	N	52	.1	303	18	4	216	Spring from fracture
17R1	----------	--------	600	Ls	M	e10	4-13-60	N	53	.2	151	28	10	116	Spring from solution openings
27C1	----------	--------	570	Ls	M	e3	4-11-60	N	48	.2	132	22	8	120	Do

9/4W-32P1	----------	--------	550	Ls	M	e.5	11-19-59	S	41	.2	210	90	16	244	Seep from quarry face
11/3W-17J1	H. A. West	--------	740	T	P1	e.5	9-16-60	D	58	.2	322	12	8	296	Spring from till-limestone contact
32A1	----------	--------	610	Cg	P1	e2	9-16-60	N	61	1.5	312	12	6	256	Spring seep area in sand and gravel conglomerate
32C1	----------	--------	635	T	P1	m24	4-14-60	N	53	.2	249	13	6	176	Spring seep area from sand and gravel lenses in till
32G1	M. Chaney	--------	620	Ls	M	m15	4-14-60	N	50	.1	200	17	6	140	Spring from solution opening
11/4W-14N1	M. W. Gwinn	--------	670	Ls	M	e40	4-27-60	N	51	.1	181	34	6	100	Do
35B1	J. R. Soey	--------	610	Ls	M	e30	4-14-60	S	49	.1	190	34		144	Do
11/5W-35P1	----------	--------	700	Ss	P	e.5	9-14-60	N	60	.3	49	8	10	40	
12/4W-28N1	State of Indiana	--------	800	Sh	P	e1	4-28-60	N	--	>7.5	0	785	100	828	Seep area in road cut; water has corrosive action on concrete drain

Table 7.--Field chemical analyses of water from streams, Owen 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. 9 N., R. 3 W.					
Raccoon Creek	NE¼SE¼ sec. 13	9-16-60	71	0.2	249	18	12	208	Sample taken at bridge on county road
Little Raccoon Cr.	SE¼SW¼ sec. 25	9-16-60	78	.2	137	10	14	112	Do
Raccoon Creek	NW¼NW¼ sec. 27	9-16-60	70	.4	215	15	8	180	Do
				T. 9 N., R. 4 W.					
White River	SW¼NW¼ sec. 21	11-20-59	44	.2	303	100	24	252	Do
Raccoon Creek	NE¼SW¼ sec. 26	9-16-60	69	.2	215	23	8	188	Do
Fish Creek	SE¼NW¼ sec. 31	9-14-60	71	.3	146	12	8	112	Sample taken at bridge on state road
Jack Creek	SE¼SW¼ sec. 32	11-19-59	37	.1	185	46	6	148	Sample taken at bridge on county road
				T. 9 N., R. 5 W.					
Houser Creek	SW¼SW¼ sec. 5	9-14-60	72	.3	201	27	14	180	Do
Lick Creek	SE¼SW¼ sec. 7	9-14-60	70	.2	249	175	10	328	Do
Need Ditch	SE¼SW¼ sec. 20	9-14-60	80	.5	166	26	12	128	Do
Eel River	SE¼SW¼ sec. 31	11-19-59	38	.2	215	70	14	212	Sample taken at bridge on state road
Brush Creek	NE¼NW¼ sec. 33	9-14-60	65	.2	215	48	12	216	Sample taken at bridge on county road

					T. 10 N., R. 2 W.				
White River	NW¼SE¼ sec. 6	11-20-59	46	0.3	293	108	28	276	Sample taken at bridge on county road
					T. 10 N., R. 3 W.				
Little Mill Creek	SW¼SW¼ sec. 3	9-16-60	68	.2	220	12	8	172	Do
McCormick's Creek	SE¼SW¼ sec. 23	9-16-60	68	.2	307	15	8	248	Sample taken at bridge on state road
White River	NE¼NE¼ sec. 29	11-20-59	44	.3	283	98	28	276	Do
McBride Branch	NW¼SW¼ sec. 32	9-16-60	66	.2	264	13	8	212	Sample taken at bridge on county road
					T. 10 N., R. 4 W.				
East Fork Fish Cr.	NW¼NW¼ sec. 15	9-14-60	65	1.0	132	10	6	96	Sample taken at bridge on state road
Rattlesnake Creek	NW¼NE¼ sec. 25	9-16-60	64	.2	229	15	8	200	Sample taken at bridge on county road
West Fork Fish Cr.	NE¼NW¼ sec. 28	9-14-60	62	.2	195	10	8	144	Do
					T. 10 N., R. 6 W.				
Lick Creek	SE¼SE¼ sec. 25	9-14-60	66	.2	181	19	12	140	Do
					T. 11 N., R. 2 W.				
Indian Creek	SW¼NE¼ sec. 29	9-16-60	71	.2	249	13	8	216	Sample taken at bridge on state road
					T. 11 N., R. 3 W.				
Limestone Creek	SE¼SE¼ sec. 23	9-16-60	73	.2	239	11	10	196	Sample taken at bridge on county road
Little Mill Creek	NE¼NE¼ sec. 29	9-16-60	65	.2	410	13	8	336	Do
					T. 11 N., R. 4 W.				
Jordan Creek	SE¼SW¼ sec. 7	9-14-60	68	.3	166	12	8	132	Sample taken at the side of county road
Rattlesnake Creek	SE¼SW¼ sec. 26	9-16-60	66	.2	254	28	6	208	Sample taken at bridge on county road
					T. 12 N., R. 3 W.				
Mill Creek	NE¼NE¼ sec. 21	9-16-60	64	.2	317	21	12	276	Do
Brush Creek	NW¼NE¼ sec. 26	9-16-60	62	.3	273	10	12	220	Do

Table 7.--Field chemical analyses of water from streams, Owen County, Indiana--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. 12 N., R. 4 W.					
Doe Creek	NE¼NW¼ sec. 22	9-16-60	64	0.2	273	15	18	228	Sample taken at bridge on state road
Mill Creek	NW¼SW¼ sec. 36	9-16-60	67	.2	298	18	12	252	Sample taken at bridge on county road
				T. 12 N., R. 5 W.					
Coon Creek	SE¼SE¼ sec. 36	9-14-60	68	.3	215	11	8	180	Do

Table 8.--Water levels in observation wells in Owen County, Indiana

(In feet below land-surface datum. Water level: e, estimated; h, tape measurement)

Owen 2. (12/4W-35B1). Agnes Stuckey. Cataract. NW¼NE¼ sec. 35, T. 12 N., R. 4 W. Drilled unused artesian well in limestone, diameter 6 inches, depth 96 feet. Land-surface datum is about 680 feet above msl. Recording gage installed April 22, 1949; removed May 10, 1952. Highest water level is 4.20 below lsd, March 11, 1952; lowest, 28.30 below lsd, November 1, 1954. Records available 1946 to 1957.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1946		July 2	18.13	Mar. 9	18.31	Dec. 1	19.05
		9	18.34	16	17.39	8	19.11
Sept. 10	23.43	15	18.24	23	10.40	15	13.45
17	23.58	23	18.51	30	11.90	22	18.50
24	23.75	30	18.91	Apr. 6	17.91	29	16.01
Oct. 1	24.00	Aug. 5	19.11	13	15.01		
8	24.77	13	19.49	20	17.70		
15	25.65	20	16.54	27	18.20		
22	25.34	27	18.82	May 4	18.30		
29	24.44	Sept. 2	19.13	12	15.67		
Nov. 5	22.34	9	19.15	18	18.06		
12	20.70	17	17.30	25	18.38		
19	20.44	24	17.08	June 1	18.57		
26	14.02	Oct. 1	18.75	9	18.69		
Dec. 3	19.97	8	19.19	15	18.59		
10	17.58	15	19.64	22	19.16		
17	18.06	29	18.09	29	17.86		
31	15.63	Nov. 5	19.32	July 6	19.26		
		12	19.54	14	18.90		
1947		19	19.68	20	20.27		
		26	19.11	28	19.87		
Jan. 14	17.44	Dec. 3	19.29	Aug. 3	18.35		
27	17.99	10	19.41	10	19.60		
Feb. 14	18.43	16	19.59	18	20.40		
21	18.57	23	19.27	25	21.18		
28	18.76			31	21.48		
Mar. 7	19.00	1948		Sept. 8	20.48		
29	17.95			15	21.36		
Apr. 6	16.00	Jan. 1	18.34	22	19.76		
12	10.00	8	18.20	29	21.01		
20	17.58	15	18.70	Oct. 6	21.10		
26	11.93	21	18.83	12	21.01		
May 6	17.69	27	19.04	20	18.99		
16	16.67	Feb. 4	19.20	27	21.80		
28	18.00	11	19.40	Nov. 3	19.21		
June 6	14.94	17	16.02	10	15.76		
18	15.00	25	16.50	17	18.63		
26	17.90	Mar. 2	17.18	24	18.83		

