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GROUND-WATER RESOURCES OF NORTHWESTERN INDIANA

Preliminary Report: Porter County

Prepared by the

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GROUND-WATER RESOURCES OF NORTHWESTERN INDIANA

Preliminary Report: Porter County

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ABSTRACT

Porter County in northwestern Indiana has an area of about 425 square miles. Glaciofluvial sand and gravel of Pleistocene age are the chief source of ground water for domestic and stock, industrial, and public supplies. Wells in this source generally are less than 150 feet deep and yield from 5 to more than 1,000 gpm. The underlying bedrock is not used as a source of ground water except for the rocks of Devonian age which are utilized in a few places. Field chemical analyses show that the water from the unconsolidated rocks is hard and the hardness of water is generally greater than 200 ppm and less than 500 ppm. In much of the county the concentration of iron exceeds the maximum concentration recommended in the U. S. Public Health Service drinking-water standards for iron and manganese together.

This preliminary report contains tabulated records of about 650 wells and test holes giving information about well construction, water level, condition of occurrence, and characteristics of water-bearing material; selected logs for about 270 wells and test holes giving driller's description of material penetrated and author's interpretation of their geologic age; records of 16 springs giving geologic source, use, water discharged, and other pertinent data; results for 109 field chemical analyses giving hardness of water, the bicarbonate, carbonate, chloride, iron, and sulfate content; and water levels in 9 observation wells indicating the magnitude of short-term 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 Porter County shows the location of each well, test hole, or spring listed in this report. Additional maps show the availability of ground water in the county and the distribution of the hardness of water in the unconsolidated rocks of Pleistocene age.

INTRODUCTION

Purpose and Scope

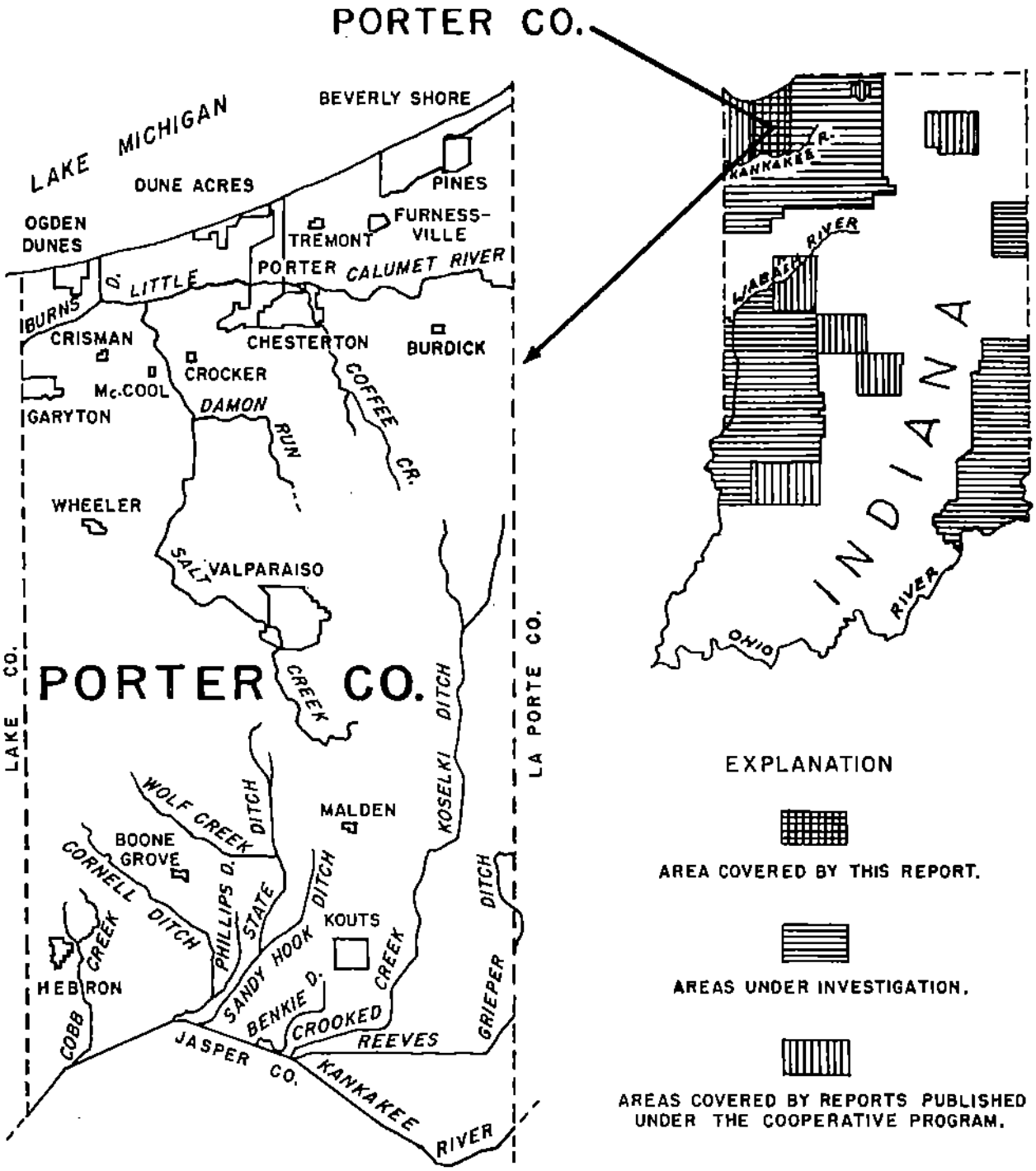
An investigation of the ground-water resources and geology of ten counties in northwestern Indiana has been in progress since June 1954. This investigation is being made by the U. S. Geological Survey in cooperation with the Division of Water Resources, Indiana Department of Conservation, as a part of a broad program of these agencies to inventory and evaluate the ground-water resources of Indiana.

This report is the second of a series of preliminary reports to be published on the ground-water resources and geology of northwestern Indiana. The purpose of this report is to make the basic data collected during the investigation available to the public and to provide a preliminary evaluation of the ground-water conditions and geology as an aid to development of ground-water resources. A more detailed and comprehensive analysis is in progress and 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 Geological Survey, and under the immediate supervision of C. M. Roberts, District Geologist.

Location and Areal Extent

Porter County is in the northwestern part of Indiana (fig. 1). The county is a somewhat elongated rectangle with irregularly shaped northern and southern boundaries and includes about 425 square miles. It is bounded on the north by Lake Michigan, on the south by Jasper County, on the west by Lake County, and on the east by La Porte County.



SEE PAGE 129 FOR LIST OF PUBLISHED REPORTS.

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, test holes, and springs in this report. The number that is assigned each well, test hole, or spring indicates its location according to the official rectangular public-land survey. For example, in the number for well 35/5W-26R1 the numbers preceding the hyphen indicates that the well is in T. 35 N., R. 5 W. The first number after the hyphen indicates the section in which the well is located. Each quarter-quarter section (40-acre tract) within a section is assigned a letter symbol as shown on figure 2. Within the quarter-quarter section the wells, test holes, and springs are numbered consecutively. Therefore, well 26R1 is the first well listed in SE¼SE¼ sec. 26, T. 35 N., R. 5 W.

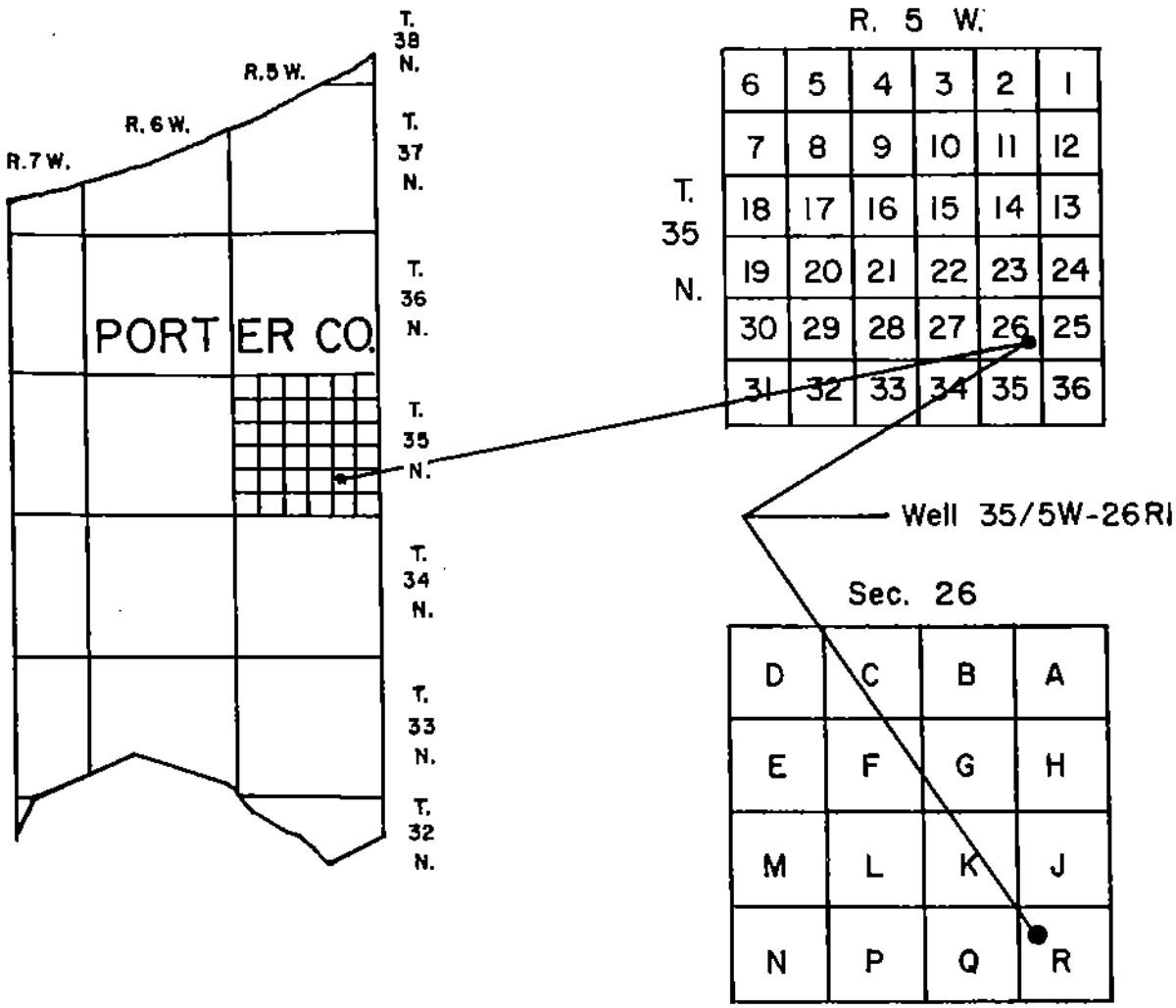


FIGURE 2.--Sketch showing well-numbering system.

Acknowledgments

The author thanks all persons who contributed time, information, and assistance during the collection, tabulation, and processing of data for this report. H. C. Kost of the Indiana Department of Conservation assisted in the processing of data in the field. Well drillers, whose names are listed in the table of well records, furnished much of the information summarized in tables 2 and 3.

The author also thanks the following government agencies which provided information for the report: Divisions of Oil and Gas and Water Resources, Indiana Department of Conservation; Indiana State Highway Department; Indiana Toll Road Commission; Indiana State Board of Health; and U. S. Corps of Engineers.

DATA COLLECTION AND PROCESSING

The well data were collected from drillers, water-works superintendents, owners, and others. The well records obtained from the drillers were of two types--written records and reports from memory. Tentative driller's locations were 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. Discrepancies between driller's location and the location of property shown in the plat books were corrected. The locations of wells were checked further in the field if major discrepancies existed between the driller's location and property record as shown in the plat books, if the location given by the driller could not be verified from county records, or if the verified location was not sufficiently accurate to be used.

Plate 1 shows the location of water wells and test holes, test holes drilled for purposes other than water supply, and springs. Most of these locations are shown to the nearest 10 acres. The basic data for the wells and test holes are summarized in table 2. In addition, selected driller's logs of wells and test holes and author's interpretations of the geologic age of the materials encountered are given in table 3. The basic data for the springs are given in table 4.

Samples of water were collected at the time the well sites were visited. These water samples were analyzed in the field office for hardness, alkalinity (carbonate and bicarbonate), chloride, and sulfate content by standard titration methods. The alkalinity is expressed as carbonate and bicarbonate. The total iron content was determined at the well site immediately after the water sample was collected. A visual method was used to determine the iron concentration in parts per million by matching the color of the treated sample to that of liquid-color standards having a known iron concentration. The results of the field chemical analyses (table 5) were used to select sites for collecting larger water samples for more comprehensive and accurate chemical analysis by the laboratory of the Geological Survey.

Observation wells were established prior to and during the investigation in order to determine the factors affecting the changes in storage in the ground-water reservoir. Table 6 contains the water-level data collected from these wells. The observation wells were chosen so as to obtain water-level information from artesian and water-table aquifers. Whenever possible, the wells were established at sites where the factors affecting the water levels in the aquifer were chiefly due to natural causes.

GENERAL GEOLOGY AND SOURCES OF GROUND WATER

The oldest known consolidated rocks underlying Porter County are of Ordovician age. These rocks consist of dolomitic limestone and shale and are overlain by dolomitic limestone, shale, and dolomite of Middle Silurian age. The rocks of Ordovician and Silurian age are not used as a source of water supply in the county because they generally lie more than 300 to 400 feet below the surface and the water they contain generally has more than 5,000 ppm (parts per million) dissolved solids.

The rocks of Middle Silurian age are overlain by dolomitic limestone of Middle Devonian age. These rocks underlie blue-black bituminous shale of Devonian age (Logan, 1932) or Devonian and Mississippian age (Patton, 1956). This shale is listed as Late Devonian age in table 3. Few water wells have been drilled into the rocks of Devonian and Devonian and Mississippian (?) age, and they are not extensively used as a source of water in Porter County.

The bedrock is overlain by unconsolidated glacial drift of Pleistocene age. The drift forms several prominent topographic features in the county (Leverett and Taylor, 1915; Wayne, 1958), the Valparaiso moraine which trends northeast-southwest across the central and north-central part, the beach-lines and lake bottoms of glacial Lake Chicago in the northern part, and the glaciofluvial plain in the southern part.

The unconsolidated rocks of Pleistocene age range in thickness from about 30 to more than 250 feet. The rocks consist of glaciofluvial sand and gravel, clayey till, and glaciolacustrine clay, silt, and sand. Glaciofluvial sand and gravel underlies most of the county and locally is more than 150 feet thick. The sand and gravel is the chief source of ground water for domestic and stock, industrial, and public supplies. Wells are generally less than 150 feet deep in this aquifer and yield from 5 to more than 1,000 gpm.

The unconsolidated rocks of Pleistocene age are overlain locally by thin alluvium, eolian sand, and organically rich sand, silt, and clay of Recent age. The deposits of Recent age are generally too thin to be a source of ground water.

Plate 2 shows the availability of ground water in the unconsolidated rocks underlying the county. Plate 3 shows the distribution of the hardness of ground water from the sand and gravel deposits of Pleistocene age.

CONFINED AND UNCONFINED CONDITIONS

Ground water occurs in the consolidated and unconsolidated rocks of Porter County under confined (artesian) conditions or under unconfined (water-table) conditions. Under confined conditions the saturated water-bearing material is overlain directly by relatively impervious material, and the water will rise above the level at which it is encountered in the water-bearing material. Under unconfined conditions the water-bearing material is overlain directly by permeable unsaturated material, and the water will not rise above the level at which it is encountered.

TYPES OF WELLS

Drilled, driven, and jetted wells are the principal types of water wells used in Porter County. Most water wells 3-inches or more in diameter are constructed by the cable-tool, or percussion, method, but a few wells have been drilled by the rotary and reverse-rotary methods. When the water-bearing material is sand and gravel, the well is generally finished with a well screen set in the aquifer below the bottom of the well casing. (See Rosenshein and Cosner, 1956, for a detailed description of a well screen.) A modification of this type of well, the gravel-packed well, has a gravel lining inserted between the well screen and the water-bearing material. When the aquifer is consolidated rock, the well casing is generally driven a short distance into the rock, and the well is finished as an open hole.

Water wells less than 3-inches in diameter are constructed in unconsolidated material by driving or jetting. The driven well consists of a small-diameter pipe having a drive point attached to the end, which is driven into shallow water-bearing material. The jetted well is constructed by forcing water under pressure out of a hollow-rod or small-diameter drill pipe that is fitted with a jetting bit. As the material is washed out of the hole ahead of the casing, the casing is driven down into the hole. After the water-bearing material is penetrated the well is generally finished with a well-point screen set in the water-bearing material below the bottom of the casing. Table 1 relates the grain-size in inches and millimeters to the slot and the gauze size of screens commonly used in water wells.

Oil or gas test holes in Indiana generally are drilled by the cable-tool method. Structure test holes for foundations and bridges generally are drilled by the wash-boring method. In this method test hole samples usually are collected by driving a sampling tube into the material after specific intervals of boring.

Table 1.--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	-------	-------

SUMMARY

Preliminary evaluation of the basic data shows that adequate quantities of ground water are available for domestic, stock, and locally for public and industrial supplies from sand and gravel of Pleistocene age. The rocks of Devonian age, underlying the glacial deposits, are used only as a minor source of water, and the older bedrock is not used as a source in the county.

The quality of water from the rocks of Pleistocene age varies. The hardness of water is generally greater than 200 ppm and less than 500 ppm. In much of the county the iron content exceeds the U. S. Public Health Service drinking-water standards for use by interstate carriers for iron and manganese together.

RECORDS

The records of about 650 wells and test holes are given in table 2. The table contains information about well construction, water levels, yields and drawdowns, conditions of occurrence, thickness and characteristics of water-bearing materials, type of pump, and other data. The altitude of the land surface at all wells, except test borings, was interpolated from topographic maps. Altitudes of borings were leveled by the Federal or State agency for whom the borings were made.

Table 3 contains the selected logs of about 270 wells and test holes. This table gives the driller's description of the material encountered, pertinent remarks with regard to the material, and the author's interpretation of the geologic age of the material.

The records of 16 springs are given in table 4. The table contains information about the geologic source, use, the quantity of water discharged, chemical quality of the water, and other pertinent data.

The results of about 115 partial chemical analyses of water are given in table 5. Of this number 109 were determined in the field office of the Geological Survey, and 6 were determined by commercial laboratories. This table gives information about geologic source, temperature, concentration in parts per million (ppm) of iron, carbonate, bicarbonate, sulfate, chloride, and hardness of water. The U. S. Public Health Service standards for drinking water are given in the table headnotes for iron and manganese together, sulfate, and chloride. No standards have been established for hardness of water. However, with respect to hardness, water is generally classified as follows: 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.

Table 6 contains the records of nine observation wells of which three were established during the investigation and the rest prior to the investigation. The water levels in the observation wells were obtained either by recording gages installed on the well or by manual measurements made with an engineer's steel tape calibrated to a hundredth of a foot. All water levels are in feet below land-surface datum. Daily highest water levels are given for the observation wells equipped with recording gages, and periodic water levels are given for the observation wells measured manually. Factors affecting the water levels in the observation wells are also indicated. The locations of these observation wells are shown on plate 1.

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Table 2.--Records of wells and test holes in Porter County, Indiana

Well: See text for description of well-numbering system.
Altitude: Altitude of land-surface datum from topographic maps, except as noted in text p. 8.
Type of well: B, bored; Dn, driven; Dr, drilled; Du, dug; J, jetted.
Finish: Gp, gravel pack; Oe, open end; Oh, open hole; S, screen; dia, diameter in inches; g, gauze size; sl, slot size.
Character: G, gravel; Ls, limestone; Sd, sand.
Geologic age: D, Devonian; Pl, Pleistocene; S, Silurian.
Conditions of occurrence: C, confined; U, unconfined; see text for definitions of terms.

Water level: In feet below land-surface datum on date of completion of well, except where otherwise noted.
Use: D, domestic; De, destroyed; I, industrial; Ir, irrigation; N, not used; O, observation; P, public supply; S, stock; T, test.
Type of pump and horsepower: J, jet; L, lift; P, pitcher; S, submersible; T, turbine; numeral indicates rated horsepower of electric motor.
Remarks: Ca, field chemical analysis in table 5; dd, drawdown; gpm, gallons per minute; L, log of well included in report; lsd, land-surface datum; S, samples available for inspection.

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone					Water level (feet)	Use	Type of pump and horsepower	Remarks
									Depth to top (feet)	Thickness (feet)	Character	Geologic age	Conditions of occurrence				
32/5W- 1H1	J. E. Yergler	E. Hostetler	6-24-38	665	Dr	355	8-5	----------	---	---	-----	--	----	---	---	------	Oil test; water-bearing limestone from 145 to 146 ft; bedrock at 35 ft; L.
10R1	P. and V. Goodpastor	---------do---------	9- 7-42	663	Dr	146	----	----------	---	---	-----	--	----	---	---	------	Oil test; bedrock at 35 ft; L.
33/5W- 3Q1	F. Hamann	Porter County Well Service	3-31-54	689	J	24	2	S; 4ft, 60g	8	16	G,Sd	Pl	U	8	S	------	Ca.
17D1	Town of Kouts	----------	--------	684	Dr	45	8	S	---	---	Sd,G	Pl	----	---	P	T7-1/2	
17D2	-------do--------	----------	1944	684	Dr	45	8	S; 12ft, 20sl	---	---	Sd,G	Pl	----	---	P	T7-1/2	
33/6W-19P1	J. Fickel	Hub Plumbing Co.	7-24-46	651	J	30	----	S	---	---	Sd	Pl	U	---	N	------	
19P2	-------do--------	---------do---------	3-27-48	651	J	46	----	S	---	---	Sd,G	Pl	U	---	D	Ll/4	Shale at 44 ft; Ca.
19P3	-------do--------	Westville Well Co.	1950	651	Dr	44	4	S	---	---	Sd,G	Pl	U	---	S	Ll/4	Ca.
19P4	-------do--------	----------	--------	651	Dn	14	1½	S	---	---	-----	--	----	---	---	------	Oil test; bedrock at 138 ft; L.
33/7W- 1G1	P. Drennon	----------	--------	712	Dr	1,087	10-6	----------	---	---	-----	--	----	---	---	------	Yield about 10 gpm.
11E1	C. Vander Zee	Fitzgerald Well and Pump Co.	4-17-56	685	J	25	2	S; 3ft, 60g, dia 1	21	10	Sd	Pl	----	3	D	------	
14D1	Town of Hebron	----------	About 1918	703	Dr	83	8	S	---	---	Sd,G	Pl	----	---	P	T15	
15A1	-------do--------	Layne-Northern Co., Inc.	9- 3-38	718	Dr	91	----	----------	43	48	Sd,G	Pl	C	39	T	------	See log well 15A3.
15A2	-------do--------	---------do---------	9- 3-38	718	Dr	91	----	----------	40	51	Sd,G	Pl	C	39	P	T15	See log well 15A3; Ca.
15A3	-------do--------	---------do---------	4-11-41	718	Dr	146	8-6	----------	47	44	Sd,G	Pl	U	47	T	------	Bedrock at 125 ft; L.
34/5W-20D1	C. Ball	Beach Plumbing and Well Co.	7-13-59	715	J	34	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	----	---	D,S	J	Ca, L.
34/6W- 4B1	J. Daniels	Westville Well Co.	7-31-59	758	J	75	2	S; 3ft, 60g, dia 1	57	18	Sd	Pl	U	57	D	J3/4	L.
4B2	C. A. Prentice	Fitzgerald Well and Pump Co.	8-11-59	760	J	60	2	-------do---------	45	18	Sd,G	Pl	U	45	D	J	Yield 7 gpm; Ca, L.
6D1	H. Dye	Porter County Well Service	3-18-54	765	J	103	2	S; 4ft, 60g	85	18	Sd,G	Pl	U	85	D	L	Yield 18 gpm.
6D2	W. Dye	Fitzgerald Well and Pump Co.	9- 2-55	792	J	85	2	S; 2½ft, 60g, dia 1	73	22	Sd	Pl	U	38	D	J1/2	Yield 15 gpm; see log well 6D4; Ca.
6D3	E. Harris	Hub Plumbing Co.	8-20-49	787	J	85	2	S; 80g	---	---	Sd	Pl	----	---	Do	------	
6D4	C. Starrick	Slicker Well and Pump Service	7- 7-59	787	J	83	2	S; 3½ft, 60g, dia 1	77	6	Sd	Pl	C	55	D	J1/2	Yield 5 gpm; L.
12N1	L. Allen	Porter County Well Service	6-54	715	J	52	2	S; 4ft, 60g	427	107	Sd,G?	Pl	----	34	D	J3/4	Yield 15 gpm.
12N2	-------do--------	---------do---------	11-54	715	J	57	2	-------do---------	35	30	Sd	Pl	U	35	D	J3/4	Yield 25 gpm; L.
24N1	W. Allen	Wm. Ludoko	Spring 1945	674	J	51	2	Oo	45	42	Sd,G	Pl	C	---	N	------	Flows; discharge measured 4 gpm, 10-27-56; sand and gravel overlain by 45 ft blue clay; Ca.
24N2	-------do--------	---------do---------	Spring 1947	674	J	47	2	Oo	---	---	Sd	Pl	C	---	D,S	J1/2	Flows 2 ft below lsd; discharge measured 1.5 gpm, 10-27-56; Ca.
32E1	A. Claus	H. F. Hatfilz	--------	715	Dn	26	1¼	S; 60g	---	---	Sd	Pl	----	---	---	------	
33Q1	M. Gibson	---------do---------	1939	702	J	22	2	S	---	---	Sd	Pl	----	---	D,S	3/4	Ca.
34/7W- 1B1	T. Fitzgerald	Fitzgerald Well and Pump Co.	7- 7-59	780	J	68	2	S; 3ft, 60g, dia 1	50	23	Sd	Pl	U	50	D	------	Yield 10 gpm; see log well 1B4.
1B2	-------do--------	---------do---------	7- 2-59	782	J	71	2	-------do---------	51	22	Sd	Pl	U	51	D	------	Do.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Character	Water-bearing zone: Geologic age	Water-bearing zone: Conditions of occurrence	Water level (feet)	Use	Type of pump and horsepower	Remarks
34/7W- 1B3	O. Rose	Fitzgerald Well and Pump Co.	7- 8-59	778	J	65	2	S; 3ft, 60g, dia 1	50	18	Sd	Pl	U	50	D	------	Yield 8 gpm; see log well 1B4.
1B4	T. Fitzgerald	---------do---------	7- 8-59	782	J	85	2	--------do---------	---	---	Sd	Pl	U	---	D	------	Yield 10 gpm; L.
1B5	-------do---------	---------do---------	7-10-59	785	J	80	2	--------do---------	52	28	Sd,G	Pl	C	52	D	------	Yield 10 gpm; see log well 1B7.
1B6	R. Hartline	---------do---------	8-26-59	788	J	84	2	S; 6ft, 60g, dia 1	50	38	Sd,G	Pl	U	50	D	------	Yield 10 gpm; see log well 1B4.
1B7	T. Fitzgerald	---------do---------	7-11-59	785	J	90	2	S	40	50	Sd,G	Pl	U	40	D	------	Ca,L.
1B8	T. L. Owens	---------do---------	7-15-59	788	J	90	2	S; 3ft, 60g, dia 1	70	20	Sd,G	Pl	U	70	D	------	Yield 8 gpm; see log well 1B7.
1B9	D. L. Hoover	---------do---------	7-22-59	782	J	90	2	S; 4ft, 60g, dia 1	52	38	Sd,G	Pl	----	50	D	------	Yield 11 gpm; see log well 1B7.
1C1	A. Dudek	---------do---------	6-11-56	755	J	82	2	S; 3ft, 60g	70	16	Sd	Pl	C	35	N	------	
1C2	E. and T. Leary	---------do---------	6-30-55	780	J	68	2	S; 2½ft, 60g, dia 1	52	14	Sd	Pl	C	29	D	J1/3	Yield 10 gpm; Ca.
1D1	J. Flood	---------do---------	1-17-56	750	J	56	2	S; 3ft, 60g	33	23	Sd	Pl	C	26	D	J1/4	White fine sand overlain by 33 ft blue clay; Ca.
1D2	B. Willard	---------do---------	10-20-55	747	J	65	2	S; 3ft, 60g, dia 1	52	21	Sd	Pl	C	2	D	J1/4	Yield 15 gpm; medium sand overlain by 52 ft blue clay.
1D3	H. Benson	---------do---------	2- 1-56	740	J	45	2	S; 3ft, 60g	42	10	Sd	Pl	C	15	D	P	Fine sand overlain by 42 ft blue clay.
1D4	J. Maxia	---------do---------	4- 6-56	745	J	45	2	--------do---------	42	10	Sd	Pl	C	8	D	------	Yield 11 gpm; sand overlain by 42 ft clay and sand, mixed.
1E1	A. Fitzgerald	---------do---------	7-13-55	761	J	45	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	----	10	D	J	Yield 10 gpm.
1E2	E. Ball	---------do---------	7-19-55	742	J	59	2	S; 3ft, 80g, dia 1	---	---	Sd	Pl	----	8	D	------	Yield 15 gpm; Ca.
1F1	T. Fitzgerald	---------do---------	1-26-56	780	J	73	3	S; 4½ft, 80g, dia 2	60	24	Sd	Pl	C	38	D	J3/4	Yield 20 gpm; medium to coarse sand overlain by 60 ft blue clay.
1L1	G. Barker	---------do---------	7-14-55	762	J	38	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	----	19	D	J	Ca.
12A1	P. A. Ducry	Porter County Well Service	5- 3-56	783	J	110	2	S; 4ft, 60g	85	45	Sd	Pl	U	85	D,S	P	Yield 15 gpm; Ca, L.
25E1	T. Briggs	Fitzgerald Well and Pump Co.	1-20-56	723	J	37	2	S; 3ft, 60g	32	13	Sd	Pl	C	10	D	------	Yield 10 gpm; medium sand overlain by 32 ft brown and blue clay.
26A2	A. Berrier	Porter County Well Service	5-51	732	J	55	2	S; 4ft, 60g	32	23	Sd	Pl	C	16	D	J1/2	Yield 20 gpm; Ca, L.
27N1	J. Wright	Fitzgerald Well and Pump Co.	6-18-56	753	J	64	2	S; 3ft, 60g	---	---	G,Sd	Pl	----	---	D	L	Yield 12 gpm; Ca, L.
35A1	E. Frailey	---------do---------	5-16-56	724	J	41	2	--------do---------	21	31	Sd	Pl	C	9	D	J1/2	Yield 10 gpm; L.
35/5W- 2H1	Indiana State Highway Department	----------	9-14-56	801	D	55	----	----------	---	---	Sd,G	Pl	----	---	T	------	See log well 2H6.
2H2	-------do---------	----------	9-14-56	800	D	50	----	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
2H3	-------do---------	----------	9-14-56	787	B	52	----	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
2H4	-------do---------	----------	9-14-56	785	D	50	----	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
2H5	-------do---------	----------	9-14-56	785	B	50	----	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
2H6	-------do---------	----------	9-14-56	785	D	50	----	----------	---	---	Sd,G	Pl	----	---	T	------	L.
2H7	-------do---------	----------	9-14-56	805	D	55	----	----------	---	---	Sd,G	Pl	----	---	T	------	See log well 2H6.
2H8	-------do---------	----------	9-14-56	804	B	55	----	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
6L1	City of Valparaiso	Layne Ohio Co.	3-28-33	814	Dr	167	----	----------	41	111	Sd	Pl	C	40	T	------	L.
6L2	-------do---------	Layne-Northern Co., Inc.	2-17-29	805	Dr	156	6	----------	53	101	Sd	Pl	C	50	T	------	See log well 6L1.
6L3	-------do---------	---------do---------	2-11-47	810	Dr	120	8-6	----------	50	70	Sd	Pl	U	50	T	------	See log well 6L4.
6L4	-------do---------	---------do---------	5-23-47	810	Dr	128	38	Gp; S; 50ft, 80sl, dia 18	50	78	Sd	Pl	U	50	P	T25	Dd 33 ft after 8 hr pumping about 735 gpm; L.
6L5	-------do---------	----------	--------	803	Dn	89	2	----------	---	---	Sd	Pl	U	---	O	------	Observation well Porter 1; water level measured 51.58 ft below lsd, 10-16-35.
6L6	-------do---------	Layne-Northern Co., Inc.	1-17-56	805	Dr	124	----	----------	90	34	Sd	Pl	C	59	T	------	L.
6L7	-------do---------	---------do---------	3- 8-56	805	Dr	128	38	Gp; S; 30ft, 105sl, dia 18	62	67	Sd	Pl	U	62	P	T	Dd 30.5 ft pumping 500 gpm; L.
6M1	-------do---------	Layne Ohio Co.	4- 8-33	805	Dr	95	----	----------	---	---	-----	--	----	---	T	------	L.
6N1	-------do---------	---------do---------	4- 7-33	805	Dr	180	----	----------	80	98	Sd	Pl	U	80	T	------	L.

35/5W- 6P1	City of Valparaiso	Layne Ohio Co.	2-29	800	Dr	90	----	----------	50	40	Sd,G	Pl	U	50	T	------	
6P2	--------do---------	Layne-Northern Co., Inc.	4-21-33	808	Dr	122	----	Gp; S; 50ft, dia 18	52	110	Sd	Pl	U	52	P	T25	Dd 23 ft after 0.5 hr pumping 780 gpm; L.
6P3	--------do---------	----------	--------	800	Dn	-----	1½	----------	---	---	Sd	Pl	U	---	O	------	Observation well Porter 7; water level measured 58.05 ft below lsd, 8-25-54.
7E1	--------do---------	Layne Ohio Co.	4- 1-33	822	Dr	201	6-4	----------	60	140	Sd	Pl	U	60	T	------	L.
16P1	Indiana Steel Products Co.	Layne-Northern Co., Inc.	2- 6-59	773	Dr	145	8	----------	21	113	Sd	Pl	U	21	I,P	T	L.
16P2	--------do---------	----------do----------	4-29-59	773	Dr	131	30	Gp; S; 30ft, 30sl, dia 10	21	110	Sd	Pl	U	21	I,P	T	Dd 18 ft after 8 hr pumping 340 gpm, see log well 16Q1; Ca.
18F1	M. Thomas	Porter County Well Service	Spring 1954	808	J	87	2	S; 4ft, 60g	65	22	Sd	Pl	U	64	D	J1/2	White sand overlain by 65 ft top soil, yellow sand, and clay.
18F2	--------do---------	----------do----------	3-22-56	812	J	88	2	--------do---------	67	21	Sd,G	Pl	U	67	D	J1/2	
18F3	W. Connor	Fitzgerald Well and Pump Co.	8-22-59	813	J	90	2	S; 4ft, 60g, dia 1	73	17	Sd	Pl	C	50	D	------	White sand overlain by 73 ft brown clay, sand, and gravel.
19C1	R. Biggs	Hub Plumbing Co.	3-31-49	815	J	72	2	S; 60g	---	---	Sd	Pl	----	---	---	------	
19C2	--------do---------	----------do----------	11-18-50	815	J	70	2	S; 80g	---	---	Sd	Pl	----	---	---	------	
19C3	--------do---------	----------do----------	5- 3-51	815	J	72	2	--------do---------	---	---	Sd	Pl	----	---	---	------	
19C4	--------do---------	----------do----------	8-28-51	815	J	70	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	----	---	---	1/2	
19C5	--------do---------	----------do----------	5- 7-55	815	J	65	2	--------do---------	---	---	Sd	Pl	----	50	---	------	
19D1	City of Valparaiso	Layne-Northern Co., Inc.	10-18-29	802	Dr	100	----	----------	---	---	Sd	Pl	----	---	T	------	L.
19K1	E. Klamz	Fitzgerald Well and Pump Co.	9- 8-56	811	J	84	2	S; 3ft, 60g	80	14	Sd	Pl	C	33	D	J	Yield 11 gpm; Ca, L.
19Q1	City of Valparaiso	Layne-Northern Co., Inc.	2- 8-57	770	Dr	144	7	----------	22	104	Sd,G	Pl	U	22	T	------	L.
19Q2	--------do---------	----------do----------	3- 1-57	772	Dr	125	7	----------	25	100	Sd	Pl	U	25	T	------	See log well 19Q1.
19Q3	--------do---------	----------do----------	3- 7-57	779	Dr	135	7	----------	25	110	Sd,G	Pl	U	30	T	------	
20A1	A. Kobjak	Porter County Well Service	5- 4-54	785	J	46	2	S; 4ft, 60g	22	24	Sd	Pl	U	22	D	J1/3	Yield 20 gpm; sand from 0-46 ft.
20D1	W. K. Watson	Fitzgerald Well and Pump Co.	4- 3-56	788	J	46	2	S; 3ft, 60g	40	12	Sd	Pl	C	19	D	J1/2	Yield 12 gpm; Ca. L.
20B2	R. Britton	----------do----------	7-21-50	792	J	48	2	S; 4ft, 60g, dia 1	44	4	Sd	Pl	----	21	D	J3/4	Light-brown sand overlain by 44 ft brown clay and sand; Ca.
20B3	M. Bessler	Beach Plumbing and Well Co.	1958	792	J	73	2	S	---	---	Sd	Pl	----	---	D	J1/2	Ca.
20L1	C. and S. Masterson	Fitzgerald Well and Pump Co.	5-11-50	792	J	55	2	S; 3ft, 60g	21	42	Sd	Pl	C	18	D	------	Yield 12 gpm; L.
26R1	M. L. Green	Porter County Well Service	10-54	732	J	31	2	S; 4ft, 60g	11	63	Sd	Pl	U	11	D	L1/6	Yield 22 gpm; yellow sand overlain by 10 ft yellow and blue clay.
30G1	Puschel Greenhouse	Westville Well Co.	8-11-59	778	J	84	4	S; 11ft, 10sl, dia 3½	40	44	Sd	Pl	U	40	P	S1-1/2	Sand from 0-84 ft; Ca.
30J1	H. Osborn	Porter County Well Service	3-18-54	763	J	30	2	S; 4ft, 60g	---	---	Sd	Pl	U	---	D	J1/2	Yield 15 gpm; sand from 0-35 ft.
34F1	T. Glissman	----------do----------	10-28-55	746	J	24	2	--------do---------	10	45	Sd,G	Pl	C?	9	D	J1/3	Yield 25 gpm; Ca, L.
35/6W- 1H1	City of Valparaiso	Layne-Northern Co., Inc.	10-32	800	Dr	162	6	----------	---	---	Sd,G	Pl	----	50	T	------	L.
1L1	A. Gustafson	Westville Well Co.	8- 6-59	845	J	77	2	S; 2½ft, 60g, dia 1	47	30	Sd,G	Pl	C	19	D	------	L.
5Q1	A. W. White Lumber Co.	Porter County Well Service	7-13-56	650	J	-----	2	S; 4ft, 60g	110	14	Sd	Pl	C	---	D	J1/2	Flows; yield 20 gpm; medium sand overlain by 110 ft blue clay and silt; Ca.
9Q1	L. Graham	Westville Well Co.	7- 2-59	700	J	45	2	S; 3ft, dia 1	20	25	Sd,G	Pl	C	9	D	L	Ca, L.
12G1	M. DeGrazia	Porter County Well Service	5-50	833	Dr	147	4	S; 10ft, 10sl	---	---	Sd	Pl	----	91	D	J3	Dd 21 ft after 3.5 hr pumping 20 gpm.
12R1	City of Valparaiso	Layne Ohio Co.	4-12-33	820	Dr	100	----	----------	74	26	Sd	Pl	U	74	T	------	L.
13A1	E. Huff	Porter County Well Service	6-27-55	806	J	87	2	S; 4ft, 60g	65	20	Sd,G	Pl	----	65	D	J1/2	Sand and gravel overlain by 31 ft yellow and blue clay.
13A2	S. A. Kreshock	Fitzgerald Well and Pump Co.	7-21-59	808	J	81	2	S; 4ft, 60g, dia 1	50	34	Sd,G	Pl	U	50	D	------	Yield 10 gpm; L.
17D1	S. Romino	Porter County Well Service	10- 3-56	682	J	44	2	--------do---------	39	5	Sd	Pl	C	19	D	J1/3	Yield 20 gpm; very coarse sand overlain by 39 ft blue clay; Ca.
20M1	A. Howard	Fitzgerald Well and Pump Co.	7-14-55	685	J	36	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	----	19	P	J1/4	Yield 13 gpm.
21J1	N. Carpenter	----------do----------	6-28-56	715	J	45	2	S; 3ft, 60g	42	10	Sd	Pl	C	---	D	J3/4	Yield 10 gpm; Ca, L.
23L1	St. Paul's Church	Porter County Well Service	3-46	702	J	51	2	S; 4ft, 60g	36	15	Sd	Pl	U	36	---	J1/2	Yield 20 gpm.
24B1	City of Valparaiso	Layne-Northern Co., Inc.	9-14-29	803	Dr	180	----	----------	53	127	Sd	Pl	U	53	T	------	L.
24N1	M. Ponton	Hub Plumbing Co.	4-13-46	769	J	80	2	S	---	---	Sd	Pl	----	---	---	------	
25F1	E. Johnson	Fitzgerald Well and Pump Co.	11-14-55	700	J	51	2	S; 3ft, 60g, dia 1	---	---	Sd	Pl	----	4	D	------	Yield 15 gpm.
25K1	J. Atwood	----------do----------	10- 8-56	733	J	45	2	S; 3ft, 60g	42	10	Sd	Pl	C	13	D	1/3	Yield 12 gpm; sand overlain by 42 ft brown and blue clay; Ca.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Character	Water-bearing zone: Geologic age	Water-bearing zone: Conditions of occurrence	Water level (feet)	Use	Type of pump and horsepower	Remarks
35/8W-2GH1	Farmers State Bank	----------	--------	692	Dr	86	6	----------	---	---	G	Pl	----	---	Do	------	Formerly observation well Porter 4; water level measured 1.41 ft below lsd, 10-15-35.
26J1	Fetlas Bargain Center	Porter County Well Service	4-54	701	J	35	2	S; 80g	19	16	Sd	Pl	C	3?	P	1/3	Yield 20 gpm; Ca, L.
27Q1	E. O'Brien	Fitzgerald Well and Pump Co.	6- 5-56	733	J	56	2	S; 3ft, 60g	42	18	Sd	Pl	C	24	D	------	Yield 13 gpm; L.
27Q2	G. Barta	---------do---------	9-21-56	733	J	52	2	-------do--------	46	6	Sd	Pl	C	33	D	------	Yield 13 gpm; see log well 27Q1.
28N1	C. P. and A. R. Sloney	---------do---------	9-16-55	740	J	43	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	C	---	D	J	Yield 10 gpm; flowed; Ca.
29G1	W. Elder	Porter County Well Service	11- 1-56	760	J	87	2	S; 4ft, 80g	50	37	Sd	Pl	C	15?	D	------	Ca, L.
33L1	Mr. Glick	Fitzgerald Well and Pump Co.	8-20-56	755	J	67	2	S; 3ft, 60g	52	20	Sd	Pl	C	25	S	J	Yield 10 gpm; L.
35/7W- 1M1	A. Ludwig	---------do---------	5- 8-56	672	J	68	2	S; 5ft, 60g	63	5	Sd	Pl	C	30	D	------	Yield 4 gpm; L.
1M2	Porter County Co-op.	---------do---------	Spring 1956	668	J	68	4	S; Gsl	63	5	Sd	Pl	C	30	P	J1	Yield 6 gpm; sand underlain by 89 ft silt; Ca.
2J1	Wheeler High School	Westville Well Co.	1953	665	Dr	156	6	S; 8ft, 10sl	148	8	Sd	Pl	C	30	P	J1	Sand overlain by 148 ft clay, silt, and marl; shale at 156 ft; Ca.
2J2	Indiana Associated Telephone Co.	E. Walsh	--------	666	Du, Dn	-----	60-4	----------	---	---	Sd	Pl	C	---	O	------	Observation well Porter 6; water level measured 6.79 ft below lsd, 6-11-46; well dug to 44 ft; 4-inch pipe driven in well; total depth unknown; L.
2K1	E. Zale	Beach Plumbing and Well Co.	7-14-59	655	J	114	2	S; 4ft, 60g, dia 1	110	4	G	Pl	C	---	D	------	Ca, L.
24R1	L. Vernon	Fitzgerald Well and Pump Co.	4-10-56	770	J	66	2	S; 3ft, 60g	50	23	Sd	Pl	C	34	D	------	Yield 12 gpm; L.
27C1	H. Hull	E. G. Knnack	1-28-48	684	Dr	379	8-6	Oh	---	---	Ls	D	C	---	O	------	Observation well Porter 9; water level measured 24.03 ft below lsd. 8-7-57; L.
35/5W- 1R1	A. Cook	----------	6- 1897	714	--	84	----	----------	63	21	Sd	Pl	C	---	N	------	Flowed 6 gpm; water level reported 4 ft above lsd, 9-10-1897; Ca, L.
3C1	B. Olson	----------	About 1880	672	J?	36	2	S; 3ft, 60g, dia 1	---	---	Sd,G	Pl	----	15	D,S	J1/2	Screen changed 8-14-57; Ca.
3H1	New York Central Railroad	Moore and Son	7-48	682	Dr	78	4	S; 12ft, 64g	54	24	Sd,G	Pl	----	---	N	------	L.
3K1	E. Anderson	----------	5- 7-43	686	Dr	1,125	----	----------	---	---	-----	--	----	---	---	------	Oil test; shale at 170 ft; water-bearing zones in dolomitic limestone at 300-316 ft. at 327 ft, and at 630-680 ft.
3R1	Chesterton Country Club	----------	About 1881	697	--	78	2½	S	---	---	Sd,G	Pl	C	---	N	P	Flows.
6M1	Indiana State Highway Department	Brighton Engineering Co.	3-59	634	D	30	2½	----------	10	15	Sd,G	Pl	C	2	T	------	See log well 6M2.
6M2	-------do---------	---------do---------	3-59	635	D	50	2½	----------	0	27	Sd	Pl	C	2	T	------	L, S.
7M1	J. Bukovich	Slicker Well and Pump Service	8-22-59	665	J	52	2	S; 4ft, 80g, dia 1	47	5	Sd	Pl	C	30	D	------	Yield 5 gpm; L.
9G1	W. Eglasko	W. Adams	1-18-50	698	Dr	1,310	8-5	----------	---	---	-----	--	----	---	---	------	Oil test; bedrock at 244 ft; water-bearing zones at 325 ft and at 755-757 ft; L.
10G1	K. Raakman	Porter County Well Service	10- 1-56	720	J	76	2	S; 4ft, 60g	50	26	Sd	Pl	C	30	D	J1/3	Yield 20 gpm; coarse sand overlain by 50 ft blue clay; Ca.
11R1	Indiana Toll Road Commission	Westville Engineering Co.	--------	701	D	45	2½	----------	41	4	Sd	Pl	C	20	T	------	
11R2	-------do---------	---------do---------	5-12-54	761	B	40	2½	----------	35	11	Sd	Pl	C	---	T	------	