(Daily 2 A.M. water level from recorder graph, 1949)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-----	-----	-----	-----	20.52	20.67	18.68	23.01	22.28	22.94	21.94	22.63
2	-----	h17.43	h18.26	-----	20.50	20.75	19.41	23.05	22.46	22.97	21.99	22.65
3	-----	-----	-----	-----	20.53	20.82	19.87	23.10	22.55	23.01	22.05	22.72
4	-----	-----	-----	-----	20.56	20.93	20.29	23.15	22.60	23.04	22.18	22.72
5	-----	-----	-----	h17.70	20.58	21.02	20.58	23.19	-----	-----	22.19	22.73
6	h11.80	-----	-----	-----	20.60e	21.14	20.88	23.23	-----	-----	22.29	22.73
7	-----	-----	-----	-----	20.60	21.25	21.18	23.26	22.92	-----	22.31	22.66
8	-----	-----	-----	-----	20.62	21.39	21.43	23.29	22.99	-----	22.31	22.70
9	-----	h18.05	-----	-----	20.62	21.52	21.63	23.34	23.06	-----	22.33	22.76
10	-----	-----	h18.25	-----	20.62	21.60	21.76	23.40	23.11	-----	22.36	-----
11	-----	-----	-----	-----	20.66	20.62	21.88	23.47	23.15	-----	22.36	-----
12	h17.46	-----	-----	-----	20.68	20.75	21.99	23.49	23.18	-----	22.38	-----
13	-----	-----	-----	h18.36	20.71	20.79	22.05	23.45	23.18	-----	22.41	-----
14	-----	-----	-----	-----	20.72	20.63	22.13	23.42	23.17	-----	22.41	-----
15	-----	-----	-----	-----	20.74	20.66	22.19	23.41	23.18	-----	22.47	17.57
16	-----	h14.18	h18.37	-----	20.76	15.65	22.27e	20.48	23.15	-----	22.42	18.15
17	-----	-----	-----	-----	20.79	-----	22.35	20.65	23.11	-----	22.43	18.50
18	-----	-----	-----	-----	20.82	18.04	22.44	21.17	22.21	-----	22.47	18.69
19	h13.01	-----	-----	-----	20.84	18.85	22.53	-----	22.11	-----	22.50	18.84
20	-----	-----	-----	h18.44	20.86	19.47	22.61	-----	22.19	-----	22.44	18.93
21	-----	-----	-----	-----	20.87	19.87	22.66	-----	22.31	-----	22.47	18.95
22	-----	-----	-----	-----	20.79	20.19	22.70	-----	22.43	-----	22.55	17.83
23	-----	-----	-----	20.47	20.73	20.39	22.74	22.73	22.50	-----	22.54	15.76
24	-----	-----	h18.26	20.47	18.43	20.50	22.77	22.82	22.61	-----	22.51	16.60
25	-----	-----	-----	20.47	18.85	20.59	22.79	22.90	22.69	-----	22.45	17.33
26	-----	-----	-----	20.51	19.43	20.71	22.82	22.95	22.75	-----	22.52	17.72
27	h10.01	-----	-----	20.52	19.80	20.90	22.85	22.98	22.78	-----	22.49	17.03
28	-----	-----	-----	20.52	20.12	21.10	22.88	21.51	22.79	21.65	22.54	17.18
29	-----	-----	-----	20.51	20.35	16.90	22.90	21.66	22.81	21.72	22.52	17.60
30	-----	-----	-----	20.52	20.49	17.85	22.92	21.86	22.87	21.76	22.58	17.94
31	-----	-----	h15.88	-----	20.59	-----	22.96	22.11	-----	21.82	-----	18.20

(Daily 2 A.M. water level from recorder graph, 1950)

1	18.36	16.47	17.86	15.90	18.56	18.84	18.71	20.00	-----	18.68	20.20	18.54
2	18.14	16.97	17.96	16.52	18.56	18.91	18.79	20.05	h12.64	18.94	20.20	18.59
3	18.06	-----	e18.07	17.01	18.54	18.95	18.84	20.10	14.05	19.14	20.24	-----
4	-----	-----	e18.13	17.35	18.54	18.41	18.68	20.16	15.40	19.30	20.26	10.47
5	-----	17.98	h18.21	13.25	18.53	18.49	18.73	20.20	16.33	19.42	20.22	12.68
6	-----	18.02	18.22	14.50	18.52	18.58	18.78	20.26	17.18	19.51	20.22	13.95
7	-----	18.09	18.22	15.44	18.55	18.68	18.84	20.32	17.74	19.60	20.24	14.14
8	e15.10	18.19	18.04	16.08	18.60	18.78	18.90	20.36	18.16	19.65	-----	14.95
9	15.50	17.95	18.03	16.69	18.63	18.86	18.96	20.40	18.42	19.20	10.88	15.79
10	14.52	18.00	18.21	17.17	16.95	12.26	19.02	20.43	18.65	19.10	13.90	16.38
11	-----	18.09	18.29	-----	17.00	14.12	19.09	20.46	18.79	19.18	15.32	16.99
12	-----	h18.99	18.26	-----	17.42	15.38	19.17	20.47	18.92	19.32	16.28	17.44
13	-----	-----	e17.65	-----	17.70	16.59	19.23	20.49	19.05	19.32	17.10	17.75
14	-----	-----	17.77	-----	17.94	16.93	19.31	20.50	19.18	19.43	17.69	18.02
15	h6.74	-----	17.97	h18.19	18.11	17.51	19.40	20.52	19.28	-----	18.12	18.21

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 2--Cont.

(Daily 2 A.M. water level from recorder graph, 1950)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
16	-----	-----	18.08	18.22	18.26	17.85	19.47	20.52	19.37	-----	18.41	18.39
17	-----h	15.07	18.15	18.27	18.37	18.04	19.54	20.53	19.48	-----	18.61	18.53
18	-----	-----	18.19	18.30	18.45	18.31	19.60	20.52	19.60	19.80	18.73	18.63
19	-----	-----	18.29	18.32	18.52	17.80	19.61	19.83	19.68	19.83	18.82	18.70
20	-----	16.66	18.32	18.36	18.57	14.06	19.57	19.75	19.74	19.84	-----	18.73
21	-----	17.12	17.76	18.40	18.60	15.16	19.52	19.76	19.78	19.87	10.38	18.79
22	h16.94	16.85	17.90	18.42	18.63	15.98	19.56	19.84	-----	19.89	13.67	18.81
23	17.21	16.58	18.02	18.43	18.67	16.70	19.61	19.95	12.38	19.91	14.98	18.82
24	16.45	16.85	18.12	18.43	18.70	17.31	19.66	20.07	14.40	19.99	15.91	18.81
25	16.67	17.18	18.20	18.42	18.72	17.70	19.72	20.16	15.62	20.03	16.72	18.83
26	-----	17.47	18.27	18.44	18.75	18.03	19.78	20.24	16.48	20.08	17.29	18.83
27	-----	17.69	17.25	18.47	18.78	18.28	19.81	20.32	17.27	20.10	17.64	18.90
28	-----	17.84	e11.00	18.52	18.80	18.45	19.85	20.38	17.76	20.09	18.01	18.94
29	-----	-----	12.30	18.55	18.82	18.55	19.88	20.42	18.22	20.13	18.29	18.94
30	15.13	-----	14.08	18.56	18.82	18.63	19.91	20.47	18.49	20.18	18.43	18.95
31	15.84	-----	15.17	-----	18.82	-----	19.96	20.38	-----	20.19	-----	19.03

(Daily 2 A.M. water level from recorder graph, 1951)

1	19.08	18.92	17.90	18.80	18.98	19.23	15.62	-----	20.37	20.88	19.64	18.75
2	19.10	18.96	18.20	18.84	19.01	19.27	16.50	-----	20.40	20.88	19.87	18.83
3	19.07	19.02	18.38	18.88	19.02	19.32	17.31	-----	20.44	20.87	20.02	18.89
4	18.94	19.01	18.41	18.90	19.00	19.22	17.84	-----	20.50	20.88	20.08	16.25
5	18.94	19.01	18.54	18.94	18.99	19.23	18.30	18.43	20.54	20.91	20.22	14.84
6	18.91	19.03	18.62	18.97	19.02	19.25	18.61	18.64	20.55	20.97	20.33	14.94
7	18.91	19.01	18.66	18.97	16.89	19.26	18.88	18.81	20.57	20.99	18.34	15.70
8	18.90	19.06	18.70	18.80	17.46	19.27	19.10	18.96	20.63	20.92	18.60	16.41
9	18.91	19.10	18.77	18.78	17.90	19.29	19.27	19.09	20.63	20.95	18.91	16.43
10	18.90	19.13	18.85	18.81	18.26	19.35	15.19	19.23	20.63	20.96	19.03	16.92
11	18.89	19.11	18.89	18.86	13.25	19.42	16.13	19.36	20.63	20.97	18.46	17.40
12	18.92	19.08	18.90	18.86	14.60	19.49	16.97	19.47	20.67	20.97	18.64	17.70
13	18.94	19.01	18.87	18.64	-----	19.27	17.56	19.57	20.68	21.00	18.70	18.01
14	18.93	18.94	18.84	h17.45	-----	19.29	18.03	19.64	20.70	21.02	14.33	18.29
15	14.90	18.95	18.84	17.57	-----	19.33	18.36	19.71	20.73	21.02	15.38	18.41
16	15.64	18.93	18.65	17.83	-----	19.37	18.56	19.77	20.76	21.03	15.97	18.60
17	16.31	18.58	18.66	18.11	-----	19.42	18.73	19.84	20.79	21.04	16.64	18.71
18	15.95	18.52	18.10	18.35	-----	19.49	18.91	19.91	20.81	21.06	17.40	18.76
19	15.23	18.00	17.69	18.49	h18.56	19.55	19.06	19.98	20.84	21.07	17.90	18.79
20	15.43	16.43	17.96	18.61	-----	19.60	19.20	20.05	20.87	21.09	18.33	18.85
21	16.12	-----	18.23	18.70	-----	19.66	19.34	20.09	20.89	21.06	18.57	18.83
22	16.89	11.46	18.42	-----	-----	19.72	19.44	20.15	20.91	21.05	18.68	18.74
23	17.47	13.66	18.37	-----	18.85	19.76	19.54	20.23	20.92	19.60	17.95	18.82
24	17.80	14.92	18.24	-----	18.92	19.81	19.65	20.30	20.96	14.82	16.66	18.88
25	18.13	15.81	18.44	-----	18.97	19.87	19.31	20.35	20.96	15.35	17.26	18.93