36/5W-11R3	Indiana Toll Road Commission	Westville Engineering Co.	5-13-54	766	D	52	2½	----------	34	18	Sd	Pl	C	16	T	-------	L.
11R4	-------do---------	---------do---------	5-13-54	778	B	52	2½	----------	29	23	Sd	Pl	C	---	T	-------	L.
11R5	-------do---------	---------do---------	5-13-54	760	B	42	2½	----------	10	32	Sd	Pl	C	3	T	-------	L.
14B1	-------do---------	---------do---------	---------	802	B	30	3	----------	---	---	------	--	-----	---	T	-------	L.
14C1	-------do---------	---------do---------	---------	788	D	35	----	----------	---	---	------	--	-----	---	T	-------	See log well 14C2.
14C2	-------do---------	---------do---------	---------	797	B	31	----	----------	16	15	Sd	Pl	C	1	T	-------	L.
14L1	J. Poterman	Porter County Well Service	6-54	840	J	147	2	S; 4ft, 60g	84	63	Sd	Pl	U	84	D	J1	Yield 18 gpm; sand from 0-147 ft; Ca.
15G1	Indiana Toll Road Commission	Westville Engineering Co.	---------	826	D	30	----	----------	---	---	------	--	-----	---	T	-------	See log well 15G2.
15G2	-------do---------	---------do---------	---------	831	B	40	----	----------	---	---	------	--	-----	---	T	-------	L.
15M1	-------do---------	---------do---------	5- 9-54	747	D	20	----	----------	---	---	------	--	-----	---	T	-------	See log well 15M2.
15M2	-------do---------	---------do---------	5- 9-54	752	B	36	----	----------	---	---	------	--	-----	---	T	-------	L.
15R1	H. Englehart	Porter County Well Service	8- 4-55	818	J	145	3	S; 8½ft, 80g	100	45	Sd	Pl	U	100	D	J3/4	Yield 40 gpm; Ca, L.
16E1	Indiana Toll Road Commission	Westville Engineering Co.	6-21-54	750	D	22	----	----------	---	---	------	--	-----	---	T	-------	L.
16E2	-------do---------	---------do---------	6-14-54	764	B	22	2½	----------	10	12	Sd	Pl	-----	10	T	-------	L.
16G1	-------do---------	---------do---------	---------	704	D	20	----	----------	---	---	------	--	-----	---	T	-------	See log well 16J2.
16J1	-------do---------	---------do---------	---------	754	B	43	----	----------	31	12	G	Pl	C	13	T	-------	Do.
16J2	-------do---------	---------do---------	5- 9-54	754	D	36	----	----------	23	13	Sd	Pl	C	13	T	-------	L.
16J3	-------do---------	---------do---------	5- 9-54	757	B	42	----	----------	---	---	Sd	Pl	-----	---	T	-------	L.
16K1	-------do---------	---------do---------	---------	757	D	46	2½	----------	---	---	------	--	-----	---	T	-------	L.
16K2	-------do---------	---------do---------	5- 7-54	758	B	44	2½	----------	---	---	------	--	-----	---	T	-------	See log well 16K1.
16L1	-------do---------	---------do---------	5- 7-54	758	B	50	2½	----------	---	---	------	--	-----	---	T	-------	L.
16L2	-------do---------	---------do---------	5- 7-54	757	D	44	2½	----------	---	---	------	--	-----	---	T	-------	See log well 16L1.
16M1	-------do---------	---------do---------	7- 6-54	670	B	26	2½	----------	11	15	Sd	Pl	U	11	T	-------	Brown fine sand, stratified, with clay from 0-26 ft.
17E1	-------do---------	---------do---------	8-13-54	661	D	42	2½	----------	24	7	Sd,G	Pl	-----	5	T	-------	L.
17E2	-------do---------	---------do---------	6-10-54	668	D	62	2½	----------	35	27	Sd	Pl	C	5	T	-------	L.
17E3	-------do---------	---------do---------	6-10-54	668	B	36	2½	----------	35	1	Sd,G	Pl	C	6	T	-------	See log well 17E2.
17E4	-------do---------	---------do---------	8-15-54	668	B	72	4	----------	20	25	Sd	Pl	C	5	T	-------	L.
17E5	-------do---------	---------do---------	---------	666	D	28	2½	----------	---	---	------	--	-----	---	T	-------	See log well 17E13.
17E6	-------do---------	---------do---------	---------	667	D	27	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E7	-------do---------	---------do---------	---------	667	B	24	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E8	-------do---------	---------do---------	---------	666	B	14	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E9	-------do---------	---------do---------	---------	667	D	21	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E10	-------do---------	---------do---------	---------	666	D	29	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E11	-------do---------	---------do---------	---------	668	D	28	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E12	-------do---------	---------do---------	---------	666	D	25	----	----------	---	---	------	--	-----	---	T	-------	Do.
17E13	-------do---------	---------do---------	8-10-54	667	B	57	4	----------	42	11	Sd,G	Pl	C	3	T	-------	L.
17F1	-------do---------	---------do---------	7-26-54	667	B	59	2½	----------	---	---	------	--	-----	4	T	-------	See log well 17F8.
17F2	-------do---------	---------do---------	7-26-54	668	D	62	2½	----------	---	---	------	--	-----	4	T	-------	Do.
17F3	-------do---------	---------do---------	7-27-54	670	D	56	2½	----------	51	5	Sd,G	Pl	C	6	T	-------	See log well 17F11.
17F4	-------do---------	---------do---------	8- 3-54	667	B	56	2½	----------	---	---	------	--	C	---	T	-------	See log well 17F6.
17F5	-------do---------	---------do---------	8- 4-54	670	B	56	2½	----------	16	13	Sd	Pl	C	4	T	-------	See log well 17F9.
17F6	-------do---------	---------do---------	8-10-54	668	D	57	2½	----------	43	7	Sd	Pl	C	2	T	-------	L.
17F7	-------do---------	---------do---------	7-28-54	669	B	52	2½	----------	---	---	------	--	-----	---	T	-------	See log well 17F6.
17F8	-------do---------	---------do---------	8-11-54	660	D	52	2½	----------	24	14	Sd	Pl	C	1	T	-------	L.
17F9	-------do---------	---------do---------	7-29-54	671	D	56	2½	----------	18	10	Sd	Pl	C	4	T	-------	L.
17F10	-------do---------	---------do---------	8-11-54	670	B	56	2½	----------	---	---	------	--	-----	---	T	-------	L.
17F11	-------do---------	---------do---------	7-29-54	672	B	58	2½	----------	54	2	Sd	Pl	C	4	T	-------	L.
17F12	-------do---------	---------do---------	8-23-54	676	D	56	2½	----------	9	7	Sd	Pl	C	3	T	-------	L.
17F13	-------do---------	---------do---------	7-30-54	672	B	26	2½	----------	6	14	Sd	Pl	C	5	T	-------	See log well 17F12.
17F14	-------do---------	---------do---------	7-29-54	674	D	28	----	----------	8	8	Sd	Pl	C	3	T	-------	L.
17F15	-------do---------	---------do---------	8-27-54	675	B	28	2½	----------	10	10	Sd	Pl	C	4	T	-------	See log well 17F12.
17F16	-------do---------	---------do---------	8-21-54	674	B	32	2½	----------	19	9	Sd,G	Pl	C	3	T	-------	See log well 17F9.
17F17	-------do---------	---------do---------	8-20-54	675	D	32	2½	----------	8	7	Sd	Pl	C	3	T	-------	L.
17F18	-------do---------	---------do---------	8-27-54	675	B	26	2½	----------	---	---	------	--	-----	2	T	-------	L.
17F19	-------do---------	---------do---------	6-12-54	679	B	52	2½	----------	---	---	------	--	-----	---	T	-------	See log well 17F11.
17F20	-------do---------	---------do---------	8-27-54	677	B	22	2½	----------	8	6	Sd	Pl	-----	1	T	-------	See log well 17F21.
17F21	-------do---------	---------do---------	6-11-54	681	B	82	2½	----------	65	17	Sd	Pl	-----	---	T	-------	Flows; L.
17F22	-------do---------	---------do---------	6-12-54	682	B	26	2½	----------	15	11	Sd	Pl	-----	---	T	-------	L.
17F23	-------do---------	---------do---------	6-12-54	681	D	32	2½	----------	25	7	Sd	Pl	C	3	T	-------	See log well 17F8.
17G1	-------do---------	---------do---------	8-11-54	682	B	36	2½	----------	---	---	------	--	-----	---	T	-------	See log well 17G3.
17G2	-------do---------	---------do---------	8-11-54	678	B	42	2½	----------	20	22	Sd	Pl	-----	2	T	-------	L.
17G3	-------do---------	---------do---------	7-10-54	679	D	72	4	----------	53	8	Sd	Pl	-----	1	T	-------	L.
17H1	-------do---------	---------do---------	7- 8-54	745	D	22	2½	----------	15	7	Sd	Pl	C	3	T	-------	Stratified tan fine sand with stiff clay overlain by 15 ft brown silty stiff clay.
17L1	-------do---------	---------do---------	8-11-54	675	D	52	2½	----------	51	1	Sd	Pl	C	5	T	-------	L.
17L2	-------do---------	---------do---------	7-10-54	669	D	22	2½	----------	20	2	Sd,G	Pl	C	3	T	-------	See log well 17L3.
17L3	-------do---------	---------do---------	8-12-54	674	D	52	2½	----------	45	7	Sd	Pl	C	---	T	-------	L.
17L4	-------do---------	---------do---------	8- 9-54	671	B	22	2½	----------	---	---	------	--	-----	---	T	-------	L.
17L5	-------do---------	---------do---------	8-16-54	711	B	71	2½	----------	---	---	------	--	-----	---	T	-------	See log well 17L12.
17L6	-------do---------	---------do---------	8-12-54	677	B	46	2½	----------	---	---	------	--	-----	---	T	-------	L.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Character	Water-bearing zone: Geologic age	Water-bearing zone: Conditions of occurrence	Water level (feet)	Use	Type of pump and horsepower	Remarks
36/5W-17L7	Indiana Toll Road Commission	Westville Engineering Co.	8-14-54	675	B	36	2½	----------	10	8	Sd,G	Pl	C	6	T	------	L.
17L8	------do------	------do------	7- 8-54	673	B	32	2½	----------	---	---	-----	--	----	---	T	------	L.
17L9	------do------	------do------	8-20-54	713	B	67	2½	----------	---	---	Sd,G	Pl	----	43	T	------	L.
17L10	------do------	------do------	8-20-54	677	B	42	2½	----------	17	4	Sd	Pl	C	8	T	------	L.
17L11	------do------	------do------	7- 9-54	674	B	23	2½	----------	---	---	-----	--	----	4	T	------	L.
17L12	------do------	------do------	8-15-54	709	B	76	2½	----------	---	---	-----	--	----	41	T	------	L.
17L13	------do------	------do------	8-11-54	674	B	62	2½	----------	---	---	-----	--	----	8	T	------	L.
17M1	------do------	------do------	8-20-54	667	B	22	2½	----------	---	---	-----	--	----	---	T	------	L.
17M2	------do------	------do------	8-24-54	666	B	22	2½	----------	21	1	Sd	Pl	----	2	T	------	See log well 17M8.
17M3	------do------	------do------	8-25-54	668	B	22	2½	----------	---	---	-----	--	----	---	T	------	See log well 17M1.
17M4	------do------	------do------	8-20-54	673	B	22	2½	----------	---	---	-----	--	----	---	T	------	L.
17M5	------do------	------do------	8-26-54	671	B	22	2½	----------	17	5	Sd,G	Pl	C	7	T	------	See log well 17M17.
17M6	------do------	------do------	8-25-54	667	B	22	2½	----------	---	---	-----	--	----	2	T	------	L.
17M7	------do------	------do------	8-24-54	673	B	22	2½	----------	20	2	Sd	Pl	C	4	T	------	L.
17M8	------do------	------do------	8-15-54	666	B	22	2½	----------	19	3	Sd,G	Pl	----	6	T	------	L.
17M9	------do------	------do------	8-25-54	668	B	22	2½	----------	---	---	-----	--	----	---	T	------	See log well 17M8.
17M10	------do------	------do------	8-13-54	669	B	30	2½	----------	---	---	-----	--	----	---	T	------	L.
17M11	------do------	------do------	8-12-54	673	B	32	2½	----------	26	6	Sd	Pl	C	5	T	------	See log well 17M14.
17M12	------do------	------do------	8-13-54	672	B	26	----	----------	---	---	-----	--	----	---	T	------	See log well 17M4.
17M13	------do------	------do------	8-25-54	668	B	26	2½	----------	---	---	-----	--	----	2	T	------	Do.
17M14	------do------	------do------	8-12-54	674	B	32	2½	----------	26	6	Sd	Pl	C	8	T	------	L.
17M15	------do------	------do------	8-11-54	668	B	22	----	----------	14	8	Sd	Pl	C	3	T	------	See log well 17M17.
17M16	------do------	------do------	8-11-54	674	B	42	2½	----------	---	---	-----	--	----	---	T	------	See log well 17M19.
17M17	------do------	------do------	8-10-54	668	B	27	2½	----------	16	10	Sd,G	Pl	C	3	T	------	L.
17M18	------do------	------do------	8-13-54	706	B	87	2½	----------	40	10	Sd	Pl	C?	40	T	------	L.
17M19	------do------	------do------	7-11-54	670	B	52	2½	----------	49	3	Sd	Pl	C	8	T	------	L.
18D1	------do------	Layne-Northern Co., Inc.	6- 9-55	680	Dr	90	6	S; 10ft, 20sl	72	18	Sd	Pl	C	12	P	T	Dd 15 ft after 8 hr pumping 55 gpm; Ca, L.
18D2	------do------	Westville Engineering Co.	6- 9-54	702	B	42	2½	----------	---	---	-----	--	----	---	T	------	L.
18E1	------do------	------do------	6- 7-54	697	B	26	2½	----------	---	---	-----	--	----	---	T	------	See log well 18E3.
18E2	------do------	------do------	6-14-54	702	B	60	4	----------	55	5	Sd	Pl	C	3	T	------	L.
18E3	------do------	------do------	6-14-54	702	B	42	2½	----------	---	---	-----	--	----	---	T	------	L.
18E4	------do------	------do------	6- 9-54	704	B	52	2½	----------	66	14	Sd	Pl	C	4	T	------	L.
18E5	------do------	------do------	6-14-54	703	B	32	2½	----------	---	---	-----	--	----	---	T	------	See log well 18E3.
18E6	------do------	------do------	6- 7-54	701	B	26	2½	----------	---	---	-----	--	----	10	T	------	Do.
18E7	------do------	------do------	7- 7-54	690	B	22	2½	----------	---	---	-----	--	----	---	T	------	Do.
18G1	------do------	------do------	6-10-54	664	B	32	2½	----------	10	10	Sd	Pl	C	2	T	------	L.
18H1	------do------	------do------	8-12-54	668	B	26	2½	----------	---	---	-----	--	----	---	T	------	See log well 18H4.
18H2	------do------	------do------	8-23-54	666	B	32	2½	----------	---	---	-----	--	----	---	T	------	L.
18H3	------do------	------do------	8-13-54	665	B	26	2½	----------	22	4	Sd,G	Pl	C	11	T	------	L.
18H4	------do------	------do------	8-13-54	664	B	20	2½	----------	---	---	-----	--	----	---	T	------	L.
18H5	------do------	------do------	6-10-54	668	B	42	2½	----------	---	---	Sd,G	Pl	----	3	T	------	L.
18H6	------do------	------do------	6-10-54	668	B	36	2½	----------	---	---	Sd	Pl	----	4	T	------	See log well 18H5.
18H7	------do------	------do------	-------	665	B	22	----	----------	21	1	Sd	Pl	----	4	T	------	See log well 18H3.
18J1	------do------	------do------	8- 1-54	670	B	22	----	----------	21	1	Sd	Pl	C	5	T	------	Do.
18J2	------do------	------do------	8- 1-54	669	B	22	----	----------	21	1	Sd	Pl	C	6	T	------	Do.
19N1	R. Rhoda	Porter County Well Service	2-54	762	J	87	2	S; 4ft, 80g	40	50	Sd	Pl	C	24	D	J1/3	Yield 20 gpm; coarse and medium sand overlain by 40 ft yellow and blue clay.
19N1	G. Brenn	Fitzgerald Well and Pump Co.	8- 3-55	803	J	99	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	C	53	D	J	Yield 12 gpm; Ca.
22D1	R. Turner	Westville Well Co.	7-24-59	822	J	129	2	S; 3ft, dia 1	40	89	Sd	Pl	-----	40	D	J3/4	Ca, L.
25A1	J. Shucy	Beach Plumbing and Well Co.	7-25-59	780	J	75	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	-----	---	D	------	L.
25D1	D. Barnard	----------	3-28-55	805	J	90	2	S	---	---	Sd	Pl	----	80	D	J1/2	
28Q1	W. and M. Nielsen	----------	7-28-40	725	Dr	284	6-4½	----------	---	---	-----	--	----	---	De	------	Oil test; bedrock at 80 ft; water-bearing shale from 190-193 ft; L.

38/5W-30N1	L. Gaines	Beach Plumbing and Well Co.	7- 7-59	850	J	136	2	S; 4ft, 60g. dia 1	---	---	Sd	Pl	-----	---	D	J1/2	Ca, L.
31H1	Shauers Drive-In	F. Lee	6- 3-46	860	Dr	440	8-3½	----------	---	---	-----	--	----	---	Do	------	Oil test; bedrock at 280 ft; L.
31R1	E. and R. Bottin	Porter County Well Service	8- 7-56	840	J	149	2	S	---	---	Sd	Pl	-----	---	D	J1-1/2	Yield 20 gpm; yellow medium sand from 44-149 ft overlain by yellow and blue clay; Ca.
36/6W- 1N1	E. Brandt	Westville Well Co.	8-17-59	645	J	89	2	S; 2½ft, 60g, dia 1	29	60	Sd	Pl	U	29	P	------	L.
2E1	R. Wells	J. Elch and Son	7-11-59	639	J	32	2	S; 3½ft, 60g, dia 1	22	10	Sd	Pl	C	16	D	------	Yield 12 gpm; see log well 2E2.
2E2	-------do--------	---------do---------	7-11-59	630	J	36	2	--------do---------	21	15	Sd	Pl	C	16	D	------	Yield 10 gpm; L.
4N1	A. Gustafson	Porter County Well Service	6-16-54	630	J	40	2	S; 4ft, 60g	18	32	Sd	Pl	U	18	D	L	Yield 20 gpm; yellow and gray medium sand overlain by 10 ft blue clay.
5K1	Harrigan's Gardens	---------do---------	5-18-54	636	J	41	2	S; 3ft, 60g	22	19	Sd	Pl	U	22	Ir	J1/3	Yield 14 gpm; yellow medium sand overlain by 19 ft yellow and blue clay.
5M1	A. A. Meyer	Fitzgerald Well and Pump Co.	10-20-56	623	J	48	2	-------do--------	43	9	Sd	Pl	C	3	D	------	Yield 15 gpm; brown sand overlain by 43 ft brown and blue clay.
5N1	A. Jonak	Slickor Well and Pump Service	8-20-59	625	J	67	2	S; 3ft, 60g, dia 1	16	51	Sd	Pl	C?	15	D	LJ/4	Yield 12 gpm; Ca, L.
6R1	Indiana State Highway Department	Drighton Engineering Co.	2-59	598	B	50	2½	----------	---	---	Sd	Pl	-----	---	T	------	L, S.
6N2	-------do--------	---------do---------	2-59	598	B	30	2½	----------	---	---	Sd	Pl	-----	---	T	------	See log well 6R1.
6N3	-------do--------	---------do---------	2-59	598	B	30	2½	----------	---	---	Sd	Pl	-----	---	T	------	Do.
6N4	-------do--------	---------do---------	2-59	598	B	30	2½	----------	---	---	Sd	Pl	-----	---	T	------	Do.
7F1	K. Wintermeyer	Porter County Well Service	1950	658	J	85	2	S; 4ft, 60g	70	15	Sd	Pl	C	31	D	------	Yield 7 gpm; well originally 67 ft deep; L.
8L1	Mr. Wagner	Fitzgerald Well and Pump Co.	8-12-59	630	J	40	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	C	7	D	------	Yield 10 gpm.
8L2	National Construction Corp.	Layne-Northern Co., Inc.	8-19-58	605	Dr	31	8	----------	8	14	Sd	Pl	C	2	T	------	L.
8M1	-------do--------	---------do---------	9-18-58	633	Dr	87	6	S	19	61	Sd	Pl	U	19	P	T7-1/2	L.
8N1	-------do--------	---------do---------	8- 4-58	633	Dr	65	8	----------	15	26	Sd,G	Pl	U	15	T	------	L.
8N2	-------do--------	---------do---------	8-20-58	633	Dr	70	12	----------	16	24	Sd	Pl	U	16	T	------	L.
9E1	Wabash Railroad Co.	Indiana-Michigan Water Development Co.	5-16-40	635	Dr	123	6	S	---	---	Sd	Pl	-----	14	N	------	Dd 60 ft pumping 125 gpm; bedrock at 118 ft; see log well 9E2.
9E2	-------do--------	---------do---------	5-24-40	635	Dr	118	6	S	---	---	Sd	Pl	-----	---	N	------	L.
9E3	-------do--------	---------do---------	8-10-40	633	Dr	80	10	S; 15ft, 18sl	65	15	Sd	Pl	C	13	O	------	Dd 20 ft pumping 165 gpm; observation well Porter 8; water level measured 11.28 ft below lsd, 11-29-56; L.
9E4	L. Dickey	Westville Well Co.	7-24-58	635	J	38	3	S; 5ft, 10sl. dia 2	10	29	Sd	Pl	U	10	D	J1	See log well 9E3; Ca.
11P1	Indiana Toll Road Commission	----------	7-30-54	630	B	14	-----	----------	13	1	Sd	Pl	C	2	T	------	See log well 11P6.
11P2	-------do--------	----------	7-30-54	635	B	16	-----	----------	13	3	Sd	Pl	C	---	T	------	Flowed; see log well 11P6.
11P3	-------do--------	----------	7-30-54	635	B	14	-----	----------	13	1	Sd	Pl	C	---	T	------	Do.
11P4	-------do--------	Westville Engineering Co.	6- 4-54	642	B	46	2½	----------	8	32	Sd	Pl	C	2	T	------	See log well 11P6.
11P5	-------do--------	---------do---------	6-17-54	642	B	72	4	----------	---	---	Sd	Pl	C	2	T	------	L.
11P6	-------do--------	---------do---------	6- 4-54	642	B	46	2½	----------	15	31	Sd	Pl	C	4	T	------	L.
11Q1	-------do--------	---------do---------	6- 5-54	642	B	48	2½	----------	15	25	Sd	Pl	C	3	T	------	L.
11Q2	-------do--------	---------do---------	6- 4-54	642	B	40	2½	----------	10	10	Sd	Pl	C	4	T	------	L.
13D1	-------do--------	---------do---------	6- 7-54	648	B	36	2½	----------	---	---	-----	--	----	---	T	------	L.
13D2	-------do--------	---------do---------	6- 5-54	650	B	58	2½	----------	---	---	-----	--	----	---	T	------	See log well 13D1.
13H1	-------do--------	---------do---------	6-14-54	664	B	52	4	----------	---	---	-----	--	----	---	T	------	See log well 13H2.
13H2	-------do--------	---------do---------	6- 8-54	667	B	58	2½	----------	50	5	Sd	Pl	C	11	T	------	L.
13H3	-------do--------	---------do---------	6- 8-54	660	B	32	2½	----------	---	---	-----	--	----	---	T	------	See log well 13H2.
13H4	-------do--------	---------do---------	6- 8-54	668	B	32	2½	----------	15	5	Sd	Pl	C	7	T	------	See log well 13H5.
13H5	-------do--------	---------do---------	6- 8-54	662	B	56	2½	----------	35	20	Sd,G	Pl	C	4	T	------	L.
13H6	-------do--------	---------do---------	6-12-54	693	B	20	4	----------	---	---	-----	--	----	---	T	------	See log well 13H2.
13N1	W. A. Sanders	Porter County Well Service	8-18-55	661	J	88	2	S; 4ft, 60g	76	14	G,Sd	Pl	C	18	D	L1/2	Ca, L.
13N2	J. A. Kanko	Fitzgerald Well and Pump Co.	9-22-55	662	J	43	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	C	10	D	------	Yield 15 gpm; Ca.
14A1	Indiana Toll Road Commission	Westville Engineering Co.	6- 6-54	650	B	46	2½	----------	---	---	-----	--	----	---	T	------	See log well 14A2.
14A2	-------do--------	---------do---------	6-16-54	650	B	72	4	----------	---	---	-----	--	----	---	T	------	L.
14A3	-------do--------	---------do---------	6-16-54	650	B	82	-----	----------	---	---	-----	--	----	---	T	------	See log well 14A2.
14A4	-------do--------	---------do---------	6- 6-54	651	B	42	2½	----------	---	---	-----	--	----	---	T	------	Do.
14N1	L. Esserman	Westville Well Co.	7- 9-59	648	J	50	2	S; 2ft, dia 1	38	11	Sd,G	Pl	C	9	D	------	L.
15B1	Indiana Toll Road Commission	Westville Engineering Co.	--------	640	B	52	-----	----------	35	17	Sd,G	Pl	C	4	T	------	L.
15C1	-------do--------	---------do---------	6- 4-54	640	B	42	2½	----------	20	22	Sd	Pl	C	3	T	------	Gray, silty, fine sand overlain by 20 ft brown and gray calcareous clay.
15C2	-------do--------	---------do---------	6- 4-54	639	B	42	2½	----------	15	27	Sd	Pl	C	7	T	------	Gray fine sand overlain by 15 ft gray and brown mottled clay.
15C3	-------do--------	---------do---------	6-19-54	640	B	96	4	----------	---	---	Sd	Pl	C	---	T	------	L.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone					Water level (feet)	Use	Type of pump and horsepower	Remarks
									Depth to top (feet)	Thickness (feet)	Character	Geologic age	Conditions of occurrence				
36/6W-15C4	Indiana Toll Road Commission	Westville Engineering Co.	6- 4-54	640	B	32	2½	----------	15	17	Sd	Pl	C	5	T	------	Gray fine sand overlain by 15 ft gray and brown, mottled, sandy clay.
15C5	------do------	----------	4- 3-54	640	D	92	----	----------	---	---	Sd	Pl	C	4	T	------	See log well 15C3.
15D1	------do------	Westville Engineering Co.	6- 3-54	638	B	42	2½	----------	4	31	Sd	Pl	----	---	T	------	Brown fine sand underlain by 7 ft gray dense silt with embedded coarse sand and gravel.
15D2	------do------	------do------	8-23-54	639	D	72	4	----------	---	---	Sd	Pl	----	4	T	------	L.
16A1	------do------	------do------	6- 3-54	638	D	40	2½	----------	4	26	Sd	Pl	C?	3	T	------	See log well 16A4.
16A2	------do------	------do------	6- 3-54	638	B	42	2½	----------	4	31	Sd	Pl	C?	---	T	------	Do.
16A3	------do------	------do------	6- 3-54	639	D	42	2½	----------	6	34	Sd	Pl	C	4	T	------	Do.
16A4	------do------	------do------	6- 3-54	632	B	88	2½	----------	8	14	Sd	Pl	C	4	T	------	L.
16A5	------do------	------do------	6- 5-54	638	B	48	2½	----------	5	30	Sd	Pl	C	3	T	------	See log well 16A4.
16D1	------do------	------do------	8-22-54	641	D	80	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 16D2.
16D2	------do------	------do------	6-22-54	638	B	72	4	----------	10	37	Sd	Pl	C	11	T	------	L.
16D3	------do------	------do------	7- 7-54	638	B	52	2½	----------	10	42	Sd	Pl	U	10	T	------	See log well 16D2.
16E1	------do------	------do------	6-21-54	636	B	71	4	----------	12	32	Sd	Pl	U	12	T	------	L.
16E2	------do------	------do------	6-21-54	637	D	62	2½	----------	---	---	Sd	Pl	U	---	T	------	See log well 16E1.
16E3	------do------	------do------	8-23-54	640	B	62	2½	----------	15	38	Sd	Pl	C	2	T	------	See log well 16E4.
16E4	------do------	------do------	6-23-54	640	B	62	2½	----------	14	40	Sd	Pl	C	3	T	------	L.
16E5	------do------	------do------	8-24-54	641	B	66	2½	----------	10	50	Sd	Pl	U	10	T	------	L.
16E6	------do------	------do------	6-28-54	637	B	56	2½	----------	11	39	Sd	Pl	U	11	T	------	See log well 16E5.
16E7	------do------	------do------	8-25-54	636	B	62	2½	----------	12	33	Sd	Pl	U	12	T	------	Do.
16E8	------do------	------do------	6-26-54	638	B	56	2½	----------	10	39	Sd	Pl	C?	9	T	------	Do.
17E1	------do------	------do------	6-18-54	634	B	80	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
17G1	------do------	------do------	7- 2-54	616	B	44	2½	----------	28	5	Sd	Pl	C	---	T	------	L.
17G2	------do------	----------	7-20-54	608	D	18	----	----------	16	2	Sd	Pl	C	2	T	------	Silty sand overlain by 17 ft peat and clay.
17G3	------do------	----------	7-20-54	608	D	20	----	----------	---	---	-----	--	----	---	T	------	Soft clay overlain by 18 ft clayey peat.
17G4	------do------	----------	7-17-54	610	B	23	----	----------	22	1	Sd	Pl	C	1	T	------	Silty sand overlain by 22 ft peat and clay.
17H1	------do------	Westville Engineering Co.	8-25-54	638	B	56	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
17H2	------do------	------do------	6-21-54	636	B	56	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 17H1.
17K1	------do------	------do------	6-18-54	610	B	42	2½	----------	11	31	Sd	Pl	C	3	T	------	See log well 17K3.
17K2	------do------	------do------	8-19-54	609	B	32	2½	----------	13	19	Sd	Pl	C	3	T	------	Do.
17K3	------do------	------do------	6-19-54	611	B	42	2½	----------	20	17	Sd	Pl	C	4	T	------	L.
17K4	------do------	----------	7-17-54	610	D	20	----	----------	15	3	Sd	Pl	C	2	T	------	See log well 17K3.
17K5	------do------	Westville Engineering Co.	7- 6-54	611	D	51	2½	----------	---	---	Sd	Pl	C	4	T	------	See log well 17K7.
17K6	------do------	----------	7-17-54	610	D	51	2½	----------	---	---	Sd	Pl	C	4	T	------	Do.
17K7	------do------	Westville Engineering Co.	2- 2-54	611	B	58	2½	----------	---	---	Sd	Pl	C	6	T	------	L.
17K8	------do------	------do------	7- 1-54	610	B	48	2½	----------	33	15	Sd	Pl	C	3	T	------	See log well 17K7.
17K9	------do------	------do------	7- 1-54	610	D	52	2½	----------	30	15	Sd	Pl	C	2	T	------	L.
17K10	------do------	------do------	6-20-54	610	D	62	4	----------	---	---	-----	--	----	---	T	------	L.
17K11	------do------	------do------	7- 2-54	612	B	45	2½	----------	8	12	Sd	Pl	C	5	T	------	L.
17L1	------do------	------do------	8-18-54	636	B	20	2½	----------	18	8	Sd	Pl	U	---	T	------	L.
17L2	------do------	------do------	6-18-54	632	B	32	2½	----------	18	14	Sd	Pl	U	---	T	------	See log well 17L3.
17L3	------do------	------do------	6-25-54	634	B	32	4	----------	18	7	Sd	Pl	U	18	T	------	L.
17M1	------do------	------do------	6-17-54	630	D	66	2½	----------	2	58	Sd	Pl	U?	2	T	------	L.
17M2	------do------	----------	8-25-54	635	B	67	----	----------	12	55	Sd	Pl	U	12	T	------	See log well 17M3.
17M3	------do------	Westville Engineering Co.	8-24-54	635	B	66	2½	----------	12	54	Sd	Pl	U	12	T	------	L.
17M4	------do------	------do------	8-21-54	634	B	22	2½	----------	15	7	Sd	Pl	U	15	T	------	Tan, silty, fine sand overlain by 2 ft top soil and yellow sandy silt.
17M5	------do------	------do------	6-18-54	635	D	22	2½	----------	---	---	Sd,G	Pl	U	---	T	------	See log well 17M3.
18C1	------do------	------do------	6-16-54	638	D	52	2½	----------	5	47	Sd	Pl	U?	4	T	------	See log well 18C2.

36/GW-18C2	Indiana Toll Road Commission	Westville Engineering Co.	6-16-54	G35	B	72	2½	----------	7	53	Sd	Pl	U	7	T	------	L.
18C3	-------do--------	---------do---------	6-16-54	636	B	52	2½	----------	5	47	Sd	Pl	U	5	T	------	See log well 18C2.
18C4	-------do--------	---------do---------	6-24-54	635	B	72	2	----------	35	37	Sd,G	Pl	C	5	T	------	L.
18D1	-------do--------	---------do---------	6-15-54	628	D	42	2½	----------	6	29	Sd	Pl	C	1	T	------	L.
18E1	E. Wise	Porter County Well Service	6-20-56	632	J	55	2	S; 4ft, 60g	50	7	G	Pl	C	---	D	J1/4	Yield 20 gpm; Ca, L.
18F1	Indiana Toll Road Commission	Westville Engineering Co.	6-15-54	636	B	46	2½	----------	5	41	Sd	Pl	U	5	T	------	See log well 18F2.
18F2	-------do--------	---------do---------	6-15-54	636	B	76	2½	----------	5	65	Sd,G	Pl	U7	4	T	------	L.
18F3	-------do--------	---------do---------	6-30-54	638	D	76	2½	----------	7	57	Sd,G	Pl	C	5	T	------	See log well 18F2.
18F4	-------do--------	---------do---------	6-29-54	638	B	72	2½	----------	8	57	Sd	Pl	----	---	T	------	Do.
18F5	-------do--------	---------do---------	6-28-54	638	B	76	2½	----------	---	---	Sd	Pl	C	---	T	------	L.
18F6	-------do--------	---------do---------	6-29-54	636	B	60	2½	----------	5	52	Sd	Pl	----	---	T	------	See log well 18F2.
18F7	-------do--------	---------do---------	6-25-54	638	D	76	2½	----------	---	---	Sd	Pl	----	8	T	------	See log well 18F5.
18F8	-------do--------	---------do---------	6-28-54	630	B	66	2½	----------	---	---	Sd	Pl	C	4	T	------	L.
18F9	-------do--------	---------do---------	6-17-55	620	D	52	2½	----------	---	---	Sd	Pl	C	7	T	------	L.
18F10	-------do--------	----------	2-24-55	633	B	56	----	----------	---	---	------	--	----	---	T	------	L.
18F11	-------do--------	----------	2-24-55	635	B	22	----	----------	---	---	------	--	----	---	T	------	See log well 18F10.
18F12	-------do--------	Westville Engineering Co.	3- 3-55	634	D	32	----	----------	1	31	Sd	Pl	U	1	T	------	
18G1	-------do--------	----------	2-25-55	634	B	46	----	----------	1	45	Sd	Pl	U	1	T	------	L.
18H1	-------do--------	Westville Engineering Co.	6-19-54	633	B	72	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
18J1	-------do--------	---------do---------	6-17-54	630	D	52	2½	----------	---	---	Sd	Pl	----	---	T	------	Brown and gray fine sand overlain by 6 ft brown and gray silty clay.
19L1	T. Raney	Fitzgerald Well and Pump Service	8-12-59	643	J	42	2	S; 3ft, 60g, dia 1	36	6	Sd	Pl	C	18	D	J1/3	Yield 10 gpm; white sand overlain by 36 ft brown and blue clay; Ca.
19P1	J. Jarnagen	Porter County Well Service	6- 2-55	658	J	46	2	S; 4ft, 60g	38	23	Sd	Pl	C	15	D	P	Fine sand overlain by 38 ft blue clay and silt.
19Q1	S. Granowski	---------do---------	4-54	652	J	48	2	S; 80g	39	7	Sd	Pl	C	15	---	------	Yield 12 gpm; white fine sand overlain by 39 ft top soil and blue clay.
20A1	Indiana State Highway Department	----------	5-12-54	616	D	35	----	----------	---	---	------	--	----	---	T	------	See log well 20A2.
20A2	-------do--------	----------	5-12-54	618	D	53	----	----------	---	---	------	--	----	---	T	------	L.
21C1	J. Klich	J. Eich and Son	7- 8-59	642	J	40	2	S; 5ft, 60g, dia 1	31	15	Sd,G	Pl	C	25	D	J1/4	Yield 9 gpm; Ca, L.
22P1	A. Coates	Fitzgerald Well and Pump Co.	--------	655	J	40	2	S; 3ft, 60g, dia 1	39	24	Sd	Pl	C	8	D	------	Yield 13 gpm; gray fine to medium sand overlain by 39 ft blue clay.
22P2	S. Sink	---------do---------	Summer 1955	655	J	36	2	-------do---------	20	16	Sd	Pl	C	10	D	J1/3	Fine sand overlain by 26 ft top soil and clay.
22P3	E. Rizley	---------do---------	11-55	655	J	46	2	-------do---------	30	13	Sd	Pl	C	8	D	------	Yield 12 gpm; fine to medium sand overlain by 39 ft brown and blue clay.
22P4	Mr. Garland	---------do---------	5-25-56	660	J	46	2	S; 3ft, 60g	42	6	Sd	Pl	C	19	D	J	Yield 10 gpm; sand overlain by 42 ft brown and blue clay.
23P1	R. Trumbull	K. and A. Drilling Co.	--------	645	J	-----	2	----------	---	---	Sd	Pl	C	---	---	------	Flows; discharge 2.5 gpm measured 10-30-56; Ca.
23R1	C. Muzio	Porter County Well Service	5- 1-56	700	J	121	2	S; 4ft, 60g	35	98	Sd,G	Pl	C	24	P	J	Yield 15 gpm; sand and gravel overlain by 35 ft blue clay; Ca.
25A1	L. Weimer	Fitzgerald Well and Pump Co.	8-20-59	680	J	69	2	S; 4ft, 60g, dia 1	65	5	Sd,G	Pl	C	---	D	------	Yield 12 gpm; white sand and gravel overlain by 65 ft brown clay, sand, and gravel.
26H1	H. Borg	Porter County Well Service	Spring 1955	723	J	67	2	S; 4ft, 60g	---	---	G,Sd	Pl	C	28	D	L3/4	Well deepened in sand and gravel from 55-67 ft.
27A1	O. Lutes	Fitzgerald Well and Pump Co.	1955	670	J	49	3	S; 5ft, 60g, dia 2	30	22	Sd	Pl	C	20	P	J2	Yield 30 gpm; medium sand overlain by 30 ft blue clay.
31E1	B. T. Gloyenske	----------	Before 1935	682	--	163	4	----------	---	---	Sd	Pl	----	---	---	L	
32A1	Indiana State Highway Department	----------	5-12-54	621	B	30	----	----------	---	---	Sd	Pl	----	3	T	------	L.
32C1	Seven Dolors Shrine	Westville Well Co.	9- 8-53	652	J	123	----	----------	---	---	Sd,G	Pl	----	---	T	------	Bedrock at 123 ft.
32C2	-------do--------	---------do---------	9-15-53	652	Dr	140	----	----------	78	24	G,Sd	Pl	C	---	T	------	Bedrock at 140 ft; L.
32C3	-------do--------	---------do---------	9-16-53	652	--	115	----	----------	80	35	G,Sd	Pl	C	---	T	------	L.
32C4	-------do--------	---------do---------	9-17-53	655	--	120	----	----------	---	---	Sd	Pl	----	---	T	------	Bedrock at 120 ft.
32D1	-------do--------	---------do---------	1-30-54	662	Dr	115	4	S; 20ft, 10al	95	20	Sd,G	Pl	C	10	P,S	T5	Ca, L.
32H1	W. G. Drummond	J. Eich and Son	7- 7-59	642	J	87	2	S; 4ft, 60g, dia 1	35	52	Sd,G	Pl	C	25	D	------	Yield 13 gpm; L.
33D1	Indiana State Highway Department	----------	5-12-54	621	D	42	----	----------	18	6	Sd	Pl	C	4	T	------	L.
34E1	Girl Scouts of Chicago	T. Woznink	7-56	695	J	47	3	S; 7ft, 60g	15	32	Sd	Pl	C	---	P	J1/3	Flowed; sand overlain by 15 ft yellow clay; Ca.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone					Water level (feet)	Use	Type of pump and horsepower	Remarks
									Depth to top (feet)	Thickness (feet)	Character	Geologic age	Conditions of occurrence				
36/6W-36D1	A. Hanrahan	San Juan Oil and Gas Co.	4- 4-31	765	Dr	202	10	Oh	---	---	Ls	D	C	---	N	------	Formerly observation well Porter 5; water level measured 42.17 ft below lsd, 10-15-35; L.
36E1	P. R. Carter	Porter County Well Service	5-53	735	J	84	2	S; 4ft, 60g	42	42	Sd,G	Pl	U	42	D	J3/4	Yield 15 gpm; sand and gravel overlain by 21 ft clay and sand; Ca.
36/7W- 1F1	Indiana State Highway Department	----------	7-11-58	618	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Brown, wet, fine sand overlain by 4 ft sandy loam.
1F2	-------do--------	----------	7-11-58	614	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
1F3	-------do--------	----------	7-11-58	612	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
1G1	-------do--------	----------	7-11-58	618	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
1G2	-------do--------	----------	7-11-58	612	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
1R1	Mr. Bonner	Westville Well Co.	7- 1-59	610	J	59	3	S; 5ft, 10sl, dia 2	20	39	Sd	Pl	C	15	D	------	L.
3E1	Mono Sol Corp.	Mr. Samuelson	1953	610	J	90	3	S	---	---	Sd	Pl	----	---	I	J1-1/2	Ca.
3P1	Indiana State Highway Department	Indiana State Highway Department	7-10-57	595	D	35	----	----------	---	---	Sd	Pl	----	---	T	------	Brown sand overlain by 4 ft loam and sand.
3P2	-------do--------	----------do----------	7-10-57	598	D	35	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
10C1	-------do--------	----------do----------	7-10-57	591	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Brown sand overlain by 7 ft loam and muck.
10C2	-------do--------	----------do----------	7-10-57	595	D	45	----	----------	---	---	Sd	Pl	----	---	T	------	Brown sand overlain by 4 ft loam and muck.
10C3	-------do--------	----------do----------	7-10-57	597	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	See log well 10C5.
10C4	-------do--------	----------do----------	7-10-57	595	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	Brown sand overlain by 7 ft loam and muck.
10C5	-------do--------	----------do----------	7-10-57	591	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	L.
10D1	-------do--------	----------do----------	7-10-57	594	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	L.
10D2	-------do--------	----------do----------	7-10-57	594	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	See log well 10D1.
10D3	-------do--------	----------do----------	7-10-57	590	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	See log well 10C5.
10D4	-------do--------	----------do----------	7-10-57	592	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
10D5	-------do--------	----------do----------	7-10-57	597	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
10D6	-------do--------	----------do----------	7-10-57	594	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	See log well 10D1.
10D7	-------do--------	----------do----------	7-10-57	595	D	30	----	----------	---	---	Sd	Pl	----	---	T	------	Do.
10D8	-------do--------	----------do----------	7-10-57	591	B	30	----	----------	---	---	Sd	Pl	----	---	T	------	See log well 10C5.
10E1	Indiana Toll Road Commission	Westville Engineering Co.	6-30-54	586	D	58	2½	----------	23	32	Sd	Pl	C	3	T	------	L.
10E2	-------do--------	----------do----------	6-28-54	596	B	66	4	----------	2	18	Sd	Pl	U	2	T	------	L.
10E3	-------do--------	----------do----------	7- 1-54	596	B	56	2½	----------	3	52	Sd	Pl	U	3	T	------	See log well 10E1.
10E4	-------do--------	----------do----------	6-29-54	596	D	55	2½	----------	---	---	Sd	Pl	U,C	3	T	------	Gray, silty, fine sand from 0-48 ft with 4 ft soft gray clay at 20 ft.
10E5	-------do--------	----------do----------	7- 1-54	596	B	102	2½	----------	30	22	Sd	Pl	C?	3	T	------	L.
10F1	-------do--------	----------do----------	5-20-54	612	D	62	2½	----------	6	56	Sd	Pl	U	6	T	------	L.
10G1	-------do--------	----------do----------	5-26-54	612	B	52	2½	----------	1	51	Sd	Pl	U	1	T	------	See log well 10F1.
10G2	-------do--------	----------do----------	5-25-54	612	B	60	2½	----------	5	55	Sd	Pl	U	5	T	------	Do.
10H1	-------do--------	----------do----------	5-21-54	620	B	62	2½	----------	6	56	Sd	Pl	U	6	T	------	Do.
10J1	-------do--------	----------do----------	5-28-54	620	B	52	2½	----------	---	---	Sd	Pl	U	---	T	------	Do.
10L1	-------do--------	----------do----------	5-27-54	611	B	50	----	----------	5	30	Sd	Pl	U	5	T	------	Brown and gray fine sand overlain by 15 ft silt and clay.
10L2	-------do--------	----------do----------	4-21-54	611	B	122	2½	----------	4	56	Sd	Pl	U	4	T	------	L.
11M1	-------do--------	----------do----------	5-28-54	623	B	52	2½	----------	---	---	Sd	Pl	U	---	T	------	Brown and gray fine sand from 0-52 ft.
11M2	-------do--------	----------do----------	6- 0-54	616	B	104	4	----------	---	---	Sd	Pl	C,U	6	T	------	L.
11M3	-------do--------	----------do----------	5-30-54	622	B	90	2½	----------	---	---	Sd	Pl	C,U	2	T	------	See log well 11M2.
11M4	-------do--------	----------do----------	5-30-54	617	D	76	2½	----------	---	---	Sd	Pl	C,U	---	T	------	L.
11M5	-------do--------	----------do----------	5-30-54	615	D	64	2½	----------	---	---	Sd	Pl	C,U	---	T	------	See log well 11M4.
11M6	-------do--------	----------do----------	5-30-54	615	B	68	2½	----------	7	33	Sd	Pl	U	7	T	------	Do.
11M7	-------do--------	----------do----------	5-30-54	615	D	63	2½	----------	7	27	Sd	Pl	U	7	T	------	See log well 11M8.