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 2--Cont.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	18.40	16.49	18.59	-----	19.00	19.93	19.30	20.39	20.97	16.45	17.67	17.11
27	18.55	17.11	18.68	-----	19.05	19.93	19.33	20.41	20.60	17.41	18.07	17.47
28	18.60	17.60	18.71h	18.98	19.04	19.80	-----	20.43	20.71	18.04	18.36	17.81
29	18.71	-----	18.73	18.97	19.07	12.76	-----	20.46	20.83	18.55	18.52	18.05
30	18.83	-----	18.73	18.97	19.13	14.75	-----	20.42	20.88	18.95	18.64	17.65
31	18.91	-----	18.76	-----	19.19	-----	-----	20.38	-----	19.32	-----	17.41

(Daily 2 A.M. water level from recorder graph, 1952)

1	17.06	-----	18.91	18.48	18.75	-----	-----	-----	-----	-----	-----	-----
2	17.52	-----	18.98	18.51	18.77	-----	-----h	20.52	-----	-----	-----	-----
3	17.86	16.93	18.99	18.57	18.81	-----	-----	-----	-----	-----	-----	-----
4	18.17	15.37	18.95	18.62	18.85	-----	-----	-----	-----h	21.36	-----	-----
5	18.27	15.65	19.02	8.65	18.88	-----h	19.05	-----	-----	-----	-----h	18.98
6	18.40	16.21	19.09	11.90	18.90	-----	-----	-----h	20.28	-----	-----	-----
7	18.51	16.66	19.14	13.84	18.94h	19.26	-----	-----	-----	-----	-----	-----
8	18.58	17.12	19.16	15.00	-----	-----	-----	-----	-----	-----h	21.49	-----
9	18.58	17.48	19.13	15.83	-----	-----	-----h	20.78	-----	-----	-----	-----
10	18.63	17.80	19.06	16.50h	14.38	-----	-----	-----	-----	-----	-----	-----
11	18.72	-----	4.20	17.03	-----	-----	-----	-----	-----h	21.50	-----	-----
12	18.77	-----	10.55	17.49	-----	-----h	19.74	-----	-----	-----	-----h	18.78
13	18.81	-----	12.95	17.00	-----	-----	-----	-----h	20.96	-----	-----	-----
14	18.81	-----	14.44	15.35	-----h	16.51	-----	-----	-----	-----h	21.42	-----
15	18.81	-----	15.49	15.80	-----	-----	-----	-----	-----	-----	-----	-----
16	18.86	-----	16.23	16.37	-----	-----	-----h	20.10	-----	-----	-----	-----
17	18.87	18.65	16.94	16.92h	18.60	-----	-----	-----	-----	-----	-----	-----
18	18.85	18.71	17.47	17.37	-----	-----	-----	-----	-----	-----h	21.57	-----
19	18.88	18.77	17.21	17.66	-----	-----h	19.50	-----	-----	-----	-----h	20.60
20	18.84	18.79	17.35	17.91	-----	-----	-----	-----h	20.33	-----	-----	-----
21	18.89	18.80	17.61	18.13	-----h	18.84	-----	-----	-----	-----h	21.37	-----
22	18.89	18.85	15.00	18.31	-----	-----	-----	-----	-----	-----	-----	-----
23	18.87	18.89	15.02	18.44	-----	-----	-----h	20.94	-----	-----	-----	-----
24	18.95	18.89	15.72	18.40h	15.86	-----	-----	-----	-----	-----	-----	-----
25	19.02	18.90	16.30	18.45	-----	-----	-----	-----	-----h	21.57	-----	-----
26	18.98	18.94	16.88	18.50	-----	-----h	20.15	-----	-----	-----	-----h	20.73
27	9.08	18.94	17.38	18.58	-----	-----	-----	-----h	21.14	-----	-----	-----
28	12.10	18.93	17.73	18.62	-----h	17.50	-----	-----	-----	-----h	21.06	-----
29	13.88	18.90	18.02	18.66	-----	-----	-----	-----	-----	-----	-----	-----
30	-----	-----	18.28	18.71	-----	-----	-----h	21.14	-----	-----	-----	-----
31	-----	-----	18.42	-----h	18.54	-----	-----	-----	-----h	21.55	-----	-----

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1953		Jan. 16	20.10	Feb. 13	19.13	Mar. 13	18.80
		23	19.93	20	19.92	20	18.16
Jan. 2	20.78	30	20.05	27	19.75	27	19.05
9	18.55	Feb. 6	20.38	Mar. 6	14.96	Apr. 10	17.83

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 2--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 17	18.85	1954		Sept. 4	26.89	June 21	24.41
24	19.02			11	27.90	28	24.49
May 1	19.12	Jan. 2	22.73	18	27.92	July 5	24.50
8	19.26	9	22.30	23	27.48	12	24.53
15	19.30	16	23.08	27	27.54	18	24.26
25	19.10	23	22.40	Oct. 4	28.10	25	24.48
June 1	19.60	30	20.90	11	28.10	Aug. 2	24.55
8	19.60	Feb. 6	20.66	18	28.20	9	24.57
15	19.60	13	21.03	25	28.10	15	24.62
22	20.60	20	20.27	Nov. 1	28.30	22	24.73
29	20.00	27	20.20	8	28.10	30	24.78
July 6	19.90	Mar. 6	20.37	18	28.02	Sept. 7	26.65
13	18.58	13	20.44	27	28.07	15	26.66
20	19.31	20	20.04	Dec. 4	28.03	20	26.70
27	19.05	27	20.26	11	28.03	28	26.74
Aug. 3	19.10	Apr. 3	20.00	18	28.02	Oct. 5	26.31
10	19.20	10	20.06	27	28.02	12	26.22
17	20.42	17	19.93			19	26.22
24	20.60	24	19.93	1955		26	26.32
31	20.79	May 1	20.04			Nov. 1	26.12
Sept. 7	20.96	8	19.46	Jan. 1	28.02	8	26.25
14	21.60	15	20.55	8	26.37	15	26.26
21	22.30	22	20.27	17	26.41	22	24.05
24	22.64	29	20.19	24	26.40	29	24.18
28	22.85	June 5	18.76	31	26.43	Dec. 6	24.32
Oct. 10	23.40	12	20.12	Feb. 7	26.47	13	26.17
17	23.90	19	20.53	14	26.43	20	26.15
24	24.89	26	20.79	21	26.41	27	26.23
31	24.30	July 3	20.42	28	26.15		
Nov. 7	24.20	11	21.35	Mar. 7	26.21	1956	
14	24.77	18	23.00	14	26.20		
21	24.83	24	21.22	21	26.15	Jan. 3	26.23
28	24.83	28	23.90	28	26.20	10	26.25
Dec. 5	24.60	Aug. 2	25.89	Apr. 4	26.20	16	26.27
12	24.77	14	25.93	11	26.22	23	26.25
19	23.08	21	25.89	18	26.15	Feb. 6	26.04
26	23.73	28	26.16	25	26.15	13	26.02
				May 2	26.21	20	26.02
				11	26.26	29	24.03
				17	26.23	Mar. 7	24.17
				23	24.07	14	24.21
				31	24.15	19	24.20
				June 7	24.27		
				14	24.32		

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 2--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 26	24.19	Oct. 24	24.68	May 7	24.32	Dec. 3	24.38
Apr. 2	24.19	31	24.75	14	24.30	10	24.40
9	24.15	Nov. 7	24.74	21	24.16	17	24.40
16	24.18	14	24.74	28	24.04	23	24.16
23	24.33	21	24.69	June 4	24.04	30	21.08
30	24.48	28	24.65	11	24.10		
May 7	24.73	Dec. 5	24.62	18	24.12	1958	
14	24.76	12	24.55	24	24.16		
21	24.76	19	24.43	July 1	24.13		
28	24.08	26	24.43	8	24.11	Jan. 8	16.09
June 4	24.02			15	24.08	15	16.95
11	24.24	1957		23	24.06	22	16.30
19	24.28			29	24.24	29	17.95
25	24.33	Jan. 3	24.46	Aug. 5	24.31	Feb. 5	18.42
July 2	24.37	10	24.45	12	24.38	12	18.76
9	24.30	22	24.47	19	24.42	19	19.05
16	24.37	30	24.45	27	24.44	27	18.95
23	24.26	Feb. 6	24.40	Sept. 3	24.48	Mar. 6	19.18
30	24.38	13	24.36	10	24.50	26	17.97
Aug. 6	24.44	20	24.37	17	24.52		
16	24.60	28	24.40	25	24.53		
23	24.61	Mar. 7	24.40	Oct. 2	24.52		
30	24.60	14	24.39	9	24.54		
Sept. 7	24.56	21	24.38	16	24.54		
14	24.60	28	24.35	23	24.53		
21	24.60	Apr. 4	24.18	29	24.48		
27	24.65	11	24.04	Nov. 5	24.44		
Oct. 3	24.68	17	24.14	12	24.44		
10	24.70	24	24.18	17	24.38		
17	24.70	30	24.23	29	24.36		

Owen 3. (12/4W-33R1). Ben Lambert. Cataract. SE¼SE¼ sec. 33, T. 12 N., R. 4 W. Drilled unused artesian well in limestone, diameter 6 inches, reported depth about 175 feet. Land-surface datum is about 800 feet above msl. Recording gage installed September 17, 1952; removed November 5, 1952. Highest water level is 84.23 below lsd, March 13, 1952; lowest, 139.55 below lsd May 13, 1952. Records available 1946 to 1953.

1946		Aug. 1	109.15	Dec. 12	109.21	Jan. 30	109.04
		9	108.96	19	109.33	Feb. 6	109.13
June 5	109.07	22	108.97	26	109.27	13	109.32
6	109.08	29	109.38			20	109.24
20	108.98	Sept. 6	109.00	1947		27	109.22
27	109.00	Oct. 22	109.58			Mar. 6	109.25
July 4	109.15	Nov. 14	109.41	Jan. 2	109.27	13	109.27
13	109.00	21	109.40	9	109.27	20	109.17
17	109.94	28	109.41	16	109.20	27	109.11
26	109.89	Dec. 5	109.40	23	109.20	Apr. 3	109.1[illegible]

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 3--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 10	109.18	Mar. 4	108.60	Jan. 27	108.80	Jan. 5	108.60
17	109.16	11	108.60	Feb. 4	108.72	12	108.60
24	109.19	18	108.47	10	108.61	19	108.64
May 1	109.10	25	108.50	17	108.66	26	108.50
8	109.17	Apr. 1	108.30	24	108.70	Feb. 2	108.60
15	109.16	8	108.60	Mar. 3	108.76	9	108.59
22	109.14	15	108.61	10	108.46	16	108.49
29	109.10	22	108.80	17	108.60	23	108.33
June 5	109.15	29	108.77	24	108.61	Mar. 2	108.52
12	109.07	May 6	108.61	31	108.50	9	108.20
19	109.11	13	108.77	Apr. 7	108.50	16	108.37
26	109.10	20	108.80	15	108.29	23	108.38
July 3	109.15	27	108.80	28	108.61	30	108.14
10	109.15	June 3	108.89	May 5	108.61	Apr. 6	108.45
17	109.15	10	108.77	12	108.50	13	108.45
24	109.24	17	108.88	19	108.65	20	108.46
31	109.20	24	108.94	26	108.57	27	108.20
Aug. 7	109.20	July 1	109.02	June 2	108.61	May 4	108.37
15	109.22	8	109.04	9	108.80	11	108.48
21	109.22	15	109.04	16	108.71	18	108.40
28	109.17	22	109.01	23	108.70	25	108.46
Sept. 4	109.16	29	109.01	30	108.79	June 1	108.50
11	109.17	Aug. 5	109.03	July 6	108.80	8	108.51
18	109.20	12	108.99	14	108.79	15	108.50
25	109.06	19	109.04	22	108.85	22	108.40
Oct. 2	109.14	26	109.10	29	108.88	29	108.51
9	109.12	Sept. 2	109.16	Aug. 5	108.90	July 6	108.49
16	109.10	9	109.11	11	108.84	13	108.50
23	109.16	16	109.23	18	108.84	20	108.50
30	109.08	23	109.11	25	108.92	27	108.60
Nov. 6	109.03	30	109.17	Sept. 1	108.85	Aug. 3	108.61
13	109.09	Oct. 7	109.11	8	108.84	10	108.61
20	109.03	14	109.18	15	108.94	17	108.69
27	108.85	21	109.20	22	108.86	24	108.64
Dec. 4	109.01	29	109.15	29	108.90	31	108.55
11	108.97	Nov. 4	109.00	Oct. 6	108.87	Sept. 7	108.59
18	108.95	11	109.04	13	108.90	14	108.53
25	108.97	18	108.94	20	108.96	21	108.49
		25	108.86	27	108.91	28	108.54
1948		Dec. 2	108.97	Nov. 3	108.93	Oct. 5	108.42
		9	108.89	10	108.80	12	108.36
Jan. 1	108.85	16	108.86	17	108.79	19	108.34
8	108.84	23	108.92	24	108.77	26	108.44
15	109.93	30	108.88	Dec. 1	108.79	Nov. 2	108.40
22	109.70			8	108.85	10	108.37
29	108.90	1949		22	108.70	16	108.40
Feb. 5	108.89			29	108.81	23	108.34
12	108.94	Jan. 6	108.76			30	108.25
19	108.34	13	108.85	1950		Dec. 7	108.25
26	108.70	20	108.86			14	108.25
						21	108.40
						28	108.34

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 3--Cont.

(Daily 2 A.M. water level from recorder graph, 1952)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-----	-----	-----	-----	85.85	119.90	111.22	109.73	109.26	109.03	108.84	-----
2	-----	-----	-----	-----	-----	119.18	111.14	109.68	109.22	-----	108.83	-----
3	91.96	-----	-----	85.09	-----	118.50	111.05	109.66	109.24	-----	108.85	-----
4	-----	-----	-----	-----	-----	117.99	110.99	109.60	109.26	109.15	108.89	-----
5	-----	-----	-----	-----	-----	117.40	110.91	109.62	109.26	------	108.87	-----
6	-----	-----	-----	-----	-----	116.91	110.83	109.63	109.26	-----	-----	h108.96
7	-----	85.40	-----	-----	-----	116.45	110.79	109.61	109.26	-----	-----	-----
8	-----	-----	-----	-----	85.60	116.00	110.65	109.57	109.26	108.95	-----	-----
9	-----	-----	-----	-----	-----	115.60	110.58	109.53	109.25	108.91	-----	-----
10	90.79	-----	-----	85.15	-----	115.22	110.54	109.52	109.24	108.90	-----	-----
11	-----	-----	-----	-----	-----	114.92	110.49	109.51	109.21	108.91	-----	-----
12	-----	-----	-----	-----	-----	114.54	110.45	109.51	109.20	108.89	-----	-----
13	-----	-----	84.23	-----	139.55	114.25	110.40	109.53	109.20	108.85	-----	[illegible]
14	-----	85.15	84.44	-----	138.93	114.02	110.35	109.51	109.19	108.84	-----	-----
15	-----	-----	-----	-----	136.01	113.71	110.26	109.46	109.16	108.85	h108.91	-----
16	-----	-----	-----	-----	-----	113.41	110.23	109.42	109.12	108.86	-----	-----
17	89.21	-----	-----	85.33	-----	113.19	110.20	109.44	-----	108.87	-----	-----
18	-----	-----	-----	-----	-----	112.99	110.15	109.44	108.99	108.90	-----	-----
19	-----	-----	-----	-----	-----	112.84	110.10	109.44	108.98	108.89	-----	-----
20	-----	-----	84.60	-----	-----	112.65	110.05	109.39	109.03	108.89	-----	-----
21	-----	85.10	-----	-----	-----	112.45	109.99	109.38	109.07	108.97	-----	-----
22	-----	-----	-----	-----	-----	112.31	109.97	109.40	109.09	108.97	h108.94	-----
23	-----	-----	-----	-----	131.31	112.17	109.92	109.41	109.08	108.93	-----	-----
24	87.71	-----	-----	85.29	130.55	111.99	109.93	109.39	109.10	108.90	-----	-----
25	-----	-----	-----	-----	128.25	111.85	109.90	109.40	109.11	108.86	-----	-----
26	-----	-----	-----	-----	126.52	111.74	109.96	109.38	109.08	108.87	-----	-----
27	-----	-----	85.07	-----	125.00	111.64	109.85	109.36	109.06	108.84	-----	-----
28	-----	84.83	-----	-----	123.99	111.53	109.78	109.33	109.05	108.82	-----	-----
29	-----	-----	-----	-----	122.77	111.41	109.76	109.31	109.05	108.86	h108.95	-----
30	-----	-----	-----	-----	121.54	111.28	109.73	109.30	109.04	108.88	-----	-----
31	86.87	-----	-----	-----	120.69	-----	109.74	109.28	-----	108.85	-----	-----

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 3--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1953		Mar. 16	109.49	Mar. 31	109.29	Apr. 13	109.37
		23	109.42	Apr. 6	109.38	20	109.42
Mar. 2	109.47						
9	109.62						

Owen 4. (12/4W-29R1). Jackson Township School. Cunot. SE¼SE¼ sec. 29, T. 12 N., R. 4 W. Drilled unused well in limestone, diameter 6 inches, reported depth about 114 feet. Land-surface datum is about 805 feet above msl. Highest water level is 62.69 below lsd, August 17, 1952; lowest, 102.83 below lsd October 26, 1953. Records available 1946 to 1953.