38/7W-11M8	Indiana Toll Road Commission	Westville Engineering Co.	6- 8-54	611	B	106	4	----------	---	---	Sd	Pl	C,U	2	T	------	L.
11N1	M. Harung	Porter County Well Service	7- 3-56	622	J	34	2	S; 4ft, 60g	26	38	Sd	Pl	C	20	D	------	Yield 8 gpm; fine sand overlain by 26 ft yellow sand and blue clay.
11N2	Indiana Toll Road Commission	Westville Engineering Co.	6- 1-54	622	B	76	2½	----------	8	37	Sd	Pl	U	8	T	------	See log well 11N5.
11N3	-------do---------	---------do---------	5-16-54	625	B	60	2½	----------	6	34	Sd	Pl	U	6	T	------	Do.
11N4	-------do---------	---------do---------	5-17-59	626	B	40	2½	----------	8	32	Sd	Pl	U	8	T	------	Do.
11N5	-------do---------	---------do---------	5-28-54	626	B	86	2½	----------	7	43	Sd	Pl	----	8	T	------	L.
11N6	-------do---------	---------do---------	5-18-54	626	B	40	2½	----------	8	32	Sd	Pl	C?	6	T	------	See log well 11N5.
11N7	-------do---------	---------do---------	5-19-54	626	B	40	2½	----------	7	33	Sd	Pl	C?	4	T	------	Do.
11P1	J. M. Plummer	Porter County Well Service	10-25-56	632	J	42	2	S; 4ft, 60g	35	15	Sd	Pl	C	12	D	L1/6	Yield 20 gpm; Ca, L.
11P2	Indiana Toll Road Commission	Westville Engineering Co.	6-10-54	626	B	55	2½	----------	8	42	Sd	Pl	U?	7	T	------	L.
11Q1	Suburban Homes	Layne-Northern Co., Inc.	4- 9-59	630	Dr	55	6	----------	6	45	Sd	Pl	U	6	T	------	See log well 11P2.
11R1	Indiana Toll Road Commission	Westville Engineering Co.	6- 1-54	653	B	46	2½	----------	9	37	Sd	Pl	U	9	T	------	Brown and gray fine sand from 0-46 ft.
11R2	-------do---------	---------do---------	6- 1-54	633	B	72	2½	----------	3	47	Sd	Pl	U	3	T	------	See log well 11R3.
11R3	-------do---------	---------do---------	6- 9-54	633	B	88	4	----------	2	48	Sd	Pl	U	2	T	------	L.
12D1	P. A. Speer	Porter County Well Service	10-27-56	650	J	81	2	S; 4ft, 60g	27	54	Sd	Pl	U	27	D	3/4	Yield 15 gpm; yellow medium sand overlain by 24 ft yellow sand and clay.
12J1	A. L. Brown	---------do---------	9-30-55	640	J	90	2	---------do---------	35	55	Sd	Pl	C	10	S	------	Yield 5 gpm; fine sand overlain by 35 ft yellow sand and blue clay.
12J2	-------do---------	---------do---------	9-55	638	J	94	2	S; 4ft, 80g	---	---	Sd	Pl	----	---	D	------	
12N1	Indiana Toll Road Commission	Westville Engineering Co.	6- 2-54	633	B	56	2½	----------	2	48	Sd	Pl	U	2	T	------	L.
12N2	-------do---------	---------do---------	6- 1-54	633	B	56	2½	----------	2	18	Sd	Pl	U	2	T	------	Gray fine sand underlain by 36 ft gray sandy silt and clay.
12N3	-------do---------	---------do---------	6- 2-54	633	B	52	2½	----------	2	43	Sd	Pl	U	2	T	------	See log well 12N1.
12Q1	R. J. Ansevin	J. Elch and Son	7-13-59	640	J	28	2	S; 3½ft, 60g, dia 1	21	7	Sd,G	Pl	----	17	D	------	Yield 10 gpm; see log well 12Q5; Ca.
12Q2	W. Ward	---------do---------	7-14-59	640	J	38	3	S; 4ft, 60g, dia 2	17	21	Sd	Pl	U	17	D	------	Yield 14 gpm; see log well 12Q5.
12Q3	Indiana Toll Road Commission	Westville Engineering Co.	6- 2-54	637	B	42	2½	----------	8	34	Sd	Pl	C	5	T	------	See log well 12Q5.
12Q4	-------do---------	---------do---------	6- 2-54	638	B	42	2½	----------	8	34	Sd	Pl	C	5	T	------	Do.
12Q5	-------do---------	---------do---------	6- 2-54	637	B	95	2½	----------	8	82	Sd	Pl	C?	7	T	------	L.
12Q6	-------do---------	---------do---------	6- 2-54	636	B	62	2½	----------	10	52	Sd	Pl	C	5	T	------	See log well 12Q5.
12R1	-------do---------	---------do---------	6- 2-54	637	B	42	2½	----------	6	36	Sd	Pl	C	5	T	------	See log well 12R4.
12R2	-------do---------	---------do---------	6- 3-54	637	B	42	----	----------	8	34	Sd	Pl	C	5	T	------	Do.
12R3	-------do---------	---------do---------	6-11-54	637	B	86	4	----------	---	---	Sd	Pl	C	5	T	------	L.
12R4	-------do---------	---------do---------	6- 2-54	638	B	62	2½	----------	10	52	Sd	Pl	C	5	T	------	L.
13A1	J. Cehon	Porter County Well Service	5-19-56	637	J	44	2	S; 4ft, 80g	35	9	Sd	Pl	C	17	D	J1/4	Yield 15 gpm; coarse sand overlain by 35 ft yellow sand and blue clay.
13D1	Mr. Harnung	Westville Well Co.	8- 4-59	634	J	39	2	S; 2½ft, 60g, dia 1	33	6	Sd	Pl	C	16	D	------	L.
13M1	Industrial Lumber Co.	Porter County Well Service	9-21-56	635	J	44	2	S; 4ft, 60g	30	14	Sd	Pl	C	12	D	------	Yield 20 gpm; L.
13N2	D. Datson	Westville Well Co.	8-20-59	635	J	45	2	S; 2½ft, 60g, dia 1	30	15	Sd	Pl	C	10	D	------	See log well 13M1; Ca.
15E1	A. Goins	Fitzgerald Well and Pump Co.	Summer 1955	635	J	40	2	S; 3ft, 60g, dia 1	19	21	Sd	Pl	C	9	P	------	Yield 15 gpm; see log well 15J2.
15J1	R. Tonkovich	---------do---------	10-15-55	633	J	52	3	S; 5ft, 60g, dia 2	---	---	Sd	Pl	----	---	D	------	Yield 30 gpm.
15J1	A. Lightfoot	Porter County Well Service	8-21-56	633	J	45	2	S; 4ft, 60g	28	17	Sd	Pl	C	21	D	L1/4	Yield 15 gpm; see log well 15J2.
15J2	F. Page	J. Elch and Son	8- 6-59	633	J	44	2	S; 4ft, 60g, dia 1	21	24	Sd	Pl	----	21	D	------	Yield 13 gpm; L.
15K1	A. Jacobs	Porter County Well Service	10-26-56	633	J	53	2	S; 4ft, 80g	44	22	Sd	Pl	C	---	D	J1/3	Yield 12 gpm; L.
15Q1	P. Bennington	Fitzgerald Well and Pump Co.	12-20-55	633	J	40	2	S; 3ft, 60g, dia 1	21	31	Sd	Pl	C	1	D	------	Yield 14 gpm; L.
15R1	W. Rollins	Porter County Well Service	8-21-56	632	J	44	2	S; 4ft, 60g	38	12	Sd	Pl	C	18	D	L1/4	Yield 18 gpm; L.
23N1	E. Miller	Fitzgerald Well and Pump Co.	3- 1-56	635	J	24	2	S; 3ft, 60g	---	---	Sd	Pl	----	5	---	------	Yield 5 gpm.
23N2	Mrs. Carr	---------do---------	8-26-56	633	J	21	2	-------do---------	17	4	Sd	Pl	C	3	P	------	Yield 13 gpm; white sand overlain by 17 ft brown and blue clay; Ca.
25F1	M. Natala	Porter County Well Service	3-25-54	652	J	67	2	S; 4ft, 80g	63	4	Sd	Pl	C	35	D,S	J1/2	Yield 7 gpm; fine sand overlain by 63 ft blue clay and marl; Ca.
34P1	C. Hayn	Westville Well Co.	7-20-59	635	J	137	3	S; 5ft, 10sl, dia 1	114	23	Sd,G	Pl	----	7	D	------	L.
36A1	U. S. Government	Wehling Well Works	1956	672	Dr	550	10	Oh	---	---	Ls	D	C	32	N	------	Dd 53 ft after 23.5 hr pumping 30 gpm.
36A2	-------do---------	Miller Artesian Well Co.	11- 7-56	670	Dr	148	----	S	---	---	G,Sd	Pl	C	34	P	------	Dd 66 ft after 5 hr pumping 12 gpm; Ca, L.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Character	Water-bearing zone: Geologic age	Water-bearing zone: Conditions of occurrence	Water level (feet)	Use	Type of pump and horsepower	Remarks
36/7W-30A3	U. S. Government	Miller Artesian Well Co.	1- 7-57	670	Dr	150	10	Gp; S; 30sl, dia 8	110	40	G,Sd	Pl	C	28	P	------	Dd 39 ft after 16 hr pumping 28 gpm; Ca, L.
36D1	J. Glova	Fitzgerald Well and Pump Co.	Summer 1955	642	J	112	2	S; 7ft, 60g	105	7	Sd	Pl	C	0	D	J1/2	Medium to coarse sand overlain by 105 ft blue clay and gravel.
36J1	R. Crisman	----------	Before 1902	682	J	140	2	S; 4ft	---	---	Sd,G	Pl	C	---	D,S	L	
36P1	A. Buerglor	----------	Before 1935	677	--	100	3	S	---	---	Sd,G	Pl	C	---	N	------	
36P2	U. S. Government	Wehling Well Works	7- 3-56	660	Dr	248	16-10	Oh	200	48	Ls	D	C	25	P	------	Dd 43 ft after 22 hr pumping 60 gpm; L.
36P3	-------do--------	J. P. Miller Artesian Well Co.	11- 2-56	670	Dr	136	5	S	81	52	Sd	Pl	C	25	T	------	Dd 68 ft after 4.5 hr pumping about 25 gpm; bedrock at 133 ft; L.
36P4	-------do--------	---------do---------	11-13-56	670	Dr	130	4	----------	82	46	Sd	Pl	C	---	T	------	See log well 36P3.
36P5	-------do--------	---------do---------	12-56	665	Dr	127	8	Gp; S; 30sl	75	52	Sd,G	Pl	C	21	P	------	Dd 35 ft after 18 hr pumping 60 gpm; see log well 36P3; Ca.
36Q1	J. Buerglor	----------	Before 1935	684	J	110	2	S; 3ft	---	---	G	Pl	C	---	D,S	------	Ca.
37/5W- 1A1	H. D. Wood	----------	1875	617	Dr	864	10	----------	426	438	Ls	D,S	C	---	N	------	Flows; discharge 30 gpm measured 3-21-56; bedrock at 245 ft; Ca, L.
1B1	Ma's Shack	Lakeland Well Driller	7-26-56	620	J	101	2	S; 4½ft, 100g, dia 1½	80	21	Sd	Pl	C	---	P	------	Flowed; L.
2Q1	G. Schlundt	Hunts Hoosier Hardware	7- 8-59	630	J	38	2	S; 3½ft, 60g, dia 1	27	11	Sd	Pl	U	27	D	J1/2	Yield 10 gpm; brown sand from 0-38 ft; Ca.
3A1	C. Adamonis	Lakeland Well Driller	8-29-57	640	J	60	2½	S; 6ft, dia 1½	40	20	Sd	Pl	U	40	D	------	Yield 20 gpm; sand from 0-60 ft; Ca.
3G1	C. E. Anderson	Porter County Well Service	9-49	630	J	47	2	S; 4ft, 60g	42	5	Sd	Pl	U	42	D	L	Yellow sand from 0-47 ft.
3L1	R. Christopher	Westville Well Co.	5- 9-56	622	J	31	2	S; 4½ft	---	---	Sd	Pl	----	---	D	J	Ca.
13A1	L. Cipo	Hunts Hoosier Hardware	5-12-55	662	J	100	2	S; 4½ft, 60g, dia 1	95	5	G,Sd	Pl	C	35	D	J1/2	Yield 13 gpm; L.
13H1	Indiana State Highway Department	Brighton Engineering Co.	11-12-58	659	B	30	2½	----------	---	---	-----	Pl	----	---	T	------	L.
14M1	-------do--------	---------do---------	11-15-58	655	B	30	2½	----------	---	---	-----	Pl	----	---	T	------	See log well 14M3.
14M2	-------do--------	---------do---------	11-17-58	654	B	30	2½	----------	---	---	-----	Pl	----	---	T	------	Do.
14M3	-------do--------	---------do---------	11-18-59	655	B	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L. S.
16J1	L. Furness	Porter County Well Service	6-29-56	670	J	38	2	S; 4ft, 60g	24	10	Sd	Pl	U	24	D	J	Yield 15 gpm; L.
16K1	F. Wozniak	---------do---------	4-14-54	650	J	130	2	-------do--------	125	5	Sd	Pl	C	30	D	------	Yield 12 gpm; Ca, L.
19B1	L. E. Stock	Slicker Well and Pump Service	7-24-58	630	J	25	2	S; 2½ft, 60g, dia 1	---	---	Sd	Pl	----	15	D	------	Yield 15 gpm; L.
19Q1	A. Clark	Porter County Well Service	4-54	657	J	87	2	S; 4ft, 60g	64	23	Sd,G	Pl	C	35	D	------	Medium sand and gravel overlain by 64 ft blue clay.
19Q2	D. Kettler	---------do---------	10-15-56	662	J	78	3	S; 6ft, 60g, dia 1½	69	45	Sd	Pl	C	47	D	J3/4	Yield 50 gpm; very coarse sand overlain by 69 ft blue clay.
21M1	P. Powell	---------do---------	9-10-55	650	J	46	2	S; 4ft, 60g	35	30	Sd	Pl	C	22	D	J1/2	Yield 20 gpm; yellow and gray sand overlain by 35 ft blue clay; Ca.
24H1	Indiana State Prison	Indiana-Michigan Water Development Co.	8-10-38	659	Dr	67	4	S; 7ft, 15sl	61	6	G,Sd	Pl	C	12	P	------	Dd 2 ft pumping 12 gpm; gravel and sand overlain by 61 ft clay.
24H2	-------do--------	---------do---------	9- 6-41	661	Dr	60	6	S; 10ft, 30sl	48	12	G	Pl	C	11	P,S	T3	Dd 10 ft pumping 150 gpm; gravel overlain by 48 ft clay; Ca.
28D1	Indiana State Highway Department	Brighton Engineering Co.	2-59	645	B	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L, S.
28D2	-------do--------	---------do---------	2-59	645	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 28D3.