1946		Jan. 25	71.90	Oct. 11	78.61	June 7	77.81
		Feb. 1	71.75	18	78.99	17	77.77
Jan. 20	72.60	8	71.83	25	79.78	21	78.03
21	72.58	15	71.62	Nov. 1	79.69	28	79.79
28	75.70	21	71.57	8	78.80	July 5	79.58
July 5	76.05	Mar. 1	71.51	15	78.76	12	80.14
12	76.59	8	73.69	22	79.19	19	80.02
19	76.70	15	73.56	29	79.22	26	80.76
26	78.20	22	72.11	Dec. 6	77.93	Aug. 2	80.29
Aug. 2	78.39	29	70.35	13	76.59	9	80.56
9	78.22	Apr. 5	70.82	20	77.96	16	80.81
16	78.05	12	74.19	27	77.84	23	80.89
23	78.60	19	68.81			29	80.86
31	78.49	26	69.54	1948		Sept. 7	80.74
Sept. 7	78.80	May 3	73.57			13	81.79
14	78.78	10	73.89	Jan. 3	76.45	20	84.58
21	78.88	17	72.72	10	76.68	27	84.52
28	79.12	26	72.29	17	76.42	Oct. 4	84.47
Oct. 5	79.20	31	74.41	24	76.51	11	83.23
12	79.75	June 7	72.67	31	77.87	18	83.62
19	80.26	14	75.87	Feb. 9	78.73	25	82.29
26	80.59	21	74.50	16	76.46	Nov. 1	81.53
Nov. 2	80.80	28	74.66	22	75.69	8	81.74
8	80.44	July 7	77.73	Mar. 1	76.42	15	80.70
16	80.42	12	76.61	8	76.48	22	79.03
23	80.60	19	76.77	15	74.52	30	79.27
30	78.31	28	78.19	22	76.54	Dec. 5	78.19
Dec. 7	78.68	Aug. 2	78.51	29	77.29	13	78.02
14	76.10	11	78.32	Apr. 5	77.40	21	78.08
21	75.80	18	78.72	12	77.68	27	77.89
28	74.70	23	78.94	19	77.49		
		30	78.79	26	77.03	1949	
1947		Sept. 6	78.81	May 3	77.22		
		13	78.75	10	77.31	Jan. 3	78.48
Jan. 4	73.10	20	78.48	17	77.44	10	76.70
11	71.15	27	78.52	24	77.33	17	76.88
18	71.60	Oct. 4	78.52	31	77.70	24	81.87

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 4--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	80.19	1950		Nov. 27	77.34	Oct. 8	76.48
Feb. 7	81.79	Jan. 3	79.25	Dec. 4	75.79	15	77.89
14	82.35	9	78.64	11	75.26	22	78.08
21	81.67	16	78.42	18	76.46	29	78.16
28	81.49	23	80.38	26	77.80	Nov. 55	78.42
Mar. 7	82.62	30	80.29			12	78.75
14	82.38	Feb. 6	80.23	1951		19	77.04
22	82.12	13	79.07			26	77.39
27	80.10	20	79.48	Jan. 2	77.17	Dec. 3	77.28
Apr. 4	81.20	27	78.12	8	77.33	10	78.81
11	81.49	Mar. 6	78.64	15	77.72	17	78.85
18	81.38	13	78.69	22	77.43	24	77.18
25	80.90	20	78.37	29	77.25	31	77.69
May 2	80.73	27	78.80	Feb. 5	78.77		
9	79.82	Apr. 3	78.89	12	78.82	1952	
16	81.09	10	78.51	19	76.49		
23	80.88	17	78.19	26	75.80	Jan. 7	77.42
31	80.49	24	78.08	Mar. 5	74.08	14	77.36
June 6	80.12	May 1	78.26	12	75.67	21	77.19
13	81.90	4	78.37	19	74.00	28	77.77
20	81.10	15	78.54	26	75.68	Feb. 4	76.24
26	81.22	22	78.67	Apr. 2	76.39	11	76.59
July 5	81.06	29	78.55	9	77.74	18	77.78
11	81.14	June 5	79.38	16	76.11	25	77.65
18	81.17	12	79.20	23	76.47	Mar. 3	77.54
25	81.39	19	78.37	30	76.74	10	77.39
Aug. 1	81.68	25	78.47	May 7	78.57	17	77.15
8	81.73	July 3	78.59	14	76.04	24	77.64
15	81.80	10	78.80	21	76.19	31	77.81
22	81.39	17	78.89	28	77.78	Apr. 7	77.53
29	81.32	24	77.32	June 4	78.10	14	76.81
Sept. 6	81.58	31	77.46	11	78.32	21	76.47
12	81.69	Aug. 7	77.69	18	78.68	28	75.06
19	82.85	14	78.12	25	77.13	May 5	74.81
25	81.52	21	78.08	July 2	76.30	12	74.76
Oct. 3	81.80	28	78.27	9	76.07	19	74.64
10	81.73	Sept. 5	78.69	16	76.36	26	74.23
17	80.76	11	77.80	23	77.79	June 2	74.49
24	80.52	18	76.38	30	77.37	9	74.61
31	78.79	25	77.59	Aug. 6	77.12	16	75.04
Nov. 7	78.63	Oct. 2	75.42	13	78.77	23	74.40
14	80.70	9	75.07	20	78.59	30	74.57
21	80.38	16	76.76	27	78.64	July 7	90.84
28	80.29	23	76.19	Sept. 4	77.58	12	83.87
Dec. 5	80.44	30	77.67	10	77.74	19	68.84
12	80.68	Nov. 6	76.45	17	77.88	27	94.24
19	80.62	13	76.13	24	76.19	Aug. 9	90.68
27	79.33	20	76.68	Oct. 1	76.40	17	62.69

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 4--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 18	99.04	1953		Apr. 19	87.84	Aug. 3	99.75
27	95.03			26	78.84	9	86.96
Oct. 5	91.37	Jan. 11	85.78	May 3	81.82	16	91.85
12	94.88	24	88.81	10	70.63	24	86.71
19	101.65	31	88.84	17	79.83	30	95.81
26	102.83	Feb. 8	82.91	24	76.84	Sept. 6	89.67
Nov. 9	80.29	15	83.74	31	77.84	14	91.71
15	86.47	22	86.81	June 15	76.43	15	82.87
22	94.09	Mar. 8	91.81	21	88.13	20	81.75
29	98.66	15	91.81	30	91.72	24	82.63
Dec. 7	92.37	22	83.81	July 8	92.68	Oct. 1	77.84
13	95.04	29	91.35	14	88.89	8	64.24
21	92.83	Apr. 5	83.75	19	91.82		
28	87.84	13	83.79	26	85.79		

Owen 5. (12/4W-30B1). David R. Bronson. Poland. NW¼NE¼ sec. 30, T. 12 N., R. 4 W. Dug unused artesian well in sandy-clay, diameter 26 inches, depth 17.4 feet. Land-surface datum is about 780 feet above msl. Recording gage installed October 20, 1958. Highest water level is 0.70 below lsd, Feburary 1959; lowest, 13.72 below lsd, February 23, 1954. Records available 1946 to 1959.

1946		Nov. 30	12.55	May 31	2.65	Dec. 20	11.07
		Dec. 7	12.66	June 14	3.97	27	12.16
June 5	2.52	14	11.68	21	2.67		
8	2.58	21	10.99	28	3.54	1948	
15	5.75	28	10.57	July 5	4.68		
22	8.08			12	6.27	Jan. 3	6.25
29	6.98	1947		19	6.78	10	5.87
July 6	9.08			26	7.36	17	6.94
14	8.38	Jan. 4	6.65	Aug. 2	8.75	24	6.32
20	8.78	12	5.65	9	8.63	31	7.24
27	12.58	18	4.07	16	7.95	Feb. 7	8.10
Aug. 3	13.39	26	2.66	23	9.25	14	8.92
10	12.67	Feb. 1	2.47	30	8.75	21	8.49
17	11.86	8	3.78	Sept. 6	9.06	28	3.78
24	11.80	16	3.76	13	8.62	Mar. 7	3.54
31	11.28	22	3.94	20	8.76	13	3.27
Sept. 7	11.78	Mar. 8	6.47	27	9.85	20	1.91
14	13.10	15	6.45	Oct. 6	10.35	27	1.54
21	12.68	22	4.67	11	9.45	Apr. 3	3.23
28	11.78	29	2.98	18	10.66	12	1.76
Oct. 5	11.67	Apr. 5	1.76	25	10.53	17	2.55
12	11.67	12	1.77	Nov. 1	10.64	24	4.59
19	11.78	19	1.84	8	10.56	May 1	4.80
26	12.08	26	1.66	14	10.58	8	3.89
Nov. 3	12.58	May 3	1.55	22	10.86	22	3.23
10	12.08	12	3.67	29	11.21	30	5.79
16	12.09	18	1.56	Dec. 6	11.34	June 5	7.07
23	12.46	25	1.95	13	11.78	12	7.79

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 5--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 19	6.73	May 21	8.05	Apr. 10	2.96	Mar. 3	1.90
26	7.82	28	8.96	15	2.82	17	1.58
July 3	8.81	June 4	9.94	24	3.08	24	1.79
10	9.07	11	8.24	1	3.04	Apr. 1	1.77
17	8.88	18	8.22	6	2.72	7	1.76
24	10.45	25	8.97	13	4.06	14	1.68
31	7.88	July 2	9.53	20	3.64	21	1.69
Aug. 7	8.47	9	8.68	27	5.76	May 5	2.88
14	8.37	16	9.96	June 7	6.98	12	1.62
22	9.97	23	9.96	10	7.74	19	3.89
28	9.53	30	9.45	17	6.66	28	4.85
Sept. 4	9.77	Aug. 6	10.07	26	3.74	June 4	6.67
11	9.78	13	10.07	July 1	4.67	10	6.85
18	10.07	20	9.98	7	6.07	17	6.53
24	10.07	27	9.85	15	5.27	23	6.67
Oct. 2	8.99	Sept. 6	10.67	21	7.74	July 1	6.48
9	10.77	10	9.99	30	7.42	10	5.47
16	10.81	17	10.08	Aug. 6	8.07	15	4.97
23	10.74	24	8.08	12	8.42	21	4.85
30	9.27	Oct. 1	9.99	20	8.67	29	6.09
Nov. 6	8.66	8	10.99	26	8.57	Aug. 6	7.28
13	4.69	15	10.09	Sept. 3	5.88	11	7.45
20	1.97	22	8.97	9	5.33	20	9.06
27	3.37	29	8.29	17	6.39	25	8.85
Dec. 4	3.37	Nov. 5	9.47	24	4.06	Sept. 1	8.44
11	4.63	12	6.77	30	5.97	9	8.47
25	3.46	20	9.55	Oct. 10	5.16	15	8.88
		26	8.97	14	4.99	24	8.87
1949		Dec. 3	9.77	22	6.61	Oct. 2	9.08
		13	9.35	28	7.07	6	9.39
Jan. 1	3.06	17	7.57	Nov. 4	7.15	12	9.89
8	2.10	24	4.37	12	5.29	20	9.77
15	2.07			19	6.75	27	8.83
23	2.67	1950		Dec. 2	1.96	Nov. 4	8.99
Feb. 5	2.96			9	2.08	10	8.07
11	3.42	Jan. 7	1.89	16	2.97	17	3.07
19	2.78	14	1.06	24	3.75	25	1.97
26	1.93	21	1.93	29	3.85	Dec. 1	3.78
Mar. 5	2.69	28	1.78			9	1.64
12	3.08	Feb. 4	2.02	1951		15	2.08
19	2.98	11	2.65			22	2.25
26	1.99	17	1.93	Jan. 6	4.96	29	3.89
Apr. 2	1.91	18	2.05	13	4.26		
9	3.91	25	1.83	20	2.99	1952	
16	4.23	Mar. 3	3.89	30	3.25		
23	5.23	11	2.86	Feb. 3	3.96	Jan. 6	1.74
30	3.46	18	2.61	10	4.46	12	2.07
May 7	6.93	25	2.07	17	3.74	19	1.86
14	7.59	Apr. 2	1.99	24	1.79	26	2.03

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 5--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 2	1.56	Jan. 24	8.39	Apr. 6	7.61	Aug. 9	8.63
9	1.79	31	6.88	13	2.08	Sept. 21	10.21
16	2.83	Feb. 8	10.97	20	1.90	Nov. 16	5.46
24	3.06	15	11.06	May 4	1.89	Dec. 2	2.96
27	2.53	22	10.93	5	2.06	21	2.96
Mar. 1	3.06	Mar. 8	3.99	11	2.70		
8	2.79	15	5.07	18	3.60	1956	
15	2.06	22	2.94	25	4.71		
22	1.07	29	2.05	June 2	5.16	Jan. 6	6.36
29	2.77	Apr. 5	3.01	8	5.01	18	7.96
Apr. 6	1.45	13	4.07	15	5.46	Feb. 1	7.96
19	2.17	19	3.96	23	6.46	8	2.46
28	2.41	26	2.09	29	7.16	21	2.46
May 3	4.37	May 3	3.89	July 6	7.81	29	1.71
11	4.77	10	4.02	14	8.41	Mar. 19	1.96
19	6.48	17	3.97	20	8.81	Apr. 11	1.86
24	4.57	24	5.09	28	9.21	25	3.46
June 2	4.47	31	5.81	Aug. 4	9.41	May 11	3.96
7	4.93	June 15	6.83	11	9.71	June 1	1.67
14	5.91	21	7.91	Sept. 29	11.16	29	6.65
21	6.99	30	6.99	Oct. 5	11.34	July 27	8.46
28	3.36	July 8	8.49	13	11.36	Aug. 28	9.46
July 7	6.06	15	9.01	20	11.56	Sept. 5	9.66
12	6.88	19	8.98	Nov. 3	11.96	12	9.46
19	7.98	26	10.05	10	12.56	26	9.71
27	6.63	Aug. 3	7.77	17	12.40	Nov. 29	11.76
Aug. 3	9.85	9	8.83	Dec. 1	12.86		
9	4.93	24	10.64	7	12.54	1957	
17	9.09	30	11.07	14	13.12		
24	9.09	Sept. 6	11.59			Feb. 13	2.12
31	9.48	14	9.78	1955		20	2.63
Sept. 8	9.75	15	10.14			27	2.10
21	8.27	20	9.85	Jan. 3	11.66	Mar. 7	2.51
27	10.07	Nov. 3	11.29	12	3.46	13	2.58
Oct. 5	10.75			18	3.71	20	1.81
12	9.83	1954		Feb. 16	5.46	27	1.36
19	10.78			Mar. 2	1.63	Apr. 3	1.35
26	10.47	Jan. 6	12.78	8	1.73	10	1.21
Nov. 9	9.95	12	13.00	15	2.16	17	1.74
15	11.08	19	13.17	22	1.62	24	1.88
22	11.09	26	12.28	29	1.72	May 1	2.59
29	10.57	Feb. 2	13.37	Apr. 14	1.31	8	3.81
Dec. 7	9.05	9	13.51	26	1.41	15	4.53
13	9.33	17	13.65	May 3	2.91	22	1.45
21	10.61	23	13.72	11	3.96	29	2.04
28	10.55	Mar. 2	13.58	June 1	5.96	June 4	1.86
		9	13.03	14	2.56	11	2.75
1953		16	12.18	July 12	6.56	18	2.81
		23	11.32	27	7.86	26	3.58
Jan. 11	9.45	30	9.24	Aug. 3	8.31	July 3	2.96

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 5--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 10	4.32	Feb. 5	2.70	Oct. 28	7.40	Dec. 4	1.09
17	5.56	13	3.75	29	7.54	5	1.13
24	6.26	19	4.99	30	7.66	6	1.31
31	6.64	27	6.34	31	7.77	7	1.59
Aug. 7	7.61	Mar. 6	7.11	Nov. 1	7.82	8	1.71
14	7.96	26	4.03	2	7.83	9	1.85
21	8.31	Apr. 16	2.66	3	7.86	10	2.09
28	8.56	May 15	2.75	4	7.94	11	2.29
Sept. 4	8.86	22	2.70	5	7.96	12	2.39
11	9.62	June 24	1.61	6	8.01	13	2.59
18	9.38	July 1	1.97	7	8.08	14	2.92
25	9.60	15	2.02	8	8.14	15	3.15
Oct. 1	9.73	22	3.72	9	8.14	16	3.40
9	9.96	29	4.89	10	8.17	17	3.65
16	10.06	Aug. 5	1.97	11	8.25	18	3.90
30	10.36	19	2.10	12	8.30	19	4.12
Nov. 6	10.56	26	3.15	13	8.36	20	4.31
13	10.66	Sept. 3	4.71	14	8.40	21	4.67
21	7.66	10	5.82	15	8.43	22	4.96
27	4.36	16	6.67	16	8.39	23	5.18
Dec. 4	4.61	23	6.97	17	4.65	24	5.29
11	2.66	30	6.96	18	2.50	25	5.61
18	1.66	Oct. 7	6.77	19	2.15	26	5.93
26	1.06	14	7.15	20	2.12	27	6.13
		20	h6.11	21	2.15	28	6.25
1958		21	6.21	22	2.18	29	6.41
		22	6.49	23	2.32	30	6.61
Jan. 2	1.76	23	6.68	24	2.39	31	6.83
8	2.86	24	6.82	25	2.11		
15	3.86	25	6.99	26	1.60		
22	2.85	26	7.13	27	1.57		
29	2.20	27	7.27	Dec. 3	1.15		

(Daily highest water level from recorder graph, 1959)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.
1	6 42	2.46	1.30	0.83	1.36	----	6.76	8.59	9.29	9.99	10.55	9.89
2	5.68	2.48	1.30	.83	1.51	----	6.80	8.63	9.31	10.02	10.56	9.90
3	5.27	2.12	1.36	.83	1.77	----	7.07	8.66	9.34	10.04	10.59	9.92
4	5.23	1.85	1.57	.89	1.98	----	7.20	8.68	9.37	10.06	10.60	9.94
5	5.25	1.86	1.05	1.02	2.13	----	e7.26	8.69	9.40	10.09	10.60	9.95
6	5.31	2.03	.96	1.21	2.31	----	----	8.71	9.43	10.11	10.63	9.97
7	5.26	2.22	1.16	1.45	2.53	----	7.46	8.73	9.45	10.12	10.67	9.98
8	5.26	2.14	1.31	1.48	2.81	----	7.57	8.75	9.47	10.14	10.69	9.99
9	5.40	----	.92	1.14	2.99	----	7.64	8.76	9.50	10.15	10.71	10.01
10	5.57	.70	.84	1.12	3.17	----	7.71	8.78	9.53	10.18	10.72	10.04