37/5W-28D3	Indiana State Highway Department	Brighton Engineering Co.	2-59	644	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
28P1	M. Dobrowski	Slicker Well and Pump Co.	8-18-59	642	J	43	2	S; 4ft, 60g, dia 1	39	4	Sd	Pl	C	15	D	------	Yield 12 gpm; Ca, L.
28R1	I. Pluta	----------	5-40	643	Dr	1,105	----	----------	---	---	-----	--	----	---	---	------	Oil test; L.
29J1	J. Nemeth	Westville Well Co.	7- 3-59	644	J	45	2	S; 3ft, dia 1	42	3	G	Pl	C	10	D	J	Ca, L.
30N1	Indiana State Highway Department	Brighton Engineering Co.	3-59	647	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 30N2.
30N2	---------do---------	---------do---------	3-59	646	B	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L, S.
30N3	---------do---------	---------do---------	3-59	646	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
30Q1	---------do---------	---------do---------	11-26-58	656	B	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 30R2.
30Q2	---------do---------	---------do---------	12- 4-58	651	B	30	2½	----------	25	5	Sd	Pl	C	9	T	------	Do.
30R1	---------do---------	---------do---------	11-26-58	651	B	30	2½	----------	13	12	Sd	Pl	U	13	T	------	Do.
30R2	---------do---------	---------do---------	12- 2-58	649	B	30	2½	----------	13	13	Sd	Pl	U	13	T	------	L.
30R3	---------do---------	---------do---------	12- 3-58	650	B	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 30R4.
30R4	---------do---------	---------do---------	12- 5-58	653	B	50	2½	----------	20	11	Sd	Pl	C	14	T	------	L, S.
31C1	---------do---------	---------do---------	3-59	638	B	30	2½	----------	---	---	Sd	Pl	C,U	4	T	------	L.
31C2	---------do---------	---------do---------	3-59	637	D	30	2½	----------	12	18	Sd	Pl	C	3	T	------	See log well 31C4.
31C3	---------do---------	---------do---------	3-59	638	D	30	2½	----------	12	18	Sd	Pl	U	12	T	------	Do.
31C4	---------do---------	---------do---------	3-59	638	D	50	2½	----------	19	18	Sd	Pl	U	19	T	------	L, S.
31C5	---------do---------	---------do---------	3-59	640	D	30	2½	----------	---	---	-----	--	----	---	T	------	L.
31H1	Mr. McAvoy	Porter County Well Service	9- 8-55	639	J	47	2	S; 4ft, 60g	41	19	Sd	Pl	C	18	D	------	Yield 20 gpm; gray coarse sand overlain by 41 ft blue clay.
31H2	E. A. Reder	---------do---------	10-24-56	639	J	48	2	---------do---------	38	10	Sd	Pl	C	22	D	J	Yield 18 gpm; sand overlain by 38 ft blue clay; Ca.
31L1	Indiana State Highway Department	Brighton Engineering Co.	3-59	642	B	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
31L2	---------do---------	---------do---------	3-59	642	D	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 31L.
31L3	---------do---------	---------do---------	3-59	638	D	30	2½	----------	---	---	Sd	Pl	----	---	T	------	Do.
31L4	---------do---------	---------do---------	3-59	638	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	Do.
31M1	New York Central Railroad	Indiana-Michigan Water Development Co.	10-21-37	645	Dr	62	18	----------	21	41	Sd,G	Pl	U	21	N	T20	Dd 21 ft pumping 690 gpm; screen, top 15 ft 20 slot, lower 5 ft 40 slot; see log well 31M2.
31M2	---------do---------	Kelly Well Co.	6-46	645	Dr	68	42	Gp; S; 32ft	23	38	Sd,G	Pl	U	23	N	T	Dd 23 ft pumping 855 gpm; L.
31P1	Indiana State Highway Department	Brighton Engineering Co.	3-59	644	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 31P4.
31P2	---------do---------	---------do---------	3-59	641	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	Do.
31P3	---------do---------	---------do---------	3-59	641	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	Do.
31P4	---------do---------	---------do---------	3-59	644	B	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L, S.
32E1	S. B. Scott	Westville Well Co.	7-23-59	639	J	66	2	S; 3ft, dia 1	38	28	Sd,G	Pl	C	16	D	------	L.
32E2	D. E. Wall	---------do---------	7- 3-59	635	J	45	2	---------do---------	30	15	Sd	Pl	C	10	D	------	L.
32G1	C. H. Mullan	Beach Plumbing and Well Co.	8- 1-59	640	J	33	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	----	---	D	J1/2	Ca, L.
36E1	Indiana State Prison	Indiana-Michigan Water Development Co.	8-38	662	Dr	27	6	S; 5ft, 30sl	5	22	G,Sd	Pl	----	5	P	T1-1/2	Dd 5 ft pumping 10 gpm; Ca, L.
36H1	---------do---------	Layne-Northern Co., Inc.	6-26-56	690	Dr	115	8	S; 10ft, 20sl	91	24	G,Sd	Pl	C	25	P	T7-1/2	Dd 34 ft after 8 hr pumping 240 gpm; bedrock at 115 ft; Ca, L.
36N1	---------do---------	Indiana-Michigan Water Development Co.	6-25-38	678	Dr	131	6	S; 10ft, 15sl	80	51	Sd	Pl	C	14	P	T5	Dd 70 ft pumping 25 gpm; L.
36N2	---------do---------	---------do---------	10-14-44	678	Dr	148	6	Gn	135	13	Sh	D	C	14	T	------	Dd 105 ft pumping 7 gpm; bedrock at 135 ft, L.
36N3	---------do---------	---------do---------	10-28-44	668	Dr	118	6	S; 10ft, 20g, dia 4	111	7	G	Pl	C	7	P	T5	Dd 50 ft pumping 90 gpm; L.
37/6W-13C1	Indiana Department Conservation	----------	--------	615	Du	22	24	----------	---	---	Sd	Pl	U	---	N	------	Formerly observation well Porter 2; water level measured 13.89 ft below lsd, 10-18-35; sand from 0-22 ft.
13C2	---------do---------	Layne-Northern Co., Inc.	2-18-50	590	Dr	18	4	----------	3	15	Sd	Pl	U	3	P	------	Fine to medium sand from 0-18 ft.
13C3	---------do---------	---------do---------	2-19-50	590	Dr	18	4	----------	3	15	Sd	Pl	U	3	P	------	Fine to medium sand from 0-18 ft.
13D1	---------do---------	----------	--------	587	--	17	50	----------	4	13	Sd	Pl	U	4	P	------	Sand from 0-17 ft.
13D2	---------do---------	----------	--------	587	--	20	50	----------	4	16	Sd	Pl	U	4	P	------	Sand from 0-20 ft.
13D3	---------do---------	----------	--------	587	--	19	50	----------	4	15	Sd	Pl	U	4	P	------	Sand from 0-19 ft.
13D4	---------do---------	----------	--------	587	--	19	50	----------	4	15	Sd	Pl	U	4	P	------	Do.
13F1	---------do---------	----------	--------	614	Dn	18	1¼	----------	---	---	Sd	Pl	U	---	N	------	Formerly observation well Porter 3; water level measured 15.50 ft below lsd, 10-18-35; sand from 0-18 ft.
14J1	J. Baraz	Porter County Well Service	3-52	630	J	31	2	----------	21	10	Sd	Pl	U	21	D	J1/3	Yellow sand from 0-31 ft; Ca.
14J2	---------do---------	----------	1958	630	J	31	2	----------	---	---	Sd	Pl	U	---	D	------	Do.
14L1	Town of Dune Acres	R. Pinkham	10-23-47	600	Dr	21	10	S; 4ft, 10sl	9	12	Sd,G	Pl	U	9	P	------	Dd 5 ft pumping 75 gpm; L.
14N1	---------do---------	Layne-Northern Co., Inc.	5-19-53	625	Dr	95	6	----------	72	23	Sd	Pl	C	2	T	------	See log well 14N2.

Table 2.--Records of wells and test holes in Porter County, Indiana--Continued

Well	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter of well (inches)	Finish	Water-bearing zone: Depth to top (feet)	Water-bearing zone: Thickness (feet)	Water-bearing zone: Character	Water-bearing zone: Geologic age	Water-bearing zone: Conditions of occurrence	Water level (feet)	Use	Type of pump and horsepower	Remarks
37/6W-14N2	Town of Dune Acres	Layne-Northern Co., Inc.	10-16-53	625	Dr	94	26	Gp; S; 20ft, 80sl, dia 12	72	22	Sd,G	Pl	C	G	P	T5	Dd 64 ft pumping 65 gpm; L.
23R1	E. Schultz	Porter County Well Service	10-20-56	650	J	82	2	S; 4ft, 60g	74	30	Sd	Pl	C	35	D	J1/2	Yield 20 gpm; Ca, L.
23R2	R. Cline	Westville Well Co.	3-28-56	655	J	83	2	S; 4½ft	---	---	Sd	Pl	C	---	D	J1/3	
23R3	-------do---------	---------do---------	3-29-56	655	J	89	2	-------do--------	---	---	Sd	Pl	C	---	D	J1/3	
23R4	-------do---------	---------do---------	1-24-56	655		84	2	-------do--------	---	---	Sd	Pl	C	---	D	J1/3	Flowed 6 gpm; L.
24A1	G. Welsh	Porter County Well Service	10- 5-56	608	J	54	2	S; 3ft, 60g	40	8	Sd,G	Pl	C	---	D	J1/3	
24D1	R. Summers	---------do---------	Spring 1950	598	J	31	2	S; 60g	25	6	G	Pl	C	4	D	J1/3	Yield 14 gpm; gravel overlain by 7 ft blue clay and 18 ft yellow sand; Ca.
24H1	E. F. Eisenhardt	---------do---------	Fall 1950	650	J	87	2	S; 4ft, 60g	65	22	G,Sd	Pl	C	14	D	J1/2	Yield 25 gpm; medium to coarse gravel and sand overlain by 34 ft blue clay and 31 ft yellow sand; Ca.
25D1	B. F. Moore	Westville Well Co.	1-13-56	665	J	106	3	S; dia 1½	---	---	Sd,G	Pl	----	---	D	------	
25E1	E. Hadady	Porter County Well Service	6-11-55	680	J	108	4	S; 10ft, 60g, dia 3	55	60	Sd	Pl	C	45	D	J	Yield 35 gpm; medium sand overlain by 55 ft blue clay; Ca.
25J1	Indiana State Highway Department	Brighton Engineering Co.	3-59	658	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 25J2.
25J2	-------do--------	---------do---------	3-59	657	D	50	2½	----------	---	---	Sd	Pl	----	---	T	------	L, S.
25K1	W. R. Dietz	Westville Well Co.	7- 3-56	685	J	103	2	S; 4½ft	---	---	Sd	Pl	----	---	D	J1	Ca.
25M1	V. Gasaway	---------do---------	7-28-59	682	J	58	2	S; 4ft, 60g, dia 1	54	4	Sd	Pl	C	22	D	------	L.
25N1	Indiana State Highway Department	Brighton Engineering Co.	11-22-58	631	D	50	2½	----------	---	---	-----	--	----	---	T	------	L, S.
25N2	-------do--------	---------do---------	11-20-58	626	D	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 25N1.
25Q1	-------do--------	---------do---------	1-59	630	B	30	2½	----------	---	---	-----	--	----	---	T	------	L.
25Q2	-------do--------	---------do---------	1-59	637	D	30	2½	----------	---	---	-----	--	----	---	T	------	Brown silty clay with little sand from 0-30 ft.
25Q3	-------do--------	---------do---------	1-59	634	B	30	2½	----------	28	2	Sd	Pl	U	28	T	------	Gray silty fine sand and clay overlain by 20 ft brown silty clay with sand.
25Q4	-------do--------	---------do---------	1-59	625	B	50	2½	----------	20	21	Sd	Pl	U	20	T	------	L, S.
25Q5	-------do--------	---------do---------	1-59	629	D	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 25Q1.
25Q6	-------do--------	---------do---------	1-59	637	B	30	2½	----------	---	---	-----	--	----	---	T	------	Do.
26B1	U. S. Government	U. S. Corps of Engineers	4-11-56	660	B	50	----	----------	---	---	-----	--	----	---	T	------	L.
26G1	-------do--------	Wehling Well Works	11-56	685	Dr	111	4	S; 8ft, 25sl	94	31	Sd,G	Pl	C	69	T	------	Dd 10 ft after 6 hr pumping 30 gpm; Ca, L.
26H1	W. T. Givin	Porter County Well Service	9- 6-55	668	J	75	2	S; 4ft, 60g	68	17	Sd	Pl	C	45	D	------	Yield 15 gpm; gray medium sand overlain by 68 ft blue clay.
26R1	Indiana State Highway Department	Brighton Engineering Co.	11-22-58	631	B	30	2½	----------	---	---	-----	--	----	---	T	------	L.
27A1	R. E. Holm	Beach Plumbing and Well Co.	7-27-59	640	J	93	2	S; 4ft, 60g, dia 1	---	---	Sd	Pl	----	---	D	------	L.
27H1	U. S. Government	U. S. Corps of Engineers	4-19-56	679	B	30	----	----------	---	---	-----	--	----	---	---	------	L.
27H2	-------do--------	Wehling Well Works	11- 6-56	680	Dr	115	4	S; 8ft, 25sl	87	38	G,Sd	Pl	C	68	T	------	Dd 9 ft after 5 hr pumping 50 gpm; Ca, L.
27L1	Goodfellow Youth Camp	Layne-Northern Co., Inc.	3-10-54	676	Dr	104	32	Gp; S; dia 16 -	80	24	Sd	Pl	C	68	P	J5	See log well 27L2; C.
27L2	-------do--------	---------do---------	9-18-57	675	Dr	110	38	----------	76	34	Sd	Pl	C	68	P	T7-1/2	Ca, L.
29N1	----------	----------	--------	612	Dr	-----	6	----------	---	---	Ls	S?	C	---	N	------	Oil test; flows 15 gpm: Ca.
31R1	Sauk Trail Scout Camp	Shoehy Well and Pump Co.	7- 1-54	632	Dr	225	6	Oh	183	42	Ls	D	C	10	N	------	Dd 80 ft pumping about 25 gpm; water has hydrogen sulfide gas; L.

37/6W-32R1	Indiana State Highway Department	Brighton Engineering Co.	12-18-58	636	D	50	2½	----------	22	28	Sd	Pl	U	22	T	------	L, S.
32R2	------do------	------do------	12-19-58	635	B	30	2½	----------	---	---	Sd	Pl	U	---	T	------	See log well 32R1.
33N1	------do------	------do------	12- 9-58	634	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	L.
33R1	------do------	------do------	12-58	635	B	30	2½	----------	18	12	Sd	Pl	----	18	T	------	See log well 33R3.
33R2	------do------	------do------	12-58	634	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	Do.
33R3	------do------	------do------	12-58	636	B	50	2½	----------	34	16	Sd	Pl	U	34	T	------	L, S.
33R4	------do------	------do------	12-58	632	B	30	2½	----------	---	---	Sd	Pl	----	---	T	------	See log well 33R3.
33R5	------do------	------do------	12-58	630	B	30	2½	----------	25	5	Sd	Pl	U	25	T	------	Do.
34A1	C. Dolk	Westville Well Co.	7-20-59	630	J	48	2	S; 3ft. dia 1	41	7	Sd	Pl	C	9	D	------	L.
35B1	Indiana State Highway Department	Brighton Engineering Co.	2-59	611	D	45	2½	----------	10	35	Sd	Pl	C	8	T	------	L.
35B2	------do------	Westville Engineering Co.	7-17-59	608	B	32	2½	----------	15	17	Sd	Pl	C	2	T	------	See log well 35B1.
35B3	------do------	------do------	7-17-59	609	B	32	2½	----------	25	7	Sd	Pl	C	---	T	------	Flowed; see log well 35B7.
35B4	------do------	------do------	7-17-59	607	B	32	2½	----------	20	12	Sd	Pl	C	---	T	------	Do.
35B5	------do------	------do------	7-17-59	610	B	32	2½	----------	26	6	Sd,G	Pl	C	3	T	------	See log well 35B1.
35B6	------do------	------do------	7-17-59	607	B	32	2½	----------	20	12	Sd	Pl	C	---	T	------	Flowed; see log well 35B1.
35B7	------do------	------do------	7-17-59	610	B	52	2½	----------	---	---	Sd,G	Pl	C	---	T	------	Flowed; L.
35C1	------do------	Brighton Engineering Co.	2-59	613	B	50	2½	----------	26	24	Sd	Pl	C	9	T	------	L.
35E1	------do------	------do------	11-25-58	639	B	50	2½	----------	36	14	Sd	Pl	U	36	T	------	L. S.
35E2	------do------	------do------	11-25-58	638	B	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 35E1.
35E3	------do------	------do------	11-26-58	638	B	30	2½	----------	---	---	-----	--	----	---	T	------	Do.
35E4	------do------	------do------	12-58	639	B	30	2½	----------	---	---	-----	--	----	---	T	------	Do.
35E5	------do------	------do------	12-58	640	B	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 35E7.
35E6	------do------	------do------	12-58	639	B	30	2½	----------	---	---	-----	--	----	---	T	------	See log well 35E1.
35E7	------do------	------do------	12-58	639	B	50	2½	----------	18	32	Sd	Pl	U	18	T	------	L, S.
35G1	Home Water Co.	Layne-Northern Co., Inc.	7-22-38	640	Dr	80	----	----------	20	40	G,Sd	Pl	C	14	T	------	Temperature 52°F; see log well 35G3.
35G2	------do------	------do------	8-30-49	640	Dr	61	6	----------	27	34	G,Sd	Pl	C	16	T	------	L.
35G3	------do------	------do------	10-14-53	640	Dr	74	6	----------	40	34	G,Sd	Pl	C	20	T	------	L.
35G4	------do------	------do------	7-26-54	640	Dr	58	38	Gp; S; dia 18	20	38	Sd,G	Pl	----	---	P	------	See log well 35G3.
35H1	------do------	------do------	10-12-53	640	Dr	65	6	----------	---	---	Sd,G	Pl	----	---	T	------	Do.
36A1	Mr. Crowell	Fitzgerald Well and Pump Co.	1-11-50	630	J	40	2	S; 3ft, 60g	37	5	Sd	Pl	C	8	D	------	Yield 12 gpm; sand overlain by 37 ft blue clay.
36B1	J. O. McCombs	Porter County Well Service	10-20-55	635	J	42	2	S; 4ft, 60g	37	5	Sd,G	Pl	C	12	D	1/3	Yield 25 gpm; coarse sand with small gravel overlain by 37 ft blue clay; Ca.
36H1	T. Ruhe	Fitzgerald Well and Pump Co.	6-21-56	632	J	45	2	S; 3ft, 60g	---	---	Sd	Pl	C	7	D	------	Yield 15 gpm.
36L1	Home Water Co.	Kelly Well Co.	1931	645	Dr	40	18	Gp; S	---	---	G,Sd	Pl	C	20	P	T15	Dd 7 ft pumping 250 gpm.
36R1	------do------	------do------	1931	630	Dr	59	24	------do------	10	50	Sd,G	Pl	C	5	P	T15	Dd 17 ft pumping 1,400 gpm; L.
37/7W-26J1	R. Miller	Porter County Well Service	1949	665	J	84	2	S; 3ft, 80g, dia 1	78	8	Sd	Pl	U	78	D	L1/2	Yield 15 gpm; medium to coarse yellow sand from 0-84 ft.
26J2	J. Fulghum	------do------	6- 1-53	660	J	68	2	S; 4ft, 60g	66	2	Sd,G	Pl	U	66	N	J1/2	
20M1	W. Gasser, Jr.	J. Eich and Son	7-15-59	610	J	52	3	S; 6ft, 10sl, dia 1½	28	20	Sd	Pl	U	20	---	------	Yield 23 gpm; for lawn sprinkling; brown and gray sand from 0-52 ft; Ca.
26R1	J. R. Coley	Fitzgerald Well and Pump Co.	5-55	700	J	130	4	S; 10ft, 8sl	122	8	Sd	Pl	U	122	N	J1-1/2	Water has bad taste; fine sand from 0-130 ft.
35B1	Ogden Dunes Fire Station	Porter County Well Service	12-53	605	J	28	3	S; 6ft, 60g, dia 2	14	14	Sd	Pl	U	14	---	L	For fire protection; yellow sand from 0-28 ft; Ca.
35B2	P. Money	Hunts Hoosier Hardware	5-20-57	630	J	58	2	S; 4ft, 60g, dia 1	38	20	Sd,G	Pl	U	38	D	------	Yield 13 gpm; white sand and gravel overlain by 30 ft brown fine sand; Ca.
35B3	D. Wakeman	------do------	5-22-57	610	J	68	2	------do------	62	6	Sd	Pl	C	30	D	------	Yield 13 gpm; L.
35D4	A. F. Flossing	------do------	5-21-57	625	J	58	2	------do------	42	16	Sd,G	Pl	U	42	D	------	Do.
35J1	F. McKee	Porter County Well Service	7-10-55	665	J	87	2	S; 4ft, 80g	72	23	Sd	Pl	C	22	D,S	J3/4	Yield 8 gpm; Ca, L.
35D1	Midwest Steel Co.	Layne-Northern Co., Inc.	8- 5-59	607	Dr	60	6	S	42	42	Sd	Pl	C	14	P	------	Ca, L.
+38/5W-36Q1	A. Smith	----------	-------	600	J	-----	2	S	---	---	Sd	Pl	C	+2	D	L1/4	Flows about 1 gpm; Ca.