Table 8.--Water levels is observation wells in Owen County, Indiana--Continued

Owen 5--Cont.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11	5.70	1.04	.85	1.15	2.99	----	7.76	8.81	9.56	10.18	10.73	9.68
12	5.87	1.41	----	1.29	1.35	----	7.80	8.84	9.59	10.20	10.74	4.97
13	5.97	1.33	.79	1.42	1.13	----	7.87	8.87	9.63	10.23	10.68	3.69
14	6.07	.91	.81	1.59	1.13	2.97	7.95	8.90	9.65	10.24	10.45	3.51
15	5.30	.99	.75	1.77	1.29	3.12	8.00	8.92	9.66	10.25	10.32	3.51
16	4.79	1.20	1.01	1.92	1.54	3.27	8.05	8.96	9.66	10.28	10.17	3.55
17	4.69	1.10	1.13	2.06	1.74	3.46	8.09	8.98	9.69	10.29	10.13	3.65
18	4.66	1.09	1.41	2.15	1.89	3.71	8.12	9.00	9.72	10.31	10.05	3.70
19	4.64	1.22	1.54	1.46	1.79	3.97	8.12	9.03	9.75	10.33	9.99	3.70
20	4.18	1.49	1.59	1.26	1.91	4.21	8.16	9.07	9.77	10.34	9.93	3.73
21	2.60	1.83	1.64	1.27	1.96	4.43	8.20	9.09	9.78	10.36	9.89	3.77
22	2.60	2.04	1.79	1.38	1.71	4.66	8.25	9.11	9.80	10.38	9.86	3.90
23	2.60	1.33	1.94	1.58	1.65	4.92	8.29	9.12	9.81	10.39	9.79	4.02
24	2.59	1.34	2.00	1.78	1.78	5.21	8.31	9.13	9.83	10.38	9.77	4.11
25	2.55	1.35	2.09	1.96	1.97	5.45	8.35	9.16	9.86	10.38	9.77	4.22
26	2.54	1.34	1.77	2.10	1.67	5.69	8.40	9.18	9.87	10.40	9.77	4.32
27	2.56	1.38	1.69	1.90	1.63	5.96	8.44	9.20	e9.88	10.42	9.79	4.32
28	2.57	1.36	1.83	.93	1.63	6.15	8.47	9.22	e9.92	10.46	9.81	3.93
29	2.54	----	1.82	.97	1.86	6.38	8.50	9.24	9.94	10.49	9.84	3.21
30	2.46	----	1.66	1.12	2.10	6.62	8.53	9.26	9.97	10.51	9.87	2.95
31	2.46	----	1.39	----	e2.28	----	8.56	9.27	----	10.53	----	2.95

Owen 6. (12/5W-24K1). John E. Harrison. Poland. NW¼SE¼ sec. 24, T. 12 N., R. 5 W. Dug unused artesian well in sandy-clay, diameter 36 inches, depth 19.5 feet. Land-surface datum is about 710 feet above msl. Highest water level is 1.72 below lsd, March 26, 1949; lowest, 11.58 below lsd, Feb. 22, 1953. Records available 1946 to 1953.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
1946		Sept. 14	8.46	1947		Apr. 26	3.05
		21	8.28			May 3	4.31
June 5	5.98	28	8.39	Jan. 4	5.46	12	5.46
8	6.28	Oct. 5	9.06	12	5.57	18	3.46
15	6.86	12	9.15	18	5.38	25	4.24
22	7.35	19	9.16	26	5.17	31	5.24
29	7.68	26	9.29	Feb. 1	4.58	June 14	5.53
July 6	7.58	Nov. 3	9.39	8	6.17	21	5.38
14	7.99	10	9.05	16	6.45	28	5.78
20	8.27	16	8.87	22	6.46	July 5	6.86
27	8.17	23	8.27	Mar. 8	7.73	12	7.18
Aug. 3	8.18	30	7.59	15	6.47	19	6.38
10	8.38	Dec. 7	8.49	22	6.06	26	6.38
17	8.28	14	5.07	29	5.36	Aug. 2	7.17
24	8.19	21	7.27	Apr. 5	3.36	9	7.57
31	8.29	28	6.60	12	3.32	16	7.46
Sept. 7	8.39			19	5.23	23	7.17

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 6--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 30	7.75	Aug. 7	7.32	July 16	8.08	June 10	7.36
Sept. 6	7.06	14	7.75	23	7.83	17	6.85
13	8.35	22	7.83	30	8.14	26	5.51
20	8.25	28	8.85	Aug. 6	8.23	July 1	6.47
27	7.24	Sept. 4	8.12	13	8.29	7	6.99
Oct. 6	7.37	11	7.58	20	7.28	15	7.59
11	8.03	18	8.33	27	7.23	21	6.49
18	8.22	24	8.46	Sept. 6	6.81	30	7.46
25	7.93	Oct. 2	9.57	10	7.45	Aug. 6	8.49
Nov. 1	8.03	9	7.55	17	6.89	12	7.55
8	8.18	16	8.56	24	6.59	20	6.58
14	8.05	23	8.38	Oct. 1	7.35	26	7.29
22	8.08	30	7.73	8	5.49	Sept. 3	4.24
29	7.34	Nov. 6	3.53	15	5.57	9	6.06
Dec. 6	7.57	13	5.01	22	4.17	17	6.24
13	7.70	20	3.49	29	6.29	25	5.08
20	7.04	27	5.47	Nov. 5	4.34	30	6.38
27	7.92	Dec. 6	6.23	12	6.94	Oct. 10	6.83
		11	5.38	20	7.48	14	5.38
1948		25	5.46	26	7.36	22	7.49
				Dec. 3	7.49	28	7.58
Jan. 3	3.36	1949		13	5.39	Nov. 4	7.53
10	4.07			17	4.95	12	7.57
24	6.14	Jan. 1	3.49	24	4.37	19	6.12
31	6.85	8	2.45			Dec. 2	3.05
Feb. 7	7.55	15	3.41	1950		9	3.58
14	7.54	23	3.99			16	3.49
21	8.57	Feb. 5	3.98	Jan. 7	3.38	24	6.13
28	5.05	11	5.07	14	3.49	29	5.25
Mar. 7	2.83	19	4.46	21	4.88		
13	4.87	26	4.32	28	4.36	1951	
20	3.43	Mar. 5	5.58	Feb. 4	5.26		
27	3.28	12	5.71	11	4.38	Jan. 6	5.53
Apr. 3	4.72	19	4.49	17	4.36	13	6.05
10	4.48	26	1.72	18	4.56	20	4.36
17	4.94	Apr. 2	5.07	25	4.59	30	5.46
24	6.07	9	5.73	Mar. 3	5.09	Feb. 3	5.38
May 1	5.76	16	5.56	11	5.43	10	5.47
8	4.75	23	7.76	18	5.45	17	4.28
22	6.41	30	5.91	25	5.08	24	5.46
30	7.43	May 7	6.41	Apr. 2	5.43	Mar. 3	4.84
June 5	7.37	14	6.43	10	4.58	17	5.05
12	7.98	21	7.02	15	5.53	24	5.18
19	7.39	28	8.14	24	5.55	Apr. 1	5.22
26	8.38	June 4	7.82	May 1	5.59	7	4.98
July 3	7.87	11	7.57	6	5.88	14	4.19
10	7.77	18	9.34	13	5.49	21	5.28
17	7.95	25	7.46	20	5.38	May 5	6.14
24	7.29	July 2	7.46	27	6.78	12	5.45
31	6.09	9	8.06	June 7	6.77	19	6.09

Table 8.--Water levels in observation wells in Owen County, Indiana--Continued

Owen 6--Cont.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 28	6.32	Dec. 29	5.38	July 19	7.94	Mar. 8	5.58
June 4	7.03			27	8.02	15	6.39
11	7.19	1952		Aug. 3	8.36	22	3.53
17	6.18			9	5.31	29	3.51
23	6.24	Jan. 6	4.84	17	8.27	Apr. 5	4.47
July 1	6.10	12	3.23	24	9.45	13	5.51
10	5.57	19	5.08	31	8.57	19	5.33
15	5.55	26	4.03	Sept. 8	8.57	26	3.32
21	5.47	Feb. 2	3.89	21	8.57	May 3	5.27
29	6.95	9	4.75	27	8.57	10	5.44
Aug. 6	7.42	16	4.98	Oct. 5	9.56	17	5.41
11	7.91	24	5.71	12	8.45	24	6.53
20	7.47	Mar. 1	5.13	19	8.33	31	7.53
25	7.91	8	5.90	26	9.18	June 15	7.42
Sept. 1	8.08	15	4.99	Nov. 6	8.59	21	7.99
9	8.35	22	3.50	15	9.35	30	7.55
15	8.49	29	4.97	22	9.34	July 8	10.11
24	8.37	Apr. 6	4.00	29	9.55	15	9.49
Oct. 2	8.23	19	3.73	Dec. 7	7.75	19	9.23
6	8.50	28	5.39	13	7.98	26	7.21
12	8.97	May 3	6.06	21	9.05	Aug. 3	9.55
20	8.58	11	6.39	28	8.85	9	9.48
27	6.35	17	8.14			24	8.51
Nov. 4	6.82	24	4.49	1953		30	10.45
10	5.78	31	6.06			Sept. 6	9.43
17	4.58	June 7	5.31	Jan. 11	8.01	15	8.93
25	3.55	14	6.43	24	6.75		
Dec. 1	5.82	21	7.94	31	6.95		
9	4.38	28	4.79	Feb. 8	11.55		
15	6.43	July 7	7.44	15	10.77		
22	5.39	12	7.57	22	11.58		

PUBLICATIONS OF COOPERATIVE GROUND-WATER PROGRAM

Report

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

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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.