Table 3.--Selected logs of wells and test holes in Porter County, Indiana

Well 32/5W-1H1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift	35	35	
Devonian system:			
Upper Devonian series:			
Shale	89	124	
Middle Devonian series:			
Limestone	231	355	

Well 32/5W-10R1

Type of record: Driller's log. Altitude: 663 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift	35	35	
Devonian system:			
Upper Devonian series:			
Shale	98	133	
Middle Devonian series:			
Limestone	13	146	

Well 33/7W-1G1

Type of record: Driller's log. Altitude: 712 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift	138	138	
Devonian system:			
Upper Devonian series:			
Shale, dark-brown	77	215	
Devonian and Silurian system; undifferentiated:			
Lime	45	260	
Lime	510	770	
Ordovician system:			
Upper Ordovician series?:			
Shale, green	10	780	
Lime, gray	5	785	
Lime, brown	10	795	
Lime and shale	25	820	
Shale, green	73	893	
Shale, dark	7	900	
Middle Ordovician series:			
Lime	107	1,007	
Lime	80	1,087	

Well 33/7W-15A3

Type of record: Driller's log. Altitude: 718 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	45	45	
Sand, fine	8	53	
Sand, coarse	20	73	
Sand, fine	8	81	
Sand, coarse	7	88	
Gravel and sand	3	91	
Clay	34	125	
Devonian system:			
Upper Devonian series:			
Shale	21	146	

Well 34/5W-20D1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow, and gravel; mixed	9	9	
Gravel and red sand	16	25	
Sand, gray	9	34	

Well 34/6W-4B1

Type of record: Driller's log. Altitude: 758 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, brown	33	33	
Sand, brown, and medium gravel	24	57	
Sand, medium, gray	18	75	

Well 34/6W-4B2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown and blue	31	31	
Clay, blue, and gravel	11	42	
Sand, white, and gravel	21	63	

Well 34/6W-6B4

Type of record: Driller's log. Altitude: 787 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard, yellow	16	16	
Clay and sand; hard, gray, mixed	22	38	
Sand, hard, dirty, gray	3	41	
Sand, hard, gray-white	10	51	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 34/6W-6B4--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, hard, dirty, gray	24	75	
Clay, soft, gray	2	77	
Sand, hard, gray-white	6	83	

Well 34/6W-12N2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, blue	24	24	
Sand, yellow	21	45	
Sand, medium, gray	20	65	

Well 34/7W-1B4

Type of record: Driller's log. Altitude: 782 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown and blue	21	21	
Clay, blue, and gravel	10	31	
Gravel and sand; white	21	52	
Sand, white	16	68	

Well 34/7W-1B7

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown and blue	21	21	
Clay, blue, and gravel	10	31	
Gravel and sand	42	73	
Sand, white	17	90	

Well 34/7W-12A1

Type of record: Driller's log from memory. Altitude: 783 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	22	22	
Sand, yellow	43	65	
Sand, very fine	25	90	
Sand, medium to coarse	20	110	

Well 34/7W-26A1

Type of record: Driller's log. Altitude: 732 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Loam, sand, and clay	12	12	
Clay, blue	20	32	
Sand, gray	23	55	

Well 34/7W-27M1

Type of record: Driller's log from memory. Altitude: 753 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	21	21	
Clay, blue	21	42	
Gravel, hard	14	56	
Sand, white	14	70	

Well 34/7W-35A1

Type of record: Driller's log from memory. Altitude: 724 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown, and sand	21	21	
Sand, brown and white	21	42	
Sand, white	10	52	

Well 35/5W-2H6

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, brown	14	14	
Sand, brown, with pea gravel	9	23	
Pea gravel	8	31	Wet at 30 feet.
Sand and pea gravel	19	50	

Well 35/5W-6L1

Type of record: Driller's log. Altitude: 814 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	25	25	
Clay and boulders	7	32	
Clay, gritty	9	41	
Sand, fine, yellow	30	71	
Sand, sharp	3	74	
Sand, fine	3	77	
Sand, sharp	2	79	
Sand, fine	9	88	
Sand, medium, gray	14	102	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/5W-6L1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, and broken shale----	12	114	
Sand and broken shale----------	6	120	
Sand, fine, and shale----------	32	152	
Clay, soft, gritty-------------	3	155	
Sand, fine---------------------	11	166	
Clay, tough--------------------	1	167	

Well 35/5W-6L4

Type of record: Driller's log. Altitude: 810 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----------------------	1	1	
Clay, gravel, and sand---------	14	15	
Sand, muddy--------------------	30	45	
Sand, medium, and broken shale--	48	93	
Sand, medium-------------------	25	118	
Sand, fine---------------------	8	126	

Well 35/5W-6L6

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

Quaternary system:			
Recent and Pleistocene series:			
Muck---------------------------	11	11	
Clay with streaks of gravel----	17	28	
Clay and gravel----------------	5	33	
Clay, sandy, with streaks of gravel----------	29	62	
Sand, fine, muddy--------------	18	80	
Clay, sandy--------------------	10	90	
Sand, fine---------------------	34	124	

Well 35/5W-6L7

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

Quaternary system:			
Recent and Pleistocene series:			
Fill---------------------------	4	4	
Muck---------------------------	3	7	
Clay---------------------------	9	16	
Sand---------------------------	5	21	
Clay---------------------------	37	58	
Sand with small pieces broken shale----------	30	88	
Sand, fine to medium-----------	41	129	
Clay, sandy, gray--------------	1	130	

Well 35/5W-6M1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay	33	33	
Sand, yellow	22	55	
Sand, muddy, gray	10	65	
Sand, fine, with shale	30	95	

Well 35/5W-6N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, tough	10	10	
Clay, hard, gritty	29	39	
Gravel with shale	1	40	
Shale, broken	6	46	
Sand, medium, and shale	26	72	
Sand, fine	84	156	
Clay	4	160	

Well 35/5W-6P2

Type of record: Driller's log. Altitude: 808 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and gritty clay	19	19	
Clay and boulders	2	21	
Gravel and clay	5	26	
Clay, sandy	20	46	
Sand, yellow	4	50	
Sand, coarse, yellow	7	57	
Sand, medium, gray	15	72	
Sand, coarse, gray	19	91	
Sand, fine	54	145	
Sand, fine, yellow	17	162	
Clay	3	165	

Well 35/5W-7E1

Type of record: Driller's log. Altitude: 822 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and tough clay	10	10	
Clay, gritty	27	37	
Sand	8	45	
Gravel and sand	4	49	
Gravel with shale	7	56	
Shale	6	62	
Sand, fine, with shale	6	68	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/5W-7E1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine	8	76	
Sand, medium	19	95	
Sand, fine, with shale	15	110	
Clay	2	112	
Sand, fine	32	144	
Clay	2	146	
Sand, fine, muddy	54	200	
Clay	1	201	

Well 35/5W-16P1

Type of record: Driller's log. Altitude: 773 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil, black	1	1	
Clay, sandy, brown	7	8	
Clay, sand, and gravel; red	6	14	
Sand, fine	120	134	
Clay	11	145	

Well 35/5W-19D1

Type of record: Driller's log. Altitude: 802 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	20	20	
Clay, sandy	30	50	
Gravel with broken shale	4	54	
Sand, dirty	6	60	
Quicksand	90	150	
Clay, blue	10	160	

Well 35/5W-19K1

Type of record: Driller's log. Altitude: 811 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	40	40	
Clay, blue	40	80	
Sand, white	14	94	

Well 35/5W-19Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	2	2	
Clay, sandy	5	7	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/5W-19Q1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy, with gravel	5	12	
Sand	32	44	
Sand with gravel-sized coal	40	84	Sand with shale fragments.
Sand	16	100	
Sand with trace of gravel-sized coal	26	126	
Clay, sandy	18	144	

Well 35/5W-20B1

Type of record: Driller's log from memory. Altitude: 788 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	31	31	
Clay, blue	9	40	
Sand, white	12	52	

Well 35/5W-20L1

Type of record: Driller's log from memory. Altitude: 792 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	21	21	
Sand, brown	21	42	
Sand, white	21	63	

Well 35/5W-34F1

Type of record: Driller's log. Altitude: 746 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	3	3	
Clay, blue	7	10	
Sand, yellow	7	17	
Sand and gravel	38	55	

Well 35/6W-1H1

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

Quaternary system:			
Recent and Pleistocene series:			
Hardpan, sandy	50	50	
Sand, hard	6	56	
Hardpan, sandy	9	65	
Shale, coarse sand, and hardpan	5	70	
Sand and hardpan with some shale	6	76	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/6W-1H1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Shale, broken, clay, and coarse gravel	9	85	
Sand, fine, with shaly clay	20	105	
Sand, fine, and clay	7	112	
Sand, fine, clay, and shale	15	127	
Sand, coarse, gravel, clay, and shale	8	135	
Sand, coarse, and gravel	14	149	
Sand, fine, and gravel	1	150	
Sand, coarse, and gravel	10	160	
Sand, fine, and gravel	2	162	

Well 35/6W-1L1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, soft, brown	8	8	
Clay, medium, brown	39	47	
Sand and gravel; hard, brown	30	77	

Well 35/6W-9Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, gray and brown	15	15	
Clay, medium, gray	5	20	
Sand, fine, soft, gray	18	38	
Gravel, gray, and medium sand	4	42	
Gravel, coarse, hard, gray	3	45	

Well 35/6W-12R1

Type of record: Driller's log. Altitude: 820 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard, gritty	35	35	
Shale	7	42	Hard clay?.
Shale, broken	13	55	
Sand and shale; mixed	6	61	
Sand, medium, muddy	21	82	
Sand, fine, muddy	2	84	
Sand, medium, muddy	11	95	
Sand, fine, muddy	5	100	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/6W-13A2

Type of record: Driller's log. Altitude: 808 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, brown and blue	42	42	
Gravel and sand; white	27	69	
Sand, white	15	84	

Well 35/6W-21J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	21	21	
Clay, blue	21	42	
Sand, white	10	52	

Well 35/6W-24B1

Type of record: Driller's log. Altitude: 803 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill	5	5	
Clay, sandy	10	15	
Clay, blue	15	30	
Clay, sandy	5	35	
Sand, dirty	25	60	
Sand, fine	65	125	
Quicksand	14	139	
Sand, medium	6	145	
Sand, fine	5	150	
Sand, coarse	20	170	
Quicksand, dirty	10	180	

Well 35/6W-26J1

Type of record: Driller's log from memory. Altitude: 701 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill	3	3	
Muck and peat	10	13	
Clay	6	19	
Sand, white	16	35	

Well 35/6W-27Q1

Type of record: Driller's log. Altitude: 733 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	21	21	
Clay, blue	10	31	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/6W-27Q1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, blue	11	42	
Sand, white	18	60	

Well 35/6W-29G1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	22	22	
Sand and clay; mixed	4	26	
Sand, yellow	15	41	
Clay, blue, and sand; mixed	9	50	
Sand, yellow	21	71	
Sand, coarse, white	16	87	

Well 35/6W-33L1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	30	30	
Clay, blue	22	52	
Sand, white	20	72	

Well 35/7W-1M1

Type of record: Driller's log. Altitude: 672 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown and blue	42	42	
Clay, blue	10	52	
Marl	11	63	Silt.
Sand, fine	5	68	
Clay, blue	3	71	

Well 35/7W-2J2

Type of record: Driller's log. Altitude: 666 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	2	2	
Clay, yellow	15	17	
Clay, blue	20	37	
Clay, blue, with layers of marl-	7	44	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 35/7W-2K1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	50	50	
Sand, buckwheat flour	20	70	Fine to medium.
Gravel, hardpan	25	95	
Clay, hard, blue	15	110	
Gravel	4	114	

Well 35/7W-24R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	21	21	
Sand, brown	19	40	
Clay, blue	10	50	
Sand, white	23	73	

Well 35/7W-27C1

Type of record: Driller's log. Altitude: 684 feet.

Quaternary system:			
Recent and Pleistocene series:			
Marsh muck	10	10	
Clay, soft, blue	75	85	
Sand and gravel	20	105	
Clay, soft, blue	45	150	
Sand and gravel	5	155	
Clay, blue	15	170	
Devonian system:			
Upper Devonian series:			
Shale, brown	20	190	
Shale, blue	25	215	
Shale, blue, with lime streaks	75	290	
Limestone with shale streaks	30	320	
Shale, blue	20	340	
Middle Devonian series:			
Lime with shale streaks	20	360	
Limestone	19	379	

Well 36/5W-1R1

Type of record: Driller's log. Altitude: 714 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and gravel	3	3	
Clay, blue	60	63	
Sand	21	84	

Well 36/5W-3H1

Type of record: Driller's log. Altitude: 682 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil and brown clay	22	22	
Clay, blue	32	54	
Sand, fine, with clay balls	14	68	
Sand, coarse, gray, and gravel	10	78	

Well 36/5W-6M2

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	1	1	
Loam, sandy, brown	5	6	
Sand, medium, dark-brown, with trace of silt and clay	9	15	
Sand, medium, brown	10	25	
Sand, medium, brown, with trace of coarse sand and small gravel	8	33	
Clay, silty, gray, with little sand	7	40	
Clay, silty, gray, and sand	5	45	
Clay, silty, gray, with little sand	5	50	

Well 36/5W-7M1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard, yellow	12	12	
Sand, hard, yellow	9	21	
Clay, firm, gray	23	44	
Sand, dirty, and gravel; mixed with gray hard clay	3	47	
Sand, fine, hard, gray	1	48	
Sand, coarse, hard, gray	4	52	

Well 36/5W-9G1

Type of record: Driller's log. Altitude: 698 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift	244	244	
Devonian system:			
Middle Devonian series:			
Lime, brown	21	265	
Lime, gray	5	270	
Lime, brown	25	295	

Well 36/5W-9G1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Devonian system:			
Middle Devonian series:			
Shale, gray	35	330	
Lime, brown	15	345	
Silurian system:			
Middle Silurian series?:			
Lime, gray	227	572	
Lime, soft, gray	3	575	
Lime, gray	160	735	
Lime, brown	18	753	
Lime, gray	22	775	
Lime, brown	35	810	
Ordovician system:			
Upper Ordovician series?:			
Lime, brown, and shale	5	815	
Lime, gray, and blue shale	10	825	
Lime, gray	5	830	
Lime, brown, and shale	20	850	
Lime, gray, and shale	20	870	
Shale, gray, with some lime strips	30	900	
Shale, gray	150	1,050	
Shale, brown, cavey	1	1,051	
Middle Ordovician series:			
Lime, reddish-brown	259	1,310	

Well 36/5W-11R3

Type of record: Driller's log. Altitude: 766 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, silty	4	4	
Clay	4	8	
Sand, fine, with clay seams	5	13	
Sand, silty, with some pebbles	16	29	
Clay, gray	5	34	
Sand, fine-medium, pebbly	18	52	

Well 36/5W-11R4

Type of record: Driller's log. Altitude: 778 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, brown	5	5	
Clay, sandy, brown, with few pebbles	1	6	
Sand, silty, with pebbles	7	13	
Clay with pebbles	11	24	
Silt, sandy, with trace of clay	5	29	
Sand, silty	5	34	
Silt, stratified, with trace of clay	9	43	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-11R4--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, silty	5	48	
Sand, fine-medium	4	52	

Well 36/5W-11R5

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy, black	1	1	
Sand, silty, brown and gray	2	3	
Sand, medium, silty, brown, stratified	1	4	
Clay, very stiff	6	10	
Sand, fine, gray	32	42	

Well 36/5W-14B1

Type of record: Driller's log. Altitude: 802 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy, black	1	1	
Sand, fine, brown	3	4	
Silt	3	7	
Sand, silty	11	18	
Sand	12	30	

Well 36/5W-14C2

Type of record: Driller's log. Altitude: 797 feet.

Quaternary system:			
Recent and Pleistocene series:			
Peat	1	1	
Silt	15	16	
Sand, fine	15	31	

Well 36/5W-15G2

Type of record: Driller's log. Altitude: 831 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil, black	1	1	
Clay, silty, brown	1	2	
Silt, brown	3	5	
Sand, silty, brown, with trace of clay	3	8	
Sand, fine to coarse, tan and brown, stratified	32	40	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-15M2

Type of record: Driller's log. Altitude: 752 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt with trace of clay	4	4	
Sand, silty, brown	2	6	
Clay, silty, with sand seams	8	14	
Sand, clayey	5	19	
Sand, silty, with gravel and clay	17	36	

Well 36/5W-15R1

Type of record: Driller's log. Altitude: 818 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow	38	38	
Sand, yellow	36	74	
Sand, gray, and blue clay	23	97	
Sand, medium, gray	48	145	

Well 36/5W-16E1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, brown	3	3	
Clay, medium, silty, brown, and gravel; intermixed	5	8	
Sand, fine, clayey, brown	1	9	
Silt, slightly clayey, brown	4	13	
Clay, medium, silty, gray, with embedded sand and gravel	9	22	

Well 36/5W-16E2

Type of record: Driller's log. Altitude: 764 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, brown	2	2	
Clay, medium, sandy, brown	3	5	
Sand, fine, brown, with trace of clay	15	20	
Sand, fine, brown, with clay seams	2	22	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-16J2

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt with trace of sand	4	4	
Clay, stiff, silty	3	7	
Sand, fine, silty, brown	3	10	
Sand, silty, well graded	9	19	
Clay, stiff, gray, with trace of silt	4	23	
Sand, very fine, silty	2	25	
Sand, fine, with pebbles and trace of clay	5	30	
Sand, coarse, gravelly	6	36	

Well 36/5W-16J3

Type of record: Driller's log. Altitude: 757 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt with trace of clay	2	2	
Clay, silty	2	4	
Silt, sandy	1	5	
Silt, clayey	2	7	
Sand with trace of silt	26	33	
Sand, silty	6	39	
Clay, gravelly	3	42	

Well 36/5W-16K1

Type of record: Driller's log. Altitude: 757 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil and silt	2	2	
Clay, silty	6	8	
Sand with trace of silt and clay	5	13	
Sand, pebbly, with seams of silt and clay	16	29	
Sand, coarse, with silt and clay	4	33	
Sand, black, with trace of silt and clay seams	6	39	
Silt, hard, with pebbles	7	46	

Well 36/5W-16L1

Type of record: Driller's log. Altitude: 758 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, with trace of clay	4	4	
Clay, sandy, brown	2	6	
Clay, silty, sandy, brown	8	14	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-16L1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, stratified, with soft wet clay	5	19	
Sand, stratified, with clay and silt seams	17	36	
Clay, silty, with traces of coarse sand and pebbles	14	50	

Well 36/5W-17E1

Type of record: Driller's log. Altitude: 661 feet.

Quaternary system:			
Recent and Pleistocene series:			
Road fill	6	6	
Silt, marly, black and gray, with some sand	2	8	
Silt, soft, marly, and peat	14	22	
Silt	2	24	
Sand, marly, gray, and gravel; loose	7	31	
Clay, silty, gray, with embedded sand and gravel	11	42	Till.

Well 36/5W-17E2

Type of record: Driller's log. Altitude: 668 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, dark-brown	4	4	
Clay, soft, gray and brown	2	6	
Marl, sandy, gray, with trace of organic clay	19	25	
Clay, medium, silty, gray, with embedded sand and gravel	10	35	
Sand, fine, silty, gray	27	62	

Well 36/5W-17E4

Type of record: Driller's log. Altitude: 668 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	4	4	
Clay, soft, gray, organic	2	6	
Marl, soft, sandy, gray, with trace of organic sand	14	20	
Sand, fine, gray, with trace of gravel	25	45	
Clay, medium, silty, gray, with embedded sand and gravel	27	72	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17E13

Type of record: Driller's log. Altitude: 667 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, silty, black and gray, with trace of sand	3	3	
Peat, marly, with trace of sand	29	32	
Peat and silt; varved	8	40	
Silt, varved, with peat seams	2	42	
Sand, fine, gray, with some gravel	11	53	
Clay, silty, gray	4	57	Till.

Well 36/5W-17F6

Type of record: Driller's log. Altitude: 668 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, organic, black	3	3	
Clay, soft, brown and gray	1	4	
Peat, marly, with gray silt and some sand	10	14	
Peat, black	16	30	
Peat, black, and varved silt	10	40	
Peat, black, and varved silt; sandy	3	43	
Sand, fine to medium, gray, with trace of gravel	7	50	
Clay, silty, gray	7	57	Till.

Well 36/5W-17F8

Type of record: Driller's log. Altitude: 669 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy, black	4	4	
Sand, silty, brown, with trace of marl and gravel	2	6	
Marl, sandy, brown	3	9	
Peat, marly, sandy, black	15	24	
Sand, brown to gray, with marly peat seams	14	38	
Peat, black, with some varved silt	13	51	
Silt, gray	1	52	

Well 36/5W-17F9

Type of record: Driller's log. Altitude: 671 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	2	2	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17F9--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, gray, with seams of organic material	4	6	
Peat, marly, sandy	12	18	
Sand, fine, gray, with trace of gravel	10	28	
Peat with trace of sand	12	40	
Peat, clayey	5	45	
Sand, fine, gray, with trace of clay and gravel	5	50	
Silt, gray, with sand and gravel	6	56	

Well 36/5W-17F10

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

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	1	1	
Peat, marly, brown and black, with some sand	7	8	
Peat, black	17	25	
Peat, sandy, black	13	38	
Silt, gray, with sand and gravel	18	56	Till.

Well 36/5W-17F11

Type of record: Driller's log. Altitude: 672 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, brown	2	2	
Clay, soft, gray, with organic seams	10	12	
Peat, soft, marly, gray, with gray sand seams	26	38	
Peat, soft, very organic	12	50	
Peat, soft, silty	4	54	
Sand, fine, gray, with trace of organic matter	2	56	

Well 36/5W-17F12

Type of record: Driller's log. Altitude: 678 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, sandy, dark	3	3	
Sand, brown, with trace of clay	3	6	
Peat, black	3	9	
Sand, gray, with some gravel and shells	7	16	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17F12--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Peat, black	4	20	
Peat, sandy, black	5	25	
Peat, marly, black	25	50	
Silt, soft, sandy, gray, varved-	3	53	
Silt, gray, with embedded sand and gravel	3	56	

Well 36/5W-17F14

Type of record: Driller's log. Altitude: 674 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	4	4	
Clay, very soft, gray and brown, with organic matter	2	6	
Sand, silty, gray, with trace of soft clay	8	14	
Clay, gray and brown, with embedded sand and gravel	12	26	

Well 36/5W-17F17

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy, brown	3	3	
Peat, soft, black	5	8	
Peat and medium sand; gray, stratified	7	15	
Clay, stiff, gray, with some gray sand seams	10	25	
Silt, medium, gray, with some pebbles	7	32	

Well 36/5W-17F18

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

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, black	2	2	
Clay, silty, brown and gray	2	4	
Peat, medium, silty, gray	1	5	
Silt, brown and gray, with trace of clay	5	10	
Silt, gray	14	24	
Clay, silty, gray, with gray sand seams	2	26	Till.

Well 36/5W-17F21

Type of record: Driller's log. Altitude: 681 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, organic, brown	2	2	
Clay, soft, silty, organic, gray	3	5	
Sand, fine, gray, with trace of clay	5	10	
Clay, soft, silty, gray, with embedded sand and gravel	25	35	
Sand, fine, gray, with trace of clay seams and gravel	24	59	
Clay, soft, silty, gray, with embedded sand and gravel	6	65	
Sand, fine, gray, with trace of clay and gravel	17	82	

Well 36/5W-17F22

Type of record: Driller's log. Altitude: 682 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, brown, with trace of gravel	2	2	
Silt, dark-brown	2	4	
Clay, silty, dark-brown	2	6	
Clay, silty, gray	4	10	
Silt, sandy, gray	5	15	
Sand, fine to coarse, gray, with trace of silt	11	26	

Well 36/5W-17G2

Type of record: Driller's log. Altitude: 679 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, organic, black	2	2	
Clay, soft, black	2	4	
Clay, soft, sandy, gray and brown	1	5	
Clay, soft, silty, gray, with embedded sand and gravel	15	20	
Sand, clayey, gray, with soft clay seams and trace of gravel	22	42	

Well 36/5W-17G3

Type of record: Driller's log. Altitude: 679 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, sandy, brown	2	2	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17G3--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, sandy, tan and gray-	1	3	
Clay, gray, with sand and gravel seams	4	7	
Clay, soft, dark-gray	5	12	
Clay, soft, dark-gray, with embedded sand and gravel	3	15	
Clay, silty, soft, dark-gray	9	24	
Sand, clayey, tan and gray	3	27	
Clay, silty, gray, with embedded sand and gravel	26	53	
Sand, fine, gray, with silt seams	8	61	
Clay, silty, gray, with silt seams and embedded sand and gravel	11	72	

Well 36/5W-17L1

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

Quaternary system:			
Recent and Pleistocene series:			
Fill and brown sand	2	2	
Fill and brown and gray silty clay	8	10	
Silt, medium, sandy, and clay, with trace of gravel	4	14	
Peat, hard, black	2	16	
Peat, hard, silty, gray	29	45	
Silt, gray, with trace of sand	6	51	
Sand, fine, dense, gray	1	52	

Well 36/5W-17L3

Type of record: Driller's log. Altitude: 674 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill, sandy, brown, with peat seams	16	16	
Peat, sandy, marly	4	20	
Peat, silty, black	23	43	
Silt, gray, with some sand	2	45	
Sand, fine, gray	7	52	

Well 36/5W-17L4

Type of record: Driller's log. Altitude: 671 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill, sandy	1	1	
Silt, sandy, black and brown, with trace of clay	8	9	
Silt, gray, to gray silty clay	13	22	

Well 36/5W-17L6

Type of record: Driller's log. Altitude: 677 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill, sandy	8	8	
Peat and silt; black	20	28	
Silt, medium, gray, with trace of sand and some pebbles	14	42	
Clay, silty, hard	4	46	Till.

Well 36/5W-17L7

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

Quaternary system:			
Recent and Pleistocene series:			
Fill; brown, sandy, stiff clay with trace of silt and peat	7	7	
Top soil, black	3	10	
Sand, fine, gray, and gravel; with peat seams	8	18	
Peat, soft, gray, and silt	13	31	
Silt, hard, gray	5	36	

Well 36/5W-17L8

Type of record: Driller's log. Altitude: 673 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand	3	3	
Clay, sandy, brown and black, with some silt	2	5	
Peat, marly, sandy	9	14	
Clay, silty, gray, with peat seams	3	17	
Clay, silty, gray	15	32	Till.

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17L9

Type of record: Driller's log. Altitude: 713 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand with trace of clay and gravel	40	40	
Sand, brown and black, and peat	8	48	
Sand, coarse, dark-gray, with some peat	3	51	
Sand, coarse, gray, with some silt	9	60	
Silt, clayey, gray, with some embedded sand	6	66	
Sand, gray, and gravel	1	67	

Well 36/5W-17L10

Type of record: Driller's log. Altitude: 677 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; sand and clay	6	6	
Top soil, sandy, black, with peat	2	8	
Sand, fine, gray, with some clay	1	9	
Clay, black and brown, with some silt	5	14	
Clay, sandy, black and brown	3	17	
Sand, coarse, gray	4	21	
Silt, black, and marl; with some sand	12	33	
Silt, gray, with embedded sand and gravel	9	42	

Well 36/5W-17L11

Type of record: Driller's log. Altitude: 674 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	1	1	
Sand, fine, brown	2	3	
Clay, brown and black, desiccated	1	4	
Silt, soft, sandy, with peat seams	2	6	
Peat, sandy	13	19	
Clay, silty, gray, with some sand and gravel	4	23	Till.

Well 36/5W-17L12

Type of record: Driller's log. Altitude: 709 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, loose, brown	10	10	
Sand, medium, brown	38	48	
Sand, clayey, gray, and peat; stratified	2	50	
Sand, silty, gray, and peat; stratified	10	60	
Silt, hard, gray, and gravel; sandy	10	70	
Silt, hard, clayey, gray, with embedded sand and gravel	6	76	Till.

Well 36/5W-17L13

Type of record: Driller's log. Altitude: 674 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; brown, sandy clay	9	9	
Clay, sandy, brown, with trace of gravel	15	24	
Peat, black, with some silt	12	36	
Silt, organic, gray, and marl	7	43	
Silt, hard, with embedded sand and gravel	19	62	

Well 36/5W-17M1

Type of record: Driller's log. Altitude: 667 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, brown	3	3	
Clay and gravel	1	4	
Clay, silty, brown and gray	3	7	
Silt, gray, with trace of marl	7	14	
Clay, silty, gray, with embedded sand and gravel	8	22	Till.

Well 36/5W-17M4

Type of record: Driller's log. Altitude: 673 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand	3	3	
Clay, sandy, brown and gray, with some gravel	2	5	
Sand, brown	1	6	
Clay, silty, brown and gray, and gray silt	3	9	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17M4--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, gray, with embedded sand and gravel----------	13	22	

Well 36/5W-17M6

Type of record: Driller's log. Altitude: 667 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil, black----------	3	3	
Silt, soft, marly, gray---------	3	6	
Sand, dark-gray, stratified, with silt and gravel----------	2	8	
Silt, gray, with trace of fine sand----------	5	13	
Clay, silty, gray, with embedded sand and gravel--------	9	22	Till.

Well 36/5W-17M7

Type of record: Driller's log. Altitude: 673 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand with trace of clay----------	5	5	
Silt, sandy, gray----------	2	7	
Sand, gray, and gravel----------	3	10	
Silt, sandy, gray, with sand layers----------	10	20	
Sand, gray----------	2	22	

Well 36/5W-17M8

Type of record: Driller's log. Altitude: 666 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand----------	2	2	
Silt, sandy, black, and top soil	1	3	
Peat, marly, gray----------	4	7	
Sand, silty, loose, gray, with some gravel----------	7	14	
Silt, medium hard, sandy, gray, with some pebbles----------	5	19	
Sand, dense, gray, and gravel---	3	22	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17M10

Type of record: Driller's log. Altitude: 669 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, brown, and clay fill	7	7	
Sand, silt, and peat; black	4	11	
Silt, gray, and marl	3	14	
Peat, black	6	20	
Silt, soft, gray, and marl	9	29	
Silt, stiff, gray, with embedded sand and gravel	7	36	

Well 36/5W-17M14

Type of record: Driller's log. Altitude: 674 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand with trace of clay	8	8	
Silt, sandy, black	2	10	
Silt, soft, marly, gray	4	14	
Silt, gray, with some sand and few marly peat seams	12	26	
Sand, dense, brown, with trace of gravel	6	32	

Well 36/5W-17M17

Type of record: Driller's log. Altitude: 668 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown	3	3	
Silt, soft, gray and yellow	1	4	
Clay, silty, organic, gray, with trace of marl	12	16	
Sand, brown, and gravel	10	26	
Clay, silty, gray, with sand and gravel	1	27	Till.

Well 36/5W-17M18

Type of record: Driller's log. Altitude: 706 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; sandy silt and sand	2	2	
Sand, clayey, brown, with trace of gravel	32	34	
Clay, sandy, gray and brown, with trace of silt	6	40	
Sand, brown, with trace of clay and some hard streaks of peat	10	50	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-17M18--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Peat, hard, black, with streaks of gray marly silt and some sand seams	32	82	
Clay, hard, silty, gray	4	86	Till.
Sand, brown and gray, and gravel	1	87	

Well 36/5W-17M19

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

Quaternary system:			
Recent and Pleistocene series:			
Fill; sand	3	3	
Fill; brown and gray sandy clay with some stones	4	7	
Peat, silty, black, with trace of sand	13	20	
Marl, gray, and peat	22	42	
Silt, gray, and clay	7	49	
Sand, silty, brown, with trace of gravel	3	52	

Well 36/5W-18D1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, brown	8	8	
Clay, gray, and gravel	36	44	
Sand, fine, muddy	6	50	
Sand, fine to medium	3	53	
Clay, sandy, gray, and gravel	19	72	
Sand, fine	18	90	

Well 36/5W-18D2

Type of record: Driller's log. Altitude: 702 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill	1	1	
Silt, sandy, slightly clayey, brown	2	3	
Clay, medium to hard, silty, with gravel	12	15	
Clay, medium, silty, gray, with embedded sand and gravel	27	42	

Well 36/5W-18E2

Type of record: Driller's log. Altitude: 702 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, brown	2	2	
Clay, medium, sandy, brown, silty with depth	5	7	
Silt, brown	7	14	
Sand, coarse, brown	2	16	
Clay, medium, silty, gray, with embedded sand, gravel, and shale fragments	39	55	
Sand, fine, gray, with silt seams and trace of gravel	5	60	

Well 36/5W-18E3

Type of record: Driller's log. Altitude: 702 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, stiff, silty, brown, calcareous	8	8	
Silty, brown and gray	6	14	
Clay, stiff, silty, gray, with embedded sand and gravel	28	42	

Well 36/5W-18E4

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; brown clayey sand	2	2	
Clay, silty, medium, brown, with trace of reddish sand and gravel	4	6	
Sand, silty, tan, with trace of gravel	9	15	
Sand, fine, gray	5	20	
Clay, hard, silty, gray, with embedded gravel, coarse sand, and shale fragments	32	52	

Well 36/5W-18G1

Type of record: Driller's log. Altitude: 664 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, sandy, gray	7	7	Organic matter at bottom of deposit.
Silt, gray	3	10	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/5W-18G1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, coarse, gray----------	10	20	
Clay, soft, silty, gray, with embedded sand and gravel------	12	32	

Well 36/5W-18H2

Type of record: Driller's log. Altitude: 666 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; brown sand----------	5	5	
Peat, black----------	1	6	
Sand, gray, with peat----------	2	8	
Marl, very soft, and silt; sandy----------	13	21	
Sand, black, silt, and gravel; with peat----------	1	22	
Silt, gray, with trace of sand--	6	28	
Clay, silty, gray----------	4	32	Till.

Well 36/5W-18H3

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

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown----------	3	3	
Peat, silty, black, and marl; with trace of gravel----------	4	7	
Clay, silty, gray, with embedded sand and gravel--------	6	13	Till.
Sand, fine to coarse, gray, and gravel----------	3	16	
Sand with silty clay layers-----	6	22	
Sand, gray, and gravel----------	4	26	

Well 36/5W-18H4

Type of record: Driller's log. Altitude: 664 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, brown----------	3	3	
Silt, brown and black, and clay; with organic matter----------	2	5	
Silt, marly, gray, with sand and gravel----------	4	9	
Silt, gray and brown, with some sand in layers----------	4	13	
Clay, silty, gray----------	13	26	Till.

Well 36/5W-18H5

Type of record: Driller's log. Altitude: 668 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, dark-brown	4	4	
Sand, fine, dark-gray, with trace of organic matter, gravel, and marl	11	15	
Sand, fine, gray, with trace of gravel	5	20	
Clay, medium, silty, gray, with embedded sand and gravel	10	30	
Sand, coarse, gray, and gravel	10	40	
Clay, stiff, silty, gray, with embedded sand and gravel	2	42	

Well 36/5W-22D1

Type of record: Driller's log. Altitude: 822 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, brown	20	20	
Sand, medium, brown	88	108	
Sand, medium, white	8	116	
Clay, medium, gray	4	120	
Sand, medium, white	9	129	

Well 36/5W-25A1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, mixed; yellow	18	18	
Clay, blue	6	24	
Hardpan	12	36	Hard clay?.
Sand, red	22	58	
Sand, gray	17	75	

Well 36/5W-28Q1

Type of record: Driller's log. Altitude: 725 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel, sand, and clay	80	80	
Devonian system:			
Upper Devonian series:			
Shale, calcareous, black	100	180	
Limestone, black	10	190	
Shale, sandy, black	3	193	
Shale, calcareous, black	86	279	

Well 36/5W-28Q1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Devonian system:			
Middle Devonian series:			
Lime, sandy----------	5	284	Has oil.

Well 36/5W-30N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard, yellow----------	30	30	
Clay, blue----------	18	48	
Gravel and shale----------	20	68	
Sand, light----------	50	118	
Sand, coarse, gray----------	18	136	

Well 36/5W-31B1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, light-gray----------	45	45	
Sand----------	235	280	
Devonian system:			
Upper Devonian series:			
Shale, blue----------	36	316	
Shale, brown----------	120	436	
Middle Devonian series:			
Lime, gray----------	4	440	

Well 36/6W-1H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, brown----------	8	8	
Sand, medium, brown----------	67	75	
Sand, medium, gray----------	14	89	

Well 36/6W-2E2

Type of record: Driller's log. Altitude: 639 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow, and brown sand----	21	21	
Sand and gravel; brown----------	3	24	
Sand, gray, with thin blue clay layers----------	7	31	
Sand, medium, gray----------	5	36	

Well 36/6W-5N1

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, firm, yellow	16	16	
Sand, firm, yellow	3	19	
Sand, firm, orange	10	29	
Clay, soft, light-gray	2	31	
Sand, hard, reddish-orange	30	61	
Sand, hard, gray	6	67	

Well 36/6W-6H1

Type of record: Driller's log. Altitude: 598 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, silty, black, and organic matter	10	10	
Sand, fine to medium, brown, with little silt	30	40	
Sand, fine to medium, light-brown, with some silt	10	50	

Well 36/6W-7F1

Type of record: Driller's log from memory. Altitude: 658 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, yellow	18	18	
Clay, blue	39	57	
Silt	13	70	
Sand	15	85	

Well 36/6W-8L2

Type of record: Driller's log. Altitude: 605 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	7	7	Muck.
Marl	1	8	
Sand	1	9	
Sand, muddy	13	22	
Clay, gray	9	31	

Well 36/6W-8M1

Type of record: Driller's log. Altitude: 633 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy	2	2	
Sand, muddy, yellow	14	16	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-8M1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, brown	6	22	
Sand, brown	6	28	
Silt, sandy, muddy	2	30	
Sand, dirty	8	38	
Silt, sandy	1	39	
Sand, little muddy	6	45	
Sand	15	60	
Sand, brown, with chunks of clay	1	61	
Sand, brown	15	76	
Sand	2	78	Almost silt.
Sand, brown	2	80	
Clay, silty	7	87	

Well 36/6W-8N1

Type of record: Driller's log. Altitude: 633 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	2	2	
Clay, sandy	4	6	
Sand, fine	16	22	
Sand	13	35	
Sand and gravel	6	41	
Clay	14	55	
Sand	10	65	Clay at 65 feet.

Well 36/6W-8N2

Type of record: Driller's log. Altitude: 633 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	4	4	
Sand	27	31	
Sand, fine	4	35	
Clay	1	36	
Sand, fine	4	40	
Clay	30	70	

Well 36/6W-9E2

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil	15	15	
Clay and sand	5	20	
Sand, yellow	15	35	
Gravel and sand	5	40	
Clay	35	75	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-9E2--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine	5	80	
Sand	1	81	
Sand, dirty	7	88	
Sand, fine, dirty	10	98	
Clay	17	115	
Devonian system:			
Upper Devonian series:			
Shale	3	118	

Well 36/6W-9E3

Type of record: Driller's log. Altitude: 633 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil	13	13	
Quicksand	5	18	
Sand	17	35	Suitable for 25-slot screen.
Clay, blue	30	65	
Sand	8	73	Suitable for 18-slot screen.
Clay, soft, and sand	2	75	
Sand	5	80	Suitable for 18-slot screen.
Clay, soft	4	84	

Well 36/6W-11P5

Type of record: Driller's log. Altitude: 642 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; black clayey silt	2	2	
Clay, soft, silty, tan and gray	8	10	
Silt, gray, with trace of clay	5	15	
Sand, fine, gray	5	20	
Clay, stiff, silty, gray	5	25	
Sand, fine to medium, tan	10	35	
Silt, clayey, gray, with trace of sand	5	40	
Sand, fine, silty, tan	8	48	
Clay, medium, gray	12	60	
Sand, fine, clayey, gray	5	65	
Clay, stiff, gray, with trace of silt	7	72	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-11P6

Type of record: Driller's log. Altitude: 642 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, organic, black------	2	2	
Clay, soft, sandy, gray---------	8	10	
Clay, stiff, sandy, gray--------	5	15	
Sand, fine, gray, with trace of gravel----------	5	20	
Sand, fine, silty, gray, with trace of gravel and clay------	15	35	
Sand, fine, gray----------	5	40	
Sand, fine, gray, with silt seams----------	6	46	

Well 36/6W-11Q1

Type of record: Driller's log. Altitude: 642 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill----------	1	1	
Clay, hard, brown and black-----	14	15	
Sand, fine, gray----------	10	25	
Sand, fine, clayey, gray--------	1	26	
Sand, coarse, gray----------	14	40	
Silt, soft, gray, with clay seams----------	6	46	

Well 36/6W-11Q2

Type of record: Driller's log. Altitude: 642 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, black and brown-----	4	4	
Clay, gray----------	1	5	
Clay, soft, gray, with embedded gravel----------	5	10	
Sand, fine, gray----------	10	20	Soft clay seam.
Clay, medium, silty, gray, with embedded sand and gravel------	20	40	
Sand, fine, gray----------	5	45	
Silt, slightly clayey, gray-----	1	46	

Well 36/6W-13D1

Type of record: Driller's log. Altitude: 648 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill----------	1	1	
Sand, fine, silty, brown--------	3	4	
Silt, sandy, gray and brown-----	2	6	

Well 36/6W-13D1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, sandy, gray and brown	14	20	
Silt, sandy, gray, with clay seams and trace of gravel	16	36	

Well 36/6W-13H2

Type of record: Driller's log. Altitude: 667 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, sandy, mottled brown and gray, calcareous	10	10	
Clay, soft, silty, gray	5	15	
Silt, sandy, gray	25	40	
Clay, stiff, silty, gray, with embedded sand and gravel	10	50	
Sand, coarse, gray	5	55	
Clay, hard, gray, with embedded sand and gravel	1	56	

Well 36/6W-13H5

Type of record: Driller's log. Altitude: 662 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, clayey, brown	2	2	
Clay, silty, medium-gray and brown, calcareous	2	4	
Sand, coarse, brown	1	5	
Clay, stiff, silty, gray	3	8	
Sand, coarse, brown	6	14	
Silt, slightly clayey, gray	21	35	
Sand, coarse, gray with gravel	20	55	
Clay, stiff, silty, gray, with embedded sand and gravel	1	56	

Well 36/6W-13N1

Type of record: Driller's log from memory. Altitude: 661 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay	14	14	
Sand	5	19	
Clay, blue	22	41	
Sand and clay; mixed	9	50	
Marl	12	62	
Gravel and clay	12	74	
Hardpan	2	76	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-13N1--Continued

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel and sand	8	84	
Sand, coarse	6	90	

Well 36/6W-14A2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, sandy, tan, with some fine to medium gravel	3	3	
Silt, medium, mottled tan, with trace of clay	3	6	
Silt, clayey, tan, with fine gravel	4	10	
Clay, silty, gray	10	20	
Silt, dense, sandy, gray, with trace of clay and gravel	15	35	
Silt, gray, with fine to medium gravel and trace of clay	5	40	
Silt, dense, gray, with trace of clay and sand	15	55	
Clay, silty, gray, with embedded sand and gravel	17	72	

Well 36/6W-14N1

Type of record: Driller's log. Altitude: 648 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, hard, brown	12	12	
Clay, medium, gray	27	39	
Sand and gravel; medium, gray	11	50	

Well 36/6W-15B1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, stiff, sandy, mottled light-gray and brown	15	15	
Sand, fine, gray	10	25	
Clay, stiff, sandy, gray, with shale fragments	10	35	
Sand, fine, gray, with some gravel	10	45	
Sand, fine, silty, gray, with gravel	5	50	
Sand, fine, hard, silty, gray	2	52	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-15C3

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill and gravel	1	1	
Clay, silty, mottled gray and brown, with calcareous nodules	7	8	
Sand, fine, silty, gray	15	23	
Clay, medium, gray	4	27	
Sand, fine, gray, with some fine gravel and trace of silt	17	44	
Sand, fine to medium, gray	6	50	
Silt, sandy, gray, with trace of fine gravel	7	57	
Sand, fine to coarse, gray	8	65	
Sand, fine to coarse, silty, gray	20	85	
Sand, fine, gray	11	96	

Well 36/6W-15D2

Type of record: Driller's log. Altitude: 639 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil, silty, gray to black	2	2	
Sand, fine, tan and brown, with trace of clay and silt	13	15	
Silt, sandy, gray	7	22	
Sand, fine, tan, with some silt	8	30	
Silt, dense, gray	15	45	
Sand, fine, silty, gray	5	50	
Silt, sandy, gray	5	55	
Sand, fine, silty, gray, with trace of clay	17	72	

Well 36/6W-16A4

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill; gray sand, gravel and clay	2	2	
Clay, soft, sandy, mottled gray and brown	4	6	
Sand, fine, gray	4	10	
Sand, fine, silty, gray, with trace of gravel	10	20	
Silt, dense, gray, with embedded sand and trace of clay	30	50	
Clay, hard, sandy, with embedded gravel	10	60	
Sand, clayey	6	66	

Table 3.--Selected logs of wells and test holes in Porter County--Continued

Well 36/6W-16D2

Type of record: Driller's log. Altitude: 638 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil, black, with organic matter	1	1	
Clay, silty, mottled gray and brown	12	13	
Sand, fine, tan, with trace of silt	22	35	
Sand, fine to medium, gray	15	50	
Clay, medium, gray	7	57	
Silt, dense, clayey, gray, with trace of sand	8	65	
Silt, medium, gray, with trace of clay	7	72	

Well 36/6W-16E1

Type of record: Driller's log. Altitude: 636 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, medium, silty, brown	1	1	
Sand, fine, brown	14	15	
Sand, fine, silty, brown	20	35	
Sand, fine, gray	9	44	
Silt, gray, with embedded sand and gravel	16	60	Clayey below 50 feet.
Silt, sandy, gray	11	71	

Well 36/6W-16E4

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

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, tan	2	2	
Sand, fine to coarse, dark-brown, with some mixed gravel	2	4	
Silt, clayey, gray and tan, with sand and gravel	3	7	
Silt, clayey, dense, gray and tan	1	8	
Sand, fine, tan, and gravel; with trace of silt	2	10	
Clay, stiff, gray, with trace of sand and silt	4	14	
Sand, fine, tan	26	40	
Sand, medium, gray	14	54	
Silt, dense, clayey, gray	8	62	

Well 36/6W-16E5

Type of record: Driller's log. Altitude: 641 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, tan	4	4	
Silt, clayey, gray, with some sand	2	6	
Sand, fine, brown, with trace of silt and few seams of gray clay	10	16	
Sand, fine to medium, brown, with trace of silt	19	35	
Sand, fine to medium, gray	25	60	
Silt, dense, gray	2	62	
Clay, stiff, gray, with some silt	4	66	

Well 36/6W-17E1

Type of record: Driller's log. Altitude: 634 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil, black, and sand	1	1	
Sand, fine, silty, tan	39	40	
Sand, fine, gray	5	45	
Silt, gray	5	50	
Sand, fine, silty, gray	16	66	

Well 36/6W-17G1

Type of record: Driller's log. Altitude: 616 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, silty, dark-brown	2	2	
Clay, soft, organic, gray	14	16	Silty near top.
Marl, soft, clayey, organic, gray	12	28	Silty near bottom.
Sand, fine, gray	5	33	
Clay, medium, silty, gray, with embedded sand and gravel	11	44	

Well 36/6W-17H1

Type of record: Driller's log. Altitude: 638 feet.

Material	Thickness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, clayey, brown	2	2	
Sand, fine, brown	33	35	
Sand, fine, gray	15	50	
Silt, stiff, gray, with embedded sand and gravel	6	56	