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.

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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.

INDEX

STATE OF INDIANA
INDIANA DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

PREPARED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 18 PLATE 1

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

SECTION LETTER SYMBOLS IN WELL-NUMBERING SYSTEM.

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

DIAGRAM OF TOWNSHIP

PUTNAM CO
CLAY CO
GREENE CO
MORGAN CO

R. 6 W. R. 5 W. R. 4 W. R. 3 W. R. 2 W.

T. 12 N. T. 11 N. T. 10 N. T. 9 N.

CATARACT LAKE
CATARACT
QUINCY
GOSPORT
PATRICKSBURG
SPENCER
COAL CITY
ARNEY
FREEDOM
WHITEHALL

CREEK
FORK
BRANCH
RIVER
BRUSH CREEK
MILL CREEK
LITTLE LIMESTONE CREEK
INDIAN CREEK
NAANS CREEK
SIXMILE CREEK
FISH CREEK
WEST FORK FISH CREEK
EAST FORK FISH CREEK
RATTLESNAKE CREEK
McCORMICKS CREEK
LICK CREEK
HOUSER CREEK
BEECH CREEK
NEED DITCH
McBRIDES BR
RACCOON CREEK
LITTLE RACCOON CREEK
WHITE RIVER
EEL RIVER

EXPLANATION

- Bl — Water well
- R5 — Observation well
- Q1 — Spring
- O R2 — Oil well, test hole, or hole drilled for purposes other than water supply
- P1 — Well for which log is listed in table 4
- C3 — Well or spring for which field chemical analysis is listed in table 5 or 6
- ▲ — Stream water sampling site—field chemical analysis of water in table 7

Base modified from Indiana Department of Conservation, Geological Survey, Base Map of Owen County, No. 60, April 3, 1958

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

0 1 2 3 4 5 6 MILES
0 5000 10000 15000 20000 FEET

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

STATE OF INDIANA
INDIANA DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

PREPARED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 18, PLATE 2

EXPLANATION

Production from sand and gravel

Water from sand and gravel of Pleistocene age overlain by Pleistocene lake sediments or Recent alluvium. Well depths range from 30 to 100 feet. Yields more than adequate for domestic and stock use. Area of municipal pumpage and relatively large yields.

Water from sand and gravel lenses and stringers interbedded with till and(or) lake sediments in pre-Pleistocene stream channels. Well depths range from 20 to 220 feet. Yields from sand and gravel adequate for domestic, stock, and locally for small industrial use. Many wells in area are cased through the sand and gravel and tap underlying bedrock.

Production from bedrock

Water predominately from sandstone of Pennsylvanian age. Well depths range from 20 to 300 feet. Yields generally adequate for domestic and stock use.

Water predominately from limestone of Mississippian age. Well depths range from 20 to 550 feet. Yields generally adequate for domestic and stock use, and locally for small industrial supplies.

PUTNAM CO

CLAY CO

MORGAN CO

MONROE CO

GREENE CO

R. 6 W. R. 5 W. R. 4 W. R. 3 W. R. 2 W.

T. 12 N. T. 11 N. T. 10 N. T. 9 N.

CATARACT LAKE
CATARACT
QUINCY
PATRICKSBURG
COAL CITY
ARNEY
FREEDOM
SPENCER
GOSPORT
WHITEHALL

BRUSH CREEK
MILL CREEK
NORTH FORK COON CREEK
SIXMILE CREEK
LITTLE NAANS CREEK
NAANS BRANCH
LIMESTONE CREEK
INDIAN CREEK
WHITE RIVER
WEST FORK FISH CREEK
EAST FORK FISH CREEK
RATTLESNAKE CREEK
McCORMICKS CREEK
LICK CREEK
HOUSER CREEK
BEECH CREEK
NEED DITCH
EEL RIVER
McBRIDES BR
RACCOON CREEK
LITTLE RACCOON CREEK

Base modified from Indiana Department of Conservation, Geological Survey, Base Map of Owen County, No. 60, April 3, 1958

MAP OF OWEN COUNTY, INDIANA SHOWING AVAILABILITY OF GROUND WATER

0 1 2 3 4 5 6 MILES

0 5000 10000 15000 20000 FEET

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

1961

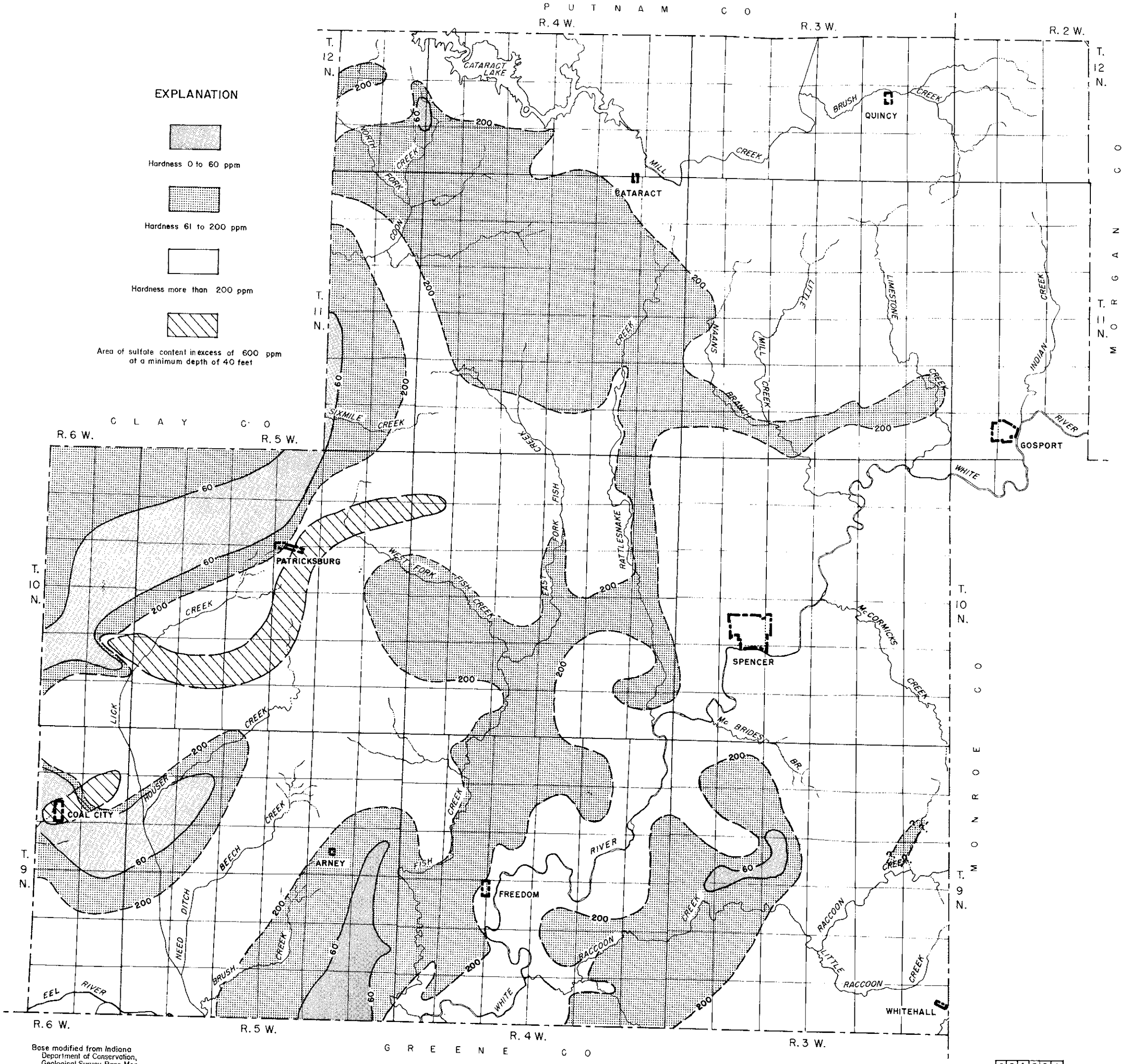
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

DIAGRAM OF TOWNSHIP

STATE OF INDIANA
INDIANA DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

PREPARED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 18, PLATE 3



Base modified from Indiana Department of Conservation, Geological Survey, Base Map of Owen County, No. 60, April 3, 1958

MAP OF OWEN COUNTY, INDIANA SHOWING HARDNESS OF GROUND WATER

0 1 2 3 4 5 6 MILES

0 5000 10000 15000 20000 FEET

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

1961

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

DIAGRAM OF TOWNSHIP